Investigating project management practice in Nigerian government construction organisations: a systems thinking approach.

LAWANI, A.

2018

INVESTIGATING PROJECT MANAGEMENT PRACTICE IN NIGERIAN GOVERNMENT CONSTRUCTION ORGANISATIONS: A SYSTEMS THINKING APPROACH

BY

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A thesis submitted in partial fulfilment of the requirements of the Robert Gordon University for the degree of Doctor of Philosophy

May 2018

DEDICATION

This research is dedicated to my beloved mother Mrs Edith-Henrietta Okokon.

You taught and raised me well.
I am who I am today because of you.
I succeeded, because of what you imparted in me
I believe you're smiling down on me and proud of what I have achieved.

ACKNOWLEDGMENT

My first appreciation goes to the Almighty God the giver of life and wisdom, and for sustaining me through all the years of this research journey.

I thank my dearest husband Emmanuel Lawani for his enormous support, sacrifices and endurance while working on this research study. I also appreciate my three beautiful angels Jubilee Lawani, Phoebe-Edith Lawani and Adeera Lawani for all their patience and understanding during my study.

I thank my supervisors, Dr. David Moore and Dr. Beirjim Bassam for their support and guidance towards the completion of this research. David demonstrated outstanding assistance and mentorship. I am indebted to him for his encouragement, invaluable advice, and contributions provided towards the success of thesis.

I also thank Sheonagh Rowley who has motivated and supported me throughout my study in RGU.

My deepest appreciation goes to my father, Muri Ita Okokon for his love, support, training, and believing in me through the years, and my parents in-law, Mr and Mrs M. O Lawani, for loving me as their very own daughter. I offer my sincere love to my siblings, Mr Mesembe Okokon and Mrs Abasi-anwan Onoyom, and their spouses, Mr Kingsely Onoyom and Mrs Helen Okokon Mesembe for all their immense care and support.

I am very grateful to my brother-in law, Mr Edward Lawani, and my lovely sisters-in-law, Mrs Anna Omoluju, Mrs Yemisi Ogunmola, and Mrs Joespine Ayu. You all have loved me like a sister and have been very supportive. Mrs Omoluju has been like a mother to me, I am overwhelmed by her love, care and help in my times of need throughout this study.

ABSTRACT

The differences between management in government organisations and private ones are well recognised in the literature, and these variances reflect in how project management is practiced in both organisations. Consequently, the difficulties of developing Project Management in government organisations have been acknowledged. Specifically, in African developing countries where socio-economic and political nuisance prevails, these difficulties are far from being resolved. Although, a number of challenges confronting management of government projects in developing countries have been identified in the literature, no significant solution or initiative has been implemented by way of resolving the problem.

In Nigeria, public sector projects are activities or projects administered by government in order to provide amenities to the general public. The Nigerian government has positioned itself to advance the nation's economy, by increasing the country's GDP through the execution of adequate and enduring building construction projects. A key component of this positioning is the intervention Vision 20:20, with one of its objectives being to provide housing facilities that will meet the demands of the increasing population and urbanization. Vision 20:20 introduced the Project Management concept to government organisations so as to improve management capabilities with the purpose of enabling the public sector to efficiently manage projects and realise developmental objectives. However, both the inadequate management and administration of government projects in Nigeria have resulted in a pool of abandoned, poorly developed and failed projects.

From a review of previous studies, it was observed that various components have been identified as being a hindrance to the development of Project Management Practice in African developing countries. However, the reductionist approach applied in these investigations means that components were defined in terms of a singular aspect in relation to the organisation. Such a singular focus on the challenges of developing Project Management Practice has not been sufficient to guarantee a properly developed Project Management system in these contexts.

Consequently, Systems Thinking theory is used as the basis for this study in order to explore and explain the causal relationship of components impacting on Project Management Practice in construction government organisations. A Critical Realism methodology is the philosophical approach adopted for this research, which is underpinned by the use of qualitative methods to explore existing mechanisms. Semi-structured interviews were the primary source of data, while secondary methods (literature review) served a crucial role in verifying the findings from the interview data.

The study uncovered the significance of structure and agency on Project Management Practice development in Nigerian government construction organisations. It reveals how the External Environment, Governance, Middle Management and Project Execution systems interact to influence Project Management Practice

Another significant finding is the autopoietic nature of the Middle Management system, which demonstrates the capability of organising, reproducing and maintaining itself. Identification of this feature indicates that the middle managers in Nigerian government construction organisations have a relatively important role to play in influencing the development of Project Management Practice.

The developed framework highlights the relevance of the different systems towards the development of Project Management Practice in Nigerian government construction organisations. It reveals that, the Project Execution System is impacted upon by several elements within the External Environment, Middle Management System and the Governance System; the Middle Management System is influenced only by elements within the Governance System; the Governance System is influenced only by elements within the External Environment, and the External Environment is influenced by elements within the Governance and Project Execution Systems.

KEYWORDS

Project Management Practice, Systems Thinking, Government Organisations, Structure and Agency

TABLE OF CONTENT

LIST OF FIGURES

LIST OF TABLES

DEFINITION OF TERMS AND ABBREVIATIONS

APM	Association for Project Management
CAPM	Chartered Association for Project Management
CR	Critical Realism
FSM	Formal System Model
GDP	Gross Domestic Product
GMPP	Government Major Projects Portfolio
GO	Government Organisations
GoP	Governance of Project
GOSAC	Government Organisations of Sub Saharan African Country
IPMA	International Project Management Association
MDAs	Ministries, Departments and Agencies
NGCO	Nigerian Government Construction Organisations
NPM	New Public Management
PA	Principal Agent Theory
PM	Project Manager
PMI	Project Management Institute
PMO	Project Management Offices
PMP	Project Management Practice
PMM	Project Management Maturity
PMMM	Project Management Maturity Model
PP	Project Professional
PPAC	Presidential Projects Assessment Committee
TC	Transaction Cost Theory
SD	System Dynamics
SSA	Sub Saharan Africa
SSM	Soft system methodology
SSAC	Sub Saharan African Countries

CHAPTER ONE

"If we knew what we were doing, it would not be called research, would it?" - Albert Einstein

1.0 Chapter Introduction

This chapter presents an introduction, background, aims and objectives and rationale for the study. The introduction begins with an overview of building construction in Nigeria, the role of Government Organisations in overseeing and managing government construction projects and the relevance of Project Management in effective project delivery. Based on the building construction transformation agenda of the Nigerian government, the problems of inadequate management and administration of government projects in Nigeria are discussed. Subsequently, the structure of Nigeria's civil service management system is described, and the relevance of the study highlighted.

1.1 Introduction

Building construction in Nigeria and world-wide is often faced with the complexities and challenges of effective project delivery which centres on keeping to project deadlines, avoiding cost overruns, maintaining high quality, and generally achieving a high level of performance on projects. In most countries, the government is recognised as the primary player in the construction industry (Babatunde and Pheng, 2015; Dakhil, 2013) due to the significant amount spent by government on projects. For example, in the UK, infrastructure and construction is the largest area in the Government Major Projects Portfolio (GMPP), having a value of £222 billion, representing almost half of the whole life cost of GMPP (The Infrastructure and Projects Authority, 2017). In Nigeria, it is estimated that the Federal Government will require between US$13 billion to US$15 billion yearly to keep up with construction demands (Mudi and Bioku, 2015). Various constraints affecting construction project delivery are well recognised in the literature and many countries are designing and/or evolving approaches to ensure high quality project performances. Examples are the UK and Australia, with both countries having a considerable record of improvement in the management of government projects (Klakegg et al., 2016, Major Projects Authority, 2015). An important approach is the utilization of Project Management to organise, manage and execute government projects (Morris et al., 2012; Meredith and Mantel, 2011; Crawford and Helm, 2009). The practice of Project Management is recognised as a significant contributor

to the successful delivery of construction projects (Basheka and Tumutegyereize, 2012; Besner & Hobbs, 2006).

In the case of developing countries, such as Nigeria, problems and challenges of managing construction projects are persistent without a practical solution being provided. The Nigerian Government initiated an economic transformation agenda known as “Vision 20:20” with a directive to develop and advance building construction and infrastructure by year 2020, through the implementation of a number of projects administered by Nigerian Ministries, Department and Agencies (MDAs) (Corporate Nigeria, 2011; National Planning Commission, 2010). MDAs are government organisations (GO) responsible for the management and administrative activity of the Nigerian Government, known typically as the civil service. The Vision 20:20 blueprint contains amongst other plans, improving the performance of the building and construction sector with a view to boosting the nation’s Gross Domestic Product (GDP) (National Planning Commission, 2009). However, MDAs in Nigeria lack a fundamental approach to project planning and execution, as seen by the poorly developed, abandoned or collapsed building projects littered about the country (Zuofa & Ochieng, 2014; Olaseni and Alade, 2012; Eneh, 2011). According to Anyanwu (2013), it is a general fact that a bulk of the building projects embarked upon by the Nigerian government commence without appropriate planning and scheduling of the project activities and adequate Project Management capability. Corresponding statements and concerns have been made about the lack of Project Management protocols and skills in aspects of government projects (Ezeugwu, 2013), including a statement from a Former Minister of the Federal capital of Nigeria, affirming Project Management deficits to be a fundamental cause of poorly implemented and abandoned projects (El-Rufai, 2012). Furthermore, an in-depth assessment by the Presidential Projects Assessment Committee (PPAC) identified a widespread of institutional mediocrity and a dearth of vision and direction in Project Management, resulting in poor project conceptualization and flawed execution (Idonor 2011). The PPAC was inaugurated in March 2010 to assess all on-going project awarded by the Federal Government in Nigeria (ibid).

Across Sub-Saharan Africa (SSA), the situation is no different. In general, management practices in government ministries in SSA are reportedly deficient, even though quantitative data on civil service performance is hardly available. This is presumably due to government statistical agencies paying less attention on determinants of administrative effectiveness, yet, focusing more on macroeconomics issues (Rasul et al., 2017). Specifically, it is reported that the lack of Project Management has resulted in truncated productivity and poor quality,

which has been the norm of construction projects in African developing countries (Rwelamila and Ssegwa, 2014; Gyadu-Asiedu, 2009). Challenges associated with Project Management Practice (PMP) development in government organisations (GO) is an area of concern for SSA countries. Indeed, the continuing challenges plaguing these countries have collectively been termed “The African Project Syndrome” (Rwelamila and Ssegwa, 2014) because of the generic nature of social-cultural, economic and political conditions across Sub-Saharan Africa (Muriithi and Crawford, 2003).

It is well recognised the product of the construction industry is realized through the accomplishment of projects, and essentially an organisation’s progress and achievement are driven by Project Management approaches (PMI, 2010). While research into the performance of construction projects, such as issues of cost overrun, is extensive, studies related to the methods and techniques applied in their management, particularly in government organisations (GO) have been overlooked, despite the recognition of the significant contribution Project Management offers to the general performance of projects (Serrador and Turner, 2015). Project Management has become one of the most common management tools among professionals in modern corporations, and the duties of a Project Manager are increasingly being acknowledged as collectively representing a vital category of managers possessing judicious leadership capabilities (Bredin and Söderlund, 2013). However, Project Management as a discipline or management tool has limited presence in GO, particularly in Nigeria and generally in developing countries. It is with this consciousness that the current study seeks to explore the challenges of Project Management Practice (PMP) in Nigerian Government Construction Organisations.

Nigerian Ministries, Department and Agencies (MDAs) are government organisations (GO) that are responsible for the administration of government projects. Since this study is targeted at building construction projects, focus is on MDAs that have a mandate to implement and administer building construction works. These Ministries, Department and Agencies are herein referred to as *Nigerian Government Construction Organisations (NGCO).*

This research is undertaken to determine how Project Management Practice (PMP) can be developed in order to improve project delivery and the overall management of projects by NGCO by identifying challenges associated with its practice. The study is timely and relevant because of the goals and objectives of the Nigerian government contained in the Vision 20:20 plan, which includes anchoring the building construction sector towards attaining economic transformation through activities such as building and housing developments, and

having a consciousness of the significance of appropriate planning, monitoring and administration of project tasks and activities in promoting the performance of projects (Adeagbo, 2014; National Planning Commission, 2010).

This research investigates the challenges of Project Management Practice (PMP) in Nigerian Government Construction Organisations (NGCO) by determining the effect of structure and agency, and their relationship, from a systemic view point. The study applies a Critical Realist philosophical approach, which involves acquiring knowledge about underlying causal mechanisms in order to achieve explanation of how PMP is impacted upon.

1.2 Overview of the Construction Industry

The structure of construction Industry is similar in most countries. The industry is generally categorised into 'building construction' and 'civil/heavy engineering' categories (ONS, 2016; Adamu et al., 2015). The building construction category comprises general construction of residential and non-residential buildings, that is, construction of domestic buildings (e.g. single-family houses, high rise buildings, local authority housing) and commercial buildings (e.g. hospitals, schools, office buildings), while the civil engineering category comprises heavy infrastructure constructions such as roads, bridges, railways, water projects, industrial facilities, pipelines and electrical lines (ONS, 2016; Mudi and Bioku, 2015). The construction industry is a crucial factor in the development of a nation due to its role in the provision of basic amenities and facilities to its citizens (Amade et al., 2015). Economists consider the construction industry to be the lead driver of economic growth in a country, because other sectors, in one way or another, rely exclusively on the outputs of construction in order to execute their own operations. For example, a production industry will require buildings for operational activity, good roads for smooth transportation of raw materials and equipment, and office buildings. Besides the provision of large scale infrastructure, activities of the construction industry are also important to the realization of a country's socio-economic development goals of providing housing and shelter (Oladinrin et al., 2012).

Housing is regarded as an essential need of human beings, comparable to food and clothing (Ibimilua and Ibitoye, 2015; Mulder & Lauster, 2010) and it is a major part of the building and construction sector. Kissick et al. (2006) assert that housing is a vital input in economic and social development as housing-related projects by the government contribute directly to

attaining broader societal benefits. The industry is not only relevant for its finished products but also provides direct or indirect employment opportunities for a number of people.
Other major values of the construction industry include: acting as a strategic instrument to achieving sustainable development, contributing to the economy in terms of GDP, acting as an economic regulator, providing outputs to many industries, conveying the cultural values of a country by influencing visual beauty and generating income and employment for citizens of a country (Olanrewaju and Abdul-Aziz, 2015; Ball, 2014).

1.3 Background of the Problem

In a developing economy such as Nigeria, the building and construction sector is claimed to have a strategic role, thus the reason it is a priority for the Nigerian government (Adeagbo, 2014; Odediran et al., 2013). The attention placed on this industry is due to the increasing population, urbanization and the consequential drive towards the actualisation of Nigeria's Vision 20:20 agenda (Adeagbo, 2014; Diugwu et al., 2012), which contains the objective of providing facilities such as housing (National Planning Commission, 2010). The housing sector specifically is a medium for capital investment, and also provides services within local markets (Wiley et al., 2008). In addition, housing is perceived to have a multiplier effect on an economy, as a study by HIA Economics Group (2011) asserts that for every $1million increase in construction production, there is an increase in output in another sector in the economy of $2.9 million.

Since the Nigerian government has positioned itself to advance the nation's economy, by increasing the economy's GDP through the execution of adequate and enduring developmental projects, building construction and infrastructural projects have become an important focus (Oxford Business Group, 2016; Odediran et al., 2012). Therefore, in addition to sustaining growth and development through implementing reforms, the Nigerian government is also working towards improving social facilities for its populace (Financial Times, 2014). Provision of suitable housing for a country's citizenry is a vital input in economic and social growth, and several activities associated with housing contribute to realising wider socio-economic development goals. However, the persistence of poorly executed building construction projects has resulted in dissatisfied customers, due to problems such as abandoned buildings (Vanguard, 2014; Olusegun and Michael, 2011), improper design and bad construction (Sambo et al., 2014) and deaths from collapsed

buildings (Akinyemi et al., 2016; Oloyede et al., 2010). Consequently, growth and development are both considerably hampered.

In Nigeria, the Federal Government, which is the largest investor in housing/building construction and other infrastructure projects (NBS, 2015), generally undertakes the roles of a financier, regulator and coordinator (NBS, 2015; Isa et al., 2013). Although there are institutions which have been established for financial and regulatory duties (Andrianova et al., 2012), the management and control aspects of certain projects such as construction of residential houses, health facilities etc., are usually handled by Ministries, Departments or Agencies in charge of the project. These organisations have a directive to engage in building construction (Ibem, 2010), and are referred to in this study as Nigerian Government Construction Organisations (NGCO).

NGCO are referred to as the custodian of public wellbeing, as they are responsible for the provision of basic amenities and infrastructure required to improve the quality of life for its citizens (Adewumi and Idowu, 2012). NGCO are the main mechanisms through which government puts into action and administers policies and projects. With such a responsibility, an effective management skill for proper monitoring and controlling of government projects is required by government officials in charge of projects. These officials are referred to as civil servants. Although the public administration approach to management is what is typically practiced in these government organisations, much is still left to be desired as the inadequate management and administration of government projects in Nigeria contributes to the pool of abandoned, poorly developed and/or failed projects (Zuofa & Ochieng, 2014, Olalusi and Otunola, 2012). Some authors have referred to the ineffective management approach prevalent in GO as a problem of poor internal control systems (Babatunde and Dandago, 2014; Babatunde, 2013), while others attribute the problem of project mismanagement and wastage of funds to a lack of proper Project Management (Simon, 2012). According to El-Rufai (2012), whenever a project is poorly implemented by MDAs, the common reason provided is insufficient funds. However, an underlying cause is the shortage of Project Management skills, as investigations on the current trend of PMP in developing countries revealed that basic Project Management approaches were deficient in government organisations (Zuofa & Ochieng, 2012).

In western nations, government organisations utilize developmental projects as a way to improve organisational effectiveness in their administration (Meredith and Mantel, 2011; Crawford and Helm, 2009). These public projects are also beneficial in the creation of socio-economic value which produces an environment that fosters investment and improves the

standard of living of people in a society (Ofori, 2014; Graham and Englund, 2013). Consequently, the relevance and use of Project Management by GO to administer, organise and execute government projects have become well-recognised (Morris et al., 2012; Winch, 2010) as scholars assert that the practice of Project Management increases the probability of achieving success in government project delivery (Serrador and Turner, 2015; Wirick, 2011; Crawford and Helm, 2009). In Nigeria, the concept of Project Management Practice (PMP) was introduced into GO to improve management capabilities through an attempt to shift from a bureaucratic style of management to a leaner structure with the purpose of enabling the government to efficiently manage projects and realise developmental objectives (Ijigah et al., 2012; Olateju et al., 2011). However, the reason for the dearth/lack of implementation of PMP in MDAs which has contributed to poor conceptualisation and flawed execution of projects (El-Rufai, 2012; Idonor, 2011) is not adequately understood. Scholars have stated that GO in developing countries are generally faced with the challenges of understanding and implementing PMP, and therefore fail to experience the benefits of successfully delivering building and construction projects. This effect is argued to have a negative impact on socio-economic development goals (Rwelamila & Ssegawa, 2014; Rwelamila and Purushottam, 2012; Muriithi and Crawford, 2003).

An understanding of the structural challenges causing Project Management deficiency in NGCO is absent in the literature. This gap is arguably due to scarce empirical research on Project Management in a civil service context (Löfgren and Poulsen, 2013; Wirick, 2011) and/or the reductionist approach by which previous studies have been carried out (Morris, 2010; Smyth and Morris, 2007), particularly in developing countries where marginal research is being recorded (Lawani and Moore, 2016).

Therefore, to gain a clearer perspective of the challenges of PMP in NGCO, the study seeks to investigate the problem from a systemic viewpoint. The following questions are what is being sought out in this research:

(1) Why is there is a dearth of Project Management Practice in NGCO?
(2) What are the structural components that impact on PMP in NGCO?
(3) How do these components interact to produce the observed effect or outcome of PMP in NGCO?

1.3.1 Nigeria: An Overview

Nigeria is classified as a Sub-Saharan African Country (SSAC), and with a GDP estimated at £400bn, it is said to be Africa's largest economy (The Worldbank Group, 2016; The

Guardian, 2014). With a population of about 160 million, it is postulated to be 20% of the populace of Sub-Saharan Africa (SSA). Nigeria became an independent nation in 1960 and became a full republic country in 1963 (Geary, 2013). The country's administration bears resemblance to the British Parliamentary Civil Service System, which was transferred to the country at independence. Although Nigeria later adopted a Presidential system, its civil service structure still mostly imitates its British colonial heritage (Falola and Heaton, 2008). There are thirty-six states and 6 geopolitical zones, and the central city of Abuja is the Federal Capital Territory. Three levels of government exist in Nigeria; the Federal government, State government and Local government. There is a judicial, legislative and executive arm of government at the Federal level and thirty-six state levels. The legislative arm consists of the Senate and House of Representatives, the executive arm comprising the president, vice president, federal ministers or officers in the public service of the federal government, and the judicial arm who have powers vested in the court (Mclaughlin, 2010). Out of its population size of about 160 million, the average age range is 15 to 64 years, making up about 53% of the over-all population. Major metropolises in relation to population include, Lagos (10.20 million people), Kano (3.30 million people), Ibadan (2.76 million people), FCT Abuja (1.86 million people) and Kaduna (1.52 million people) (Babatunde and Pheng, 2015).

As with most economies, the building and construction industry is a significant sector contributing to growth and development in Nigeria. The country is seen as one of the largest countries in Africa, having the largest population and it is also among the fastest growing country in SSA in terms of suburbanisation, with almost 50% of the population living in the cities and towns (Oluwakiyesi, 2011). Hence, there is a demand for housing and other social amenities.

1.3.2 An Overview of Nigerian Ministries, Departments and Agencies (MDAs)

Ministries, Departments and Agencies (MDAs) in Nigeria are under the Nigerian Federal civil service (Bayo, 2012). They are a vital part of the public sector because they are the administrative system used in managing development, through the utilization of projects to translate government policies and strategies into action (Monye-Emina, 2012, Adewumi and Idowu, 2012). The Nigerian Federal civil service, was established with the primary objective of fostering and sustaining capitalism in colonial Nigeria (Nkwede, 2013). During the early colonial epoch, it functioned as a centralized organization with British officials as the key personnel, but the constitutional and political development which emerged later (1946 –

1966) restructured them into a decentralized system (Monye-Emina, 2012). However, there are assertions that the uniform system of centralized control that was put in place by colonial rulers still exists in Nigeria's civil service (despite the modification to the system), which has allegedly led to administrative inefficiency and ineffective public services (Anazodo et al., 2012).

Generally, in MDAs, traditional forms of administration still thrive, despite new forms of administration such as the New Public Management (NPM) initiative which was introduced into government organisations (GO) to improve management efficiency and effectiveness (Nkwede, 2013). These traditional administration processes are underpinned by a rule-based and rigid approach to management which comprises of hierarchical structures, division and specialization of work, and impersonality/logical considerations (Gruening, 2001).

Like in most developing countries, particularly in SSA, Project Management Practices in the civil service are relatively marginal. MDAs who are regarded as overseers of building and service delivery are deficient in the ability to effectively manage and administer projects (Zuofa & Ochieng, 2014; Isa et al., 2013; Olateju et al., 2011).
The lack of Project Management protocols and skills in all aspects of public projects, and the consequential problems of poorly implemented and abandoned projects in the country, have been reported by some key Nigerian government officials (Ezeugwu, 2013; El-Rufai, 2012). Arguably, there is a perceived awareness of a shortage of adequate Project Management Practice in MDAs, as authors are recommending PMP for tackling the problems of building collapse in Nigeria (Zuofa & Ochieng, 2014; Anyanwu, 2013). Nonetheless, without adequate knowledge about the complications of PMP in MDAs, and an understanding of how the structure of these organisations affect PMP, no significant initiative or practicable solution for promoting PMP may be developed. This study argues that the conventional reductionist approach of investigating Project Management Practice in developing countries does not address the reality of the condition from a holistic perspective, but rather offers a partial enquiry.

In Nigerian Government Organisations, projects are usually awarded based on thresholds. Typically, projects above 1billion naira are awarded by the Federal executive council, while projects less than 1billion are approved and awarded by the corresponding Ministry, Department or Agency (BPP, 2012). The traditional Design-Bid-Build (DBB) contracting method of procurement, where the client (government) is responsible for the design and

undertakes the single point management for the construction of the project, is most popular and predominantly used in the Nigerian civil service practice (Okunlola et al., 2011). However, newer methods such as Public-Private Partnership (PPP), Design and Build (DB), Build Operate and Transfer (BOT), Build, Own, Operate and Transfer (BOOT), and Turnkey projects etc. are gradually being introduced into the market (Mudi and Bioku, 2015). Although foreign contracting organisation tend to dominate the construction industries in Nigeria, the Nigerian Content Development (NCD) Act, passed into law in 2010, states that Nigerian independent contractors should be given first consideration in the award of contracts (Babatunde and Low, 2013; Ihua, 2010). This law was established to enable the promotion of indigenous ownership and localization of management control.

1.4 Research Rationale

Government organisations (GO) in Nigeria are flooded with problems such as, inadequate funding, a lack of technical expertise, poor planning, incompetent project managers and lack of basic administrative skills (Zuofa & Ochieng, 2014; Isa, 2013; El-Rufai, 2012; Olateju et al., 2011). Arguably, most of these challenges are related to Project Management. This research is conducted because the development of Project Management Practice (PMP) will be relevant in enhancing management capabilities and facilitating NGCO to efficiently control and manage projects in order to increase the potential of achieving developmental goals (KPMG, 2013; Arnaboldi et al., 2004). In addition, scholars in the field of Project Management in developing countries have suggested that causes of the challenges of promoting PMP in African developing countries need to be considered and explored in relation to government organisations, so as to provide support for a nation's administration (Rwelamila and Purushottam, 2012).

Additionally, Africa is seldom studied in management literature (Rivera-Santos et al., 2015; Julian and Ofori-Dankwa, 2013), which includes Project Management. According to Zoogah & Nkomo cited in Rivera-Santos et al., (2015 pg. 75), a review of 80 business and management journals covering a span of 61 years (1950 to 2011) found only 216 articles out of possible tens of hundreds, focusing on Africa. Consequently, there are requests for more empirical research in Africa. This research can therefore be used as a basis and an illustration for conducting similar investigations in an African context.

1.5 The Concept of Structure

According to Sewell (1992), structure was earlier conceived in the literature as hard and impenetrable, like the beams of a building. It was perceived as something that existed independently of our experiences, but nevertheless stabilizing and providing its shape. A formal definition of structure during its early conceptualization depicted it as rules and resources routinely performed in the reproduction of social systems (Giddens, 1989). However, the theory of structure has evolved to represent parts of a complex social reality that explain the whole. It has been argued that structure denotes relevant aspects of social relations, i.e. the propensity to reproduce patterns of connections or networks (Sewell, 1992). Correspondingly, some authors emphasise that it is impossible to separate the notion of structure from the relationship that links the parts of a system (Green, 2002), and in the same strand, others highlight that the concept of structure and relationship are interrelated, as structure cannot stand on its own (Tennis and Jacob, 2008).

1.5.1 The Structure of the Nigerian Government

The Nigerian government is said to operate a decentralized government structure through the three tiers of government and engages in several projects and service delivery activities (Nkwede, 2013). However, Anazodo et al. (2012) argue that the effect of this decentralization has not been achieved as inflexibility, inadequate allocation, corruption and patronage still thrives in the Management system of the Nigerian civil service. Similarly, Bayo (2012) argue that the Nigerian civil service adopts a Weberian structure of bureaucracy, which emphasises centralization.

Contained in the Civil Service handbook (1999), the Nigerian government is made up of three arms: The Legislature, Executive and Judiciary. The Legislature is responsible for making laws, approval of the budget and confirming appointments of Ministers, Ambassadors, Judges, members of commissions etc. The Judiciary exists solely for adjudicating, and the Executive is responsible for implementing laws and managing the daily activities of the government. Government organisations (GO) in Nigeria are typically hierarchical in nature and are organized into Federal, State and Local government levels representing the three tiers of government. This study relates exclusively to the Federal level, because it is alleged that MDAs at this level are assigned more staff and budget, as they engage in more projects. Also, they are the parent organisations of the state and local levels, though each has varying degrees of responsibility. The Federal government has exclusive duty for specific matters such as Banking and Currency, Aviation and Foreign

affairs etc. Both the Federal and State governments share some responsibility on some matters such as Health, Building and Construction, Education etc. while the remaining powers are assigned to the state government to legislate e.g. social welfare.

To facilitate the responsibility of various management activities, GO are divided into Ministries, Departments and Agencies. This is often referred to as MDAs. Each Ministry is usually responsible for various government owned department, parastatal or agency. Each Ministry is headed by a Minister who is the chief executive, and a chief adviser referred to as the Permanent Secretary. Departments and Agencies, on the other hand, are headed by Chairmen (sometimes called Managing Director), Director-General or General Managers. The hierarchy of management system in these organisations consists of the political level (Ministers, Executive Directors), the management level (e.g. Permanent Secretary, Managing Director and Managers) and the operational level (Administrative and Technical Officers). (See Fig 1.3)

Although different MDAs have specific mandates, certain functions are common across all ministries. These functions are distributed to core departments, depending on the particular Ministry, these are:

1) Department of Administration and Supplies or Human Resources Management
2) Department of Finance and Accounts or Finance and Supplies
3) Department of Planning, Research and Statistics.

Besides these core departments, each Ministry has professional departments that are appropriately structured for executing its core mandate. The number of such professional departments depends on the size of the Ministry. For example, Federal Ministry of Works, Housing and Urban development has three professional departments: Architectural services, Building and Quantity Surveying and Engineering Services.

This study is focused on three government organisations: Federal Ministry of Works, Housing and Urban development, Federal Housing Authority and Federal Capital Development Agency. These organisations are charged with building and construction mandates, and are hence referred to as Nigerian Government Construction Organisations (NGCO).

Bayo (2012) provides a description of the civil service as follows: The head of a Ministry is the Minister who is the Chief Executive, and is the chief representative of the President in the Ministry. He or She is the political leader with the entire responsibility for policies and

projects. In a large Ministry, the Minister may be assisted by a Minister of State. The Permanent Secretary is the officer responsible for the day to day administration in the Ministry. He or She acts as the accounting officer as well as the principal policy adviser to the Minister. Under the Permanent Secretary are other groups of government workers such as, the Directors who head Departments and are directly responsible to the Permanent Secretary, Deputy Directors who assist Directors in charge of the Department, Assistant Directors and Chiefs who head the units and Sections respectively. Generally, the civil service is structured into the following groups: executive group, administrative group, professional group, clerical group and the messenger group.

The Federal Government is the primary client of the construction industry in Nigeria, with the administrative role assigned to NGCO (Mbamali and Okotie, 2012). The traditional approach is widely used as a procurement method, where the design of the building is undertaken separately from the construction by two separate groups. The design group is often an in-house professional such as an architect, engineer or a quantity surveyor, while the construction group usually comprises a major contractor and several other sub-contractors selected based on competitive tendering, which is carried out after most of the design is completed.

Multiple organisations are often involved for any given project, particularly for construction projects, such as client organisations and contracting organisations. However, the sponsor organisation is usually in charge of administration and management of the project except in cases where the sponsor organisation is non-technical oriented (e.g. Ministry of Health). In the latter case, a technical – oriented Ministry, one with a building/infrastructure development mandate, acts as a consultant and manages the project on behalf of the non-technical ministry (Rasul and Rogger, 2016). The professional officers (as they are often referred to) or project practitioners in charge of the management are usually from the government organisation responsible for overseeing the project.

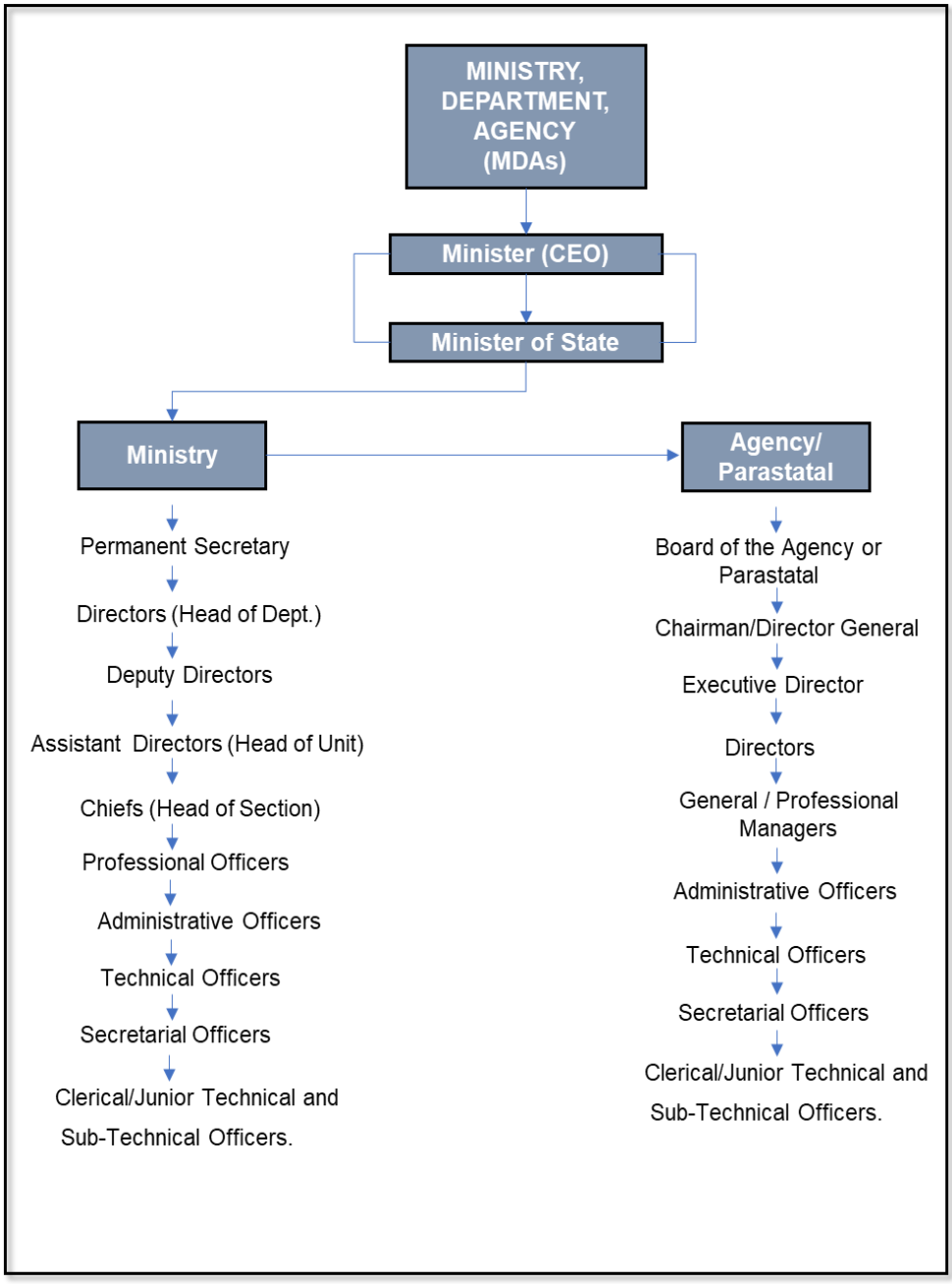

Fig 1.3 Hierarchy of management system in Nigerian MDAs

Source: Author generated based on Civil Service handbook (1999).

1.6 Research Aims and Objectives

The aims of this research are:

(1) To explore the challenges of Project Management Practice (PMP) in Nigerian Government Construction Organisations (NGCO) by understanding how structure and agency impacts on PMP from a systemic viewpoint.

(2) To develop a framework that elucidates the causal relationship between structural components on the development of PMP in NGCO from a systemic viewpoint, in order to understand the current effect of PMP.

These aims will be achieved through the following objectives:

(1) Evaluating Project Management Practice in relation to the structure and agency of NGCO.

(2) Critically reviewing PMP in Government Organisations (GO) of Sub Saharan African Countries (SSAC) to understand challenges of PMP and in order to extrapolate findings to the Nigeria context.

(3) Testing a Formal System Model in the context of NGCO to elucidate causal relationships between structural components, and how these relationships impact on PMP in NGCO.

1.7 Research Setting and Scope

The context for this study is Nigeria Government Construction Organisations (NGCO). That is, Government Organisations (GO) with a mandate to carry out building construction projects. Infrastructure such as civil engineering projects: roads, bridges, pipelines, electrical projects etc are not included in the scope of this research. Infrastructural projects are large scale and sometimes the whole project can be subcontracted out. The study limits itself to Ministries, Departments and Agencies (MDAs) because they are considered as the government controllers or coordinators of building construction projects. Analysis of other actors of the construction industry such as contractors are not considered in this study. Furthermore, despite the correlation between project success and the use of project management practices (Joslin and Müller, 2015), this research focuses on the latter only. Therefore, project success is beyond the scope of this study.

Due to the scarcity of scholarly literature that has investigated PMP in Nigerian government organisation, the literature review was extended to include parallel studies in Sub Saharan

Africa (SSA). Sub Saharan African countries in general have similar features in terms of status of control mechanisms, social, economic and political conditions (Ayee, 2005; Muriithi and Crawford, 2003). Based on the similarity of SSA countries, the term *'African Project Failure Syndrome'* has been used to refer to challenges of managing government projects in Africa (Rwelamila & Ssegawa, 2014).

1.8 Approach to Research

In order to provide a logical basis for the research, an overview of the research approach and methodology is provided in this section, with a detailed description in Chapter Five.

Due to the nature of the research aims and objectives, the research utilised a Critical Realism (CR) philosophical approach. The use of this approach is relatively new in Project Management research. This approach was considered appropriate because it offers a new method to developing knowledge by recognising the presence of structural independent elements and their relationship that constrain and facilitate social actors in carrying out certain activities in a particular context (Sayer, 2010). CR provides understanding about social structures, human agency and the interaction between them as a basis for the analysis of a phenomenon for theorising the relative interplay of structures, culture and agency (Hjørland and Wikgren, 2005).

In adhering to Critical Realism, and based on parallel studies, a qualitative methodology was used for data collection (Fletcher, 2016; Bygstad and Munkvold, 2011; Wynn and Williams, 2012). This is because the qualitative method focuses on understanding and elucidating activities and experiences of social actors in a particular context, thus revealing the relationship between structure and agency of an organisation. A semi-structured interview was utilised for data collection because this is usually more convenient and comfortable for most research participants as they prefer to discuss freely. Data was analysed by Retroduction, which is the fundamental approach to analysis in Critical Realism (Vaismoradi, 2013; Danermark et al., 2002). This approach is consistent with the interpretative strand and, in addition, it provides a means for discovering and drawing conclusions from occurrences by focusing on how different elements interact to produce the observed outcome.

1.9 Contribution and Originality

This research seeks to explore and explain the causal relationships between structure and agency on the development of PMP in NGCO. It examines these interconnections from a systemic (holistic) viewpoint. The context of this study is Nigeria Government Construction Organisations (NGCO) regarded as the administrative system of the Federal Government. Prevailing studies on Project Management are limited to a reductionist perspective which takes into account individual aspects of an organisation. However, this research brings to light the interrelation/interconnectedness of organisational elements influencing PMP through the application of a Critical Realism philosophy. It proposes a theoretical model of how both the structure and agency impacting on PMP are connected, therefore providing an abstract explanation of the situation in context. The challenges of PMP are often investigated using a positivist methodology, and no study was identified which investigated PMP in a developing country from a systemic approach. Thus, it can be argued that knowledge about the causal relationships of how structure impacts on PMP in a developing country are underexplored. This research study develops a theoretical framework that shows the causal relationship between structure and agency, and how they influence project management practice. The model will offer tactical and practical information for promoting PMP within NGCO and can subsequently be interpolated to similar context in other regions.

1.10 Summary of Chapter

This chapter introduced the context in which this research was carried out, highlighting the vision of the Nigerian Government towards advancing the nation's economy through the execution of building construction and infrastructural projects. The problem of government organisations which are responsible for managing government projects was explained based on existing literature and reports/statements made by government officials. A major problem identified was the lack of Project Management Practice to support the execution of government projects. Thus, the aims of the research were established, which basically focuses on understanding how the structural components within NGCO relate and impact on PMP.

CHAPTER TWO: Literature Review – Concepts

History may not repeat itself, but it does provide a baseline for evaluating the significance of new concepts or techniques… we should study the past to illuminate the present. - D. Wren and A. Bedeian

2.0 Chapter Introduction

The search for a set of guidelines and procedures for managing a project has resulted in a variety of ideas about what Project Management is, what Project Professionals do and what activities or practices are necessary in managing projects. This chapter begins with discussions about what a project is, types of projects and the evolution of the Project Management concept. Early management theories are subsequently reviewed to show the lineage of some Project Management principles and to also provide a basis for discussions about the research context.

2.1 Understanding Projects

The simplest description of a project according to Wirick (2011) is: any creative endeavor or activity with a beginning, an end and a distinct outcome. This basically implies that creating something or altering a thing is a project if there is a new effect. The Association for Project Management (APM) describes a project as a unique, transient undertaking carried out to achieve a desired output and/or benefits and is usually considered successful if it accomplishes the objectives according to the laid down criteria, within an accepted timeline and budget (APM, 2012). Similarly, the Project Management Institute (PMI, 2013) defines a project as a temporary venture undertaken to create a unique product, service or outcome which may be tangible or intangible. In his handbook of project based management, Turner (1993) described a project as an endeavor where human, material and monetary resources are ordered in a unique way, to embark on a distinctive scope of work of given requirement, within constraints of cost and time, so as to attain the benefits defined by quantitative and qualitative objectives. However, Turner and Muller (2003) later critiqued this definition as being incomplete and suggested that the temporary nature of projects should be assessed from the view of organisation theory. Thus, they redefined a project as a temporary organization to which resources are assigned to carry out a distinctive, unique and temporary activity managing the intrinsic uncertainty and need for incorporation in order to deliver beneficial objectives of change. By implication, the character of a project is viewed as a production function, an agency for the allocation of resources within functional units

and as an agency for managing uncertainty (Turner, 2003). This definition is supported by PMI (2013) which further explained that although repetitive factors may be present in some project deliverables and undertakings, this repetition does not alter the fundamental unique feature of project work.

A mutual theme in all these definitions is that projects are unique and temporary, and they reflect an organisation's strategic goals. A project in this study will be regarded as a temporary activity undertaken to create a product by which government organizations deliver their objectives (Kerner, 2013). In traditional hierarchical institutions, projects operate as special structural instruments used where a discrete self-sustaining sub-division is formed to manage the completion of a unique activity such as concluding a merger, installation of a new technical system, managing a special event and managing the construction of a building (Thomas, 2006).

Different Ministries, Departments and Agencies (MDAs) engage in different types of activities that require human endeavour and material or financial resources. While all MDAs handle basic administrative activities such as supplies and deliveries and human resource management, there are specific ones that have fundamental mandates for execution of building construction projects. Hence, MDAs that enhance economic development through the delivery of residential and non-residential building projects is the context for this study.

2.1.1 Types of Projects

Projects fall under different categories. According to Archibald (2013), different types of projects often exhibit different lifecycle models, consequently requiring different methods of administration, planning, executing, scheduling and control practices. The categorization of a project is beneficial and important to organisations because: (1) One is able to separate the market for marketing purposes based on knowledge of the project category, and (2) Different management approaches are required for different projects (Youker, 1999). Scholars have identified and used various criteria to categorize projects based on a single characteristic or a combination of them (Archibald, 2013). Some project categories are discussed below:

Crawford et al., (2004), identified different types of projects based on characteristics such as: application area or product, grouped or single, strategic importance, stage of lifecycle, geography, scope, uncertainty, risk, complexity, customer and the form of contract. Youker (1999), identified four basic and alternative ways of categorizing projects for practical use,

he grouped projects into: geographical location, industrial sector (Standard Industrial Classification System), stages of the project lifecycle and product of the project (e.g. building construction or developing a new system software). Categorizing projects in terms of the products to be delivered is considered the most relevant and practical classification method, such as construction of a building, developing a new computer software and performing a maintenance turnaround (Archibald, 2013; Youker, 1999) (See Table 2.0). In an alternate manner, Shenhar and Wideman (1996) offered a system of categorisation based on three variables relevant to the product of the project: (1) Degree of uncertainty, (2) Complexity based on degree of interconnectedness and (3) Pace, based on the need for speed within an existing time frame for the project.

	Type of Project	**Service or Product of Project (Examples)**
1.	Administrative	Installing a new accounting system
2.	Construction	A building or a road
3.	Computer software development	A new computer program
4.	Design of plans	Architectural or engineering plans
5.	Equipment or system installation	Telephone system or an IT system
6.	Event or relocation	Olympiads or a move into a new building
7.	Maintenance of process industry	Petro-chemical plant or electric generating station
8.	New product development	A new drug or aerospace/defence product
9.	Research	A feasibility study or investigating a chemical

Table 2.0 Different types of projects based on the product they produce

Source: Youker 1999

Furthermore, projects have been described based on the number of interactions and the number of social and technical elements that are involved in their organization (Sheffield et al., 2012). A low amount of interaction and few elements depicts a simple project, a low amount of interactions in addition to a high number of elements characterizes a complicated project. A high amount of interactions and a low number of elements represents a dynamic project, and a complex project is one having a high amount of interactions and elements. Ireland et al., (2013) similarly explored complicated and complex projects and re-categorized

them based on a hierarchy of complexity: Simple, Complicated and Complex. Complex projects were further explored and categorized into Type A, B and C. Table 2.1 provides a description of each classification of projects based on an order of complexity.

Complexity Type	Description /Context	Project Examples
Simple	A local and small project with relatively fixed boundaries and scope	Managing a market campaign
Complicated	Expert diagnosis required with fairly fixed boundaries and scope. Fact-based management.	Design and produce a jet engine
Complex Type A	Traditional system projects in which there is inclusion of an existing system into a new project, the existing system being independent and autonomous. Instability and unpredictability, Unclear and varying boundaries	Commercial airline development, Construction infrastructure build
Complex Type B	A wicked problem. System projects which require systems thinking to determine stakeholders, project boundaries and Systems Dynamics to develop a potential solution. Unclear and varying boundaries	Managing terrorism in Afghanistan, Managing multi-national integration for climate change, Managing international disputes.
Complex Type C	An attempt to reduce wastage. Integration of independent assets into a larger system into a system to reduce waste. Unclear and varying boundaries.	Integrating road and river systems between states. Distributing food from rich countries to poor.

Table 2.1 Classification of projects based on order of complexity

Source: Ireland et al. (2013)

Government building projects, thus, fall under Type A of complex projects. These sorts of projects are said to be in a traditional system presumably because of the traditional contracting method used in procurement. As such there is usually an inclusion of an existing system into the project – the contractor's organisation. The presence of an external system suggests that there is a potential of having a variation in Project Management practices

being applied. The traditional Design-Bid-Build contracting type is predominantly used in NGCO (Mudi and Bioku, 2015) for executing building construction projects because it provides them with more levels of control and management over its execution (Okunlola et al., 2011). However, the contractor's organisation existing external to NGCO imply that project professionals may face some challenges in overseeing and applying project management procedures because of the separation between the project manager's and contractor's responsibilities.

2.2 Understanding Project Management

Project Management is defined in many ways, but in spite of the variation in its description, there seems to be a consensus on the basic understanding of what Project Management is. Johannsen and Page (1980) referred to Project Management as a comprehensive management of all phases of a project ranging from its conception to completion and finally commissioning. Gray (1981), defined Project Management as the act of planning, scheduling and controlling non-repetitive complex activities to reach predetermined goals and objectives of the project. In the same vein, Lock (2001), states the aim of Project Management to be planning, organising and controlling of all activities to achieve successful completion of the project despite the difficulties and risks. Harrison (1992), acknowledged Project Management as a highly specialized sub division of management, employed in all areas of production, business and government. He defined it as the realization of a project's objective through planning and controlling resources allocated to the project and at the same time creating constructive relationships whilst managing people involved in the project. PMI (2008), defined Project Management as the application of knowledge, skills, tools and techniques to project undertakings to meet project requirements, with this being accomplished through the use of processes: initiating, planning, executing, controlling and closing. According to Pryke and Smyth (2006); APM (2013), Project Management is a way of managing change while understanding the needs of stakeholders and it describes the activities and tasks that are performed within a specified time, surrounded by uncertainties that are used to initiate or develop new or existing products and services.

An assessment of the above definitions divulges two perceptions of what Project Management entails. Most of the earlier definitions (1980s to early 2000) tend to emphasize a more rationalistic approach, while the later definitions integrate a more comprehensive approach that includes softer management skills. Likewise, earlier versions of the Project Management Institute Body of Knowledge emphasized tools and techniques such as Work

Breakdown Structures (WBS), schedules and cost budgets as being critical to planning and project execution, but the PMI's PMBOK Guide, throughout the 4th, 5th and 6th editions, introduced interpersonal skills such as stakeholders' management/engagement as a new area of focus (PMI, 2017; PMI, 2013; Indelicato, 2009). In addition, one could argue that the difference in perception is also as a result of the respective authors' background, (for example, Lock (2001) focuses on building and construction) or, it could be due to the evolution of management processes based on contemporary organisational complexities. Morris et al., (2012) referred to this evolution as the 'management of projects' where emphasis is not only on planning, control and monitoring, which he referred to as a narrow view of the Project Management discipline, but on a broader holistic perspective that focuses on the entire organisation and people. Crawford et al., (1999), similarly stated that this approach to viewing Project Management facilitates performance goals and their successful management, which is in response to the dynamic business and social environments. However, it is acknowledged that both approaches complement each other (Pant and Baroudi, 2008; Pryke and Smyth, 2006) such that the former (narrow perspective) lies within the latter (broad perspective). (See Table 2.2)

Project Management	**Narrow Perspective**	**Broad Perspective**
Approach	Focuses on activity that facilities project analysis once requirement have been established.	Focuses on the organisation in its entirety
Process	Execution-only or Delivery oriented	Holistic process of managing projects from early stages of conception.
Administration	Application of tools and techniques to meet project requirement.	Application of management systems while focusing on context.
Unit of Analysis	Project as an execution management	Project as an organisational entity

Table 2.2 Perspectives of Project Management Author generated based on Morris et al. (2012)

2.2.1 History and Evolution of Project Management

The art of managing projects can be argued to have been in existence since the Egyptian era where structures such as the ancient cities of Mesopotamia and the pyramids of Egypt were built (Morris et al., 2012) or in the 12 -13th century where the art of English “castle-building programme” was developed (Gravett, 2013), nonetheless, there is no complete evidence as to how construction of these structures were managed.

The advent of contemporary revolutionized industries in the 50s, and the diversification of systems (Morris et al., 2012) seem to have trigged the demand for a systematic and repeatable way of planning and controlling resources and activities to ensure achievement of project objectives. Kwak (2005), states that it was during this period that organisations began applying methodical and logical Project Management tools and techniques to projects. According to Morris et al., (2012), the first record of Project Management as a concept was in the US defense-aerospace department in 1953, and this initial conception was based on tools and techniques such as critical path network scheduling and configuration management. The earliest stage of development was the traditional project management approach which consisted of tools and techniques applied in construction during the production phase and it emphasized the planning and control aspects of Project Management. This approach, usually called the hard approach, has been criticized by researchers such as, Xue et al. (2010); Cicmil and Marshall (2005) and Cooke-Davies (2004) for its lack of adequately dealing with management systems and processes, trying to handle all projects in the same way, and failure to satisfactorily deal with human issues. A second stage of development focused on an organisational structure approach as a means to achieving integration and work performance. In this approach, projects were viewed as temporary structures encapsulated within the organisation and wider network (Gareis, 2010; Engwall, 2003). The third development stage, identified the relevance of front end management of projects and viewed both the internal and external systems and processes as essential for managing the operational stage in projects (Pryke and Smyth, 2006). Correspondingly, research conducted to identify the future direction of Project Management in relation to developing practice, identified the relevance for new thinking in areas of project complexity, social process, value creation, project conceptualization and professional development (Winter et al., 2006). (See Table 2.2.1)

Theory ABOUT Practice	Direction 1
The Lifecycle Model of projects and PM ➡ Theories of the Complexity of Projects and PM	
From: the simple lifecycle –based models of projects, as the dominant model of projects and project management.	**Towards:** the development of new models and theories which recognise and illuminate the complexity of projects and project management, at all levels
Implication The need for multiple images to inform and guide action at all levels in the management of projects, rather than just the classical lifestyle model of project management, as the main guide to action, (with all its codified knowledge and techniques). Theories ABOUT Practice can also be used as theories for practice	

Theory FOR Practice	Direction 2
Project as Instrumental Process ➡ Project as Social Processes	
From: the instrumental lifecycle image of projects as a linear sequence of tasks to be performed on an objective entity, using codified knowledge, procedures and techniques, and based on an image of projects as temporary apolitical production process.	**Towards:** concepts and images which focus on social interaction among people, illuminating: the flux of events and human action, and the framing of projects (and the profession) within an array of social agenda, practices, stakeholders relations, politics and power.
Direction 3	
Product Creation as the Prime Focus ➡ Value Creation as the Prime Focus	
From: concepts and methodologies which focus on: *Product creation* – the temporary production, development, or improvement of a physical product, system or facility etc.	**Towards:** concepts and frameworks which focus on: value creation as the prime focus of projects, programmes and portfolios.
Direction 4	
Narrow Conceptualisation of Projects ➡ Broader Conceptualization of Projects	
From: concepts and methodologies which are based on the narrow conceptualisation of projects.	**Towards:** concepts and approaches which facilitate broader and on-going conceptualization of projects.

Theory IN Practice	Direction 5
Practitioners as Trained Technicians ➡ Practitioners as Reflective Practitioners	
From: training and development which produces: practitioners who can follow detailed procedures and techniques, prescribed by project management methods and tools	**Towards:** learning and development which facilitates: the development of reflective practitioners who can learn and adapt effectively in complex project environment

Table 2.2.1 Directions for Future Research in Project Management Source: Winter et al. (2006)

The present study represents a transition from extant theory and common perception of Project Management which is reductionist and narrow in conceptualisation, to an all-inclusive system and broader conceptualization that takes into consideration and uncovers the complexity of project management practice in relation to its environment.

In addition, the growth and development of the Project Management discipline is also associated with the upsurge in the number of associations and international bodies being formed, and having an objective of developing and disseminating Project Management knowledge (Morris et al., 2012). The following section outlines the main Project Management international bodies.

2.2.2 Project Management International bodies

The formal recognition and rate of growth of Project Management resulted in a need to establish it as a distinct discipline which led to the formation of two main Project Management Bodies, the International Project Management Association (IPMA) and the Project Management Institution (PMI) (Codas, 1987). IPMA was founded in Europe in 1965 with a vision of promoting competence throughout the world so that all projects can succeed (IPMA online). The Project Management Institute was formed later in 1969 in the United States, with the aim of advancing the Project Management profession by delivering value to professionals working in every country in the world through globally recognised standards, certification, resources, academic tools and publications etc. (PMI, 2017). The Chartered Association for Project Management (CAPM) began in 1972 as the British-formed UK chapter of IPMA. CAPM is the United Kingdom member association of IPMA with a commitment to developing and promoting Project and Programme management through its five dimensions of professionalism (APM, 2017; APM, 2010).

2.2.3 Development of International Standards and Guides

The advent of international bodies and the importance of the role of standards for the Project Management profession led to development of international standards and guides (Duncan, 1995). Professional standards were seen as relevant for the Project Management profession because of the benefits accrued from standardisation and the necessity to practice or demonstrate individual capabilities (Crawford and Pollack, 2009). This was the drive behind the development of a Project Management Body of Knowledge (Cook, 1977) which describes the distinctive knowledge area a professional is competent in (Morris et al., 2012). Bodies of knowledge are a form of codified knowledge. The first body of knowledge was

published by PMI in 1983 (PMBok) and has been updated many times, to reflect trends in application area (Duncan, 1995). Similarly, the CAPM produced its own body of knowledge (APM BoK) in 1991 which has since gone through six versions, with some versions based on special research (Morris et al., 2006). The Competence Baseline is another common Project Management standard published by IPMA to support its certification course, it is an adaptation of the APM BoK (Pannenbacker et al., 1998).

Project Management, as the name implies, is underpinned by management theory. It can be regarded as a branch of management that focuses on how to successfully deliver projects. Therefore, it is relevant to understand the evolution of management theories in relation to project management practices. Furthermore, knowledge about the management structure in NGCO and values driving this system is relevant to gaining an understanding of those elements that can possibly influence PMP in NGCO. Therefore, to attain a comprehensive understanding of management structure in NGCO and what notion or beliefs drives the organisation, an overview of management theories is relevant, because they underpin administrative/management activities that exist in most organisations today (Cole, and Kelly 2015).

The concept of Project Management is generally believed to have post-dated the classical theories of management. Even though it is basically understood as the application of tools, methods and techniques in order to successful complete a project; Project Management is also regarded as a philosophy of management (Bryce, 2006).

2.3 Management Theories

Management is a concept that has been defined in several ways. Early philosophers such as Frederick Taylor defined management as “the art of knowing what you want to do and making sure that it is done with the best and cheapest means” (Taylor, 1914), and Henri Fayol referred to management as “to forecast, to plan, to organise, to command, to co-ordinate and to control” (Fayol, 1930). However, these early management definitions were criticised for being too rational and focusing majorly on formal activities of workers (Buchanan and Huczynski, 2016). Thus, later definitions of management incorporated a social/human element. For instance, Haimann and Scott (1974), states that management is “a social and technical process which uses resources, impacts on human action and facilitates changes to achieve an organisation’s goals”, while Koontz (2010), asserts that it is “the art of getting things done through people in formally organised groups”. Consequently,

Management can be defined as getting something done or achieving an objective through the use of a social process and functions of planning, organising, directing and controlling.

The different definitions of Management result from the varying views of what management entails. Debates on the notion of what management is, and what it involves, date back to the 19th century, during the pre-world war I era (Kwok, 2014). Although, some argue that Management, as a human responsibility and procedure which drives economic growth and action, is as old as human civilisation (Wren and Bedeian, 2009; Oghojafor et al., 2012).

Development of management theories has been discussed from various perspectives. For instance, some scholars discuss management theories based on management functions, e.g., Theory of Scientific Management, Administrative Management Theory, Bureaucratic Theory of Management and Behavioural Theory of Management (Kwok, 2014; Olum, 2004), while others base their classification on the period and method of the development, e.g., Classical Theories of Management, Human Relation Theories, Systems approach to Management Theory, and Contingency approach to Management Theory (Mcgrath and Bates, 2013; Mahmood et al., 2012). The latter is a comprehensive form of classification, as it encompasses the functions and attributes of management. (See Table 2.3)

2.3.1 Classical (Traditional) Theories of Management

As the name implies, classical theories of management were the earliest ideas about management practices that emerged in the late 19th century and early 20th century focusing on globalising principles and rules of production. The classical management theorists were concerned with the official relations between departmental activities and processes, and in the achievement of maximum efficiency and productivity amidst workers in an organisation (Cole and Kelly, 2015). These theories emphasised rationalism, tight control and formal activities of workers within management practice, practical requirements of the organisation, and assume coherent and logical behaviour of workers (Buchanan and Huczynski, 2016; Bratton and Gold, 2012). Notable proponents of the classical theories are Taylor, Gantt, Fayol and Weber. Classical theories are characterised into three subgroups: Scientific management, Administrative management, and Bureaucratic management. Due to its main focus on productivity, people, process, planning and control used to achieve the optimum quality of an output or product, scientific management is sometimes referred to as production management (Gao and Low, 2014).

	Name, Year of Major Work	Major Contribution to Management
Classical Theories of Management	Scientific Management FREDERICK TAYLOR - Shop Management (1903) - Principles of Scientific Management (1911) HENRI GANTT (1901)	Recognised as the father of Scientific Management. His main aim was to raise productivity through greater efficiency in production and increased pay for workers by applying the scientific method. Advocated the scientific selection of workers and cooperation between labour and management through the implementation of a payment/bonus system. Developed the Gantt chart.
	Administrative Management HENRI FAYOL - Administration Industriale et General (1916)	Pioneer of administrative management. He divided industrial activities into six groups: financial, technical accounting commercial security and management. He also formulated 14 principles of management.
	Bureaucratic Management MAX WEBER - Theory of Bureaucracy (1946, 1947)	Notable for his bureaucracy theory which focuses on maximizing efficiency through the creation of hierarchal structures where rules, procedure and general laws are adhered to.
Human Relation Theories of Management	Human Relations Management ELTON MAYO - Hawthorne experiments (1933)	Prominent academic who promoted the Human relation approach to management by emphasising the impact of social behaviour and relationships of work groups on performance.
	Neo-Human Relations (Motivation Theories) ABRAHAM MASLOW (1948) - Maslow's Hierarchy of Needs	Formulated the popular Maslow's Hierarchy of Needs, which defines five levels of needs that motivates people to work.
	Systems Approach to Management CHESTER BARNARD (1938) - The Functions of the Executive	Advocated that the task of managers is to maintain a system of cooperative work in a formal organisation. He suggested that both the external and internal environment be explored for effective management.
	Contingency Approach to Management BURNS and STALKER (1961) - Mechanistic and Organic structures	Differentiated between management that is suitable for a stable environmental condition and one that suits an unstable environment.

Table 2.3 The Emergence of Management Theories

Revised from Weihrich et al. (2013)

2.3.1.1 Scientific Management

Scientific Management theory was developed by Frederick Taylor in the early 20th century, a period when industrialisation in Western societies led to a surge of new factories and plant machineries. In this period, efficiency of working practice was a primary concern because of the copious labour that was required (Cole, 2004). Taylor, who was very interested in the efficiency of working practice, recognised that the way to achieve maximum efficiency from workers is to systematically share workload between workers. Thus, he was concerned with structuring work activities and advocated for maximum specialisation of tasks for both workers and managers, arguing that specialisation increases proficiency and skill and reduces learning time for workers (Wood and Wood, 2002). His oeuvre on the principles of scientific management highlights the decomposition of complex tasks into various smaller subtasks, and maximizing the performance of such subtasks (Olum, 2004). Subtasks were seen as physical work, and complex tasks were seen as mental work (Crowther and Green, 2004). This division (between physical and mental work), based upon Taylor's philosophical position, later became recognised as a division between manual labour and administrative activities (ibid).

Cole and Kelly (2015) summarised Taylor's scientific management principles as follow:

i) Development of a branch of knowledge for each activity of work to displace opinion and rule of thumb methods.
ii) Determining precisely from the branch of knowledge the right time, process and routine for each task.
iii) Setting up a proper division of work between workers and the management, such that all responsibility is taken off workers, excluding the actual performance of the task.
iv) Scientifically selecting, training, teaching and developing the workers.
v) Accepting that management of tasks be directed by the branch of knowledge developed for each activity.

In addition, Taylor spearheaded the use of financial incentives/rewards to pay workers whose performance and productivity exceeded a pre-set standard. His model for a successful institution comprised of: a clear demarcation of authority, accountability, differentiation of planning from operations, incentive plan for employees, and job specialisation. Although scientific management received several criticisms and antagonistic

reactions from workers and employers during its early years of conception, such as excluding personal and relational aspects from the work process, and for disregarding the psychological needs of workers (Buchanan and Huczynski, 2016; Freeman, 1996), it still seems to have some relevance in today's management practices, though this depends on the context and method in which the principles are used.

Stern (2001) cited in Mullins (2010) states:

> *"The 'scientific management' of Frederick Taylor . . . fashioned the first rational school of thought with application to the industrialised era. He was our first professional guru and Taylorism – with its twin goals of productivity and efficiency – still influences management thinking 100 years on".*

Henry Gantt was a prominent follower of the scientific management school who contributed significantly to the work of Taylor. He introduced a "reward for labour" payment system whereby workers were paid their basic rate for less than average performance and a bonus for performance above average. Gantt is most notable for his charts which were initially designed to graphically represent the extent of work activity completed.

The above quote by Stern (2001) regarding the influence of scientific management, holds true for government organisations in Nigeria. A ranked structure exists in NGCO, which essentially differentiates work activities amongst workers and delegates professional/experts within the system for technical expertise. The idea of specialisation is to encourage the division of activities and tasks into smaller manageable chunks in order to optimize job performance, and professionals are expected to be competent in their area of discipline. The responsibility expected of professionals in relation to training and teaching workers suggests that a certain level of managerial position is required to undertake such a role. However, in the Nigerian civil service, the position of a project manager is often undermined, because of the minimal power and authority conferred on them in relation to managing projects NGCO (Anyanwu, 2013). Correspondingly, Löfgren and Poulsen (2013) observed that project managers are usually not managerial roles in the civil service. Thus, the extent to which project managers are able to promote project management practice in NGCO will be hindered. Furthermore, the reward for labour pay system is not often used in the civil service, apparently due to the intrinsic non-competitive nature of most government organisations (Buurma, 2001; Crawford et al., 2003), hence the use of incentives to boost worker performance may not be regarded as important. Government agencies and

departments, contrarily, use the narrow-graded pay system which basically reflects the fact that promotion to a higher level is almost the only way good performance is rewarded (O'riordan, 2008).

2.3.1.2 Administrative Management

Henri Fayol was the pioneer of administrative management and his management theories were based on his experience as a manager (Golden and Taneja, 2010). According to Wren et al. (2002), Fayol's experience and reflection as a manager revealed that he applied other skills, rather than technical/engineering skills, in managing the organisation in which he worked. Fayol was the first to distinguish the technical role from the administrative role stating that:

> "*not many people are familiar with its constitution and powers… we do not see it, build or forge, sell or buy, but yet we know that if it does not work properly, the undertaking is in danger of failure*" (Fayol, 2016; Fayol,1949)

He referred to the technical workers as "workmen" and the managers as "foremen" distinguishing their roles in his statement:

> "*The foreman receives and transmits the results of the workman's experiences, receives, transmits and sees to the carrying out of instructions, makes his/her own observations and gives advice…*" (Fayol, 2016; Fayol, 1949)

In contrast to Taylor's management approach which considers an organisation from the bottom up by focusing on the fundamental units of work activity, workers' tasks and the consequence of their activities on efficiency, Fayol focused on a top-down approach, by examining the organisation from the senior manager's standpoint. He argued that workers needed to be skilled in all areas and at each level, yet it was essential for workers in management positions to acquire technical skills, though managerial skills become increasingly relevant as workers take on higher levels of managerial obligation (Golden and Taneja, 2010). Fayol observed that even though the technical and commercial aspects of work were well controlled and organised, the same could not be said of the administrative element. Thus, he proposed 14 principles of management intended to guide the manager. The 14 principles are: Division of work, Authority, Discipline, Unity of command, Unity of direction, Subordination of individual interests to general interest, Remuneration, Centralization, Scalar chain, Order, Equity, Stability of tenure of personnel, Initiative and Esprit de corps. (See Table 2.3.1)

Even though critics argued on Fayol's exclusion of some interpretation and facts in his popular book "Administration Industrielle et Générale", such as conflicts he had between the board of directors and other executives (Fells, 2000; Reid, 1995), his theories are considered to be a genuine and valuable contribution to management, with his 14 principles adapted and absorbed into contemporary organisations. Contemporary organisations now existing in the post-industrial era are somewhat distinct to the industries of the early 90s due to societal effects. For instance, society is now characterised by an increase of the service and information industry, by high levels of education, by uncertainty and instability and the need for organisational, socio-political and cultural values. Thus, based on existing literature, the initial ideas and meanings of Fayol's principles have been interpreted into contemporary management framework (Rodrigues, 2001).

Table 2.3.1 also shows Fayol's initial 14 principles of administration and interpretation of their meaning in modern day management.

Fayol clearly extended Tayol's views of maximising control of tasks and differentiation of work, to include control of administrative aspects. Hence, principles such as authority, unity of command and centralisation emerged. NGCO applies most of these principles of administration. For example, the principle of 'Authority' stand true in NGCO, as government officials in the management level are usually wielded an extent of autonomy over managerial and administrative decisions (Rasul et al., 2017; Rasul and Rogger, 2016). Government officers in other SSA countries such as Ghana (Rasul et al., 2017), Tanzania and Uganda (Fjeldstad et al., 2003) exercise similar autonomy, although a study in a Uganda government agency identified that the provision of authority to these executives made government organisations vulnerable to political interference such as informal/social issues (e.g. preferential treatment) (Therkildsen, 2002).

Principles	Pre-Industrial Understanding	Contemporary Interpretation
1.Division of Work	Specialization in worker's job design to develop practice and familiarity.	Generalization in worker's job design. Machines have taken over majority of specialized roles.
2. Authority	Management are empowered to give authority and orders.	Employees are empowered to encourage employee and group participation.
3. Discipline	Formalised controls as seen in clearly defined rules and procedures to attain employee discipline and agreement.	Informal peer pressure controls, also called secondary control system whereby workers are encouraged to adjust their expectation and goals to persons with higher authority or power.
4. Unity of Command	Employees report to only one manager	Employees report to multiple managers
5. Unity of direction	Only one plan and one manager for a group of activities with the same objective.	Multiple plans and bosses for groups of activities with the same objective.
6. Subordination of individual interests to general interest	Interest of one employee or group of workers should not take precedence over the general good.	Organisation is committed to workers and workers are also committed to the organisation. Due to the dynamic environment confronting organisations, new goals often need to be established to address environmental demand, therefore workers need to be quickly committed to new goals.
7. Remuneration	Compensation of work done should be reasonable to both the worker and the organisation.	Workers are rewarded based on performance (Performance based pay systems) where it is believed that effective workers should receive higher wages on the same job than less effective workers.
8. Centralization	Establishment of strategic plans and policies by top level managers and the interpretation of these plans and polices by workers in the form of tactical plans and processes to achieve the balance between centralization and decentralization. (Top-down decision making)	Organisational decisions are sometimes made in 'ad-hoc centres' defined by task relevant, specialized knowledge centres of control. Communication here is problem specific and depends on where the proficiency to solve a problem lies. ('ad-hoc centre' type of decision making).
9. Scalar Chain	Referred to as the 'hierarchy principle', and suggest that the line of communication in organisations should be primarily vertical i.e. top to bottom line of authority	The traditional hierarchy form of authority is being reduced more and more and a new 'normative integration' mechanism such as, socialization of managers into a set of shared goals, values and beliefs which subsequently shapes employees' perspectives and behaviour is adopted.
10. Order	There should be a place for everything and everything should be in its place; and the right man on the right place. This principle provides a form of formal organisation control.	Contemporary organisations still require that things should be kept in their proper place and workers should be in the jobs best suited for them. However, what is perceived to have changed is the idea of control

		over internal functions. Organisations today collect information about their internal activities more for production and quality proposes rather than for control purposes.
11. Equity	Fairness and kindness towards workers will produce devoted and dedicated workers. This principle is in line with the sixth principle which suggest that organisations want commitment and obedience from workers.	Organisations of today enhances commitment by developing a 'sense of ownership' among its workers
12. Stability of tenure of personnel	Workers are trained and expected to remain in the organisation due to the length of time and high cost of training.	Workers training, and development is more of a continuous process than in the past.
13. Initiative	Managers are required to conceive new ideas and implement them.	Workers in today's organisation are encouraged to think independently and show some initiative.
14. Esprit de Corps	The maintenance of high morale and harmony among workers is vital.	To remain competitive in the market, most organisations sometimes downsize their tasks and procedures and hire workers on a temporary/ contractual basis. Therefore, the maintenance of high morale is not as vital in today's organisation as it was in the past.

Table 2.3.1 Fayol's initial 14 principles of administration and interpretation of their meaning in modern day.

Source: adapted from Cole and Kelly (2015) and Rodrigues (2001)

Another example is the practice of 'unity of command' in NGCO, in this case, subordinates' report to and must be loyal to the manager directly above him or her for fear of unfair treatment (Bayo, 2012). However, the initial or contemporary meaning of principles like 'Initiative' and 'Esprit de Corps' seem to be less emphasised in NGCO presumably because they are fundamentally non-profit organisations, therefore not competitive in nature (Buurma, 2001). This notion is reinforced by the identification of lack of efficient ways of tracking performance of civil servants in NGCO (Esu and Inyang, 2009). Arguably, the importance placed on the initiation of new concepts and motivation of workers is reflected by the extent to which performance systems are promoted.

2.3.1.3 Bureaucratic Management

The Bureaucracy theory of management, proposes a set of theoretical concepts regarding the relationships between organisational features and administrative approach, conduct and performance. The theory suggests that rationality and control are characteristics of an organisation and that systems of organisation can be purposely developed (Olsen, 2005). Bureaucracy has been construed to mean several things, resulting in misconceptions about its definition. The term bureaucracy bears its origin from a French word 'Bureau' and a Greek word Kratos. Bureau referred to a fabric used in covering the tables of French government officers in the 18th century era (Lutzker, 1982) and Kratos means power of rule (Hummel, 2007). Hence the term bureaucracy took on the meaning 'power of the office' (ibid) and later became associated with rule by government. The most notable meanings of Bureaucracy in modern times are:

i) A structural form with certain governing features, such as hierarchy of authority, found in many organisation (Mullins, 2010).
ii) Red tape, i.e. a surplus of paperwork, documentation and procedures that results in extreme inefficiency (Cole, 2004).
iii) Officialdom, similar to "red tape" and meaning all the devices and mechanisms of the government (Cole, 2004).
iv) The duplication of activities operated by narrow-minded and autocratic officials whose work is identified by numerous twisting and indirect procedures (Lutzker, 1982).

However, earlier definitions of Bureaucracy (Albrow, 1970 quoted in Olsen, 2005) indicates that it represents:

i) A discrete organisational location (an office or bureau), which is formal, ordered in ranks, objective and focused with a clear functional division of work activities and separation of authority.
ii) A proficient, full-time administrative worker with long-term employment, planned careers, remunerations and pensions selected to a role and compensated on the basis of his/her education, quality and tenure.
iii) A superior organisational and standard structure where the root is defined by a valid, rational–legal political order and the power of the state to establish and administer the legal order, such as government organisations.

These earlier descriptions of Bureaucracy were based on the ideas of Max Weber who is regarded as the pioneer of Bureaucracy theory (Shafritz et al., 2015)

Weber was a German sociologist who advocated the theory of Bureaucracy around the same period as the early pioneers of management (Taylor and Fayol) but unlike them, Weber was an academic and not a practising manager (Cole and Kelly, 2015). In his assessment of management, Weber recognised three primary types of legitimate authority:

(i) Charismatic authority, where workers obeyed and followed instructions of those in authority out of loyalty, respect and confidence in the personal abilities of the leader.

(ii) Traditional authority, where workers obeyed a leader in power for the simple reason that the leader was in a position of customary or traditional rule (e.g. tribal rulers, monarchies).

(iii) Rational authority, where leadership and authority were obeyed due to the values, laws and regulations bounded by the organisation.

(Fry and Raadschelders, 2013; Jain, 2004).

However, it is the rational authority that is the centre of Weber's bureaucracy and the foundation of most modern-day organisations, due to the beliefs in the legality of a system of normative procedure and the power of officials under such procedures to issue commands and control (Stillman, 2005).

Weber argued that, ideally, the description of rules, activities and responsibilities within the structure of management produced an enduring administration and standardisation of working processes and practices regardless of changes in the leaders of office. His notions about organisations suggested that technical expertise was more important for management, through which general laws and rules were followed, established and could be learned (Weber, 2009; Shaw, 1992). For him, the engendering of bureaucracies was a means of providing law and rationality to organisations. Weber's emphasis on the relevance of management based on proficiency (rules of experts) and management based on discipline (rules of leaders) led him to identify the following characteristics of bureaucracy as stated by Merton (1952), Sager and Rosser (2009) and Mullins (2010):

i) There is a hierarchical structure of the offices and positions that applies to the organisation.

ii) Employment of individuals to the organisation is based on their technical competence.

iii) Consistency of decisions and activities is accomplished through written rules and procedures, with an impersonal, hierarchical order.

iv) There is a specific and precise division of labour and the specialisation of work.

v) Activities and tasks of the organisation are allocated to individuals among various position, and they have no rights to a specific position.

vi) Individuals are expected to deal with clients and other workers with an objective orientation to acquire rational decisions when carrying out their responsibilities.

vii) Presence of a structure that eliminates personalised relationships and illogical/emotional considerations.

Stewart (1999) summarised the characteristics of bureaucracy into four main categories: *Specialisation, Hierarchy of Authority, System of Rules, and Impersonality*. According to Stewart, *Specialisation* relates to the work or profession more than the individual undertaking the task. Thus, continuity is established since the task normally continues even if the current worker leaves. *Hierarchy of Authority* enables a clear distinction between management and the workers, with management having clearly defined levels of authority. *System of Rules* makes for a well-organized, effective and impersonal process, and is generally stable, though some rules and procedures can be altered or changed over time. *Impersonality* requires that power sharing and acquisition of privileges should not be random, but in line with the laid – down, established system of procedures. Table 2.3.2 lists main advantages of Bureaucracy.

The Civil service in Nigeria adopted a structure that is based on Weber's theory of Bureaucracy (Bayo, 2012) and consequently have a hierarchical dominion of administrative mechanisms and a differentiated structure (Anazodo et al., 2012). It is therefore expected that the core bureaucracy standards are being followed. However, some of the ideal principles on which bureaucratic management are based, arguably, are not practiced in NGCO. For instance, rather than using technical capability as a criterion for employment, government officials, particularly those who are in managerial positions, are sometimes appointed into position without a consideration of their competence (Ijewereme, 2015). Additionally, the exclusion of personal/social relationships from management activities has not been successful in NGCO. It has become evident that the act of selecting workers and contractors based on personal relationships has become a norm rather than an exclusion (Adegboye, 2013; Alence, 2004).

	Advantages of Bureaucracy
1	Bureaucracy promotes division in labour which leads to clear defined roles and responsibilities of workers in an organisation. Thus, efficiency is expected to increase through specialization.
2.	Bureaucracy promotes centralization through a hierarchy of authority that allows for a clear chain of command to flow from the top level to the bottom level of an organisation. Different levels of authority are therefore defined enabling better communication.
3.	Workers are employed based on technical qualification demonstrated by formal examination, education or training which benefits both the employee and employer.
4.	By employing 'technical professionals', there is the assurance that there will be performance of duties as well as continuation of operations.
5.	The adherence to formal rules and procedures increases efficiency as well as controls and regulatory mechanisms that relates to workers performance.

Table 2.3.2 Advantages of Bureaucracy Adapted from: Wren and Bedeian (2009)

The word bureaucracy has come to be almost synonymous with public organisations, as most debates on bureaucracy are centred on public administration and government officials (Beetham, 2013; Rubinstein and Maravic, 2010). Public sector organisations are where the practice of bureaucratic management seems most prevalent due to demand for equality in dealing with workers, regularity of processes and accountability for tasks and actions (Beetham, 2013). This demand leads to the compliance of standard rules and procedures and keeping records, which are all in effect features of Bureaucracy. Kuipers et al., (2014) and Green (1997) asserts that, although bureaucracy is nowadays considered less as a form of management in some organisations, there is usually still a place for aspects of bureaucracy in practically every organisation especially public organisations such as government organisations. However, the practices mentioned above that are being observed in NGCO, are contrary to the fundamental theory of bureaucratic management, and will possibly influence the working practice and/or any potential management practice. A government official in a managerial position who is not competent in a specific discipline will be unable to empower or train workers, likewise, employing a worker/contractor based on preferential treatment impedes proper scrutiny and selection of suitable individuals.

The main objective of Bureaucracy according to Weber was to maximize efficiency, however, the term has come to acquire a negative meaning as seen in the several criticisms of the concept (See Table 2.3.3). Merton (1952) states that one major weaknesses of bureaucracy is the tendency it has in 'displacing goals'. That is, because of too much conformity and obedience to rules and procedures, these instructions or guidelines became 'ends' themselves rather than a means to an end. This usually acts as a hindrance for organisations to achieving their actual goals. Another drawback is that extremely bureaucratic organisations had problems adapting to or changing to new practices (Ionescu, 2011). This observation was earlier made by Burns and Stalker (1994, 1961) where they purported that organisations with an environment of mainly hierarchical structures having too much control, efficiency and predictableness were poor at embracing innovative and new concepts because workers in such organisation became too accustomed to follow standard rules and procedures and consequently felt endangered by change. This is reflected in NGCO, where the Weberian model of management is argued to be a hindrance to new practices (Rasul and Rogger, 2016), of which project management is considered as one.

	Major Criticisms of Bureaucracy	**Author**
1	Bureaucracy constricts or impedes the psychological growth and development of the worker, thereby producing a feeling of defeat, disappointment and frustration.	Argyris (1972, 1990) Hardy (1999)
2	Bureaucracy does not take into account the behaviour of workers, although laid down/standardized rules tend to have an effect on the behaviour of the worker (either obedient behaviour which is the anticipated outcome or minimum admissible behaviour which is the unanticipated outcome).	Hallett and Ventresca (2006), Gouldner (1954)
3	Power or Authority derived from a recognised status is inherent in the office/position or organisation and not in the particular individual holding the official role. Therefore, giving birth to officials and administrations that are 'above the law', able to avoid accountability and rule of law.	Merton (1952)
4	The organisation depends too much on the logic and rationality of allocation of formal standardized work, resulting in the rules becoming an end-in-itself rather than the original 'means'. Thus, the organisation finds it extremely difficult to adapt or change to new ideas.	Hardy (1999), Merton (1952)
5	Bureaucratic practices used as a tool for controlling and regulating workers lead to permeation of organisations in the form of ethnicity, tribalism or nepotism.	Mulinge and Lesetedi (2002)

Table 2.3.3 Criticisms of Bureaucracy Source: Author generated

2.3.2 Human Relations Management Theories

Human relations management theories are also referred to as the behavioural theory of management. Contrary to the classical theories of management, which focused majorly on the structure and mechanisation of organisations, human relation theory is mainly concerned with productiveness, in relation to work practices, working conditions, welfare and motivation of employees and leadership (Griffith and Watson, 2004; Pindur et al., 1995). The human relations theories emerged in the 1920s, during the "Great depression" years, and paid attention to social aspects at work and to the attitude and behaviour of employees in an organisation (Miner, 2015). The theories placed emphasis on the different psychological motivations of workers within an organisation rather than on rules and procedures. That is, instead of commands and instructions coming top-down from management, Human relations management (HRM) theory (generally simply referred to as 'Human Relations' or the 'Human Relations approach') argues that communication between workers and managers, and their interaction, enables decisions to be made. Therefore, workers are not given standard rules, guidelines and work allocations, rather, they are exposed to motivational manoeuvres to make them more productive.

A prominent academic scholar who promoted the human relations approach was Elton Mayo. Mayo was a Professor at the Harvard School of Business Administration, and had great interest in the works of Frederick Taylor. He was also concerned about the increasing of productivity in organisations. Mayo was allegedly the leader of researchers involved in experiments conducted to identify elements that influenced worker's morale and attitude in relation to productivity besides improvement of physical environmental elements. It is Mayo's account of the studies that later became known as the "Hawthorne experiments", and has become one of the most popular examples of management research for most scholars and researchers on Human Relations management (Muldoon, 2012).

A general account of Hawthorne experiments has been expressed by various scholars such as Macefield (2007), Cole (2004), Crowther and Green (2004) and Wickström and Bendix (2000). Key finding from these experiments highlighted the relevance of managers' communication and extra interest on workers. Mayo theorised that workers productivity and output was not contingent on 'objective', 'scientific' elements as claimed by Taylor, rather it was emotional, psychological elements that were relevant to employees such as interacting with them, training and empowering them. Another important discovery was the ability of a group to transform into its own unofficial organisation able to guard itself from external influences while running its internal activities simultaneously. This discovery emerged from one of the experiment that was conducted on 14 men working in a bank wiring room. The

objective of the experiment was to observe working practices under more or less standard working conditions. However, it was noticed that over a period of six months, the group shaped their own informal organisation and developed rules and procedures that were contrary to the existing norms. Leaders emerged from this informal group, who defined norms of what constituted 'suitable' behaviour. From this finding came another important principle of Human Relation management: the significance of informal working groups in determining working rules and standards.

The human relations movement is the 'human' element of contemporary Human Resource Management, which is concerned with the relationship between managers and workers (Walton, 1985). According to Anakwe (2002), human relations practices in NGCO are a blend with the traditional theories adopted from western approaches. However, in Nigeria these practices are lacking in professionalism and specialisation due to social -cultural influences (Fajana et al., 2011). NGCO is characterised by over dependence on culture, gender, educational qualification and nepotism etc as a determining factor on who gets employed, thus compromising expertise and competence (Ijewereme, 2015; Fajana et al., 2011). Additionally, less attention is placed on training and empowerment, which is seemingly due to the lack of funding for human resource management study and development in most organisations (Fajana et al., 2011, pg 59). Arguably, the above condition is due to the cultural norms inherent in society. According to Hofstede, Nigeria and most SSA countries are characterised as high-power distance countries, (Hofstede, 1984), meaning that the society accepts an unequal hierarchical distribution of authority and power. This suggests that workers in an organisation recognise and accept the level in which they belong. Managers, on the other hand, may not be too keen on empowering subordinates so as to maintain that inequality. On the other hand, the collectivist nature of African countries (Geert and Jan, 1991), implies that individuals will identify with member/social groups in carrying out activities, and therefore encourage informal working groups. Thus, a person's responsibility is not job specific but results from work group activities (Ahiauzu, 1989). Even though NGCO adopts the traditional western human relation functions such as employment and selection, job performance appraisal, compensation etc, African work practices, such as recruitment through employee referral and nepotism (Anakwe, 2002), is however reflected in management practices, and therefore will likely have an impact on Project Management Practice.

The Hawthorne studies offered researchers a more focused assessment of workers interrelationship in the internal organisation, such as social relations between workers and their managers. Findings from the studies and the consequent attention given to the internal

social organisation led to the adoption of psychological orientations of investigations, thus giving rise to various theories of motivation. These theories focused on the adjustment of the worker within the work organisation and the influence of group relationships, and is usually classified separately as 'Neo-human relations' (Bloisi et al., 2007).

2.3.2.1 Neo-Human Relations Theories

Neo-Human relations theories were introduced in the 1940s as a branch of Human relation theories that focuses on the psychological needs of workers, and are commonly referred to as Motivation Theories.

Motivation theories were originally founded on theories of learning which existed at the turn of the 19th century, stemming from the oeuvres of John Locke, Edward Thorndike, John Watson and B.F Skinner, who debated that a person's motivation and behaviour are formed mainly by forces external to him or herself (Mergel, 1998; Jones and Page, 1987). These scholars individually recognised that to improve workers' performance, positive behaviour should always be stimulated through various means of motivation. That is to say, behaviour is determined by its consequences and it can be learned. These theories were basically known as Behaviourism and Cognitivism, and were used to underpin the development of motivation theories (Jones and Page, 1987).

Motivation theories were developed in the 1940s, and they are concerned with the essential requirements of workers (Crowther and Green, 2004). In other words, they focus on human feelings, desires and needs. Just like the human relation theory, motivation theories are a softer strategy for organisation control and they basically serve the interests of managers and their goals for the organisation. There are various strands to motivation theory present in the literature; common ones are Abraham Maslow's Hierarchy of Needs and McGregor Theory X and Y (Cole and Kelly, 2015; Miner, 2015)

(i) Maslow's Hierarchy of Needs

Maslow's Hierarchy of Needs as it is known, was first presented by Abraham Maslow in his 1943 publication, 'A Theory of Human Motivation' (Jerome, 2013). Maslow claimed that workers can be motivated through other means besides the use of financial incentives. He proposed a hierarchy theory of needs, explaining what motivates people to work. In his model he recommended five levels of need, and he placed the basic needs at the lower end and the greater needs at the higher end.

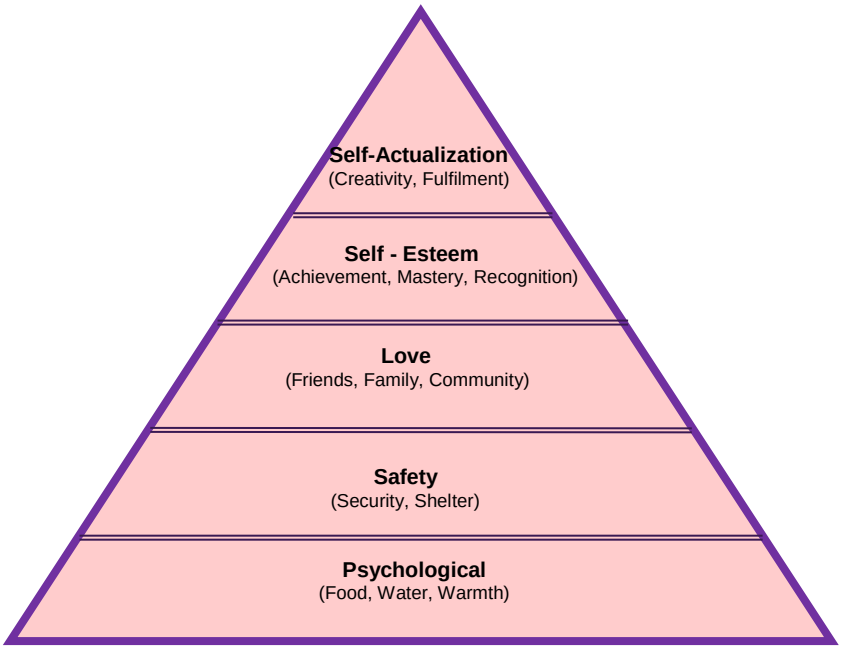

Fig. 2.3 Maslow's Hierarchy of Needs Adopted from: Ball (2012)

The focal point of Maslow's theory is that workers are more likely to satisfy their needs in a symmetrical order beginning with the most basic psychological needs and then continuing upwards to self-actualization needs. However, a significant limitation of Maslow's theory is the assumption that the behaviour of people systematically ascends the hierarchy in a regular form (Oishi et al., 1999; Alderfer, 1972). Maslow's concepts have been applied in various organisational milieu, and according to Nickels et al. (2013) the higher-level needs; self-actualization and self-esteem, are promoted as the ideal level for workers to seek.

(ii) McGregor: Theory X and Theory Y

McGregor's argument was based on assumptions about behaviour, while focusing on motivation from the standpoint of managers. He argued that the manager's behaviour and the style of management he/she adopted was influenced by their beliefs and assumptions regarding human nature (Mullins, 2016; Kwok, 2014). McGregor grouped these assumptions into: Theory X and Theory Y, which were based on the theory of scientific management and Maslow's higher-level needs respectively. The first group, Theory X, regarded workers as being naturally lazy and sluggish, evading responsibilities, working according to 'reward and penalty rules' and only in search of security. The second group, Theory Y, assumed that workers liked working, that workers did not require force or coercion, that they exerted discipline and, if encouraged by the organisation, would seek responsibility and apply

creativity at work. Needs are deficiencies that come from innate drives, yet they are reinforced or weakened through learning processes and social factors such as culture and child nurture, therefore the needs hierarchy varies across different societies and organisations (Aworemi et al., 2011).

Nigeria's economy is generally in a poor state (Uma and Eboh, 2013), and many people still struggle to achieve the lower level psychological needs of food, water and shelter (Idemobi, 2011). Hence, workers are more likely to pursue psychological and safety needs, falling into Theory X assumptions, as precedence over needs that support Theory Y. This implies that very few people would be seeking to achieve needs that are higher up the hierarchy. This suggestion is also based on the lack of incentives and the very low remuneration provided to civil servants in NGCO (Briggs, 2007; Salisu, 2001).

However, a study of personnel in ministries and departments of the Federal Civil Service in Nigeria identified Information Communication Technology (ICT) in their daily operations, training and leadership style needs as significant determinant factors of their motivation (Fanimehin and Popoola, 2013). Thus confirming the notion that needs of individuals, and consequently what motivates them, varies from context to context (Aworemi et al., 2011). According to PMI (2008), an important aspect of obtaining effective project management practice is the ability of a project manager to motivate a project team. It implies that managers or professionals in charge of projects should be able to understand the background of the organisation in which they operate, and what motivates workers to achieve effective project management.

2.3.3 Systems Approach to Management Theory

While the pre-industrial era saw the emergence of basic management ideas of planning, coordination and controlling of business, the industrial revolution brought along new ways of achieving production and output, with emphasis on managerial schemes such as division and specialization of labour, standardisation of rules and procedure, scheduling of activities and basic accounting procedures (Mcgrath, 2014). However, the rapid economic growth that commenced in the 1960s and spiralled in the 1990s (Kwok, 2014; Chang, 2011) gave rise to highly technological environments, international relations and an increasing complexity of organisations (Gulzar et al., 2015; Andras and Charlton, 2004). This exposed the problems of the existing management theories, in the sense that approaches to management at the time were based on individual activities and challenges, focusing solely on the behaviour of

workers and production (Jackson, 2009; Roth, 1994). System theory, on the other hand, sought to expound management theories and explain the organisation in a multifaceted way by studying employees, structure, expertise and environment all at once.

Early accounts of System theory were seen in 1920s, in the biology, psychology and physics fields, and became fully developed in the 1950s from the biologist Ludwig von Bertalanffy's studies about biological organisms (Mingers, 2014). However, it was not until after the study of Miller and Rice in the late 1960s, which compared the industrial organisation to a living organism, by observing that both deal with the operation, structure and association of parts to a whole, that the notion of systems entered the management field (Wren and Bedeian, 2009; Miller and Rice, 2013, 1967).

One of the first theorists who introduced the system theory approach to management was Chester Barnard in his famous book 'The Functions of the Executive".

(i) Chester Barnard

Here, Barnard argued that for a social system to be effective, the cooperation of workers is essential, and subsequently presented the idea of exploring the organisation's external environment and altering its internal structure in order to achieve a balance. He identified the primary role of managers as (1) communicating with workers, (2) motivating them to work diligently to assist in accomplishing the goals of the organisation, and (3) preserving good relationship with individuals external to the organisation, particularly those that deal with the organisation regularly (Barnard, 1938).

The effectiveness of NGCO is relatively determined by the socio-political context in which it operates (Arowolo, 2012). Nigeria and other African societies employ the theory of agency which defines a system of relations of production and general defines the labour systems (Asechemie, 1997). However, contrary to conventional agency theory, which is rooted on systems of contract that describe all rights and responsibilities of parties (Asechemie, 1997), African agency reflects a collectivist nature, where the society values close commitment and loyalty to member groups (Okpara and Kabongo, 2011). Hence, contracts are incomplete and partly socially determined, to foster a system of mutual support for the benefit of the majority (Asechemie, 1997). Government officials in this context are therefore entrusted with a responsibility of communicating, motivating and managing both internal and external project elements.

The System approach to management is still regarded as a recent management theory relevant to the development of management practice in the 21st century (Cole and Kelly, 2015; Jackson, 2009). This approach to management argues that organisations can be considered as a system that is not fully open, whereby they are viewed from a whole perspective and as part of a larger external environment, such that the activity of any part of the organisation influences, in varying extent, one or more activities of one or more other parts (Weihrich et al., 2013). This implies that managers cannot operate exclusively within the boundaries of their task or activity, rather they must communicate and network with other workers and units of the organisation and sometimes with agents of other organisations as well. The Systems approach to management regards the organisation as an integrated, goal oriented structure made up of interrelated parts rather than separate parts (Wren and Bedeian, 2009). It tends to bring together the classical theories which emphasises technical features of the organisation with the human relation theories which emphasises the psychological and social features of the organisation while considering features of the external environment as well (Mullins, 2016; Weihrich et al., 2013).

2.3.4 Contingency Approach to Management Theory

The contingency approach to management is often regarded as an extension or a development of the system approach (George and Jones, 2012), because regarding organisations as open systems implies that they will be vulnerable to various situational elements, such as external environmental conditions and internal elements (Wren and Bedeian, 2009). Therefore, the contingency approach argues that there is no one ultimate structure of an organisation that is not influenced by environmental conditions and in varying degrees (Miller, 1981). As the name implies, contingency theory is not in search of universal management laws or principles that can be used for every situation, but the most appropriate, depending on the internal and external elements of the organisation.

Since the management technique and output differs as the situation differs, the contingency approach is occasionally called the situational approach (Roth, 1994). Studies conducted in the 1960s and 1970s paid attention to situational factors that affected the structure of an organisation and its management style. Notable researchers in this area are Burns and Stalker (1994, 1961), and Lawrence and Lorsch (1967).

(i) Burns and Stalker

The research by Burns and Stalker involved an assessment of 20 organisations in the UK with regard to the impact of the external environment on their management function and productivity. Burns and Stalker identified two differing approaches to management practice and structure that were in response to the environment: the 'mechanistic structures' and the 'organic structures'. The mechanistic structure is rigid and incapable of coping adequately with a constantly changing environment, therefore it is suited for a more stable but slow changing environmental condition. A mechanistic structure is characterised by standardisation, division and specialization of labour to increase efficiency, and centralisation (Burns and Stalker, 1994, 1961). Therefore, it bears similarity to bureaucracy. On the other hand, an organic structure is more flexible, places emphasis on decentralization and is suitable for unstable (rapid changing) environments.

Since NGCO are inherently bureaucratic, by implication they are mechanistic in structure. Therefore, it is assumed that the characteristics of mechanistic organisations (Table 2.3.4) apply to NGCO.

The Mechanistic Organisation	The Organic Organisation
High specialization: Tasks are divided into specialized and functional duties.	Individual tasks are regarded as relating to the entire organization. Therefore, there are cross functional teams.
Loyalty is to the organization and is insisted on by senior management.	Loyalty is to the project and group.
There is a clear chain of command as roles have a detailed explanation of rights and responsibilities.	Individual tasks are continually redefined through interaction with others. That is, cross-hierarchical teams.
A hierarchic structure of control and authority is secured by vertical structures.	Responsibility is shared, with control, authority and communication having a lateral direction.
Locus of superior competence: knowledge is held by those at the top of the hierarchy.	Knowledge may be located anywhere there is skill and competence in the organization
Status and prestige are attached to those with positions that are high in the rank.	Status and prestige are attached to those with expertise rather than position.

Table 2.3.4 Mechanistic vs Organic Organisations

Adapted from George and Jones (2012) and Mullins (2016)

(ii) Lawrence and Lorsch

Lawrence and Lorsch (1967) expanded on Burns and Stalker's work, and investigated the complete structure of an organisation, including the way specific units were structured to deal with the different aspects of the organisation's external environment. They identified that:

(1) The structure of an organisation depends on the level of change in environmental situations.
(2) The differences in environmental conditions will require different approaches of attaining coordination and cooperation between units in an organisation and;
(3) Individual units may encourage different structures because of the different level of uncertainty possessed by different departments.

Thus, based on a contingency approach to management, a manager of an organisation will determine which method, in a certain situation, under certain environments, and what particular time will be most effective in the achievement of management goals. However, since contingency theory is more concerned with dissimilarities than with similarities of organisations, it stands the danger of over-emphasising the difference between organisations and excluding the similarities (Fincham and Rhodes, 1994). This poses a threat to any further development of the theory because every situation will be treated as unique; formulating theory becomes difficult when all situations are different (ibid). Hence, the contingency approach is not intended to establish universal ideologies. The limitations of the contingency approach to management apply to the systems approach as well because both approaches are similar. George and Jones (2012) and Cole (2004) assert that there is no clear difference between them, stating that the contingency approach developed from the system approach to the management of organisations. While the latter uncovers the complexities of the parts of the organisations, the former builds on the exploratory possibilities of the systems approach to determine the most appropriate management style and/or organisation design for a particular condition.

The current research takes on a system approach by seeking to uncover the complexities of Nigerian Government Construction Organisations (NGCO) in order to understand the challenges of Project Management practice within it. This will be achieved by exploring the structure and agency of the organisation to determine their impact on Project Management practice and then explaining their causal relationship using a Formal System Model.

2.3.5 Contemporary Approaches to Management Theories

The period since the 1970s has witnessed an evolution in approaches to management theory. This is often attributed to the 'dramatic change' in society and the notion that managers ought to redesign and re-strategize their organisation in order for them to cope or be competitively advantaged (Noe et al., 2003; Barkema et al., 2002). Dramatic changes refer to the technological revolution and globalisation cutting across all areas of working life. Aspects of globalisation such as an increase in international trades and relationships, movement of labour forces within and among countries, outsourcing of production and support services (Steger, 2010) has produced an impetus in organisations and management today. The activities and tasks of modern day managers are arguably distinct from the managers in the classic era. Daft (2010), stated that management in the classic era involved imposing rules and procedures, controlling and restricting workers, emphasising effectiveness and efficiency, forming a top–down hierarchy and being production/output oriented. Whereas contemporary managers are focused on harnessing worker's imagination and ideas, distributing information and authority, team working and collaboration and change management etc. Therefore, where classical management was rigid, highly differentiated and deficient in information, contemporary management is flexible, integrated and information rich. These changes in management activities and tasks brought about new challenges which consequently led to the development of contemporary management theories.

Main approaches to management theories over the last three decades and their key promoters/supporters are identified in Table 2.3.5

	Contemporary Management Ideology	**Scholars and example Literature**
1.	Improving Strategic Thinking	Mintzberg (1994), The Fall & Rise of Strategic planning Mintzberg (2003), The Strategy Process: Concepts, Context, Cases. Parhalad, Hamel (1994), Strategy as a field of study: Why search for a new paradigm?
2.	Knowledge work	Drucker, Knowledge work and Knowledge society: The social transformations of this century.
3.	Designing ideal structures and systems	Mintzberg (1980), Structures in 5's: A synthesis of the research on organisational design.

		Chander (1990), Strategy and Structure: Chapters in the history of the American Industrial enterprise.
4.	Application of New Technology	Hammer & Champy (1997), Reengineering the corporation: A manifesto revolution in Business.
5.	Managing Change	Kanter (1987), Managing the Human side of change Kanter (2003), Challenges of organisational change: how companies experience it and leaders guide it. Kotter (1996), Leading change.
6.	Gaining a competitive advantage	Porter (2008), Competitive advantage: creating and sustaining superior performance
7.	Developing and empowering workers	Kotter (1995), Leading change: Why transformation efforts fail Peters (1991), Get Innovative or Get dead
8.	Developing Culture	Hofstede (1993), Cultural constraints in management theories. Schein (1990), Organisational culture.
9.	Balancing global/local cultures	Hofstede (1998), Think locally, Act globally: Cultural constraints in personnel management. Trompenaars & Hampden (2011), Ridding the waves of Culture: Understanding diversity in global business.
10.	Managing the external environment	Porter (1991), Towards a dynamic theory of strategy Kotter (2002), Country as brand, product and beyond: a place marketing and brand management perspective.
11.	Learning organisation and Knowledge Management	Senge (1996), Leading learning organisation Senge (1993 – 2005), Taking personal change seriously, the impact of 'organisational learning' on management practice.
12.	Creating a climate of excellence	Peters & Waterman (1982), In search of excellence, Lessons from America's best-run companies.

Table 2.3.5 Major contemporary approaches to Management Theories

Source: Author generated

The emergence of Project Management as a concept in the 50s suggests that it developed after the classical, human relation, and neo-human relation management era. Consequently, it can be argued that the evolution of Project Management followed along similar lines as the classical management theories in relation to shifting paradigms, that is, from a rational perspective to one that considers human and interactional approaches. The concept of

Project Management is however still regarded as a relatively young discipline (Soderlund, 2011), essential for project-based organizations (PBO) (Biesenthal and Wilden, 2014), or project-oriented organizations (POO) (Rwelamila, 2007).

2.4 Contemporary approaches to Project Management

Project Management has been promoted by professional international bodies through the execution of training and development programs and professional certification for project managers. Likewise, it has received a reasonable support from universities and academic organisations as it is being recognised as a relevant and interesting area of scientific research. However, the scope of understanding and information which is available in the literature is often focused on the techniques and application of methodologies which appeals to managers, business professionals or IT consultants etc. The same can be said of academic research which is often practice oriented in view of application of Project Management models or methods that are commercialised by professional bodies. This traditional approach which is based on models, concepts and methodologies as the main theory of Project Management focuses on project delivery while viewing a project as production management (Svejvig and Andersen, 2015; Morris et al., 2012). Hence mainstream or classical Project Management (Svejvig and Andersen, 2015) is often seen as an activity that facilitates project evaluations and executions through the application of tools and techniques.

However, the classical Project Management perspective of Project Management has been challenged and criticized. Concerns have been expressed about the basis of project management that exhibits a strong prejudice towards functionalist belief, reductionism, and use of ‘how to do” dogmatic practices of knowledgeable outcome (Buchanan and Badham, 2008; Cicmil and Hodgson, 2006; Packendorff, 1995). It has been debated that the mainstream project management knowledge places little or no attention to the social, economic, ethical and political territory of project management in theory and practice (Hodgson and Cicmil, 2008; Cicmil and Hodgson, 2006), and thus the reason projects are running over budgets, running over schedule, and performing poorly in terms of quality and end-user satisfaction (Cicmil et al., 2017; Williams, 2004).Consequently, alternative approaches such as the Critical and Scandinavian perspectives of Project Management which associates projects and project management as an organisational and social institution, emerged explicitly in the 1990s (Jacobsson and Lundin, 2015; Cicmil and Hodgson, 2006).

Advocates of the first view: classical Project Management, underpin their assumptions on mechanistic and scientific management theories. They argue that a general, all-purpose theory of Project Management can be applied to all forms of projects (Morris et al., 2012; Söderlund, 2011) and therefore acknowledge that adhering to a set of 'best practices' is a strong assurance for project success. Advocates of the alternative view argue against a universal approach and the use of 'best practices' to manage projects (Cicmil et al., 2017; Hodgson and Cicmil, 2008) rather, they underpin their assumptions on contingency management theories claiming that projects are temporary organisations and therefore there is need to contextualise the challenges of managing projects (Svejvig and Andersen, 2015; Kozarkiewicz et al., 2008; Shenhar and Dvir, 2007).

2.4.1 Critical Project Management perspective

The critical school argue against mainstream Project Management on the following basis:

1) That empirical studies and opinions/views of practitioners indicate that the widely publicised Project Management best practices do not eradicate project failures nor assure project success (Xue et al., 2010; Williams, 2004)
2) The rigid standardization of Project Management or an organisation seen as "project based" is frequently regarded as; merely another mechanism used to impose control upon employees (Metacalfe, 1997); the insufficient formal completion of projects; project overkill syndrome; resistance to obligatory processes and practice, and an absence of confidence and motivation (Clarke, 1999).
3) The lack of sufficient praxis and practices applied to the overall task of managing projects (Morris et al., 2012; Koskela and Howell, 2002)

In general, in this belief, Project Management is criticised for using comparable principles of work fragmentation and the optimization of transparency and accountability to those that underpin scientific management (Whitty and Schulz, 2007). This view draws on the norm known as Critical Management Studies (CMS) to account for significant elements that have been ignored in Project Management literature: the political, social and ethical elements (Hodgson and Cicmil 2008). Such studies support the development of all aspects (social, ethical and political) associated with organisations and management, debating that the true reality of management is often chaotic, ambiguous, fragmented and severely politicized in character (Alvesson and Deetz, 2000).

2.4.2 Scandinavian school of Project Management

A parallel view to the Critical Project Management studies gaining grounds internationally is the Scandinavian school of Project Management. This approach focuses on applying organisational theory to projects by researching Project Management in relation to culture, conceptions and relationships with the environment (Jacobsson and Lundin, 2015). The Scandinavian approach is two-fold: Firstly, it views projects as a temporary organisation and secondly, it studies the underlying forces of project techniques and practices which shape the daily activities in relation to project outcome (Kozarkiewicz et al., 2008; Turner and Muller, 2003).The notion that projects characterise or portray a form of temporary organisation having specific backgrounds implies that the nature and characteristic of the project environment will be expected to impact on the sort of Project Management procedures and project outcome. Subsequently, suggestions relating to the adoption of Project Management best practices are being refuted, as studies show that the use of diverse approaches are found to be contingent on the project environment (Thakurta, 2015; Blomquist et al., 2010).

Projects as a temporary organisation lies contrary to activities performed in normative permanent organisations, where goals, working groups and production procedures are naturally well-defined and standardized. The concept of projects as temporary organisations instead considers time, teamwork and transformation. Another theme flowing from this idea is “projectified” organisations (Kozarkiewicz et al., 2008), which refers to how organisations tend to apply projects generally for their growth and delivery activities, and thereby altering the fundamentals of the entire organisation (Blomquist and Müller, 2006)

The dynamics of project procedures and practices are also considered within the Scandinavian school of Project Management. This is a practice-based view which enables one to appreciate projects as human actions, i.e. a project is an event that people do. Thus, emphasis is placed on the in-depth procedure and practices which shape the daily activities and which associate with project outcome. The practice-based approach centres on activities that are ignored in classical Project Management approaches but can have substantial implications for the project and project management.

	Classical approach	Scandinavian approach	Critical approach
Project management theory	General theory for types of projects, generic concept collecting different theories applicable to project.	Middle-range theories (Organisational theory) on different sorts of projects, classified according to different selection criteria.	Draws from Critical management studies, focusing on different types of contexts.
Aim of research on projects	Prescriptive, normative theory. Searches for ideal model of project planning and control. Research are typically survey studies consisting of large samples.	Descriptive theory, empirical narrative studies on human interactions. Research are typically comparative case-studies.	Explanatory and empirical theory. Describes political, social and ethical elements. Research are typically case studies.
Research metaphors for the project	A tool, a means for achieving successful project delivery.	A temporary organisation, a collection of individuals temporarily acting together on a certain task.	A temporary organisation that is influenced by a different systems, reveals the ambiguity and complexity on project activities.
Research emphases	Managerial methods and tools for planning, controlling and monitoring a project	Expectation, actions and learning	Expectation, actions and learning

Table 2.4 Classical and Contemporary approaches to Project Management

Source: Adapted from Kozarkiewicz et al. 2008 and Hodgson and Cicmil, 2008.

Although, the Critical and Scandinavian approach, views Project Management on the basis of collection of elements and individuals respectively as opposed to the structural features emphasised by traditional views, the nature of the context of the current study is established on classical management theories which emphasises functional hierarchical structures, and standardised ways of operation. This usually follows a sequential stage of conception and planning where execution of an activity or project is expected to be preceded by development and succeeded by closeout and termination (Packendorff, 1995). NGCO are traditional bureaucratic organisations that have their root in classical management theories. Therefore, presumably, classical project management should be able to be embedded

seamlessly within such context, but on the contrary, this is not the case. For this reason, the classical project management perspective is applied and investigated in this study.

2.5 Project Based Organisations (PBO)

Management in the classical era and the tradition approach of Project Management can be argued to be similar as they both focus on the process of production. The capacity to be able to predict the entire administrative process, a key aspect of early management theories, is comparable to the approach of applying standard methodologies and models in order to control and predict a project's outcome. However, with the evolution of traditional Project Management, a wider range of activities were incorporated into the production process while considering the project process and administration. Project Based Organisations (PBO) or Project Oriented Organisations (POO) are organisations in which a majority of products are produced by project delivery for either an internal or external client.

According to Turner and Keegan (2000), a PBO may be a separate organisation or a subsidiary of a larger one. However, typically for both types, it is an organisation that manages many projects (Artto et al., 2011).

PBOs as temporary organisations depicts a collective endeavour that is intentionally planned to arrive at a specific goal (Oerlemans and Pretorius, 2014). That is, projects carried out on PBOs are viewed as the primary organisational units for production, change, and innovation (Hobday, 2000). Thus, Nigerian Government Construction Organisations (NGCO) that have a mandate to implement and administer building construction projects can be considered as PBO or POO because of the strategic plan of the Federal government to improve the performance of the building and construction sector with a view to boosting the Nation's Gross Domestic Product (GDP) (Corporate Nigeria, 2011; National Planning Commission, 2010).

2.6 The Project Manager (PM)

A Project Manager (PM) is one who is responsible for accomplishing the project's aims and objectives (PMI, 2013). This normally entails scoping and planning the work, determining and allocating resources to be used and safeguarding against potential risks and issues that may cause a delay or stop the project (Newton, 2012). According to Culp and Smith (1992), a PM is involved in managing the tactical and technical aspects of a project, managing the interaction between the project's features and the environment, managing the project's

duration, and creating the right attitudes among project participants. On a similar note, Birnberg (1998) cited in Barber and Warn (2005) states that a PM is an entrepreneur, a psychologist, an accountant, a technician, partly practical and partly a designer. He/she is an efficient person who possesses the technical knowledge of their job and has the capability to accomplish things by effectively managing the project team (Barber and Warn, 2005).

The above definitions and views (sometimes referred to as traditional beliefs) of who a PM is and what he/she does could be perceived to mean that a PM is 'all things to all people' in a project (Sommerville et. 2010). This is due to the extensive activities a PM engages in, which range from strategic to technical management and management of people-related aspects (Anantatmula, 2010; Culp and Smith, 1992).

In a construction industry, project managers tend to execute classical functions of management, comprising forecasting, organising, controlling, administering, and coordinating (Griffin and Watson, 2004). Yet some authors support the notion that project managers in the Construction Industry need to combine technical skills and knowledge with behaviours that create effective communication and team working (Dainty et al., 2005). Nevertheless, a study by Sommerville et al. (2010), conducted in a contractor's division, identified that PMs do not undertake all the expected roles required of them in managing project, rather the sort of role or function engaged in may depend on the context. Based on this study (Sommerville et al., 2010 pg.138), PMs roles were mostly technical, comprising planning, progress control and communication. It was also suggested that there can be no PM who undertakes all project management functions effectively.

In NGCO, project managers are brought into the project at the planning and execution stages (Ika et al., 2010) and as a result, they do not hold a superior/ managerial role that can integrate technical and team building skills (Löfgren and Poulsen, 2013). On the other hand, studies have identified that the role of a project manager is a leadership role (Anantatmula, 2010) that can be used as a strategy for improving project management practices and consequently project performance (Anyanwu, 2013). Therefore, the role or the extent of authority of a PM is likely to have an impact on PMP.

Besides the debates on the role/function of a PM, the various job titles used in literature and practice introduce some amount of obscurity as well. According to Newton (2012), there are Project Coordinators, Project Managers, Project Directors, Programme Managers, Programme Directors, Portfolio Managers and so on. Alongside these designations or titles are usually qualifying adjectives, for example Junior, Senior, Assistant and Associate. In addition to this intricacy, there are Project Managers whose designation and fixed role is to be a Project Manager; these positions are referred to as Professional Project Manager.

There are also those who take up the role of a Project Manager for a specified period, while having a different, more permanent job and different job designation. The ambiguity of the Project Manager's role and title is reflected in the study by Styhre (2006), which involved some Swedish construction companies. Styhre observed that the site manager served as a PM because he/she not only engaged in site supervision and production activities, but in addition was responsible for meeting with stakeholders such as clients, end users' customers and an increased level of administrative work. The redesigning of the site managers role was attributed to the bureaucratic principles such as decentralisation, which causes emphasis to be placed on administrative activities such as progress report-writing and documentation.

A reason for the varied roles and functions of a Project Manager, arguably, is because individuals involved in projects and their management are mostly professionals in other fields, therefore their basic commitment lies within their main specialisation. Although, PMI (2000) cited in Giammalvo (2007) noted that project management is a profession, it seems that different professions claim and practice project management as it applies within that sector (Giammalvo, 2007). According to Turner and Müller's (2003) assertion, if project management were accepted and acknowledged as a profession, and the use of the title of project manager given to only those with recognised and related professional certification, it would assist in having a clearer function of project managers and promote more confidence in their capability and competencies.

Similarly, in African government organisations, the name project manager and project coordinators are used interchangeably. Diallo and Thuillier (2004) recognised that in SSAC, a project was either managed by a coordinator, a director or a project manager appointed by the government organisation, that is, he or she is a civil servant.

In line with the above discussions, the current study uses the term Project Practitioner (PP) broadly, to refer to individuals that at some point have overseen or been responsible for executing a project with duties comprising technical and /or administrative roles.

2.7 Analysing 'Project Management Practice' (PMP)

The term Project Management Practice (PMP) has been construed in several ways in the literature. An overview of literature reveals three main views of the term Project Management Practice. The concept has been associated with Project Management tools and techniques (White and Fortune, 2002; Abbasi and Al-Mharmah, 2000), Project Management maturity

(PMM) (Brookes and Clark, 2009; Cooke-Davies and Arzymanow, 2003) and Project Management competence (Crawford, 2005). For example, Besner and Hobbs (2006) investigated PMP from the use of tools and techniques aspect, Grant and Pennypacker (2006) assessed the PMP of selected industries by measuring the level of Project Management Maturity (PMM), and the specialised needs of project practitioners, such as the skills of a project professional, opportunity for accomplishment and adequate authority have also been linked with Project Management Practice (Thamhain, 2009; 2004). Consequently, the concept of Project Management Practice adopted for this research was attained by evaluating the different perceptions within relevant literature.

2.7.1 The Use of Tools and Techniques

The first view of Project Management Practice (PMP) identified in the literature is the use of tools and techniques, which is referred to as a traditional view of Project Management Practice (Morris et al., 2012). The use of tools and techniques is regarded as an early conception of Project Management that was seen as a subdivision of production and operation management, reflecting a high technocratic and rationalistic perspective (Packendorff, 1995). Although the use of tools and techniques have been criticised in the study of Project Management Practice as being too scientific, because of a disregard for the relevance of human interaction and behaviour (Ghoshal, 2005), this view of Project Management Practice is prevalent in many textbooks. This view arguably corresponds to the scientific management school of thought.

Studies on PMP about tools and techniques are still being conducted (Fortune et al., 2011; White and Fortune, 2002) despite assertions being made about the temporary nature of the benefits of projects that an emphasis on tools and techniques provides for organisations (Jugdev et al., 2007). This is because, not only is it the foundation of Project Management, it has been shown that it contributes to the broader perspective of Project Management which looks at sustaining a competitive advantage (Morris, 2009; Kerzner, 2009). In other words, Project management tools and techniques are used to achieve efficiency in production. However, with regards to Nigerian government organisations, these tools and techniques are believed to be beneficial in achieving a lean management where waste is minimized (Olateju et al., 2011). This traditional view of PMP (which focuses on tools, methods and techniques) can be compared to the traditional management theories which

emphasise rigid rules, rationalism and standardisation of processes to achieve maximum productivity.

Since NGCO are basically traditional organisations, one should be able to assume that the application of project management tools and techniques should not face difficulties or challenges, given the connection between the latter and the traditional management system of NGCO. However, studies highlight a deficiency of project management tools and techniques generally in Nigerian government organisation (Ijigah et al., 2012; Olateju et al., 2011). Thus, this study seeks to explore the reason why this is so.

Project Management tools and techniques refer to specific methodologies, tools or templates used for the controlling and administration of projects. They are regarded as vital factors that are put into a Project Management system and lead directly or indirectly to the project's success (Cooke-Davies, 2002). Tools and techniques, such as analysis reviews, reports, time and cost schedules, and planning documents are essential because the PM uses them to provide vital information about the project to stakeholders, and they offer opportunities of amendments when required (Ika et al., 2010). Besner and Hobbs (2004) assert that the use of tools and techniques are the actual and direct means that project managers use to apply procedures, processes and skills to execute the job.

These tools and techniques cover a broad range of aspects from Project Management software to management procedures and formal guideline documents. White and Fortune (2002), identified six categories of tools and techniques:

1) Methods and methodologies (e.g. PRINCE 2),

2) Project management tools (e.g. Critical Path Method CPM, Gantt bar charts),

3) Decision making techniques (e.g. Cost benefit analysis, Sensitivity analysis),

4) Risk assessment tools (e.g. Probability analysis, Event tree analysis ETA),

5) Computer models/databases/indexes (e.g. Lessons learnt files, Expert systems)

6) Computer simulations (Monte Carlo, Hertz).

2.7.2 The Use of Processes and Standards (Project Management Maturity)

The second view of Project Management Practice (PMP) has to do with assessing Project Management Maturity (PMM). Generally, the concept of maturity is associated with full development. Webster's dictionary defines maturity as the state of being ripe, fully developed or reaching the state of perfection (Walker et al., 1995). Similarly, the Oxford dictionary of English defines 'mature' as fully developed and grown, but in addition, relates the concept with thought and planning, while stating the words 'careful' and 'thorough' in one of the versions of definition (Oxford Dictionary 2010, pg. 1093). In an organisational context, maturity is used to express the condition or state of effectiveness at performing certain objectives and a map that highlights ways to improve the organisation's services (Crawford, 2006). Inferring from the description of maturity, project maturity implies projects that are 'carefully' and 'thoroughly' planned so that perfection is achievable. Andersen and Jessen (2003) validates this description by referring to project maturity as the capability of an organisation in dealing with its projects. However, in the real world no organisation can reach a level of optimal development or highest project maturity level, instead, organisations achieve relevant benefits by attaining a repeatable process level area according to its capability/maturity (Crawford, 2006; Andersen and Jessen, 2003).

As organisations are increasingly using projects as mechanisms for effective operation, attention is now placed on improving the activities and techniques of Project Management (Brookes et al., 2014; Grant and Pennypacker, 2006). This has prompted organisations to assess their current levels of Project Management processes. Project Management maturity (PMM) therefore is viewed as an approach to improving Project Management in an organisation. This approach, which is process-oriented, emphasises development of standards and guidelines to ensure a high probability of success through predictable processes which allows the behaviour of projects to be determined, thereby reducing project deviations and increasing efficiency (Kerzner, 2001). Such a process oriented approach will be relevant to NGCO. Since a traditional style of management is prevalent in NGCO, it is presumed that a project management standard and guideline should be easily adopted. However, these organisations lack any project management methodologies or utilise any body of knowledge as a guide to managing projects.

Bodies of knowledge (BoK) became associated with PMM, endeavouring to describe what is generally known as best practice. These Bodies of Knowledge, which emphasise a process-oriented approach, are criticized for tending to concentrate on higher authority

levels of an organisation, thereby sacrificing a bottom up analysis of what actually applies in a specific context (Blomquist, 2010). Nevertheless, establishing the PMM of organisations through an assessment of the processes in various bodies of knowledge, provides insight to past Project Management activities, the current status of Project Management levels, and provides direction for future ways of improvement. (ibid)

Accordingly, as new ways were being examined on how to increase Project Management Maturity in different organisations, Project Management Maturity Models (PMMM) were created and used as frameworks for evaluating the stage or level of an organisation's project management capability (Brookes and Clark, 2009; Grant and Pennypacker, 2006). Several versions of PMMM exist, but those that have received most attention in research literature include:

(1) SEI Capability Maturity model for Software (SEI-CMM):

The capability maturity model for software is originally referred to as SEI's CMM in order to associate the name with its developers, Software Engineering Institute (SEI). Some authors however simply refer to it as the capability maturity model for software (CMM) (Beverly et al., 2014, Paulk et al., 1993) since it pioneered other maturity models. CMM evolved from a software process maturity framework that was developed while trying to implement best practices during the management of software development projects (Larson and Gray, 2010; Crawford, 2006) and it is considered the forerunner of other existing maturity models (Neverauskas and Railaite, 2013).

(2) PM Solution Project Management Maturity Model (PMS-PMMM)

The project management maturity model developed by Project Management Solution software in US is modelled after the SEI's CMM and combines it with the Project Management Body of Knowledge (PMBOK) Guide's nine knowledge areas (Crawford, 2006). The objective for the development of this model was to be able to deal with the extensive information on best practices outlined in the body of knowledge. It links the CMM model more closely to Project Management Standards.

(3) Kerzner's Project Management Maturity Model (K- PMMM)

Kerzner established a project management maturity model K-PMMM, which is based on the premise of strategic planning (Kerzner, 2002) and consists of five levels for achieving maturity in project management. The model was developed on the premise that, since

people manage tools and projects, the current human behaviour and attitude will impact on the level of maturity that can be attained. Therefore, the model places emphasis on communication, co-operation, teamwork and trust.

(4) The Berkeley Project Management Process Maturity Model (PM2)

Ibbs and Kwak in 1997 proposed a 5-level Project Management process maturity model (PM2) to assess the maturity of Project Management process among organisations in order to enable them to compare themselves with similar organisations (Kwak and William, 2000). The Berkeley project management process maturity model consist of PMI's nine knowledge areas expanded across the 5 stages of the project life cycle. Its primary purpose is to act as a reference point for organisations applying PM processes in addition to encouraging organisations achieve a higher and more efficient PM maturity by a systematic and incremental approach (Kwak and Ibbs, 2002).

(5) The Organisational Project Management Maturity Model (OPM3)

The popularization of the concept of ‘Maturity models' by the successful Capability Maturity Model for software, prompted the Project Management Institute in 1998 to develop a similar standard for the project management community. Although the Project Management Body of Knowledge was broadly used at that time, there were no principles and standards for consistently improving project management in organisations (Schlichter et al., 2003).

The OPM3 is a three-dimensional model developed by the American Project Management Institute. The model sets out to identify a significant number of generally accepted and established project management process and provides a means to assess an organisation's use of project management against the best practices identified within it. Therefore, it combines three elements: knowledge, assessment and improvement in a systematic way of moving from one level to another (PMI, 2013).

(6) Portfolio, Programme and Project Management Maturity model (P3M3)

While the OPM3 was established by American PMI, the Office of Government Commerce in the UK developed the Portfolio, Programme and Project Management Maturity Model, also based on the Capability Maturity Model developed by SEI. P3M3 incorporates portfolio and programme management within the Project Management Maturity Model and recognizes activities within an organisation that helps improve and sustain successful programme and project management practices (OGC, 2006). P3M3 recognizes achievements from

investments as well as highlight weakness, thus it acts as a roadmap for continuous improvement and progression toward realistic, achievable goals for an organisation (Sowden et al., 2013). Like OPM3, P3M3 is flexible and can be used in several ways, such as to understand and identify key practices that need to be well-established within the organisation to attain the next maturity level (Gonzalez et al., 2007).

Each of these maturity models comprises five levels with each level providing a foundation for continuous process improvement. Table 2.6.2 provides a summary of the different maturity models and their maturity levels.

	PMM model	Description	Level 1	Level 2	Level 3	Level 4	Level 5
1	Capability Maturity Model (CMM)	Forerunner of existing models. A model originally developed to define the characteristics of a capable software process, which progresses from a repeatable process (immature) to a properly managed (mature) software process.	Initial	Repeatable	Defined	Managed	Optimizing
2	PM Solutions' Project Management Maturity Model (PMS-PMMM)	Project management maturity model that integrates the 9 areas of PMBOK with the 5 levels of CMM	Initial Process	Structured Process and Standards	Organisational standards and Institutionalized process	Managed Process	Optimizing Process
3	Berkeley Project Management Process Maturity Model	Project management maturity model that integrates the 9 areas of PMBOK with the 5 stages of the project life cycle	Ad-Hoc	Planned	Managed at Project Level	Managed at Corporate Level	Continuous Learning
4	Kerzner's PMM model	A Project management maturity model that evaluates progress in integrating project management at all levels in an organisation.	Common Language	Common Processes	Singular Methodology	Benchmarking	Continuous Improvement
5	Organizational Project Management Maturity Model (OPM3)	Developed by PMI to pursue the accreditation of the maturity model as a global standard	Ad-Hoc	Formal application of project management	Institutionalization of project management	Management of project management system	Optimization of project management system
6	Portfolio, Programme & Project Management Maturity Model (P3M3)	Developed by the Office of Government Commerce, it enhances the existing PMMM by incorporating program and portfolio management to the model	Awareness	Repeatable	Defined	Managed	Optimized

Table 2.6.2 Major Project Management Maturity Models (PMMM) and their maturity levels Source: Author generated

2.7.3 The Use of Human Actions (Project Management Competencies)

Lastly, Project Management Practice has been referred to as Project Management Competencies. For instance, in the APM BoK, PMP is described as a broad range of guidelines and topics which practitioners and experts should be well-informed about. It then goes on to state that this practical document could be used in organisations as the basis for a general competencies framework (Morris and Pinto, 2010). Similarly, Crawford, (2005) asserts that the ability of a project professional to perform his or her role to the expected level of performance (i.e. demonstrable performance) constitutes to project management practice (PMP).

Competence is considered a complex, confusing concept, used in various ways (Le Deist and Winterton, 2005) and with a variety of interpretation, it is often regarded as synonymous with competency (Moore et al., 2002). Snyder and Ebeling (1992) and Woodruffe (1991) describe competence as the functional aspect of a job and the ability to demonstrate performance to the required standard. On the other hand, Competency is more of the behaviour supporting an area of work (Dainty et al., 2005). However, both Competence and Competency are not mutually exclusive, but can be integrated. Hence the personal attributes of an individual underpinning a behaviour which fosters superior job performance in a particular area of work are referred to as Competencies (Mc Clelland, 1998). Nevertheless, in the UK, a competence is defined as 'a description of action, behaviour or output which a person is able to demonstrate' (Moore et al., 2002).

Cheng et al (2005), asserts that three ways of assessing competencies are:

i) The Job-focused approach: which is a functional analysis approach that does not take account of complexity and the dynamic nature of an organisation. This approach is viewed as 'Micro competencies'.
ii) The Person-focused approach: which is a holistic perspective that considers diverse factors such as personal background, personality, values and so on. This approach views competencies as Macro in nature.
iii) The Role-based approach: here competencies are grounded in the realities of the individual's situation. That is, it focuses on the social context.

The job focused approach is arguably the preferred method of determining the competencies of a PM in NGCO because they become involved in the project only at the project planning and implementation stage (Ika et al., 2010). However, the functional skills of a PM will be

insufficient to manage projects in NGCO due to the complexity and dynamic nature of the construction environment. Additional behavioural competencies such as team leadership, composure, assertiveness and analytical thinking are required for project managers in construction (Dainty et al., 2005; Dainty et al., 2004).

Competencies differ among projects depending on the organisation and its function (Jałocha et al., 2014), therefore Project Management Competencies relate to the ability of a Project Manager or Professional to manage projects effectively by using basic competencies that underpin effective project management performance.

2.8 Defining Project Management Practice (PMP)

The evaluation of Project Management Practice (PMP) based on these dominant perspectives aligns with the evolution of the understanding and definition of Project Management. Accordingly, practices in Project Management have advanced from a hard and narrow approach that emphasises tools and techniques to one that is process-oriented, focusing on standardisation and, lastly, to one to that considers and incorporates skills and attributes of the project manager or professional. An integration of the different views enables one to gain a comprehensive understanding of the practice of Project Management by providing a broader perspective of how organisations manage projects. This broad and holistic view of an organisation positions Project Management within an organisation's system (Morris et al., 2012; Crawford, 1999). Hence, the holistic approach of investigating challenges associated with PMP within NGCO.

Drawing from the field of organisational studies, the term 'practice' is defined as a range of tradition, routine and rules by which a plan or strategy is constructed. Jarzabkowski (2004) states that, 'practices' are written in documents stating implicitly or explicitly how a practitioner should work in certain conditions and demonstrates how processes are accomplished in the organisation. 'Practice' is similarly described as a norm that represents shared procedures and routines (Whittington, 2006) or an acknowledged form of activity (Barnes, 2001) which directs workers' behaviour according to the circumstance (Zietsma and Lawrence, 2010). Therefore, by inference, the use of informed rules or plans suggests the application of tools and techniques; the written documents (body of knowledge) stating how work should be accomplished indicates the use of processes, and lastly, rules on how a practitioner should work, suggests the competencies of the professional. Therefore, for this research, Project Management Practice (PMP) in a government organisation (GO) is defined

as a project management approach demonstrating specific Project Management tools and techniques that will enhance management processes through the actions/competencies of a project manager or professional to facilitate government construction organisations in managing government projects (Lawani and Moore, 2016).

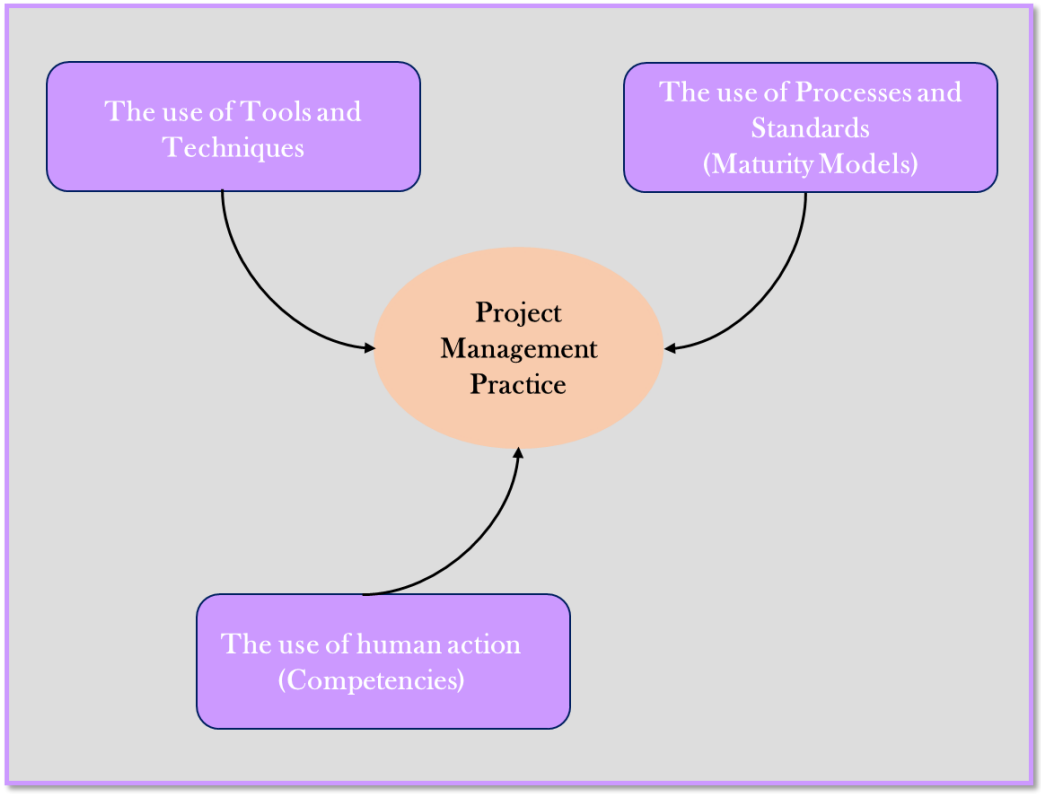

Fig. 2.7 Project Management Practice (PMP) Source: Author

Project management practice supports project management success. According to Cooke-Davies (2002) project management success is about how projects are managed so that the desired scope is completed within time and cost. Nevertheless, in addition to accomplishing the triple constraints of projects, the concept of project management practice looks at the big picture (entire organisation) rather than just the tools and techniques required. PMP promotes project efficiency and team satisfaction, both of which are identified as success dimensions judged at the end of a project (Turner and Zolin, 2012 cited in Serrador and Turner, 2015).

The use of PMP is recognised as a valuable system for maximising output while achieving best value in government organisations (Wirick, 2009). It is also acknowledged as beneficial in enhancing successful project delivery while providing transparency and accountability (Crawford and Helm, 2009). Nigerian Government Construction Organisations (NGCO) can improve upon their project planning and delivery by utilising PMP to organise, manage and execute government projects. Because the government context is characteristically ambiguous, complex and multifaceted (Crawford et al., 2003), this research sets out to investigate the challenges associated with PMP in NGCO from a systemic viewpoint, by exploring the structural components that have a positive or negative impact on PMP, and explaining their causal relationship using a Formal System Model.

2.9 Summary of Chapter

This chapter focused on reviewing the literature on related theories. It evaluated underpinning theories of project management in relation to the context of study. Relevant concepts associated with project management were also discussed. The concept of project management practice was then assessed and explained based on the various definitions existing in the literature. The succeeding chapter reviews the context of study in order to gain insight into its structure and agency.

CHAPTER THREE: Literature Review – Context

An organisation is not just a single entity, it is composed of many and often conflicting interests.

3.0 Chapter Introduction

Knowledge of organisations and their structure is significant for the project professional (PP). Nigerian government construction organisations are recognised as project based organisations (PBO). Therefore, an understanding of the various principles of organisations and their structures is important for a project professional to be able to cope with the intricacies of the working environment, in order to carry out their duties effectively. This chapter looks specifically at the theories of organisations in relation to Nigerian government organisations. Concepts associated with government organisations are discussed and then a review of project management practice in government organisations is presented. The review forms the foundation for the development of the initial framework.

3.1 Understanding Organisations

The online business dictionary defines an organisation as a social group of people that is structured and governed to meet a requirement or to pursue mutual objectives (Business Dictionary, 2017). It goes on to state that all organisations have a management structure that defines relationships between the diverse activities and employees, and partitions and allocates roles, responsibilities and authority to carry out different tasks. Early scholars such as Louis (1958), defined organisation as the process of identifying and categorising the work to be carried out, outlining and assigning responsibility and authority, and establishing relationships so that people are able to work together effectively in order to achieve their objectives. Similarly, Thompson and McHugh (2009), defined an organisation as a purposeful system characterised by co-ordinated activities toward an objective. March and Simon (1993) described an organisation as an arrangement of coordinated activities among individuals who have varying dimensions of interests, abilities and preferences but work towards the same goals, and states that organisations are formed whenever the pursuit of a goal requires the realisation of a job or activity that calls for the combined effort of two or more people (Hax and Majluf, 1981).

From a systems perspective, Barnard (2003), states that an organisation is a system of co-operative actions and tasks of two or more people. All the definitions of what an organisation

is pinpoint to the fact that organisations are relevant in ensuring that actions or activities of any sort are well coordinated in order to achieve certain goals or objectives.
However, activities vary with the type of objectives and it will be of little benefit to view all organisations under the same tenet. For instance, placing together different types of organisations, such as voluntary/charity organisations, religious or political organisations will frustrate proper assessment of the structural components within it.

Nelson and Winter (2009) affirms that, given the many types of organisations in existence, it is improbable that a particular set of principles and propositions would apply homogenously or even be beneficial to all of them. Therefore, organisations are grouped based on specific features or attributes of the organisation. For instance, organisations have been grouped based on:

(i) Sizes: e.g. small to medium enterprises (SME's or Non-SME's) (Williams et al., 2000)
(ii) Major objectives: e.g. Religious (churches, mosques), public services (government units, local authorities) (Mullins, 2016)
(iii) Effectiveness or Performance: e.g. Configurations (simple structure, machine, professional, divisionalised and adhocracy) (Mintzberg, 1980).

3.2 Types of Organisations

According to Cole and Kelly (2015) organisations are traditionally recognised in terms of two general groups: Private organisations and Public-sector organisations. Rainey (2009) provides a similar classification but goes further to break down private organisations into two: Non-profit and For-profit organisations, while he associates public organisations to government organisations; ministries or agencies. The differences between these organisations include:

- Government ministries and non-profit organisations both do not have profit or incentives as their goal, rather their main objective is often to provide social and public service.
- Public organisations are created by the government and are funded by legislature or the parliament. On the other hand, for-profit organisations are owned and financed by private individuals, or stockholders in a joint venture. Thus, their business is primarily commercial in nature and profit driven.

- Lastly, government ministries show a higher extent of control by external systems, compared with the private organisations.

However, these differences are often considered as blurred because of the complex interface between the different types of organisation which occur as government pursues the stability of commercial and social interest (Cole and Kelly, 2015). For example, private enterprises are usually part of the service delivery process for government activities, such that services are delivered by private organisations through contracts, donations, subsides etc. In addition, private organisations are influenced by the acts and regulations of the government, and consequently, they share in the enactment of public organisations policy. Therefore, they are sometimes seen as part of the government.

Although it is debatable that what makes up public sector organisations is different across countries due to variation in size and structure, Smart and Inazawa (2011) identified seven generic features that define public sector organisations in terms of their activity. Fig 3.2

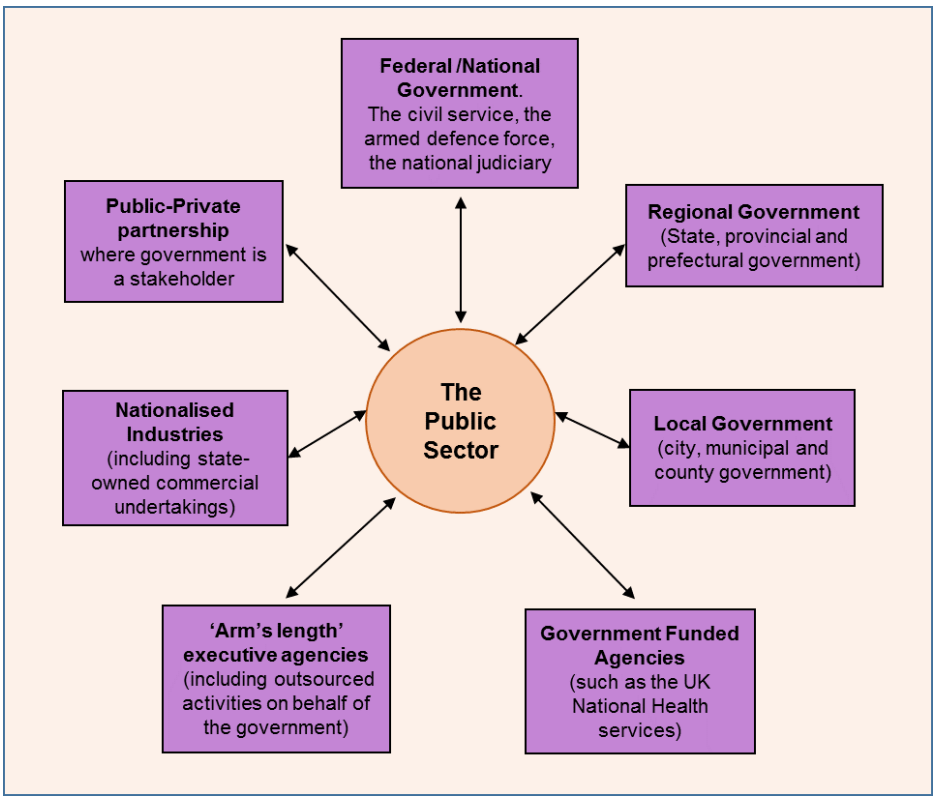

Fig. 3.2 Public Sector Organisations

Adopted from Smart and Inazawa (2011)

The Federal or National government is the context for this research. This part of the public sector comprises the civil service made up of ministries, department and agencies (MDAs) who are in charge of the administration of government activities and projects. With such a directive, it is posited that the application of PMP will enhance the delivery of government projects. Project management practice (PMP) has been acknowledged as a significant contributor to the effective management, and consequently, successful delivery of projects (Basheka and Tumutegyereize, 2012; Meredith and Mantel, 2011; Besner & Hobbs, 2006). Subsequently, exploring the causes for the absence/challenges of PMP in NGCO, is relevant.

3.3 Organisational Theories

The study of how organisations operate, organise activities and processes, how they influence and are influenced by the environment in which they function, is referred to as organisation theories (Jones, 2012; Jaffee, 2001). From a theoretical perspective, organisation theories are a sequence of standpoints which attempts to describe the diversities of organisational structures and functional process (Nigel, 1998). In other words, they are forms of knowledge which inform and explain an organisation's structure, function, procedures and organisational group and individual behaviour (Zhu, 1999).

According to Yang et al. (2013), the evolution of organisation theory originates from management theories and in turn serves these theories. That is, management theory can be seen as guiding organizational theory and structures. This implies that the structure and operation in a particular organisation is indicative of the management practice prevailing in that organisation. Because organisation theories stem from management theories, some authors explain organisations in terms of Classical or Prehistory organisation theories, Neo-classical organisation theories, Modern organisation theories and System and Contingency organisation theories (Hatch and Cunliffe, 2012; Walonick, 2010). In fact, some authors do not distinguish management from organisation theories, but discuss one in relation to the other, for example, Watson (2013) and Mullins (2010).

However, an adjacent view of organisation theory is based on organisational structures and cultures emanating from management theories (Jones, 2012; Galbraith, 2008). The perception of an organisation based on its structure and culture focuses on knowledge of its design; how various aspects of the organisation are configured and how the basic standards and principles in an organisation are utilised to achieve effectiveness (Fig. 3.3)

Discussions about organisations based on structure and culture will provide an understanding on how various elements within NGCO are designed, what principles and philosophies prevail in the organisation, and subsequently, how these can potentially impact on PMP.

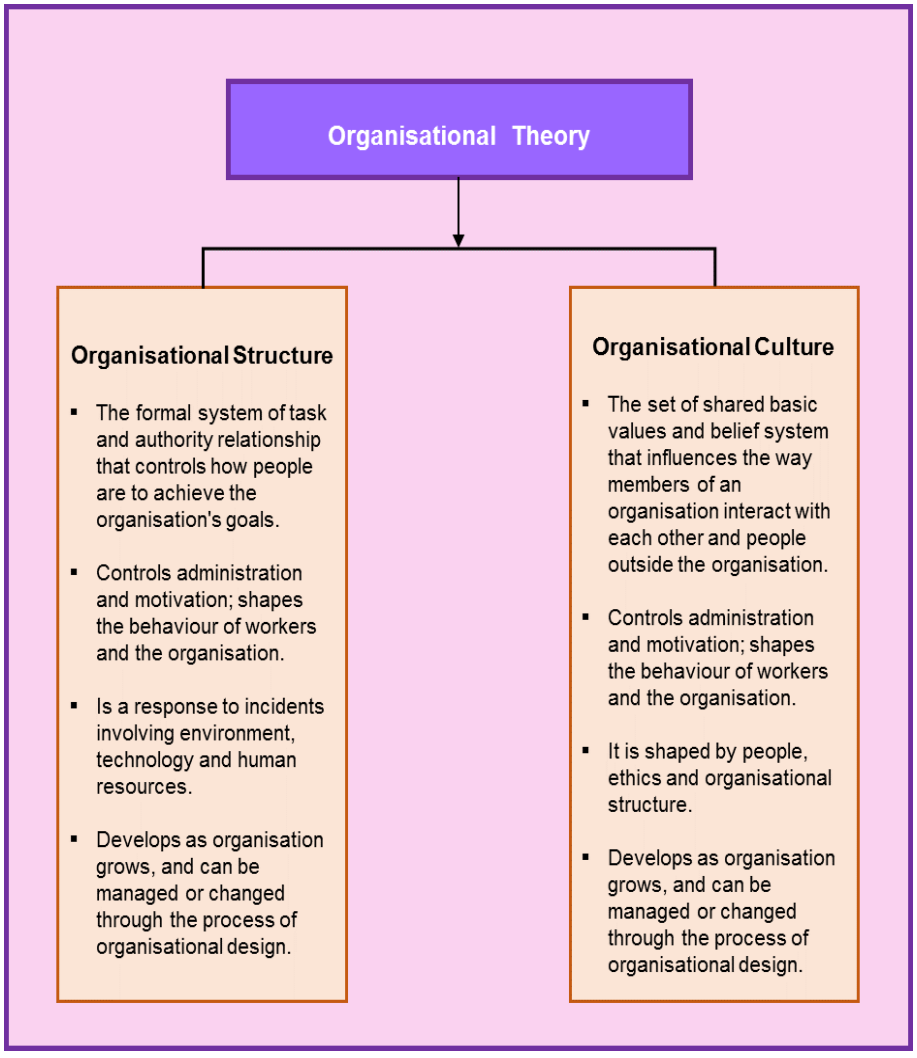

Fig. 3.3 Organisational Theory Adapted from Jones (2012)

3.3.1 Organisational Structure

Organisations primarily exist in order to accomplish certain goals. These goals are disintegrated into various roles and tasks which are the basis of work activity or jobs. The various departments in an organisation are where work activities are performed, and people

perform different jobs or functions within each department. This explanation relates with the classical management theories that lay emphasis on functional specialisation of workers. An organisational structure represents the interconnection between different departments and provides the arrangement to achieve its operations. Thus, organisational structure is defined as the formal configuration of responsibility and authority relationships, established by an organisation to control its activities or projects (Jones, 2012). It represents a continuing arrangement of tasks and activities (Zheng et al., 2010) and it also refers to the arrangement between individuals and groups concerning the distribution of tasks, roles and authority within the organisation (Greenberg, 2011). Organisational structures are necessary in enhancing an adequate coordination function which entails good communications and clear understanding of the way people relate to, and interact amongst each other. According to Kerzner (2013), there are no good or bad organisational structures, there are only appropriate or inappropriate ones. An appropriate structure is one that enables effective reactions to problems of management and motivation. Although a variety of organisational structures have been theorized, Egelhoff (1999) suggested that a majority of them could be grouped into two broad categories: Traditional structures and Change structures.

The traditional structures focus on aspects of formal organisational structure and essential processes such as centralisation and decentralisation of decision making, planning, monitoring and operation. These processes are defined at the top level of the organisation. By implication, traditional structures will tend to support traditional approaches to management which advocate formal and rational procedures of work activities through mechanisms such as hierarchical structures and specialisation of tasks. Correspondingly, government organisations in SSAC, as well as NGCO are recognised as being extensively traditional/ bureaucratic in nature (Bayo, 2012; Ayee, 2005; Dia, 1996), thus they are most likely to adopt traditional structures.

The change structures on the other hand aid organisations in coping with a constantly changing and transforming environment that rises from the diversity and complexity of distinctive or innovative responses. Change structures are more specialised and flexible in coordination. Therefore, the organisation accepts changing its strategy and organisational design as and when required, as it seeks to gain a competitive advantage. Hedlund and Ridderstrale (1997) states that change structures apply management mechanisms that are more suited to learning and adoption of new ideas such as many of the contemporary management theories which focus on exploiting the imagination and views of workers, disseminating information, strategic thinking and change management (Daft, 2010) (See

Table 2.3.5). Hence, since traditional structures are inflexible, heavily focused on management control and standardisation of working procedures (Weber, 2009; Cloke and Goldsmith, 2002) they may not be readily receptive to new concepts. Arguably, this may be the situation with Nigerian Government Organisation (NGCO) attitude towards the adoption of PMP. Despite this, the traditional views of project management practices which emphasise tools and techniques are not reflected either in NGCO.

From a different angle, Cummings and Worley (2014) approached organisational structures from a view of two organisational development interventions. The first intervention suggests that structures are put in place to define the general activity and work of the organisation by creating divisions, units, departments and delineating how tasks are then coordinated. In the second intervention, structures are used to influence/control new developments in information technology and to promote significant change and productivity in the business process. Arguably, the first and second intervention of Cummings and Worley (2014), is consistent with Egelhoff's (1999) traditional and change structures respectively.

3.3.1.1 Traditional organisational structures

Traditional organisational structures consist basically of three types: functional structures that are task specific, divisional structures that focus on specific products, customers or geographical location, and matrix structures that integrate both functional and divisional types (Cummings and Worley, 2014; Burke, 2008). Traditional organisational structures are found in organisations that experience periods of stability and balance/steadiness which are not frequently interrupted by brief periods of radical transformation (Egelhoff, 1999). These organisations often hold on to states of stability until they can no longer deal with or successfully manage their environment before exploring alternative approach (Romanelli and Tushman, 1994).

(i) Functional Structure

The functional structure design, groups workers into distinct functions or departments based on the knowledge and expertise they have in common and because they make use of similar equipment and resources. According to Kerzner (2013), the Functional structure dates back to the classical (traditional) management era, and such structures are suitable for control. In a functional structure setting, the organisation groups similar work activities into distinctive departments in order to increase the rate of productivity and effectiveness. For instance, grouping engineering, architecture, marketing, accounting etc., into different departments. It

is believed that the separation of functions improves the skills and capabilities of workers and consequently leads to improved performance (Jones, 2012). Thus, this type of structure adheres to Taylor's concept of specialisation, and according to Anand and Daft (2007), it is often found in small organisations, large government organisations and departments of large enterprises.

Table 3.3.1 shows the advantages and disadvantages of the functional structure.

Advantages of Functional Structure	Disadvantage of Functional structure
▪ Enhances easier budgeting and cost control. ▪ Better technical control is possible ▪ Professionals can be grouped together in order to share knowledge and duties. ▪ There is flexibility in the use of manpower. ▪ Procedures, rules, procedures and responsibility are clear defined, therefore there is continuity in functional discipline. ▪ Good control over personnel because each employee has only one person to report to. ▪ Communication channels are vertical and well established	▪ Additional lead time is required for approval of decisions; therefore, coordination may become difficult. ▪ No customer focal point ▪ Response to customer needs is slow ▪ It is difficult in identifying who is responsible for what, because of minimal planning and reporting. ▪ Deceased motivation and innovation ▪ No one individual or formal authority is directly responsible for the total tasks or activities.

Table 3.3.1 Advantage and Disadvantage of a Functional Structure

Adapted from Kerzner (2013) and Jones (2010)

With regards to a project based organisation (PBO) such as NGCO, Nicholas and Steyn (2017) and Kerzner (2013), emphasise that the benefits of a functional structure lie in its robust concentration of technical expertise. Because all projects pass through a functional unit, the most advanced technology is often obtainable, making the organisation well capable of effective implementation. The concentration of technical expertise in a department also provides a definable pathway for career advancement. Another advantage is that the functional manager always has more control over the budget. They determine their own

financial plan but typically require final approval from executives. The functional manager has flexibility with human and material resources and therefore he has the potential to be able to effectively manage costs. However, the absence of a central authority or personnel that can be held responsible for the entire project causes several issues. One such is the conflict that occurs when different functional departments tussle for overall authority, resulting in difficulty when trying to integrate tasks across functional lines. The long chain of authority tends to also cause projects to fall behind timelines, because of delays caused from waiting to seek approval on decisions or actions. Hence a long project lead time is often necessary.

(ii) Divisional Structure

In the divisional structure, departments are grouped together based on the type of production the organisation is involved in (Anand and Daft, 2007). Here, there are separate departments, each using a different technology, producing for different markets or customers. Workers in the divisional structure are more focused on the output, therefore there is more accountability (Burke, 2008). The divisional structure emerged because of diversification and the incorporation of technology into organisations. These developments and growth of organisations was due to an expansion of production in terms of both quantity and range, and subsequently an increase in the variety of customers. It then became relevant to form a structure that enhances managers' ability to monitor and control different departments and, at the same time, manage and integrate the functions of the entire organisation (Jones, 2012). Therefore, the objective of the divisional structure is to create smaller units or sections that are easier to manage and control within a larger organisation. George and Jones (2012) and Bloisi et al. (2007) explain that depending on the target area of control, the divisional structure can be of different types. For instance, an organisation will separate its tasks by product, thus using a *product structure* if it seeks to manage and control the number and complexity of its outputs. It will separate tasks by region - *geographic structure*, if it seeks to control the different sites where the organisation manufactures and sells. Finally, if the organisation is seeking to control the services it provides to numerous client groups, then it separates tasks by client group by using a *market or customer structure*.

For each division created, there is usually a product manager or project manager whose task is to coordinate the work of several departments. One key advantage of the divisional

structure is the breaking down of functional silos that often impede the extent of coordination required in a complex, fast paced environment (Burke, 2008).

Advantages of Divisional Structure	Disadvantage of Divisional structure
▪ Provides complete line authority over the product. ▪ Employees work is directly seen by the division manager. ▪ Strong communication channels ▪ Rapid reaction time is obtainable. ▪ Personnel demonstrates loyalty to the product, better self-esteem with product identification. ▪ Flexibility in determining schedule, cost and performance trade-offs. ▪ Management between boundaries is less difficult because unit size is decreased. ▪ Top-level management have more free time for executive decision making.	▪ Cost of maintaining each division would be expensive ▪ Since there is no functional unit, growth in technology is hindered because no outlook for improving organizations technical capabilities. ▪ No opportunity for technical interchange between product divisions. ▪ Lack of career progression and opportunities for personnel.

Table 3.3.2 Advantage and Disadvantage of a Divisional Structure

Adapted from Kerzner (2013)

With regards to a project based organisation, Kerzner (2013) and Bobera (2008) affirm that this structure is helpful because the PM has complete authority over the entire project. He is able to assign work and conduct project reviews. Each member of the project reports to only one individual, therefore there is a strong communication network which results in a quick reaction time. However, the cost of maintaining a project (product) structure is high, as project personnel cannot be shared with another project. There is also the problem of where to put functional personnel after the completion of a project. Most times, when organisations place these redundant personnel into a labour pool, they stand the risk of getting laid off in future, presumably because they lose their expertise and motivation in the long-term when they are no longer within a focused environment.

(iii) The Matrix Structure

The matrix structure is claimed to have originated in the aerospace industries (Mohrman et al., 1995), where a set of horizontal project teams was created over the company's traditional vertical functional structure in order to achieve a project oriented arrangement directly linked to the senior top management. The creation of such an organisation caused many employees to work both under a department manager and a project manager of a collaborative project group (Kuprenas, 2003). Other industries now adopt this structure when individuals with functional/technical expertise are required to be assigned to a project on a temporary basis. Thus, the matrix structure is a combination of a functional structure with a project or product structure. It is usually referred to as a hybrid structure as it integrates dual responsibilities and reporting relations linking selected functions with specific products or projects (Bobera, 2008; Bloisi et al., 2007).

The matrix structure was apparently created due to organisations embarking on certain projects outside normal functional or administrative activities. Also since projects have a defined time frame, setting up a separate department or unit specifically for its management became relevant. It is normally expected that individuals are reassigned to another project or back to their functional department once a selected or pre-determined milestone is accomplished.

In a matrix structure, the PM typically gets the overall responsibility for making sure the project is executed within its time and budget frame and that project requirements are met. He or she pulls out employees with proficiency and specialised functions for the project while the functional manager, one possessing knowledge-based technical speciality (El-Sabaa, 2001), is in charge of guaranteeing that the assigned employee is abreast with their professional development (Robbins and Judge, 2012).

Advantages of Matrix Structure	Disadvantage of Matrix structure
▪ Employees represent their roles in their team, therefore skills and expertise reside within the group**.** ▪ Flexible structure: employee is able to respond quickly to changes because the work team/division have the required functional expertise to make decisions. ▪ Best suited to complex activities in uncertain environments because of its ability to use resources across several projects and facilitate coordination. Thus, several projects can be carried out simultaneously. ▪ The project is the main attraction here, therefore the Project manager has total responsibility for the project management ▪ Team members working on a project are each pulled from a home department, therefore there is no worry or fear where to place functional workers after a project is completed. ▪ Management get the chance to use existing administrative personnel, therefore consistency of policies and processes will be maintained.	▪ It creates confusion and the tendency to promote power struggles. ▪ It creates a complex reporting relationship because an employee essentially has two managers. ▪ The use of resources across several projects to satisfy different procedures/processes of every project can particularly raise or increase conflicts between project managers. Therefore, attaining optimal performance of objectives of the organisation is not possible.

Table 3.3.3 Advantage and Disadvantage of a Matrix Structure

Adapted from Kerzner (2013) and Bobera (2008).

From the above discussion on organisational structures, NGCO, which are typically traditional organisations, will have a function structure by implication. However, the decentralisation of NGCO in the mid-70s, was targeted at restructuring the pre-existing rigid, hierarchical structure to flexible and less bureaucratic ones (Anazodo et al., 2012). The claimed benefits of decentralisation comprise: flexibility of structure, distribution of roles and delegation of authority to managers (Okojie, 2009; Rondinelli et al., 1983). Thus, if NGCO are decentralised, it can be argued that the current structures ought to be sufficiently flexible to support PMP. In addition, the PM or PP should have more discretion in making decisions and be able to cut through the bureaucratic hierarchy of the organisation. However, this is not reflected in the case of NGCO, as some authors argue that the civil service in Nigeria is still plagued with tight and rigid structures, corruption and prejudice (Anazodo et al., 2012). Furthermore, studies reveal the incompetency of PP (Olusegun and Michael, 2011) and a limited authority of PP over management of government projects (Anyanwu, 2013).

3.3.2 Organisational Design

According to Rajagopal and Rajagopal (2011), Organisational design is a process that involves the development of control mechanisms that aid and support coordination of organisational tasks and influence employees to improve their performance. Organisation design obtains knowledge from the theories of Management and Organisation structures, and then applies this knowledge in the shaping of an organisation (Galbraith, 2008). For instance, Fredrick Taylor's concepts were based on the structuring of work activities, and proposed that tasks should be broken down into specialised/functional units, where each worker will have a specific manager. Taylor believed that this specialisation would maximise scientific management. Thus, the structure of the organisation at this time was one worker with several bosses. Fayol on the other hand, who separated the technical from the administrative role, believed that it was important for managers to be skilled in all areas including technical skills, therefore he encouraged that a worker should have one boss, and that authority should flow from one direction only, from the top manager to the worker.

Therefore, organisational design is primary concerned with configuring the structure of an organisation. It is defined by George and Jones (2002) as the process by which various dimensions and components of organisational structure and culture are selected and managed so that the organisation can achieve its goals. Bloisi et al., (2007) gives a similar

definition, stating that it is the process managers go through in order to create appropriate structures, decisions and information connections, and control systems.

Since it is likely that the traditional structure of NGCO affects the adoption and implementation of new techniques (section 3.3.1), it is necessary to know the various ways which an organisation can be arranged or configured to improve performance. There are two basic characteristics of organisational design (George and Jones, 2002) that managers are required to consider in structuring organisations, some authors refer to them as challenges of organisational design (Griffin et al., 2017). These are:

(1) Differentiation vs Integration
(2) Centralisation vs Decentralisation

3.3.2.1 Differentiation vs Integration

The creation of meaningful and adequate structures and processes is necessary due to the problems of differentiation and integration in an organization (Mullins, 2016). Managers are faced with the challenges of how to group people so that they can work cooperatively and effectively. Differentiation is the grouping of workers and tasks into function and divisions, it is the process of allocating individuals and resources to tasks and activity in an organization (George and Jones, 2012). Differentiation enhances specialisation and functional proficiency. According to Jones (2010), differentiation in organizations occurs in two ways: Vertical differentiation, which is the way hierarchies of authority and reporting lines are designed in an organisation, and Horizontal differentiation, the way in which tasks and responsibilities are grouped into functions and divisions.

Integration on the other hand is the coordination of activities of different functions and divisions that enhances interaction and coordination (George and Jones, 2012). It combines and relates actions between subunits and regards this combination as more important than individual departments.

The structure of NGCO is more of a differentiated one because reporting lines are hierarchical, and workers are grouped into sub-units based on their functional proficiency (Fanimehin and Popoola, 2013). This may affect the formation of project teams for example, where members have to be pulled out from different functional units.

3.3.2.2 Centralisation vs Decentralisation

Centralisation is the degree to which decision-making authority is being retained at the top of the hierarchy in the organization (Robbins and Judge, 2012). In centralised organizations, the decision making is carried out by only senior level executives and the lower managers have no authority in making decisions. In contrast to centralisation, decentralisation is when managers at all levels of hierarchy are able to take important decisions and initiate new ideas that enhance effectiveness of tasks (Bloisi et al., 2007). In other words, decentralisation delegates or empowers individuals or groups such that they have a measure of autonomy. Criticisms of centralisation stresses that centralisation engenders mechanistic structures which may produce an elongated chain of command (Mullins, 2010). Therefore, it implies that centralisation best suits a non-complex and stable environment.

NGCO are recognised as decentralised organisations (Monye-Emina, 2012). However, a long chain of command exists within these organisations, and hierarchies of authority are secured by vertical structures (Nkwede, 2013; Bayo, 2012). Project Practitioners also have limited power over the project's management as they need to obtain approval before they take decisions on issues related to the project (Anyanwu, 2013). This seems paradoxical as one of the major objectives of decentralisation is to reduce excessive chains of command and delegate power to managers at all levels (Bloisi et al., 2007). This inconsistency is in line with Anazodo et al.'s (2012) assertion that the complete effect of decentralisation has not been achieved in Nigerian Ministries, Agency and Departments. Thus, a further justification for carrying out this study is provided, as it investigates how structure and agency impacts on PMP.

3.3.3 Organisational Culture

The theory of Organisational culture, in scholarly literature, has been used in various contexts with different conceptions, because of its tendency to borrow ideas, models and methods from a variety of disciplines, such as linguistics, policy science, organisational sciences, anthropology, psychoanalysis and theology (Tesluk et al., 1997, Alvesson and Berg, 1992). This has led to overlapping explanations, and sometimes debates, on what it constitutes (Parker and Bradley, 2000, Denison, 1996).

Scholars such as, Macintosh and Doherty (2007), broadly defines the culture of an organisation as the internal environment of an organisation, while others offer a more detailed description, stating that it is made up of a collection of basic values and belief systems, that

defines and gives meaning to organisations (Wallace et al., 1999). Similarly, Denison (1996) asserts that studies on organisational culture usually focus on the relevance of a deep understanding of underlying assumptions, individual meaning, and the workers' perception of the organisation. However, some suggest that organisational culture inherently exists within the context of a broader culture context, such as ethnic culture (Willcoxson and Millett, 2000). In the same vein, Schien (2010) argues that organisational culture is a subset, and vital part of, a national culture, because the context in which organisational culture is presented and assessed extends to comprise occupational subcultures and national/ethnic macro cultures. He goes on to argue that, due to influential factors such as systematic complexity of business, it is necessary to acquire knowledge about an organisation's macro context and internal integration in order to fully comprehend its culture.

The concept of culture emerged from the field of anthropology (Ashkanasy et al., 2000) but quickly gained prominence in the management field when it was introduced into organisational studies in the 1970s (Schneider et al., 2013). Discussions of organisational culture have been generally perceived from two stances: An anthropologist and a scientific rationalist view (Schneider et al., 2013; Willcoxson and Millett, 2000). Culture scholars advocated the former, due to potentials of exploring the ambiguity of the concept, while practitioners were in favour of the latter because it presented a more realistic depiction of their working environment (Schneider et al., 2013).

From an anthropologist's view, organisational culture is seen as something bounded and confined by group parameters such as language, belief system and regularities that provide the basis for allocating status, power and authority, rewards, punishment etc., from within which it observes the external environment and determines how it responds to it (Willcoxson and Millett, 2000). In this stance, culture is not a separate aspect of an organisation, not easily manipulated or altered, and it is not formed or preserved primarily by the executives/senior level management. Rather, the early beliefs and behaviours of founders are translated into assumptions that operate at a sub-conscious level and are shared by all members of the organisation (Alvesson and Berg, 1992). Studies investigating organisational culture from an anthropological position tend to take part in 'cultural inventories' which entails extensive observation of behaviour, dialogues, analysis of company documents and other artefacts (ibid).

From a scientific rationalist's position, organisational culture is just one component part of an organisation that can be measured, manipulated and changed (Bate, 2010). In this stance,

culture is principally a set of values and beliefs expressed by executives to guide the organisation, interpreted by managers and personnel into appropriate behaviours, and strengthened through rewards, promotion and consents (Alvesson and Berg, 1992). As these values and beliefs, representing deeper levels of culture are put into practice by executives, they become expressed and interpreted in the form of policies, procedures, processes and systems (Schein, 2010). Studies examining organisational culture from a scientific rational position tend to discuss culture as something that can be ascertained from the perspective of managers, and it often emphasises the leader's responsibility in creating, preserving and transforming culture (Willcoxson and Millett, 2000). According to Schneider et al. (2013), an easy means of distinguishing both views is to focus on "culture as something an organisation is" (anthropologist view) versus "something an organisation has" (scientific rationalist view).
The perspective of organisational culture from the scientific rational position is argued as the perspective that most closely relates with the organisational climate, because the mutual perceptions held by workers of the organisation about policies, procedures, and processes are typically described as the climate of an organisation (Schneider, 1990).

3.3.4 Organisation Climate

The concept of climate is often misrepresented as being synonymous with the concept of culture. Climate of an organisation is generally defined as socially shared perceptions of employees or workers in an organisation regarding key attributes of their organisation (Verbeke et al., 1998 cited in Zohar and Hofmann, 2012). However, there are many perception-based measures in the organisational behaviour literature, therefore this broad definition may limit any potential benefit. Organisational characteristics or attributes based on workers' perception include routine activities and formal structure (Bacharach et al., 1990), work control and complexity (Frese et al., 1996), team unity (Chang and Bordia, 2001), and organisational misbehaviour (Vardi and Weitz, 2004).
As a result, there is a proliferation of dimensions and a lack of consistency among climates measures (Schneider et al., 2013). However, Zohar and Hofmann (2012) provided a more focused view by narrowing down the multi-dimensional perception. Consequently, perceptions of organisational climates are divided into two: climate as a global perception, and climate as a domain-specific perception.

Climate as a global perception observes various dimensions by which organisational climate is measured. It includes early studies of climate views and is based on the assumption that organisational climate illustrates an overview of how workers experience and perceive their

organisation. Some notable sets of global dimensions include organisational climate based on person-environment suitability, wherein three climates' dimensions are defined: features concerned with interpersonal and social affiliation among employees, features indicating self or personal involvement in job tasks and features concerned with 'getting things done in the organisation' (Ostroff, 1993).

Another dimension of organisational climate is the Organisational Climate Measure (OCM) written by Patterson et al (2005). The OCM model uses the competing values model developed by Quinn and Rohrbaugh (1983), which is based on organizational structure dimensions that are viewed as competing values (flexibility vs control, and internal vs external orientation).

Climate as a domain specific perception, on the other hand, depicts that climate should represent an organisational process or activity that has a planned or strategic focus (Zohar and Hofmann, 2012). Within this view, the climate thus consists of common/mutual perceptions among workers relating to practices, procedures and incentives to motivate workers (ibid). This perception of climate is also referred to as a process climate (Schneider et al., 2013). Some examples of which are ethical climate (Mayer et al., 2009) and empowerment climate (Chen et al., 2007). Scholars propose that activities and processes in an organisation might be effectively studied and understood by taking on this approach (Burke, 2017; Schneider et al., 2013). In addition, Burke (2017) states that viewing climate from a dominant specific perception has made the concept of climate more accessible to practitioners because it places emphasis on organisational practices and effects, and thus uncovers those practices that require development. Therefore, elements contained within the climate of NGCO, such as work procedures and patterns are highly probable in having an effect on PMP.

Organisational climate is a manifestation of the attitudes of members of the organisation based on things such as policies, work practices, supervisory procedures and literally anything that affects the work environment (Farokhi and Murty, 2014). The climate of an organisation indicates the types of objectives that are significant and the way(s) in which those objectives can be accomplished, thus different organisational objectives and requirements can be associated with specific types of climates. By defining the sort of goals that are considered significant, and ways of achieving them, organisational climate acts as an essential leverage on particular behaviours.

In light of the above, both organisational climate and culture are seen as interrelated to the extent that the climate of an organisation is a subset of its culture. However, there are distinct

differences between the concepts. While the study of organisational climate focuses on the insider or workers' perception of observable practices and processes, presenting social environment in relative static terms/ fixed set of dimensions, the study of organisational culture focuses on the importance of deep insights of underlying traditions, individual meaning and worker's perception of the organisation. This implies that culture operates at a higher level of abstraction than climate. Accordingly, climate indicates an organisation's workers' shared perceptions of policies and procedures, while culture denotes the basic values and assumptions that underpins those policies and procedures (Tesluk et al., 1997; Denison, 1996).

The effect of these fundamental differences is seen in the extent to which managers in the organisation have influence over internal factors. That is, from a scientific rationalist's position, organisational culture is created from a variety of internal elements, some of which are beyond managerial control or influence (Alvesson, 2012), while organisational climate is developed specifically from internal factors that are under managerial control and influence (Schneider et al., 2013; Ostroff and Schmitt, 1993).

Difference	Organisational Culture	Organisational Climate
Epistemology	Contextualized and qualitative. (Idiographic)	Comparative and Nomothetic. (Quantitative)
Focus area	Tends to place emphasis on how the social environment is *created* by workers.	Tends to place emphasis on how the social environment is *experienced* by workers.
Methodology	Qualitative approaches	Quantitative approaches
Temporal Orientation	Historical evolution.	A historical snapshot
Theoretical Foundations	Social Construction.	Lewin's theory (behaviour is a function of an individual's interaction with his environment).

Table 3.3.4 Differences between Organisational culture and climate

Source: Author generated based on Schneider et al. (2013) and Denison (1996)

According to Ovadje and Ankomah (2001), power and authority in Nigeria are to a considerable extent, formed by cultural values. For instance, this is clearly seen in the way subordinates show respect for elders. It is predominantly believed that the older one is, the more experience, and thus more wisdom he or she possesses. This respect for elders often translates into organisations, such that, when a person in authority makes decisions, the subordinate is often expected to act without any challenge/questions. This display of respect for elders is seen across African countries (Jackson, 2004). Cultural values of Nigerian organisations are also visible in recruitment and selection processes. Due to the collectivist nature of society, there is always a tendency to employ individuals belonging to a specific family or ethic group. This is usually referred to as nepotism or ethnicity (Ijewereme, 2015). Nigeria and other SSAC in general, place emphasis on family, ethnic ties etc, and members of the same family or tribe are expected to look out and support one another. Arguably, these norms will have an impact on the climate of NGCO; in the way managers or those in superior positions uphold principles of objectivity and fairness in management issues, for example selecting individuals with adequate project management competency may be compromised. Therefore, the adoption of PMP will likely be challenged by cultural/climatic elements. However, since NGCO are project based organisations (PBO), its climate should be indicative of project management processes and practices. That is, the use of project management should be at the centre of NGCO.

3.4 Government Organisations (GO)

Government organisations (GO) are an essential part of a country's political administration system which comprises a complex interaction of social actors, tasks, principles, resources and rules (Christensen and Lægreid, 2002). They are a vital part of public sector organisations, along with other parts such as regulatory and supervisory organisations and state owned commercial organisations (Wirick, 2011; IIA, 2011). GO are structured hierarchically, such that strategies and decisions occur at the higher level, where power and authority resides, while operational activities occur at the lower level (Sotirakou and Zeppou, 2005). Even though, oftentimes in literature, reference to Government Organisation is subsumed in the description of Public Organisations, in the sense that the term public sector organisation is used comprehensively to denote government organisations. However, government organisations have their own culture (of rules and laws) and ways of doing things (Van Der Hart, 1990).

Government organisations, sometimes referred to as Government bureaucracies or Government institutions (Rainey and Steinbauer, 1999; Van Der Hart, 1990), are commonly criticized for being too bureaucratic, having too many hierarchical structures, possessing too little initiative and drive, indulging in too much expenditure, very little efficiency and very little responsiveness to individuals and anything outside the boundaries of their organisation (Rainey and Steinbauer, 1999). They are regarded as the monopoly purchaser of services and controller of the market (Considine, 2003). Competitive advantage is generally not relevant in GO as they possess a commercial monopoly by having the power to control the market (Van Der Hart 1990). Furthermore, because GO do not fundamentally work based on performance or productivity, the impact of its activities is hard to measure, except in Project-based organisations where an output deliverable is expected (ibid).

3.4.1 Characteristics of Government Organisations

Government organisations are distinct from their private counterparts, mainly due to structural variations, differences in operational systems and managerial values, and pursuance of different goals and objectives (Van der Waldt, 2011; Van Der Wal et al., 2008). As a result, there are variances in how fundamental functions of management are carried out in both organisations. Steiner cited in Ross (1998), states that 'management in government is far different from management in the private sector'. Several authors have suggested different reasons for this disparity, offering reasons for the differences between how projects are managed in both sectors (See Table 3.4.1)

Management in Government Organisations	Management in Private Organisations
Top Management Support: Inadequate top management support. Lack of politicians' involvement and commitment towards project management.	Adequate top management support and commitment towards project management (Arnaboldi et al., 2004).
Operational view/Structure: a closed system operational orientation characterised by an internal focus and lack of organisational flexibility (Yasin et al., 2000)	Open operational system characterised by organisational flexibility (Bozeman and Kingsley, 1998).
Project Objective: There is a lack of convergence on clear, measurable objectives, allowing for different interpretations.	Objectives are shaped by the final goal of creating economic value (Arnaboldi et al., 2004).
Reason for Formation: Government organisations are established on the initiative of the state to satisfy the needs and demands of the public.	Are established on the private initiative of entrepreneurs which is based on profit making (Van der Waldt, 2011).
Complexity: Multifaceted nature of stakeholders in government organisations due to their size and diversity (Crawford et al., 2003).	Limited number of stakeholder's therefore easier identification and management (Arnaboldi et al., 2004).
Uncertainty/Instability: Top government executives are rotated in and out of positions according to votes (management proficiency has little or nothing to do with electoral votes).	Generally, more orderly and cautious when replacing top/senior executives to ensure continuity and cooperate stability (Ross, 1988).
Culture: Government organisations are often shaped by politics and political decisions. The political environment tends to impact on its strategic and operational decisions (Gomes et al., 2008).	Private organisations are often shaped by the leaders or founders of the organisation. Top management and director's decisions impact on strategic and operational functions. (Alvesson and Berg, 1992).
Funding: Government organisations are mostly financed from taxes, which means they are, in reality, the state property.	Private organisations acquire funds through loans, shares and profit (Van der Waldt, 2011)
Bureaucracy: Hierarchical arrangement and rigidity in decision making. Rule and procedure oriented (Ross, 1988)	Flexibility in decision making. Results oriented (Bozeman and Kingsley, 1998).

Table 3.4.1 Management Difference between Government and Private Organisations

Source: Author generated

Government organisations engage in various projects for creating facilities and amenities, and/or improving the services of current ones. The implementation of projects by government organisations is now increasingly used by most nations to facilitate administration and developmental growth (Crawford and Herm, 2009), particularly in developing countries (Olusola and Emmanuel, 2012). However, the characteristics of government organisations create challenges in management and administration and thereby fail to achieve the anticipated benefits of projects (Rosacker and Rosacker, 2010; Wirick, 2009; Arnaboldi, 2004). Consequently, the New Public Management (NPM) system was initiated with the aim of improving management and administrative efficiency in government organisations (Hughes, 2012; White, 2000). Government ministries, department and agencies that have a building and construction mandate are the context for this study, hence the acronym NGCO (Nigerian Government Construction Organisations).

3.5 New Public Management (NPM)

New public management (NPM) emerged as a practical restructuring of the internal administration of government organisations of OECD countries in order to improve their management efficiency and effectiveness (Pollitt, 2007). It originated from Neo-liberal roots which expound that the public sector will improve performance if it transfers control of economic aspects to the private sector and copies the private sector management style (Brinkerhoff, 2008). Implementation of NPM is believed to have transformed the traditional public administration into a coherent management system by the adoption of private sector managerial ideologies (Nkwede, 2013; Gruening, 2001).

While traditional public administration is a rule-based and rigid administration comprising of impersonality, hierarchy, division of work and specialisation, unity of command and homogeneity as basic characteristics of the administration (Elias, 2006; Gruening, 2001), NPM is characterised by improved regulations and decentralisation, personnel/ human resource management, commercial/market mechanisms, and the general introduction of management techniques and tools originating from the private sector (Pollitt, 2007, Hood, 1991). Various interpretations of NPM can be identified in the literature such as “reinventing government” (Osborne and Gaebler, 1992), market based public administration (Lan and Rosenbloom, 1992), and managerialism (Pollitt, 1990).

Different authors have cited various characteristics of NPM (Table 3.5). According to Larbi (2003), the different features of NPM can be broadly categorised into two aspects:

(1) The first aspect comprises ideas stemming from Managerialism: i.e. focusing on management in government, such as decentralisation, improved regulations and downsizing, breaking down bureaucracy by creating more flexible structures, and providing managers with more freedom in decision making.
(2) The second aspect comprises ideas originating from New institutional economics that places emphasise on market mechanisms such as vouchers, out-sourcing, customer orientation, competitive tendering, and user fees to provide a 'voice' to users and enhance efficiency in service delivery.

Ayee (2005) grouped the different features of NPM into two similar strands:

(1) The first strand contains ideas and themes that focuses or emphasises managerial enhancement and restructuring, such as devolution and professional management.
(2) The second strand contains ideas and themes that emphasis markets and competition such as contracting out.

Likewise, Bevir (2008) grouped NPM into:

(1) Marketisation (privatisation, outsourcing, quasi markets, and consumer choice) and;
(2) Corporate management (management by result, performance and accountability measures).

De Vries and Nemec (2013) argue for two dimensions of NPM:

(1) Reducing the role of the government and;
(2) Improving the internal administration of the government.

Thus, they claim that the concept of NPM relates with the external and internal working of the government.

Gruening (2001)	Kolthoff et al., (2006)	Groot and Budding (2008)	Engida and Bardill (2013)
Budget cuts	Budget cuts		
Client Orientation/Participation	Client/Citizen Orientation		
Performance Auditing/Management	Performance Management		Performance auditing and measurements
Privatization	Privatization	Privatization	Privatization
Decentralization	Decentralization	Decentralization	Decentralization
Planning and control	Use of a planning and control cycle		
Market competition	Use of commercial agencies	Open competition	Use of internal markets for competition
Contracting out	Outsourcing	Contracting out	Outsourcing/Contracting out
Use of incentives	Remuneration	Incentivised arrangements	
Financial Management	Contract Management	Financial accountability	
Use of Vouchers		Use of Vouchers	
Improved regulations		Contract Management	
Change management			
Legal budgets and spending constraints			
Use of Information Technology			

Table 3.5 Characteristics of NPM cited by different authors Source: Author generated

There have been debates about the real benefits of NPM (Bevir, 2008, Levy, 2010) as some authors state that it is aligned more towards cost saving aspects than improving administrative aspects while reducing bureaucratic aspects (Ikeanyibe, 2016). Others argue that it is an ineffective concept as it fails to achieve its purpose of improving management efficiency (Drechsler, 2005). In general, the aspect of NPM that emphasises management, planning and control improvements seems to have more acceptance than market mechanisms with government individuals (Groot and Budding, 2008).

Author	**Strands of NPM**
Larbi, 2003	Managerialism and Market mechanisms
Ayee, 2005	Managerialism and Market based management
Bevir, 2008	Marketization and Corporate Management
De Vries and Nemec, 2013	Minimizing role of government and improving internal administration of the government

Table 3.5.1 Different labels for the two major strands of NPM Source: Author generated

It is observed that Managerialism, Corporate Management, or the strand that emphasises improvement of the internal administration of the government, contain features such as planning and control, financial management, change management, use of information technology, and contract management (See Table 3.5) Arguably, Project Management can be regarded as a technique that is advocated by NPM based on the NPM aspect or strand that focuses on management improvement. This observation is supported by Caiden (1998) who opined that the interest in Project Management by government organisations is perceived to be strongly associated with NPM because of the emphasis it lays on redesigning performance and accountability systems and simultaneously improving project delivery. Correspondingly, Crawford and Helm (2009), in their report on the value of project management in the public sector, affirmed that the investment of Project Management in government organisations is associated with the objectives of achieving transparency, accountability, productivity and effective use of resources which relate well with certain characteristics of NPM. The above explanation provides reasons for the similarity and some

overlapping processes in Project Management and New Public Management. The advent of NPM in government organisations stressed the need for governance, because administrative reforms oftentimes give way to restructuring that focuses on organisational arrangement and reformation. Brinkerhoff and Brinkerhoff (2015) state that the process of embedding private sector techniques and improving functions of government organisations led to the concept of governance.

According to Klakegg (2010), governance is a hierarchical and relational mechanism, suggesting that governance plays a role in structuring and connecting various parts of an organisation to achieve effective coordination of activities. In particular, the approach to governance by a PBO is likely to influence the way all projects are executed and also the sort of practices adopted by the organisation. However, the concept of governance and its various perceptions often leads to confusion in management literature.

3.6 Governance, Governance of Projects (GoP) and Project Governance

There is the awareness that projects are increasingly being used to reform organisational practices and procedures through the products and services they deliver (Bjørkeng et al., 2009). Specifically, in the public sector, besides initiatives such as NPM, which were established based on the need to improve productivity in organisations and reform public administration processes, projects were increasingly being used to cope with environment changes (Biesenthal and Wilden, 2014; Crawford and Helm, 2009). Consequently, governments of several countries began placing more attention on the implementation of project management in public organisations as a way to improve mechanisms used in governing public projects, so as to gain control over activities and be able to derive improved performance and effectiveness in administration (Biesenthal and Wilden, 2014; Agrapidis and Panayotis, 2009).

Two perspectives of governance are identified in the literature which are supported by distinct reasons:

(1) As a result of the increased usage of projects in organisations, it became necessary to study the operations of the project's front-end, which essentially involves the delineation of a clear decision-making process (Klakegg and Haavaldsen, 2011). This aspect of governance deals with the formal and informal configurations by which decisions about projects are formed and executed (Klakegg et al., 2009).

(2) Since the prevalent dynamic nature of the business environment brought about conditions of high uncertainty and resources exactitude (Ahola et al., 2014), it became necessary for organisations to apply a process approach in managing projects in an integrated and strategic manner (Renz, 2007). This aspect deals with improving control and monitoring of economic transactions between actors/stakeholders in a project (Biesenthal and Wilden, 2014; Williams et al., 2010).

The former aspect is referred to as Governance of a Project (GoP), while the latter is referred to as Project Governance. However, the general concept of Governance, which emerged originally from public administration fields, deals with the procedures and arrangements by which an organisation functions through the use of control and authority in a formal organisation setting (Klakegg and Haavaldsen, 2011; Klakegg, 2010a). These three concepts can often be confusing in extant literature, therefore further discussion is vital.

3.6.1 Governance

Although the concept of Governance has bearing from various disciplines such as public administration, economics and political science, it appears to be more inherent within public administration (Bevir, 2008). As a result of its diverse positioning, different meanings have been attributed to Governance. Scholars such as Christensen (2011), Christensen et al., (2007) and Stoker (1998) refer to governance as an unclear, confusing and debated concept. Others refer to governance as a 'messy concept' (Peters and Pierre, 1998).

The word "governance", is derived from a Greek verb "Kybernao" which means steering, supervising or guiding an object such as a ship or to pilot a plane, and was first used figuratively by Plato to represent the governing of people (Campbell and Carayannis, 2012). In contemporary language, "governance" now relates with "government" and "control" (Hooghe, 2001). However, while government often refers to a governing body, the word *governing* means the use of one's role or status to influence or administer developments (Klakegg, 2010a). In other words, governance defines how a government carries out the process of governing. There is also an overlap sometimes between governance, administration and control in management literature. According to Klakegg (2010b) control is the ability to decide over, define restriction for, delegate power to, or withdraw authority from a person. Administration refers to individuals, groups, agencies or department who are part of a body for the main aim of administering an action or activity. Campbell and Carayannis (2012) suggested that governance could be regarded as more comprehensive than

administration, and administration broader than control. The tendency to overlap thus presents itself because governance is able to apply or pursue objectives of administration, but may not necessarily be constrained to administration, and on the other hand, administration will have vested interest in control. (See Fig. 3.6.1)

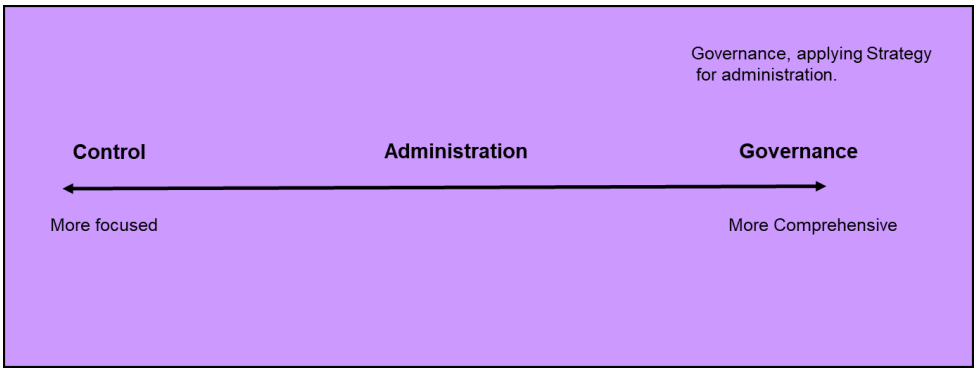

Fig. 3.6 Conceptualization of Governance, Administration and Control

Source: Campbell and Carayannis (2012)

The mix-up or ambiguity between these functions seems to be a generic in management literature. From a system thinking perspective, it is argued that these functions are unclear and varying because of their interaction and the interaction with other parts of the organisation (Meadows and Wright, 2008; Millett, 1998). In NGCO, this condition of vagueness of functions is evident in the lack of clearly defined roles and nature of working relationship between departments (Magbadelo, 2016). However, establishing clearly defined roles of the PP and team members is argued to be a relevant activity that supports good project administration (Prabhakar, 2008)

Governance has been defined in a variety of ways. One of the earliest definition of governance was made by the World Bank. In their article, governance was broadly defined as "*a way in which authority is applied in the administration of a county's economic and social resources for development*" (World Bank, 1992). In 2007, the definition did not change much, as it was defined as "*the way in which public officers and organisations obtain and exercise the authority to shape strategy and provide public goods and services*" (World Bank, 2007). Lynn et al., (2000) also provided a general description of governance by stating that governance is a system of laws, administrative processes, legal rulings, and practices that

restrain, recommend and enable government tasks which involve the production and distribution of goods and services. The World Bank, however, recently re-defined governance as a process through which the government and private actors interrelate to design and implement strategies within a given set of formal and informal rules (World Bank, 2017). It can be observed that the definition evolved to consider administrative structures within external actors, making it more concise than previous definitions.

In relation to organisations or corporations, Kaufmann et al., (2007) states that governance is a hierarchical occurrence, which corresponds to Miller and Floricel's (2000 pg.135) assertion that the word 'governance' emerges from the problems of hierarchical coordination by the institution or by the nation. In the same strand, a study that examined evolving practices in the European Union (EU), highlighted two categories of practices in organisations:

(1) Formal practices: comprising of parts, organisational structures, laid down rule and procedures, and;

(2) Informal structures: new forms of established institutions and governance mechanisms, rule adjustment (Van Tatenhove et al., 2006).

The interplay of these categories was referred to as 'governance'. Shah (2006) argued about the diverse meaning of governance and similarly, he proposed that there are several levels of hierarchy in governance, arguing that several individuals are linked in a network at a particular time, and some individuals may be outside the formal organisation, making it a challenge to govern them. This implies that some stakeholders in the governance hierarchy exist outside the organisation.

There seems to be some consensus in the definitions as most of them accept the relevance of a capable body or institution functioning under a rule or regulation. Comparing the definitions above it can be argued that a difference exists in the extent of emphasis on the responsibility of the government. While the broader definition emphasizes more on the government or country's obligation to developing and modelling strategy for the benefits of their citizens, the narrower definitions tends to focus on the internal environment of the institution and external actors who are in a certain relationship with the institution.

Pierre (2000) confirms the dual meaning of governance by his assertion:

"*On one hand governance refers to the empirical demonstration of government adaptation to its external environment as it emerges in the late 20th century, while on the other hand, governance also denotes a conceptual or theoretical representation of co-ordination of social systems* …."

The above definitions of governance indicate the distinctions between public and corporate governance. According to OECD (2015): "*Corporate governance involves a set of relationships between an organisation's management, its board and stakeholders. It also provides the structure through which the objectives of the organisation are set, and the means of attaining those objectives by monitoring performance are determined*."

Corporate governance is categorised into two types: hierarchical and non-hierarchical (Börzel et al., 2005). The former manages social activities/tasks by applying command and control techniques and the latter operates by establishing a network relationship and exchanging resources usually with external parties. Thus, the non-hierarchical is sometimes called a public –private network. Based on these categories, governance can be described as structures and processes (Paim and Flexa, 2011; Börzel et al., 2005). (Fig. 3.6.1)

(1) Governance as structures: Here governance emerges from the parties or individuals involved in the relationship. Private institutions have flexible structures, and members often have equal rights and separately manage their own activities (i.e. loose coupling). Public or government institutions, on the other hand, have a relationship that is considered as dominance and submission among members which significantly restrains members' autonomy of activities (i.e. tight coupling). In a non-hierarchical or public-private network structure, the government institutions have authority to impose decisions on private parties. However, in relating with the government, most private organisations prefer using a network structure where they can have independence over their own activities (Börzel et al., 2005).

(2) Governance as processes: Here two types exists:

(i) The hierarchical management which involves imposing decisions (such as administrative instruction or court ruling) on members against their will (Scharpf, 1994).

(ii) The non-hierarchical which uses either positive or negative manipulative processes (such as side payments or sanctions) or non-manipulative

processes as a form of management (such as processes of learning and persuasion) (Checkel, 2001).

Nevertheless, Börzel et al., (2005) states that governance processes and structures are causally connected.

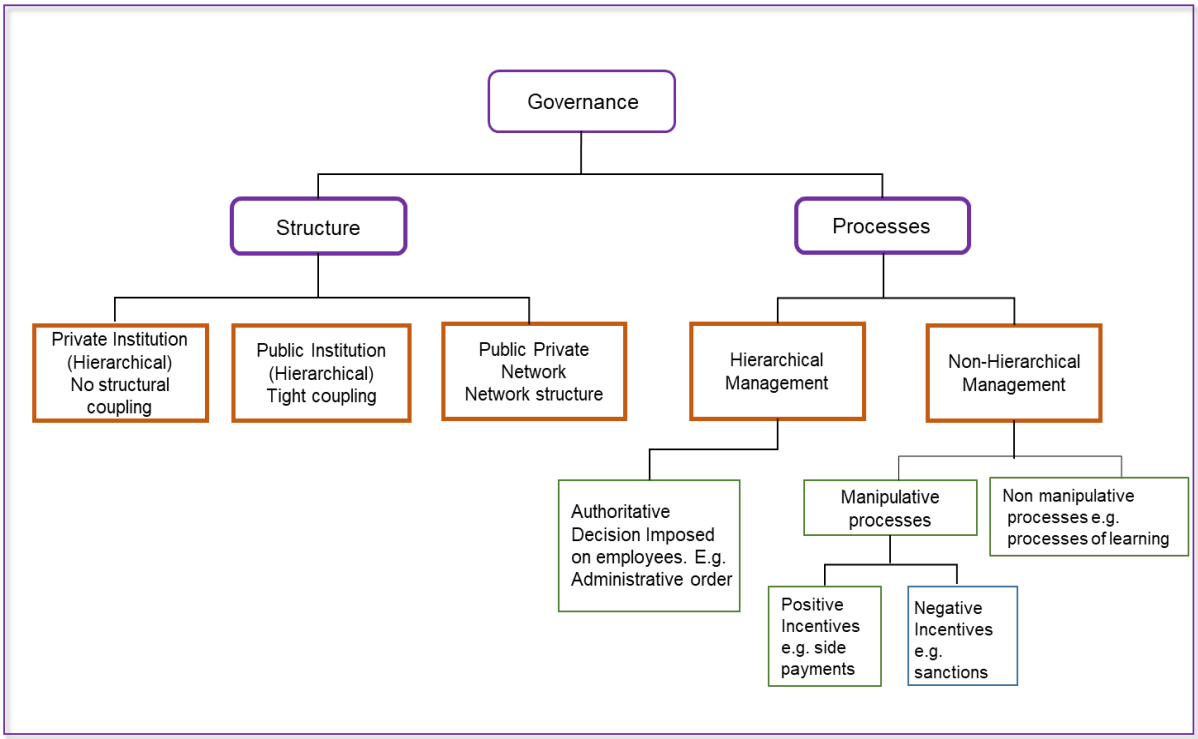

Fig. 3.6.1 Governance as Structures and Processes

Source: Author generated based on Börzel et al. (2005)

3.6.2 Governance of Projects (GoP)

Having elucidated the concept of governance in the preceding section, the meaning of Governance of Projects (GoP) can thus be deduced. An attempt to define the concept will be that GoP is a process through which an institution, operating under a regulation, administers and controls both the internal environment of the organisation where the project is initiated, and the external project participants. Klakegg (2010b), defines GoP as "that which is concerned in those areas of public or corporate governance that are specifically associated with project activities, and involving formal and informal structures by which decisions about projects are made and executed".

According to Biesenthal and Wilden (2014), and Bredillet (2008), GoP can be viewed from two main perspectives: The Contract school of thought and the Project governance school. The former is concerned with the relationship between contract management and project management, and it views projects as either a legal entity (Turner, 2004) or as a relationship between two legal parties (Barnes, 1983). The latter views projects as a temporary organisation (Turner and Muller 2003) and examines the practices of governance, both of the project itself and the project-oriented parent organisation (APM, 2011; Turner, 2006). (See Fig. 3.6.2)

Therefore, GoP is a coordination of projects that encompasses the structure and authority of an institution/organisation, and use of administrative order and regulatory mechanisms to control the relationship between the organisation and both the internal and external parties.

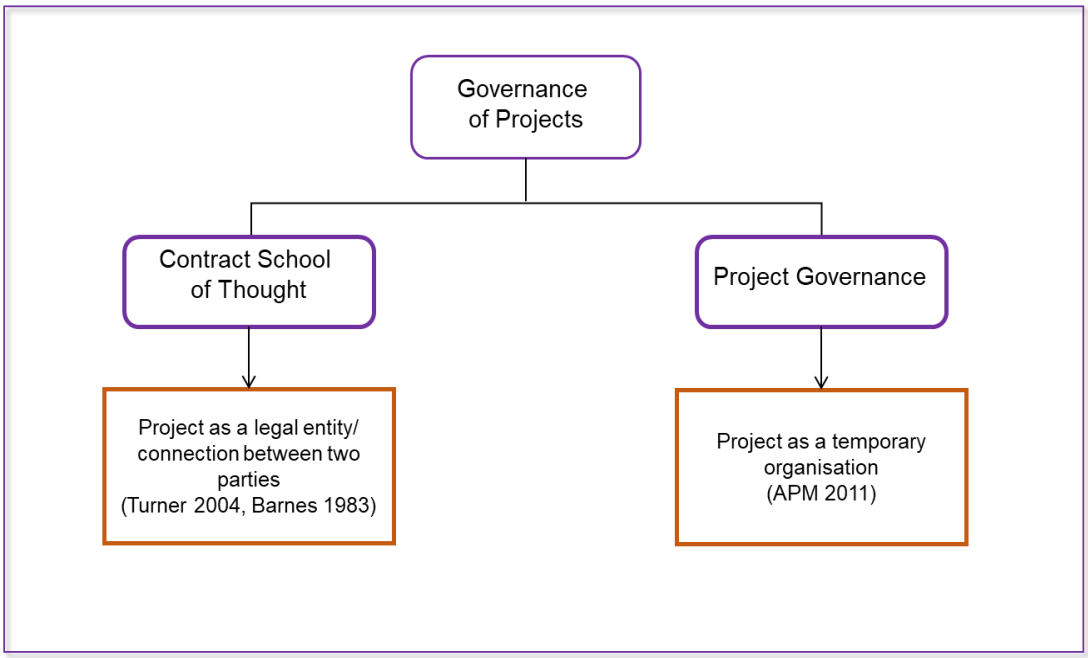

Fig. 3.6.2 Graphical representation of Governance of Projects Source: Author generated

3.6.3 Project Governance

Governance of Projects and Project Governance are terms that have been used interchangeably in the project management literature, and often the distinction is not made explicit (e.g. Patel, 2007; Miller and Hobbs, 2005). Arguably, the reason could be because project governance is a subset of GoP (Klakegg et al., 2009) and it is concerned about governing the project process (Winch, 2001). Winch (2010) also indicated that the extent of governance alternatives open to any organisation is limited by the organisational context within which it functions, implying that there is a relationship between governance regulation on a high and low level and a relationship between the project's internal procedures and the environment. Consequently, project governance has been defined in many ways:

(i) Performance and accountability in decision making and project management (Bredillet, 2008).

(ii) Comprises project practices, principles, documentation processes, communication and contract management (Ruuska et al., 2009).

(iii) The process of decision making and the configuration or structure that are put in place to facilitate this process (Garland, 2009).

(iv) A set of principles, structures and procedures for carrying out the management of projects (Ruuska et al., 2011).

(v) Muller (2011) provided a definition of project governance indicating that it is rooted in corporate governance. He stated that Governance, in terms of projects and project management, coexists within the corporate governance framework. It constitutes the value system, roles and functions, procedures and policies that enables projects to achieve organisational goals and foster execution that is in the best interest of all internal and external stakeholders and the organization itself.

(vi) Biesenthal and Wilden (2014) states that at the most fundamental level, project governance supports an organisation in coordinating its project goals in line with its strategy, realizing pre-determined project objectives and regulating performance. It provides a structure for organisational practices, decision making frameworks and project management techniques which facilitates effective project delivery.

(vii) Müller et al., (2014) defines project governance as governance of individual projects, stating that project governance is implemented at the boundary of the project with its parent organisation and other stakeholders

From these definitions, it is seen that project governance is concerned with the processes, procedures and principles used by an organisation through models and frameworks in order to accomplish project objectives. However, Biesenthal and Wilden (2014) claim that the precise nature of the project governance concept remains ambiguous due to the multiple definitions seen in the literature. Furthermore, a recent study by Ahola et al., (2014) reviewed and categorized project governance into two groups; project governance viewed as external to a project, and project governance viewed as internal to a project. However, the authors established that a prospective contribution to project management research, in the form of studies on general governance focusing more on the role and function of powerful stakeholders, like the government, can be established. In other words, studying project governance in relation to the role of the government would be beneficial for project management. Possibly, the Federal Government of Nigeria can contribute to PMP in NGCO through their participation in the governance of the project. Moreover, Fukuyama (2013) defined governance as a government's ability to make and enforce rules and to deliver products and services, arguing that capacity building and autonomy are relevant elements that make up governance.

The perception of Governance as structures and processes is recognised as applicable to the current research because the study seeks to explore the influences and relationship certain aspects of NGCO have on PMP. The OECD (2015) definition of governance is adopted for this study, which refers to governance as a set of *relationships between an organisation's management, its board and stakeholders, that provides the structure through which the objectives of the organisation are set, and the means of attaining those objectives by monitoring performance are established.*

The focus of this research is not on front end management of projects or project stakeholder's relationship per say, although the different concepts of governance are interconnected (Börzel et al., 2005) (See Fig 3.6.3). NGCO are government organisations that are hierarchical in nature, having clearly defined levels of authority. They also have a network structure due to the Traditional Design-Bid-Build (DBB) contracting method of procurement that is used in the Nigerian civil service (Okunlola et al., 2011). In relation to processes, the rigid standardised rules and procedures that are inherent in NGCO are enforced on workers and used to maintain administrative order. Contractors also typically go through a selection and approval process, as a means of control. However, studies show that there are no incentive mechanisms for the contracting system in Nigeria and in most African countries (Ogwueleka, 2015), despite the support for the theory which suggests that using incentives as a motivational tool in construction contracting relationship will enhance cooperation and minimise confrontation in project management (Tang et al., 2007; Bower et al., 2002).
Administrative processes and non-manipulating governance processes such as process of learning, also seem to be generally weak in NGCO (Ayee, 2005). Therefore, a possible interference exists between aspects of governance and practices within NGCO.

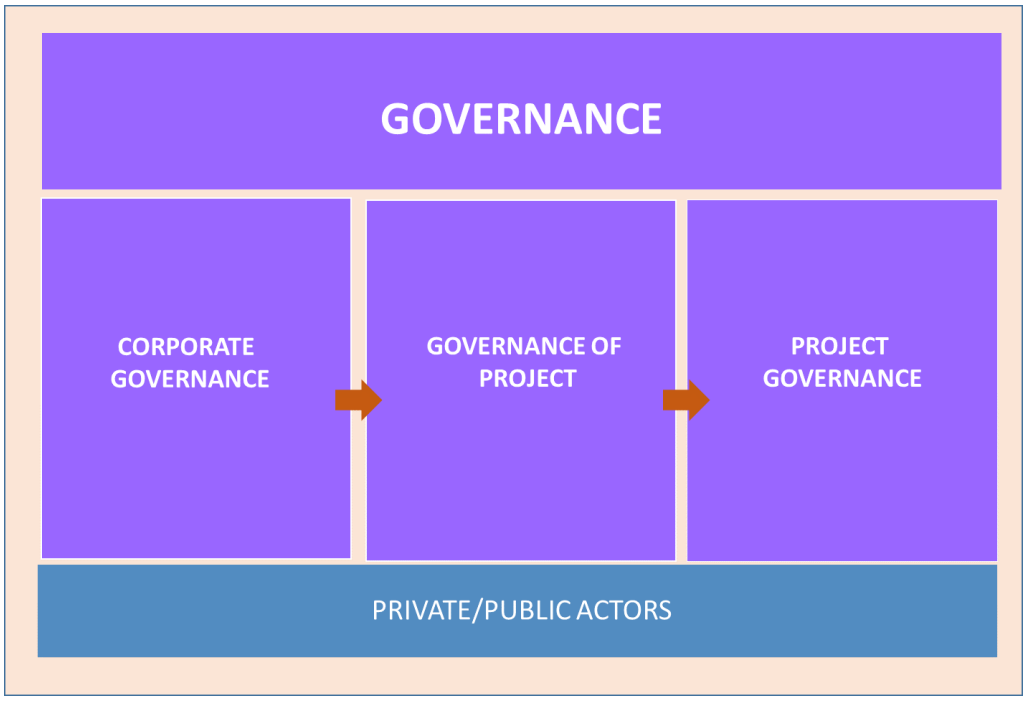

Fig. 3.6.3 Relationship between Governance, GoP and Project Governance

Source: Author generated

The notion of project governance emerged when researchers began viewing projects as a temporary organisation (Turner and Muller, 2003; Lundin and Söderholm, 1995). They argued that projects had different functions of time in temporary organisations compared to permanent organisations and therefore 'action' and 'activity' should be central in a theory of temporary organisations (Lundin and Söderholm, 1995). This proposal was developed by Ahola et al., (2014); Turner (2006); and Müller and Turner (2005), who discovered that seeing projects as a temporary organisation ushered in the concepts of Transaction Cost and Principal Agency theory associated with projects. In addition, mechanisms of project governance such as the use of Project Management Offices (PMO) or Project Support Office (PSO) (Aubry et al., 2007) have been associated with project management practice.

3.6.3.1 Transaction Cost (TC) Theory

Transaction cost (TC) theory is the study of an organisation through the lens of the 'transaction' as the basic unit of analysis (Williamson, 1981; 1979). Transaction costs are costs appearing during a transaction or contract while substituting ownership privileges in a business, or substituting responsibility in hierarchical structure firms (Vasiliauskienė and Snieška, 2010).

TC theory is concerned about contractual relationships and how contracts can be leveraged to support and reduce transactions costs. Studies on transaction costs related with projects have identified that project governance mechanisms remain the same in most organisations regardless of the project structure. In other words, the mechanisms used in project governance do not correlate to the type or form of contract (Turner and Keegan, 2001). Other studies recommend that the use of project management tools, techniques and competency enhances prompt decisions, effective operations and smooth communication, all of which helps in reducing transaction costs (Carey et al., 2006). Since transaction costs are likely to be minimized by the use of PMP, it can be argued that PMP will be affected if an organisation decides to prioritize other activities over PMP due to a high TC from other aspects of the project.

3.6.3.2 The Principal Agent (PA) Theory

Principal Agent (PA) theory refers to the ways and means that agents of an organisation influence the outcomes and behaviours of that organisation. In other words, it seeks to understand issues that arise when the agent carries out a job for an organisation (Mitnick, 2015). This relationship is called the principal agent relationship, and it involves one party (principal) delegating work to another (agent). According to the theory, an agent's interest never aligns totally with the interest of the organisation; there is always a conflict of goals or desires between the two parties (Shapiro, 2005; Eisenhardt, 1989a).

Typically, agents are more interested in maximizing profits, even if it is at the expense of the principal. They therefore employ various tactics of exploiting information provided to the principal, such as an agent's competence, honesty and often an exaggeration of their abilities. This is referred to as asymmetric information.

Asymmetric Information in the principal-agent relationship occurs in two ways, the first is hidden information, where the principal does not have adequate and sufficient information about the agent (adverse selection), and the second is hidden action, where agents pursue

their own interests with deviousness, and take advantage of the task for their own benefit (moral hazard).

The incompatibility of goals and purposes between the principal and agents lead to conflicts that have significant impact on the performance and achievement of an organisation's activities (Shapiro, 2005). With regard to NGCO, the incongruity of goals leading to problems of asymmetric information in PA relationship is linked to the traditional method of contracting still being predominantly used as a procurement method for building and construction within the Nigerian civil service and in many SSA countries (Okunlola et al., 2011). The Traditional Design-Bid-Build (DBB) method which separates design from the execution function has been asserted to be the main reason for conflicts and disintegration of processes between project phases. Separation of the design from the execution has a tendency for project construction to be thought of something similar to a predictable production function.

Although NGCO are basically traditional organisations, and therefore management practices adopted are fundamentally classical, it can be argued that the early management theories were focused on the internal working of the environment and did not consider the external environment. Therefore, conflicts and/or disintegration of processes are likely to impact on PMP in NGCO because of a lack of uniformity of management. Consequently, different mechanisms have been suggested as means of improving the PA relationship and minimizing the conflicts. Common methods used are aligning the interest of the agent with those of the principal, through incentives structures or by increasing and enhancing monitoring and control systems by delegates of the principal organisation (Laffont and Martimort, 2009). While the former mechanism (the use of incentives) is generally lacking in Nigeria and SSA countries, the typical contracting procedures/laws are used as a monitoring and control system to minimize the problems of asymmetric information and other relational conflicts in Nigerian government (Ogwueleka, 2015).

In addition, the use of a Project Management Office is a common and widely recognized control mechanism (Hobbs and Aubry, 2010; Aubry et al., 2007).

3.6.4 Project Management Office (PMO)

The Project Management Institute (PMI) defines a PMO as a body or entity in an organisation that is assigned different responsibilities related to the centralised and coordinated management of those projects under its domain (PMI, 2008). PMOs are regarded as a means to an end, not the end itself, and have been more specifically described as an organisational

body through which project management is deployed. (ESI International, 2011). Along the same strand, Desouza and Evaristo (2006) stated that a PMO acts as a central integration and a reservoir of knowledge which can be utilized to inform more effective and efficient project management. Furthermore, PMOs have been suggested by some authors as having a dynamic role in specific functions such as auditing (Huemann and Anbari, 2007) and human resource management in PBO (Huemann et al., 2007). Various function of PMOs are evidenced in the literature Crawford (2004), giving rise to different typologies of PMOs. However, the general attempt of describing types of PMOs is contingent on the level of organisation they are associated to (Andersen et al., 2007). These levels are:

(1) Project Control Office/Project Office: Manages large and complex individual projects and focuses on controlling and monitoring of schedules, resources, and other administrative parts.

(2) Unit Project Office: Can be used to manage individual projects, although the overall purpose is to incorporate all projects in a division or unit into project portfolios.

(3) Strategic Project Management Office: this type of PMO is located at the strategic level of the organisation and thus allows top level management to be involved in the selection and prioritization of projects.

Table 3.6.4 presents common typologies of PMOs identified in the literature.

Authors	Single-project entities	Multi-project entities		
Dinsmore (1999)	Autonomous Project team	Project Support Office	Project Management Center of Excellence	Program Management Office
Gartner Research Group		Project Repository	Coach	Enterprise
Crawford (2002)	Level 1 Project Control Office	Level 2: Business Unit Project Office	Level 3 Strategic Project Office	
Englund, Graham, and Dinsmore (2003)		Project Support Office	Project Management Center of Excellence	Program Management Office
Kendall & Rollins (2003)		Project Repository	Coach	Enterprise
Garfein (2005)	Project Office	Basic PMO	Mature PMO	Enterprise PMO

Table 3.6.4 Typologies of PMO Adopted from Hobbs and Aubry (2010)

While effective PMOs have common qualities, there are no standard approaches to their development. Aubry et al. (2010) state that PMOs are developed based on the organisational context, structural features of the parent organisation and the roles and functions it is designed to take on. This means that a PMO varies from organisation to organisation. Although PMOs emerged as flexible organisational forms to capture and disseminate good project management knowledge and processes within an organisation (Hobbs and Aubry, 2010), their range of activity has been extended to comprise analysis, information transfer and communication, controlling project's progress and monitoring the project activities of the agent (Desouza and Evaristo, 2006; Laffont and Martimort, 2009).

It is recognised that Project Management Practice (PMP) is deficient in NGCO (Ezeugwu, 2013; Anyanwu, 2013), which implies that monitoring control systems like PMOs are possibly non-existent. In addition, a lack of incentives and motivational techniques have also been identified in Nigeria Government Organisations (Ogwueleka, 2015) (see section 3.6.3). Therefore, there seems to be a gap within NGCO as administrators for government projects, in relation to available mechanisms used in monitoring and controlling agents.

3.7 Project Governance Framework

The implementation of project governance is often supported by a project governance framework which provides the project participants with an agenda, processes, decision-making patterns, techniques and tools for managing the projects (Müller et al., 2014). According to Klakegg (2010a), a governance framework for projects is a set of instructions, techniques and an organized structure established as imposing within an organisation, made up of processes and customary standards to ensure projects meets their objective. Therefore, by implication, they can also be used as control mechanisms for a principal-agent relationship.

The adoption of governance frameworks is common in developed countries such as UK, Australia and Norway. It emerged as a panacea for the constant challenges involved in executing public projects. These challenges include deficiency of project management practice leading to cost overruns, delay in meeting time scales, and poor project performance (Brunet and Aubry, 2016). Because projects are very often executed for the purpose of

delivering goods and services, some countries now adopt governance frameworks for major government projects (Klakegg et al., 2016).

Sub Saharan African Countries (SSAC) in general, have ineffective civil services, due to weak governance systems (Bräutigam and Knack, 2004; Dia, 1996). For example, the legislatures, interests groups and media have marginal influence, pay rate are unrelated to productivity, and laws are weak, due to the common practice of those making and enforcing laws being unable to be held accountable, in other words, being above the law. Furthermore, political and personal allegiance are rewarded more than merit, and thus the loyalty of government officials is to individuals rather than to the state (Dia, 1993. pg1).

Specifically, in Nigeria, consistent regulations, guidelines and principles for building construction are not available (Mbamali and Okotie, 2012). A study on the effectiveness of the project governance on government capital projects in Nigeria revealed a lack of an effective management system and structural framework for decision making process (Shuaib, 2016). Furthermore, Zuofa & Ochieng (2012) investigated the current trend of PMP in developing countries and observed that basic project management strategies were deficient in government organisations. Based on their findings they recommended that the Nigerian government should initiate measures that will sustain a project management culture, including establishing a well-structured project governance framework.

Although the original objective of a governance framework was to ascertain successful investments in a democratic government by concentrating majorly on the front end of the project (Christensen, 2011), other vital features of a governance framework emerged due to their relevance in achieving project delivery. Thus, features of a governance framework include:

- milestones or key performance indicators on public projects
- cost estimation and project scheduling processes
- explicit stated project goals, objectives and framework elements
- proper documentation

(Klakegg et al., 2016; Williams and Samset, 2010; Klakegg et al., 2008)

According to Morris (2013b) and Morris and Hough (1987), these features are regarded as aspects of project management. Therefore, it can be argued that PMP are being implemented through project governance frameworks.

In the UK, the key governance instrument is the OGC Gateway Process, which was set up to improve delivery of public projects and achieve value for money. The OGC Gateway basically comprises review processes that focus on procurement and acquisition procedures of other organisations in the public sector. These processes incorporate project management techniques to enhance the performance of projects. The integration of OGC into the Cabinet Office in 2010 made these Gateway processes mandatory and more influential, such that in 2011, a department called the Major Projects Authority (MPA) was introduced to operate in affiliation with the Cabinet Office, reporting regularly to Ministers (Klakegg et al., 2016; Williams et al., 2010).

3.8 PMP in Government Organisations (Past and Present)

Even though the use of governance frameworks is increasing in some countries (Brunet and Aubry, 2016), this was not the case some decades ago. Discussions about project governance are relatively recent (Ahola et al., 2014) and the reasons for its emergence was to evaluate why projects existed and to understand the mechanisms used in managing projects when viewed as a government administrative and complex problem (Söderlund, 2011). Prior to this period, Project Management practice was emphasized more in the industry than in government organisations (Opfer & Kloppenborg, 2001). The study of Betts and Lansley, conducted in the 90s, identified poor project management practices existing in government organisations, and concluded that public sector project management received insufficient attention in the project management literature (Betts and Lansley, 1995 pg 212). This finding was validated a decade later when Reily (2005) recognized that poor project management practices contribute about 30% towards project failure in public organisations. Correspondingly, another study by Price Waterhouse Cooper identified that the government sector had the lowest project management maturity levels compared to others such as the Engineering and Information Technology sectors (PWC, 2004), and in a subsequent survey in 2012, the results showed that 50% of the reasons for project failure in government organisations resulted from inadequate project management practice (PWC, 2012).

Although the utilization of Project Management in government organisations (GO) often experiences diverse challenges (Rosacker and Rosacker, 2010; Wirick, 2009) due to the nature of the environment they are situated in (Klakegg et al., 2015), generally, there has been an increase in its application in recent years in the western nations. In countries such as Australia, Norway and the UK which share many culture similarities (Fortune et al., 2011),

there is a substantial improvement in project management practices across government projects (Cabinet Office, 2015; Klakegg et al., 2015). For instance, the latest report in Norway showed that on an average, 80% of executed projects now fall within the approved cost plan (Samset and Volden, 2013), whereas in 1999 an assessment of eleven public projects showed that the total cost was overrun by 84% on project budget (Berg et al., 1999, cited in Samset and Volden, 2013). In the same way, in 2011, the UK National Audit Office reported that two thirds of public projects incurred cost overruns, exceeded timescales and performed poorly, but the MPA recently indicated that nearly two thirds of projects being delivered are estimated to be completed within the specified time frame and within budget (Major Projects Authority, 2015; NAO cited in Brunet and Aubry, 2016).

However, Klakegg et al. (2016) suggest that even though some nations seem to have a record of success in managing government projects, there is still need for better understanding of how Project Management can be enhanced in relation to government projects due to the complex nature of the environment. This suggestion is as a result of the variation of different contexts.

Contrary to developed nations, developing countries in SSA struggle to understand and implement project management practices in government organisations (Ika, 2012; Rwelamila and Purushottam, 2012; Rwelamila, 2007 and Muriithi and Crawford, 2003), with the expectation of deriving the benefits of delivering projects on time, on budget, within scope and delivering value to the public. The challenges of developing PMP in GO is an increasing area of concern in SSAC, and various studies recognising the issues of PMP have been conducted, revealing that the challenges entail much more than lack of Project Management knowledge and skills (See Appendix 1 for a list of reviewed articles). These continuing challenges have been referred to as “African Project Syndrome" (Rwelamila and Ssegwa, 2014), because of their generic nature of social –cultural, economic and political conditions across SSA (Muriithi and Crawford, 2003).

Generally, in GO, the effective practice of Project Management is argued not to be entirely within the control of the project manager and the project team (Crawford et al., 2008). In addition, the elements involved in utilizing Project Management to achieve the organisation’s goals and objectives are not independent components (Too and Weaver, 2014). A major reason is the bureaucratic nature of government organisations, which imposes a rigid hierarchical system, whereby senior managers at the higher end of the ladder delegate rights and responsibility for specific activities to personnel at the lower end and use surveillance and quality procedures to make certain these activities and delegations are performed

properly. Thus, successful project management activities are usually influenced by contextual issues within the disposition of senior and executive management (Lechler and Thomas, 2007). Consequently, factors such as a lack of governance mechanisms and support from management are identified as additional problems in establishing PMP, since practices cannot be effectively enhanced or promoted in the absence of adequate and appropriate managerial support (Crawford et al., 2008; Sargeant et al., 2010).

According to Aubry et al., (2007) and Srivannaboon and Milosevic (2006), in order for an organisation to develop and implement effective PMP, the right structures have to be defined, with roles and responsibilities assigned within those structures and then making certain that there is an effective management system operating within the structure. This proposition is being supported by APM (2011), which similarly affirms that, to ensure effective PMP in GO, the governing board and the organisation's management need to have structures that are capable of generating support for project managers/practitioners.

3.9 An Overview of Sub Saharan Africa Countries (SSAC)

Sub Saharan Africa (SSA) is occasionally seen as a unit consisting of 50 countries (although, the inclusion/exclusion of some countries and areas such as Sudan, Indian Oceans Islands, Somaliland and Puntland are debatable) (Rivera-Santos et al., 2015). Most of these countries gained independence from colonial rulers in the late 1950s and 1960s (Heidhues, 2009) explaining the continual colonial influences on the Sub Saharan African institutional environment (Hearn, 2007; Muriithi and Crawford, 2003. It is recognized that some differences exist across and within SSAC, such as ethnic group individualities and rates of gross domestic products (GDP). For example, high GDP growth rates pertain to specific countries such as Ghana and Liberia whose rates grew by 14.4% and 9.4% respectively (World Bank, 2012). However, in general, countries in SSA are characterized by high levels of poverty (IMF, 2013), corrupt government (Transparency International, 2012) and poor building construction and market mechanisms (World Bank, 2012). Literature also broadly agrees that slavery, colonization and postcolonial relationships have had significant implications for SSAC (Hearn, 2007), such that even after independence, colonial institutions were persisting. For example, state boundaries that were set by the colonizers left many ethnic groups spread across many countries while other groups were left to cohabit in the same country despite their differences (Michalopoulos and Papaioannou, 2012). It is believed that these variations of pre-colonial ethnic institutions have led to substantial repercussions for the current economic performances of SSAC and have influenced

government administration development in these countries (Adegboye, 2013; Michalopoulos and Papaioannou, 2012).

Many SSAC share parallel economic, social and political characteristics, including extensive political repression, economic crisis, swift social change and uneven industrialisation (See Table 3.9) which have led to widespread economic, social and political issues (Brennan, 2011; Leonard, 1987). These socio-political and economic elements play a relevant role in determining the models and values about management and organisations (Muriithi and Crawford, 2003) and consequently impact on how project management is practiced in organisations (Bredillet et al., 2010). For example, according to House et al., (1999), and Hofstede (1984), in African cultures, open criticism is not common and therefore a project worker will rarely disagree with their superiors/senior managers. Another similarity within African culture is the value of the social exchange system, which places moral pressure on African leaders to fulfil obligations to poorer people and/or relatives, in addition to the heavy politicized environment of government activity (Ayee, 2005; Leonard, 1987).

Social Conditions	**Economic Conditions**	**Political Conditions**	**Internal/External Mechanisms**
Primary allegiance is to families, clan and ethnic groups. Therefore, individuals are only committed to organisations only to the extent that their main allegiance are recognised (Muriithi and Crawford, 2003).	Real wages, security and stability of the formal sector employment have declined. Income gap between rural and urban workers populations has decreased and income distribution has generally deteriorated (Muriithi and Crawford, 2003).	Most Sub Saharan African countries are weigh down with a hybrid and detached institutionalised system (heavily bureaucratic) which constitute formal institutions (Dia, 1996).	Low training and capacity development mechanisms (Ayee, 2005) Low legislature-based control and Ombudsman-like institutions (Ayee, 2005)
Africans have a high extent of their patronage responsibilities to poorer relatives and	Major cause of economic decline is the corruption which permeates almost every level of governmental	Political institutions are weak and unstable and depend heavily on patronage (Muriithi and Crawford, 2003)	Severe limitation of conventional management theories (Mbigi, 1994).

disadvantaged rural communities (Leonard, 1987) An individual's success is judged not only in monetary terms but in fulfilling their moral obligations to their family, clan and ethnic group (Muriithi and Crawford, 2003)	activities (Kempe and Chikulo, 2000). Organisations, particularly government, are hardly functional because majority of people form civil servants to private employees struggle to complement formal incomes by running informal trades (Muriithi and Crawford, 2003).	Weak rule of law, an absence of accountability and tight controls over information (Bräutigam and Knack, 2004)	No performance-based compensation internal mechanism (Ayee, 2005)

Table 3.9 Characteristics of Sub Sahara Africa countries Source: Author generated

Due to their colonial heritage, formal management development in SSAC owes much to Western management theory and practices (Kiggundu, 1991). Countries in SSA adopted the civil service systems of administration inspired by the Weberian bureaucratic model, from their colonial masters (Caulfield, 2006).The Weberian bureaucratic model, represents the Max Weber theory of Management, developed form Taylor's scientific management theory, which emphasises rigid decision making in order to accomplish efficiency, calculability and predictability, a formal explicit hierarchical structure of power and authority and a rational systematic division of labour (Jain, 2004). This management of bureaucratic control, often referred to as traditional government bureaucracies (Itika, 2011) was established in Western countries and the United States in the late 19th century to create efficient organisational and stable structures while facilitating neutrality in the decision-making process (Jain, 2004; Leonard, 1987). They were designed for administering impartiality and equity. However, since the traditional government bureaucracy was found unsuitable in meeting challenges brought about by mass delivery of social services (Itika, 2011), new administrative techniques, which included the introduction of a market friendly system and innovative approaches to improve product and service delivery, such as NPM was initiated (Pollitt, 2007; Ayee ,2005). Subsequently, most countries in SSA have adopted the NPM approach.

Nigeria is classified as a Sub Saharan African developing country (World Bank Group, 2015) and with a GDP estimated at £400bn it is believed to be Africa's largest economy (The Guardian, 2014). Despite the disparities between the 6 geo-political zones of the country (Eze et al., 2014), Nigeria in general cherishes its cultural heritage, particularly the intangible aspects such as work practices, knowledge and skills (Ajayi, 2009). However, due to the scarcity of project management studies conducted in Nigerian government organisations, the literature review was extended to include corresponding investigations from Sub Saharan Africa Countries.

It is acknowledged that there will be some idiosyncrasies or peculiarities in how some social, cultural and economic features are represented in certain countries. Nevertheless, the context in which the current research (exploring elements that impact on PMP), was carried out will offer relevant groundwork for understanding existing challenges, and in addition provide a basis for future research that can be modified to suit another context.
To gain a broad understanding of the 'African Syndrome' (i.e. issues and challenges affecting PMP), a systematic review was conducted on scholarly articles that have investigated PMP in a SSAC.

3.9.1 Review of PMP in Government Organisations of SSAC.

Even though Project Management seems to have gained popularity in Sub Saharan African countries in recent years because of its recognition as a means of driving the business goal and economic development agenda (Ofori, 2013), its practice is still in its early stage of development in the region (Bredillet, 2013; Ika, 2012; Abbasi and Al-Mharmah, 2000). Consequently, a low number of articles that have investigated Project Management Practices in government organisation of SSA were identified. This low number echoes the assertion by Zoogah & Nkomo (2013) and Julian and Ofori-Dankwa (2013) that Sub Saharan Africa is seldom studied in management literature. For instance, Zoogah & Nkomo (2013), cited in Rivera-Santos et al. (2015), reviewed 80 business and management journals covering a span of 61 years (1950 to 2011) and identified only 216 articles focusing on Africa. Consequently, requests for more empirical research in Africa have been recommended (ibid)

The use of PMP in Sub-Saharan Africa is faced with various issues that are arguably interrelated. In South Africa, challenges of PMP include:

- Unsuitable organisational culture, lack of self-motivation and empowerment, inadequate documentation and transfer of experience (Emuze and Smallwood 2013)
- Lack of financial and managerial skill, lack of technical skills, absence of proper filtering mechanisms for contractors (Rwelamila, 2007)
- No organisational support for project management, inadequate financial and human resources (Van Zyl, H., 2007).

In Nigeria, challenges of PMP identified are:

- A lack of in-depth knowledge of project management in public organisations (Olateju et al., 2011)
- Incompetence of project practitioners and contractors (Anyanwu, 2013)
- Political and economic uncertainties (Zuofa, 2012)

Correspondingly, in Ghana and Botswana respectively, PMP challenges include:

- Low commitment, competency and coordination of senior management (Ofori, 2013), and
- Insufficient authority by a project manager in decision making and lack of a Project Management Office (Tembo and Rwelamila, 2007)

A literature review on Project Management Practices in developing African countries by Kissi and Ansah (2014) identified that in general, constraints to the growth of PMP include lack of project management concepts and knowledge by professionals, high bureaucratic interference, political and economic issues and a lack of appropriate project management software. Although the study by Kissi and Ansah (2014), was supposed to focus on developing African countries, the summary of articles included other countries outside Africa and identified 18 articles in total.

Another review of PMP in developing countries by Lawani and Moore (2016) categorised 38 identified factors impacting on PMP into 5 groups. Although this study focused on developing countries in general, identifying 17 articles in total, most of the countries reviewed (13 in number) are studies carried out in Sub Saharan Africa (See Appendix 1). The latter study: a systematic review of PMP in GO of developing countries by Lawani and Moore, is a point of departure for this research.

A significant observation from the review on PMP in GO occurring in developing countries was that previous studies that investigated problems and challenges of project management applied a reductionist approach. That is, elements affecting PMP were described in terms of a singular aspect in relation to the organisation. In addition, most of the investigations adopted a positivist methodology which does not consider the rich interpretations of contextual attributes required for understanding and enhancing a concept. The use of a reductionist approach is argued to be inadequate in analysing complex environments, of which a government organisation is one due to the many interrelating parts (Christensen and Lægreid, 2010). Furthermore, Smyth and Morris (2007) asserts that a positivist methodology does not support an understanding of contextual characteristics relevant for specific accounts and the development of Project Management. Lawani and Moore (2016) proposed that, to advance PMP in government organisations, a better understanding of the relationship and interconnectedness between elements in the organisation should be obtained through a more integrative and holistic approach. This suggestion is congruent with assertions of Morris (2013a) and Smyth and Morris (2007).

The 38 elements identified from the literature review (See Appendix 1) were categorised into 5 groups (Table 3.9.1):

- climate of the organisation,
- project management knowledge,
- project manager expertise,
- internal control processes of the organisation and
- issues related to the contractor

(Lawani and Moore, 2016)

	Factors	Reference
1	**Factors related to the Climate of the Organisation:** One-directional communication mediums, non-inclusive decision making within project teams, Good leadership, senior management support/commitment, political and economic uncertainties, unpatriotic behaviour of some policy makers toward the award and planning of projects, bribery and corruption, lack of leadership/government commitment, rigid organizational structure, organisational support for project management, change in authorities.	Emuze and Smallwood (2013), Ofori (2013), Zuofa (2012), Ogege (2011), Olateju et al. (2011), Van Zyl (2007).
2	**Factors related to the Internal processes of the Organisation:** Deficiency of internal control systems, In-adequate documentation, Inadequate monitoring and feedback, obligation to standards and regulations, inadequate management skills and tools, lack of project management guidelines, complicated tendering procedure, improper scrutiny and absence of a filtering mechanism for contractors, inadequacy of human resources. Limit of existing practices originally based on policy of organisation.	Emuze and Smallwood (2013), Babatunde and Dandago (2014), Anyanwu (2013), Tembo and Rwelamila (2007), Rwelamila (2007).
3	**Factors related to Project management knowledge:** Project management skill shortage, lack of understanding of the fundamentals of project management, inappropriate staff motivation and empowerment, usage of appropriate technology, poor planning and scheduling of project activities, slackness in preparation of stakeholder management plan, human development plan, project communication management, risk management plan.	Emuze and Smallwood (2013), Ofori (2013), Anyanwu (2013), Zuofa and Ochieng (2012), Olateju et al. (2011).
4	**Factors related to Contractor:** Incompetent contractors on the use of project management tools, stakeholders' awareness of project management, contractor's limited knowledge of project management.	Dada (2013), Ofori (2013), Anyanwu (2013), Ogege (2011), Ahadzie and Amoa-Mensah (2010)
5	**Factors related to Project Manager:** Incompetence of project management practitioners, lack of project management training, project manager's lack of proficiency, lack of project professionals, lack of authority/power of project manager in decision making.	Ofori (2013), Anyanwu (2013), Zuofa (2012), Ogege (2011), Tembo and Rwelamila (2007)

Table 3.9.1 Category of factors that impact on GO's in Sub Saharan Africa.

Adapted from Lawani and Moore (2016)

For the current research, a comprehensive literature review on management and organisational concepts reveal that aspects of governance, organisational culture and climate (section 3.3.3, 3.3.4 and 3.6) associate with how project management is practiced in an organisation. Therefore, factors that were identified in the previous study (Table 3.9.1) were reassessed as follows:

A key observation is that the category, 'climate of the organisation' was defined to include elements of governance and elements existing in the internal environment of the organisation. From the review of organisational culture and climate, the climate of an

organisation focuses on internal factors that fall under the manager's control. Therefore, it can be inferred that governance falls within an organisation's culture because it determines the value and belief system of the entire organisation and management has no control over its functions. Pinto (2014) states that the primary objective of governance is providing both the structure through which the purpose of the organisation will be achieved, and the means for achieving those objectives through a predetermined manner of monitoring/controlling performance. Hence, elements such as unpatriotic behaviour of some policy makers toward the award and planning of projects, rigid organizational structure, bribery and corruption and lack of leadership/government commitment placed under the 'climate of the organisation' category, ideally should be elements categorised as challenges under '**factors related to governance**'.

A second observation is a consequence of the first observation, and thus, asks the question, "so what then is included in the climate of the organisation"?

Based on the review of NPM, and the highlighted similarity between project management and aspects of NPM, the factors related to the internal process of the organisation and those related to project management and the project manager fall within the climate of the organisation, which is described as the way an employee understands and perceives organisational policies, practices and procedures in relation to their behaviour and effectiveness (Schneider et al., 2013). Based on discussions of organisational climate (section 3.3.4) viewing climate from a dominant specific perception (Zohar and Hofmann, 2012), would imply that the tools and techniques, procedures, processes and skills related to the management of projects in an organisation falls under a '**project management climate'**, because project managers and practitioners will have a shared perception of project management practices. Furthermore, the climate of organisation is believed to be under the influence or control of managers (Ostroff and Schmitt, 1993).

The last category; factors related to the contractor, falls outside the organisation. Although it is suggested that understanding an organisation's culture involves acquiring knowledge on both its internal context and the external national culture (Schien, 2010, Willcoxson and Millett, 2000), based on principal agency theory, these factors are external to the organisation. A substantial reason for including the factors related to the contractor in the external environment is because the goals and interests of contractors are often different from that of the organisation owning the project (Mitnick, 2015; Shapiro, 2005). According to Post (1986), an entity that holds a varying function with corresponding disparate values and expectations is not located within the organisation. Therefore, '**factors related to the**

contractor' (contractor's lack of project management knowledge, stakeholders' awareness of project management and incapability of contractors on the use of PM tools and methods) are elements within the contractor's own organisation.

Table 3.9.2 shows a re-classification of factors impacting on PMP in GO of Sub-Saharan African Countries. This grouping is based on the current literature review and analysis of Governance, Organisational Culture and Organisational Climate theories.
Table 3.9.2 is a developed form of Table 3.9.1

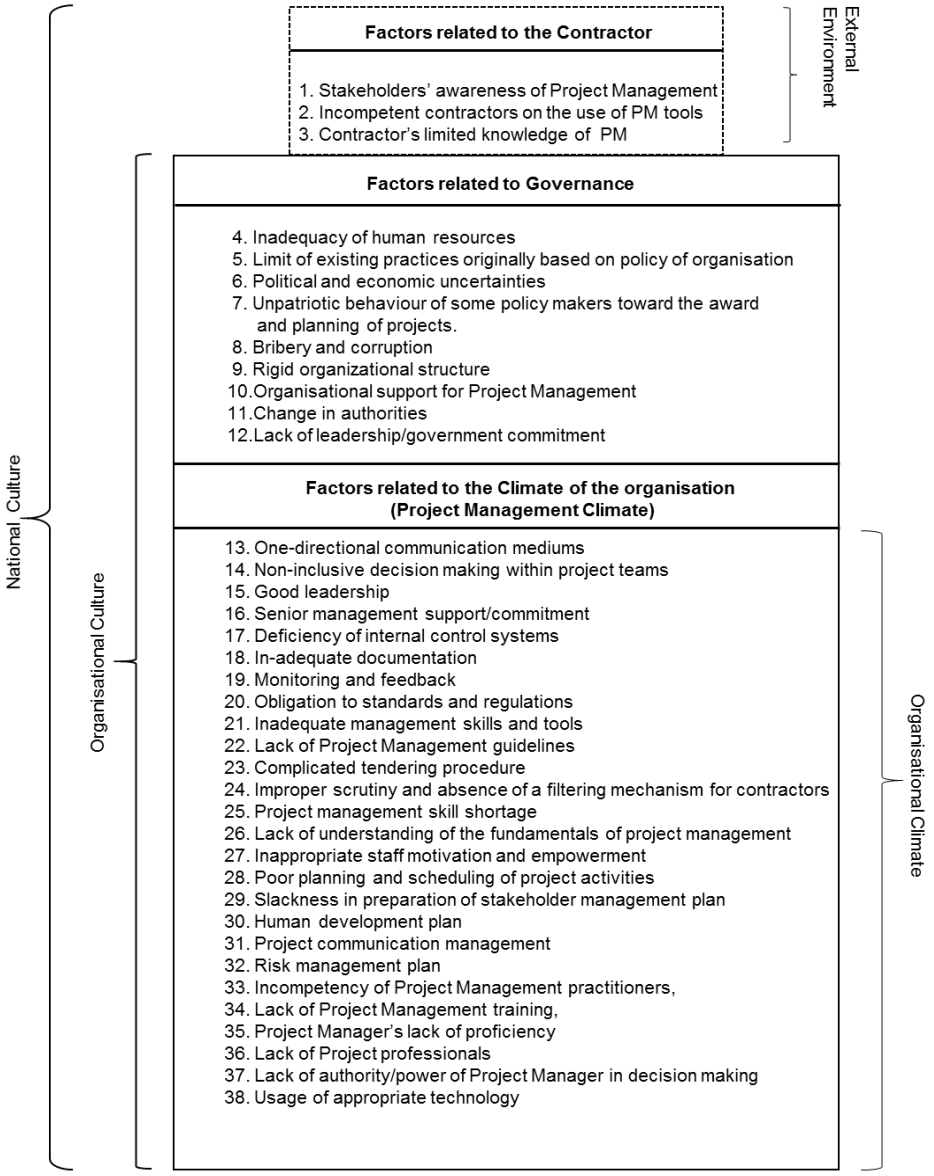

Table 3.9.2 Re-categorisation of factors impacting on PMP in GO of SSAC

Source: Author

3.10 Summary of Chapter

In this chapter, organisational theories were reviewed to gain insight into the structure and agency of NGCO. Key concepts underpinning these theories were discussed in relation to NGCO, and a review of PMP in GO of SSAC was conducted.

The factors that were identified from the literature review were subsequently re-categorized based on the discussed concepts underpinning management/organisational theories.

CHAPTER FOUR: Underpinning Theory and Development of Research Framework

If all you have is a hammer, everything looks like a nail - Abraham Maslow

A systems approach begins when you first see the world through the eyes of another – Churchman

4.0 Chapter Introduction

This research aims to apply a holistic approach in explaining the structural components impacting on Project Management Practice (PMP) in Nigerian Government Construction Organisation (NGCO). Consequently, system thinking is utilised as the main theory underpinning the study. This chapter provides justification for using the chosen theory. The theory is first elucidated exclusively and then explained in relation to organisational theories. Subsequently, the factors impacting on PMP in SSAC that were identified from the literature review were mapped into a system model. Thus, the resulting framework is developed based on corresponding constructs from the literature reinforced by concepts in System Thinking.

4.1 Definition of a System

In scholarly literature, a system is defined as a collection of interacting, interrelated, or interdependent parts/elements that form a complex and integrated whole. These elements are constantly impacting on one another directly or indirectly to maintain their activity and subsequently to achieve the aim of the system (Arnold and Wade, 2015; Anderson and Johnson, 1997). The Online Business Dictionary, likewise, defines a system as an organised, purposeful structure consisting of interrelated and independent elements otherwise called components, entities, factors, members or parts. (Business Dictionary Online). The term 'system' normally refers to a multifaceted whole having related parts. Systems are commonly classified as either open or closed and they can either be automated, biological or a social system. A system is fully closed when it cannot make 'responsive' decisions to changes in the environment and/or with other systems. That is, it is not capable of responding to events and incidences outside the system, and is therefore predictable. Fully closed systems are difficult to find. A mechanical system such as an internal combustion engine can be regarded as a fully closed system if it is not constantly topped with fuel at some point to keep it operational. This means that the engine will stop after a while if no interaction occurs. Therefore, it is usually inevitable for a structure to be incapable of responding or interacting with other parts. Where there is a 'response' to the environment and/or other systems, an open system exists. Open systems emerged from a biologist perspective of observing

ecological systems (Von Bertalanffy, 1950), as it was discovered that internal and external elements of a system were all interconnected and had a mutual influence. Open systems respond to events and incidences outside the system. These events occur in what is recognised as the system's external environment. Living systems and business organisations are common examples of an open system (Walker, 2015).

When open systems reach their limit in terms of capability of responding to changes in their environment, they are regarded as fully open systems. According to Moore (2008) fully open systems are likely more difficult to find than a closed system; a common cited example being God. However, there are some open systems that adapt to changes by internally adjusting their elements so that they remain static. Such systems are located in an environment and protect themselves from having to adapt fully to that environment, i.e. they maintain the internal states of a system. These systems are referred to as homeostatic systems (Walker, 2015). Examples are a thermostat and internal body temperature.

In general, everything is a system, and what constitutes a system often depends on how an individual think about a system (Meadows and Wright, 2008). The constant interchange of input and output with the environment makes the study of open systems more unpredictable and challenging, as closed systems do not tend to behave in unexpected ways.

4.2 History of System Thinking Theory

System thinking theory or System approach, like most theories in literature has undergone several developments. There exists a wide range of system literature in several domains, and discussions are usually within a theoretical or philosophical purview and/or practical application. System Theory was developed in the early 1920s in the traditional disciplines of biology, psychology, and quantum physics (Mingers, 2014). Early accounts of System Theory began with the concerns of scientists and biologists who argued that the reductionist way of thinking, and the resultant practices, did not explain phenomena in association with the whole nature of organisms. Basic expressions used in discussing about systems include parts/whole/sub-systems, system/boundary/environment, structure/process, hierarchy of systems, positive and negative feedback, open/closed systems, holism and the observer. According to Mingers and White (2010); Flood (2010), and Von Bertalanffy (1950), generally, System Theory takes account of

i) Application of a purposeful and relational criterion to study a phenomenon holistically, which is contrary to reductionism (which focuses on simple elements).

ii) Acknowledging that the relationship or interaction between components is more relevant than the individual components, in understanding and defining the system's behaviour.

iii) Acknowledging different levels of subsystems, and the relationship between levels.

iv) Recognising that individuals in a social system will behave accordingly with different purposes or reasoning.

The idea of System Thinking has given rise to contemporary system approaches (See Table 4.2) amongst which the notable ones are: cybernetics, hard and soft systems, systems dynamics, and emerging developments such as chaos and complexity theories (Mingers and White, 2010). Each of these are discussed below;

	System Thinking approaches	**Area of Focus/Application**	**Key ideas**	**Major Researcher(s)**
1	Cybernetics	Communication, information processing and control	Self-organisation, autonomy, feedback cycles	Ashby (1961), Beer (1985)
2	Hard and Soft System	Hard system focuses on dealing with issues when designing complex engineering projects. Soft system looks at identifying issue in human /social organisation	Successively implementing actions in a specific order. A phenomenological approach in identifying problems.	Bertalanffy (1950), Meadows and Wright (2008). Checkland (1981).
3	System Dynamics	Understanding the nonlinear behaviour of complex systems	Modelling relationships between system components with the use of software such as i-think and powerism	Forrester (1997)
4	Complexity Theory	Unstable, unpredictable behaviour of systems.	Systemic properties and relationships. Non-linearity	Kauffman (1996), Walby (2007)

5	Chaos Theory	An approach to complexity theory, that focuses on the predictability of organisations i.e. determines an order in complexity	'Butterfly effects', Predictability patterns of behaviour.	Kauffman (1996), Lorenz (1972)

Table 4.2 Basic approaches to System Thinking Source: Author generated

4.2.1 Cybernetics

Cybernetics focuses majorly on communication and control. It is concerned with how information flows through a system and how the system uses that information to regulate itself (Ashby, 1961). This implies that information inputted into an organisation can influence the way in which it responds to changes its environment.

In first order cybernetics, attention is given to the mechanisms of the external world without interference from the observer and is applied in areas such as artificial intelligence, robotics, biomedical systems etc. A move to second order cybernetics occurred when it became clear that what is being observed is not just a reflection of the external world, but an active construction of the observer (Fell and Russell, 2000). The principles of cybernetics were first applied to management and operation research by Stafford Beer, as he argued that it could be applied to all kinds of organisations, and the interactions within organisations, with the goal of making them more efficient (Beer, 1985).

Major themes on Beer's work on management cybernetics are communication and participative management. A key consequence of management cybernetics is the concept of *autopoiesis,* which is explained as the process by which a system, institution or organism creates and replaces its own components. Autopoietic systems are self-organising as they have the ability to continuously regenerate and produce the system's components by their interactions and transformations (Maturana and Varela, 1991).

4.2.2 Hard and Soft System Thinking

The idea of hard systems thinking was mainly used in systems engineering for tackling problems when designing complex projects. The methodology used in hard systems is to begin with the problem or opportunity, and then implementing actions successively in a specific order, in order for the results to emerge (Burge, 2015). An example being the Six Sigma approach. However, it was discovered that applying a hard systems approach to human institutions and management issues did not work properly. This was clearly due to the significant difference between the non-linear nature of humans and the linear nature of machines. This discovery led to another development in Systems Thinking called soft systems thinking which was fully expressed by Checkland (1981). In his practical approach, which is referred to as a soft system methodology (SSM), Checkland argued that in a human organisation, different stakeholders have different views on what makes up the system, the function of the system and the problem, therefore a phenomenological approach was seen as a practical and pragmatic one in identifying the solution (Checkland and Poulter, 2006, Checkland, 1981). A set of tools such as Rich Picture, CATWOE and Formal Systems Model were developed to assist users in SSM (Checkland, 1981*).* SSM is the most extensively used and applied application of systems thinking (Monat and Gannon, 2015; Van De Water et al., 2007).

4.2.3 System Dynamics (SD)

System Dynamics (SD), which simply means the changing behaviour of systems, is specifically associated with the oeuvre of Jay Forrester at MIT in the 1960s (Mingers, 2014). Forrester was concerned about the dynamic behaviour of entire organisations such as populations in towns and business supply chains, and debated that the behaviour of such systems, irrespective of the level, emerged from underlying structures of flows of individuals and resources, controlled through information and feedback loops (Forrester, 1997; Forrester, 1970). He modelled the relationships between the different system components using differential equations run on a computer to demonstrate the dynamic behaviour of the system over a period of time (Mingers and White, 2010).

The development of System Dynamics (SD) included powerful and easy to use software programs such as I-think and Powerism, which were lacking within initial SD works. An advocate of System Dynamics is Peter Senge, who, in his book, Fifth discipline (1997), supported the rudimentary ideas of SD as a subset of the ‘learning organisation’.

4.2.4 Complexity Theory vs Chaos Theory

Although these two theories are distinct, they are often discussed in relation to one another (simultaneously) in the literature because of their interrelatedness, which is based on the assumption that chaos is a behaviour found in complex systems (Necsi, 2011). Complex and Chaos theory were developed between the 70s and 80s in the hard science disciplines such as biology, chemistry, mathematics and economics where it challenged contemporary belief that the behaviour of systems is generally stable, fairly predictable and that changes in a system are likely to be linear (Mingers, 2014; Kauffman, 1996).

Both Complexity and Chaos theory, however showed that systems permit for more than one set of interactions within its parts or other levels without maintaining a nested hierarchy and thus displaying instability, unsteady behaviour and being sensitive to initial conditions (Walby, 2007). However, complex systems are characterized as having many elements that are partially but not entirely independent. Thus, the focus of such a system is on the structure, dynamics of the structure, and their interaction with their environment. On the other hand, the study of chaotic systems focuses on the dynamics of the values of a few elements; it is regarded as an approach to complexity theory that focuses on the discovery of order within seeming disorder (Necsi, 2011; Walby, 2007). In the words of Crossman (2017), Choas theory is not about disorder, but very complicated system of order, implying that unstable, unpredictable systems tend to drift to a state of dynamic stability. The ‘butterfly effect’ study by Lorenz (1972), has become a popular metaphor which describes chaos theory.

A general theme that runs across all the approaches above is the perception of a system as a whole entity rather than its individual parts. The systemic view claims that we cannot fully comprehend or understand a phenomenon merely by breaking it up into rudimentary parts and then restructuring it: rather we need to apply a holistic vision to underscore its operations (Mele et al., 2010). Therefore, the various approaches described above basically apply different ideas in investigating a system, but achieve this by taking all parts of the system into consideration.

NGCO are indisputably open systems, though not fully open. They engage with their environments by obtaining information required to transform materials/ resources into desired outputs such as social amenities, physical goods or a set of operational activities. They also form contractual relationships with external agents. There are components within NGCO that control and regulate the organisation such as customary rules and procedures,

and established structures in order for the system to function. However, the problem is that NGCO are traditional organisations and are slow in adapting to changes in the environment, hence, internally adjusting their components, such as adopting PMP becomes a challenge. According to Harris et al. (2003) and the National Defense University (2011), these organisations tend to preserve their state due to their resistance or slow adaptation to change. The extent of change in an organisation, ranges from relatively minor ways of doing things to entirely different approaches or procedures, such as the application of PMP in NGCO.

As a system that is not fully open, NGCO uses sets of processes, rules and other components in the environment to deliver building and construction projects for the government of Nigeria, while it attempts to control, monitor and regulate the organisation and its environment. Arguably, current processes and standards within NGCO are not appropriate for project delivery. PMP contributes to the successful delivery of construction projects (Basheka and Tumutegyereize, 2012; Besner & Hobbs, 2006), and it has been acknowledged as an important approach for organising, managing and executing government projects (Morris et al., 2012). However, its use is still quite limited in NGCO. This study therefore sets out to explore the components of structure and agency that impact (negatively or positively) on PMP in NGCO, and explain their causal relationship using a Formal System Model.

4.3 Definitions of System Thinking

Many definitions of Systems Thinking can be found in the literature, with each having a different focus or interpretation, which often leads to confusion (Monat and Gannon, 2015). A reason for the varied view is associated to the common story of the six blind men and an elephant, usually used to illustrate the concept of system thinking. The story unfolds, explaining that six blind men stood beside an elephant wondering what it was and how to describe it. Each of the blind men gave a different description of the animal based on what part he touched or held. This story is usually found at the beginning of most systems theory books, illustrating the concept of the different parts versus the whole. (e.g., Wren and Bedeian, 2009, Meadows and Wright, 2008).

The following section looks at the different definitions of Systems Thinking.

The first group of definition is considered to be the introductory works of System Thinking (Monat and Gannon, 2015). A few of the notable definitions are:

1) Richmond (2004) describes Systems Thinking as the art and science of making dependable inferences about behaviour by developing an increasingly deep understanding of the underlying structure. He demonstrates system thinking through the application of computer software packages, such as, i-think and Stella modelling software to illustrate feedback loops, stock and flow diagrams, non-linear effects etc. (Richmond, 2004)

2) Kim (1999) defined System Thinking in simple terms by stating that it is a way of seeing and talking about reality that helps us to understand and work with systems to influence the quality of lives. Kim uses the 'Iceberg Model' to illustrate systems thinking by arguing that repeated events represents patterns, and patterns are consistently caused by systemic structures. He further argues that in human-designed systems, another level of perspective, Mental Models, creates systemic structures.

3) Meadows and Wright (2008) define System Thinking as a way of thinking that gives us the freedom to identify root causes of problems and visualise new opportunities. They reason that a system, to a large extent, causes its own behaviour and that an outside event may influence that behaviour. Meadows uses stock and flow diagrams, feedback loops, self- organisation, unintended consequences etc to illustrate System Thinking.

4) Anderson and Johnson (1997) define System Thinking as a language that offers a way to communicate about dynamic complexities and interdependencies. They recommend that, rather than focus on events, one should think about their causes and/or how the events fit into a larger pattern. This proposition is consistent with the first three descriptions of Systems Thinking and covers the Iceberg Model, causal loops diagram and archetypes.

A second category of definition is based on the applications of Systems Thinking. Most Prominent in this group are:

1) Senge's description of the concept provides good examples of application of systems thinking to management in organisations. In his seminal book, The Fifth Discipline, Senge defines System thinking as a way of thinking that enables one to see interrelationships rather than single components, and pattern of change rather than static snapshots. He argues that working practices in organisations cause an inability

to see how the action of individuals can extend beyond the boundary of their various positions (Senge, 1997). He further suggests that these problems are caused by the complexity of contemporary organisations and therefore relationships between components in the system must be redefined in order to implement or promote practices.

An extension of Senge's work is contained in The Fifth Discipline Fieldbook, which comprises significant examples and case studies on the applicability of Systems Theory. It also discusses System Dynamics and the Iceberg model in relation to real life problems (Senge et al., 2011).

2) Another definition of System Thinking based on its application is that of Checkland's perspective of Systems Thinking. Checkland discusses about System Thinking and System Methodology by drawing dissimilarity between 'hard' systems thinking and 'soft' systems thinking, arguing that even though complex problems in the engineering and technology field may be expressed by 'step by step procedures', while choosing among different alternatives to achieve a goal (i.e. Hard Systems Thinking), it will be faced with certain challenges when applied to human matters, such as, human activity or social systems (i.e. Soft Systems Thinking) (Checkland, 1981). He used tools such as Rich Picture and Formal Systems Model to explain complexity in social systems. Based on his arguments, Checkland defines System Thinking as thinking about the world outside ourselves.

3) Within the same category of application of Systems Thinking, Maani and Cavana (2007) define Systems Thinking from three different aspects, (i) as a way of thinking about the world holistically, based on the importance of relationships (ii) as a language involving diagrams to explain causality and interconnections, and (iii) as a tool for modelling complex situations These aspects can be used individually or in combination. The authors also adopted the Iceberg model, which is used in integrating their three aspects of Systems Thinking.

A third category of Systems Thinking definition is with reference to Self-Organisation and Emergence

1) Marrow and Mano (2011) describe Systems Thinking in the context of natural systems and discuss emergence and self-organization as key features of such systems. Accordingly, self-organisation occurs when a group of entities or element changes from a disordered state to an ordered one (maintaining a stable

constant environment), without the need of an external influence. Emergence is the process driven by self-organisation. Some causal mechanisms that are vital to self-organisation in natural systems are complexity, evolution, ecological interaction and animal behaviour, etc.

2) Smolin (2003), likewise described Systems Thinking in terms of self-organisation. However, his was from a space and time perspective showing how self-organisation has a lot to do with quantum mechanics, relativity, and cosmology. He argues that the structure and origin of the universe are based on self-organisation (Smolin, 2003).

From this variety of definitions (See Table 4.3), it is reasonable to think that the expressions used in describing System Thinking are based on the manner of approach or the aspect that is being focused on.

	Authors	**Terminologies associated with definition**	**Software/Tool advocated**
1	Marrow and Mano (2011)	Emergence, Self-organisation, Complexity	
2	Meadows and Wright (2008)	Behaviour, Feedback, Self-organisation	Stock & Flow diagram
3	Maani and Cavana (2007)	Holistic, Relationship, Causality, Complexity	Iceberg Model
4	Richmond (2004)	Behaviour, Underlying structure, Feedback loops	i-think and Stella modelling software
5	Smolin (2003)	Self-organisation, Structure	
6	Kim (1999)	Events, Patterns, Systemic Structures	Iceberg Model
7	Anderson and Johnson (1997)	Causes, Patterns	Iceberg Model, Causal loop diagram
8	Senge (1997)	Interrelationship, Patterns, Complexity	Iceberg model in relation to real life scenario
9	Checkland (1981)	Social system, Relationship, Complexity	Rich picture, Formal System Model

Table 4.3 Common expressions in System Thinking definitions Source: Author

The various definitions of Systems Thinking are arguably the reason why a well-defined and generally accepted definition does not exist. However, there are common themes that cuts across most of the descriptions. Themes such as, relationships, detecting patterns, feedback loops, systemic structures, behaviour, interdependency, complexity and holistic are used in one way or the other to explain the concept of System Thinking.

System Thinking basically consist of three things: Parts or elements, Interconnections and a Purpose or Behaviour (Arnold and Wade, 2015). Components, elements, entities, subsystems or events are often used interchangeable to denote parts of a system.
In scholarly literature, the parts of a system have been referred to as:

1) Components (Ellis et al., 2007; Senge, 1997)
2) Entities (Arnold and Wade, 2015)
3) Subsystems (White and Fortune, 2009; Anderson and Johnson, 1997)
4) Events (Meadows and Wright, 2008)

Interconnections are the way these components or parts interrelate to and/or feed back into each other which is as a result of systemic structures (Sheffield et al., 2012) and the system's function or purpose describes the system's behaviour (Meadows and Wright, 2008).

4.4 System Boundary

The existence of boundaries is a crucial aspect of System Thinking which is based on the argument that, since specific components or parts of a system exhibit properties by interacting with other parts, then the system demonstrating the properties should be able to be made distinct from its environment (Mingers, 2014). This demarcation is usually obvious in physically distinct objects that have a clear boundary, but it is often more difficult when dealing with social (non-physical) systems (ibid). Particularly in open systems, external forces often impact on the systems' dynamics. Post (1986) refers to boundaries in open systems as sieves, implying that they are porous.

Organisations are well recognised as systems that are open, because they respond to the political, socio-economic, technological environment and other systems that they are situated in. Therefore, boundaries within them are usually very challenging to separate (Meadows and Wright, 2008). An organisation's boundary is simply defined as the separation between

an organisation and its environment (Santos and Eisenhardt, 2005). It is also described as that which is used to distinguish informal groups, societies and organisations from other systems (Scott and Davis, 2015). According to Sheffield et al. (2012), and Anderson and Johnson (1997) in empirical studies, the boundary of a system is defined as the range of interest or concern of the observer or researcher. As an appropriate guide for the study, a clearer definition by Lamont and Molnár (2002) will be used, which states that an organisation's boundary is a demarcation that defines or establishes categories of objects, people and activities. This definition is adopted because of the necessity to identify the specific activities within different parts, entities or subsystems.

4.4.1 Determining the System's Boundary for the study

Laumann et al., (1989) identified two approaches used in determining boundaries. The realist approach and the nominalist approach. In the realist approach, the researcher adopts the viewpoint of the study participants in outlining the boundaries of the system, while consciously and intentionally applying a framework in order to interpret and conduct analysis. A nominalist approach, on the other hand, is based on theoretical consciousness of the social system. Nevertheless, authors usually begin with the nominalist ideas and investigate the context, which may or may not alter into the realist differentiations (Laumann et al., 1989). For either approach, the features of the elements or components that are the measure for determining the boundaries should be emphasised. In selecting this element of criterion, three alternatives are suggested by Prensky (1992),

1) Determining the boundaries of an organisation by focusing on its workers. That is, trying to establish who is who in an organisation and who is not regarded as a worker within the organisation. Zietsma and Lawrence (2010) support this approach by referring to it as 'guarding the autonomy status of the actors'. Workers within a boundary are also likely to share similar features like objectives, strategies or interests.

2) Determining the boundaries of an organisation by focusing on workers who are involved in a definite social relation. This approach is usually preferred by network analysts because they argue that it gives a better understanding of social relationships. Even though social elements cannot be entirely separated from their environment, due to their interconnectivity nature, some scholars suggest that it is

possible to trace the boundary where the network of interaction displays ‘certain weak places’ (Laumann and Knoke, 1987).

3) Determining the boundaries of an organisation by focusing on the nature of tasks and activities that are executed. Post (1986), described this approach as a predominance of defined functions and activities, stating that if an attribute is located in certain practices that are established by organisational roles or responsibilities, then it can be said to exist within its boundary.

4.5 Theoretical models

Theoretical models of System Thinking are tools/techniques that are used in demonstrating the dynamic behaviour of a system. They aid in understanding and discussing the problem or issue being investigated. Other System tools are Causal Loop Models and System Diagrams. From the definitions of System Thinking (Table 4.3), the Iceberg Model appears to be the most common and advocated tool.

4.5.1 The Iceberg Model

The Iceberg Model is a model that clearly represents the idea of System Thinking. It is the most frequently used model in literature to illustrate the concept of System Thinking (Monat and Gannon, 2015). The iceberg model is a core element of Systems Thinking, that suggests that events or experiences, which are the issues easily seen, are traceable to a ‘history’ of past activities or behaviours which presents a pattern caused by systemic structures and mental models that are often invisible (Maani and Cavana, 2007). The Iceberg model is a common and well recognised Systems Thinking tool designed to assist in providing a holistic view by discovering of patterns of behaviour, supporting structures and mental models underlying a specific event (Goodman, 2002). The analogy of the iceberg is used to put system thinking into context by illustrating a four-level model of System Thinking (See Fig.4.5.1).

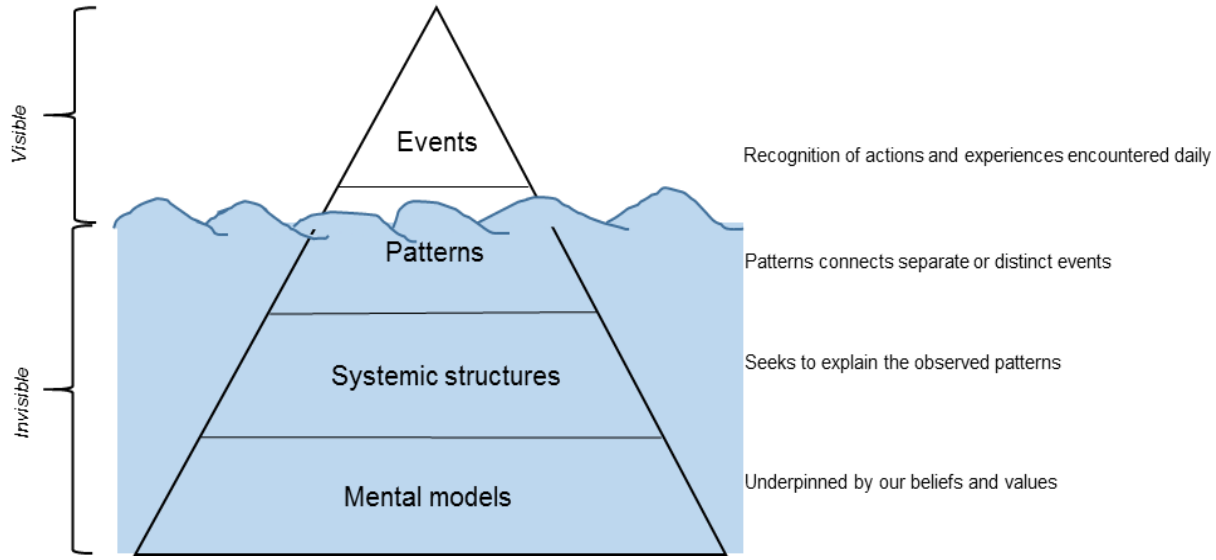

Fig. 4.5.1 Iceberg model of System Thinking Adapted from Sheffield et al. (2012)

According to Maani and Cavana (2007), at the uppermost level of the hierarchy (tip of the iceberg) is our recognition and *experiences of events*, such as the use of a project management template or methodology and required skills/competencies. Most of what we know is at this level because it is the visible bit of the iceberg. Thus, interventions and treatment of issues (which seems the easiest solution) occur at this level, though they usually do not provide enduring solutions. Events that are experienced are encountered daily. The second level, contains the *patterns that connect* separate events such as, senior management support. This level provides a richer representation that gives more insight to the events experienced. The third level, concealed from view, represents a deeper level seeking to explain the interplay of different elements (social, political, economic, and structural elements) that produces the observed patterns. It contains systematic structures such as an organisation's support and strategy for project management. The fourth level, which is the most concealed and deepest, represents the mental models of individuals, which are underpinned by our beliefs, values and assumptions that influence why things are the way they are. Sheffield et al. (2012) describe mental models as habitual or instinctual ways of understanding/knowledge that are the basis of our individual and collective response.

4.5.2 The Formal System Model (FSM)

The Formal System Model (FSM) is a project prototype of the Iceberg model used to elicit information in order to construct a graphical representation of an organisational system which entails determining its objectives and structure, its decision-making and implementation monitoring subsystems and interaction of entities with the project context and the environment. According to White and Fortune (2006), the Formal system model was adapted from Checkland's System Thinking ideas (Checkland 1981) which focused on different stakeholders in an organisation to understand the system parts, its function and the problems existing within the system. The model is used as a blueprint to determine the extent to which elements, connections and other characteristics are present in a representation of the phenomena being investigated (Ellis et al., 2007).

The FSM (See Fig. 4.5.2) comprises of a focus system (the core system), a wider system and an environment in which the organisation functions. The core system at the centre of the model contains three subsystems: a decision-making subsystem, a performance-monitoring subsystem, and a project implementation subsystem. The wider system is the next level directly above the core system but is separated from it. The wider system defines the purpose of the core system, sets goals for it, monitors its activities and make available resources required for it to operate. The environment is that which is external to the system, yet interacts with the system. It is capable of influencing activities within the system and is separated from the wider system by boundaries (White and Fortune, 2009).

The FSM has been used to evaluate construction projects and organisational systems. For example, White and Fortune (2012) evaluated the construction of the Gateshead Millennium Bridge to identify latent weakness in the project's structure and processes, and at the same time to assess the relationship between the project and its environment. Ellis et al. (2007), evaluated a multi-agency partnership to gain understanding into the structure and processes of the organisation to effect changes to its design. The FSM will be used to evaluate the structural components within Nigerian Government Construction Organisations (NGCO) having an impact on Project Management Practice (PMP). The purpose is to identify / understand the causal relationship between structure and agency within NGCO and how they influence PMP.

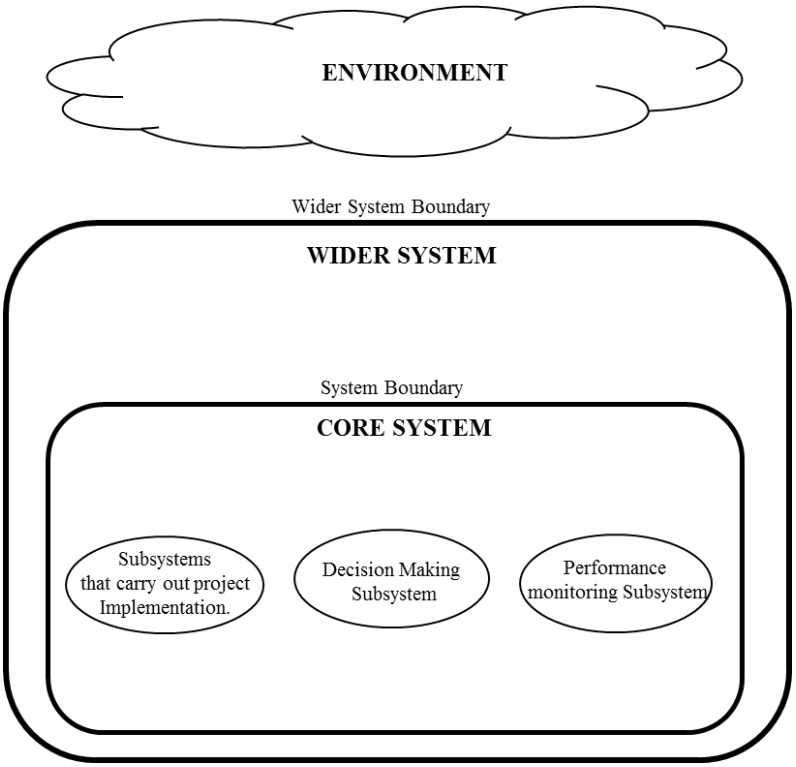

Fig. 4.5.2 The Formal System Model Adapted from White and Fortune (2009)

Although both the Iceberg and Formal system model use different terminologies to represent the different levels or systems, they are comparable, such that the description of each level in the Iceberg model can be associated with the layers of systems in the FSM. A closer observation reveals that one model is seemingly an inverted version of the other (Fig.4.5.3). Furthermore, it is reasonable to think that the Iceberg model represents a more theoretical conception, while the FSM is used in demonstrating the utility of the concept.

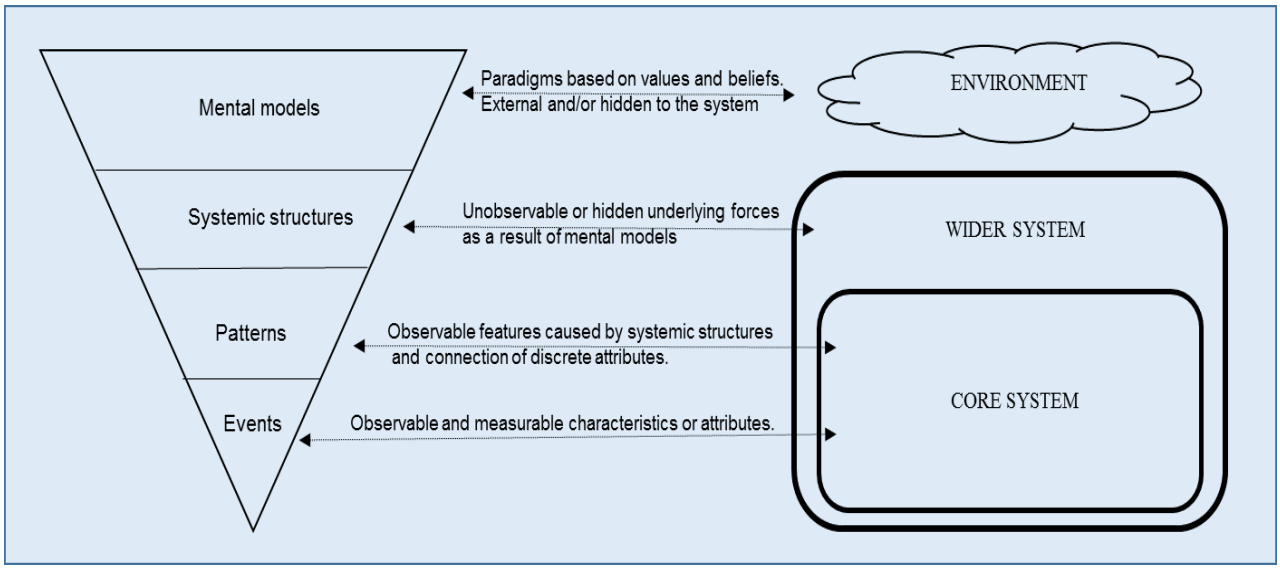

Fig. 4.5.3 Comparing the Iceberg Model with the FSM Source: Author

4.6 Organisations as Systems

Scholars basically conceive organisations as a mechanism for achieving goals, or as a small community within a societal structure and culture. Each of these notions focuses on a different feature of organisations, allowing us to observe various patterns of connections. The concept of organisation as a system is viewed differently depending on which framework one examines. However, organisations are mostly described in relation to their structural system (Onday, 2016). For instance, when asked to present a mental model of their organisation, more than often a manager will produce some classic version of the pyramid-like organisational image, indicating that many view an organisation as a structural system (ibid). Yet in reality, organisations are much more complicated due to the interdependency of various parts, or components interacting with each other. According to Scott and Davis (2015), viewing organisations as a system should take into consideration the essential parts of an organisation; Environment, Strategy and Goals, Work/Technology, Formal and Informal Organisation and Workers (Fig. 4.6)

i) Environment: No organisation is self- sustaining, they survive by relying on the sort of relationship they establish with the environment to which they belong. The

environment consists of elements external to the organisation that affect its capability to sustain and accomplish its goals (Damanpour and Schneider, 2006). The environment can be regarded as a pool of resources and opportunities and also as an object of restraints and threats. It consists of the customers that the organisation serves and those who provide required resources.

ii) Strategy and Goals: Organisations do not just emerge in an environment; their founders or designers often select the area which they will operate in. Hence, decisions an organisation makes regarding its sustainability through its customers, the procedures it uses, and the manner it adopts in delivering outputs are described as its strategy (Johnson et al., 2008). One way of classifying strategies is categorising them into three broad types: *prospectors*, who deal with the creation of inventive product and services in order to form their domain, *defenders* who pay little attention to inventions and focus more on creating competences and effectiveness in their internal domain and *analysers* who integrates both approaches by combining and preserving a product/service goal while frequently improving and adapting to new effectiveness (Namiki, 1989).

iii) Work and Technology: Organisations need to carry out specific activities effectively in order to transform their strategy and goals into realities. Work explains the activities and tasks the organisation has to achieve given the strategy and goals it pre-set. This includes the nature of the work flow and the extent of interconnection between parts of the organisation, the type of knowledge and competencies required of its workers, and the effect of the constraints of the work on the organisation Orlikowski (1992).

Technology is interpreted broadly here, but is meant to provide the notion that organisations are places where dynamism is applied to the adaptation of tools and techniques, as a means of converting inputs into output. Although the technology of organisations is usually entrenched in devices and mechanical equipment, it also includes the practical knowledge and abilities of workers (Scott and Davis, 2015).

iv) Formal Organisation: These are codified information containing how organisations perform their work and how the different parts connect/depend on

each other. This part of an organisation contains elements like administration practices, job procedure and in general, the entire structure of the organisation (Brown and Harvey, 2006). For instance, ‘administrative practices’ describe management and logistic processes, ‘job procedure’ explains what required tasks or activities are performed as part of a job and the overall structure that draws together the various working groups and departments. The formal organisation also evaluates managerial authority and outlines the manner of formal communication between workers and departments. Miller and Rice (2013), provide a summary of the formal organisation, stating that it co-ordinates tasks and activities for work performance.

v) Informal Organisation: There are certain aspects of an organisation that are not represented in a codified organisation’s plan. This is called the informal organisation, which refers to features that emerge and which are capable of influencing the operation or functioning of the organisation (Millett, 1998). Examples are: climate of the organisation, internal and external social networks (Miller and Rice, 2013).

vi) People: Workers in an organisation contribute to the organisation in exchange for a variety of incentives (Simon, 2000). There are various features of workers in an organisation that are important. These include their competencies and knowledge assessed against their job role, their well-being and interests, and the wider context in which they are embedded. Lastly, leaders and their role can have a significant influence on the organisations.

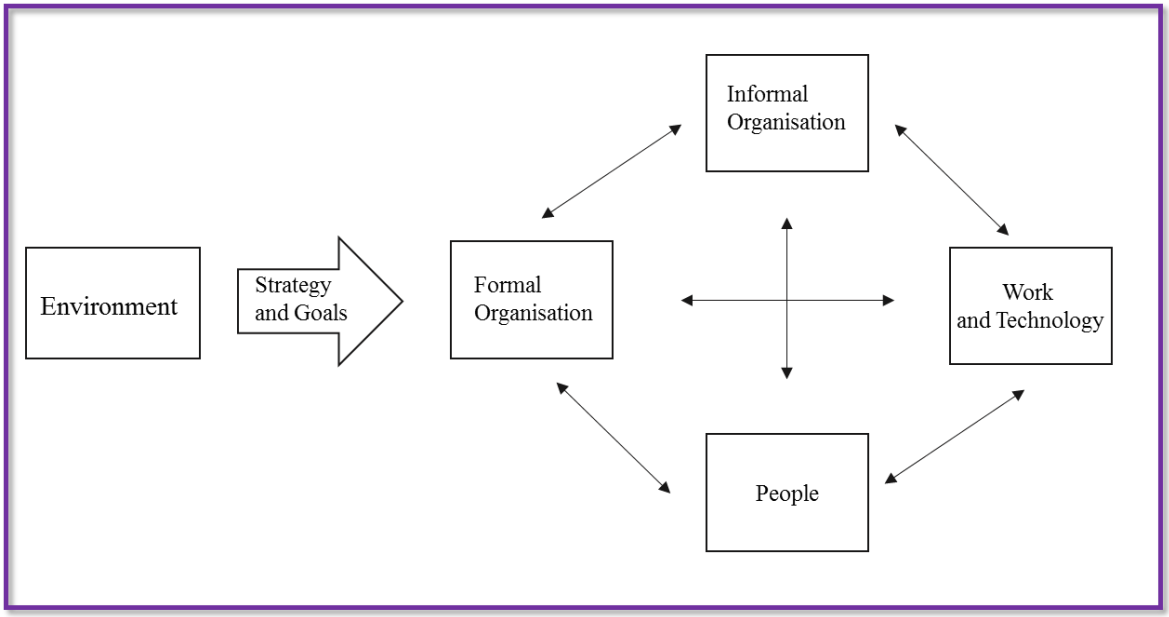

Fig. 4.6 Model of Organisations as a system Source: Scott and Davis, 2015

For NGCO, examples of elements/components that are external to the organisation are agents that are in a contractual relationship responsible for performing the building process (project execution). The undesirable tactics used by these agents to exploit information (such as adverse selection and moral hazard), are likely to impact on certain other components present in NGCO. Nigerian Government Construction Oganisations (NGCO) are also basically traditional organisations, mandated to oversee and administer building construction projects for the Nigerian Government. Therefore, their strategy and goal technique can be classified as 'defenders'; where little attention is placed on innovative and novel product and services. The activities of NGCO are nevertheless essential, as they are the administrative system used in managing growth and development through the utilization of projects (Monye-Emina, 2012; Adewumi and Idowu, 2012). However, the poorly developed, abandoned or collapsed building projects in the country (Olaseni and Alade, 2012; Eneh, 2011) evidently due to the lack of a basic approach to project planning and implementation, deficient scheduling of project activities and in general inadequate project management capability (Anyanwu, 2013; Ezeugwu, 2013), suggest that NGCO do not effectively perform their mandate.

In relation to formal/informal organisation; the working environment of NGCO, in reality, may be far from formal. Informal/unofficial administrative practices are the predominant ways of

doing things. For example, employment of competent workers is often compromised due to improper recruitment processes inundated by a lack of objectivity, non-uniformity and non-transparency (Ijewereme, 2015; Briggs, 2007). In addition, training of staff is not regarded as important (Fajana et al., 2011), and civil service officials are paid low wages (Briggs, 2007).

Clearly, organisations can be regarded as a 'system of elements or components' with each component affecting and being affected by the others. Strategies and goals are not crucial to understanding the inherent features of an organisation or how it operates, no more than are the workers, the structure or the work practices (Scott and Davis, 2015). Therefore, a comprehensive understanding of the challenges associated with Project Management Practice in NGCO can be undermined if only a single element or component is focused on, in exclusion of other elements.

4.7 Classifying Organisations from a System perspective

According to Scott (2003), classification of organisations can be viewed from a system's standpoint as either a rational, natural or open systems perspective. Other scholars like Scott and Davis (2015), Winiecki (2010) and Blaschke (2008) have supported these three major classifications, affirming that it helps in understanding the interdependency of parts/elements that make up an organisation. The rational and natural perspectives regard organisations as closed systems, while the third view advocates that organisations are open systems. Each of these views are discussed below:

4.7.1 Rational system perspective

Organisations in the 19th century were viewed as mechanical entities that could be structured to achieve a predefined and productive purpose. This perception of organisations meant that each organisational element was thought of as part of a mechanised system that could be designed and built to meet specific objectives. This perspective, exemplified by Frederick Taylor's management system, is named the rational system (Winiecki, 2010). The rational system is based on the notion that an organisation's purpose, objectives, aims and procedures can be completely defined at the onset, and the entire system regulated, such that it operates according to the specified 'rational' design and rules.

The rational system view focuses on formal structures and goal specification as important tools for efficient realisation of organisational objectives. A formalised structure aims to

provide individuals (workers) with clear and defined rules and roles, while goal specifications offer workers explicit principles for selecting among alternatives. Because the rational systems are principally concerned with internal rational procedures, rules and efficiency, they are unable to handle or accommodate external influences, even though these influences are capable of affecting workers' interest and performance (Onday, 2016).

4.7.2 Natural system perspective

Due to the limitation of the rational system, the natural system perspective originated, so as to consider the well-being of workers and the organisation. The human relation movement based on the work of Mayo typifies the natural system. This classification of organisations is based on the fundamental belief that workers are a collective group living or adapting together as living organisms, with different interests and needs. The natural system perspective is concerned about the interest of its workers and at the same time attempts to control or regulate the environment in order to survive as a system (Blaschke, 2008).

This view of organisations accentuates goal complexity and informal structures. Goal complexity recognises that goals can be multiple, due to the diversity of interests being represented in the organisational context. The natural system perspectives do not refute the presence of highly formalised structures within organisations. However, they argue that elements that make up the normative structures restrain behavioural structure elements, and conversely, they claim that organisational values and beliefs can shape, form and channel workers' attitudes, activities and interactions. Hence, this perspective accepts that organisations tend to evolve and adapt, instead of advancing as a result of planning and formalised standards (Scott, 2003).

The rational and natural systems perspectives both focus mainly on interactions within the organisation, among individual workers or work groups, and aim to control individual and groups' formal and non-formal activities and relations towards achieving organisational goals.

4.7.3 Open system perspective

However, neither the rational nor natural system perspective give consideration to interactions emerging between an organisation and those elements that constitutes its environment, which is the aspect the open system perspective focuses on. Open system theory emphasises that organisations are impacted upon by elements that exist in the

external environment, and that these elements can affect those that are present in the internal environment (Burnes, 2008). The open system perspective views organisations in their entirety as well as within their environment. In other words, the open system perspective views organisations as systems that are affected by the external environment in which they operate. It is concerned with the looseness of connections and there is often a blurring of boundaries between the subsystems (Millett, 1998).

Scott and Davis (2015) asserts that, even though the open system perspective is a later view of classifying organisations, the earlier rational and natural system views are not superseded. Rather, they have been integrated with the open system perspective to create two groups of systems views which represent the different level of analysis adopted by various organisation scholarships. The first group consists of closed rational and natural systems perspectives, and the second group consists of open rational and natural systems perspectives.

(i) *Closed rational system perspective*: Depict organisations as technical and rational operational entities, while disregarding the effects from the environment. For example, Taylor and Weber theories.

(ii) *Closed natural systems perspective*: These are based on the human relations movement but still focus on the internal environment. For example, Mayo theory.

(iii) *Open rational system perspective*: Portray organisations as an open system built on multiple theories such as economical, psychological and sociological backgrounds. For example, principal-agency theory and contingency theory.

(iv) *Open natural system perspective*: These theories emerged in the 1960s and supersede the open rational theories. It challenges the notion that organisations are rational entities. This view assumes that it is the external environment that enhances the organisation's structure and not the organisation itself. In other words, the structure of an organisation is determined by its environmental fit. The resource dependency theory is one example of an open natural system application to organisations, in that it postulates that the environment impacts on the organisation and vice versa (Pfeffer and Salancik, 2003).

4.8 Levels of Analysis of Organisations from a System perspective

Various stages of analysis are adopted in the organisational studies literature that addresses the different systemic views of organisation. The closed-rational system perspective emphasises elements that specify roles, activities, procedural guidelines and regulations which are used to control intra-organisational interactions towards accomplishing organisational objectives. From this viewpoint, most of the closed rational systems operate basically at the structural level of analysis. For example, Weber's model of bureaucracy theorises and examines structural attributes of an organisation and their effect on working groups.

Alternatively, the closed natural system view emphasises the relevance of workers' personal qualities and attitudes over position and procedures within the organisation's structure, hence they concentrate at the social psychological level of analysis to explain how intra-organisational elements affect workers' behaviour, attitudes and interactions. Nevertheless, some models which focus on diverse analytical elements that represent organisational structures, like interpersonal systems of authority, still operate on the structural level of analysis. E.g. Mayo's model of human relations.

On the other hand, the open system perspectives brought about the ecological level of analysis in addition to the social psychological and structural levels (Scott and Davis, 2015). In this range, both the open-rational and open-natural views focus on the behaviour of individual workers, thus operating on the social psychological level of enquiry. While the open-rational system view focuses on the cognitive limitations of policy makers and role of normative structures elements, the open natural models focus on the relevance of the cognitive processes that help workers to recognise and react to changes in the environment. With regard to the structural level of analysis, open rational views assert that structural features of an organisation are managed by various environmental restraints (Onday, 2016; Scott and Davis, 2015). Alternatively, open natural models contend that the technological and other environmental conditions place general restraints on organisational structures.

Lastly, the ecological level of analysis is concerned with the relations between an organisation and its environmental elements. While the open rational system view stresses inter-organisational interactions through the modification of organisational rules and positions that direct inter-organisational practices, the open-natural view emphasises interactions between an organization and its workers by utilizing the sense-making methods to observe

changes in the organisation and reacting appropriately to them (Onday, 2016). Table 4.8 shows the different organisational system perspectives and their level of analysis.

Taking into consideration the different systems perspectives of organisations and the different levels of analysis defined by Onday (2016) and Scott and Davis (2015), this research seeks to apply a structural analysis based on an Open-rational systems perspective because it seeks to examine causal relationships existing between internal and external elements affecting PMP in NGCO. As propositions have been put forward regarding the exploration of influencers of Project Management Practices through the identification of important elements in an organisation (Morris, 2013a; Morris et al., 2012; Soderlund, 2004), this study is conducted in order to attain more clarity on organisational elements that influence the practice of project management in a government context of a Sub Saharan African country.

Organisation System Perspectives / Levels of Analysis	Closed – rational Systems perspective	Closed – natural Systems perspective	Open – rational Systems perspective	Open – natural Systems perspective
	Target of the analysis:			
Social psychological analysis: emphasizes *inter-individual interactions within organisational work group* as the system of interest	Examine the impact of features of an organisation's internal environment on individuals' actions as they perform tasks (*E.g. Taylor's model of scientific mgt*.)	Explain how features of an organisation's internal environment affect individuals' attributes, attitudes and consequently their interactive relationships. (*e.g. Whyte's model of human relations*)	Examine rationality of individual decision makers as they respond to changes in environmental demand using components of an organisation's normative structure.	Assist decision makers to perceive and react to environmental changes employing the cognitive processes of enacting selection and retention.
Structural analysis: emphasizes *the inter-groups interactions among organisational subunits* as the system of interest	Target of the analysis:			
	Analyse components that characterize organisational formal structure and examine their impact on the groups' interactional behaviour. (*e.g. Fayol's administrative model*)	Investigates informal groups' interactive relationships and examine their impact on formal systems and organisation's internal arrangements. (*e.g. Mayo's model of human relations*)	Examines formal rules, processes and roles relations that guide groups' interactions to cope with changes in environmental constraints	Provide alternative strategies that guide organizational groups to cope with environmental constraints through employing cognitive processes.
			Target of analysis:	
Ecological analysis: emphasizes *inter-organizational interactions among partners of business network* as the system of interest.	Ecological level of analysis does not apply to the closed rational and natural systems models because they focus on the internal features of an organisation ignoring the external factors that affect organisational structures and behaviours. Otherwise, ecological analysis is utilised to examine these external factors.		Examines organisational rules and roles relations that govern inter-organisational practices to cope with changes in environmental demands.	Describe the desired modifications in inter-organisational practices that are needed to cope with changes in environmental demands using the sense making processes of enacting selection and retention.

Table 4.8 Levels of analysis for different Organisation System Perspective

Source: Adapted from Onday (2016)

4.9 Developing the Initial Research Framework

The concept of System Thinking guided the development of the initial framework for the study, which was based on the literature review. System Thinking proposes that the elements impacting Project Management Practices (PMP) in Nigerian Government Construction Organisations (NGCO) should be explored by understanding the interrelationship/interconnectedness of various parts/components of the organisation in order to identify ways of enhancing PMP. Because of the practicality and functionality of the Formal System Model (FSM) (Monat and Gannon, 2015; Burge, 2015), it was chosen as the theoretical model for the research.

The process of developing the framework for this study involved three steps as discussed below:

1) Boundaries were defined by establishing the nature of job and activities executed within a group and/or focusing on similarity of workers by identifying those that are part of the organisation.
2) Based on the discussions and analysis of governance, culture and climate of an organisation, factors identified from the review of PMP in Government organisations of developing countries were re-categorised into factors *related to contractors*, *factors related to governance* and *factors related to the climate of the organisation or project management climate (See Section 3.9.1 and Table 3.9.2)*
3) The re-grouped factors are mapped against the FSM (Fig. 4.5.2) and the model of an organisation (Fig. 4.6) to increase theoretical sensitivity.

As described in section 4.5.2, the FSM consists of three systems; the environment, the wider system and core system. The boundary for each of the systems is determined by the nature of tasks and activities, and the workers involved within the boundary.

In comparing it with the three engendered categories, it becomes evident that:

i) The environment in the FSM represents elements or components that are external to the organisation. This corresponds with the contractor's domain, which is located in the external environment and which the project manager has no control over. Furthermore, since this study focuses on a government organisation, and the project management practices within it, it is conducted independently from other external bodies. Zietsma and Lawrence (2010) supports the view that

establishing who is not a worker within an organisation establishes a boundary. The environment category will be depicted as the **External Environment**

ii) The wider system in the FSM represents the strategic unit of the organisation where the purpose and initial design of its function is conceived. Elements or components in the wider system are internal to the organisation, but are still not under the control of the project manager. Functions of the wider system consists of defining the system's purpose, setting goals and providing resources for the system (White and Fortune, 2009). Based on the model of organisations as a system (Fig. 4.6), the wider system can be said to represent the part of an organisation that is concerned with strategy and goals. Thus, the category, "factors related to governance" corresponds with the wider system of the FSM. This system will be depicted as the **Governance system**

iii) The core system in the FSM represents a broad range of elements consisting of decision making, performance monitoring and project implementation. As a result, the functions of the core system cover an extensive variety of activities. It is responsible for the daily coordination of activities and tasks, and implementing projects and monitoring performance. This explains why several factors identified from the review of PMP fall under the climate of the organisation. Thus, the core system represents the climate of the organisation. However, for project based organisations (PBO), this system is concerned with the entire management of the project as it is observed from the list of identified factors that influences PMP in GO of SSAC. In addition, the 'domain specific' view of organisational climate depicts climate as comprising of shared perceptions among practitioners relating to practices, procedures and processes (Zohar and Hofmann, 2012). Arguably, the jurisdiction of the Project Manager lies within this core system (Burke, 2017). Therefore, the category, "climate of the organisation" will be depicted as the **Project management system.**

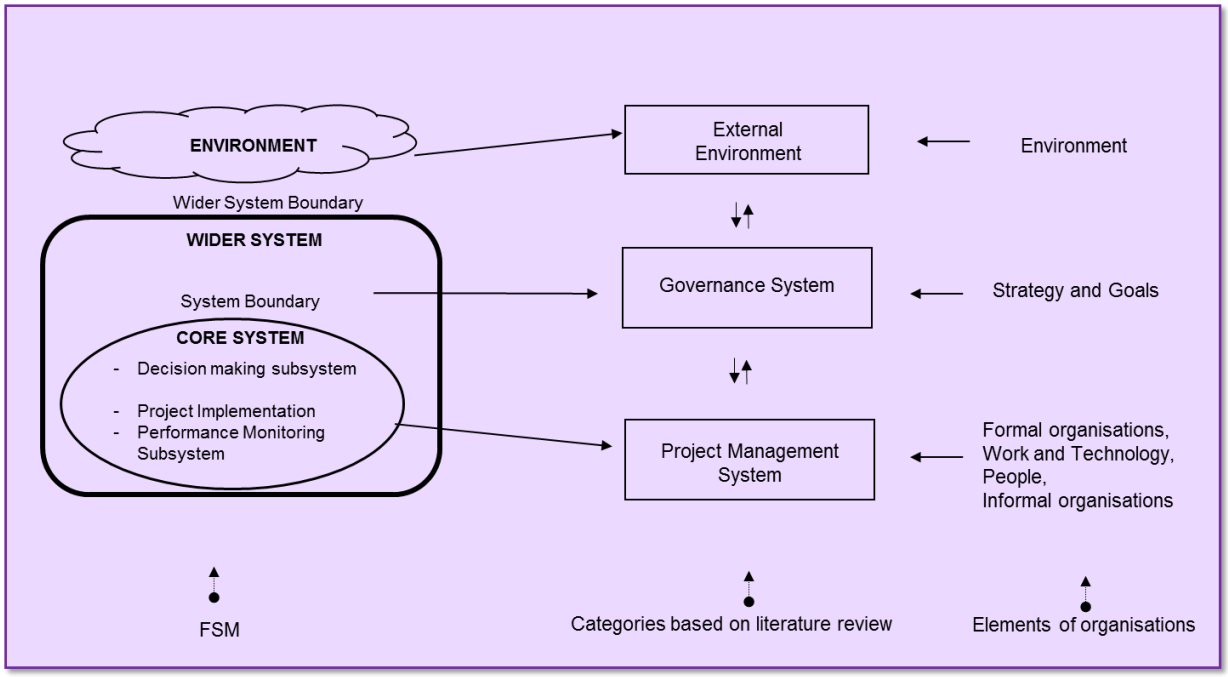

Fig. 4.9 Mapping elements in FSM and model of organisation to the three categories identified from the review of literature

Source: Author

4.10 Measures of Constructs

A corresponding mapping is performed with regard to the model of an organisation in which the environment, strategy and goals, formal organisation and informal organisations, work/technology and people arguably corresponds with the environment, governance system, and project management system respectively (See Fig. 4.9)

Thus, the constructs for the theoretical framework for this research are underpinned by extant scholarly concepts, which have been deliberated and justified in preceding chapters. The constructs that make up the theoretical framework are described as below:

4.10.1 The Project Management System

This system comprises the application of project procedures, tools and techniques. Project procedures or processes are related to planning, monitoring and controlling projects (Ahlemann, 2009), with the aid of tools and techniques. Thus, decisions on how the project is managed and how various tools, techniques and methods will be utilized to assist in

achieving productivity and improve on a project's output (Kerzner, 2013) is carried out in this system. The Project Management system is the domain of the Project Manager, and according to Alvesson (2012) and Schneider et al., (2013) he or she has substantial influence over activities within this system. Furthermore, based on the model of organisations as a system (Fig. 4.6), the Project Management system (i.e. the core system) arguably represents the part of an organisation concerned with Work/Technology, Formal and Informal Organisation, and Workers.

4.10.2 The Governance System

This system is considered as the part of an organisation more concerned with strategy and setting of objectives. It consists of a principled-based approach as it examines how the decisions, actions and principles of the organisation's executives are used in realizing the project goals (Young et al., 2012). Corporate or organisations' owners and policymakers belong to this system, which focuses on defining and regulating roles, provision of resources, ensuring accountability, and putting in place standardized reporting practices and monitoring structures (Crawford and Cooke-Davis, 2009; Klakegg, 2009). The governance systems of government projects, in particular, are associated with dynamic political events which are usually hard to predict (Ahola et al., 2014).

4.10.3 The External Environment

This part or component consists of external systems that are not part of the organisation but have an impact in one way or the other on Project Management Practice in NGCO. It is acknowledged that various organisations involved in construction projects usually have a different culture from the client organisation (Fewings, 2013). Due to this disparity, individuals involved in a project will tend to have different objectives and goals which will define their approach to work. For instance, it was identified that contractor's tools and techniques for project control and coordination, extent of formality and the standardization of activities and tasks are significantly different from those of Architects within the client's organisation (Ankrah and Langford, 2005).

Fig 4.10 represents the initial theoretical framework for the study.

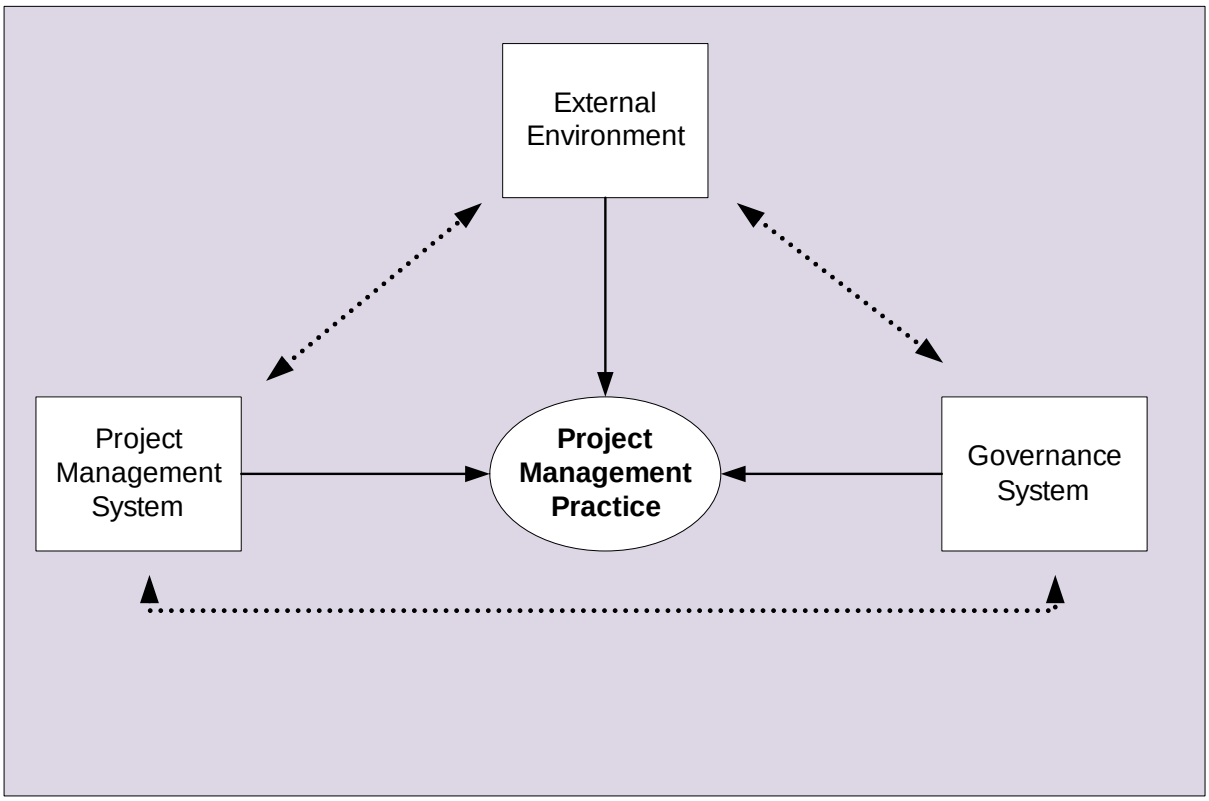

Fig 4.10 Initial theoretical framework Source: Author

4.10 Summary of Chapter

This chapter discusses the theory underpinning this research and explains the various system models that exist in the literature. It went further to evaluate organisations as systems. The different level of analysing organisations as a system were discussed to justify the level of analysis used in this research. Subsequently, the initial research framework was developed by mapping the categories of factors based on the literature review with components in the formal system model and the model of organisations as a system (Fig 4.9).

CHAPTER FIVE: Research Methodology

That which is not experienced is not known … but it does not mean that it does not exist – Mingers, 2014

5.0 Chapter Introduction

This chapter describes the philosophical and methodological approach used in realising the purpose of the study. The chapter begins with elucidating the concept of a Paradigm (Research Philosophies) and justifies the use of the selected paradigm: Critical Realism. Because the methodology applied in this study is relatively novel in project management research, an extensive discussion and evaluation of Critical Realism is presented. Lastly, the qualitative enquiry is described outlining the sample selection, pilot study and data collection process.

5.1 Understanding Research Paradigm

A research methodology is associated with one's paradigm (Lincoln et al., 2011). Paradigms, sometimes referred to as a framework (Freshwater and Cahill, 2012) or worldview (Creswell, 2013), describe the basic philosophical assumptions and specific methods used in conducting a study. However, the term 'paradigm' has been loosely used and misused in research literature, resulting in ambiguity in approaches to research and philosophical frameworks (Mertens, 2012). For instance, Mertens (2007) defines a paradigm as a metaphysical construct associated with a philosophical assumption that explains one's world view. Creswell (2013) explains worldviews as assumptions that researchers bring into the study, and paradigms have also been associated with qualitative, quantitative and mixed methods (Freshwater and Cahill, 2012). The discussion on paradigms here will aim at elucidating the concept and its benefit(s) in the context of research work.

5.2 What is a Paradigm?

The word 'paradigm' was coined by Thomas Kuhn, who defined it as a worldview that comprises the belief and methodological assumptions of scientists and researchers (Kuhn, 1962, cited in Mertens, 2012). The 'paradigm' concept was later adapted to the social sciences to include epistemology and axiological assumptions because it was argued that, in order to regard *paradigm* as a worldview, it should encompass ethical/values and enquiry norms that lead to different methodological assumptions (Guba and Lincoln, 1989; 2005).

Meanwhile, another school of thought argued that *paradigm* should be defined based on a methodological foundation due to the conceptualization of the possibility of mixing different forms of enquiry (Denscombe, 2008; Johnson and Onwuegbuzie, 2004). Subsequently, a model suggesting 'choices in method' as a basis for a paradigm emerged (Freshwater and Cahill, 2012; Mertens, 2007), thereby distinguishing methodology from method by viewing the former as the description, explanation and procedures of a particular approach to enquiry, and the latter as techniques and tools for collecting evidence (Carter and Little, 2007). The diverse recognition of the description of a paradigm introduces some inconsistency in the use of the terminology. Nevertheless, scholars such as Cohen et al., (2013) and Morgan (2007) distinguished different views of paradigms based on their level of generality and their relevance to research work to clarify the ambiguous use of the term.

Morgan (2007) opined the version of paradigm as an all-encompassing way of thinking about the world, and beliefs about morals and values representing the highest level of generality. The second and the third level of Morgan's consideration of generality describes *paradigm* as being a philosophical stance and a common belief among the nature of questions respectively. The final level, which is the most specific level, is the version of *paradigm* as a model on how research is conducted in a given study area and which reflects shared beliefs about research philosophies, is concerned with questions and methods used to answer them. The description of *paradigm* at the most specific level agrees with Guba and Lincoln's explanation of a paradigm, which proposes that a paradigm comprises of one's values, epistemological and methodological assumptions (Guba and Lincoln, 2005). The different views of paradigms are illustrated in Fig.5.2

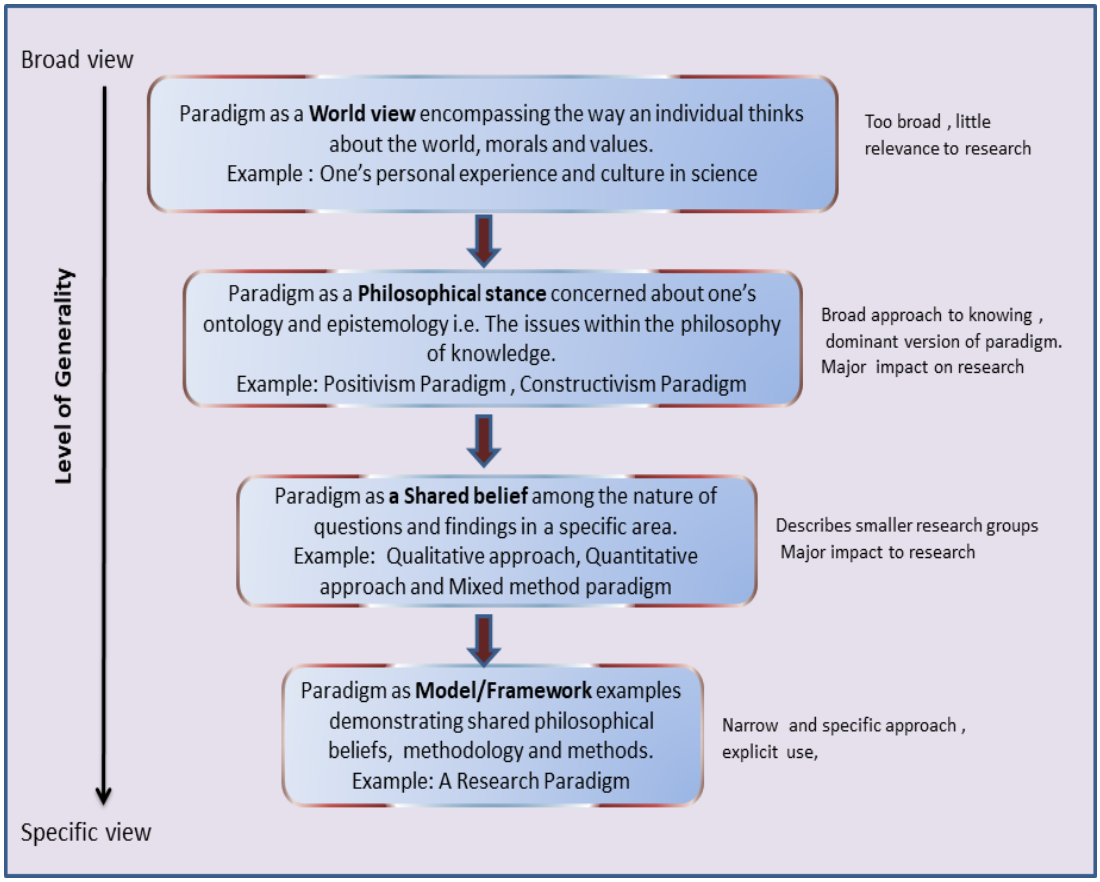

Fig. 5.2 Versions of Paradigms

Source: Author generated based on Morgan (2007)

These different views on the meaning of paradigm, with their corresponding philosophical views, have been used disparately in various scholarly literature and articles leading to confusion, especially amongst early researchers (Mackenzie and Knipe, 2006). However, based on the above explanation and diagram, a research paradigm specifically represents a model or framework elucidating the researcher's philosophical beliefs, methods and techniques of enquiry and the procedures of analysing data. This view of *paradigm* is considered to encompass other versions of paradigms, thus providing a major impact to research. Therefore, it is this view of *paradigm* that is used for the current research study.

5.3 Research Philosophy

The main rationale of undertaking research is to make informed decisions based on investigating and analysing issues (Sekaran and Bougie, 2016). A Research Philosophy is the assumptions about how an individual develops knowledge and the nature of that knowledge (Saunders et al., 2009). Lancaster (2005) also referred to research philosophy as an approach to the development of theories and knowledge. The research philosophy is presumably the most important choice a researcher makes because it has a significant impact in understanding what is being investigated (Saunders et al., 2012; Johnson and Clark, 2006). Specifically, it clarifies what fact(s) or evidence is essential, how data will be collected and interpreted, and how it will provide significant answers to the questions being investigated (Easterby-Smith et al., 2012). Different names have also been used to refer to research philosophy which, arguably, have caused some ambiguity as well. For example, Creswell (2013) states that four research philosophy views are positivism, constructivism, transformative and pragmatism, while Sekaran and Bougie (2016) described four philosophical perspectives as positivism, constructionism, critical realism and pragmatism. Bryman (2015) referred to objectivism and constructionism as philosophical views, which differs from Saunders et al's (2009) use of the terms objectivism and subjectivism.

Based on a review of some key literature (See Table 5.3), four basic philosophical views were identified: Ontological, Epistemological, Methodological, and Axiological views (Denzin and Lincoln, 2011; Cohen et al., 2011; Guba and Lincoln, 2005 cited in Mertens, 2007). These basic views encompass other prevalent views; positivism, constructionism, critical realism, pragmatism, post positivist, interpretivism, objectivism, subjectivism, deductive and inductive and so on.

	Guba and Lincoln 2005 cited in Mertens (2007)	Saunders et al., (2009)	Cohen et al., (2011)	Denzin and Lincoln (2011)
Ontological View	Nature of reality. How do we know that something is real at a conceptual level?	Objectivism vs. Subjectivism	Norminalist vs. Realist	Basic questions about the nature of reality and the nature of humans
Epistemological View	Relationship between the 'knower' and the 'would be known'. In other words, between the researcher and the study participant	Positivism vs. Interpretivism	Positivist vs. Anti-positivist	Relationship between the inquirer and the known.
Methodological View	Appropriate approach to the systematic empirical inquiry	Deductive vs Inductive	Nomothetic vs. Idiographic	How to know the world. The best means for acquiring knowledge about the world
Axiological View	Nature of ethics. What basis is ethical theory and practice in research defined? What is considered ethical or moral behaviour?	Judgment about value, ethics in the process of social enquiry	Determinism vs. Voluntarism (How humans relate with their environment)	How to be moral in the world. What value/behaviour do humans bring into the process of inquiry.

Table 5.3 Different terms and references of the Philosophical Views Source: Author generated

Various researchers have different views on how they believe the world really is, and about the nature of how knowledge/understanding is attained. One way to attempt to delineate the debate on philosophical views is to begin from the academic background of the philosophers themselves who have contributed in the development of knowledge and theory: the debate between the natural science and social science (Easterby-Smith et al., 2012). These arguments originate from the way each group of philosophers view their objects of study and consequently the process of investigation (Cohen et al., 2011).

The traditional view claims that social science is basically the same as natural sciences and that the same kind of experimental approach should be used in investigation; the interpretive view emphasises how human beings are different from inanimate natural phenomena and also different from each other (Bryman, 2015; Cohen et al., 2007). Therefore, it is from the basis of the natural and social science that the following views are deliberated.

5.3.1 Ontological views

Ontology pertains to the nature of reality and existence. It relates to how we perceive or view reality (Saunders et al., 2009; Krauss, 2005). Some authors refer to ontological views as issues that pertain to whether the social world is regarded as something external to the actors or as something that is affected and shaped by people (Bryman, 2015). Lancaster (2005, pg 22) states that there are different ontological positions in the natural and social sciences and, according to Easterby-Smith et al., (2012) this variety is as a result of the debate between Realism and Relativism. Realism is the natural scientist's approach, which emphasizes that the world is concrete and external, and that objects exist independently from the 'knower'; therefore, knowledge can only be identified through observation and measurement (Easterby-Smith et al., 2012; Cohen et al., 2011). Relativism on the other hand, which is the approach of social scientists, suggests that human beings can only be studied based on experiences and events (Easterby-Smith et al., 2012), connoting that reality is as a result of individual cognition (Cohen et al., 2007). Other sets of scholars use the term, Realism and Norminalism (Tashakkori and Teddlie, 2010) or simply Objectivism and Subjectivism (Sauders et al., 2009) respectively to denote Realism and Relativism. Notable ontological terms are objectivism and subjectivism, as popularised by Sauders et al. (2009)

5.3.2 Epistemological views

Epistemology is connected to Ontology. Morgan (2007) describes the connection as loosely coupled, implying some interdependency. Epistemology is concerned with how knowledge or information is acquired. In other words, epistemological nature relates to the character and nature of the phenomena investigated, how it is acquired and communicated to others (Cohen et al., 2011). Authors such as Mertens (2007) and Krauss (2005) define epistemological views in terms of a relational position, stating that it is the relationship between the 'knower' and the 'would be known'. On the other hand, Sekaran and Bougie (2016) refer to epistemology as simply the 'disagreement about the nature of knowledge'.

Corresponding to the ontological view, there is the debate between the natural scientists and the social scientists on how knowledge is acquired (Denzin and Lincoln, 2011). While the former holds on to the traditional view of an objective epistemology which is concerned with the 'politics of evidence', the latter view of subjectivist epistemology is concerned with how human action is understood and interpreted to make meaning (ibid). Based on these different viewpoints, Cohen et al. (2011) states that the argument in the epistemological view lies between the positivist and anti-positivist, while Easterby-Smith et al. (2012) used the terms positivism and social constructionism; Denzin and Lincoln (2011) used the term positivist and post positivist paradigms, while Saunders et al. (2009) and Bryman (2015) used the terms positivism and interpretivism. Positivism and Interpretivism are the notable terms used in most research.

5.3.3 Methodological views

Methodological views are concerned with the specific direction and appropriate approach into the systematic empirical inquiry of knowledge (Creswell, 2013). According to Carter and Little (2007), epistemology guides methodological choices and axiology; methodological views are influenced by the way we view nature and understanding of knowledge. Methodology is also alleged to be used ambiguously in literature (Carter and Little, 2007). For example, Cohen et al. (2011) used the terms nomothetic and idiographic to express methodological views. The Nomothetic approach is a quantitative approach characterised by statistical procedures and methods, while the Idiographic approach is predominantly qualitative and focuses on getting an understanding on how the social actor creates, modifies and interprets the world (ibid). Lancaster (2005), referred to research methodology as comprising deductive and inductive research, stating that the former develops theories or hypothesis and tests them through empirical investigation and the latter develops theories and hypothesis in order to explain empirical observation of the world. The quantitative and qualitative approach are notable methodological terms existing in literature.

However, methodology is different from method. Methodology is defined as the analysis of the assumptions, standards and process in a particular approach to investigation so as to provide justification for the methods of a research study. Conversely, method is the techniques and procedures for gathering evidence (Bryman, 2015; Carter and Little, 2007). Scholars have referred to methodology as research strategies (Saunders et al., 2009), strategies of inquiry (Denzin and Lincoln, 2008) and traditions of inquiry (Creswell, 2013).

Methodology is often referred to as research design when it is combined with methods and analysis (Creswell, 2013).

Based on the proposal that both quantitative and qualitative approaches can be incorporated within a single study, the mixed methods research approach emerged (Creswell, 2013; 2009; Onwuegbuzie, 2000; Newman, 1998). Mixed method research is defined as a study involving the collection and/or analysis of both qualitative and quantitative data (e.g. data collection, analysis techniques) in a single study, in order to get the breadth and depth of understanding of a phenomenon (Johnson et al., 2007). Data in mixed method research are collected concurrently or sequentially, are given a priority, and are integrated at one or more stages in the research process (Creswell, 2009). Mertens (2012) and Nastasi et al. (2010) state that several views or models for mixed methods research have been proposed such as transformative, dialectical, emancipation and pragmatism, but the most common view associated with mixed method research is pragmatism (Morgan, 2007; Teddlie and Tashakkori, 2003), therefore the mixed method research is sometimes referred to as a pragmatic approach to research (Morgan, 2007; Creswell, 2009).

5.3.4 Axiological views

An Axiological view is concerned with the role our values and ethics play in all stages of the social inquiry (Saunders et al., 2009; Mertens, 2007). Our values are what guide our reasoning in human action (Heron, 1996 cited in Saunders et al., 2009) and it is significant if one's result or finding is to be credible (ibid). Axiological view considers one's ethical or moral behaviour and guides us in addressing ethical issues when carrying out research. Cohen et al. (2011), on the other hand, referred to these assumptions from human nature perspectives based on the relationship between the researchers' nature and their environment. Two views on the nature of humans were identified by Cohen et al. (2011): Determinism which view humans as responding mechanically to their environment, and Voluntarism, which views humans as initiators of their actions with freewill. For instance, the selection of a research topic over another indicates the importance and value that is attached to that topic and this will impact on the philosophical approach as well as methods of data collection. Thus, by implication, determinists by virtue of their nature will attach more value to objectivity and tend to adopt a more quantitative approach, thereby separating themselves from the social actors. On the other hand, a voluntarist will tend to interact more with the social actors and attach more value to subjectivity.

In conclusion, Ontology, Epistemology, Methodology, Method and Axiology are related (Creswell, 2013; Carter and Little, 2007) (Fig.5.3) and an individual's philosophical view is a reflection of one's value or moral behaviour (Saunders et al., 2009). Furthermore, Freshwater and Cahill (2012) lay emphasis on the relationship between philosophical views by stating that 'all research methods are developed within a paradigm and therefore have epistemological, ontological, axiological and methodological foundations'.

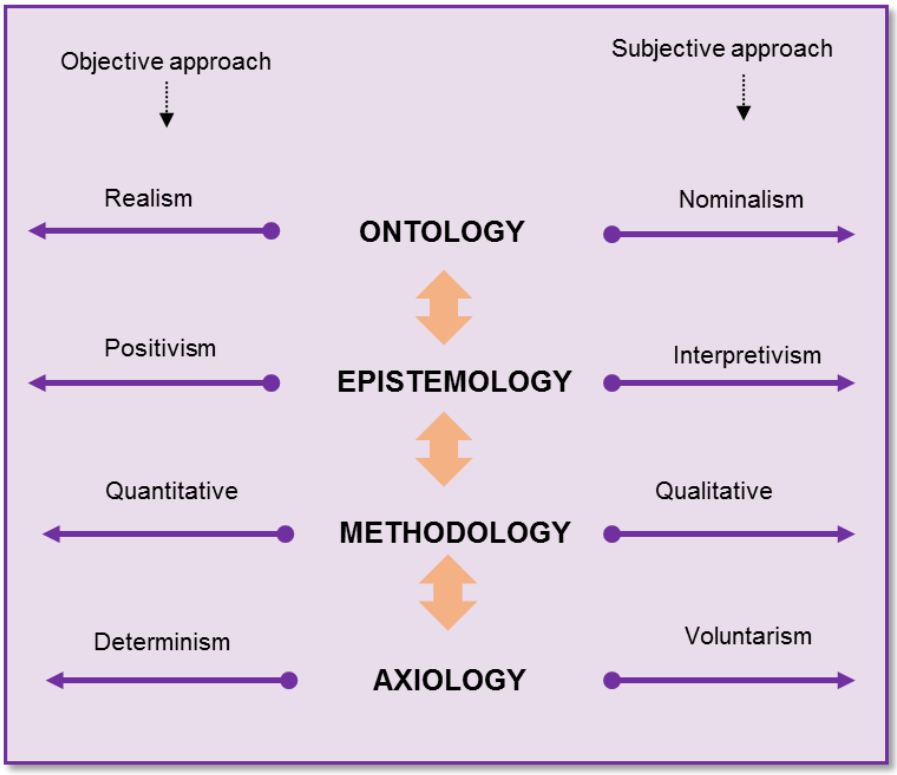

Fig. 5.3 Relationship between Ontology, Epistemology, Methodology and Axiology

Source: Adapted from Cohen et al., 2007

5.4 Justifying Paradigm for current research

Early Project Management research focused on technical skills and the application of project management tools and techniques (Ingason and Jónasson, 2009; Brown, 2000). This period was referred to as the era of Traditional Project Management. It consisted of a structured and mechanistic approach to project management research, relying on tools and techniques which resulted in the predominance of the positivist functionalist approach to project management research (Blomquist et al., 2010). This approach, usually called the hard approach to project management, has been criticized for its deficiency in systemically dealing

with aspects of project management (Xue et al., 2010; Cicmil and Marshall, 2005). Such criticism shifted the focus to a more constructive approach which attempted to provide more understanding of how project management is applied in relation to an organisational system as a means to achieving integration and work performance (Engwall, 2003; Gareis, 2010). Projects in this era were viewed as social processes.

Recently, scholars have pointed out the relevance of advancing the concept of project management (Morris et al., 2012. pg 340), emphasising the need to adopt a practice based approach to the research of project management (Morris, 2013a; Blomquist et al., 2010). According to Cicmil et al. (2017), there is a growing body of existing critique, which has uncovered the deficiencies of traditional project management research. There are suggestions that challenges experienced in contemporary project-based organisation (PBO) is due to not obtaining data that is sufficiently robust to perform comprehensive analysis of issues. Knowledge on project management is regularly obtained in a positivist, reductionist means, contradicting the notion that project management operates within the social sciences, even though a positivist approach seems appropriate for mechanistic themes such as scheduling and knowledge areas (Morris, 2013a).

Because the phenomenon under investigation is within a social context and the research questions focus on exploring the interrelationship between elements/components influencing Project Management Practice (PMP) in Nigerian Government Construction Organisations (NGCO), an interpretivist view is considered appropriate. Remenyi and Williams (1998) assert that the phenomenon under investigation and the research questions both impact on the type of paradigm chosen for a research project.

Although this study regards the positivist view, which obtains knowledge of project management objectively (independent of the researcher) and is therefore able to identify and quantify measures of project management in an organisation (Morris, 2013a), it, however, argues that ontologically, there exists elements that cannot be directly observed or identified objectively, but which cause or are responsible for the effect we see (Mcevoy and Richard, 2003). In other words, there are a number of elements and interacting mechanisms in NGCO, each of which has the possibility to impact on the existing state of affairs and generate events which result in the deficiencies of PMP. Therefore, a critical realist view is adopted to explore these elements and their causal relationships in NGCO. A critical realist's view embraces positivism but obtains knowledge by interpreting meaning in order to explain elements of reality and their relationship that must exist prior to the occurrence (Archer et al., 2013; Wynn and Williams, 2012).

5.5 Overview of Critical Realism (CR)

Critical Realism (CR) re-establishes a realist viewpoint at the ontological level, while recognizing the relativist viewpoint that knowledge is socially constructed at the epistemological level. It is a philosophical paradigm emphasising that objects in the world, specifically social objects, exist whether the researcher is able to know them or not, and the knowledge of these objects are mediated, and varies under differing conditions (Bhaskar, 1978 in Mingers, 2006). In other words, due to the nature of the social world as an open system, it is impossible to make inference/prediction, as in natural science, through the use of experiments. Rather, reality that is independent of our conception and knowledge of it exists, but which is not accessible to direct observation.

For a critical realist, reality has causal powers and mechanism, which can be experienced by their ability to cause or make things to occur (Danermark et al., 2002). Critical Realism (CR) as a philosophical system, developed by Bhaskar in the late 1960s and early 1970s (Bhaskar, 2013; 1998), has been advanced by other scholars and is positioned as an alternative to positivism and interpretivism paradigms. It leverages aspects of both to offer new approaches to developing knowledge by recognising the role of subjective information of social actors in a given context, as well as the presence of independent structures that constrain and facilitate these actors to carry out certain activities in that context (Sayer, 2000). According to Hjørland and Wikgren (2005), CR is a form of realist philosophy about social structures and human agency, and the interaction between these is regarded as a basis for the analysis of complex phenomenon for theorising the relative interplay of structures, culture and agency. A major tenet of CR is a stratification of reality and, consequently, a move from prediction to explanation by a process of interpolation through an account of causality and the dependence on interpretive forms of investigation (Easton, 2010).

In relation to Project Management, authors such as Cicmil et al., (2017), Morris (2013a), and Smyth and Morris (2007) argue that research methodologies have overlooked the context-specific and open system nature of organisations and their projects. They assert that since the identification of general observations based on prediction restricts the ‘particular’, and a focus on the ‘particular’ discourages the emergence of general patterns, CR which recognises both truth and rich explanations by identifying causal powers according to structure (Edwards et al., 2014), is an alternative methodology for project management research. Questions about the validity of our knowledge, representation of the context,

knowledge about the true reality of the phenomenon are much more likely to be addressed through Critical Realism (Morris, 2013b).

It should be noted that causation in CR is fundamentally different from the notion of causal laws in the positivist paradigm. While the former assumes a stratified ontology and therefore views reality as consisting of generative casual mechanisms, the latter assumes a flat ontology and reduces reality to a 'Humean constant conjunction' or correlation between cause and effect, with little recognition of the mechanisms that connect them (Beebee, 2006). Likewise, the socially constructed view of the real world held by social constructivists is different from that of CR, in that the former rejects the possibility of knowing reality, and generally focuses on revealing the constructed experiences of social actors, while the latter accepts that reality can be known through existing structures and mechanisms but that these occurrences cannot be empirically observed (Bygstad and Munkvold, 2011; Mingers, 2006).

Due to the support for applying mixed methods in a study, and the symbolic holistic and systemic themes such as causality, emergence, open system and stratification, Critical Realism shares some similarity with Pragmatism and System Thinking respectively. Therefore, these analogies are discussed in the next section.

5.5.1 Critical Realism (CR) vs. Pragmatism

CR and Pragmatism have been proposed as two approaches in which the quality and processes of mixing methods can best be facilitated (Lipscomb, 2011). Although both of them are seemingly comparable, due to the possible rationale they both advocate for the need to mix methods (Sayer, 1992 in Easton, 2010; Lipscomb, 2011), there are fundamental postulations about these approaches which require illumination in order to emphasize the justification for using the selected research approach.

Pragmatism has been positioned as one way by which the complexity of theoretical dispute can be solved, and is often used synonymously with mixed method research (Guba and Lincoln, 1989; Sandelowski, 2003). According to Scott (2007), Pragmatism argues that ontological and epistemological dimensions can be separated out from the methods and strategies applied in a study. It promotes the notion that the results are more relevant than the process and therefore that the 'ends justifies the means' (Johnson and Onwuegbuzie, 2004). Pragmatists argue that the decisive factor for determining the correctness of an approach to social research is determined by practical considerations dictated by the

research question (Morgan, 2007). It therefore emphasises the integration of elements of qualitative and quantitative research approaches (e.g. data collection, analysis techniques) in order to get the breadth and depth of understanding of a phenomenon (Johnson et al., 2007). However, if the objective of science is fundamentally intended as producing practical knowledge alone, rather than understanding the real nature of the world, then what will be the justification for methods and strategies used by a researcher?

It is believed that the methodological preference adopted by a researcher implies that he or she formulates a belief about the nature of the world and how they can acquire knowledge about it (Mingers, 2006). That is, the researcher usually believes that the choice of methodology adopted is more appropriate than the one they did not take because it will generate a more truthful representation of the nature of the world. Nevertheless, the benefit and application of the pragmatic approach in research is widely recognised and accepted in academia.

Critical Realism on the other hand, relates with both an ontological and an epistemological assumption by arguing that an external reality exists both in natural science and in social science, except that the character of reality in the latter is adapted to reflect the particular nature of the social environment (Gorski, 2013). CR maintains that dimensions of reality are deep seated and cannot be reduced to experimental observations, but rather can be known by understanding the mechanisms that produce those experimental events which are hardly ever directly visible (Danermark et al., 2002). This double recognition (Edwards et al., 2014) of an independent external world and a world predicated by human experiences demonstrates how this paradigm is often confused with pragmatism. (See Table 5.5.1)

	Critical Realism	Pragmatism
1	Assumes a double recognition approach: commitment to both truth and thick explanations (Edwards et al., 2014).	Assumes a dichotomy approach: proponents of one ontological and epistemological position do not accept the position of the other (Edwards et al., 2014).
2	The primary reason for mixing qualitative and quantitative approaches is to promote understanding of the reasons for the complexity of the reality and not to translate it (Sobh and Perry, 2006; Edwards et al., 2014).	Various reasons for mixing qualitative and quantitative approaches exist, which may often produce contradictory results about the same event or unrelated findings (Scott, 2007; Sobh and Perry, 2006).
3	Argues that ontological and epistemological philosophies are relevant to a research study (Danermark et al., 2002).	Argues that ontological and epistemological views can be separated out from a study. That is, 'what is practical' takes precedence over the ontological and epistemological view (Danermark et al., 2002).

Table 5.5.1 Difference between the Critical Realism and Pragmatism Source: Author generated

At the methodological level, a reason for the nuanced similarity between CR and Pragmatism is the process of triangulation: the use of more than one method or source of data in a particular study (Bryman and Bell, 2015). Literature puts forward that there are basically three main reasons for triangulation: Completeness, Confirmation and Retroduction (Hussein, 2015; Jack and Raturi, 2006; Risjord et al., 2002).

Data is triangulated for *Completeness* in order to obtain complementary views and additional details so as to develop a more absolute understanding than could be attained from using only one data source (Rogers and Nicolaas, 1998). In addition, data is triangulated for *Confirmation* purposes in order to improve or augment the reliability and validity of findings by counterbalancing the biases associated with using only one method in a study (Denzin, 1989). Finally, triangulation for the purpose of *Retroduction* seeks to achieve the goal of explaining by identifying and verifying mechanisms which are hypothesized to have generated the phenomenon being studied (Sayer, 2010). Jack and Raturi (2006) refer to the Retroduction rationale as a contingency where qualitative approaches are often dictated by the need to discover environmental elements that produce events, and then subsequently,

quantifying or measuring of such elements. Critical realism is, in general, compatible with all the three purposes of triangulation. Also, the fundamental mode of inference in CR is retroduction, which identifies and explains causal mechanisms existing in a given context (Risjord et al., 2001; 2002). Thus, triangulation in CR is usually used to extend or obtain a more complete understanding of an occurrence, rather than to validate the accuracy of various data sets (Olsen, 2002). Thus, Pragmatism takes a 'not either but both' stance. That is, the notion that using a quantitative or qualitative method alone is insufficient to analyse a study. Rather, both methods should be used together so as to augment each other (Creswell, 2009). On the other hand, Critical realism asserts that qualitative methods be used in obtaining rich explanations of existing mechanisms in the phenomenon of interest (Bhaskar, 1998) and if a better understanding of the situation is required in order to redirect and change these mechanisms, then testing the nature and strength of existing mechanisms can be achieved by quantitative means (Edwards et al., 2014). (See Table 5.5 for comparisons between the four basic paradigms).

	Paradigms			
Philosophical Position	Positivism	Interpretivism	Pragmatism	Critical Realism
Ontology	Variants are Realism, Empiricism etc. Belief in an external reality independent of human thought or perception. Equates reality with recordable events (Mingers, J., 2006).	Variants are Relativism and Constructivism etc. Denies the possibility of knowing that which is real. Reality is as a result of human experiences and events. (Easterby-Smith et al., 2012)	Propose that ontological and epistemological views can be separated from a research and that truth is understood in terms of the practical effects of what is believed (Tashakkori and Teddlie, 1998; Scott, 2007)	Believes in a real-world independent of people's perception, that this world functions as a multidimensional open system and that causal structures that explains a phenomenon may remain latent until activated in specific situations (Mcevoy and Richards, 2003).
Epistemology	Knowledge is derived from experience of the world. Researcher is separate from that which is being investigated (Hjørland, B. and Wikgren, 2005).	Knowledge is created from the action and perception of the social actors. Researcher is not separated from that which is being investigated (Saunders et al., 2009, Bryman, 2015).	Knowledge can be obtained by the use of various methods required to achieve the optimum results. (Johnson and Onwuegbuzie, 2004)	Knowledge is obtained by observing and interpreting meaning in order to explain elements of reality that must exist prior to the events and experiences that occurred (Wynn and Williams, 2012).
Methodology	Investigates regularities at the level of events. Mainly applies quantitative methods: observations, experimentation. Deals with number and facts (Bryman, 2015).	Subjective study, deep reflections through. Mainly applies qualitative methods such as in-depth unstructured interviews and grounded theory research (Saunders et al., 2009).	Combination of both qualitative and quantitative approaches in other to complement each other. (Creswell, 2009)	Typically, research design is an intensive study with a limited number of cases. Involves Retroduction-making observations and theorizing a mechanism to explain the particular phenomenon (Bygstad and Munkvold, 2011).
Task of Researcher	To induce strongly supported hypothesis from empirical observation and to test and improve them in an attempt to confirm invariable laws through experimentation (Bryman, 2015)	To explore and reinterpret subjective meaning mainly through the identification of discourse and their construction of meaning. (Edwards et al., 2014).	To be capable of demonstrating flexibility when formulating a methodology by offering a mix of paradigms and methods as directed by the research question (Howe, 1988).	To provide a rich and reliable explanation for patterns of events through the development of appropriate accounts of the causal powers, entities and mechanisms which created them (Edwards, et al. 2014).

Table 5.5 Assumptions of Positivism, Interpretivism, Pragmatism and CR Paradigms Source: Author generated

5.5.2 Critical Realism vs. System Thinking

In a detailed account of Systems Thinking and Critical Realism, Mingers (2014) compared features of the two concepts by discussing their similarities and differences. CR argues against reductionism by delineating the distinction between physical laws underlying the possible behaviour or properties of a system and the actual causal factors that lead to it being present in a particular situation. In other words, the operations of the higher level cannot be described exclusively by the laws governing the lower order level, but rather we may say it possesses causal powers (Bhaskar, 1998; 1978). Concepts in Critical Realism such as structure, mechanism, emergent powers and open systems can almost be directly translated into the concepts used in systems thinking: structure and process, hierarchical system with emergent properties, systematic structure, and interaction of open systems. For example, Bhaskar suggests that things or entities have structures and therefore they possess 'generative mechanism' or causal powers, which is quite similar to emergent properties from a systems viewpoint (Mingers, 2014). However, Mingers points out that a distinction between the two lies in ideas that can be found in Systems Thinking (for example, positive and negative causal loops, boundaries), which is absent in Critical Realism despite System Thinking informing many of the ideas of Critical Realism (this, he states is a recognition of the need for further development in CR). On the other hand, CR has a comprehensive philosophical underpinning which is lacking in System Thinking.

Critical Realism	System Thinking
Structures, mechanism, totality	Systems
Parts/whole	Parts/whole
Powers, tendencies, holistic causality	Emergent properties
Open and Closed system	Open and Closed system
Stratified ontology	Hierarchy /nesting of systems
Emergent properties	Emergent properties
Intransitive and transitive domains	The observed and the observer
Mechanisms generate events	Structure generates behaviour or process
	Positive and negative causal relations
	Boundaries

Table 5.5.2 Comparing terminologies used in CR and System Thinking

Source: Author generated based on Mingers (2014)

From the above discussions on Paradigms, Research Philosophy and Justification for choosing Critical Realism philosophical approach, the paradigm for this research study is presented below:

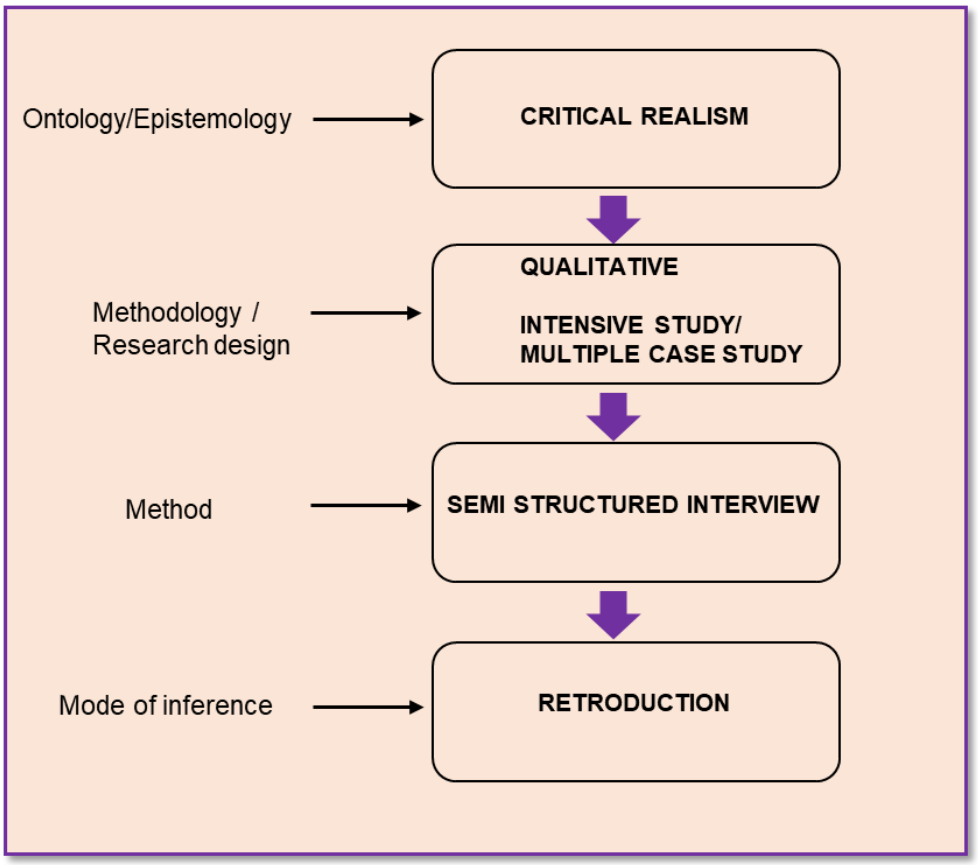

Fig. 5.4 Paradigm for Research Source: Author generated

5.5.3 Ontology and Epistemology of CR

Critical Realism provides researchers with novel opportunities to explore/investigate complex organisational occurrences in a holistic way. It is a relatively new approach to unravelling ontological and epistemological issues (Easton, 2010). Critical Realism integrates a realist ontology with an interpretive epistemology, and argues that although there is an external world independent of people's perceptions, our knowledge of it consists of subjective interpretations and is fallible because they are formed by the conceptual frameworks in which

the researcher operates (Mcevoy and Richards, 2003; Bhaskar, 1998). Hence, CR seeks to distinguish between the transitive domain, that is, human interpretation of the world, and the intransitive domain – a collection of entities and dynamic mechanisms that stand contrary to human accounts of them (Byrne and Ragin, 2009). CR seeks to generalise about theoretical suggestions which are more enduring, such that it is concerned about how a theory is used or applied in a different context (Edwards et al., 2014). By “more enduring” it means that, these theoretical suggestions may exhibit emergent features depending on their inherent structure/composition.

Ontologically, CR is based on the assumption that reality is multi-layered or stratified into three domains: The *Real*, the *Actual* and the *Empirical*. The domain of the *Real* consists of deep structures of objects or entities which are physical and social and internally related. The *Real* contains total reality; the mechanisms, events, experiences and causal powers inherent to these objects or entities as they independently exist. The domain of the *Actual*, consists of events that takes place when causal powers of structures and objects are enacted, in spite of whether they are observable or not. Lastly, the domain of the *Empirical* are those events that are experienced or observable through perception or measurement (Archer et al., 2013). These domains are nested within each other (Fig. 5.5.3), such that it is impractical to reduce what causes an event in one level to another level, because at each level some new experience emerges (Hjørland and Wikgren, 2005).

For Critical Realists, the main objective of investigation is to acquire knowledge about underlying causal mechanisms in order to achieve explanation of how things work. Therefore, in relation to the current study, knowledge into the underlying relationship between Governance, Project Execution System and External Environment is sought, so as to provide an explanation of how Project Management Practice is impacted upon, and subsequently identifying ways in which the concept can be developed in both the specific context and similar contexts.

Epistemologically, CR conceives a description of the real world through analysis of the experiences of participants. Thus, there is an interpretative or hermeneutic aspect involved in carrying out investigations. The knowledge claims that results from the analysis are aimed at identifying and explaining those elements of reality which must exist in order for the events and experiences being investigated to have taken place (Wynn and Williams, 2012). In other words, the epistemological objective of CR is to describe and explicate the relationship between observed experiences, events and mechanisms.

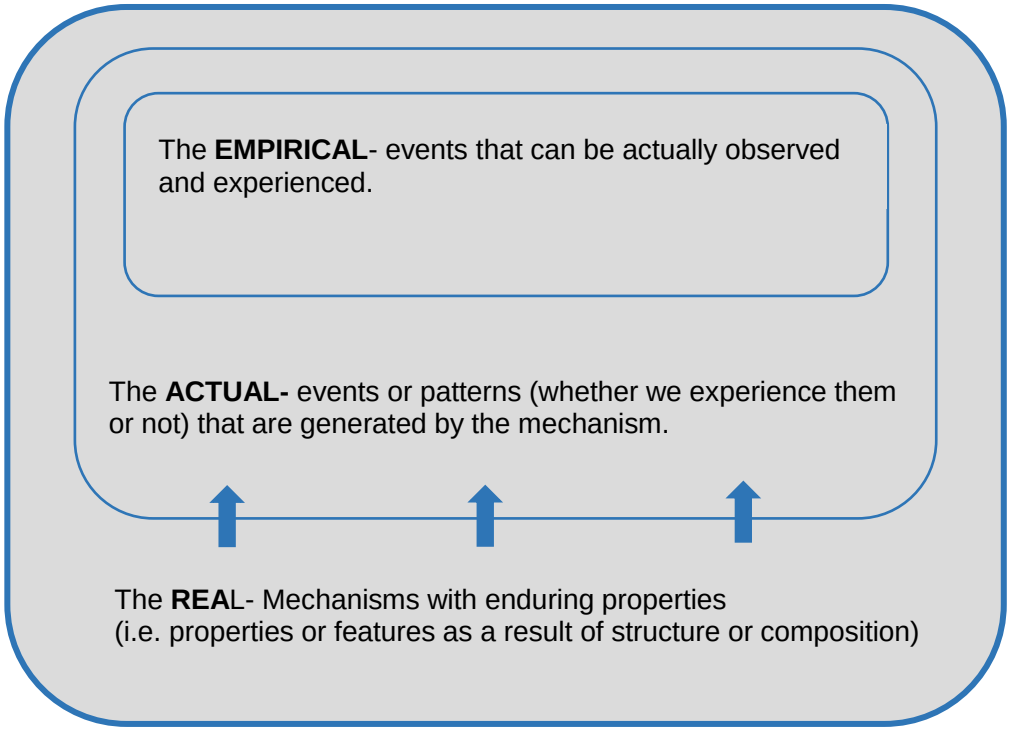

Fig. 5.5.3 CR stratified domains (The Real, the Actual and the Empirical)

Source: adopted from Mingers, 2006

The stratified ontology above which is also illustrated in Table 5.5.3 below, is the core of Critical Realism (Bygstad and Munkvold, 2011). A Critical Realist views the world as consisting of things which are mostly complex objects possessing a collection of tendencies, liabilities and powers. It is by exercising these tendencies, liabilities and powers that the events of the world are explained (Archer et al., 2013). The way a thing acts is a generative mechanism (ibid) implying that the interaction of its constituents creates a causal structure relatively autonomous of the events that take place and the experiences that occur. Therefore, Archer et al., (2013) states that mechanisms and structures are real and different from the patterns of the event they produce. Likewise, events are real and different from the experiences in which they are understood. Mechanisms, events and experiences which constitute the domain of the real, the actual and the empirical respectively, represent reality as three overlapping or nested domains.

	Domain of REAL	Domain of ACTUAL	Domain of EMPIRICAL
Mechanisms	√		
Events (experienced or not)	√	√	
Experiences (experienced and observed events)	√	√	√

Table 5.5.3 Stratified Ontology of Critical Realism Source: Wynn & Williams (2012)

5.5.4 Methodology and Methods in CR

Following from its ontological and epistemological views, CR aims at understanding and explaining underlying powers or properties of elements or parts. Central to a CR methodology is a layered or stratified ontology which directs one to the search for explanatory interactions between elements in these layers. Consequently, the methodological enquiry is how one identifies causal powers (mechanisms) since they are usually not observable.

Various scholars have applied different methodological principles in Critical realism research such as Explanation of events (Morton, 2006), Explanation of structure and context (Bygstad, 2010) and Empirical corroboration (Volkoff et al., 2007; Bygstad, 2010; Zachariadis et al., 2012). Each of the methodological principles highlights or emphasises a consistent strand; a clear/open focus on establishing causality. Each methodological principle searches for explanation of how and why a certain phenomenon occurs in relation to a particular context. The search for these explanations are typically achieved through qualitative means. Edwards et al., (2014) and Easton (2010), affirm that qualitative data collection through semi structured interviews is the traditional approach of research in CR, although recent developments have suggested the use of quantitative means for certain situations that require more insights to establish causal mechanisms. This technique may be regarded as multi-methods, which implies using multiple methods in parallel (Gul, 2011), as opposed to the mixed methods (discussed earlier), which entails more of a sequential pattern of use.

5.5.5 Mode of Inference - Retroduction

According to Bhaskar (1998) the process of arriving at a theoretical explanation progresses by describing significant characteristics of a possible causal structure at work. This procedure is predominantly called retroduction but sometimes is referred to as abduction (Mingers, 2006; Mcevoy and Richards, 2003). Abduction is specifically described as the process of identifying the casual mechanisms that exist in a context of study (Edwards et al., 2014), and has also been defined as theoretical re-description (Fletcher, 2016). On the other hand, Retroduction, is described as a set of procedures that involves:

1) Carrying out a theoretical re-description of the observable elements (ideally provided by research participants or historical data) by integrating observations with concepts identified from literature, to produce credible explanations of the mechanisms that produced the events (Danermark et al., 2002).

2) Identifying the interplay of elements, that is, mechanisms. For instance, identifying how social objects interact with structure and agency to produce the observed results. This process seeks to establish what the broader context looks like in order for the observed events to be as they are observed to be (Edwards et al., 2014).

Based on the explanation of retroduction above, it can be argued that abduction is a subset of retroduction, and the different methodological principles used in Critical Realism (Explanation of events, Explanation of structure and context, Empirical corroboration) are essentially variant forms of Retroduction.

5.6 Research Designs in Critical Realism

According to Sayer (2000) and Danermark et al., (2002), CR research varies along two dimensions: An Intensive study and an Extensive study. An intensive study focuses on the discovery of causal powers (generative mechanisms), whereas an extensive one focuses on the wider context in which the mechanisms operate. The difference is the extent of relative detachment from the subject matter by the researcher. These dimensions can be viewed as a continuum between involvement and detachment of the researcher because, while the former is concerned with only 'diagnosis' by considering the situation under study in depth, the latter attempts to influence the phenomena that is being investigated (Edwards et al., 2014), and is often associated with quantitative data collection and statistical analysis (Danermark et al., 2002).

Since the nature of reality in CR is stratified, with emergent powers and mechanisms operating in an open system, the focus of study is upon structure and agency that can bring to light the generative mechanisms (Danermark et al., 2002). Therefore, case study research is the recommended research design for CR studies and it is often used in an attempt to explore causal mechanisms in social research (Easton, 2010).

5.6.1 Case Study design

A case study design basically provides qualitative data which offer insights into the nature of the phenomenon under investigation. It is used to obtain reliable and wider information about a topic (Flyvbjerg, 2006). A key feature of the case study design is the ability to incorporate a holistic in-depth study of a phenomenon such as an activity, an action, an event or group of individuals using a range of data sources and processes (Baxter and Jack, 2008). The rationale for choosing this design is based on

(1) The assertion by Saunders et al. (2009) that case study is a beneficial way of exploring existing theory, such that an existing theory can be challenged based on established source(s) of new research questions, and;
(2) The emphasis case study places on developing contemporary phenomenon within a real-life context (Saunders et al., 2009; Eisenhardt and Graebner, 2007).

In relation to CR, Easton (2010) asserts that case studies are appropriate conveyors for identifying a context in which causal mechanisms at work are explored. Further justification of case study research is due to its focus on an intensive investigation of events that occurs in a specific structure, such as an organisation or company (Bygstad, 2010) or sites within an establishment (Volkoff et al., 2007). A case study expresses an opportunity to identify the mechanisms and how they are enacted, partly or in whole. It may involve the use of a single case or multiple cases to develop theoretical concepts or propositions (Easton, 2010).

There are various elements that influence Project Management Practice (PMP) in Nigerian Government Construction Organisations (NGCO). Exploring and understanding these elements and their interconnectedness is what this study sets out to achieve. Yin (2011) recommended case studies as appropriate designs for explanatory research inquiries that deal with connections that need to be traced over time, instead of ordinary figures or incidences. A multiple case study is adopted because it allows for multiple units of analysis, which offers evidence from a variety of sources (Yin, 2003). Although case studies are sometimes criticized due to the limited nature of their ability to generalize (Yin, 2003), it has

been argued that analytical generalisation is possible for a theoretical hypothesis, just as experiments are generalised through statistical procedures (Yin, 2011; 2003). Furthermore, case studies are mainly qualitative, and the aim or purpose of the study can be to describe, explore and/or explain (i.e. to explain theory, generate theory or contribute to modifying existing theory) a phenomenon (Grünbaum, 2007; Eisenhardt, 1989).

5.6.2 Case Selection Criteria

An appropriate selection of a 'case', is vital to attain better understanding of the phenomenon that is being investigated (Patton, 2002). This view is supported by Bryman (2015) who stated that the notion of a 'case' instantly links the case study with a specific geographical region, a group of people or an organisation. The Government Construction Ministries in Nigeria specifically offer a rich context for gaining knowledge about project activities and what project practitioners do within a challenging socio- political, economic and cultural environment that impacts on project management practice in these organisations. The selected organisations are government ministries with a mandate to carry out building construction works for itself or on behalf of other ministries.

5.6.3 Unit of Analysis

A unit of analysis is a key concept that relates with the understanding and application of a case study (Yin, 2003). It is the unit which will be analysed in a study and is usually determined by the research questions (Sekaran and Bougie, 2016). Due to the association of case study and the unit of analysis, there is often ambiguity in the connotation of a "unit of analysis" and the "case" itself (Grünbaum, 2007), therefore, determining of the unit of analysis can be confusing.

Patton (2002) states that cases are units of analysis, as there is no difference between the two. Similarly, Feagin et al. (1991) and Miles and Huberman (1994) suggest that the unit of analysis means the same as the case study. However, on the contrary, some scholars separate the unit of analysis from a case by arguing that "the unit of analysis explains what the case study is focusing on, for example, an individual, a group or an organisation (Grünbaum, 2007). According to Fisher and Buglear (2004), the objectives of a study, including the problem statement, research design etc, is what determines the unit of analysis and Patton (2002) expresses it by stating "The main issue in choosing and deciding an appropriate unit of analysis is to agree on what it is you want to be able to say something about at the end of the research". Therefore, the unit of analysis for this study is the

knowledge and information that the research participants provide about the relationships between organisational elements impacting on PMP in their organisation. Easton (2010) correspondingly asserts that organisations and relationships are usually the main units of analysis in a critical realism study.

5.7 The Qualitative Inquiry

5.7.1 Sample selection

A sample is a subset that contains attributes or features of a larger population and is selected for a particular study. According to Sekaran (2003), the process of selecting suitable individuals, objects or organisations for a study is known as sampling. The selection of a sample influences the quality of the researcher's interpretations and the degree to which the findings can be generalised or transferred to other groups or contexts (Collins, 2010). Due to the nature of the research, the sample selection in this research was based on purposive sampling. This sort of sampling technique is practical when the researcher is cognisant of the details about certain individuals or events and makes guarded judgment due to the belief that the most valued data can be achieved (Denscombe, 2014).

Purposive sampling was adopted for the research because the study seeks to understand how elements/components of an organisation impact on PMP within a social setting. This corresponds to Tongco's (2007) assertion that purposive sampling is very effective when a researcher is studying certain structures or cultural terrain amongst educated/ informed professionals. Participants were selected on the bases of their roles and responsibilities in managing building construction projects (housing projects), and also their knowledge of the organisation investigated in order to acquire meaningful data.

5.7.2 Pilot study

Pilot studies, sometimes referred to as feasibility studies, are basically "small scale forms" or "trial runs" carried out prior to the main study (Polit and Beck, 2006). These "trial runs" are used in pre-testing a research instrument which, in this case, were research questions. Conducting a pilot study is important for various reasons, such as: developing and testing the adequacy of research questions, gathering preliminary data and assessing the practicality of the study or survey (Van Teijlingen and Hundley, 2001). In other words, a pilot study can prevent one from time and fund wasting, as it exposes the deficiencies and gaps

in the design of a research instrument or procedure which can be revised prior to the main study (Altman et al., 2006). Subsequent to the final formulation of the research questions, four pilot interviews were conducted via telephone with project practitioners and professionals in the context of study and in the field respectively.

Participants willing to take part in a telephone interview were scarce, most of them were sceptical about being recorded, even when reassured that there were no recordings. Others gave the excuse of having a busy schedule, and the instability of electricity/WiFi connectivity in the context of study contributed to the difficulty of accessing participants via phone or email. It has been suggested that face to face meetings are generally more accepted in developing nations, and internet access is not reliable (Altbach, 2013).

The pilot interviews were relevant for checking the coherence and lucidity of the questions, which provided the opportunity to further develop and refine the final set of questions based on the responses received. During the coding of the pilot studies, some issues were identified which corresponded with the literature. Nevertheless, the data from the pilot study were not included in the main results of this research and neither were new data retrieved from the pilot study respondents. This was to avoid problems such as social desirability bias and the likely possibility of making incorrect predictions based on findings from a pilot study (Turner, 2005; Van Teijlingen and Hundley, 2001). Final research interview questions are provided in Appendix 2

5.7.3 Data collection

The sample size for the study consisted of 26 research participants with 22 useable responses. Availability and disposition of participants proved to be challenging. It is assumed that the change of regime and instability in the Nigerian government during the period of this investigation contributed to the inaccessibility of civil servants/government officials. The sample size comprised of different grade levels (Grade Level 13 to 15) of officers that manage projects in a Government Ministry or agency. Briggs (2007) explained that there are four major categories within the grading and salary structure in the Nigerian civil service: junior staff - Level 01 to 06 and senior staff - Level 07 to 12 and the management level, which has two categories: management cadre - Level 13 to 14 and Directorate cadre - Level 15 to 17.

The selection of the research participants took into consideration the different government organisations that have a mandate to execute construction building projects. This allowed

the researcher to gain a wider range of opinions. A variety of different management level officers were interviewed to gain different views of government officers from differing levels, this was relevant in obtaining comprehensive data that generates a representative finding, because of the level of bureaucracy within the context, which engenders role ambiguity (Magbadelo, 2016) (See section 3.6.1)

All the participants were from a management level: 20 from a management cadre (ranging between level 13 and 14) and 2 from a Directorate cadre (level 15). The 22 research participants came from three organisations:

1) Federal Ministry of Power, Works and Housing (FMPWH)
2) Federal Housing Authority (FHA)
3) Federal Capital Development Authority (FCDA)

Table 5.7.3 presents a description of all the participants; the name of the organisation and role of each participants in their respective organisations.

(i) Description of Organisation - FMPWH

Electrical, Housing and Urban development projects are obligations of the Federal Ministry of Power, Works and Housing. The Ministry is a merger of two departments, one being dedicated to works and housing developments and the other to power/electricity. The Ministry carries out its responsibility with the support of the Federal Housing Authority, a key parastatal of the Ministry. FMPWH is headed by one Minister, a Minister of state and two permanent secretaries, each heading the two departments of the Ministry. This Ministry manages projects for other ministries such as the Ministry of Education and the Ministry of Health etc.

(ii) Description of Organisation - FHA

The Federal Housing Authority (FHA) is an agency under the Federal Ministry of Power, Works and Housing. It is responsible for implementation of housing programmes approved by the government, and also makes approvals to the government on aspects such as urban and regional planning, transportation, sewage, and water supply that are relevant to the successful execution of housing development. FHA is governed by one managing director and two executive directors.

(iii) Description of Organisation - FCDA

The third organisation is the Federal Capital Development Agency (FCDA) and was established by the Federal Government as an agency for the planning, designing and industrialization of the Federal Capital of the country. FCDA is administered by the Federal Capital Territory Administration. The agency is responsible for the construction and maintenance of infrastructure and public building construction. Their activities consist of the designing, planning and development of affordable mass housing and public building projects.

5.7.4 Ethical considerations

Ethical issues often arise during the course of conducting a qualitative study because of the likely effect(s) of the research on the respondents and or the sensitivity of the information collected (Beaulieu and Estalella, 2012). In the same vein, Kapp (2006) stated that research study comprising the participation of human beings involves various ethical issues relating to values such as personal dignity, integrity, autonomy and privacy of personal information. The Social Research Association (2003) suggest that researchers in a social environment should endeavour to guard participants/ respondents from harm that may arise as a result of their participation in the study. This means that participation in the study should be voluntary, and participants should be fully informed about the nature of the study. Consequently, a letter requesting for participation was sent via email to all interviewees. The letter contained the title of the research, the purpose for which the research is being carried out, and the research ethic policy (Appendix 3). The interview process was conducted face-to-face. Permission was sought from interviewees before tape recording the interview, which lasted for an average of 30 minutes.

Prior to data collection, consideration was given to ethical issues during the research process, methodology and potential harm to respondents. Therefore, approval was received from the Research Degree Office of Robert Gordon University with the purpose of ensuring compliance with the obligatory legal and ethical requirements. This action is supported by Roberts (2015) who opined that it is mandatory for researchers to get ethical approval from an ethics assessment body. Subsequent to obtaining ethical approval, respondents were provided with an informed consent form for all telephone calls and tape recordings. Respondent's anonymity and confidentiality were protected, according to the ethical guidelines.

No.	Name/ID	Role in Organisation	Organisation	Role in Projects
1	PAD01	Director	FHA	Project Practitioner
2	PAD02	Director	FCDA	Project Practitioner
3	PAD03	Chief (Head of Section)	FMPWH	Project Practitioner
4	PAD04	General Manager	FCDA	Project Practitioner
5	PAD05	Chief (Head of Section)	FMPWH	Project Practitioner
6	PAD06	General Manager	FHA	Project Practitioner
7	PAD07	Chief (Head of Section)	FMPWH	Project Practitioner
8	PP01	Manager	FHA	Project Practitioner
9	PP02	Manager	FHA	Project Practitioner
10	PP03	Manager	FHA	Project Practitioner
11	PP04	Professional Officer	FMPWH	Project Practitioner
12	PP05	Professional Officer	FMPWH	Project Practitioner
13	PP07	Manager	FCDA	Project Practitioner
14	PP08	Manager	FCDA	Project Practitioner
15	PP09	Manager	FCDA	Project Practitioner
16	PP10	Manager	FCDA	Project Practitioner
17	PP11	Manager	FCDA	Project Practitioner
18	PP12	Professional Officer	FMPWH	Project Practitioner
19	PP13	Manager	FCDA	Project Practitioner
20	PP14	Professional Officer	FMPWH	Project Practitioner
21	PP15	Professional Officer	FMPWH	Project Practitioner
22	PP16	Manager	FCDA	Project Practitioner

Table 5.7.3 Description of Interviewees

5.7.5 Reliability and Validity

Reliability and Validity are important issues for a researcher to consider when designing a study, conducting analysis of data and assessing the data quality (Golafshani, 2003). Reliability is defined as the dependability or consistency of the data (Hernon and Schwartz, 2009) and in relation to qualitative studies it has been referred to as the use of research methods that are recognised and acceptable to the research society as an authentic means of gathering and analysing data (Collingridge and Gantt, 2008). Validity on the other hand, is multi-faceted, and includes content validity, face validity, criterion-related validity, construct validity and internal validity (Hernon and Schwartz, 2009). For a qualitative study, validity implies checking for the truthfulness and credibility of the findings by using certain procedures (Gibbs, 2007).

Based on recommendations by Creswell (2009), qualitative validity was ensured by:

i) Employing different sources of information by exploring evidence from the sources and using it to form a logical justification for themes.
ii) Conducting a follow up interview with some research participants and asking them to comment on the findings. This process is called member checking.
iii) Spending a lengthy time during the data collection process in order to develop an in-depth understanding of the phenomenon.
iv) Conducting peer debriefing, by asking someone to review and appraise the study to enhance the accuracy of the interpretation. This also allows the interpretation of the study resonate with someone else other than the researcher.

Similarly, reliability was ensured by applying recommendations by Yin (2011) and Gibbs (2007):

i) Writing down and keeping a record of the procedures and steps used in the case studies.
ii) Reading - through transcripts for errors and making sure that obvious mistakes are absent.
iii) Avoiding a shift in the meaning of the codes during coding process by continually matching data with the codes and by writing down description of codes in memos.

5.8 Summary of Chapter

The philosophical and methodological approach used for this research was presented in this chapter. Critical Realism was discussed extensively to clarify any misperception or mis-understanding about the approach. Finally, the methods of data collection and appropriate procedures of carrying out this inquiry were outlined.

CHAPTER SIX: ANALYSIS AND FINDINGS

The ability to reduce everything to simple fundamental laws does not imply the ability to start from those laws and reconstruct the universe. – Anderson P. W, 1972

6.0 Chapter Introduction

The purpose of this study is to examine the challenges of Project Management Practice (PMP) in NGCO from a holistic perspective of the organisation by determining the causal relationships existing between its structure and agency. This chapter presents the findings from the thematic analysis of data collected from the conducted interviews. Theoretical and emergent themes are presented alongside excerpts from the interviews in order to illustrate and evidence themes. At the end of the analysis three main themes emerged, corresponding with the theoretical themes. In addition, a fourth theme emerged. The main themes contained a total of 12 sub-themes. Sub themes provide a more detailed explanation of the main themes (Braun and Clarke, 2006). The final stage of the analysis shows the connection between the sub themes (and corresponding themes) based on extracts of the data to demonstrate causal relationships.

6.1 Thematic Analysis method

Data analysis in Critical Realism (CR) follows a qualitative approach and different qualitative data analysis methods have been proposed by critical realist's scholars (Easton, 2010; Danermark et al., 2002). Some argue that since the use of different methods of analysis on a source data may provide varying information, (for instance, using content analysis, grounded theory or discourse analysis may produce different results) data analysis is contingent on the objective of the study (Gul, 2011; Silverman and Marvasti, 2008). Since this research aims at exploring reasons for the challenges of PMP in NGCO and their causal relationships, a thematic analysis was used in evaluating the data acquired from the study. For critical realists, thematic analysis is commonly used (e.g. Fletcher, 2016; Easton, 2010) due to its active involvement with data. Thematic analysis is described as a method for identifying, analysing and reporting patterns within data (Braun and Clarke, 2006). In order to justify the use of thematic analysis for this study, a comparison between thematic analysis and other analytical options is provided in Table 6.1

Analytical Method	Description & Criticism	Reasons for Discounting
Content Analysis (CA)	CA is a systematic coding approach used to explore large amounts of textual data discreetly, to determine trends and patterns of words usage and their frequency and can also be used in counting images. There is the danger of missing context and the unlikelihood of finding a theme based on the low frequency of occurrence (*Vaismoradi et al., 2013*) or the probability of misinterpreting information based on high frequency (*Marks and Yardley, 2004*)	An objective of this study is to explore the elements that impact on PMP in order to establish causal relationships. Since there is a tendency to omit certain themes that may be relevant, due to quantifying, this method was considered inappropriate.
Grounded Theory (GT)	GT is a systematic methodology used for developing theory that is grounded in data gathered and analysed in an ordered way (*Strauss and Corbin, 1994*). Critics argue that interpretation, description and reflection can be weakened in the techniques of grounded theory because it is impossible to free oneself of preconceptions (*Thomas and James, 2006*). GT evades active engagement with existing theory during analysis process and the inferential procedure linked with GT are mainly inductive (*Fletcher, 2016)*	This research is underpinned by a Critical Realist approach and uses abduction and retroduction. CR is generally guided by existing theory. Theory guiding this study is the System Theory.
Discourse Analysis (DA)	DA is the study of language in use. It is concerned with the understanding of how things are said and done and uses different theories of grammar about how to interpret meaning (*Gee, 2014*). There are many versions and applications of DA, such as Psycholinguistics, semiotics and proposition analysis (*Allen, 1989*), analysis of the use of information (*Derr, 1985*), Implicature (*Frohmann, 1992*). Therefore, choosing a version must be directed by the research objectives, which may lead to difficulty in decision making *(Brown and Yule, 1983).*	The many different forms of DA, makes it difficult in deciding on one. In addition, DA requires an in- depth theoretical and technical knowledge of the method (*Budd and Raber,1996*)

Analytical Method	**Description /Criticism**	**Justification for use**
Thematic Analysis (TA)	Though similar to Content Analysis, TA pays more attention to the qualitative features of the data analysed. Analysis is often theory driven, but also allows for researcher's knowledge and presumptions to influence the identifications of themes (*Marks and Yardley, 2004*). Analysis often produces large amount of information/codes which may become challenging to the researcher trying to decide which aspect of their data to focus on. Also, if used outside an existing theoretical framework, it possesses limited interpretative strength and may be just ordinary description (*Braun and Clarke, 2006).*	TA is a flexible and beneficial research method that provides a detailed and multidimensional account of the data (*Vaismoradi et al., 2013*). Because of its theoretical flexibility, it is useful in synthesising data from different sources, thus allowing for determining of relationships (*Braun and Clarke, 2006*), it is therefore the most appropriate choice for this study.

Table 6.1 Comparison of analytical options Source: Author generated

According to Easterby-Smith et al. (2012), the use of thematic analysis is a suitable technique for exploratory studies and/or for theory building. Thematic analysis establishes the presence of themes that emerge from textual data and goes further to obtain deeper meaning imbedded in data. Themes are identified from extant categories and explored relationships that are entrenched in the data. Thematic analysis is supported by various software packages such as Atlas Ti, MAXQDA, Nvivo and NUDIST. The NVivo qualitative data analysis software was used for this research because of its relative simplicity of use, and its capability to add rigour to qualitative research through the inbuilt search feature which is useful in interrogation of data (Welsh, 2002). NVivo is a computer aided qualitative data analysis system (CAQDAS) that aids the researcher in managing and organising data, recording and reporting data, managing ideas, querying and coding qualitative data (Leech and Onwuegbuzie, 2011; Bergin, 2011).

6.2 Data Analysis Structure

According to Bygstad and Munkvold (2011) and Danermark et al. (2002), the framework for data analysis in CR follows four crucial phases. However, some authors argue that a 5th phase, which is often a quantitative approach, is only relevant if more knowledge of the phenomenon is required in order to redress and change the identified mechanisms (Edwards et al., 2014). The four phases are as follows:

Phase 1: Description of events or experiences by gathering the comments identified by the researcher or made by the respondent. This phase involves reflecting and familiarising oneself with the interview data. This is followed by data reduction, which involves the application of thematic analysis to separate elements using codes from the conceptual framework. The process of data reduction and coding was achieved with the aid of NVivo computer software.

Phase 2: Phase 2 entails the identification of key elements which are the real objects of the study by categorising initial codes labelled in phase 1 into groups of codes that are associated to overarching categories, for example people, groups or systems. Key elements (or overarching categories) emerge from data or are embedded in a theoretical framework.

Phase 3: Phase three is referred to as theoretical re-description, where data reconstruction is executed by arranging the codes into a theoretical framework in order to compare and explain the data. This process supports a deeper analysis. And is often referred to as abduction.

Phase 4: Identification of causal mechanisms is carried out in the fourth phase. This process involves reflection and deliberation of the background information documented against respondents and seeking to identify hidden and manifest patterns that exist in relation to the context. The interconnectedness of themes to each other is considered and also their relatedness across the entire system. At this phase information from respondents are considered in relation with the literature as well as identifying any gaps in literature.

PHASES	ANALYSIS PROCESS
Phase 1	Description of events (experiences) - *Gatherings of comments, identified by the researcher or made by the research participants.* - *Data reduction, by separating events using codes generated from conceptual framework (Thematic analysis).*
Phase 2	Identification of key elements (Main themes) - *Key elements/components are the 'Real' objects of the study, for example people, groups and systems.* - *Key elements emerge from data or are embedded in a theoretical framework.*
Phase 3	Theoretical re-description and explanations (Abduction) - *Comparison and interpretation with relevant theory (ies) or concepts in order to increase theoretical sensitivity.*
Phase 4	Retroduction (Identification of causal mechanisms) - *Identifying the interplay of elements. For example, identifying how social entities interact with structural or cultural objects to produce the observed outcome* - *Explaining how the whole empowers and restrains the various parts by considering mechanisms across the Real, Actual and Empirical domain.*

Table 6.2 Framework for Data Analysis in Critical Realism

Source: Bygstad and Munkvold (2011) and Danermark et al. (2002)

6.2.1 Data organisation and reduction using NVivo

In **Phase One**, comments and information obtained from respondents through audio recording were imported and stored in Nvivo. Identities of the respondents were kept anonymous by allocating codes to each interview file. The first attempt at coding was executed using the audio feature in Nvivo. However, some difficulties were experienced. The first issue was the excessive length of time used in going back and forth to the beginning of the audio when trying to select a specific section to code. The researcher found this process

exhausting and time consuming. However, the process was useful in obtaining exact information, it also helped with getting more familiar with the data.

Another difficulty was in trying to identify elements that impact on PMP by listening to the respondent's responses. The researcher's 'read and write' study preference may have contributed to this challenge. In addressing this, the audio recordings were first transcribed and stored in textual format rather than audio format. This provided a better interaction with the data and the researcher was able to prepare memos that reflected her views. A memo document was prepared for individual participant (were necessary) and linked to nodes, it contained comments and annotations about specific content /events and it enabled the researcher to make sense of the data.

Moving into **Phase Two** was continuous from Phase One, the process of identifying coding instances was an iterative process which consisted of revisiting the literature and interview memos. Adhering to Corbin and Strauss (2008), steps to coding, instances of activities and events were first coded and grouped into categories (i.e. open coding process), then further coding was performed based on the relationship of the categories (i.e. axial coding process). Lastly, the axial codes were organised, integrated and categorised under themes generated from the conceptual framework (selective coding). However, emerging events and experiences where identified from the data which were found suitable to be categorised under a different theme.

The themes based on the initial theoretical framework and the new emerging theme are the "Real" objects of the study. That is, they represent the organisational elements/components contained within the system. Consequently, activities and events from the open coding were categorised into12 subthemes, which were subsequently coded under the four main emerging themes. The main themes (selective coding) and subthemes (axial coding) are shown in Fig 6.2.1

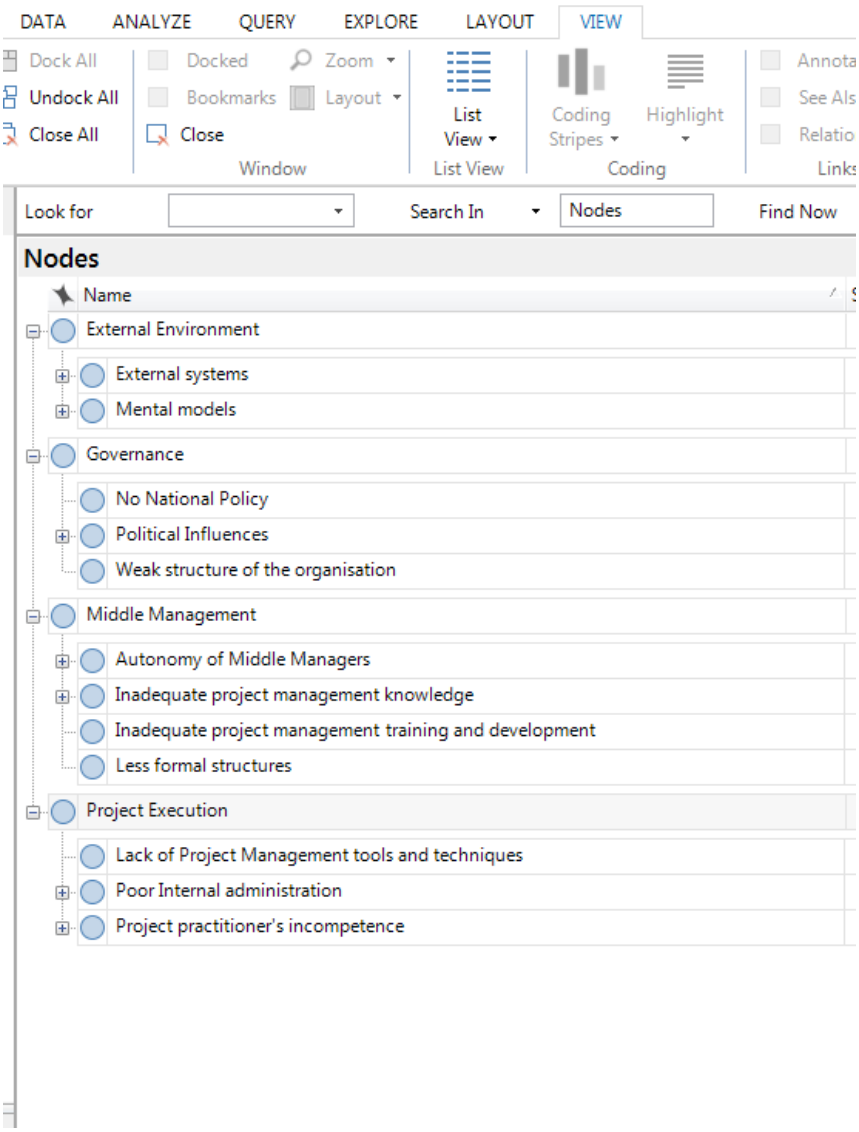

Fig. 6.2.1 Visual display of Selective and Axial coding using Nvivo

Coded elements based on theoretical themes are:

(1) External environment: external systems comprising of indigenous contractor's incompetence, indigenous contractor's dishonesty and foreign contractor's competence. Mental models consisting of the traditional orientation of policy makers.

(2) Governance system: which comprises, no national policy, political influences (Non-release or lack of funds and Nepotism) and weak structure of the organisation.
(3) Project Execution system: which comprises: lack of project management tools and techniques, project practitioner's incompetence (restricted authority of project practitioner) and poor internal administration (adverse behaviour).

As a result of the evolving theme, the Project Management System was renamed Project Execution System, to reflect aspects pertaining directly to technical and project control processes. The evolving theme identified from the coding process is the Middle Management System, consisting of the following sub themes/elements:

- Autonomy of middle management (lack of continuity);
- Inadequate project management knowledge (perception of project management and lack of project leadership & managerial skills);
- Less formal structures, and;
- Inadequate project management training and development.

The emergence of the Middle Management System represents a split in the Project Management System. NGCO operate traditional forms of management where rules and processes are imposed, workers are controlled and restricted, and a top-down hierarchy is prevalent. Therefore, there is a high differentiation of functional proficiency. Consequently, managers increase their span of control to effectively manage their workforce. The Middle Management System links policy with implementation, through its activities such as training and development, introduction of techniques and practices, and motivation and support for workers (Koch et al., 2015; Rouleau and Balogun, 2011). However, the role of middle managers in an organisation have not always been emphasised (Koch et al., 2015; Mantere, 2008; Dopson and Stewart, 1990).

Fig 6.2.2 shows the coded subthemes/elements based on the theoretical themes and emerging from the data

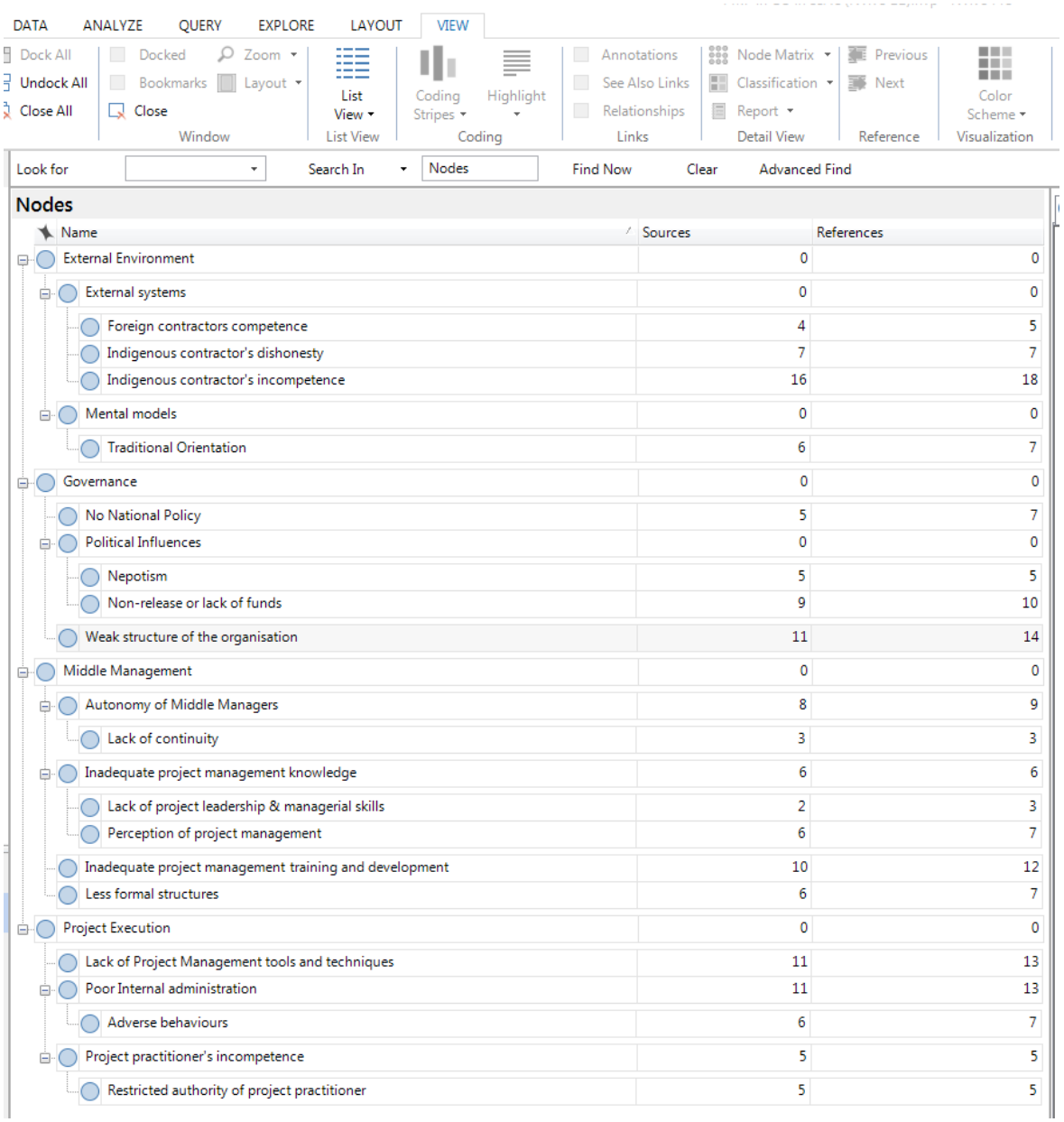

Fig. 6.2.2 Visual display of themes and subthemes coding index using Nvivo

Phase Three of the analysis process involved a theoretical re-description (Abduction), which was done concurrently with the presentation of findings. Main themes were compared and analysed based on Critical Realism philosophical domains, Formal System Model and the initial conceptual framework in relation to the findings. Detail of this phase is provided in Section 6.4 and illustrated in Fig 6.3.

6.3 Presentation and initial discussion of findings

The sections below present extracts of data from the interviews. The findings are presented in two different ways. The first presentation is in the form of a theoretical re-description (Phase Three of analysis), and the second presentation is in the form of identification of causal relationships (Phase Four of analysis). The Stella Architect simulation software, created by 'isee systems', was used in presenting a model of the causal relationships. Stella Architect is a model building and simulation tool used to create simulations and presentations.

6.3.1 Project Execution

The Project Execution theme represents the core system of the theoretical model, where aspects of managing the project are carried out. According to Too and Weaver (2014), this system expresses the overall capacity of an organisation to execute projects effectively. It consists of elements that deal directly with the implementation and administration of projects. More than half of the respondents expressed that this core system was deficient in essential resources required to effectively practice project management. Instances and responses were grouped into three elements under this theme:

- lack of project management tools and techniques,
- project practitioner's incompetence and
- poor internal administration

6.3.1.1 Lack of project management tools and techniques

Project management methods, tools and techniques refers to specific methodologies, guidelines or templates used for the running and controlling of projects. Tools and techniques are regarded as vital factors that are put into a management system which leads directly or indirectly to the project's success (Cooke-Davies, 2002). They cover a broad range of

aspects from project management software to management procedures and formal guideline documents. White and Fortune (2002) identified six categories:

(1) Methods and methodologies (e.g. PRINCE 2)

(2) Project management tools (e.g. Critical Path Method CPM, Gantt bar charts)

(3) Decision making techniques (e.g. Cost benefit analysis, Sensitivity analysis)

(4) Risk assessment tools (e.g. Probability analysis, Event tree analysis ETA)

(5) Computer models/databases/indexes (e.g. Lessons learnt files, Expert systems)

(6) Computer simulations (e.g. Monte Carlo, Hertz).

All interviewees have been involved in the management of projects at some point in their profession, and most of them have knowledge about project management tools and techniques and their importance in project management practice. They reported that this element (project management tools and techniques) was deficient in their organisations.

> *"They should go to site with certain tools such as templates and guidelines properly developed for them to know what they are looking out for and the kind of report that will help the management decision they are going to generate".* PAD04

> *"I think that part of the challenges that affects project management practice would be exposure to advanced project management mechanism".* PAD03

> *"…A lot of times the scheduling is manually done…But generally we have a challenge when it comes to project management software".* PP01

> *"Like I use risk assessment to compare, my knowledge as a project manager is that risk assessment is not applied here. I would say possibly 40%, in short, any project that the risk is assessed up to 40% here is a very big effort. We don't have the tools".* PP13

> *"Sometimes the software is really expensive, a lot of people cannot afford it and if the office doesn't buy, then that's it. The other things are the tools you need for project management. They are not readily available and very expensive".* PP12

> *"On the basis of laid down procedures as a government agency it's difficult to say because really there are no template. If a new staff were to come in after all the necessary orientation, no template, no structure is given to him that he can fall into, he somehow develops based on his own experience before coming into the service, based on his knowledge, based on the new experience he gathers, he now develops his own methodology*". PP14

"…But we don't have any project management software". PP15

"Also, the tools that are required for proper project monitoring are not provided" … Many of us lack the use of basic project management tools, the software applications, some people don't even have computer systems". PP16

Another concern raised was the lack of a dedicated office or unit for project management. Project Management Offices (PMOs) have been described as project tools that are used to establish effective project management in organisations (Bates, 1998). PMOs are also referred to as 'Project office' or 'Project implementation unit', and are either physical or virtual and consist of people with special expertise in project management, promoting good practices in the organisation. They sometimes carry out a project surveillance function that reports directly to senior management (Andersen et al., 2007).

Some of the respondents specifically mentioned the lack of a Project Management Office or Project Implementation Unit.

"There has to be a department, or a unit charged with solely management of projects but now it's a lopsided, irregular in the sense that the people are saddled with management, monitoring and evaluation of projects..." PAD06

"And I think also from my experience there should be a project management office in the organisations where their projects would be coordinated". PP05

6.3.1.2 Project Practitioner's incompetence

Based on the definition of competencies as a collective combination of technical knowledge and professional behaviours that enhances superior job performance (Dainty et al., 2005), this element (Project Practitioner's incompetence), represents a lack or deficiency of both functional and behavioural skills. Project manager's/practitioner's competencies have great influence on how Project management is practiced (El-Sabaa, 2001) and it is recognised as a vital yet difficult element to quantify (Crawford, 2000). Skills required by a Project Practitioner have been categorised in different ways, such as human skills, conceptual skills and technical skills (Katz, 2009), communication, organisational, team building, leadership, coping and technological skills (Meredith and Mantel, 2011).

Based on the responses, it was noted that respondents place more emphasises on technical skills alone. This could be because of the tasks that they engage in.

"There are inadequate personnel, that is, no adequate well-trained personnel that can do a proper job. They need to be trained. Again, reporting is an issue, sometimes people do not know what and what to report and you need a lot of proper competent people that can analyse data. We need well experienced project workforce". PAD04

"We are not staffed with professionals, it's just like an admin man saying he is going to monitor a building project, I mean he doesn't have the right skills". PAD06

"And from time to time we have seminars to brief each other on our roles as project managers. But it is still not enough. Most agencies don't have competent hands in the proper places". PP16

"It is believed here that once you are a professional and you are registered like a registered architect, a registered quantity surveyor, a builder etc. and you are up to level 13 and above, it means you can handle a project on your own as a project manager. The training of a project manager, either going for degree or courses on project management does not really count … PP03

"Because the people who run the projects in the ministry including myself is what I can call accidental project managers, that is what we are because we are just, we are project managers not because we knew about project management but because projects were thrown at our laps and we had to manage them whichever way we knew just to get to the end". PP05

A lack of project leadership/managerial skills was also iterated

"So, these are part of the issues affecting project management practices, I guess it's a leadership problem, and also exposure. Exposure and leadership problem. Because you can't give what you don't have". PAD07

"*Some project coordinators do not have adequate leadership skills when it comes to managing people, they don't have the charisma".* PP15

Some participants made reference to their roles as project coordinators or managers, indicating that they had a limited authority when it comes to managing projects.

"… A project manager ought to be in total charge of projects but even the project coordinator here is not in total charge of the projects". PP13

"The Director is the overall project coordinator, by our contract that we sign, we refer to project coordinator, it means the Director, but he delegates it to project coordinators who usually are in charge of the project, they manage the staff, contractors, and resources, and based on their expertise". PP12

> *"You do not have any say in the payment of contractors on site... meanwhile you are the first point of contact with the site workers. You have to report every issue, you don't have any say about the payment of contractors on site and even if you do have a say, you can't enforce any plans on it. Someone has to give a finally approval".* PP03

In addition, it was noted that there was no proper description and delineation of specific roles and designations. Respondent PP13 pointed out that, although the director is meant to be the project manager, in a real sense project coordinators are the ones who manage the projects.

> *"In this case, the director of public building for instance is the project manager for all public building projects if we see it from the project management perspective. But in practical sense he is not, project coordinators are".* PP13

The response from PP05 equally indicated ambiguity in the role of project practitioners, implying that the reason was due to tall hierarchical structures within NGCO.

> *"For example, a project manager is supposed to have access to the high end of the organisation when a project is approved a project manager should be appointed but nobody is so designated …. There was a deputy director who was overseeing my work and then he had also a director who was overseeing his work, so who is the project manager"?* PP05

> *"I recognised myself as a project manager because of the things I did but there are some things that I could not approve I had to escalate it to the top hierarchy and even my superior could not approve it has to go higher."* PP05

One respondent acknowledged that, in the organisation, the role of a Project Manager is actual based on one's profession. For example, an Engineer or Architect.

> *"As it is here the bridging is on professional technical lines, it's not like having a project manager. Project management is not instituted here".* PP13

The statement on the role of a project manager being based on one's profession stems from the viewpoint which sees project management as an informal job rather than a profession (Giammalvo, 2007). This perception is mainly adopted by project practitioners especially those in a highly technical related environment such as construction and information technology even though the original idea was for project management to be regarded as a profession with unique standardized theoretical base (ibid). However, nowadays each profession adopts project management as it applies within that organisation. With regard to NGCO, there is a need to embed project management into the organisation, which may have to begin with differentiating professional technical roles from project management.

6.3.1.3 Poor Internal administration

The revolutionizing of the traditional administrative processes in government organisations emphasised the need to improve internal control processes and administration. This widespread transformation focused on performance measurement and principles of business management (Gray and Jenkins, 1995). Some key elements of the NPM mechanisms include performance auditing and management, personnel management and the use of information technology (Gruening, 2001). It has been acknowledged that some aspect of NPM associates with project management practice (Section 3.5). Therefore, it is debatable that this element (poor internal administration) relate with PMP.

Responses indicated poor administrative activities ranging from logistic difficulties to lack of adequate IT systems.

> *"I will say the logistic problem is that for example, a few weeks back, the electricity was such a challenge and because funds were not released, diesels for the generator could not be purchased. Therefore, typing out bills of quantities, general administrative work was hindered… technological related issues".* PAD05

> *"A lot of time the scheduling is manually done, but sometimes there is someone who collates some of these things, who reports … the people in the office i.e. the admin staff are the ones who collate some of these things".* PP01

> *"Some people don't even have computer systems. And electricity is not always available, not everybody has a system or a desk where they sit. I think provision of these things will facilitate project management practice more".* PP16

The issue of attitudes, behaviours and incentives for motivation was referred to, which are categorised under the sub-element - Adverse Behaviours.

> *"The only thing is just the human factor, I'll say is a challenge. Because when you're supervising a project… and you know human beings. You get to see different people, different temperaments".* PP08

> *"Our attitude is also not right. Because its government job so who cares".* PP15

> *"You know government business is not like private sector, elsewhere when you are assigned to a project, you don't do any other thing, that is what you will do. But many times, I find myself doing a lot of adhoc ... sometimes you find yourself not putting all your best".* PP09

> *"… Government provides no incentives so that's why we grow grey hair faster than a lot of other people".* PP09

Based on respondent PP09's account, it could be argued that some of the reason for the adverse behaviours of project practitioners in NGCO is due to issues such as no incentives or motivation from the government. The structure also seems to negatively impact on one's attitude and behaviour, whereby a project practitioner is involved in other organisational activities besides managing the project.

6.3.2 Governance

The governance theme represents the wider system of the FSM. The political and administrative structure of the entire organisation is designed here. Elements in the governance system are beyond the control of the Project Practitioner (PP). According to Ellis et al. (2007), activities in this domain include formulating designs, providing resources and setting objectives for the system. The governance system is relevant in covering all levels of organisation from the senior management level to the operational management responsible for project implementation down to the project level (Klakegg et al., 2008). Under this theme, instances and responses were grouped into three elements:

1. No National policy,
2. Weak structure of the organisation and
3. Political influences, which has two sub-elements: Non-release/lack of funds, and Nepotism

6.3.2.1 No National Policy

The implementation and promotion of Project Management Practice (PMP) in a national context requires strong government and political support, and should be consistent with its economic and administrative system (Stuckenbruck and Zomorrodian, 1987). The No National Policy sub theme refers to a formal strategic policy on project management by the government. The establishment of a formal strategic policy on project management to promote effective project implementation involves standardization of routine processes, enforcement of a regular reporting and progress review process for each task, and introduction of a standard project management methodology (Vagelatos et al., 2010). Arguably, this theme is associated with the project governance framework because it serves as a blueprint containing all relevant instructions, guidelines, techniques and processes by which projects are managed in a country.

Responses from the interviewees showed the non-existence of a national policy on project management in the country.

> *"So, we had cause to develop some things like that i.e. guidelines/project methodology. So, in terms of a formal policy, I think that will be the closest I would say that we have"*. PAD03

> *"Ironically there is no policy, so project management practice is at the wings and caprices of the Executive Director".* PAD06

> *"I believe that if any change where to happen it's probably by us having a policy that says from day one this is it or you even have a dashboard, a dashboard with the processes, the workflow carefully defined or a way of working that forces people to suit into that framework".* PAD07

> *"And it was when I started studying project management that I realised that we don't really recognise project management as a discipline and because we do not recognise it we don't have any guidelines or principles or strategies for project management".* PP05

6.3.2.2 Weak structure of the organisation

The structure of many government organisations is hierarchical in nature. Bureaucracy, in relation to system of administration, official procedure and project nomenclature exits within departments of governments institutions. However, the hierarchical structure in most government departments is not favourable for project management because projects require a project based matrix structure for successful management and delivery (Van Der Waldt, 2011)

Respondents reported that excessive bureaucracy, configuration of the organisation and long reporting lines were reoccurring hindrances to project management practice in their organisations.

> *"Another challenge is the civil service bureaucracy, you are restricted to certain protocols of operation. Everywhere is approval, approval, approval. If you are called to check something outside your station, until you get approval nothing is done. So, there is a rigid management line structure in the ministry."* PAD05

> *"Challenges in practicing project management include lack of funding. … excessive bureaucracy"* PAD01

> *"The existing administrative structure is what we are used to which is the long bureaucratic ways of doing things. That also hampers… the major problem is the bureaucracy involved. It's frustrating".* PP16

NGCO are basically traditional management systems that operate mainly within a functional organisational structure. Functional structures place tight controls on workers by allowing them to report to one boss at a time and ensure vertical communication lines, which consequently leads to tall hierarchies. Tall hierarchies are often expressed by using terms such as “excessive bureaucracy” in these contexts, and are usually experienced when a worker has to wait for approval from the various managers / directors in the hierarchy before taking a decision or implementing an action. Based on early management theorists (e.g. Weber and Fayol), this structure is beneficial for technical control and productivity, where activities are more routine and operational. However, in a project based organisation (PBO), this structure will cause some friction, because of the temporary nature of projects and the need to setup a project team to manage the project. Respondent PP05 highlighted this point, by stating:

> *“Another factor is the structure of the project in terms of organogram, knowing which kind of organogram to have, by which organogram do we run projects. There are times when you have a project, but you don't know how to set up the team …. So, you see the team work does not make for good Project administration”.* PP05

While some respondents implied adverse effects of having a decentralised authority, another respondent made reference to the fact that the tall hierarchies existing in the organisations cause delays in decision making, which adds to the frustration of not having sufficient authority regarding the management of the project. This finding agrees with suggestions in the literature that flatter hierarchies are usually more beneficial (than ‘tall’ ones) for group and organisation effectiveness (Anderson and Brown, 2010).

> *“You see when you are a Project Manager in the Ministry you have to operate within the structure and when the structure does not allow you to do certain things then it becomes frustrating. …many times, the way an issue comes it has to be minute down and minute up, we could have solved it by just calling a meeting but if you call such a meeting you might not be working within the laid down rules, you may not even have the authority to call such a meeting even though you are supposed to be managing it”.* PP05

> *“We do not have a centralized system in the sense that all the projects managers are in order and are assigned roles in order. There is nothing like that”.* PP08

> *“So, all the planning in terms of construction and building and all others will be done at the head office before it comes down to the zonal offices that is where the project manager and the zonal managers are based.”* PP02

"It's at execution stage someone is assigned to that project. Which is not project management. So, if we actually want to practice project management from the planning stage, which is the budgeting, each person should have started the work. So that from there you the project manager should have drawn your program of work, know the scope of work, define all the milestone you want. But it is not like that." PP04

6.3.2.3 Political Influences

It has been suggested that political factors such as social, legal, economic, commercial and financial factors have an impact on the management of construction projects (Kikwasi, 2013). The designing and structuring of government projects is also arguably associated with project financing (Gatti, 2013). The responses identified two sub elements of Political influences: Non-release/lack of funds, and Nepotism.

The effectiveness of PMP in the context under study seem to rely a great deal on the availability of funds. Identification of this element is in accordance with Crook's assertion that African countries in general have failed to improve on management of government budgets and financial systems, thereby affecting the capacity to offer better project management delivery and services (Crook, 2010). In addition, this finding echoes Isibor et al.'s (2016) conclusion that a lack of adequate funding contributes to the poor performances of building projects. The following responses supports this assumption:

"Challenges in practicing project management include lack of funding". PAD01

"I mean things like budget - is one of our major challenges. Sometimes there is no allocation from where you can pay the contractors, yet the contractor/job has started … sometimes the budget is seriously underfunded". PAD03

"One is funding. Insufficient funding for project management". PAD04

Although, respondents mostly discussed the issue of lack of funds, there were latent undertones of mismanagement and political influences underpinning this element. The Procurement Act of Nigeria 2007 states that 'all procurement shall be based only on procurement plans supported by prior budgetary appropriations; and no procurement proceedings shall be formalized until the procuring entity has ensured that funds are available to meet the obligations. (Act, Public Procurement, 2007). This implies that no contract should be awarded if funds are not available for it from the onset (El-Rufai, 2012). Debatably, non-availability of funds is rooted in political elements, which justifies the name given to this element (Non-release/ lack of funds).

The following responses supports this notion:

> *"The only challenge we have is in terms of funding, because it is not within our power. We are dependent on what is available…You find out that the budget is delayed, money is not released to buy working materials, so it dovetails into actual project administration."* PAD05

> *"Funding is the major issue … The difficulties mostly are tied to all this issue of fund, maybe the government sometimes priority might change, might shift to another place, area and things like that…."* PP07

> *"…. due to budgetary constraint … But it is a political thing, because I think, they'll want to announce on the radio so, so and so project has been awarded. Every week, they'll keep announcing. But, on ground, you see there is nothing. So, it is a political thing and beyond all of us".* PP08

> *"Because our projects are mostly funded by government, we have problem of release of funds. We can have money in budget, and it does not get released".* PP12

> *"So, all of these have some political understatements and links to how some of these project management things are done. In as much as we can do our things ourselves, but we are hindered by the fact that resource might not be there; so, you can't do anything".* PP14

> *"The money is usually budgeted for and once you budget for something, it should be available but in reality, you know it is a political problem".* PP08

The second element under Political Influence is Nepotism, which in this context refers to the custom of selecting contractors based on favouritism or preferential treatment rather than skills and competency. Nepotism is a system of societal hierarchy where senior official and executive officers use or personalize political authority in order to safeguard the loyalty of their subordinates or clients in the public (Erdmann and Engel, 2006). In scholarly literature, this element is sometimes referred to as Neopatrimonialism or Favouritism and are widely established in Sub-Saharan African countries (Adegboye, 2013; Alence, 2004).

The following responses suggested that Nepotism is customary in NGCO

> *"Ironically in this country if a contractor reports you most of our chief executives don't want to listen. In fact, those that very connected who collect projects don't want to pay project admin, they don't want to pay at all"* PD06

> *"A lot of times you are at the receiving end. You are a subordinate of somebody higher and his basic interest counts. For example, if a contractor is awarded a contract and he comes to your site you will have nothing to check on that contractor except that he has to be there on*

site working with you. You don't have anything to say other than to just work with him and apply whatever method you can to make sure that the delivery process goes on". PP03

"Some contractors feel that they are in touch with the authority, I hope you know what I mean? They won't even take to instructions on site they would just ignore it, they can even bypass protocol". PP10

"The problem is during contractor selection; the selection process is prone to abuse by political office holders". PP12

"… There is a lot of influence from the political class be it in releasing of resources as well as who will get the project…because they are not in government favour these companies are not even allowed to compete. So that puts us in a disadvantage position" PP14

"What I experience is that sometimes you are on the site just for the sake of being on site. That is, the contractors have rapport with the powers that be in the office, so sometimes your work does not carry the weight it is expected to carry because the powers that be can circumvent your instructions and what needs to be done will not get done because the contractors know the powers that be" PP15

6.3.3 External Environment

Two sub-themes based on the responses were categorised under the external environment: external systems and traditional orientation. An external environment is anything that surrounds an object and exerts indirect impact on it. It comprises the interacting systems of business, physical and social elements that are intertwined collectively (Adeola, 2016). External systems are inherent in the external environment of an organisation but have the ability to enhance or decrease efficiency within the organisation. Voiculet et al. (2010) defines the external system of an organisation as one consisting of elements whose existence affects in varying degree the organisation's activities and performance. This implies that the extent of openness of an organisation, the greater the inter-relation it has with the external environment.

Literature on Critical Realism (CR) seems to place less emphasis on this domain, presumably because it is external to the system. For example, in demonstrating the application of CR in a study based on identifying the causal mechanisms shaping the lives of prairie women, the author did not take environment factors into account (Fletcher, 2017). One could argue that the rationale for Fletcher's metaphor reflects the ontological view of CR which is underpinned by three domains (Empirical, Actual and Real domain). However, the external environment

is reflected in parallel models such as the Formal System Model (FSM) (White and Fortune, 2009). For instance, the contractor's system was positioned outside the main project system in assessing the weakness of a construction project's structure and processes (White and Fortune, 2012).

Traditional orientation was the second sub-theme to be identified under the external environment. This sub-theme is regarded as the values and beliefs that underpins individual and collective responses. Maani and Cavana (2007) refer to this domain as mental models, stating that they are often invisible elements influencing the way things are done. Correspondingly, Schein (2010) describes it as the part of an organisation's culture that reflects basic assumptions that are unconscious and taken for granted.

6.3.3.1 External Systems

Findings from the study suggest that although positioned outside the organisation, the issue of indigenous contractor's incompetence and dishonesty have an adverse impact on PMP in government organisations. This finding is supported by Patanakul (2014) who opined that a contractor's lack of technical expertise and poor performance have negative effects on a project's metrics. This element and its effects was cited by more than half of the respondents.

> *"They constitute a big challenge. Even in their own set, not many of them actually apply project management principles in actual project construction".* PAD05

> *"Now in most cases the contractors do not know about project management, for example if you are preparing a bill, you put a tiny sum for running the projects - supervision, servicing of vehicles, site photographs... the contractor will think that the whole money is for him and refuse to release any thing for the management of the project e.g. travelling, purchase of goods and services...* PAD06

> *"Their level of project management knowledge does affect our project practice seriously…"* PP02

> *"Some of the contractors are not trained contractors. They found themselves in that situation. They are not knowledgeable enough. Their activities on site are supposed to be supplementary to ours and vice versa. But it is not. For example, they don't have standard site meetings or project meetings. Rather all the planning is done by you the project manager."* PP03

> *"90% of them don't know anything about project management because most of them went into contracting because they don't know any other job, not because they have a flare or knowledge of it. And that seriously affects the project management process".* PP04

"In short, the level of contractor's project management knowledge generally within most of the projects I have handled and the ones I'm still handling, they are very low as when you consider from project management perspective. In short, it's almost non-existence except some few foreign firms, with local firms' project management is virtually non-existence". PP13

"When you work with contractors that knows what he is doing, one who is not just seeking profit margin then you have less stress implementing project management". PP15

"To a large extent their level of project management knowledge affects us. When you have contractors that understand project management procedures, you won't have much headache because everybody has their pact and you can easily flow. But in a situation where you have local contractors who just pick up people from here and there to do their job it makes it difficult to control them and most times you find yourself more stressed to put them in order." PP16

However, an interesting observation is the comparison made between foreign and indigenous contractors by some respondents in relation to project management competence:

"So, at the end of the day, it's the multinational firms that run project management as a principle so it's easier for you to relate with them. Some of our middle level and lower level local contractors, we will still need to manage them, but it can be a little bit more difficult." PAD03

"Their level of project management knowledge affects our work a lot… It has not gotten to the level of the big contractors, that is, the foreign contractors who are well equipped and have everything mapped out. So the local contractors are not even at sync with you based on what you want to do or what you want to achieve." PAD04

"Well most of my work has been with foreign contractors so in terms of appreciation for project management, they have it. But with local contractors I don't think so because when I first came here I was opportune to do what we call a demonstration project… one thing I noticed is that in none of those offices did I see a program or project plan, in none of those offices did I see something that tells me this is how the work was planned to be delivered, this is the actual plan or timeline, what are the reasons for the lapses, how do you catch up in terms of time, this and that." PAD07

"Especially these foreign contractors, they manage better, their own organisations. Their set up is better. You see proper management in their own supervisory team, the way they conduct their machine. The way they go for routine maintenance. These things affect service delivery. Generally, I must confess, our people, the local contractors haven't reached that level." PP08

In the same tone, dishonesty of contractors was also reported. These instances are arguably referred to as Moral Hazard, also referred to as Hidden action, and defined as informational irregularity related to the agents' behaviour in a principal-agent relationship (Shapiro, 2005;

Hölmstrom, 1979). It is observed that contractors sometimes withhold information or lie about their capability of managing projects.

> *"For an example, my younger brother is a mechanical engineer and he is registered. One day, he was sitting on the tenders' board and somebody brought his certificates and when he saw his certificates, he asked the contractor that do you know the person, all the other members were laughing, he said yes he's working for him in Abuja and he didn't know that he was talking to the owner of the certificates".* PP12

> *"Local contractors are always in a hurry, so they will resist anything that will delay their job or completion of the project. There is also the issue of compromising of standards by local contractors".* PAD01

> *"Our people as a whole, a lot of things we say we do are on paper, when the contractors are presenting themselves for bidding, the technical paper they present for assessment says they have project management structure, but you find out that the main contractor just has a very small team of two to three people at management level and it affects us."* PAD05

> *"Most of the contractors always think of cutting corners and maximising profit. In this situation we always have a hectic time controlling the project. Sometimes they want to blackmail."* PP02

> *"Sometimes during site meetings, the contractor is not willing to give you the progress of his site they are only interested in the availability of their money etc."* PP03

> *"Then another issue is the issue with contractors too, some contractors will come with the idea that they are able that they can handle the project but along the line when they are on the job, you will now realize that even the technical knowhow the team do not have it."* PP10

6.3.3.2 Traditional Orientation

The term Traditional Orientation here refers to the traditional beliefs and ways of functioning in NGCO which impede changes or modifications to the 'usual' way of doing things. It relates to the level of culture as basic underlying assumptions (Schien, 2010), such as the reaction of government officials to problem solving and what they pay attention to. Consequently, the shared values and beliefs of the organisations are engendered and assimilated into working practices, thereby producing the effect of what is seen or experienced. In other words, traditional orientation represents the basic underlying assumptions of executive officials and policy makers. These assumptions are the 'taken for granted' views, thoughts and feelings that are reflected and understood as observable events.

For many government agencies and organisations, a common belief and way of doing things is rooted in extreme bureaucratic procedures and administrative procedures. For instance, a review of predominantly government organisations identified that bureaucratic cultures resisted change in their procedures and administration processes (Kuipers et al., 2014). In line with this observation, Vann (2004) discovered that private sector practices (such as project management) are affected by conflict arising from the clash between traditional public bureaucracy and contemporary management techniques in public organisations.

Interview responses suggest that traditional administrative practices and conventional styles of doing things still persist in NGCO, there is also the fear of trying out something new.

> *"Factors that affect the application of project management are the traditional orientation. Project management is not instituted here" …. The difficulties are still part of the traditional institution standing between you and innovations."* PP13

> *"People who are at the decision level makers are not aware of this new development in technology. And since they are not aware, it scares them. If I'm faced with something that is new, there is tendency to be afraid, I will rather say let me remain at where I am comfortable with than trying to acquire this new skill… those who are the level of decision making, unless they see the absolute need either in terms of cost savings, better execution of projects, in terms of praise for them being able to execute their role well, we will still be using the methodology of the past, which is still the typical thing of traditional procurement, traditional getting of contractors, traditional means of project reporting and all that and times have changed".* PP14

> *"Our organisation has its own style that is based on government rules and regulations. Sometimes we discovered that these styles are obsolete..."* PP12

Respondent PAD07 specifically implied a lack of seriousness about productivity within the government civil service:

> *"I think the problem we have here in Nigeria is that we look at civil service as where they dance and dance around... but in other climes the best trained workers are civil servants okay because that's where they formulate policies and they need to be hands on... But when you think that it's just that anything goes then it's a problem, because if government, if the civil service is really serious about productivity in the civil service they should also be giving them tools that will make them productive and project management is one of the tools that will make you productive".* PAD07

6.3.4 Middle Management (Emerging Theme)

According to Koch et al. (2015), project organisation literature has paid little attention to the role of middle managers and the influence they have over shaping and enabling strategic objectives through their managerial and operational realities. Burgess (2013) and Thomas and Linstead (2002) also argue that the duties of middle management often consist of strategic responsibilities involving a certain level of autonomy over activities in an organisation. The Middle Management System distinctly emerges as a result of the traditional management theories which most government organisations, and in particular NGCO still adopts. This theme is based on the Administration management theory which proposes a demarcation between management functions and technical functions (Golden and Taneja, 2010) and, additionally, it is reinforced by the bureaucratic theory which emphasis the relevance of management competency and proficiency (Weber, 2009).

However, according to assertions by Erdmann and Engel (2006) and Olsen (2005), bureaucracy theory has been largely misrepresented in public organisations; norms about the concept are regarded as an instrument or rational tool for implementing the instructions of elected officers, rather than seen as an establishment with a function and standardized rules of its own. Thus, bureaucracy tends to often focus on aspects of the procedures obeyed in order to achieve an outcome rather than the outcome itself. Under this theme, instances and responses were grouped into four:

(1) Inadequate project management knowledge
(2) Autonomy of middle managers
(3) Inadequate project management training and development
(4) Less formal structures

6.3.4.1 Inadequate project management knowledge

The following responses were recorded which related to this element

> *"The senior officers will ask what you mean by dashboard, what do you mean by project management office? We have the head of project, we have project coordinator, what are you talking about project management, why do you need to have a dedicated office for such thing"?* PP14

> *"But since I have done a bit of project management course, I know it has phases from Initiation to Planning and Execution and Conclusion and Closing it. But even to do that because there is no framework for you, so you still have to juggle here and there. It's not a direct thing, when you try to plan the top officer people think you're wasting time".* PP04

"But then Project management is.... emm, that is, for us it's more like making sure that the contractors that we deal with are competent enough … before we actually move to the real project management which is the site itself, the project itself". PAD01.

One observation was the view of most respondents towards their knowledge of project management. Responses implied that the norm was to perceive project management as their core profession. This is likely due to the lack of adequate project management training and development.

"It is believed in Organisation "…." that once you are a professional and you are registered like a registered architect, a registered quantity surveyor, a builder etc. and you are up to level 13 and above, it means you can handle a project on your own as a project manager. The training of a project manager, either going for degree or courses on project management does not really count". PP03

"*The Project Management in this organisation is engineering*" PP08

"*Like the architect is seen as the head of construction team. So, the extent that he sees himself and operates as the head of the construction team, he tries to handle project management, from construction management perspective*" PP13

6.3.4.2 Autonomy of Middle Managers

This refers to the extent of decision making power a middle manager possesses in NGCO. Based on the responses, it was identified that middle managers had a level of autonomy over activities in the organisation. This element also corresponds to traditional management theories in relation to the separation of production from management. Taylor advocated management control as a major characteristic of scientific management, and Weber's hierarchy of authority enables a clear distinction between management and the workers, with management having clearly defined levels of authority to enhance control. Although this level of management for some time was surpassed by the executive level (Dopson and Stewart, 1990), they became a more focused group when it was realized that middle management had the potential to be agents of change (Crawford and Nahmias, 2010; Wooldridge et al., 2008).

The following responses illustrate this autonomy:

*"It is not up to … to promote project management. It is up to me to promote it. There is no limit to what I can introduce provided I have the full support from the organisation". PAD01**

"We are trying to come up with new structuring for the Agency for example, we are going to domicile project management, monitoring and evaluation as a unit… if it is a unit that is reporting directly to the MD (Managing Director), it is the MD's idea and they are working hard or will work hard to get things done. So that's how we are trying to reposition the agency. The MD will be more or less the driver of project management". PAD04

"*Those directors actually determine the direction in terms of the product of the ministry".* PAD05

"It depends on individuals and their level of proficiencies in project management… The practices adopted or used depends on the level of awareness of the head of the department". PAD07

"For example, the current MD wanted to introduce a software - Prince II. He mentioned that the project management team will go through such training and that project managers will start applying it but nothing has yet been done". PP03

"To be factual, our past permanent secretary was eager to make people learn about project management to the extent that all of us in the directorate and management cadre were forced or compelled to attend project management seminars. There were small seminars but at least that opened our eyes to things we didn't know". PP04

*Respondent *PAD01* is a level 15 Director and his response indicates a higher level of power than level 13 to 14 project practitioners in NGCOs.

However, some respondents mentioned a lack of continuity as a challenge facing the middle managers. This is usually due to the instability of the political environment, which often results in administration and power change. Consequently, these officials are sometimes reshuffled and appointed to new organisations and/or positions.

"So that, for example, if I am not here today, the next person sitting here tomorrow can take it up and follow it through because the process is well mapped out. But what is happening here now is that the person that knows it when he leaves there is a knowledge gap, the project management process stops" PAD07

"Some of the factors that affect us are change in management, we have too many. Change in management and lack of continuity. An average administration last about a year and half to two years that shows you the extent of instability" PP01

"Well you know government is supposed to be a continuum, but in Nigeria it is not like that, as soon as he was removed, everything died down, the new person does not see it like that. But if it is a strategy, a policy already in place whether you like it or not you will have to do it." PP04

6.3.4.3 Inadequate project management training and development

Training and development of workers is an important aspect of all forms of management/administration work. It has consistently been highlighted since the early period of management, where it was argued that both the formal and informal aspects of an organisation should be considered in order to promote effectiveness and achieve objectives of the organisation (Child, 1984). For instance, Maslow's hierarchy of needs is applied in human resource management associated with training and development (Jerome, 2013)

The findings suggest low levels of training, specifically in project management

> *"For now, I'll say we have a gap in knowledge somewhere along the line ... We are encouraging some other people to go for project management courses"* PAD02

> *"In terms of staff exposure to trends … you see some knowledge gaps … certain things that should be done in a certain way and not being properly done - which has to do with some of the training gaps"* PAD03

> *"There are inadequate personnel, that is, no adequate well-trained personnel that can practice project management. They need to be trained … We need well experienced project workforce."* PAD04

> *"There is no proper training. So the management skills will be affected. The most important factor is training."* PP02

> *"If you decided to go on a project management course or program on your own then it is for your own advantage. In our organisation, training is not considered as anything too serious"* PP03

However, an inadequacy of project management training and development could result in a wrong perception of what project management is, as one respondent stated that:

> *"Project Management is not promoted. It's not promoted because its only when you are practicing something that you promote it. When you are not practising something often times you don't promote. But on what project manager will call technical lines is consistently promoted"* PP13

6.3.4.4 Less formal structures

The necessity to have adequate methods and a working system to successfully manage projects seem to give rise to smaller communities within the organisations. These informal gatherings are comparable to Wenger's (2011) communities of practice, where individuals within a similar field engage in mutual activity and information sharing in order to learn how

to do what they do better. ‘Less formal structures’ refers to the gathering and disseminating of knowledge all through the organisation and department in order to appropriately deliver value (Hall and Holt, 2002). These less formal structures are not formed, nor formally established. They gradually evolve, and managers have the authority to either encourage their development or not. That is, their existence often relies on the support of managers (Roberts, 2006). The importance of these less formal structures can also be observed in the Hawthorne experiments, where bankers formed an additional informal working group outside the original activities of the organisation, subsequently being able to influence working standards (Discussed in Section 2.3.2) (Macefield, 2007; Cole. 2004).

The following responses support this element:

> *“I am not aware of any policy statement, but I think that over the years the organisation has built its own structure which over time is passed on, essentially I would say informally from my experience”.* PAD03
>
> *“the department initiated an in-house capacity building program, requesting the senior staff to make presentation on any aspect of project management that they feel confident about or that they are conversant with”* PAD03
>
> *“senior college are invited to give lectures where everybody is given an opportunity to ask questions for areas that they don’t quite really understand and then you know, continuously even in various department and divisions …”* PP07
>
> *“but when you have greenhorns coming in and you’re there, you need to be training them, for example I had started on our site those that came in, we asked them to take certain aspects of work, we will ask them to go and read everything about the project and come and give us a small lecture that way they relate what they see in the books to what they practice”* PP09.

The themes generated from data are compared and integrated with concepts from the Formal System Model (FSM) and Critical Realism (CR) by arranging themes into a theoretical framework in order to explain the data and increase theoretical sensitivity. This process is referred to Abduction.

6.4 Theoretical Re-description

In relation to Fig 6.3, the y-axis indicates the FSM concepts, mapped against the themes from the data. Sub themes categorised under the Middle Management and Project Execution themes are represented by the core system. Thus, the core system is seen to have a range of elements as can be observed in the 'factors related to the climate of the organisation' grouping that impacts on PMP in SSAC, based on the literature review (See Table 3.9.2). The wider system is represented by the Governance system, and subsumes the core system too, while the environment is represented by the External Environment theme. On the other hand, the x-axis represents the domains in CR. The Governance System (including the Middle Management and Project Execution System) make up the REAL domain containing structural features/properties. The Middle Management and Project Execution System make up the ACTUAL domain which comprises events or patterns generated due to the structure or configuration of NGCO, and the Project Execution System (the EMPIRICAL domain) contains events that are observed and experienced (See Fig 5.5.3). Debatably, the REAL domain can be extended to subsume the External Environment.

Figure 6.3 presents a theoretical re-description of the themes against the FSM and stratified domains of CR. In the FSM, the External Environment is recognised as having the potential to impact on the internal system of the organisation, while on the contrary, CR does not explicitly consider the External Environment but emphasises internally related physical and social objects (Section 5.5.3). Therefore, based on the empirical observation of this study, it is suggested that CR as a philosophical view will benefit from considering the presence and impact of an external domain on the layers of reality (i.e. domains of the Real, Actual and Empirical).

It is observed that findings based on the analysis of the primary data clearly support the literature. The elements identified from the empirical data is parallel to those existing in literature as evidenced by the theoretical re-description

The systematic review on PMP in Government Organisations of Sub Saharan African Countries (SSAC) established three main categories of factors (Factors related to the Contractor, Factors related to Governance, and Factors related to the climate of the organisations (Project Management Climate). On the other hand, four themes were identified from the data - External Environment, Governance System, Middle Management System and Project Execution System. The fourth theme emerged from the responses of participants who emphasised the importance of Middle Managers in Project Management development. The occurrence of a Middle Management system is an evolving insight in literature, as there

is an increasing awareness of the importance of Middle Managers in the business environment. Due to the earlier negligence of this role, some scholars referred to and discussed it alongside the operational system, for instance the Formal System Model (Fig 4.5.2) and the Model of an organisation as a system (Fig 4.6). Thus, the Middle Management System and the Project Management System were classified under one theme. However, an analysis of the empirical data identifies or uncovers the uniqueness of the Middle Management System which is supported by current literature as being relevant in organisations.

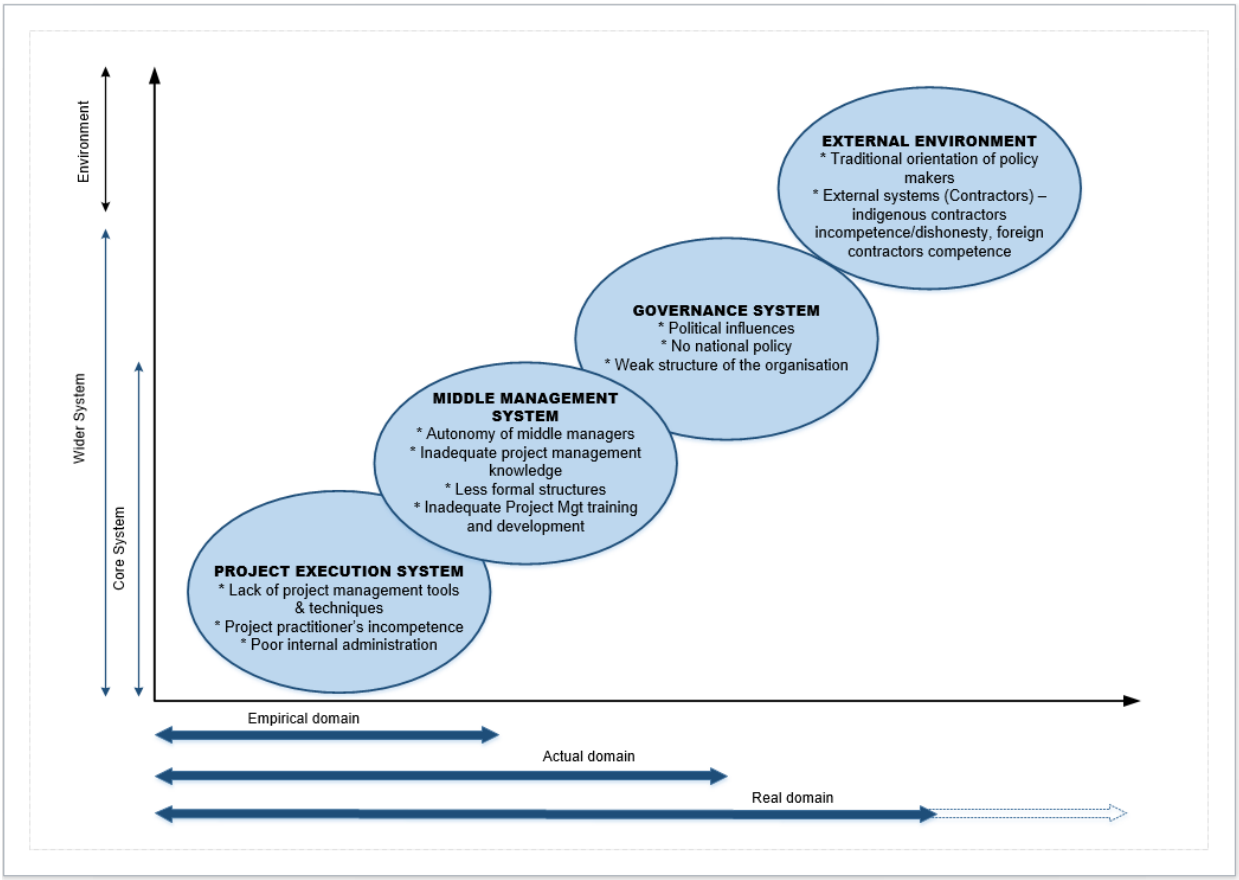

Fig. 6.3 Theoretical re-description of FSM and CR using themes from the data

Source: Author

Phase 4: This phase involves the identification of the interaction between elements and recognising how structure and agency relate to produce the observed outcome. That is, how

organisational elements interplay such that project management practice is underdeveloped and has limited presence in NGCO. Thus, the second presentation is in the form of causal relationships. Based on the respondent's instances and utterances connections were explored between sub-themes and then consequently between themes (presented in Table 6.4). Information retrieved from respondents were judiciously studied and relationships between social objects and structural or cultural elements and their impact on project management practice were established. A causal loop diagram model is used in representing these causal relationships with the aid of a simulation software called Stella Architect, created by 'isee systems'. A causal loop model is a simple way of visualizing important elements or parts of the system and how they interrelate (Pidd, 2004).

According to OpenLearn (2016), a causal loop model is a sign graph diagram that represents the rates of increase and decrease of each variable (subthemes). Variables are connected by an arrow to indicate causal relationships. The arrow symbolizes terms such as 'causes', 'influences' or 'affects'. A positive sign placed next to the arrow head is used to indicate a positive influence or an increase in magnitude of a current variable, while a negative sign next to the arrow head indicates a negative influence or a decrease in magnitude of the variable. Terms and expressions identified from responses used to identify causal elements are presented in Table 6.3

Sub Themes	**Some identifiable terms and/ or phrases representing sub themes (causal elements) in responses**
Indigenous contractor's incompetence	'Level of project management knowledge', 'not trained', 'not knowledgeable', 'don't know anything' or 'don't know anything about project management'
Traditional orientation	'decision level makers are not aware', 'it scares them', 'typical traditional procurement /getting contractors', 'anything goes', 'really serious', ability to see a vacuum', 'will from government'
No National Policy	'no strategic planning', 'no policy'
Weak structure of the organisation	'no structure', 'new structuring', 'no centralized system', 'necessary structure, 'organogram', 'structure does not allow', 'structure and support', 'work environment'
Non-release/lack of funds	'budgetary constraints', 'lack of funds', 'availability of funds',' logistic of funds', 'budget is delayed', 'money is not released'

Nepotism	'contractors know the powers that be', 'they are from the top', 'basic interest counts', 'cant check contractor', 'influence from political class', 'contractors having a rapport with the powers in office', 'not in government favour'
Autonomy of Middle Management	'be the driver of project management', 'determine the direction', 'depends on', 'Project Management Practice is at the wings and caprices', 'depends on … head of department', 'introduce a software'
Lack of continuity	'continuum', 'change in management', 'lack of continuity, 'instability', 'person that knows it when he leaves'
Inadequate project mgt. training and development	'Training', 'no proper training', 'no trained personnel', no 'adequate trained personnel', 'need to be trained', 'learn'
Inadequate project management knowledge	'what are you talking about…'; 'what do you mean by'; 'level of proficiencies'; 'level of awareness'
Lack of project management tools and techniques	'Methodology of the past', 'providing tools', 'strategies in management', 'method', 'dashboard', 'framework'
Project practitioner's incompetence	'well experienced work force', 'accidental Project manager', 'no adequate well-trained personnel that can practice project management', 'need a lot of proper competent people', 'not staffed with professionals', 'doesn't have the right skills'
Restricted authority of Project Practitioner	'do not have authority', 'circumvent your instructions
Adverse behaviours	'not putting all your best', 'no incentives'
Poor Internal administration	'cost saving', 'planning', 'execution of projects', 'project synergy' - easily flow', 'site/project meetings',' typing out bills', 'administrative work', 'programme of work', 'project administration', 'general administrative work is hindered', 'technological related issues', 'it dovetails into project administration'
Less formal structures	'reposition', 'built its own structure', 'informal'
Perception of project management	'it is believed'; '…means you can handle a project on your'; 'is seen as'; 'professional technical lines'; 'technical lines'

Table 6.3 Key recognisable terms and/ or phrases representing sub themes in responses and used for determining causal relationships.

	Causal Relationship: Themes	Causal Relationship: Sub themes	Reference from Source
1.	External Environment → Project Execution system	Traditional orientation →Poor Internal administration	*"People who are at the decision level makers are not aware of this new development in technology. And since **they are not aware, it scares them**. If I'm faced with something that is new, there is tendency to be afraid, I will rather say let me remain at where I am comfortable with than trying to acquire this new skill… those who are the level of decision making, unless they see the absolute need either in **terms of cost savings, better execution of projects**, in terms of praise for them being able to execute their role well, we will **still be using the methodology of the past**, which is still the typical thing **of traditional procurement**, **traditional getting of contractors**, **traditional means of project reporting** and all that and times have changed". PP14*
		Traditional orientation → Lack of Project management tools and techniques	*... But when you think that it's just that **anything goes** then it's a problem, because if government, if the civil service is **really serious** about productivity in the civil service they should also be giving them **tools** that will make them productive and project management is one of the **tools** that will make you productive". PAD07*
		Indigenous contractor's incompetence → Poor Internal administration	*"To a large extent their **level of project management knowledge** affects us. When you have contractors that understand project management procedures, you won't have much headache because everybody has their part and you **can easily flow**… PP16* *"Some of the contractors are **not trained contractors**. They found themselves in that situation. They are **not knowledgeable** enough. Their activities on site are supposed to be supplementary to ours and vice versa. But it is not. For example, they don't have standard **site meetings or project meetings**. Rather all the **planning** is done by you the project manager." PP03*
		Indigenous contractor's incompetence → Project Management Practice	*"90% of them don't **know anything about project management** because most of them went into contracting because they don't know any other job, not because they have a flare or knowledge of it. And that seriously affects the **project management process**". PP04*

		Foreign contractor's competence → Project Management Practice	*Their **level of project management knowledge** does affect our **project practice** seriously, because if you happen to work with a contractor who does not know anything about project construction then you are in trouble". PP02* *"So at the end of the day, it's the **multinational firms** that run **project management** as a **principle** so it's easier for you to relate with them. Some of our middle level and lower level local contractors, we will still need to manage them but it can be a little bit more difficult." PAD03*
	External Environment → Governance system	Traditional orientation → Weak structure of the organisation	*"The reason it's like that is because you can't give what you don't have. You need to be **able to see a vacuum** for you to want to **change the structure**. We wish things can be structured and done properly" PP15* *If there is the **will from the government**, it is the way because even you send them up and without providing the **necessary structure and support** for them to work with it will not work. PP07*
		Traditional orientation → No National Policy	*"Our organisation has its **own style** that is based on government rules and regulations. Sometimes we discovered that these **styles are obsolete** and you might want to change. But sometimes you don't get approval to carry out those changes." PP12*
2	Governance system → Middle Management system	Political influences (Non-release or lack of funds) → Inadequate Project Mgt. training and development	*"Initially we used to have **external trainings**. But, in these days of change, it is **getting very difficult**" … it is almost becoming obsolete due to **budgetary constraints**" PP08* *"They do **train** us but recently we have not **been doing much** of that. Due to change in government and off course **lack of funds** for now" PAD01* *"There is **no proper training**. So, the management skills will be affected. The most important factor is training. The trainings are not as frequent as they should be because of **availability of funds**" PP02*

		Political influences → Lack of continuity	*"Some of the factors that affect us are **change in management**, we have too many. Change in management and **lack of continuity**. An average administration last about a year and half to two years that shows you the extent of **instability**" PP01*
			*"Well you know government is supposed to be a **continuum**, but in Nigeria it is not like that, as **soon as he was removed**, everything died down, the new person does not see it like that…" PP04*
		Weak structure of the organisation → Less formal structures	*"We are trying to come up with **new structuring** for the Agency …. For example, we are going to domicile project management, monitoring and evaluation as a unit… So that's how we are trying to **reposition** the agency. The MD will be more or less the driver of project management". PAD04*
		No National Policy → Less formal structures	*"I am not aware of **any policy statement,** but I think that over the years the organisation has **built its own structure** which over time is passed on, essentially I would say **informally** from my experience". PAD03*
	Governance system → Project execution system	Weak structure of the organisation → Lack of Project Management tools and techniques	*"We do not have a **centralized system** in the sense that all the projects managers are **in order and are assigned roles in order**. There is nothing like that… So, each department **evolves** their own their own **strategies in the management**" PP08*
		No National Policy → Lack of Project Management tools and techniques	*"Because there is **no strategic planning** for it, individually everyone uses his **method** to do it". PP04*
			*"I believe that if any change where to happen it's probably by us having **a policy** that says from day one this is it or you even have **a dashboard**, a dashboard with the processes, the workflow carefully defined or a way of working that forces people to suit into that **framework**". PD07*
			*"You see when you are a Project Manager in the Ministry you have to operate within the **structure** and when the **structure does not allow** you to do certain things then it becomes*

		Weak structure of the organisation → Restricted authority of PP	*frustrating … you may not even have the authority to call such a meeting even though you are supposed to be managing it". PP05*
		Nepotism (Political influences) → Restricted authority of PP	*"What I experience is that sometimes you are on the site just for the sake of being on site. That is, the **contractors have rapport** with the **powers that be in the office**, so sometimes your work does not carry the weight it is expected to carry because the powers that be can **circumvent your instructions** and what needs to be done will not get done because the **contractors know the powers that be**" PP15* *"You are a subordinate of somebody higher and **his basic interest counts**. For example, if a contractor is awarded a contract and he comes to your site you will have nothing to check on that contractor except that he has to be there on site working with you. You **can't check** to see if he has the basic requirement to even be on that site or not…" PP03*
		Weak structure of the organisation → Poor internal administration	*"Another factor is **the structure** of the project in terms of organogram, **knowing which kind of organogram** to have, by which organogram do we run projects. There are times when you have a project, but you don't know how **to set up the team** ….* *So, you see the team work does not make for good **project administration**" PP05* *"It's at **execution stage someone is assigned** to that project… each person should have started the work. So that from there you the project manager should have drawn **your program of work**, know the **scope of work**, define all the **milestone** you want. But it is not like that." PP04*
		Political influences (Non-release/ lack of funds) → Poor internal administration	*"It's **logistics of funding**... I will say the logistic problem is that for example, a few weeks back, the electricity was such a challenge and because **funds were not released**, diesels for the generator could not be purchased. Therefore, **typing out bills of quantities, general administrative work** was hindered. So those are the challenges confronting us apart from the funding also technological relate issues" PAD05*

		Weak structure of the organisation → Adverse behaviour	*"The only **challenge** we have is in terms of **funding**, because it is not within our power…So you find out that you want to deliver housing or a particular project within a set period (e.g. 3 to 4 months) and then what happens? You find out that the **budget is delayed**, **money is not released** to buy working materials, so it dovetails into actual **project administration**." PAD05*
			*"You know government business is not like private sector, elsewhere **when you are assigned to a project, you don't do any other thing**, that is what you will do. But many times, I find myself doing a lot of ad hoc ... sometimes you find yourself **not putting all your best** even if you want to because government have other assignment for you". PP09* *"Projects like ours need a lot of movements. It needs vehicles to move. Work **requires a good work environment** to **produce very well.** Basically, that is it. Of course, sometimes, you have to work extra, not the normal civil service work…**No incentives,** government has provided, so that's why we grow grey hair faster than a lot of other people". PP09*
	Governance system → External Environment	Political influences (Nepotism) → Indigenous contractor's incompetence	*"… There is a lot of influence from the political class be it in releasing of resources as well as who will get the project. So, in as much as we know that there are some really good contractors out there who has proven track records of well-defined project management systems, and execution of project to the high standards but somehow because they are not in **government favour** these companies are not even allowed to compete. So that puts us in a disadvantage position" PP14* *"Now in most cases the **contractors do not know about project management** … the contractor will think that the whole money is for him and refuse to release any thing for the management of the project e.g. travelling, purchase of goods and services... most especially if **they are from the top** …they will go and report that you are demanding money from them without knowing that it is not part of their pay but ironically in this country if a contractor reports you most of our chief executives don't want to listen" PAD06*

3	Middle Management system → Project execution system	Inadequate Project Mgt. training and development → Project Practitioner's incompetence	*"There are inadequate personnel, that is,* ***no adequate well-trained personnel*** *that can practice project management.* ***They need to be trained****... Again, reporting is an issue, sometimes people do not know what and what to report and you* ***need a lot of proper competent people*** *that can analyse data. We need well experienced project workforce". PAD04* *"We are* ***not staffed with professionals****, it's just like an admin man saying he is going to monitor a building project, I mean he* ***doesn't have the right skills****". PAD06* *"Because the people who run the projects in the ministry including myself is what I can call* ***accidental project managers****, that is what we are because we are just,* ***we are project managers not because we knew about project management*** *but because projects were thrown at our laps and we had to manage them whichever way we knew just to get to the end" PP05*
	Middle Management system → Project Management Practice	Autonomy of Middle Managers → Project Management Practice	*"It is not up to … to* ***promote project management****.* ***It is up to me to promote it****. There is no limit to what I can introduce provided I have the full support from the organisation". PAD01* *"Those* ***directors actually determine the direction*** *in terms of the product of the ministry". PAD05* *"Ironically there is no policy, so* ***Project Management Practice is at the wings and caprices*** *of the Executive Director". PAD06* *"It* ***depends*** *on individuals and their level of proficiencies in project management… The* ***practices adopted or used depends*** *on the level of awareness of the* ***head of the department****" PAD07*

		Inadequate Project Management knowledge → Project Management Practice Lack of continuity → Project Management Practice	*"It depends on individuals and their **level of proficiencies in project management**… The **practices adopted or used depends on the level of awareness** of the head of the department". PAD07* *But what is happening here now is that the **person that knows it when he leaves** there is a knowledge gap, the **project management process stops**" PAD07*
	Middle Management system → Middle Management system	Autonomy of Middle Managers → Inadequate Project Mgt. training and development Inadequate Project Mgt. training and development → Perception of project management Perception of project management → Inadequate project management knowledge	*"For example, the current MD wanted to **introduce a software** - Prince II. He mentioned that the project management team will go through such **training** and that project managers will start applying it …" PP03* *"To be factual, our **past permanent secretary** was eager to make people **learn** about project management to the extent that all of us in the directorate and management cadre were forced or compelled to **attend project management seminars**. There were small seminars but at least that opened our eyes to things we didn't know". PP04* *"**It is believed** here that **once you are a professional** and you are registered like a registered architect, a registered quantity surveyor, a builder etc. and you are up to level 13 and above, it **means you can handle a project on your own as a project manager**. The **training of a project manager,** either going for **degree or courses on project management does not really count** … PP03* *"**Project Management** is not promoted. **It's not promoted** because its only when you are practicing something that you promote it. When you are not practising something often times you don't promote. But on what project manager will call **technical lines** is consistently promoted" PP13*

		Inadequate project management knowledge → Inadequate Project Mgt. training and development	*"Like the architect* ***is seen as t****he head of construction team. So, the extent that he sees himself and operates as the* ***head of the construction team****, he tries to handle project management,* ***from construction management knowledge perspective****" PP13* *"As it is here the bridging is on* ***professional technical lines****, it's not like having a project manager.* ***Project management*** *is not instituted here". PP13* *"But then Project management is.... emm, that is, for us it's more like making sure that the contractors that we deal with are* ***competent*** *enough … before we actually move to the real* ***project management which is the site itself****, the project itself". PAD01.* *"The Project Management in this organisation is* ***engineering*** *… We bring very highly qualified* ***engineers who come and train our staff*** *in some of these processes." PP08*
4	Project execution system → External Environment	Project practitioner's incompetence → Indigenous contractor's incompetence	*"Some of our middle level and lower level local contractors, we will still* ***need to manage*** *them, but it can be a little bit more difficult. As a manager you* ***must do a lot of human management, get them to try and understand how certain things needs to be done*** *and sometimes you go an extra mile to* ***show them the benefits*** *of taking certain lines of action" PAD03* *"The only way is* ***to keep encouraging them****. If there is need,* ***keep training them****. But, training involves money. When you don't even have enough resources, enough money to pay for services they have provided. Where do you now get money to train them? But if we must be true to ourselves, if there is a way our government can make it a priority whereby, this our local contractors are trained and assisted to build their project management capacity, it would be very good so that they can effectively compete with the foreign contractors" PP09*

Table 6.4 Tabular representation of causal relationships between themes/subthemes

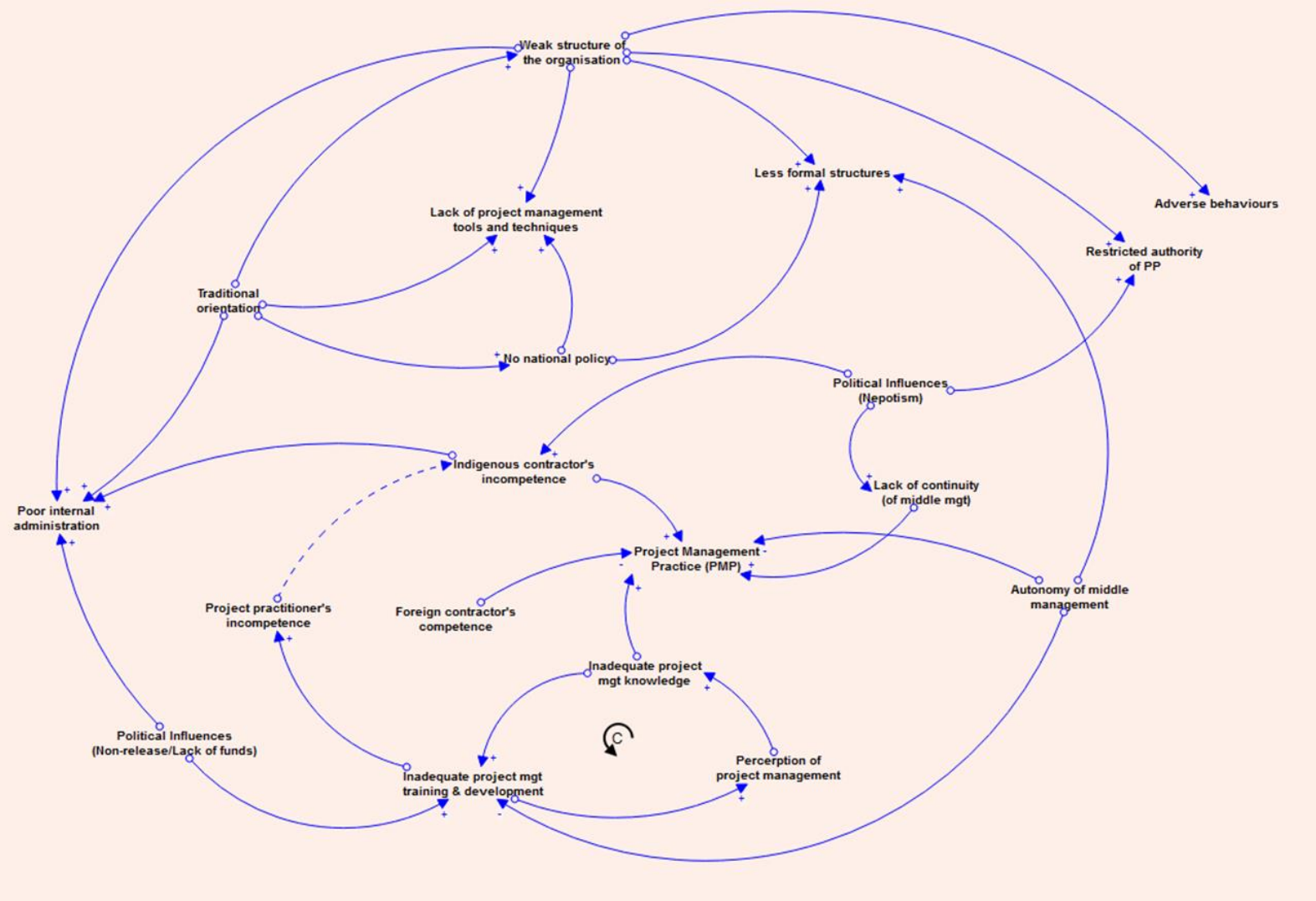

Fig 6.4 Causal loop model for Project Management Practice in NGCO

6.5 Summary of Chapter

Chapter six presented the analysis and the initial findings based on data from the interviews. The first presentation was the ‘real objects’ of the study or the key components/elements, which were identified to be the three systems (External Environment, Governance and Project Execution System) based on the FSM and an emerging system (Middle Management System). The second analysis and presentation were in the form of causal relationships with the aid of a causal loop model.

The analysis and causal loop model are discussed in the chapter seven.

CHAPTER SEVEN: DISCUSSIONS

System thinking requires disciplined use of scientific inquiry skills to uncover our hidden assumptions and biases - Sterman 2002

7.0 Chapter Introduction

The aim of this research study was to explore organisational elements impacting on Project Management Practice in NGCO, and establish the interrelationship between them using a Systems theory viewpoint. Based on themes identified and discussed in the preceding chapter, causal elements of PMP in NGCO are contained within four systems: Project Execution System, Middle Management System, Governance System and an External Environment System. The first three systems are internal to the organisation. This chapter discusses the causal loop model for Project Management Practice in NGCO (Fig. 6.4) and subsequently the initial theoretical framework is re-visited.

7.1 Causal Links to Project Execution System

The Project Execution System is the core of a project based organisation (PBO). It forms part of an organisation's climate within the internal environment and the project manager/practitioner arguably has authority over project management activities (see section 2.4). The activities here focus on the project execution process through effective monitoring and controlling. In NGCO, a lack of project management tools and techniques, project practitioner's incompetence and poor internal administration, are elements identified within this system that influence PMP. The Project Execution System is impacted upon by several elements within the External Environment, Middle Management System and the Governance System; these causal interconnections are discussed below:

7.1.1 External Environment → Project Execution System

7.1.1.1 Traditional orientation → Poor internal administration and Lack of Project Management tools and techniques

Within the External Environment, the traditional orientation of policy makers 'cause' poor internal administration and a lack of project management tools and techniques. 'Traditional orientation' here refers to the values and beliefs of the governance system, and this element implies the way government officials and politicians/law makers perceive the relevance of planning, scheduling, organising and monitoring project activities. The effect of values and

beliefs on visible and tangible things in an organisation is in line with Schien (2010), who asserts that espoused beliefs and values of the macro level influence the way things are done at the micro level. It was implied from the responses that there was a lack of seriousness on the part of the government toward efficiency and production, hence the lack of appropriate tools and techniques for Project Management and poor internal administration. The following excerpts illustrates this:

> "*... But when you think that it's just that anything goes then it's a problem, because if government, if the civil service is really serious about productivity in the civil service they should also be giving them tools that will make them productive and project management is one of the tools that will make you productive".* PAD07

> *"People who are at the decision level makers are not aware of this new development in technology. And since they are not aware, it scares them. If I'm faced with something that is new, there is tendency to be afraid, I will rather say let me remain at where I am comfortable with than trying to acquire this new skill… those who are the level of decision making, unless they see the absolute need either in terms of cost savings, better execution of projects, in terms of praise for them being able to execute their role well, we will still be using the methodology of the past, which is still the typical thing of traditional procurement, traditional getting of contractors, traditional means of project reporting and all that and times have changed". PP14*

However, some references were made about the beliefs or mind-sets of some other individuals, though it was not explicit if these were contractors or not.

> *"… the mind-set of the people in the field, by imposing a robust project monitoring and evaluation system they think you are witch hunting".* PD04

> *"It's not a direct thing, when you try to plan people think you're wasting time"* PP04.

This demonstrates that, perhaps, it is not only the beliefs of the governance system that influence the use of these tools and techniques, but it may also depend on other individuals, such as contractors that are external to the system or those within the climate of the organisation. Nevertheless, the traditional orientation, in general, reflects the beliefs, norms and assumptions of individuals and organisations, and they are the underlying reasons for the way practices and processes are applied to managing projects in NGCO.

7.1.1.2 Indigenous contractor's incompetence → Poor internal administration

The second element in the external system that influences the Project Execution System is the indigenous contractor's incompetence. This was interpreted based on the following statements from the respondents:

> *"To a large extent their level of project management knowledge affects us. When you have contractors that understand project management procedures, you won't have much headache because everybody has their part and you can easily flow…" PP16*

> *"Some of the contractors are not trained contractors. They found themselves in that situation. They are not knowledgeable enough. Their activities on site are supposed to be supplementary to ours and vice versa. But it is not. For example, they don't have standard site meetings or project meetings. Rather all the planning is done by you the project manager." PP03*

> *"90% of them don't know anything about project management because most of them went into contracting because they don't know any other job, not because they have a flare or knowledge of it. And that seriously affects the project management process". PP04*

This causal relationship (Indigenous contractor's incompetence →poor internal administration) agrees with the findings of Patanakul (2014) and Basheka and Tumutegyereize (2012) that the lack of technical expertise in the managing of projects by contractors is associated with the project administration. While Basheka and Tumutegyereize (2012) identified adequate training of contractors in relevant practices as a measure to ensure better chances of project success, Patanakul (2014) claimed that the incompetence of contractors sometimes negatively affects the contractor-owner relationship in a project's execution. Thus, it is most likely that there is a lack of cooperation among project practitioners in NGCO and the local contractors, which arguably has a negative impact on the practice of Project Management.

On the other hand, it is recognised that foreign contractors have a negative causal effect on the current state of PMP due to their experience and greater expertise in Project Management procedures. The following statements from respondents PAD03 and PP07 show a comparison between the indigenous and foreign contractors' level of project management competence.

> *"So, at the end of the day, it's the multinational firms that run project management as a principle so it's easier for you to relate with them. Some of our middle level and lower level local contractors, we will still need to manage them, but it can be a little bit more difficult."* PAD03

"Well most of my work has been with foreign contractors so in terms of appreciation for project management, they have it." PAD07

Identification of this causal element corresponds with Aniekwu and Audu's (2010) conclusion about the significant difference in the level of project management practices between foreign and indigenous contractors operating within the construction sector in Nigeria. It was pointed out that emphasis on training/enhancing competencies, project planning, incentives, self-improvement and availability of equipment was what gave foreign contractors more advantage over local contractors. However, the Nigerian Content Development (NCD) Act, signed into law in 2010, seeks to promote local content and calls on Nigerian firms to take part in bidding processes and acquire contracts. Thus local contractors are frequently used in local projects such as national housing development projects.

7.1.2 Middle Management System → Project Execution System

7.1.2.1 Inadequate Project Management Training & development → Project practitioner's (PP) incompetence

In the Middle Management System, inadequate project management training and development has a positive causal effect on the incompetence of the PP. The following respondents expressed this relationship through the quotes below:

"There are inadequate personnel, that is, no adequate well-trained personnel that can practice project management. They need to be trained". Again, reporting is an issue, sometimes people do not know what and what to report and you need a lot of proper competent people that can analyse data. We need well experienced project workforce". PAD04

"*I think that part of the challenges that affects effectiveness would be exposure to advanced project management mechanism, exposure to technology… certain things that should be done in a certain way and not being properly done - which has to do with some of the training gaps".* PAD03

This relationship is parallel with Pickett's (1998) assertion that the development of effective competencies is achieved through training and development. He stated that the responsibility of identifying and enhancing adequate and appropriate competencies of the organisation lies with middle level managers. This assertion is presumably valid due to a certain level of autonomy given to middle managers, which reveals the next causal element located in the Middle Management System: Autonomy of Middle Managers

7.1.2.2 Autonomy of Middle Managers → Project Management Practice

Similar to the foreign contractor element, Autonomy of Middle Managers has a negative causal effect on PMP in NGCO. It is implied by respondents that managers at this level have a certain degree of authority in taking decisions and actions that can reduce the poor state of PMP within the organisation. This causal relationship corresponds with Koch et al. (2015) and Rouleau and Balogun's (2011) statements on the ability of middle managers to relate with and understand symbolic and spoken representations of the socio-cultural systems of their organisations, and are therefore capable of introducing methods and techniques that they feel are relevant in accomplishing major tasks. In the same manner, findings from the current study revealed the autonomy of middle managers in leveraging PMP in their organisation. For instance, respondents PAD06 and PP04 admitted that the extent to which PMP is absorbed or adopted in NGCO is contingent on the higher-level managers and their knowledge about Project Management. While respondent PAD01 displayed confidence in the extent of his influence, further information about this respondent revealed that he is a level 15 Director in an Agency.

> *"… It is up to me to promote it. There is no limit to what I can introduce provided I have the full support from the organisation".* PAD01

> *"Ironically there is no policy, so Project Management Practice is at the wings and caprices of the Executive Director".* PAD06

> *"To be factual, our past permanent secretary was eager to make people learn about project management to the extent that all of us in the directorate cadre were forced or compelled to attend project management seminars. There were small seminars but at least that opened our eyes to things we didn't know".* PP04

However, middle managers' inadequate knowledge of project management, which is due to the way the concept is perceived, has the potential of reducing the effect of this causal relationship. For example, respondent PP08 stated that *"The Project Management is engineering".* An implication of understanding project management as an engineering discipline will confine one's view and impede suitable project management practice in NGCO. An instance of the above inference is observed by respondents stating that the trainings received are often conducted based on ones' core profession.

> *"As it is here the bridging is on professional technical lines, it's not like having a project manager… Project management is not instituted here". PP13*

"But on what project manager will call technical lines is consistently promoted" PP13

"*Like the architect is seen as the head of construction team. So, the extent that he sees himself and operates as the head of the construction team, he tries to handle project management, from construction management perspective*" PP13

7.1.3 Governance System → Project Execution System

The causal elements within the Governance system influencing the Project Execution System are:

7.1.3.1 Weak structure of the organisation → Poor internal administration and Lack of Project Management tools and techniques

According to Börzel et al. (2005), structure is associated with processes and techniques in an organisation. In other words, structure determines the processes and practices inherent within an organisation and vice versa. The effect of the structure of NGCO is implied in the following statements from respondents:

"Another factor is the structure of the project in terms of organogram, knowing which kind of organogram to have, by which organogram do we run projects. There are times when you have a project but you don't know how to set up the team… everybody is in his department and most of the projects in fact let me say all the projects are cutting across various department". PP05

"We do not have a centralized system in the sense that all the projects managers are in order and are assigned roles in order. There is nothing like that… So, each department evolves their own their own strategies in the management" PP08

"No, in engineering departments there is no architects, Architects have their own departments they call it public building". PP11

NGCO are substantially bureaucratic, operating a decentralised form of administration characterised by long chains of command with specialisation into professional and functional roles. These features depict both Taylor's principle of scientific management, which advocates for specialisation of tasks for practitioners and their superiors (Olum, 2004; Wood and Wood, 2002), and bureaucracy theory, which promotes a hierarchy of authority to enable clear chains of commands from the top management to the operational level (Wren and

Bedeian, 2009) respectively. However, based on the responses, issues such as setting up a project team and/or forming an integrated team were due to the weak structure of NGCO which hinders good project organising. Consequently, each department is more or less forced to come up with their own methods and procedures to manage projects. It also seems that the tall hierarchical structure existing in NGCO causes the problem of not having clearly defined roles, as one respondent puts it:

> *"When a project is approved a project manager should be appointed but nobody is so designated, nobody is ever called a project manager but by the function some people do the work of a project manager. Like I know that some projects were what I was doing was basically that of a project manager, where I have a project and I have to assemble the team from various department and they run the project but I had a boss ... there was an assistant director overseeing my work, and there was a deputy director who was overseeing his work and then he had also a director who was overseeing his work, so who is the project manager?* PP05.

The above statement, also raises concern about the relevant authority and power a project manager or practitioner is required to have, which leads to the identification of the second causal effect – restricted authority of project practitioners

7.1.3.2 Weak structure of the organisation → Restricted authority of Project Practitioners

According to critics, one disadvantage of the bureaucracy theory of management is that it places excessive emphasis on power and authority flowing from a position or status rather than on the individual who holds the position (Wren and Bedeian, 2009). (See Table 2.3.3) As a result, the authority of key personnels in an organisation who are supposed to be managing projects are usually undermined. The following statements from respondents reverberates this causal relationship:

> *"You see when you are a Project Manager in the Ministry you have to operate within the structure and when the structure does not allow you to do certain things then it becomes frustrating … you may not even have the authority to call such a meeting even though you are supposed to be managing it".* PP05

> *You do not have any say in the payment of contractors on site that is carried out at the management level in the office. Meanwhile you are the first point of contact with the site workers. You have to report every issue … you can't enforce any plans. Someone has to give a finally approval".* PP03.

Although most government ministries and agencies are inherently bureaucratic in nature, this does not rule out the notion that these hierarchical structures are not favourable for project management practice (Van Der Waldt, 2011). Since changing the existing structure is an onerous task, the use of a project management office to centralise and coordinate management of projects will be beneficial, as discussed in section 3.6.4.

7.1.3.3 No National Policy → Lack of Project Management tools and techniques

The absence of a National policy on Project Management was seen to be another cause of the lack of project tools and techniques. As implied by respondent PP04:
"Because there is no strategic planning for it, individually, everyone uses his or her method to do it".

There is currently no policy or governance frameworks for project management in NGCO, unlike the Norwegian governance framework and the OGC Gateway Reviews developed and used in Norway and UK respectively. Arguably, this is justification for the weak structure of the organisation and its impact on the non-availability of tools and techniques. This finding is supported by Börzel et al.,'s (2005) assertion that structure emerges from governance. Hence, it can be implicitly stated that an established policy or framework for project management will enhance the use of tools and techniques within NGCO. This was emphasised in the statement by PAD07

> *"I believe that if any change were to happen it's probably by us having a policy that says from day one this is it or you even have a dashboard, a dashboard with the processes, the workflow carefully defined or a way of working that forces people to suit into that framework".* PAD07

Since the adoption of governance frameworks relates with implementation of PMP (Morris, 2013b; Klakeeg, 2010a), NGCO could consider adopting a similar approach. A project policy, guideline or framework will provide project practitioners and participants with a set of instructions, decision-making patterns, techniques and tools and an organized structure within the organisation to ensure effective Project Management Practice.

7.1.3.4 Political Influences (Nepotism) → Restricted authority of Project Practitioners

Nepotism was also found to have a causal effect on the restricted authority of project practitioners. Due to the selection of some of the indigenous contractors, through acts of favoritism rather than attainment of proficiency, these contractors are given preferential

treatment by the Executive officials in the Governance system. Hence, these project practitioners have little control over the activities of the contractors, and sometimes this is seen as incompetence on the part of the practitioners. This finding is consistent with studies such as Adeyemo and Amade (2016), and Olusegun et al., (2011) who identified this element as corruption. However, Alence (2004) pointed out that such acts of favouritism are widely instituted in Sub-Saharan African countries, and referred to it as *Neopatrimonial*. Alence, also argued that societies with weak management capacity and weak systems usually display such attributes. The quotations below support this finding:

> *"A lot of times you are at the receiving end. You are a subordinate of somebody higher and his basic interest counts. For example, if a contractor is awarded a contract and he comes to your site you will have nothing to check on that contractor except that he has to be there on site working with you. You can't check to see if he has the basic requirement to even be on that site or not. You don't have anything to say other than to just work with him and apply whatever method you can to make sure that the delivery process goes on to the end"*. PP03

> *"What I experience is that sometimes you are on the site just for the sake of being on site. That is, the contractors have rapport with the powers that be in the office, so sometimes your work does not carry the weight it is expected to carry because the powers that be can circumvent your instructions and what needs to be done will not get done because the contractors know the powers that be".* PP15

Nepotism, Favouritism or Neopatrimonialism all represent an inherent characteristic of NGCO. This element has a substantial impact on the selection and performance of contractors in NGCO, (as discussed in section 2.3.2) and consequently on Project Management Practice.

7.1.3.5 Political Influences (Non-release/lack of funds) → Poor internal administration

In NGCO, the basic administrative requirement seems to range from being very poor to altogether lacking. Accounts of inadequate IT facilities and logistic issues, such as electrical problems, were recorded. Respondent PAD05 and PP16 stated thus:

> *"… I will say the logistic problem is that for example, a few weeks back, the electricity was such a challenge and because funds were not released, diesels for the generator could not be purchased. Therefore, typing out bills of quantities, general administrative work was hindered. So those are the challenges confronting us…"* PAD05

"Some people don't even have computer systems. And electricity is not always available, not everybody has a system or a desk where they sit. I think provision of these things will facilitate project management practice more". PP16

These statements highlight the funding element as a causal link to poor internal administration. The logistic issues stated by PAD05 were caused by a non-release of funds which may be a case of non-availability or other political reasons, such as personal motives of politicians, because according to the Nigerian Procurement Act of 2007, funds are to be made available prior to commencement of a project (see section 6.3.2.3). Respondent PP07 confirmed the above assumption by stating:

"The difficulties mostly are tied to all this issue of fund, only maybe the government sometimes priority might change, might shift to another place, area and things like that…" PP07.

"Because our projects are mostly funded by government, we have problem of release of funds. We can have money in budget, and it does not get released". PP12

According to Turner and Müller (2003), the internal administration in NGCO can be improved upon if projects are considered as an administration activity (i.e. temporary organisation) rather than as a production output only activity. This approach suggests that projects should be used as an agency of change (Andersen et al., 2009) and resource utilization (Cleland and King, 1983). In other words, projects are being used to transform an organisation by applying project processes to typical operating procedures and traditions.

7.2 Causal Links to Middle Management System

The Middle Management System in NGCO covers a broad range of positions/ levels of managers and directors. Despite the various labels used in describing these official positions (such as directors, deputy directors, executive directors, general or professional managers), these levels of management fall in-between the top senior management (executives who formulate strategy and policies) and the operational level (those who implement strategy using procedures and techniques (Burgess, 2013; Raes et al., 2011).

Traditional organisations such as NGCO are hierarchical in structure. The hierarchy of the management system in these organisations consists of senior level politicians (e.g. Ministers, Ministers of State), the middle management level (e.g. Permanent Secretary, Directors, and Managers) and the operational level (Administrative and Technical Officers) (See fig 1.3 - Hierarchy of management system in Nigerian MDAs). Correspondingly, Briggs explained that

the four categories within the grading and salary structure in the Nigerian Civil Service are: junior staff - Level 01 to 06; senior staff - Level 07 to 12; and management level which has a management cadre - Level 13 to 14 and Directorate cadre - Level 15 to 17.

Activities in the Middle Management System comprise managing, motivating and supporting workers, and acting as a connection between the level of strategy formation and that of implementation. In NGCO, the following elements: the autonomy of middle management, inadequate knowledge of project management, less informal structures and inadequate project management training and development, were identified within this system to influence PMP. While the Middle Management System, on the other hand, is observed to be influenced only by the Governance System. (See Fig. 7.5)

7.2.1 Governance System → Middle Management System

7.2.1.1 Political Influences (Non-release/lack of funds) → Inadequate project management training and development

One cause of inadequate project management training and development in NGCO identified from the data is the lack of funds from the Governance System. Respondents PP02 and PP09 alleged that sufficient funding was not made available for training and development programmes.

> *"There is no proper training. So, the management skills will be affected. The most important factor is training. The trainings are not as frequent as they should be because of availability of funds".* PP02

> *"Initially we used to have external trainings. But, in these days of change, it is getting very difficult … it is almost becoming obsolete due to budgetary constraints".* PP09

Although authors such as Ramazani and Jergeas (2015) opined that project management training and certification consume significant amounts of expense, it is not ascertained if and what amount is requested for training purposes in NGCO. In addition, inadequate project management training and development was perceived to be an influence on the perception of project management by middle managers.

7.2.1.2 Autonomy of middle managers → Inadequate project management training and development

It was found out that middle managers had the power/authority to initiate project management training and development programs. This notion is supported by Garavan and McCarthy (2008), and Hornsby et al. (2002), who assert that middle managers have autonomy to initiate the development and implementation of new concepts and facilitate organisational learning in an organisation.

In NGCO, this autonomy of middle managers was recognised by the following responses:

> "*Those directors actually determine the direction in terms of the product of the ministry".* PAD05

> *"Ironically there is no policy, so Project Management Practice is at the wings and caprices of the Executive Director".* PAD06

> *"For example, the current MD wanted to introduce a software - Prince II. He mentioned that the project management team will go through such training and that project managers will start applying it but nothing has yet been done".* PP03

> *"To be factual, our past permanent secretary was eager to make people learn about project management to the extent that all of us in the directorate and management cadre were forced or compelled to attend project management seminars. There were small seminars but at least that opened our eyes to things we didn't know".* PP04

7.2.1.3 Inadequate project management training and development – perception of project management

It was subsequently identified that due to the lack of appropriate project management training, there was a wrong perception of project management. The responses revealed that there was a focus on workers' core professional training instead of project management methods and principles. Statements from the following respondents supports the above argument:

> *"When you are not practising something often times you don't promote. But on what project manager will call technical lines is consistently promoted".* PP13

> *"We also bring very highly qualified engineers who come and train our staff in some of the processes".* PP09

The effect of inadequate project management training and development on the perception of

project management, further caused an inadequacy of project management knowledge,

Respondent PP13 stated:

> "*Like the architect is seen as the head of construction team. So, the extent that he sees himself and operates as the head of the construction team, he tries to handle project management, from construction management perspective*".

> *"As it is here the bridging is on professional technical lines, it's not like having a project manager. Project management is not instituted here".*

Thus, it is observed that some elements in the Middle Management System have a certain circularity. That is, its relations are closed (See Fig. 6.4; depicted by the encircled **C**) such that, there is a causal circularity of feedback. Hence the system is capable of reproducing other elements within itself. From a broader view, it is also observed that there is an absence of an exterior causal relation to the Middle Management System. Only the governance system (which is internal) has a causal link to this system, meaning that it has no direct relationship to the external environment of the organisation (both the project execution and governance system have a causal relationship with the external environment of the organisation). (See Fig. 7.5). These observed features of the Middle Management System reverberates with the concept of '*Autopoiesis*' in an organisational setting.

7.2.1.3a Autopoiesis

The concept of Autopoiesis was created to define molecular processes occurring in a living being as autonomous components. It is basically a relational property, as it depends on the relationship between the components (Fernández et al., 2014; Razeto-Barry, 2012). Although, this concept has a biological origin, its extension to social systems and organisations is based on Luhmann's notion of communication as the basic unit of social systems (Vanderstraeten, 2014).

Autopoietic systems are characterised as self-organising systems, capable of producing other components within themselves (Luhmann, 2008). They exist within an environment, but have limited interactions with external systems (Fernández et al., 2014). In other words the more a system is capable of interacting with exterior elements, the less autopoietic it is. With reference to the developed theoretical framework (Fig. 7.5), the Middle Management System is located within the internal environment of the organisation, and has relations only with the Governance System, which is also internal to the organisation, but it does not relate with the organisation's external environment.

The original ideas of autopoiesis proposed that, although components can enter and leave an autopoietic system, their organisation is closed, as in relationships are circularly closed, this is referred to as *circular causality* (Maturana and Varela, 1991). The circular causality feature is observed by the relationship between inadequate project management knowledge, inadequate project management training and development, and perception of project management (Fig. 6.4; depicted by the encircled **C**). However, recent arguments suggest that circularity does not necessarily come from the relationship of being able to produce all its components, but from a circularity of physical proximity (Razeto-Barry, 2012). Razeto-Barry argued that since the system must maintain itself, there are elements within it capable of acquiring the internal presence of the other elements of the system from outside the closure (in this case, the Middle Management System relating with the Governance System), and these are in an adequately local proximity to comprise an entity. This means that, although the elements within an autopoietic system do not directly produce all the elements of the system, the elements produced are those whose internal production is essential to maintain the network operation as an entity.

Therefore, the exclusion of the element 'less formal structures' can be opined to mirror the idea of circularity of physical proximity. Arguably, the formation of less formal structures are carried out with the intention to promote knowledge sharing and enhance project management activities within NGCO, thus attempting to sustain the system. At first sight, the element "lack of continuity" may seem to also represent the idea of circularity of physical proximity. However, it was found to have a positive causal relationship on project management practice, i.e. it increases the current state of PMP in NGCO. Furthermore, no casual relation was identified between lack of continuity and autonomy of middle managers, and thus it seems reasonable to categorise it as an element in the Governance System. More so, because a causal relationship was identified between political influence and lack of continuity; highlighting the next causal relationship.

7.2.1.4 Political Influences → Lack of continuity

It was reported by some respondents that the autonomy of the middle managers in NGCO is affected by a lack of continuity, because having too many changes in government regimes often leads to reshuffling or removal of government officials. Therefore, when this occurs, whatever influence the official possessed, the initiative introduced comes to a halt.

The following statements illustrates this:

"Some of the factors that affect us are change in management, we have too many. Change in management and lack of continuity. An average administration last about a year and half to two years, that shows you the extent of instability" PP01

"Well you know government is supposed to be a continuum, but in Nigeria it is not like that, as soon as he was removed, everything died down, the new person does not see it like that" PP04.

"So that, for example, if I am not here today, the next person sitting here tomorrow can take it up and follow it through because the process is well mapped out. But what is happening here now is that the person that knows it when he leaves there is a knowledge gap, the process stops" PAD07

This finding corresponds to the postulation by Frumkin and Galaskiewicz (2004) that although middle managers in government organisations respond to development pressures by changing or adopting their practice, these practices do not diffuse within the organisation because they are not defined by law or by the government organisations as being legitimate. Therefore, because NGCO have no law or framework defining a systematic approach to managing construction building projects, new practices introduced by this level of managers are eventually undermined, or cease to have any effect, when they vacate their position.

7.2.1.5 Weak structure of the organisation and No national policy → Less formal structures

The bureaucratic, decentralised form of administration in NGCO, and the absence of a national policy on the application of project management techniques and methods in project execution, are causal effects on the formation of less formal structures. That is, both elements have a positive influence on the latter element. In other words, because the existing structure is not favourable towards the organisation of projects, and does not support project management development, workers within similar professional backgrounds engage in mutual activities to develop temporary strategies to enhance their work. The activities and strategies range from the initiation of in-house training programs to development of informal structures as stated by the following respondents:

"senior college are invited to give lectures where everybody is given an opportunity to ask questions for areas that they don't quite really understand and then you know, continuously even in various department and divisions …" PP07

"We are trying to come up with new structuring for the Agency …. for example, we are going to domicile project management, monitoring and evaluation as a unit… So that's how we are

trying to reposition the agency. The MD will be more or less the driver of project management". PAD04.

Some authors refer to such communities of public managers as professional networks (Frumkin and Galaskiewicz, 2004 pg.33)

It can further be argued that the causal relationship of the weak structure of NGCO on less formal structures is due to the absence of a national policy based on the following response:

> *"I am not aware of any policy statement but I think that over the years the organisation has built its own structure which over time is passed on, essentially I would say informally from my experience" … so, we had cause to develop some things like that i.e. guidelines/project methodology. So, in terms of a formal policy, I think that will be the closest I would say that we have".* PAD03.

Snyder et al.'s (2003) description of communities of practice is also in line with this finding. The authors stated that, because conventional government bureaucratic structures are insufficient in addressing certain management issues, nurturing 'communities of practice' where practitioners relate with each other to solve issues, share thoughts and set standards etc. is beneficial in addressing a wider importance.

Since the formation of less formal structures usually relies on influential people of the organisation, such as top management managers (Borzillo, 2009), it can therefore be claimed that the higher the level of management support through a 'formal definition' of communities of practice, the greater the chance of achieving its aim of sharing and disseminating Project Management Knowledge within NGCO. However, the communities of practice in NGCO seem to focus more on technical lines, and less on project management development, because of the perception of project management in these organisations.

7.3 Causal Links to Governance System

If the Project Execution System represents the system's core, then the Governance System can arguably be said to represent the brain or crown, where the design and the configuration of the entire organisation is established and controlled. Based on the understanding of governance as structures and processes (Fig 3.6.1), the former uses structures to govern by encouraging bureaucratic/hierarchical relationships that are inflexible, and a public-private network structure when relating with external parties. The latter uses processes to govern by the use of laws (e.g. administrative rules or court ruling), positive/negative manipulative

processes (e.g. side payments or sanctions), or non-manipulative processes (e.g. process of learning and encouragement).

It can be determined from the responses that NGCO seem to focus on the structural aspect of governance at the compromise of the processes. For instance, respondent PP12 stated

> *"Government has tried by putting the laws but executing it is our problem generally in the country…. If people are made to account for their actions and people who are involved in corrupt practices are punished by their professional bodies, punished by courts … once those laws are in place you are not taking somebody to court to interpret, you're taking that person to court to implement … But if the law says if you do this it's five years, you cannot go to court and spend one year because you not going to interpret what the law says but going to implement the standard law that is written. Our laws are obsolete*" PP12

Ika (2012) and Muriithi and Crawford's (2003) assertion that weak institutional ability and underdeveloped organisational structures are prevalent in developing countries, corresponds with the above finding. The Governance System was found to be influenced by the External Environment.

7.3.1 External Environment → Governance System

7.3.1.1 Traditional Orientation → Weak structure of the organisation

The Traditional orientation existing within NGCO was discovered to be one that is unperturbed about productivity, hesitant to try out new innovative practices, and holding on to the traditional views of management. A Traditional orientation closely relates with organisational culture (Schien, 2010), because it represents the basic underlying beliefs, thoughts and feelings of executive officers and policy makers towards working practices and productivity in NGCO. For instance, respondent PAD07 stated:

> *"But when you think that it's just that anything goes then it's a problem, because if government, if the civil service is really serious about productivity in the civil service…"*

Another respondent reported that the fear of trying out something new i.e. project management, was due to a lack of awareness about it.

> *"People who are at the decision level makers are not aware of this new development in technology. And since they are not aware, it scares them. If I'm faced with something that is new, there is tendency to be afraid, I will rather say let me remain at where I am comfortable with than trying to acquire this new skill"* PP14.

Arguably, due to the underlying assumptions and traditional beliefs still prevalent in NGCO, weak organisational structures are engendered. These bureaucratic views comprise the use of a hierarchical line of communication and authority, where strategic plans and procedures are determined by top executives, and interpreted by operational workers in the form of tactical procedures. Correspondingly, Christensen and Lægreid et al. (2010) and Parker and Bradley (2000) agree to the notion that traditional bureaucratic values and a hierarchical culture are still emphasised in government organisations.

Responses suggested that the traditional orientation had a positive causal effect on the weak structure of the organisation. That is, due to the traditional orientation of policy makers, the structure in NGCO inherently remains the same, despite several reforms such as NPM.

> *"The reason it's like that is because you can't give what you don't have. You need to be able to see a vacuum for you to want to change the structure. We wish things can be structured and done properly"* PP15

> *"If there is the will from the government, it is the way because even you send them up and without providing the necessary structure and support for them to work with it will not work"* PP07

This relationship exposes the other causal relation of Traditional orientation, which is its effect on No National Policy.

7.3.1.2 Traditional Orientation → No National Policy

Due to the emphasis on traditional bureaucratic values and a hierarchical culture in NGCO, these organisations are slow in adapting to innovative styles of management. Correspondingly, Ionescu (2011) states that very bureaucratic organisations often have problems adapting to, or accepting, new practices.

Arguably, the introduction of the New Public Management (NPM) initiative in NGCO has not been very effective in transforming the mindset of government officials in these organisations, as some of them still hold on to the traditional administrative ways of doing things, where formal hierarchy structures, division of work and specialisation, etc. are still the fundamental norm. Consequently, the introduction of management techniques and tools originating from the private sector (Pollitt, 2007; Hood, 1991), such as Project Management Practice, are yet to be recognised and incorporated in NGCO. This is a possible reason for an absence of a national policy on project management. For example, Respondent PP12 states that:

"Our organisation has its own style of administration that is based on government rules and regulations. Sometimes we discovered that these styles are obsolete and you might want to change." PP12

In addition, one respondent mentioned that people have a wrong mindset towards planning

"… When you try to plan people think you're wasting time" PP04.

7.3.1.3 Traditional Orientation → Poor Internal administration

In the same vein, the traditional orientation of policy makers had an impact on the internal administration. This causal relationship corresponds with Kuipers et al.'s (2014) review, which identified that government organisations resisted change in their administrative procedures. Responses suggested that traditional orthodox administration is still practiced in NGCO.

"… those who are the level of decision making, unless they see the absolute need either in terms of cost savings, better execution of projects, in terms of praise for them being able to execute their role well, we will still be using the methodology of the past, which is still the typical thing of traditional procurement, traditional getting of contractors, traditional means of project reporting and all that and times have changed". PP14

Furthermore, it was implied that due to the effect of traditional orientation on the internal administration in NGCO, there was a causal effect on adverse behaviours, with regard to an absence of incentives.

"Projects like ours need a lot of movements. It needs vehicles to move. Work requires a good work environment to produce very well. Basically, that is it. Of course, sometimes, you have to work extra, not the normal civil service work. At times, you have to move out at 7 o' clock or before and close very late also. Sometimes, you work weekends. So, remuneration is another issue because that will be considered in the remuneration of engineers.

No incentives, government has provided, so that's why we grow grey hair faster than a lot of other people". PP09

7.4 Causal Links to the External Environment

Although the External Environment, essentially, exists outside an organisation's internal system or boundaries, knowledge of what impacts it and vice versa is relevant because organisations depend on the external systems for the provision of resources to create products /services. Therefore, these systems could be a source of development or repression for an organisation. In NGCO, the elements identified to exist within this External Environment are a traditional orientation, foreign contractor's competence, and contractor's incompetence and dishonesty. The External Environment was observed to be influenced by the Governance and Project Execution Systems.

7.4.1 Governance System → External System

7.4.1.1 Political Influences (Nepotism) → Indigenous contractor's incompetence

As stated earlier, Nepotism tends to be an inherent feature of NGCO. Existence of this element is sometimes attributed to the collectivist culture of Nigerian society, where people are expected to be their brother's keeper (Adegboye, 2013) thereby empowering relatives, family members and clans when placed in a position of authority (Ilorah, 2009). Besides the effect of this element on the restricted authority of project practitioners, it also has a positive causal effect on indigenous contractor's incompetence.

This is implied from the following responses:

> *"… There is a lot of influence from the political class be it in releasing of resources as well as who will get the project. So, in as much as we know that there are some really good contractors out there who has proven track records of well-defined project management systems, and execution of project to the high standards but somehow because they are not in government favour these companies are not even allowed to compete. So that puts us in a disadvantage position"* PP14

> *"Now in most cases the contractors do not know about project management ….. most especially if they are from the top …"* PAD06

Thus, it seems that due to the collectivist culture which encourages nepotism in NGCO, competence or expertise of contractors is compromised. The act of nepotism, unfortunately, is usually found in the entire workplace. According to George et al. (2012) and Adegboye (2013), it is common to find family members and relatives within the same organisation. Unfortunately, this personal patronage to assist others does not support the rational objectivity required to achieve high levels of performance and efficiency. Similarly, Adegboye (2013) emphasises that in Nigerian organisations, performance is often subverted and

nepotism encouraged because of close relationships to family and clan. Interestingly, no relationship was found between nepotism and contractor's dishonesty, presumably because the presence of a personal relationship with those in authority, was enough assurance for indigenous contractors to secure a job.

7.4.2 Project Execution System → Indigenous contractor's incompetence

7.4.2.1 Project Practitioner's (PP) incompetence → Indigenous contractor's incompetence

An observation was made in relation to the Project Execution System attempting to influence the External System. This causal relationship is represented in the causal loop model by dotted lines because of its seemingly paradoxical understanding. Paradoxical in the sense that, even though project practitioners are not very competent in project management, they still try to inform and educate the contractors on appropriate ways that will benefit both parties. The following responses supported this impression:

> *"Some of our middle level and lower level local contractors, we will still need to manage them but it can be a little bit more difficult. As a manager, you must do a lot of human management, get them to try and understand how certain things needs to be done and sometimes you go an extra mile to show them the benefits of taking certain lines of action"* PAD03

> *"The only way is to keep encouraging them. If there is need, keep training them… if there is a way our government can make it a priority whereby, this our local contractors are trained and assisted to build their project management capacity, it would be very good so that they can effectively compete with the foreign contractors" PP09*

7.5 Initial Theoretical framework revisited

Subsequent to the data collection, analysis and presentation of findings, the initial research framework (Fig 4.10) was revisited. The findings were taken into consideration to inform the initial framework, which was developed by analysing literature and applying the Formal System Model (FSM). Although this study was to test the FSM in a context of construction government organisations in a developing country, it brought to light the significance of the Middle Management System in these contexts. In addition, the revised framework demonstrates the interrelationship between the different levels of systems and how they impact on Project Management Practice in Nigerian Government Construction Organisations. Thus, the revised theoretical framework is more comprehensive, as it synthesises findings from secondary (literature) and primary data.

Final Research Theoretical Framework

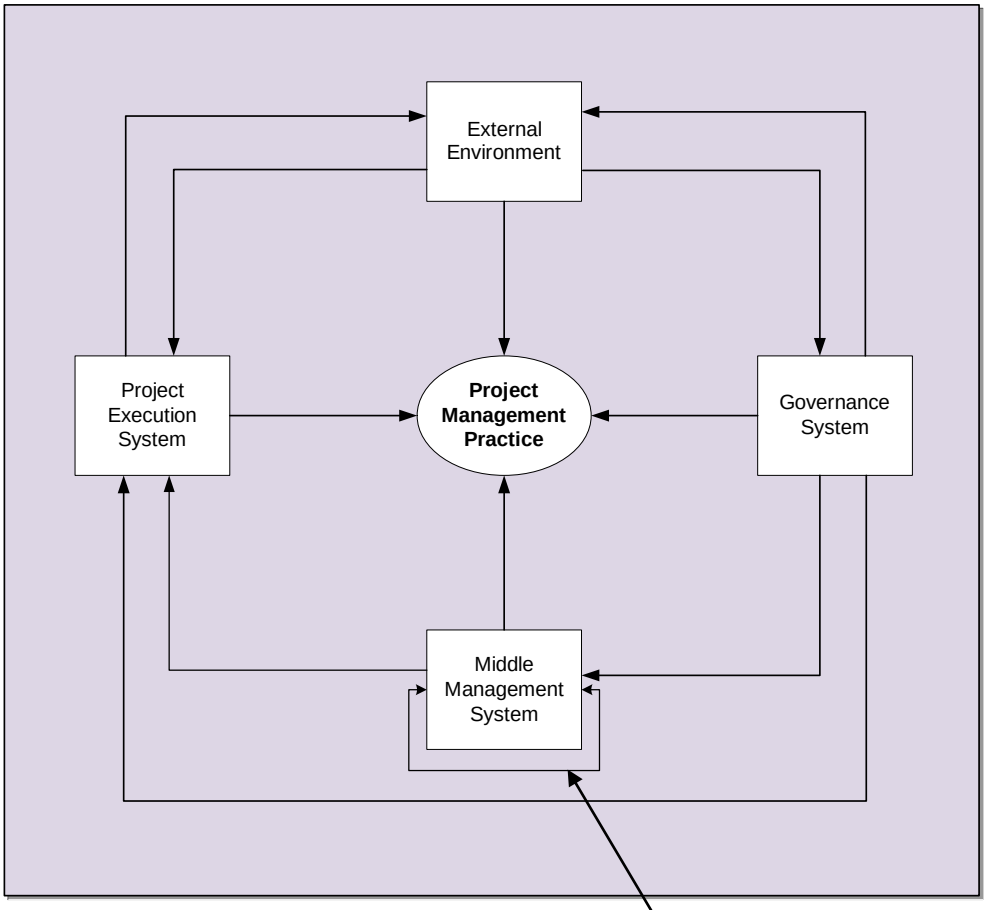

Fig. 7.5

7.6 Validation of framework based on the opinions of research participants

To ascertain the consistency of the developed framework, discussions were held with two government officials in the management cadre from two different NGCO. Discussions were via telephone calls. Attempts to contact more people that were willing to share their opinions on the framework proved difficult. A similar challenge was experienced during the pilot study. It seems that a face to face correspondence is generally more acceptable in these environments, which may be attributed to poor accessibility to internet or poor quality of internet services to enable phone or email communication.

One respondent was a General Manager (RES1) and the other a Manager (RES 2) with 12 and 9 years' experience respectively in working in a NGCO. The expressions of both respondents complimented each other.

7.6.1 On the causal relationships of Project Execution System

Both respondents agreed on the effects of the Governance System, Middle Management System and External Environment on the Project Execution System.

It was acknowledged that government officials at the middle management level had the power to introduce and develop project management, while the first respondent made reference to support from a higher level as a contingent, the second respondent referred to project management training for those in management level.

> *"All changes must be taken to and be done by the M.D. That is the way the civil service works. However, we that are closer to or more involved with the management of the project can actually influence and develop a project management system, but we would still need a bit of support from the directorate cadre because if funds are not released, training becomes virtually impossible". RES 1*

> *"If we at the management level are properly and adequately trained on Project management knowledge, we can confidently introduce this practice into the ministry". RES2*

The contractor's project management incompetence was acknowledged by the two respondents, and the second respondent made a mild comparison of their level of knowledge of project management and those of the indigenous contractors. This validates the dotted lines linking project practitioner's incompetence to indigenous contractor's incompetence (Section 7.4.2.1)

> *"Yes, I think this is one of the major challenges in developing a project management culture. The contractor's objectives do not align with ours, so they are not serious about project management". RES 1*

> *"It's unfortunate that our local contractors do not know much about project management tools or methodologies, this creates difficulty for us as well in managing projects even if we are not that well advanced in project management knowledge... I can say that we are more aware than them..." RES2*

Similarly, the traditional orientation of policy makers was referred to as 'old fashioned' and being the cause of an ineffective project management system:

"I believe that the old-fashioned ways of administration, the excessive bureaucracy needs to be toned down a bit in order for us and those supervising in the field to be able to effectively deploy a project management system" RES1

The effect of the governance system on the project execution system was confirmed by the following statement:

"The present structure in our ministries and agency has been the traditional style, it's how the system was designed. It is useful to an extent, but I believe that for managing projects, a better structure is required if we want to implement a project management system" RES2

7.6.2 On the causal relationships of Governance System

The governance system is influenced only by the external environment, and both respondents confirmed this link. Respondent One asserted that, in general, policy makers are reluctant in adopting new ideas, and made reference to the Public private partnership, as an example of an initiative that is still struggling to gain roots in the government.

"*That is the way the civil service work. More importantly because this sort of new techniques is not well known yet, senior executives are hesitant. And it's understandable. Politicians are slow in adopting new things, for example PPP started not too long ago and we are still having problems with that too." RES1*

"The orientation of our executives are still very old fashioned. I believe if they see things the way we do at this level there will be more support." RES2

7.6.3 On the causal relationships of External Environment

The main causal relationship of the External Environment is the Governance System. Both respondents confirmed the problem of nepotism and the effects it had on the system.

"That's the problem we have in this part of the world…the authorities contribute to the problem rather than solve it. Nepotism, corruption, partiality, politicking whatever you call it, is rooted in our system and is affecting us negatively. What do you do if the contractor you are working with does not even have a proper administrative system and you can't report it?" RES1

"Sometimes the so-called corruption or nepotism is caused by those in power. Rather than make it mandatory for their people to develop themselves and get the right skills for

construction, they encourage their incapability by awarding these contractors jobs that they can't manage". RES2

It was agreed that the project practitioners often tried to educate and inform the contractors. Respondent One implied that they did it because they had no other choice

"Yes, because we are more or less the ones managing the project for the ministry, we have to do all it takes, even if it means managing the contractors and putting them through some things" RES1

"We don't really get involved with the affairs of contractors, as long as they are keeping to targets. But sometimes we have to explain certain project administrative procedures…" RES2

7.6.4 On the causal relationships of the Middle Management System

Although both respondents confirmed that elements in the Governance System did influence the Middle Management System, it was implied that the issue of lack of continuity affected those in a higher managerial position (directorate cadre) more than others, and that it was not a direct impact.

"Absolutely, constant changes in government and moving around of directors will destabilize any new innovation introduced by the outgoing official, but this does not affect us much, usually the higher authorities like the perm sec, are moved around more often than us". RES1

"Lack of continuity does affect us but not directly…only to the extent to which a newly appointed executive knows about or understands what project management is. So, if they know nothing about project management, we may not get the full support but then it's still up to us to use something that will work for us and make our work easier". RES2

These statements validate the absence of a link from lack of continuity to autonomy of middle managers. It indicates a certain broadness in the management level, as it appears that some officials in the management level are politically inclined. This area requires further research as suggested in Section 8.4

Respondent One made reference to the importance of financial support, and Respondent Two confirmed the usual confusion and non-clarity between an officer's main profession and project management.

"Unfortunately, although we at the managerial level have a lot of influence in initiating a project management system, we also require financial support to conduct project management training and create an awareness. We can only give what we have…" RES1

"Like I said before we who at management level also need proper and adequate project management training, I believe professionals in the ministry gets things mixed up or confused between project management and their main profession. We as architects know the basic of managing a project due to our formal training, but I believe outlining the difference will help in establishing project management practice". RES2

On the issue of less formal structures, both respondents confirmed that an absence of a national policy and the present structures in their ministries were not favourable for project management.

"Having the right structures and a national framework on how projects should be managed will certainly minimize many of the issues we experience with utilizing project management. It then becomes an established policy which must be followed". RES1

"Actually, we usually try to form project teams or create a system amongst ourselves that motivates and teaches one on ways to improve on managing projects. … because application of project management is faced with some difficulties due to the existing bureaucratic structure we have to form our own temporary system to manage the project, but this still has some obvious limitations". RES2

7.7 Summary of Chapter

The causal loop model presented in Fig 6.4 was discussed in chapter seven. Relationships/links between components within different systems were assessed in relation to findings and affirmations from the literature. A key relationship identified from the causal loop model is the circular causality exhibited by the Middle Management System. Thus, the initial research framework was reviewed to incorporate the Middle Management System and its autopoietic feature. Validation of the final theoretical framework based on the opinions of professionals in NGCO were subsequently presented.

CHAPTER EIGHT: CONCLUSIONS AND CONTRIBUTION TO KNOWLEDGE

"It is not knowledge, but the act of learning, not possession but the act of getting there, which grants the greatest satisfaction.
- C.F Gauss

8.0 Chapter Introduction

The concept of System Thinking requires recognition of the limitation of our knowledge. Sterman (2002) states that most people reject the notion that there is no absolute basis for our beliefs but rather embrace theories that claim to offer the truth. However, developing the capability to see the world through multiple lenses, and to respect differences, provides: the ability to comprehend complexity through the use of models and simulations, the inquiry skills that are essential to exposing our concealed assumptions and biases, the modesty required to learn, and the courage required to lead (Sterman, 2002). This research has presented an appraisal of Project Management Practice (PMP), and an empirically demonstrated analysis of how structure and agency impacts on it in Nigerian Government Construction Organisations (NGCO). It has applied System Thinking theory through a Critical Realism philosophy to identify causal relationships impeding PMP in NGCO. This research has contributed both theoretically and methodologically to academic literature and, in addition, has provided practical information that will guide the development of PMP in the context of study. This chapter recapitulates and concludes on key findings, contribution to knowledge and research limitations. Suggestions for future exploration and research are subsequently offered.

8.1 Recapitulation of Research aims and objectives

An essential reason for the problems of poor outcome of building construction projects in Nigeria is the marginal utilization of project management in the region. Several references that were provided indicated its limited presence/absence (Section 1.2). Building construction projects are administered, controlled and managed by government organisations called Ministries, Department and Agencies (MDAs), herein referred to as Nigerian Government Construction Organisations (NGCO). These government organisations administer building construction projects predominantly through the Traditional Design-Bid-Build (DBB)

contracting method of procurement (Section 1.2.2). Due to an underdeveloped PMP in NGCO, it was realised that the delivery of government developmental projects was considerably hindered, thus having an adverse effect on sustainable growth and development through the provision of social facilities. In addition, the realization of the Vision 20:20 economic transformation agenda, which proposes to develop and advance building construction and infrastructure by the year 2020, through the implementation of a number of projects administered by Nigerian Ministries, Department and Agencies (MDAs), is perceived to be unfeasible due to a lack of effective management skills for adequate planning, controlling and monitoring of government projects by government officials.

The main aims of this research were to explore the challenges of Project Management Practice (PMP) in Nigerian Government Construction Organisations (NGCO) by understanding how structure and agency impacts on PMP from a systemic viewpoint and consequently to develop a framework that explains the causal relationship between structure and agency on the development of PMP in NGCO from a systemic viewpoint. These aims were achieved in three steps:

1) The first step (*objective one*) was to evaluate project management in relation to the structure and agency of NGCO by reviewing scholarly literature on management and organisational theories.
2) The second step (*objective two*) involved critically reviewing the literature to identify the factors that impact on PMP in GO in parallel contexts. Factors identified were categorised into themes based on literature reviewed in step one.
3) The third step (*objective three*) consisted of mapping the categories in step two against the Formal System Model to increase theoretical sensitivity. This initial framework was subsequently tested by an exploratory study consisting of 22 semi-structured interviews, leading to a revised research framework.

8.1.1 Research Objective One

The strengths and weaknesses of normative management and organisational theories were assessed through a literature review. It was identified based on the ideas of Weber's bureaucracy that a centralized system through a hierarchy of authority allows for a standardized system of processes, and the relationship of external agents had influence on the internal working of an organisation based on the notion of System approach to management. The context of the study (NGCO) was subsequently analysed by comparing facts about the various management /organisational theories from literature in relation to

what exists in the context to gain preliminary insight on the problem/challenges of PMP. It was observed that NGCO are typically traditional hierarchical organisations and bureaucratic in nature, nevertheless the practice of project management remains challenging despite its emergence from classical/traditional management theories. The analysis also revealed that, although the problems associated with principal agency relationship prevailed in NGCO, there were peculiar issues like Nepotism impacting adversely on contractor selection and consequently project management practice. Governance and Organisational climate issues were also brought to light in the review. Therefore, based on the analysis of management and organisational theories literature, it was identified that a connection exists between the way an organisation is structured and the effectiveness of project management practice. The relationship between an organisation and its external parties, in addition impacts on PMP. Thus the first objective was accomplished.

Weber's idea of bureaucracy extended some of Fayol and Taylor's ideas to include the presence of a legislative/judicial system that ensures sustainability in administration and standardisation of working practices. It promotes centralization through a hierarchy of authority to enable better communication. Respondents specifically mentioned too many reporting lines and a decentralised structure as a problem, implying that a centralised structure is more appropriate in a traditional hierarchical organisation. This mirrors Weber's initial principles, which argued that a centralised structure allows for an established system of processes and practices and development of technical expertise where officials have the power to issue command and control (Section 2.3.1.3). At present, based on the data, only the feature of autonomy seems to be operational in these organisations. Arguably, the unfavourable structure is also a plausible reason for the unsuccessful implementation of the corporate management aspect of NPM as some authors have argued on the unsuccessfulness of NPM in improving administrative and management efficiency (Ikeanyibe, 2016; Drechsler, 2005).

The review of the literature also suggested that the relationship of social agents (in particular external agents) had an impact on PMP. This was validated in the primary data by the identification of External systems (Foreign and Indigenous contractor's system). However, despite the usual principal-agency problems associated with the use of the Traditional Design-Bid-Build (DBB) procurement method, the data revealed that Nepotism was also a significant issue in NGCO, which is arguably due to the collectivist culture rooted in the environment.

Research Objective one acted as a road map for the second and third objectives by providing a better understanding and rational suggestions of possible elements that influences PMP in NGCO.

8.1.2 Research Objective Two

The second objective materialised as a result of a systematic review of the literature on PMP in Government Organisations of Sub Saharan African Countries (SSAC) and subsequently a thematic analysis of the identified factors. The 38 factors identified from the previous study/review were grouped into themes that were earlier identified as an outcome of the first objective, which are External Environment Factors, Governance Factors and Project Management Factors. The purpose of the second objective is to establish that structure and agency are supported by or reinforced by organisational culture (of which Governance Factors and Project Management Factors are aspects of), and the nature of the relationship between social agents that are within and external to the organisation.

Due to a scarcity of literature on PMP in the context of this study, the literature review of PMP in Government Organisations extended to Sub Saharan African Countries (SSAC). This was appropriate due to the socio-economic, political and internal/external mechanisms similarities of countries in SSA (See Table 3.9). The review was conducted in order to explore the elements of structure and agency in GO that impact on project management as the second fulfilment of the first research aim. The identified elements were subsequently categorised on the basis of concepts that were discussed in the literature review of concepts (Research Objective One). Table 3.9.2 shows the re-categorisation of elements or factors: External Environment Factors, Governance Factors (Organisational Culture) and Project Management Factors (Organisational Climate).

Elements or components in the External Environment found to have an impact on PMP were External Systems (Foreign and Indigenous Contractors' agency) and Traditional Orientation. Identification of External Systems from the review of literature confirms assertions on the association between an organisation and its external environment. However, based on the field study, the element 'traditional orientation' was pulled out from the data, and represents new knowledge as this element is absent in the literature review. It was observed that more than half of the literature reviewed employed a quantitative approach (Lawani and Moore, 2016), thus, the use of an interpretative means in conducting the primary research study is a probable justification for the emergence of this finding. This element represents the basic beliefs and values of the policy makers, and is relevant for developing PMP in NGCO,

because these executives are responsible for setting the laws, policies and procedures used to guide the organisation.

The second group of factors based on the literature review related to Governance. This finding corresponded with the literature in recognising governance as a hierarchical and relational mechanism (See Fig. 3.6.1). Responses from the participants confirmed the relationship of Governance on structure and agency by their assertions about weak structure of the organisation, no national policy and political influences.

Project Management Factors consisted of a wide range of factors, including issues related to the project manager, project management knowledge and internal processes of the organisation. Justification for initially placing all these factors together under one category is based on the similarities between project management and aspects of NPM (Section 3.5), and the assertion that the climate of an organisation is influenced or controlled by managers or practitioners having a shared perception of PMP (Zohar and Hofmann, 2012; Ostroff and Schmitt, 1993). These factors underscore the importance of the project manager/practitioner in establishing PMP. Therefore, the role of the project manager ought to be clearly stated, with sufficient support from the top hierarchy. However, an analysis of the primary data saw the relevance of distinguishing the Project Execution System from the Management System. Research respondents confirmed the importance of project management factors on PMP, and emphasised the autonomy of middle managers on certain activities in their organisation.

Research Objective two establishes that structure and agency are supported by, or reinforced by an organisation's culture and the nature of the relationship between social agents that are within, and external to the organisation

8.1.2 Research Objective Three

The information from the literature review (objectives one and two) were synthesised and mapped against the Formal System Model, which led to the development of the initial theoretical framework made up of three systems: External Environment System, Governance System and Project Management System. The developed framework was utilised to analyse structure and agency of NGCO (i.e. the different stakeholders in the organisations) by establishing their causal relationship on PMP within the organisation. This process was accomplished by analysing primary data collected through semi-structured interviews, and used to test the initial theoretical framework. It was observed that data from respondents corresponded with the factors or elements identified from the literature review of PMP in

Government Organisations of SSAC. However, two emerging elements: 'autonomy of middle managers' and 'less formal structures' engendered a significant fourth system – The Middle Management System.

The marginal focus of the middle managers' role in management literature (Rouleau and Balogun, 2011; Crawford and Nahmias, 2010; Mantere, 2008), is a justification of its latency in the literature review. The emergence of this element from the data analysis, however, highlights the relevance of the middle managers as a contributory factor to project management within NGCO.

Therefore, the initial research framework, established on the basis of the review of the literature was revisited/revised to reflect the Middle Management System (Fig. 7.5). The final research framework depicts that the External Environment is influenced by the Governance and Project Execution System; the Governance System is influenced by only the External Environment; the Middle Management System is influenced by only the Governance system; and the Project Execution System is influenced by all the other three systems and they all impact on PMP in NGCO (Fig. 7.5 is a graphical representation of the relationship between the various systems)

A significant discovery is the characteristic of autopoiesis exhibited by the Middle Management System, which enables it to reproduce other components and self-organise. Also, according to Fernández et al. (2014), an autopoietic system exists within a larger environment but has limited or no interactions with the systems that are external to the environment in which it exists. This further reaffirms the autopoietic feature of the Middle Management System because, unlike the Project Execution System and the Governance System, both of which are impacted upon by the External Environment, the Middle Management System has no influence from the External Environment (See Fig. 7.5).

8.2 Research Contribution to Knowledge

This study set out to investigate Project Management Practice (PMP) in Nigerian Government Construction Organisations (NGCO) in order to understand and explain the causal relationship of structure and agency on PMP. This research draws from propositions in the literature towards exploring causal elements of project management practices by studying the environments of an organisation (Morris, 2013a; Morris et al., 2012; Soderlund, 2004). In addition, the positivist/reductionist approach of carrying out project management research has been argued to be inadequate for conducting analysis in a complex

environment (Morris, 2013a; Christensen and Lægreid, 2010) and a hindrance to gaining understanding of contextual features that are applicable for the development of project management in specific contexts (Lawani and Moore, 2016; Smyth and Morris, 2007). Consequently, this research provides a contribution to knowledge in the following areas:

1) This research advances knowledge in the area of challenges associated with implementing project management practice from a systemic viewpoint, for which there is inadequate understanding (Morris, 2013a). The research investigates the problems of engendering a project management practice system using an interpretative approach to identify causal relationships between the stratified domains of reality. It identifies the 'Middle Management System' as a key system that can influence the development of project management practice in government organisations based on empirical work. The emergence of the Middle Management System in this study is significant to Project Management research in government organisations, and in the presentation of the Formal System Model.

2) This research formulates a new theoretical framework by drawing on existing knowledge about management/organisational theories, and system thinking theory, and evaluating how these theories apply to the challenges of Project Management Practice in the context of study. In achieving this, the study adopted a 'critical' view point (Critical Realism) which is a relatively novel approach in project management research. However, this approach is completely new in the context of this study. Most of the literature that investigates project management practice in a developing country has focused on reductionist approaches and therefore have not been able to provide a complete/holistic view of the issues/ challenges associated with PMP.

3) This study also identified other elements or factors that are positioned in the Middle Management System: autonomy of middle managers and less formal structures that were not previously identified in the literature (Table 3.9.2), and it established causal relationships between the different hierarchy structures and agency of a government organisation. The causal loop model developed based on these relationships provides insights on PMP in a government organisation of a SSAC. As far the researcher is aware, no causal model has been used to illustrate the relationship between structure and agency on PMP in a government organisation.

4) The outcome of this study contributes to the systemic approach to project management. It is recognised that an organisation's implementation of project management is influenced by the organisation's strategy and structure (Mullaly & Thomas, 2009; Cooke-Davies, 2009), thus this research provides validation of these studies and contributes empirical evidence that the implementation of PMP is broadly dependent on the organisation's structure and agency.

5) Empirically, this research pioneered the testing of the Formal System Model in the context of government organisations of a developing country.

6) This research study is the first of its kind to provide a holistic understanding of the challenges experienced in practising Project Management in Nigerian Government Construction Organisations. It further explains how different hierarchal levels in the organisation and external actors relate, so as to influence Project Management Practice. Therefore, it improves the understanding of project practitioners on issues that affect them, giving them insights into how issues can be addressed in the long and short term.

7) Finally, due to similarities in the socio-economic, political and Internal/external mechanisms of countries in SSA, the research theoretical framework can be used as a groundwork for future empirical research in other contexts. The framework was validated by expert opinions. However, further validation by quantitative/statistical analysis is warranted.

8.3 Research Limitations

Although the aims of this research were achieved, there are undoubtedly some limitations to the study. These limitations are discussed with suggestions for future research.

First: Modelling and establishing causal relationships is a subjective process, thus it is difficult to confirm the completeness or correctness of the model simulation. Sterman (2002) argues that due to the subjectivity of a researcher's interpretations, all models are wrong. A model is basically one's representation of reality developed to explicate a particular challenge or phenomenon. Thus, the nature of the relationship between agency and structure established in one context may not necessarily be replicated in another context.

Second: Though the selection of the three government organisations is considered to be a representative of building construction government organisations, the Nigerian civil service comprises different sectors, and thus this representation may not be representative of the entire public service, which, at the time of writing, constitutes forty-eight MDAs. This study was conducted in traditionally project-based organisations with a building and construction mandate. Thus, similar research can be repeated in other MDAs covering other sectors such as education, agriculture and defence ministries, where several projects capable of making a large impact to the socio-economic growth of the country are being carried out.

8.4 Suggestions for Future Research

The research design selected for this study seeks to generalise about theoretical suggestions which are sustainable and can be applied through time and space (Edwards et al., 2014). This means that a Critical Realist acquires knowledge about underlying causal mechanisms in order to explain how things work by applying concepts/theories in a different context with the potential of advancing them. It was argued within the research that findings can be generalised to government organisations in Sub Saharan African Country (SSAC) due to the generic nature of social - cultural, economic and political conditions across these countries (section 3.9), therefore a similar study conducted in a different SSAC would be relevant in order to compare findings and validate the framework.

A second area for further study is the testing of the explanatory power of the research framework. As discussed in section 5.5.1, although Critical Realism is underpinned by the use of qualitative methods to explore existing mechanisms, the strength of these mechanisms can be tested by using quantitative methods if more understanding of the situation is required to redirect and change these mechanisms.

Thirdly, even though poor project management practice is acknowledged in NGCO and generally in SSAC, empirically obtaining the Project Management Maturity (PMM) in a specific context is beneficial for the advancement of project management. According to Blomquist (2010), determining the PMM of an organisation offers insight to the past and present project management activities and provides direction for future development. A third area for further study will be to establish the PMM of NGCO through an assessment of the processes with the aid of an appropriate Project Management Maturity Model (PMMM) (See Section 2.6.2).

Fourthly, the emphasis of a middle manager's role is a growing area of research in the management literature, as their relevance towards supporting innovation implementation (Birken et al., 2012) and implementing change (Crawford and Nahmias, 2010) is increasingly bring recognised. However, Engle et al. (2017) states that studies examining roles of middle managers in implementing innovative practice are scarce in the literature. In relation to a construction environment, the relevance of the role of middle managers towards enacting an operations strategy is suggested as being crucial, but requiring a deeper understanding (Koch et al., 2015). Thus, a fourth area of further study will be to find out the role of middle managers in promoting Project Management Practice in Government organisations, particularly in developing countries which are deficient in project management. Such a study will be more focused on middle managers and their function towards project management practice.

Furthermore, in relation to the context of this study, project practitioners (PP) in NGCO fall within the management levels which are grouped into the management cadre and the directorate cadre, therefore, what seems to occur is that the extent of power or autonomy of a PP depends on his or her level in the organisation's hierarchy, and also on the continuity of some senior managers believed to have a political inclination (suggested during the validation interview) (See Section 7.6.4). Some authors state that project managers are usually not in managerial roles in the civil service (Löfgren and Poulsen, 2013), and similarly Ika et al. (2010) observed that project managers or coordinators do not hold a superior managerial position in Nigerian government organisations. Therefore, a fifth area of study that warrants consideration is the exploration of the management level in NGCO, in relation to the responsibilities and role of project managers.

Based on participants' responses, the competencies of a project professional in NGCO were judged mainly on technical skills (Section 6.3.1.2). However, behavioural competencies are claimed to be necessary for project managers in a construction environment (Dainty et al., 2005). Therefore, a sixth area of study will be to gain more insight into the 'perceived' competence for PP in NGCO, this study will complement the fourth and fifth suggested areas of further study.

Finally, because the identification of the main themes on the research framework and subthemes on the causal loop model are mostly based on the perception of the project practitioners that were interviewed, further study on validation of the framework is necessary.

The validation study will be more comprehensive in comparison to the initial validation where only two practitioners were engaged. An example would be to apply the framework in several case studies and/or apply statistical procedures in analysing data.

8.5 Relevance for Practice

The causal loop model and the subsequent theoretical framework created by this research are tools that can help researchers and practitioners to understand the dynamics of organisational components in the implementation and development of innovative techniques in several ways:

(1) The model can be used to improve understanding of the interaction of the different influences on specific project elements.
(2) The framework could be the basis for the development of a set of enhanced project management practice heuristics which take into consideration causal impacts.
(3) The framework also provides some guidance to researchers and practitioners on which organisational components or systems to focus on in developing Project Management Practice, depending on the organisational context, geographical location, project type and methods of procurement.

In addition, this research re-emphasizes the importance of recognizing project management from a strategic perspective through the support of a project governance body or framework. It also highlights the role of the middle management level and the impact of middle managers on developing and sustaining project management.

It is acknowledged that the relevance of middle managers has been undermined in the literature. The level of autonomy vested on these officials empowers them to be able to make certain decisions capable of impacting on and eventually stabilizing the entire organisation in the long term. According to Razeto-Barry (2012), auotopoietic systems are capable of growing until they spontaneously provoke stability in regulating the internal system. That is, due to the self-creation and, self-organisation property of the Middle Management System, an increase in proper project management training in NGCO will result in an appropriate perception of project management, and eventually produce adequate project management knowledge. In other words, a small but frequent attempt to initiate PMP at the management level may very likely have a larger positive effect elsewhere in the organisation eventually. This idea reverberates with Chaos theory, which implies that a complex, unstable system tends to drift to a state of dynamic stability (Section 4.2.4).

Thus, an implication is that middle managers possess the capability of gradually embedding project management practice into the entire organisation by virtue of their 'self-producing' autopoietic feature, and eventually promote PMP throughout an organisation.

8.6 Conclusions

The challenge of developing Project Management Practice in NGCO is multifaceted, with structure and agency having substantial impact on its development. In conclusion, this study brings to light the weakness or limitation of classical theories of management in relation to dealing with external agency. These theories were based on closed systems of operation which are comparable to the early traditional project management views. For organisations or businesses that have minimal or no association with external bodies, the traditional approach of project management may suffice. But the reliance on external agents for certain activities, creates an opening in the closed system of operation. Therefore, the promotion of PMP in a bureaucratic government organisation depends not only its internal structure but on external agency, and the organisation has different levels of influence on both.

First conclusion: Most importantly, findings from this study have revealed that project management practice is impacted upon by both its internal and external environment, which provides substantial basis for support of the alternative views of project management. The identification of the Governance and External systems with their various components undoubtedly validates the Critical school of Project Management (Section 2.4.1) which argues for consideration of social, political and ethical elements associated with organisations and management. Likewise, the emergence of the Middle Management system with the role of middle managers being significant in shaping the procedures and practices of daily project activities relating with project outcomes validates the Scandinavian school of Project Management. The Scandinavian view argues that different project management approaches are contingent on the project environment and places emphasis on a practice-based view which enables social actors to take on a flexible approach in managing projects (Section 2.4.2).

In the context of study, the role of the middle manager is considered to be relevant in establishing project management practice by virtue of their position/autonomy. This implies that these officers are able to appreciate projects as an event or activity carried out for specific purposes and thus apply expedient and pragmatic approaches to achieve the desired outcome.

Thus, normative project management practice (classical/traditional project management) is questioned as to whether its application can only be relevant to certain types of organisations. For instance, organisations that have little or no dealings with external systems and/or where there are less hierarchical structures.

Second conclusion: Based on the review of management theories, it is recommended that a centralised structure will promote consistency/standardization of processes and rationality, which is in line with classical project management. However, because NGCO are decentralised, the instituting of a standardized project management process poses a challenge. Thus, the establishment of a Project Management Office (PMO) will be advantageous towards the development of PMP. A PMO is mainly created to support functional departments or to manage an organisation's projects (Meredith and Mantel, 2011). They are the hub of project management processes and knowledge, and therefore represent a centralised system for the coordination of projects. It should however be recalled that the structure of the NGCO has a causal relationship with the traditional orientation of policy makers, and changing this current orientation is unlikely, at least in the short-term. Therefore, the sort of PMO to be established is worth considering.

From discussions on PMO (Section 3.6.4) a Project Control Office which deals with single projects and autonomous project teams (See Table 3.6.4) is suggested, because a Project Control Office that is established at an administrative level will reside within the realm of the Directors/Managers (Andersen et al., 2007). It can then gradually develop to a more strategic level where it becomes a centre of excellence for coaching and training, as the orientation towards efficiency in Nigerian government ministries adapts to the concept of Project Management. At this stage a PMO resides at the top executive level, capable of managing multi-projects simultaneously (Hobbs and Aubry, 2010; Andersen et al., 2007).

Third conclusion: NGCO operates a networked agency through the adoption of the traditional Design-Bid-Build contracting type. The reason for this type of agency is in order for NGCO to gain a high level of control and management over the execution of projects. While this reason seems rational, the agency theory exposes the issues of such a relationship. The common principal-agent issues were highlighted in the responses of research participants. However, adding to them is the 'African agency', where personal obligations and loyalty to a member group has a strong influence on PMP. The conventional systems of contact are often not very effective in these settings. Because the 'African agency' is a cultural norm,

altering it will be difficult, if not unlikely. Therefore, the use of other approaches are suggested such as the use of a systems approach:

The systems approach to management emphasises the psychological and social features of the organisation and simultaneously considers features of the external environment (Mullins, 2016; Weihrich et al., 2013). Since the system approach to management suggests that managers should not operate exclusively within the boundaries of their activities, but also consider external networks, training and empowerment on PMP should extend to external social agents (contractors). Börzel et al. (2005) and Checkel (2001) affirm that the non-manipulative governance processes such as learning, and persuasion can be provided to contractors.

This notion was indicated by respondent PP09 on his response about the indigenous contractor's incompetence: *"…But if we must be true to ourselves, if there is a way our government can make it a priority whereby, this our local contractors are trained and assisted to build their project management capacity, it would be very good so that they can effectively compete with the foreign contractors".*

This idea can be regarded as 'contractor empowerment'.

Fourth conclusion: The literature review identified that the concepts of Governance of Projects and Project Governance are non-existent in NGCO. However, the broader definition of governance which emphasises government obligation to developing and forming strategy for the benefits of their people (Section 3.6.1), is what typically applies in relation to challenges of PMP in NGCO. Klakegg (2010) states that the approach to governance by a PBO is likely to influence the way all projects are executed and also the sort of practices adopted by the organisation. Therefore, since NGCO are PBOs, the broad definition of governance which focuses on public administration is inadequate in supporting and sustaining PMP within these organisations. A practical solution is the formation or adoption of a project governance framework by the Federal Government of Nigeria, and its utilization enforced on NGCO when managing government projects.

Fifth conclusion: Although the NPM initiative was aimed at improving management efficiency in public organisations, it is claimed that the concept has not been fully integrated in most government organisations (Ikeanyibe, 2016; Mongkol, 2011). Due to the association between NPM and Project Management (Section 3.5), it can be argued that a properly implemented NPM would increase the chances of securing or implementing project management in NGCO. However, developing countries in general have adopted and focused on only the

market strand of NPM and have failed to implement consistent management/administrative reforms related to NPM (De Vries and Nemec, 2013). Therefore, a steady and supportive reorganisation of the public administration system may provide a fertile ground for developing Project Management Practice in NGCO.

Sixth conclusion: Based on further analysis of the causal relationships of the Middle Management system and other systems in NGCO, it was recognised that the Middle Management System exhibits features of an autopoietic system, meaning that it has the capability of organising, reproducing and maintaining itself. These self-organising, self-producing features are observed by the causal relationship that the element 'autonomy of middle managers' has on elements within the same Middle Management System, and the circular causality depicted in Fig. 6.4. The 'autonomy of middle managers' element had a negative causal relationship on inadequate project management training and development and project management practice, and a positive causal relationship on less formal structures, thereby implying that middle managers in NGCO have a relatively important role to play in the development of PMP. For example, through the provision of project management training and the creation of project control offices.

Therefore, the quality of training carried out, the formation of informal structures or creation of project offices, and the scope of project management practised in NGCO, will depend significantly on the middle managers in the organisation. This inference corresponds to the features of an autopoietic system which claims that elements of a system produces element whose internal production is essential to maintain the relational function as a unit (Razeto-Barry, 2012).

Seventh conclusion: The Project Execution System receives the most impact, as all the other systems have a causal relationship one way or the other on it. Arguably, this is due to the positioning of this system in an organisation hierarchy. The Project Execution System is the core system where projects are controlled, monitored and implemented. All the other systems have a degree of connectivity with it because it carries out the main tasks of the entire organisation and achieves results by transforming inputs into outputs. Interestingly, it was discovered that the Project Execution System has a causal relationship on the External Environment. This corresponds with White and Fortune (2009) and Ellis et al., (2007) claims that the Project Execution System attempts to influence the External Environment. This was observed by the element 'project practitioner's incompetence' having a negative causal relationship on the element 'indigenous contractor's incompetence'. In order words, the project practitioners in NGCO sometimes made an effort to teach/train and encourage

indigenous contractors on the use of project management, even though they themselves have some shortcoming in project management knowledge. Therefore, the extent to which the Project Execution System is able to positively influence some elements in the External system will depend on the extent and appropriateness of training that the project practitioners acquire on project management.

8.7 Personal Reflections

Reflecting on the entire study, the researcher views public sector projects as indeed both complex and multifaceted. This is clearly evidenced by the variety of interrelated internal and external forces acting on the organisation. The presence of external forces is basically due to the substantial amount of outsourced activities executed by private bodies for these government organisations. Thus, the closed nature of industries, a feature resulting from little or no interaction with external organisations, was commonly observed in the pre-industrial era. In these periods, the use of rigid standardization of processes and procedures and mechanical forms of management seemed to thrive. However, nowadays, contemporary organisations are often characterised as reliant on external organisations for project execution and they vary in contexts. Therefore, the use of a standard approach to the management of projects seems impracticable.

This research reveals that the development of Project Management Practice and arguably the performance of projects in government organisations are contingent on the political and social milieu internal and external to an organisation. The conclusion herein reverberates with the Scandinavian and Critical Project Management Perspective which proposes alternate perspectives of exploring and understanding how Project Management can produce better-quality projects by considering elements existing outside and within the project organisation. The researcher supports these views and believes that the performance of public sector projects can be enhanced /improved upon if organisations are adequately analysed in relation to their environment in order to understand the existing dynamics of project elements. Thus, a contingency or situational approach to Project Management is the likely way forward for public sector projects. In this approach, the project methodology and procedures are modified and /or determined based on the specific situation and environment. Albeit, this approach poses a danger to the development of a Project Management theory because of the uniqueness of every situation, a case study methodology can be used to draw inferences from locations or regions with parallel background.

In addition, the researcher posits that empowering contractors and middle managers in government organisations is relevant for the improved performance of public sector projects. Training on the fundamentals of Project Management is necessary to introduce basic Project Management principles which will enhance an easy transition to specific customised project methodologies that may be developed. Contractors are external parties that influence the internal functioning of government organisations, while middle managers have the capability to produce and maintain a project management system that enhance better project performance. However, support from the governance system will be required in order to achieve a sustainable project management development.

The research framework developed from this study explicates the system of Nigerian Government Construction Organisations (NGCO) in relation to structure and agency and the effects of the interaction/relationship of different components, on Project Management Practice.

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APPENDIX 1

	Authors	Country	Research Subject Matter	Factors that impact on Project Management Practices.	Research Method	Publication source
1	Kissi, E. and Ansah, S. 2016	Various	Reviewing professional project management practices in developing African countries.	Misunderstanding of PM concepts, lack of PM knowledge, leadership, organisational culture, inadequate software, bureaucratic, political and economic challenges.	Review paper	Covenant Journal of research in the Built Environment
2	Babatunde, S.A. and Dandago, K.I., 2014.	Nigeria	To investigate the effects of internal control system deficiency on project management practice in the Nigerian public sector.	There is a significant positive effect of internal control system deficiency in terms of management responsibility of government on project management in the Nigerian public sector.	Quantitative study	Procedia - Social and Behavioral Sciences
3	Emuze, F. and Smallwood, J., 2013	South Africa	To investigate and assess construction project performance in South African public-sector environment.	In-adequate documentation and transfer of experience results in low Project management skills shortage. Inappropriate organisational culture, non-inclusive decision making within project teams and inappropriate staff motivation and empowerment.	Quantitative study	Journal of the South African Institution of Civil Engineering
4	Ofori, D.F., 2013	Ghana	To identify and evaluate the quality of project management practices as well as project success factors in Ghana	Good leadership, monitoring and feedback, client involvement, competency and experience of project personnel, usage of appropriate technology, senior management support/commitment, and obligation to standards and regulations to ensure quality are significant factors required for improving project management practices.	Quantitative study: Survey method	International Journal of Business and Management
5	Dada 2013	Nigeria	To investigate the perception of client and contracting organisations regarding public project implementation in Nigeria.	Client and Contracting organisations do not have different expectations of identified priorities in project implementation when expectations are assessed against cost, time and quality.	Quantitative study : Survey method	Organization, Technology & Management in Construction: An International Journal
6	Anyanwu, C.I 2013	Nigeria	How project management and the project manager can be used to improve building and infrastructural projects and the challenges facing this objective.	Poor planning and scheduling of project activities, project management training, stakeholders' awareness of project management, incompetent contractors, inadequate management tools and project manager's proficiency.	Discussion paper	Scientific Research Journal (In African Journals Online)

	Authors	Country	Research Subject Matter	Factors that impact on Project Management Practices.	Research Method	Publication source
7	Zuofa, Tarila 2012	Nigeria	Investigating Project Management practices in developing countries.	Incompetency of project management practitioners, political and economic uncertainties and a lack of understanding of the fundamentals of project management.	Qualitative study : Focus group	Conference Paper, PMI
8	Ogege, S 2011	Nigeria	Identifying and analysing project management constraining factors in public sector construction.	Contractors don't use project management tools, lack of project professionals in project execution, unpatriotic behaviour of some policy makers toward the award and planning of projects.	Quantitative study	Journal of Research in National Development (In African Journals Online)
9	Olateju et al. 2011	Nigeria	To investigate the application of project management practice in Nigerian public sector	Vital hindrance to the application of project management practices is the lack of project management knowledge and application, lack of professional training, bribery and corruption, lack of leadership/government commitment and rigid organizational structure.	Quantitative study: Survey method	Australian Journal of Business and Management Research
10	Ahadzie, D. K and Amoa-Mensah, K 2010	Ghana	Critical review of management practices in Ghanaian building industry which includes an assessment of professional project management services.	Contractors limited knowledge of applying project management, no improvement of project management knowledge.	Critical Review	Journal of Science and Technology (In African Journals Online)
11	Tembo, E. and Rwelamila, P., 2007	Botswana	Investigating the level of project management competency in public organisations of Botswana.	Lack of authority/power by project manager in decision making, lack of project management guidelines established by a project office.	Mixed method study	CIB Commissions
12	Rwelamila, P.M.D., 2007	South Africa	To investigate project management competence levels of a public-sector infrastructure department in South Africa.	Complicated tendering procedure, lack of financial and managerial skills, lack of technical skills, improper scrutiny and absence of a filtering mechanism for contractors.	Mixed method study	Construction Management and Economics
13	Van Zyl, H., 2007	South Africa	To categorise the important dimensions/variables for efficient project management practice in a South African public organisation.	Organisational support for project management, access to resources needed to execute projects and adequacy of human resources have a major impact on the efficiency of project management practice.	Quantitative study	Journal of Economic and Financial Sciences.

A Review of Project Management Practice in GO of SSAC Adapted from Lawani and Moore 2016

APPENDIX 2

Semi-structured Interview questions

1. What factors within the organisation affect you in the application of Project Management Practice?
2. How does the Ministry or Agency promote Project Management within the Organisation?
3. Is the usual public administration process within the Ministry or Agency adequate in managing building construction projects?
4. What difficulties or challenges do you experience in the application of Project Management Practice?
5. What is the attitude/behaviour of contractors towards the use of Project Management processes?
6. Why, in your own opinion do you think project management practice is deficient in your organisation?
7. What affects your ability to carry out your Project Manager duties?

APPENDIX 3

Copy of Letter to Research Participants

Participant Information Sheet

PROJECT MANAGEMENT PRACTICE IN NIGERIAN GOVERNMENT ORGANISATIONS

Research purpose
You are being invited to take part in a research that aims to investigate Project Management Practice in Nigerian Governement Organizations. This study is a postgraduate research which is part of a PhD degree award. Before you decide whether or not to take part, it is important you understand why the research is being carried out and what it will involve. Please take time to read the information carefully.

Why have I been invited to participate?
You are invited to participate in this study because you have been identified as either: a Director/Deputy or Acting director, Project Engineer or Persons in charge of Projects with comprehensive knowledge of the current study.

Do I have to take part?
Taking part in this research is exclusively a voluntary exercise. If you decide to take part, you will be given this information sheet to keep and be asked to sign a consent from. In the event that you decide not to take part again before or during the research, you are free to withdraw without giving any reason. If you have received this information sheet/e-mail from your colleague or manager, you are under no obligation to take part and taking part or not in the study will have no bearing on your employment with the organization.

What will you have to do and how long will it take?
The interviewer will want to interview you on your opinion regarding the research topic. The interview will take semi-structured format with open and closed ended questions. This should take no longer than 30 minutes and will take place at your office, a place agreed by you or over the phone. The interview will be recorded but you will be asked to give consent prior to the interview and may be asked to also give consent at a later stage.

What will happen to information collected?
The information collected will be used by the researcher to write a thesis in partial fulfillment of PhD degree award. Only the researcher and supervisor will be privy to the notes, documents, recordings and paper written. Afterwards, notes and documents will be **destroyed** and **recordings erased**. The researcher will keep the transcriptions of the recordings and a copy of the paper but will treat them with the strictest confidentiality. **No participant** will be identified in the publications and **no reference** will be made to you in person or the company you represent. In other words, the information will be treated as confidential and anonymous.

Declaration to participants
If you take part in the study, you have the right to:

- Refuse to answer any particular question, and to withdraw from the study at any time.
- Ask any further questions about the study that occurs to you during your participation.
- Be given access to a summary of findings from the study when it is concluded.

Who's responsible?
If you have any questions or concerns about the project, either now or in the future, please free to contact either:

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Yours sincerely,

Ama Lawani

APPENDIX 4

Copy of Consent Form for Participants

Consent Form for Participants

PROJECT MANAGEMENT PRACTICE IN NIGERIAN GOVERNMENT ORGANISATIONS

Consent Form for Participants

I have read the **Participant Information Sheet** for this study and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I also understand that I am free to withdraw from the study at any time, or to decline to answer any particular questions in the study. I understand I can withdraw any information I have provided up until the researcher has commenced analysis on my data. I agree to provide information to the researchers under the conditions of confidentiality set out on the **Participant Information Sheet**.

I agree to participate in this study under the conditions set out in the **Participant Information Sheet**.

Signed: _____

Name: _____

Date: _____

Additional Consent as Required – delete if not appropriate to your research

Examples:

I agree / do not agree to my responses to be recorded.

I agree / do not agree to my images being used

Signed: _____

Name: _____

Date: _____

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APPENDIX 5

Published Article from Thesis

THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Project Management Practices in Government Organizations of Developing Countries: A Systematic Review

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Abstract:
Public sector project management is increasingly becoming an important subject matter for both the project management environment as well as the public sector, due to the demands for improvement in accountability and organizational effectiveness in public organizations. Project practitioners executing government projects in developing countries encounter various challenges, both internal and external to the project. This article analyses previous studies on project management practices in developing countries government organizations (DCGOs) published in academic journals and/or conference proceedings. Factors having an impact on project management practices in public organizations of developing countries were identified and categorized into; structural factors, government control procedures, contractor issues and lack of project management knowledge and project manager's expertise. It was also observed that a majority of the studies applied a positivist methodology, using statistical measures to collect and analyse data. Based on the studies reviewed, the findings suggest that a combination of the factors identified will be required to enhance project management practices in public organizations of developing countries. In addition the article posits that an alternative research methodology should be applied to studying project management practices in differing contexts.

Keywords: *project management practice, developing countries, government organizations, review*

1. Introduction

Since its inception more than 40 years ago, the concept of project management has gained popularity both in the private and public sector (Morris et al., 2012; Crawford and Helm, 2009). While private organizations seem to be more well-informed in utilizing project management practices, the situation is contrary in the latter setting (Rosacker and Rosacker, 2010; Wirick, 2011) plausibly due to the dissimilarity of both sectors. Project management was indirectly introduced into the public sector due to the demand for public organizations reforms by western governments (Baranskaya2007; Crawford, L. et al., 2003). An element in these reforms was the use of private business techniques (such as cost benefit estimates and performance indicators) to tackle government spending costs and improve efficiency in service delivery. This led various public organizations to embark on developmental projects as a means to improve accountability and organizational effectiveness in the public sector (Crawford and Helm, 2009; Arnaboldi, 2004). Some authors claim that other potential benefits of utilizing public projects include the creation of socio-economic value through effective public service which consequently produces an environment that fosters investment and improves the standard of living of people in a society (Ofori, 2013; Graham and Englund, 2013). In view of this, the concept of project management in public organizations is promoted by various governments. Although, some developed nations such as UK and Australia have a record of achievement in managing government developmental projects (Klakegg et al., 2015), there is still the need for better understanding of project management practices that relate to public projects specifically in developing countries. Public organizations in various developing nations still struggle to understand and implement project management in public projects (Ika, 2012; Rwelamila and Purushottam, 2012; Muriithi and Crawford, 2003) with the expectation of deriving the benefits of delivering projects on time, on budget, within scope and delivering value to the public.

The concept of project management has diverse but parallel definitions. It is described by the Association for Project Management as the application of tools, techniques, processes, methods and experience in achieving the desired purpose of a project (APM, 2012). In the same vein, PMI (2013) defines project management as an application of skills, knowledge, tools and techniques to project endeavours in order to achieve the project prerequisites. Kerzner (2013) adopts the definition of the classical approach to management to describe project management as planning, organizing, directing and monitoring of an organization's resources for a temporary purpose that will eventually achieve specific goals and objectives. In general, these definitions all describe project management as 'a

means to an end'. Project management has been recognised as an essential requirement for organizations in order for them to achieve their objectives through managing projects (Pulmanis, 2014; Bocquet et al., 2007). Consequently, there have been claims about the relationship between project management practice and public sector projects. Reilly (2005) identified that poor project management practice contributes about 30% towards public sector project failure. A survey by Price Waterhouse Cooper showed that 50% of the reasons for project failure was due to project management practices and that public sector had the lowest project management levels compared to other sectors. In addition, the survey uncovered that the use of project management practices increases the likelihood of project success (Price Waterhouse Cooper, 2012& 2004).

1.1. Project Management Practices (PMP)

The term' project management practice' is construed in several ways. Some authors associate it with project management competence and use it synonymously with demonstrable performance (Crawford, 2005), while others refer to it as simply the use of project management tools and techniqueson project activities (Olateju, 2011; Abbasi and Al-Mharmah, 2000). The term 'approaches' has also been used in the place of 'practice' but with the same interpretation. G. Ofori and Deffor (2013). In addition, the term has been associated with the project management maturity model, suggesting that the level of continuity and capability of an organization in dealing with its projects strongly depends on project management practice (Brookes and Clark, 2009).

Besner and Hobbs (2006) identified the value of project management practices through investigating the use of tools and techniques. Other aspects of project management practice identified in the literature include: the use of processes (Winch, 2004) and the use of human side or personnel (Thamhain 2004). According to Jarzabkowski (2004)'practice' is defined as a range ofcustoms and rules or bodies of knowledge that state, clearly or implicitly, how the practitioner should operate or work in a certain situation. These practices can be written in documents stating best or preferred practice in the organization or are narratives demonstrating how things are done in the organization. Relating the definition by Jarzabkowski and the varying descriptions of 'project management practices', it can be stated that the use of tools and techniques is an indication of clearly informed bodies of knowledge, the use of processes indicates a range of customs and rules, and the use of personnel is the action of the practitioner. Therefore, for the current study, project management practice in a public organization is defined as a '*project management system demonstrating specific project management tools and techniques that will enhance management processes through the actions of a project manager or professional in order to support government organizations in managing public projects*'.

1.2. PMP in Developing countries government organizations (DCGOs)

Claims about the use of project management practices having an impact on project success (Milosevic and Iewwongcharoen, 2004), and providing strategic and valuable benefits for an organization (through the use of measurement tools and techniques) by the project management process (Besner and Hobbs, 2006) have led to various organizations adopting the principles of project management. In developing countries, the application of project management is still at an immature stage although the general awareness of the concept seems to permeate within various industries. One of the earliest citations of a study on project management in developing countries is that of Stuckenbruck and Zomorrodian in 1987.Although no empirical investigation was conducted, the study suggested that plans for implementing project management in a developing country should take into consideration cultural factors as well as its economic, political and administrative system. More than two decades later,the need for better understanding of project management practices in government institutions of developing countries remains (Rwelamila and Purushottam, 2012; Ika, 2012). Project management is an effective approach for developing countries to use in improving their management capabilities and facilitate the successful completion of projects, thereby achieving developmental goals. However, research has identified that there is a lack of knowledge of project management techniques and tools, and insufficient time spent on reporting and controlling in certain context (Abbasi and Al-Mharmah,2000). Other findings, such as inadequate personnel qualifications, low level of project management competence, and identification of a lack of appropriate organization structure were reported following the assessment of the nature of project management practices in an infrastructure department in South Africa. The conclusion being that most public organizations in non-industrialized countries will experience challenges in project management practices (Rwelamila 2007). Similar research has been conducted in public organizations in West African countries and project management practices in this context seems to fall short in providing the expected benefits. In Ghana, Ofori (2013) argues that more emphasis should be placed on senior management commitment, competency and coordination in order to improve the quality of project management, while in Nigeria, Olateju (2011) identified a lack of in-depth knowledge of project management in public organizations amongst other factors affecting project management practice.

1.3. Research Objectives and Rationale

This paper puts forward an analysis of previous studies on Project management practices in Government Organizations of developing countries in order to provide useful insight into fundamental elements that influence project management practices. The public sector approach of management, particularly in developing countries, has expressed concerns for the need to embed standardized project management practices deeply in public organizations to enhance successful delivery of projects (Gale, 2012; Wirick, 2011; Fraser-Moleketi, 2003). Therefore, the current study aims to establish characteristics of previous studies that investigated project management practices in a developing country by presenting are view of those research. The extent of work done in this area is assessed in order to identify the factors that impact/constrain project management practices in government organizations.

Against this background, the paper intends to answer the following research questions:

1. What are the characteristics of previous studies on Project Management Practices in DCGOs?

2. What factors impact on Project Management Practices in DCGOs?

The rationale for this study is to identify and categorize factors previously identified in past research that impact on project management in government institutions in order to obtain a comprehensive view of issues affecting its development, thereby, contributing to project management trends and providing a platform for government decisions in the area of public sector project management. This review is of interest to the project management community because it responds to Morris et al's (2012, p 340) suggestion of the need for more clarity on project management with regards to different context, and Söderlund's (2004) recommendation for the search for broad factors impacting project management by identifying important characteristics of an organization.

For this study, classification of countries was according to their level of development as measured by per capita gross national income (GNI). According to World Bank (2013), countries with a Gross National Income (GNI) of $1,036 to $4,085 are classified as low and middle income countries or developing countries, while those with a GNI of $12,616 and above are classified as developed. Furthermore, in comparing against strong social indicators (health, education and work measures) in developed countries, developing countries have significantly weaker social indicators and majority of the citizens achieve far less income (The Library of Congress, 2008). However, countries in this classification do not form a homogenous category because variance exists between level of development of their organizations, industries, resource status, level of technology advancement, practices and working environment.

2. Research Method

In order to achieve the objective of the paper, a systematic review of past studies on Project Management Practices in the context of government organizations of developing countries was carried out through an extensive search of published literature. Analysis of previous papers comprised of a chronological and interpretative approach to represent data. Although a systematic review is often offered as a numerical combination of the findings of individual studies, Tranfield et al (2003) states that it can also be used to draw contrast from a collection of studies and synthesis can be achieved through interpretive means.

This process of review provides a comprehensive summary of a topic area and includes an extent of thematic analysis and conceptual innovation (Grant and Booth 2009). The current review covered a period of 16 years from 2000 to 2016.

In identifying the appropriate research study to include in the review, the basic search criteria considered for inclusion were:

- → The study should address project management practices within a public sector environment and should be based on identification of factors that determine how project objectives are achieved and/or challenges of achieving project objectives in a government organization.
- → Main source of articles for the review was from an online scholarly database i.e. scholarly peer reviewed articles

Based on the search criteria, the major online databases assessed were: Business Source Complete, Science Direct, Emerald and Taylor Francis Online database. These databases contain reputable Project Management and African Journals. Articles related to Project Management were first gathered and subsequently those relating to projects in a government organization of a developing country were filtered using any of the key phrases 'Project Management', 'Public sector projects' and 'Public projects' within the article title, abstract or keywords. Nevertheless, articles that utilized other terms associated with public projects such as project governance (Young et al., 2012) and mega/complex projects (Van Marrewijk et al. 2008) where reviewed and included if its focus was on project management practices in a developing country's public organization. All journals were considered for this review and no selection criterion was used for specific or high rank journals. Google Scholar was used as a tool to identify other studies that fell within the inclusion criteria but not previously identified. Since it is customary for a study of a particular topic to cite similar studies, each research article was reviewed and its references examined to identify any relevant study not yet discovered.

The current paper sets out to analyse previous literature using an interpretative means to represent the reoccurring trend of factors that impact on project management practices in government organizations of developing countries. Data was thematically analysed so as to identify and report latent and manifest patterns within the content (Vaismoradi 2013). The question;"What are the issues /challenges in practicing project management in a government organization of a developing country?" was used to direct the analysis process.

3. Findings

In order to extract the characteristics of studies on project management practices in DCGOs, findings of relevant studies based on the literature search were identified.

Data from the reviewed studies were described based on the type of research method used for enquiry and factors impacting on project management in government organizations. Methods of enquiry identified from the reviewed articles included questionnaire surveys, focus group and mixed methods. It is observed that research on project management practices in developing countries has concentrated on investigating the current state or level of its use in the country of inquiry, hence the predominance of positivist methodologies. From a total of 17 articles retrieved for the review, 9 studies utilized quantitative research methods, 2 studies used qualitative research method and 2 conducted a mixed study. The remaining 4 papers were either a conference discussion paper or a review paper. (See Table 1)

The findings from the survey by Babatunde and Dandago (2014) revealed that the internal control system in public organizations largely affects project management. It emphasizes irresponsibility of the government and financial intricacy as areas that need to be improved on when managing public projects. Unab and Kundi (2014) conducted a review of project management practices in Pakistan by comparing existing practices in specific public organizations with generally accepted Project management practices. The PM knowledge areas were utilized in Unab and Kundi's study to map the current state of how project management is practiced. Abbasi and Al-Mharmah (2000) and Olateju et al. (2011) both conducted similar studies in public organizations of Jordan and Nigeria

respectively. In these studies, Project management tools and techniques were investigated by generating a questionnaire to measure the extent of use and PM tools and to identify challenges and benefits of project management practices. In South Africa and Ghana, a similar positivist approach was used to gather relevant information about project management practices in public organizations.

The studies highlighted above all used a positivist approach, focusing on identifying existing processes, hindrances to project success and/or levels of project management. It can be argued that these studies do not present a complete picture of project management practice in the respective countries but investigated project management from a linear thinking approach. Therefore, identifying specific explanations and finding causality in the particular contexts is vague (Smyth and Morris 2007).

An analyses of the two qualitative studies showed that, the first qualitative study used a focus group to investigate current trends in project management practice in a developing country and proposed that project management practices should not merely transfer from developed countries but should consider atypical cultural factor that affects developing countries (Zuofa, 2012), while the other employed the use of a Delphi method involving the participation of project executives to propose a structure that would enhance the sole use of conventional project management practices for fast tracking engineering projects (Dey 2000).

In addition, their view revealed that in appropriate organizational structure, access to resource, sufficient human resources (Emuze and Smallwood 2013, Van Zyl 2007, Tembo and Rwelamila, 2007), competency of project practitioners, project management awareness and knowledge, senior government officials support (Anyanwu 2013, Ofori 2013, Olateju et al. 2011, Abbasi and Al-Mharmah 2000) were some of the factors impacting on project management practices in public organizations of developing countries.

	Authors	Country	Research Subject Matter	Factors that impact on Project Management Practices.	Research Method	Publication source
1	Kissi, E. and Ansah, S. 2016	Various African countries	Reviewing professional project management practices in developing African countries.	Misunderstanding of PM concepts, lack of PM knowledge, leadership, organisational culture, inadequate software, bureaucratic, political and economic challenges.	Review paper	Covenant Journal of research in the Built Environment
2	Babatunde, S.A. and Dandago, K.I., 2014.	Nigeria	To investigate the effects of internal control system deficiency on project management practice in the Nigerian public sector.	There is a positive effect of internal control system deficiency in terms of management responsibility of government on project management in the Nigerian public sector.	Quantitative study	Procedia - Social and Behavioral Sciences
3	Unab and Kundi 2014	Pakistan	To explore the Project Management (PM) practices in public sector organizations	Lack of project management practices awareness, limit of existing practices originally based on policy of organisation.	Quantitative study	Journal of Strategy & Performance Management
4	Emuze, F. and Smallwood, J., 2013	South Africa	To investigate and assess construction project performance in South African public sector environment.	In-adequate documentation and transfer of experience results in low Project management skills shortage. Inappropriate organisational culture, non-inclusive decision making within project teams and inappropriate staff motivation and empowerment.	Quantitative study	Journal of the South African Institution of Civil Engineering
5	Ofori, D.F., 2013	Ghana	To identify and evaluate the quality of project management practices as well as project success factors in Ghana	Good leadership, monitoring and feedback, client involvement, competency and experience of project personnel, usage of appropriate technology, senior management support/commitment, obligation to standards and regulations to ensure quality.	Quantitative study: Survey method	Int. Journal of Business and Management
6	Dada 2013	Nigeria	To investigate the perception of client and contracting organisations regarding public project implementation in Nigeria.	Client and Contracting organisations do not have different expectations of identified priorities in project implementation when expectations are assessed against cost, time and quality.	Quantitative study : Survey method	Organization, Technology & Management in Construction: An International Journal
7	Anyanwu, C.I 2013	Nigeria	How project management and the project manager can be used to improve building and infrastructural projects and the challenges facing this objective.	Poor planning and scheduling of project activities, project management training, stakeholders' awareness of project management, incompetent contractors, inadequate management tools and project manager's proficiency.	Discussion paper	Scientific Research Journal (In African Journals Online)

Table 1: shows a chronological order of data extracted from the review.

8	Zuofa, Tarila 2012	Nigeria	Investigating Project Management practices in developing countries.	Incompetence of project management practitioners, political and economic uncertainties and a lack of understanding of the fundamentals of project management.	Qualitative study : Focus group	PMI Conference paper
9	Ogege, S 2011	Nigeria	Identifying and analysing project management constraining factors in public sector construction.	Contractors don't use project management tools, lack of project professionals in project execution, unpatriotic behaviour of some policy makers toward the award and planning of projects.	Quantitative study	Journal of Research in National Development (In African Journals Online)
10	Olateju et al. 2011	Nigeria	To investigate the application of project management practice in Nigerian public sector	Vital hindrance to the application of project management practices is the lack of project management knowledge and application, lack of professional training, bribery and corruption, lack of leadership/government commitment and rigid organizational structure.	Quantitative study: Survey method	Australian Journal of Business and Management Research
11	Ahadzie, D. K and Amoa-Mensah, K 2010	Ghana	Critical review of management practices in Ghanaian building industry which includes an assessment of professional project management services.	Contractors limited knowledge of applying project management, no improvement of project management knowledge.	Critical Review	Journal of Science and Technology (In African Journals Online)
12	Tembo, E. and Rwelamila, P., 2007	Botswana	Investigating the level of project management competency in public organisations of Botswana.	Lack of authority/power by project manager in decision making, lack of project management guidelines established by a project office.	Mixed method study	CIB Commissions
13	Nguyen 2007	Vietnam	Discusses how project management systems and knowledge can be transferred to developing countries and challenges associated with it	Lack of transfer of project management expertise, principles and methodologies	Conference discussion paper	Proceedings 2007 PMI Global Congress
14	Rwelamila, P.M.D., 2007	South Africa	To investigate project management competence levels of a public sector infrastructure department in South Africa.	Complicated tendering procedure, lack of financial and managerial skills, lack of technical skills, improper scrutiny and absence of a filtering mechanism for contractors.	Mixed method study	Construction Management and Economics
15	Van Zyl, H., 2007	South Africa	To categorise the important dimensions/variables for efficient project management practice in a South African public organisation.	Organisational support for project management, access to resources needed to execute projects and adequacy of human resources have a major impact on the efficiency of project management practice.	Quantitative study	Journal of Economic and Financial Sciences.
16	Dey, P.K., 2000	India	Article proposes a system to accomplish the phases of a project concurrently in order to address the deficiency for the sole use of conventional project management practices.	A lack of sufficient cost, non-involvement of the project staff in the planning stage, changes in government policy, poor contract administration, lack of project management knowledge	Qualitative study: Delphi technique, case study	International Journal of Public Sector Management
17	Abbasi, G.Y. and Al-Mharmah, H., 2000	Jordan	Exploring Project Management tools and techniques used by the public sector in Jordan.	Lack of project management knowledge, change in authorities, difficulty in estimating activity cost.	Quantitative study	International Journal of Project Management

Table 1: Chronological data of articles reviewed

Table 2 presents a wide view of authors that studied Project Management practices in DCGOs. The study identified five categories of factors that impact on project management practices. Although, a majority of the studies highlighted a lack of project management skills, knowledge and competence as key factors, factors relating to contractor's inadequacy in project management knowledge, the internal process of public organizations, the climate of the organization and the project manager are identified also as important factors.

Authors	Factors
	Factors related to the Climate of the Organisation
Kissi, E. and Ansah, S. (2016), Emuze and Smallwood (2013), Ofori (2013), Zuofa and Ochieng (2012), Ogege (2011), Olateju et al. (2011), Van Zyl (2007), Abbasi and Al-Mharmah (2000)	One-directional communication mediums, non-inclusive decision making within project teams, Good leadership, Client involvement, senior management support/commitment, political and economic uncertainties, unpatriotic behaviour of some policy makers toward the award and planning of projects, bribery and corruption, lack of leadership/government commitment, rigid organizational structure, organisational support for project management, change in authorities.
	Factors related to the Internal processes of the Organisation
Unab and Kundi (2014), Emuze and Smallwood (2013), Babatunde and Dandago (2014), Anyanwu (2013), Tembo and Rwelamila (2007), Rwelamila (2007), Van Zyl (2007), Rahman,S (ND)	Deficiency of internal control systems, In-adequate documentation, monitoring and feedback, obligation to standards and regulations, inadequate management skills and tools, lack of project management guidelines, complicated tendering procedure, improper scrutiny and absence of a filtering mechanism for contractors, inadequacy of human resources. Limit of existing practices originally based on policy of organisation.
	Factors related to Project management knowledge
Kissi, E. and Ansah, S. (2016), Unab and Kundi (2014), Emuze and Smallwood (2013), Ofori (2013), Anyanwu (2013), Zuofa and Ochieng (2012), Olateju et al. (2011), Abbasi and Al-Mharmah (2000), Dey, P.K., (2000)	Project management skill shortage, lack of understanding of the fundamentals of project management, inappropriate staff motivation and empowerment, usage of appropriate technology, poor planning and scheduling of project activities, stakeholders' awareness of project management, slackness in preparation of stakeholder management plan, human development plan, project communication management, risk management plan and other risk related contract decisions.
	Factors related to the Contractor
Dada (2013), Anyanwu (2013), Ogege (2011), Ahadzie and Amoa-Mensah (2010), Dey, P.K., (2000)	Expectations of contractors, incompetent contractors on the use of project management tools, Contractors limited knowledge of applying project management
	Factors related to the Project Manager
Ofori (2013), Anyanwu (2013), Zuofa and Ochieng (2012), Ogege (2011), Tembo and Rwelamila (2007)	Incompetence of project management practitioners, project management training, project manager's proficiency, lack of project professionals, Lack of authority/power by project manager in decision making,

Table 2: Classification of factors impacting DCGOs

4. Discussions

Project management research is populated by positivist methodologies. The limited number of studies found on project management practices in public organizations of developing countries could be due to the manner in which investigations have been conducted. According to Fineman (2004) the use of quantitative methods to investigate a system undervalues the development of that system. Positivism is utilized in project management literature to examine traditional project management views which emphasize tools and techniques used as control mechanisms, rather than the social setting and human side of project management. The findings resonate with concerns about the nature of research methods on how project management is investigated in government organizations of developing countries. Blomquist et al (2010) argue for a complimentary method to rational approaches, which focuses on the people within the context of projects. In other words, it was suggested that research on what practitioners do in projects will enhance knowledge about project management practices rather than on affirmation of best practice standards for project management. Likewise, Smyth and Morris(2007) proposed that alternate methodologies such as critical realism should be applied to researching projects and their management.

Critical realism argues that the world is socially constructed, even though not entirely. It proposes that sometimes objects or entities need to be explored from a perspective of external and observable behaviours of people, systems and effects as they happen (Easton, 2010). Due to its capability to engage with causality and complexity in relation to structure and processes (Smyth and Morris, 2007) the application of critical realism is suggested as a plausible methodology in investigating project management practice because it examines the entities that define the context, and explains their relationship and their significance. Furthermore, based on the current study, it is arguable that in order to enhance successful embedding of project management practices in government organizations of developing countries, issues of climate of the organization, internal process of the organization, project management knowledge and issues relating to the contractor and project manager ought to be addressed or explored in a more integrative and holistic way. The findings of this review suggest that a combination of the identified themes is required to enhance project management practices in DCGOs.

4.1. Categories of Factors Impacting DCGOs

4.1.1. Climate of the Organization

Organizational climate is the perception of the work environment which is understood as a key variable between the milieu of an organization and the conduct of its workers, it is an understanding of how staff/workers experience their organization (Rousseau, 1988). The climate of public organizations is depicted by the extent to which their activities are structured and the centralization of a system of authority. An organization's climate is affected by macro elements (such as political and economic factors) and micro elements (such as technological factors), although in some cases the distinction between the two is not always specific (Walker and Kalinowski, 1994). Therefore, in a public organization, it can be argued that some external elements such as political factors will intersect with the internal boundary.

Based on the review, factors identified as impacting on project management practices categorized under climate of the organization include; regular change in authority which consequently affects government policy, formal and informal structure which represents the internal configuration of the organization, environmental regulations and economic condition. These factors constitute the governance of an organization and are the means by which the organization's goals and monitoring of performance are determined (OECD, 2004). Nevertheless, the hierarchical structure operating in most government organizations hinders the project-based matrix structure fostering successful project delivery (Van der waldt, 2011). For instance, projects in the public organizations are classically executed on the operational level of public departments but due to the common red-taping nature in such a context, senior government officials such as Executive Directors and Senior Managers are expected to assume the role of project managers. However, in practice, these representatives of the public organization share no familiar grounds with the concerns of a project manager (Young et al., 2012) and therefore do not possess the adequate skills to manage projects.

4.1.2. Project Management Knowledge and Project Manager Expertise

Factors associated with project management knowledge emerged in almost all the articles reviewed. It is thus a major concern for government organizations. While some authors referred to a general deficiency of project management knowledge in government organization staff (Rwelamila, 2007), others emphasized a lack of awareness and professionalism of project sponsors (Ofori, 2013).

The problem of shortage of adequate project management knowledge seems to be significant in developing countries (Olateju et al., 2011; Rwelamila, 2007; Abbasi and Al-mharmah, 2000). One could argue that this is due to the economic circumstance of the environment and /or conditions in which projects are embedded. Grabher (2002) refers to these contextual conditions in his concept of 'project ecology', suggesting that they have an impact on the development and diffusion of project management knowledge and practices. Factors that associate with the project manager and lack of project management knowledge correlate somewhat to the climate of the organization. For instance, the lack of authority of a project manager in decision making in public organizations is often due to the structure of the organization. Employing alternative methodologies to studying project manager's actions and in identifying what frameworks and concepts emerge from those actions will add to understanding how project management is practiced in different context (Blomquist et al., 2010).

4.1.3. Internal Control Processes of the Organization

An evaluation of the literature observed that most projects conducted in government organizations of developing countries did not have adequate control and monitoring mechanisms. Arguably, this could be due to the traditional administrative system (associated with hierarchical, technocratic and rule bound structures) still rooted in government institutions (Hughes, 2012). This theme is based on the issue of poor management control systems for public projects (Pūlmanis,2014; VanZyl, 2007). In some cases, the lack of an independent control system resulted in fraud and corruption (Babatunde and Dandago, 2014) while inadequate management skills and improper scrutiny rendered an ineffective internal control process in others (Anyanwu, 2013). Theoretically, the establishment of a Project Support Office and/or Project Implementation Unit in public organizations will have an effect in the application of project management methodologies and improve control processes, specifically, in developing countries (Tembo and Rwelamila, 2007; Baranskaya,2007).

4.1.4. Issues Related to the Contractor

Issues relating to the contractor regarding project management development in the government organizations of a developing country seemed to recently emerge in published articles. This may be due to collaborative forms of contractual agreement such as partnering, project alliances and outsourcing (Lahdenperä, 2012; Akintoye et al., 2000) which emerged in the 1990s as a means of improving project performance in construction projects (Gadde and Dubois, 2010).The development of collaboration in the organizational milieu of a complex project is associated with; institutional processes, structural arrangement, key suppliers, regulatory agencies and institutional logics (Morris et al.,2011),therefore an investigation into collaborative forms of contractual agreement in order to develop project management practices and enhance projects in public organizations of a developing country would be a relevant study.

5. Limitation

The study has limitations with regard to using only online scholarly peer reviewed papers. Thus publication bias (Field and Gillett, 2010) commonly associated with some types of review processes may occur. A second limitation is due to the parameters and keywords/phrases used in the article selection process. Nevertheless, incorporating other keywords such as 'mega/complex projects' and 'project governance' as search keywords allowed for varying issues of project management practices in government organizations

to enter the dataset. The method of search and criteria used could be refined for future studies, and future data generated can then be compared with the current study.

6. Conclusion and Recommendation

The current study reviewed existing literature for knowledge on factors that impact on project management practices in government organizations of developing countries. An exploration into various levels of literature analysis which consist of journal type and publication period, location of study and research method used in enquiry are presented. In addition, factors responsible for impacting on project management practices were identified and categorized. The categories are; Climate of the Organization, Project management knowledge and Project manager expertise, Internal control processes of the Organization and issues relating to the contractor. The identification of these themes is a step forward in developing project management practices in public organizations of developing countries. This study proposes that a combination of the identified themes is required to enhance project management practices in DCGOs. However, the study also highlights that the advancement of the concept of project management practices in a specific context depends on the methodology used in investigation. Concerns are raised about the predominance of positivist methodologies identified in existing project management literature. Positivist methodologies do not support interpretations of contextual characteristics relevant for specific explanations and development of project management (Smyth and Morris, 2007). Critical realism which places emphasis on contextual situation is proposed as an approach to exploring project management practices in government organizations of developing countries. This method seeks to measure the underlying powers in the essence of the object of study, according to structure and process. It identifies what processes work, what practitioners or agents do, and what produces change. Some authors suggest that this approach is arguably a pragmatic one (Easton, 2010).

The present condition of the methodological approach applied in government organization research in developing countries in relation to project management may explain the difficulty in understanding and implementing project management in public projects in such contexts. Specifically, in Africa, these challenges, referred to as "African Project Syndrome" (Rwelamalia and Ssegwa, 2014) limit the goal of delivering projects on time, on budget, within scope and delivering value to the public. Research in project management tends to mostly take on a rational approach, which seems paradoxical with the belief that projects are basically open systems consisting of many contextual inter related dependencies and individual variances (Engwall, 2003). Exploring the interaction between project practitioners, contextual dynamics and how tools and techniques are applied will offer greater insight and explanation on the management of projects in diverse context.

7. References

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