Investigating Project Management Practices in Public Sector Organisations in Ghana

Alhassan Bunyaminu¹, Fuseini Mahama²

Abstract
This research investigates the project management practices in The Electricity Company of Ghana (E.C.G.) The Electricity Company of Ghana (E.C.G.) is the sole power distributing company in all the ten regions in Ghana. It carries its mandate through a number of projects aimed at building substations and distribution networks. The purpose of this study was to investigate the extent to which project management processes are practiced in public sector and the case is on ECG. It was also to investigate the success rate of projects undertaken by ECG and find out the causes of project failure in the company. The method used to carry out this research was solicitation of information from the engineers, managers and contractors who supervise projects through questionnaires. Data gathered was analysed using the Statistical Package for Social Science (SPSS). The major findings of the research indicated that the project management processes of initiation, planning, execution, monitoring and controlling and closing were adopted in the implementation of projects in the Accra West Region of ECG. It was highly recommended that management of ECG ensures that it implements projects using the standard processes to the letter for a high success rate of its projects.

Keywords: Hybrid projects, project management practices, public sector, Private sector organisations, complex project management

1. Introduction
This research is exploratory and qualitative in nature. It investigates the project management practices in the public sector in Ghana. The main objective of this research is to identify the governance and management practices of the public sector in Ghana. In addition, the aim is to explore the issues and difficulties that the public sector organisations encounter during the process of managing a project. This is essential for the reason that identification of the causes for projects failure may help the similar projects in the future.

The public sector in Ghana was in complete disarray by the mid-1980s. A combination of devaluation and inflation led to a significant decline in real salaries between 1960 and the late 1980s. For example, the minimum wage that has been falling since the 1960s, reached its lowest level in 1983, and although real wages improved between 1986 and 1989, even at its peak in 1989, it was only 42% of the level in 1960 (Owusu, 2001). Public sector employees were not exempted from this precipitous decline in wages. Between 1976 and 1984, public-sector real wages in Ghana declined by 73 percent for unskilled labor and 93 percent for skilled labor. Moreover salaries were not only inadequate, but payment was also erratic. To make matters worse, most offices, especially those outside the capital city, Accra, were dilapidated and lacked the basic necessities of a functioning office such as paper, pencils, telephones, light bulbs, etc.

Employees became demoralized; effectiveness and productivity concerns were relegated to the background as work effort declined, absenteeism and moonlighting increased, and corruption, political hiring, and rent-seeking became widespread (Owusu, 2005). These conditions made it extremely difficult to

¹Lecturer, Banking and Finance Department, University of Professional Studies, Accra, Ghana
²Lecturer, Accounting Department, Bolga Polytechnic, Bolgatanga, Banking and Finance Department, University of Professional Studies, P.O. Box LG 149, Legon, Accra, Ghana
recruit and retain technical and professional staff. Gradually the bloated public sector became increasingly incapable of performing basic tasks, let alone to facilitate national development efforts and this has really affected Electricity Company of Ghana. The ineffectiveness of the public sector became a serious hindrance when the government embarked on economic reforms in 1983. As a result, the government was compelled to initiate public sector reforms to support the implementation of the economic policies.

As at August 2005, the government of Ghana was still in the process of developing a new public sector reform strategy. In addition to developing a new working document for the reform, the government had also created a new ministry in May 2005 called the Ministry of Public Sector Reform (MPSR) to provide institutional home for all public sector reforms. The MPSR has held a number of working sessions to establish the key focus of its reforms efforts.

The structure of the research is predominantly qualitative in nature, involving an in-depth exploration of public sector project management practices in Ghana. This chapter provides an overview and summarises the scope of the research. It explains the research background, the rationale for the research, research objectives, research questions, research methods and scope and limitation of this research.

2. Literature Review

- **Definition of Project**

  The term project is described in different ways in the research literature. This is illustrated below:

  - Project is defined as a temporary endeavour undertaken to create a unique product or service, temporary means that the project has a definite ending point, and unique means that the product or service differs in some distinguishing way from all similar products or services (PMI, 1996, p.4)

  - Project has been termed as a human endeavour and may legitimately be regarded by its stakeholders as a project when it encompasses a unique scope of work that is constrained by cost and time, the purpose of which is to create or modify a product or service so as to achieve beneficial change defined by quantitative and qualitative objectives (Cooke-Davies, 2001, p.20).

  - Project is described as a “value creation undertaking based on specifics, which is completed in a given or agreed timeframe and under constraints, including resources and external circumstances” (Ohara, 2005, p.15)

  - A project is a regarded as a business case that indicates the benefits and risks of the venture, demonstrating a unique set of deliverables, with a finite life-span, by using identified resources with identified responsibilities (Bradley, 2002).

  The common themes in these definitions is that projects are unique in their output, having a definite starting and ending point, are temporary in nature and are carried out to manifest the organisation’s strategic objectives. These temporary structures are playing a vital role in today’s modern organisations and a growing interest is recorded in the significance of these temporary structures in organisations.

- **Types of Projects**

  Projects are carried out in a wide variety of situations and they differ from each other in size, scope, industry etc. This variation makes it difficult to create a single comprehensive taxonomy for the projects (Shenhar and Dvir, 2004). There are two well-known approaches for the classification of projects. These are: i) goal-and-method matrix presented by Turner and Cochrane (1993) and ii) the four dimensional NCTP (novelty (N), complexity (C), technology (T) and pace (P)) framework presented by Shenhar and Dvir (2004). The goal and mixed method classifies the projects into four types. This classification is based on the principle of how well the goals and methods of the project is defined.

  Turner and Cochrane (1993) defines that the type 1 projects in goals and methods matrix are the ones in which the goals and methods are well defined. Typical projects in this classification are the engineering
projects. The type 2 projects according to them are the ones in which the goals are well defined but the method are vague. The projects in this category are usually related with the development of a product. They perceive that the type 3 projects are the kind of projects in which the methods are well defined but the goals are not that clear. Projects such as software development fall in this category. The type 4 projects in the goal and method matrix are those in which both the goals and methods are not well defined. Projects related to research and organisational change falls in this type of projects.

After a series of research studies Shenhar and Dvir (2004) developed four dimensions and they are the following; novelty (N), complexity (C), technology (T) and pace (P). Each dimension includes at least three different types of projects.

The first dimension of novelty is defined as a product novelty: which means that how the new product is to its potential. It also means that how much the customers are familiar with this kind of product and how much they will use and benefit from it. In this dimensions there are three kinds of project types, which are: derivate product, platform product and breakthrough product. In first type of projects (that is: derivate products) the existing product is improved and extended. This kind of projects includes cost reduction, product improvement, product modification and additions to existing line of products. The second type of projects (that is: platform products) are the ones in which a new generation of an existing product is developed/created. This kind of projects includes the development/creation of new families of product to form the basis for numerous derivate. The third kind of projects in this dimension are the ones in which a new concept, idea or a new use of a product is introduced in the market (Shenhar and Dvir, 2004, p1271-1272).

The second dimension is of technological uncertainty. The types of projects which fall in this dimension are the low-tech projects, medium-tech projects, high-tech projects and super high-tech projects. The higher the technological uncertainty at the time of project initiation requires longer development phase, more design cycles, more testing etc (Shenhar and Dvir, 2004, p1272).

The third dimension is of complexity. The types of projects in this dimension are of assembly level, system level and array level projects. The assembly level projects involve in creating a collection of components which at later a stage combined into a single unit. This single unit is involved in performing a single function such as a standalone product or service. The system level projects involve a complex collection of interactive elements and subsystem. These jointly dedicated to a wide range of functions to meet a specific operational need. The array level projects in this dimension are the projects which deals with large, widely dispersed collection of system that works together to achieve a common purpose. The examples of this kind of projects are the city public transportation system, national air defence system, or interstate telecommunication infrastructure (Shenhar and Dvir, 2004, p1277-1278).

The fourth dimension is of pace. The types of projects in this dimension are the projects which differ by urgency, time and goals.

Apart from these two well-known approaches, Khazanchi and Zigurs (2004) categorise the projects into three types based on their complexity. The complexity is defined in terms of attributes of team size, culture, language, gender composition, personal characteristics, resources and knowledge (Khazanchi and Zigurs, 2004). The three main types of projects are as follows:

1. Lean Projects
2. Hybrid Project
3. Extreme Projects

1) Lean Projects

Lean projects are defined as having low capacity, narrow scope and relatively low risks. Such projects tend to be easily subdivided into manageable parts due to relatively clear and tangible requirements or
outcomes. The goals in these projects are usually unambiguous and therefore the outcome is achieved in short time using known methodologies. (Khazanchi and Zigurs, 2004).

2) Hybrid Projects

Hybrid projects are defined as having varying level of complexity, scope and risks. These projects require a management approach that emphasises coordination between people and the activities. Therefore in hybrid projects a special emphasis should be given to the technologies that enhance coordination (Khazanchi and Zigurs, 2004).

3) Extreme Projects

Extreme projects are defined as having high complexity, broad scope and high risk. Such projects are generally missioned critical. Consequently, extreme projects require intense activity and participation by a number of teams and stakeholders. Therefore an extreme project requires a management approach that emphasis on communication. Communication is required not only to develop a shared understanding of the problem before any work can begin, but also at all stages of the project (Khazanchi and Zigurs, 2004).

- Project Development Stages or Life Cycle

Traditionally, a project is divided into three or four phases during its development stage. These phases can also be called as project life cycle. These development stages remain the same regardless of the methodology being used. These stages can be categorised as:
  - Initial Phase
  - Intermediate Phase
  - Final Phase (PMI, 2004)

- Project Management (PM)

  o Background

  The foundation of the project management can be traced back to as early as civilization itself. But the modern project management has its roots in the Second World War and is developed in construction and defence industry during the industrial revolution. Most recently the demand for project management has increased as number of projects is increased dramatically in a broad range of industries (Cooke-Davies and Arzymanow, 2003).

 o What is Project Management?

  Project management is defined in different ways in the research literature. Some of these definitions are as follows:

  • Project Management is describe as a collection of tools and techniques to direct the use of diverse resource toward the accomplishment of a unique, complex, one time task within time, cost and quality constraint. Each task requires a particular mix of these tools and techniques structured to fit the task environment and life cycle (from conception to completion) of the task (Oisen, 1971: Cited in Atkinson, 1999).

  • Project Management is express as planning, organising, monitoring and controlling of all the aspects of a project and the motivation of all the involved stakeholders to achieve the project objectives safely and within agreed time, cost and performance criteria. (APM, 1995).

  • Project management is term as an application of knowledge, skills, tools and techniques to project activities to meet project requirements. Project Management is accomplished through the application and integration of the project management processes of initiation, planning, executing, monitoring and controlling and closing. (PMI, 2004).
Project management is also articulated as a professional’s capability to deliver, with due diligence, a project product that fulfills a given mission, by organising a dedicated project team, effectively combining the most appropriate technical and managerial methods and techniques and devising the most efficient and effective breakdown and implementation routes (Ohara, 2005).

Turner (1996) suggested that project management could be described as the art and science of converting vision into reality whereas Atkinson (1999) argues that perhaps project management is simply an evolving phenomenon, which will remain vague enough to be non-definable. This flexibility can be regarded as its strength. In its early days the project management was solely concerned with the implementation of single project in that era (Kartam et al. 2000). But, today many organisations have embraced the concept of project management. This is mainly because of its systematic approach of managing the projects (Morgan, 1987). It’s a way to generate consistent results when undertaking new initiatives and a powerful business tool that can transform an organisation’s ability to perform well (Artto et al., 2008). Project management can also be used throughout the organisation to boost personal and collaborative productivity. This can be done by building a standardised system that embeds best practices into the way projects are managed (Milosevic and Patanakul, 2005).

Evolution of Project Management

The industrial revolution marked the beginning of what is referred to today as the modern organisation in early 50s. This is the era in which the economic activity was in full swing in many western countries, with engineering and construction project making a major impact on the environment. This rapid growth demanded a tool and technique which is capable of organising and managing projects at various locations (Abbasi and Al-Mharmah, 2000). During this era, network analysis and planning techniques, like Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM) formed the focus of development in project management. In 1960s, these techniques continued to be popular in the construction industry (Crawford et al 2005). Development in the field of project management in the 1960s also included the formation of two major professional associations. Shenhar (1996) cited in Crawford et al (2006) noted that the focus on teamwork was the defining feature of project management in 1970s. While Stretton (1994) cited in Crawford et al (2006) notes 70’s era as an emphasis on work breakdown structures and systems concepts. The 1980s were typified by a focus on project organisation, project risk and the external influences (Crawford et al. 2006). This era also led to the development of the international standards for project management. Although project management grows in term of a profession until 1980 but still it was perceived as the sole domain of engineers, finding a niche specifically in the civil engineering industry (Van Der Merwe, 2002).

Other Approaches to Project Management

All of the above approaches to project management are based on the process based methodologies. A part from these process based methodologies other paradigms for managing projects has also surfaced the research literature. Some of these approaches are as follows:

- Critical Chain Project Management
- Complex Project Management
- Structured System Analysis and Design Method (SSADM)

Critical Chain Project Management (CCPM)

Critical Chain project management which was developed and publicized by Dr. Eliyahu M. Goldratt in his book ‘Critical Chain’ is a novel approach for managing projects (Raz et al., 2003). Goldratt is well known in the operations management community as the inventor of the Theory of Constraints (TOC). TOC is a tool for managing repetitive production system based on the principle that every system has a constraint, and system performance can only be improved by enhancing the performance of the constraining resource (ibid).
CCPM is an extension of the TOC designed specifically for project environment. In CCPM the first step is to identify the critical chain activities by using the critical path method. The next step is to recalculate the project schedule based on shortened task duration estimates for the critical activities. The difference between the project duration based on new estimates and the original is called the project buffer. The same procedure applies for calculating the activities which are not critical and a buffer is created which is called feeding buffer. This buffer is placed in the path where it feeds back into the critical chain path. According to CCPM a feeding buffer represents the extent of protection of the critical chain against the uncertainty. The third type of buffer used by CCPM is called a resource buffer, which is a virtual task inserted prior to critical chain tasks that require critical resources. Its purpose is to issue a signal to the critical resources that a critical task to which they are assigned is due to start shortly.

The resource buffer does not actually consume any resources and it adds neither time nor cost to the project. As progress is reported the CCPM schedule is recalculated, keeping the final due date of the project constant by adjusting the buffer sizes (Raz et al., 2003). In other words in a CCPM the flexibility in the start time of the resources and the ability to quickly switch between the activities and activities chains keep the whole project on schedule.

The opponents of CCPM methods dismiss the hype that CCPM can lead to superior performance and argues that experienced project managers have known the principles behind CCPM for decades and CCPM’s uniqueness is in the terminology rather than in its substance (Raz et al., 2003).

## Complex Project Management

A recent addition in the list of professional organisation in the field of project management is the college of complex project managers. The college of complex project managers has developed their own standards to manage the complex projects and called it as The Competency Standards for Complex Project Managers (CSCPM). The principle behind this is that the complex system is formed out of many components whose behaviour is emergent and the behaviour of the complex system cannot be simply inferred from the behaviour of its components (Whitty and Maylor, 2009). So, to manage this complex system a complex project manager is required who by understanding complexity and accepting it, can gain insight and have a capability to steer a project towards its intended outcomes. The Complex project managers need to focus on aspects of complex projects that distinguish them from traditional projects. Whitty and Maylor (2009) articulate that the opponent of this standard argues that the definition of complex does not stand up to any scrutiny. They further argue that there has been no analysis of the problems that the establishment of this initiative is intended to solve. In addition to this the process by which the college and the standards have progressed has gone un-checked; and that the standard is not established on evidence based practice.

## Structured System Analysis and Design Method (SSADM)

The structured systems analysis and design method (SSADM) is the standard structured method used for computer project in UK government departments. SSADM has also been adopted as a standard by public utilities, local government, health authorities, foreign governments and several large private sector organisations. The basic principles of SSADM are shared, to a varying degree, by many of the modern structured methods of system analysis and design (Ashworth, 1988).

## Current Practices in Project Management

Numerous methods and techniques have been developed, covering all aspects of managing projects from their genesis to their completion, and these have been disseminated widely in books and journals through the work of professional bodies. But how these techniques are currently practiced in the real world and to what extent these techniques are used in the management of projects is presented by the research conducted by Abbasi and Al-Mharmah (2000) in the less developed countries and by White and Fortune (2002) in the developed countries. Abbasi and Al-Mharmah (2000) conducted a study on project management practices in Jordan and selected a sample of 50 firms. The data was collected through a...
questionnaire which was filled out by interviewing the person in charge of the planning and management department. The main part of the questionnaire was focused on investigating the most implemented techniques of project management in these firms.

- **Project Management in Public Sector**
  - **Understanding Public Sector Organisations**

  Public sector organisations are structured as pyramids: the policies and decisions are formulated at the top, responsibilities and tasks are also decided at the upper level of the pyramid and assigned to the lower levels through a hierarchical chain of command. Power rests at the top of the hierarchy (Sotirakou and Zeppou, 2005). Public sector organisations are different than their private sector counterpart because of the complex organisational environment, goals, structure and managerial values (Boyne, 2002). These variables create differences in how the basic functions of management are carried out in the public and private sector organisations. The table below highlights the key differences in the public and private sector organisations.

<table>
<thead>
<tr>
<th>Table 1: Differences in Public and Private Sector Organisations (Adapted from: Boyne, 2002)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Sector Organisations</strong></td>
</tr>
<tr>
<td><strong>Ownership:</strong> Public sector organisations are owned collectively by members of political communities</td>
</tr>
<tr>
<td><strong>Funds:</strong> Public sector organisations are funded largely by taxation from public</td>
</tr>
<tr>
<td><strong>Control:</strong> Public sector organisations are controlled predominantly by political forces</td>
</tr>
<tr>
<td><strong>Complexity:</strong> Public sector organisation faces a variety of stakeholders</td>
</tr>
<tr>
<td><strong>Permeability:</strong> Public sector organisations are open systems that can be easily influenced from external events</td>
</tr>
<tr>
<td><strong>Instability:</strong> Public sector organisations are more influenced by the political instability</td>
</tr>
<tr>
<td><strong>Competition:</strong> Public sector organisations have less competitive pressure</td>
</tr>
<tr>
<td><strong>Goals:</strong> Public sector organisations have distinctive and multiple goals imposed upon them by the numerous stakeholders that they must attempt to satisfy</td>
</tr>
<tr>
<td><strong>Structure:</strong> Organisation in the public sector have more formal procedures for decision making and are less flexible and more risk averse</td>
</tr>
<tr>
<td><strong>Red Tape:</strong> The red tape implies an unnecessary and counter-productive obsession with rules rather than results. Public sector organisations are rigid in following the rules</td>
</tr>
</tbody>
</table>
Spittler and McCracken (1996) perceive that most public sector organisations are functionally divided and bureaucratic. They further state that this division into functional areas can be for a variety of reasons. One obvious reason is that it maintains specialisation. Sometimes it is undertaken to segregate the steps in procurement and sometimes to maintain the chain of command. This is done for the reason that the responsibility is readily understood and accountability is easily traced. In addition to this the process of conceptualising, funding, designing, constructing and operating a project involves functional division of the organisation (ibid). This structure of public sector organisations tends to bring with it a set of challenges. These challenges arise from the behaviour of the employees in the functional areas. This happens in a manner that the employees specifically focus on their own area of expertise with little understanding of how their actions will impact others (Brunetto and Farr-Wharton, 2003). Some of the problems that arise due to these conditions are as follows:

- Lack of information flow
- Incorrect decision making
- Short term outlook etc (Spittler and McCracken, 1996).

### Public Sector Environment

Global competition and market liberalisation, the information technology revolution and the emergence of knowledge society have created an unpredictable and complex working environment for public sector organisation (Sotirakou and Zeppou, 2005). The last decade has been characterised by an intense analysis of what government pursues and what are the practices it uses to realise its efforts. Public administration, in particular has been vilified for being inflexible in performing its roles (Zajac, 1997; Box, 1999; Glyn, 2006). According to recent public opinion polls, confidence in public institutions is in decline throughout the world. Public sector organisations are experiencing continuing pressure from the public to modernise and to make government more efficient (Osborne and Gaebler, 1992; Frederickson, 1996; Durst and Newell, 1999).

To eschew this pressure, public managers try hard to enhance performance through the implementation of various modernisation and change reforms (Haque, 2003). These reforms are often termed as re-organisation, re-engineering and as organisational change in the literature (Osborne and Gaebler, 1992; Drucker, 1989). In public sector often these reforms are undertaken to reduce public spending, to improve effectiveness, to respond to new social demands etc (Andrews, 2008). These calls for the reforms in the public sector lead to a new paradigm of managing public sector often referred to as New Public Management (NPM). Common and Minogue (1998) cited in Sarker (2006) observe the factors that led to the emergence of the NPM model. Some of these factors are as follows:

- The fiscal crisis of government,
- Poor performance of the public sector in different arenas,  
- Bureaucracy,
- Lack of accountability,
- Corruption,
- Change of people’s expectations and
- The emergence of better alternative forms of service delivery

The next section explains NPM in more detail.
New Public Management (NPM)

NPM is an answer to the call of ‘reinventing the government’ (Osborne and Gaebler, 1992) on the basis of market base economy. It represents a major shift from the conventional public administration in various ways. Some of the key characteristics of NPM are as follows:

- A change in the focus of management systems and management effort from inputs and processes to output and outcomes;
- A move towards greater measurement;
- A preference for more specialised lean and autonomous organisational forms rather than old bureaucratic structure;
- A widespread substitution of contract or contract-like relationships for hierarchical relationships;
- The use of market and market-like mechanism for the delivery of public services (including privatisation, contracting out, the development of internal markets and so forth);
- A broadening relationship between the public and private sectors (characterized by the growth of public/private partnerships) and
- A swing of priorities from universalism, equity, security and resilience towards efficiency and individualism (Pollitt, 2001 cited in Sarker, 2006).

NPM advocates the adoption of management techniques which are proved useful in the private sector. Project Management is one of those techniques which have recently attracted a lot of attention in the private sector. It is a systematic effort through which an organisation can achieve its goals efficiently. But for project management to work in the public sector the officials and managers of these organisations must understand the different facets of the project management body of knowledge in public sector context (ibid). The next section will discuss about the project management in public sector.

Project Management in Public Sector

Spittler and McCracken (1996) states that ever since humans began building major projects for public good, the search to manage these projects effectively has continued. The public sector requires that its projects be managed with simplicity and with minimum possible costs. However, public sector organisations tend to be conservative with slow response time and with bureaucratic culture. These are commonly believed to be undesirable qualities and detrimental to effective project management. They further perceive that project management within the public sector is aimed at ensuring that the organisations resources are being used in ways consistent with its disparate goals and objectives. Therefore to achieve these disparate goals and objectives with minimum cost a suitable practice for the right job should be chosen.

Management of Public Sector Projects in Ghana

In Ghana, the public sector is poorly managed and lacks the capacity to provide social and infrastructural services (Dlakwa, 1990). The crux of the problem lies in a paucity of resources and weak or inadequate incentives for the public officials to deliver services efficiently (Kulshreshtha, 2008). Johnston and Dyrssen (1991) argue that it is not sensible to deny that numerous social factors make the work of management in Ghana difficult and unrewarding. It is probable that the wealthier a society, the better its management is likely to be. Therefore, Ghana face a growing need to reform its public institutions to provide better performance incentives to their public officials and to reduce the service delivery time by ensuring greater transparency and accountability in decision making (Kulshreshtha, 2008).

In Ghana, the initial growth and development projects for the economy are focused on infrastructure development, transportation, irrigation and agriculture (Muspratt, 1987). The next phase of the development is then concentrated in the construction for manufacturing services and communications (ibid). The lack of knowledge and tools of the new techniques in the growing field of project management is common in Ghana.
especially in the public sector which results in the failure of the project with respect to scope, time and cost (Chan, 2001; Sonuga et al. 2002). The irony of the situation is that even the projects used extra time and money but still mostly did not complete the scope which is mentioned in the initial project document (ibid). Struckenbruck and Zommodrian (1987) perceive that project management is an efficient approach for the optimum utilization of the scarce resources and for better fulfilment of development project in Ghana. This is because it uses an integrated planning and control system with a single point of responsibility and accountability (i.e. the project manager) (ibid). Several other authors Abbasi and Al-Mharmah, (2000); Kartam et al., (2000); Partington, (1996); Bryde, (2008); Sonuga et al., (2002) identify different barriers which hinders the project success. These are:

- Lengthy approval procedures
- Existing administrative system
- Change orders
- Lack of ownership
- Lack of authority
- Poor estimation of activity cost etc.

However, all of them have emphasised on further research to investigate the limitations and potential for project management system in different environment.

3. Methodology

• Research Design

The study utilized a survey design. This design was appropriate because the study sought to investigate engineer’s views or opinions regarding some of the project management practices of the Electricity Company of Ghana.

A quantitative research approach was adopted to achieve the research objectives. This approach was chosen because the study collected numeric data instead of non-numeric. Quantitative approach was also appropriate because questionnaire instead of interview was used to collect the data in the study.

• Method of Data Collection

The researcher sought permission from the head of each of the department that handles projects by explaining the purpose of the study to the various heads. This was appropriate as required by research ethics. After approval is given, the researcher would seek the consent of the participants who agree to take part in the study before delivering the questionnaires to them to fill. Participants would be assured of confidentiality of information that they will provide. Data collection would take one month.

This has been done to get as much data as possible for the research from the participants and intervention was only made if the discussion is going too far from the topic. The interviews were done from the planning sector organisations. The interviews remained focus on initiation, planning, monitoring & controlling phases of the project. This was done because the planning in ECG mostly deals with these phases of the projects but any useful data that is contributed by the participant for any other phase was also collected to get a better understanding of the processes.

• Data Analysis

Data collected were screened, coded and entered into the Statistical Package for Social Sciences (SPSS) version 19.0 for windows. This software was used to facilitate the data analysis process. Using this software, frequencies, percentages, tables and charts were generated to explain the data.
4. Results and Discussion

- Project Management Implementation Practices

Project implementation usually goes through five phases. The study sought to determine the extent to which this was applicable in ECG. The views of respondents were sought regarding each of the phases. As shown in the figures below, the Company fully adopted and implemented the initiation and execution phases while the planning, monitoring and closing were not always entirely implemented. Specifically, all the respondents surveyed (n=13) indicated that the initiation process (100%) and the execution (100%) processes of project management were fully implemented by the Company.

Table 4.1: Initiation Process

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.2: Execution Process

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Regarding the other three phases namely; planning, monitoring/control and closing phases, it was observed that respondents did not endorse complete implementation by the Company.

Regarding planning, 76.9 percent (n=10) reported that it was implemented with 23.1 percent (n=3) expressing different opinions.

Fig. 4.7: Planning process
Further, it was observed that, while the majority 10(76.9%) indicated that as part of project management of the Company, monitoring and control processes were implemented, 23.1 percent (n=3) indicated otherwise.

![Monitoring/control process](chart)

**Fig. 4.8 Monitoring/Control process**

Finally, it was revealed that, the closing phase was mostly implemented. 92.3 percent of respondents reported that, ECG implemented the closing phase of project management while 7.7 percent (n=1) said this phase is not implemented.

![Closing process](chart)

**Fig. 4.9 Closing Process**

Following from the above analysis, it can be said that Electricity Company of Ghana, adopts and implements project management practices such as initiation, planning, and execution, monitoring/control, and closing processes though planning, monitoring and closing phases were sometimes not implemented.
Processes Used in Implementation of Projects in ECG

Further to the adoption of project management practices by ECG, the study sought to determine the various processes in each of the phases and whether ECG followed them. Each of the phases involved some processes. For instance, the initiation phase involved three main processes such as product/project description, project charter and identification of project constraints.

Initiation Phase

This phase involved three processes. The first process which deals with product or project description was found to be followed by ECG. The majority of respondents expressed strong agreement (46.15%) with the view that product or project description is done at the initiation phase with 38.46 percent agreeing with the statement. Only 7.69 percent of respondents disagreed with the statement with 7.69 percent indicating that they were not sure.

Similarly, it was observed that, the majority of respondents indicated strongly that project charter or definition of project objectives took place at the initiation stage of ECG projects (38.46%) with 30.77 percent agreeing with the statement. However, 15.38 percent of respondents expressed disagreement while 15.38 percent were undecided.

Fig. 4.10 Product/Project description

Similarly, it was observed that, the majority of respondents indicated strongly that project charter or definition of project objectives took place at the initiation stage of ECG projects (38.46%) with 30.77 percent agreeing with the statement. However, 15.38 percent of respondents expressed disagreement while 15.38 percent were undecided.

Fig. 4.11 Product/Project description
Further, identification of project constraints was reported by majority of respondents to take place during the initiation phase of project implementation at ECG. Specifically, 30.77 percent of respondents expressed agreement with the statement that project constraints are identified at the initiation phase with 23.08 percent strongly agreeing. However, 46.15 percent disagreed with the statement. Thus, though not all the respondents suggested that project constraints are identified at the initiation phase, the majority expressed that view.

![Fig. 4.12 Identification of project constraints](image)

- **Planning Phase**

Within the framework of project management, planning involves, project scope definition, activity definition (timing), product analysis, cost-benefit analysis and alternative identification (i.e. brainstorming and lateral thinking). The study revealed that these elements under the planning phase were followed in project implementation at ECG. Specifically, analysis of scope definition as an element under planning showed that, the majority of respondents strongly agreed that (45.45%) it was part of the planning phase with 36.36 percent also agreeing with the statement. In addition, 9.09 percent were undecided while 9.09 percent expressed disagreement with the statement.

![Fig. 4.13 Scope verification](image)
The study also revealed that team development was an important element in the project execution phase. In relation to team development, 38.46 percent of respondents expressed agreement with the issue while 30.77 percent strongly agreed with the issue. However, 23.08 percent said they were not certain whether team development was an element in the execution phase or not while 7.69 percent of them disagreed with the issue.

Similarly, contract administration was reported by the majority of respondents as part of the execution phase of project implementation (46.15%). In addition, 38.46 percent indicated that contract administration was part of the execution phase of project implementation while 15.38 percent said they were not sure whether it was part of it or not.
A. Bunyaminu & F. Mahama

Quality assurance was reported as an element under project execution with 30.77 percent agreeing with the issue while 15.38 percent expressed strong agreement with the statement. However, 30.77 percent indicated that they were not certain whether quality assurance was implemented at the execution phase of projects or not while 23.08 percent said it was not part of the execution phase of project implementation.

![Quality assurance graph](image)

**Fig. 4.16 Quality assurance**

Finally, it was observed that project execution plan was an element under the execution phase of project implementation. Specifically, 46.15 percent of respondents strongly stated that this issue was part of the execution phase of project implementation with 46.15 percent agreeing with the issue. Only 7.69 percent of respondents reported that they were undecided on the issue.

![Project plan execution graph](image)

**Fig. 4.17 Project plan execution**

- **Monitoring and Control**

Another important phase of project implementation is monitoring and control. Under this phase several activities are carried out to ensure that projects implemented are successfully monitored and controlled. The study found that, most respondents strongly agreed that at the monitoring and control phase ongoing projects
are measured against variables with 38.46 percent also agreeing with the issue. However, 15.38 percent disagreed with the issue while 7.69 percent said they were not certain.

**Fig. 4.18: Measuring ongoing project activities against variables**

In addition, it was observed that control scope, cost, time and quality were carried out in an attempt to monitor and control projects. The majority of respondents agreed that (53.85%) scope, cost, time and quality were part of the monitoring and control phase. Also, 23.08 percent strongly agreed with the issue while 7.69 disagreed with the issue. However, 15.38 percent were undecided about the issue.

**Fig. 4.19 Control scope, cost, time and quality of projects**

Further, as part of monitoring and control phase of project implementation, it was observed that change management was integrated. The analysis showed that, 30.77 percent of respondents strongly agreed that change management was integrated into the monitoring and control phase with 23.08 percent also agreeing with the issue. However, 38.46 percent expressed uncertainty about whether it was part of the monitoring and control phase or not while 7.69 percent disagreed with the issue.
Finally, the analysis revealed that project performance was reported as part of the monitoring and control. Most respondents agreed that project performance was reported (45.45%) with 27.27 percent also expressing strong agreement with the statement. However, 27.27 percent of respondents expressed uncertainty about whether project performance was reported or not.

Fig. 4.20 Integrate change management

Fig. 4.21 Report performance
• **Closing Phase**

The last phase of project implementation which talks about closing of projects consists of two elements: contract close out and settlement of contract. The results showed that the majority of respondents agreed strongly that (53.85%) that contract close out takes place at the closing phase of project implementation, 38.46 percent agreed with the issue with only 7.69 percent of respondents disagreeing with the issue.

**Fig. 4.22 Contract close out**

Similarly, the majority of respondents expressed strong agreement that settlement of contracts occur at the closing phase of project implementation (53.85%) while 38.46 percent expressed agreement with the issue. However, only 7.69 percent expressed strong disagreement with the issue.

**Fig. 4.23 Settlement of contracts**
• **Success or Failure rate of Projects**

  The study sought to determine whether the adoption of project management processes led to project success or failure of ECG. The study found that, projects were successful when the processes such as initiation, planning, execution, monitoring/control and closing were adopted and implemented. Specifically, success rate of more than 75 percent (61.54%) and between 51 and 70 percent success rate respectively were accomplished when project management processes were adopted and implemented. This implies that, the adoption of process management processes would always produce an above average performance or success rate.

![ratings of success of projects executed within the last three years](image)

*Fig. 4.25 Rating of success of projects executed within the last three years*

• **Factors that Contribute to Success of Projects**

  Factors that contribute to the success of projects were explored. A number of factors were reported by respondents as contributing to the success of projects. The analysis showed that, executive management support and adequate communication channels contributed significantly to project success while realistic expectations contributed less to success.

• **Executive Management Support**

  Regarding executive management support, the majority of respondents expressed agreement that it contributed to project success (69.23%) with 30.77 percent strongly agreeing with the statement. This shows that, all respondents found management support as a critical factor in project success.
- Competent Project Team Members

The contribution of project team to project success was also explored. The study found that, the availability of competent project team members was a critical factor to project success. 53.85 percent of respondents expressed strong agreement that competent project team members determined project success while 30.77 percent also endorse the issue. However, 7.69 percent expressed contrary views while 7.69 percent were not sure of the contribution of competent project team members to project success.

- Control Mechanisms

The majority of respondents agreed that control mechanisms significantly resulted in project success (46.15%) with 23.08 percent expressing strong agreement with the issue. However, 23.08 percent expressed uncertainty about the contribution of control mechanisms to project success while 7.69 percent of them disagreed with the impact of control mechanisms on project success.
Clearly Defined Goals

The results obtained in the study suggest that, clearly defined project goals were critical to project success. Specifically, 46.15 percent of respondents agreed with the statement that clearly defined goals lead to project success with 15.38 percent strongly endorsing the statement. However, 23.08 percent of respondents expressed contrary views while 15.38 percent expressed uncertainty about the impact of clearly defined project goals on project success.

Causes of Project Failure

Several factors ranging from lack of executive management support and commitment to lack of client or customer involvement in projects have been documented as major reasons for project failure.
• Lack of Management Support and Commitment

This factor was reported to be a major contributing factor to project failure. Most respondents agreed that lack of management support and commitment significantly accounted for project failure (53.85%) with 7.69 percent expressing strong agreement with the issue. However, 23.08 percent disagreed with the statement. Subsequently, 15.38 percent expressed strong disagreement. Despite this, it can be concluded that, lack of management support and commitment significantly accounted for project failure in ECG.

![Lack of management support and commitment](image1)

Fig. 4.31 Lack of management support and commitment

• Lack of Clear Statement of Project Requirements

Lack of clear statement of project requirements was not found to be a major determinant of project failure in ECG. In particular, 38.46 percent of respondents expressed disagreement with the view that lack of clear statement of project requirements accounted for project failure while 15.38 percent also supported the notion by strongly indicating that lack of clear statement of project requirements did not account for project failure. However, 15.38 percent expressed agreement that lack of clear statement of project requirements accounted for project failure with 7.69 percent of them strongly supporting. However, 23.08 percent expressed uncertainty about the contribution of the factor in determining project failure.

![Lack of clear statement of project requirements](image2)

Fig. 4.32 Lack of clear statement of project requirements
Lack of Proper Planning

The majority of respondents reported that lack of proper planning accounted for project failure. Specifically, 30.77 percent of respondents agreed that lack of proper planning was a major determinant of project failure with 30.77 percent supporting the notion by expressing strong agreement with the issue. However, 15.38 percent expressed strong disagreement with the view that lack of proper planning resulted in project failure. 15.38 percent of respondents were not sure whether this factor accounted for project failure or not.

Poorly Defined Project Goals

On the average, most respondents did not find this factor as a major determinant of project failure. 15.38 percent of respondents strongly disagreed with the view that poorly defined project goals account for project failure while 23.08 percent also endorsed the same view. However, 23.08 percent agreed that it accounted for project failure with 7.69 percent strongly supporting. 30.77 percent of respondents were not certain about the contribution of this factor to project failure.
• Lack of Control Mechanisms

Project failures have been attributed to lack of control mechanisms. The study revealed that, 38.46 percent of respondents agreed that lack of control mechanisms were determinants of project failures with 15.38 percent expressing strong agreement with the statement. However, 15.38 percent of respondents disagreed that project failures could be attributed to lack of control mechanism and another 15.38 percent expressed strong disagreement with the statement. Also, 15.38 percent indicated their uncertainty about whether lack of control mechanisms accounted for project failure.

![Lack of control mechanisms](image1)

**Fig. 4.35 Lack of control mechanisms**

• Lack of Sufficient Project Resources

The study found that lack of sufficient project resources accounted for project failures. The impact of sufficient project resources was reported noted as a relevant factor in project success. Thus, the majority of respondents agreed that lack of sufficient resources account for project failure (46.15%). This was supported by 30.77 percent of respondents who expressed strong agreement with the statement that lack of sufficient project resources accounted for project failure. However, 15.38 percent of respondents disagreed with the statement while 7.69 percent also expressed strong disagreement with the statement.

![Lack of sufficient project resources](image2)

**Fig. 4.36 Lack of sufficient project resources**
• Poor Communication

Communication is vital in project implementation and management. The study revealed that, poor communication resulted in project failure (38.46%). Similarly, 15.38 percent of respondents strongly agreed that, poor and inadequate communication resulted in project failure. However, 15.38 percent expressed strong disagreement with the issue with another 15.38 percent expressing disagreement with the view that poor communication resulted in project failure. 15.38 percent were however undecided as to whether project failure was as a result of poor communication or not.

![Fig. 4.48 Poor communication](image)

5. Conclusion

Based on the outcome of the study, it can be concluded that the objectives of the study were achieved. In particular, Project Management processes were found to be adopted in the implementation of projects in ECG. Adherence to these Project Management processes was found to produce significantly high levels of project success than non-adherence to the processes. It was also observed that failure of ECG projects were attributable to factors such as lack of management support and commitment, poor communication, lack of sufficient project resources, lack of control mechanisms and poor planning.

References


Bozeman, B. (1987) All organisations are Public, London, Jossey-Bass : Cited in


A. Bunyaminu & F. Mahama


Galbraith, J. (1973) Designing Complex organisations, Addison-Wesley : Cited in


Morse, J. M. (1991), Approaches to qualitative-quantitative methodological triangulation. Nursing Research, Vol 40, no 1, 48-76


Atkinson, R. (1999). Project Management: Cost, Time and
project team formation and deployment within a large construction organisation. International
What's the difference ?, Journal of Management Studies, 39, 97-122
Soderlund, J. (2004b) On the broadening scope of the research on projects: a review and a model for
International Review of Administrative Sciences, 70, 623-635.
developing and emerging economy. Case study of some abandoned water and irrigation projects in
Youker, R. (1992), Managing the international project environment. International Journal of Project
Management, 10, 219-226.
Zwikael, O., Shimizu, K. and Globerson, S. (2005) Cultural differences in project management capabilities:
A field study. International Journal of Project Management,