

Examination of Project Management Practices on Public Sector Organizations in an Emerging Economy

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Abstract

Projects continue to fail at an astounding rate regardless of the type of project, or the industry from which they originate, wasting billions of dollars each year. Several studies have been conducted to demonstrate the value of project management in developing countries including Ghana but very few literatures on project management practices are in Ghana, hence, this study sought to examine project management practices in the public sector organization in Ghana. This study adopted a case study design which used quantitative approach to collect data on the project management practices in the public sector in Ghana. The study focused on the Ghana Water Company Limited with operations in Nsawam. Only primary (questionnaire) data was employed for the study. The primary data was analyzed descriptively on one end and proportionally on another end. In analyzing the factors that influence project management compliance and project management practices, descriptive statistics was used. The results revealed that the institution has a project management unit and the unit has been in existence for more than 10 years and all projects are government based. Also, it was established that GWCL have adopted project management strategies such as total quality management, managing new technologies, training and development, environmental, health and safety attributes. The study revealed that factors such as financial factors, managerial factors, and technological factors affected GWCL compliance with the project management practices. The study concludes that there are some weaknesses in the project management practices in GWCL but can be minimized through transparency and accountability. This study recommends for the project unit of GWCL to continue to educate all key actors in the conduct of their activities in a professional way.

Keywords: Project Management Practices, Public Sector Project Management, Project Management Practices Emerging Economy, Project Management for Development

1.0 INTRODUCTION

Today's corporations have realized that, to attain survival, growth and profit, they need to be abreast with modern project management practices usage. In the business field, employees have realized that they have to develop skills in the competitive markets to become effective project managers and valuable team members hence the need to know the practices of project management in the firms. This research investigates the project management practices in the public sector organization in a emerging economy. Ghana is selected from the list of developing economies.

The Ghanaian public sector is divided into three main areas that is the planning, service, the consultant and the contractor. Most at times these three sectors are involved in public sector development project in Ghana. The Ghana water company is selected as a case study for this research. The results of this case study will explain the current state of project management in Ghanaian public sector organization. With the growing practice and increasing in complexity of the partnership arrangement the public sector will benefit from this study as it provides an insight into the field of project management and hence prove to be a valuable resource to public sector officials involved in the evaluation of project finance tenders. The treatise will function as a source of fact, literature and reference to academia. It will also serve as a source of assessment for further research into issues of project management and assist other countries to be more responsive to project management practices that transpire in the public sector organization.

1.2 Background of the Study

In Ghana, many organizations are using project management practices to bring about the strategies needed to attain goal congruence in the economy. Around the world, it is difficult to find two project management situations that are the same. This is partly because every project (i.e. internal or

external, offshore or onshore) undertaking by an organization is unique, with its own set of challenges. Hence projects are initiated with the best of intentions for survival. But due to complexity of the activities, and the challenges associated with managing a project restriction or constraints of budget, quality and time are also unique and ever changing. The management of project constraints explains, if not fully, why many projects fail. Some external forces like government regulations, environmental forces, pressure groups, financial markets, labor markets, technology, customer influence, shareholder etc. are very dynamic and much irregular. Internal forces such as changes in operating processes, distribution of resources, skills, internal conflicts etc. are becoming more adaptive to the external environment. Hence, managing projects in this mix of dynamic factors requires a lot from project managers and also show how easy it is for a project to fail.

The scenario above has led to assumptions by many project management professionals in many industry sectors that if project and line managers can identify what constitute a project success and the factors that determine a successful outcome of a project, they can improve their performance. Erling et al (2006). However, identifying those factors that can make a project succeed is difficult and cumbersome. Erling et al (2006) stated that there are no clear proof linking a project success factor and actual project success. Again, different industry sectors have their own perception of success and failure, and what factors can contribute to either. Project management practices and theories have advanced in recent decades and substantial growth has been experienced in the adoption of project management disciplines to accomplish work in different industries and sectors, including the construction sector (Winter & Szczepanek, 2008). Although it is difficult to refute the Notion that project management practices have improved fairly over the last three decades (White & Fortune, 2002), there are still issues with the underlying assumptions and practices of project management in some countries (Abd El-Razek, Bassioni, & Mobarak, 2008). Project management practices are visible and importance to organizations (Badewi, 2016; Kwak & Anbari, 2009; Zhai, Xin, & Cheng, 2009); however, project management remains a highly problematical endeavor (Mir & Pinnington, 2014).

There are several notable project management standards and guides that have been developed to help Project Managers (PMs) and practitioners successfully undertake and manage projects (White & Fortune, 2002; Papke-Shields, Beise, & Quan, 2010). In the same manner, numerous tools and techniques have been developed covering all phases or aspect of managing projects from initiation to completion (Patanakul & Omar, 2010). The US Project Management Institute (PMI) remains one of the most influential, widely distributed and accepted project management standards in existence (Indelicato, 2009). Generally, there are ten project management practices (knowledge areas); Integration, Scope, Time, Cost, Quality, Human Resource, Communication, Risk Management, Procurement and Stakeholders Management (PMI, 2013), although Muriithi and Crawford (2003) suggest that there are only five identifiable processes within a project; initiating, planning, executing, controlling, and closing. Therefore, a project management framework for the entire economy could be helpful to validate the impact of appropriate or inappropriate use of project tools, techniques, and practices on project outcomes that may be identified by this research.

1.3 Problem Statement

Project outcome is known to be influenced by many factors, internal and external to a project. There is a large body of literature on "critical success factors", and project management techniques are included in these lists. There are calls for research into investigating project management methods, tools and techniques in practice. Most of the existing literature takes a rather different methodological perspective on project management practice. For example, some of the early studies carried out have examined the impact of project management tools and techniques on project success. Public sector project management inefficiency is a serious problem for many countries, in particular for post-communist states and developing economies.

Projects continue to fail at an astounding rate regardless of the type of project, or the industry from which they originate, wasting billions of dollars each year. The general business problem was that some business leaders experience poor project performance, resulting in wasted resources, and therefore a loss in profitability. The specific business problem was that some project leaders lack strategies to manage projects successfully. Several studies have been conducted to demonstrate the value of project management in developing countries including Ghana but very few literatures on project

management practices are in Ghana. This therefore prompted the researcher to examine project management practices in the public sector with Ghana Water Company Limited (GWCL), Nsawam as the case study.

2.0 THEORETICAL FOUNDATION

2.1 Foundations of the Study

Literature review is a summary of what is at present known about some issues or fields on the basis of a study's evidence and or of what lines of argument there are in relation to that issue or field (Newman, A., Round, H., Wang, S., & Mount, M. 2020). Simply put, literature review is an explanation of what has been published on a topic or a research area by qualified scholars and researchers. Literature review serves several important functions. According to Newman et al (2020) the goals of literature review is to learn from others and stimulate new ideas, demonstrate a familiarity with a body of knowledge and establish credibility. Again it shows the path of prior research and how a current project is linked to it by placing the research in a particular context and demonstrating its relevance by making connection to a body of knowledge. It is a way of sorting and assessing what researchers have written on a topic and organized according to a guiding concept. Literature review thus aims at establishing the academic and research areas that are of interest to the present research (Mensah, 2013). This chapter is devoted to the literature review on project management practices in the public sector and for the purpose of orderly presentation; the study reviewed related literature such as those which impinged on the research problem, definition and concepts of project management practices, public service poor service quality delivery and its management and improvements.

2.2 Development of the Study

Many definitions had been given to project by different authors, due to the fact that project is a multidisciplinary word that has different meaning from different perspective and orientations. Engineers, Architects, Managers and so on, have their definitions coined out from their experiences as far as their professions are concerned. Project according to Project Management Institute, PMI, (2004) cited in Pinto (2012) "is a temporary activity or endeavor undertaken purposely to create a unique output (product or service) within budget, time and standards. Turner and Muller (2003) in their own words defined project as "an organization of human materials and financial resources in a novel way, to undertake a unique scope of work, of given specification, within constraints of cost and time, defined by quantitative and qualitative objectives so as to achieve a beneficial change".

The uniqueness of project is pointing to its genuine nature in the sense that there may not be a pre-existing blue print for the project's execution and there may not be a need to repeat the project once completed. Its goal characteristics may be well perceive as achieving stated objectives or solve a particular problem, while its temporary nature signifies a discrete, definable commencement and conclusion. As given away by Abbasi and Al-Mharmah (2000) Project management on the other hand "is the art and science of planning, designing and managing work throughout all the phases of the project life cycle". It is also regarded as a system or process of planning, designing, scheduling, managing and controlling interconnected project activities in order to achieve specific objectives or goal within a specific time, budget and standards (Lewis, 2007). Project Management is an innovative management practice that tends to achieve stated or specified objectives within specific time and budget limits through optimum use of resources (Rodionova, E. A., Dominiak, V. I. (2019). It helps organization in investing their limited resources in the best way possible in order to achieve recurring success and meeting the expectations of stakeholders. Government and organizations usually embark on different projects with the aim of creating new service or improving the functional efficiency of the existing ones.

All these projects require appropriate skills and techniques that go beyond technical expertise only, but encompass good and sound skills to manage limited budgets, and monitor shrinking schedules and unpredicted outcomes, while at the same time dealing with people and organizational issues (Abbasi & Al-Mharmah, 2000). The application of project management practice in public sector has been identified as an efficient approach which would help in upgrading management capabilities and enable public sector to efficiently complete projects and attain developmental objectives (Arnaboldi *et al*, 2004). It is also

recognized as a key enabler with whom public sector organizations adopting business improvement methodologies such as Lean Management and TQM, improve their efficiency and competitiveness.

Today, project management has become an indispensable persistence obligation for most organizations in a fast-changing environment (Zid, C., Kasim, N., & Soomro, A. R. (2020). Consequently, more new products and services are expected to be developed and applied as fast and competently as possible on one hand, as the project life cycle picks up the thread to decrease. On the other hand, products are becoming outdated at a progressively high rate which implies that a cost-effective management approach is required for the selection and development of new projects. This will thus allow the invention of unique and high-quality goods and services that capitalize on the possibilities of commercial success, in the midst of inadequate resources. However, in today's small and medium enterprises, projects are being managed within progressively complex atmospheres (Alquier & Tignol, 2006). This is due to the fact that businesses must effectively manage crucial project creativities such as new product expansion, policy application, outsourcing etc. (Burlton, 2001). Within this context, the implementation of projects in organizations is handled via various project management practices that are applied daily by diverse project managers (Atawodi & Ojeka, 2012; Forsman, 2008).

2.3 What is a Project?

The definition of a project has been the subject of considerable debate over the years among the practitioners of project management and the goal of developing a comprehensive definition of what a project is has remained elusive over the years (Crawford & Pollack, 2007). In order to understand the theory and practice of project management, it is necessary to first establish the definition of a project and then to define project management. Once the concept of a project has been defined, it is possible to define project management. Several definitions can be found in the literature with enough basic similarities that a clearer definition can be deduced. Davis (2010) defined a project as "any undertaking that has definitive and final objectives representing specific values to be used in the satisfaction of some need or desire". Kerzner (2003) defined a project as: "A unique undertaking that consists of a specific objective, series of tasks, defined scope and specifications, a schedule for completion, a budget and resource consumption". Kadmiri, L., Yakoub, S. B., & Achelhi, H. (2021) defined a project as: "An organization of people dedicated to a specific purpose or objective. Projects generally involve large, expensive, unique or high risk undertakings which have to be completed by a certain date, for a certain amount of money, within some expected level of performance. At a minimum, all projects need to have well defined objectives and sufficient resources to carry out all the required tasks".

Paver, M., & Duffield, S. (2019) defined project as follows: "Any undertaking with a defined starting point and defined objectives by which completion is identified. In practice most projects depend on finite or limited resources by which the objectives are to be accomplished". The Project Management Institute (2004) defines a project as: "A temporary endeavor undertaken to create a unique product or service". Temporary means that every project has a specific beginning and a specific end. Unique means that a product or service is different in some characteristic way from all other products or services. One of the aspects of a project that the PMI emphasizes is progressive elaboration; a term that refers to a characteristic of projects that integrates the concepts of unique and temporary. "Because the product of each project is unique, the characteristics that distinguish the product or service must be progressively elaborated. Progressively means proceeding in steps; continuing steadily by increments, while elaborated means worked out with detail; developed thoroughly" (PMI, 2004).

A project is undertaken to create a unique product, service, or result. Projects are different from operations in that they end when their objectives have been reached or the project has been terminated (Schwalbe, 2009). The definition of a project has been the subject of considerable debate over the years among the practitioners of project management and the goal of developing a comprehensive definition of what a project is has remained elusive over the years (Crawford & Pollack, 2007). There are three key dimensions to a project: Budget, Time and Quality. These have to be balanced to manage a project successfully. A successfully completed project would finish on time, within the estimated budget and having achieved all of the quality requirements. These three dimensions of budget, time and quality are often regarded as the aspects of a project that must be kept in an appropriate balance if the project is to achieve a successful outcome (Hamilton, 2004).

2.3.1 Types of Projects

There are three main types of projects and they are as follows: Lean Projects, Hybrid Project and Extreme Projects

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, 2008).

Hybrid Projects: Hybrid projects are defined as having varying level of complexity, scope and risks. These projects require a management approach that emphasizes 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, 2008).

Extreme Projects: Extreme projects are defined as having high complexity, broad scope and high risk. Such projects are generally mission 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, 2008).

2.3.2 Project Success and Failure

2.3.2.1 Project Success

"Trying to pin down what success means in the project context is akin to gaining a consensus from a group of people on the definition of good art" (Jugdev & Muller, 2005). As found in the early literature and practice, "the Iron Triangle (schedule, scope and budget) was a measure of success" (Cooke-Davis, 2002; Hartman, 2000). Project success factors (PSFs) are factors or characteristics that, when present, improve the likelihood that projects will be implemented successfully (Kerzner, 2003; Smith, S., Jitpaiboon, T., Yang, J., & Gu, Q. (2018). Kerzner (2003) also defined PSFs as "elements required to create an environment where projects are managed consistently with excellence". Freeman and Beale (2008) stated that project success has different meanings to different people and it is very context dependent. Following extensive study of 20 failing projects over a period of 18 years, expands this criterion of success as what "satisfies stakeholder groups, meets requirements, meets quality expectations / requirements, within cost (paid, unpaid and business expert costs), within deadline, delivers sustained and actual benefits and provides the team with professional satisfaction and learning" (Thomsett, 2002). Lim and Mohamed (2014) used the analogy of the forest and the trees to illustrate the difference between the macro and micro points of view of project success.

The micro point of view is concerned with assessing project management success based on project completion, while the macro point of view involves the longer-range perspective of product use to measure customer satisfaction. The point is that determining whether or not the project has succeeded could not be determined until the operational stage that occurred after the project had passed to the receiving organization and the project received evaluation input from the users and stakeholders. "Lim and Mohammed's work was significant because it referred to setting expectations at the project's onset. This approach contributed to alignment between project deliverables and expectations so that the work could be guided along those lines" (Jugdev & Muller, 2005). The management of change in a project is a critical success factor, a formal method of recording change requests, assessing the effect of the change on the project and a change approval process are required to be controlled (Thomsett, 2002).

Studies have confirmed that application of modern project management methods and techniques has a great effect on public institutions. Arnaboldi *et al* (2004) observed that application of project management strategy in public sector was as a result of pressure on governments to abandon bureaucratic organization in favour of leaner structures. The authors studied the projects carried out at Italian Treasury Ministry using project management methodology and discover that proper implementation of project management concepts and methods will help in avoiding project failure, continuous communication and the definition of project control system. They however stated that, project management methods needed to be modified and specifically tailored towards the needs of public

institutions. In their study White & Fortune (2002) examined the current project management practice in public sector in UK by collecting data from 236 project managers in some public institutions. The study asked the respondents to judge the effectiveness of the project management methods, tools, and techniques they had used on the project success. The result of the study revealed that 41% of the reported projects were judged to be completely successful (using time, budget and specification), though some drawbacks were reported. Similarly, Abbasi & Al-Mharmah (2000) explored the project management tools and techniques used by the public sector in Jordan by surveying 50 industrial public firms.

The study found out that the use of project management tools and techniques among the public sector companies was considerably low, but when practiced efficiently would result in tangible benefit in all aspects of planning, scheduling and monitoring the time, cost and specifications of projects. In Ghana, the implementation of modern project management tools, methods and techniques is still not well established in public sector, this results into failure of public institutions and their contractors in performing their duties concerning the budget, specifications and deadlines of the projects awarded. Studies have recognized social and political systems, cultural blocks and lack of financial support as barriers to successful project planning and execution in Ghanaian public sector (Idoro & Patunola-Ajayi, 2009). Therefore, this paper aims at investigating the project management practices in public sector organizations in Ghana, their benefits, obstacles and drawbacks with a view of recommending appropriate actions. The study made use of the Ghana water company at Nsawam town as its case study.

2.3.2.2 Project Success and Failure Factors

The project management literature reviewed shows that the concept of project success has been and continues to be a major concern in this field. The two different aspects of concern are the following: (a) How success is measured (success criteria), and (b) what are the factors that contribute to project success (Crawford, 2002). The first aspect of the concern was mentioned in the previous section. Project success factors (PSFs) are factors or characteristics that, when present, improve the likelihood that projects will be implemented successfully (Kerzner, 2003). Kerzner (2003) also defined PSFs as "elements required to create an environment where projects are managed consistently with excellence". Greer (2009) states that "Planning is everything and ongoing", and expands this by saying "planning and re-planning must be a way of life for project managers", and due to the dynamic nature of many projects, the plan must be regularly revised. The planning and control of project scope is important to avoid higher costs and late delivery (Greer, 2009). Well defined requirements are an important input into the scope management process. The management of change in a project is a critical success factor, a formal method of recording change requests, assessing the effect of the change on the project and a change approval process are required to be controlled (Thomsett, 2002). One of the most common approaches to project success has been the fulfilment of golden triangle of cost, time and scope. Although this may seem true in some cases and appropriate in the short run when time to market is critical –there are many examples where this approach is simply not enough (Shenhar et al., 2004). Several authors (Shenhar, 2004, Greer, 2009) have agreed that there could be different criteria for the success of the project.

Cooke-Davies (2001) distinguished between project success (measured against the overall objectives of the project) and project management success (measured against the widespread and traditional measures of performance against cost, time and quality). Furthermore, the different objectives projects are designed to achieve can be arranged in a hierarchy, with not all equally important, and that the different stakeholders in the project such as owner, user, sub-contractor, supplier, or designer may all have success criteria that differ from each other. This makes the measurement of success a complex and inexact matter, since it is possible for a project to be a success for one party and a disaster for another. It can also appear to be success one day and a failure the next day (Cooke-Davies, 2001). Shenhar et al., (2004) gave an example of the construction of Sydney opera house and states that the project took three times longer than the anticipated and cost almost five times higher than planned.

But once it completed it quickly became Australia's most famous landmark. Therefore, one can infer that in the context of managing the project the Sydney opera house can be termed as a failure but as a project it is highly successful. The literature on project success factors is more extensive than on success criteria (Crawford, 2001: cited in Cooke-Davies, 2001; Belout and Gauvreau, 2004). Management of Risk in a project is another element of successful projects. Risk management should begin during

project planning and identify risks that can cause problems later in the project. Some risks can never be totally eliminated and they may change during a project, but ongoing well thought out risk assessment and risk mitigation strategies together with risk contingencies in the project budget are required to avoid unpleasant project surprises. (Cameron, 2002). Belout and Gauvreau summarize the results of a benchmarking study into project success factors across a wide range of industries into ten "lessons learned". One of these lessons is to "use the same, simple and well-defined framework with a staged approach in all circumstances". Constantly using the same staged approach minimizes confusion and the need for relearning for people connected with the project. The staged approach allows planning of the next stage in detail while further stages are planned in summary form.

Separating each stage is a decision point or gate. The gate allows for quality control checks, prioritization and a point from which to plan forward. Traditionally the gate ends each phase. Some organizations use the gate as an entry point to the next phase which allows phases to overlap (start before the previous phase has finished) without increasing risk (Belout and Gauvreau, 2004). In conclusion, the main causes of project failure include: poor project sponsorship, undefined requirements and miscommunication. However, the number one cause of project failure is the lack of adoption of a formal project methodology. Without adopting a clear methodology or framework for delivery, most project teams start building deliverables before their scope and objectives are clearly thought through. They have no structured processes for undertaking project tasks, and so they fail to effectively manage time, cost, quality, risks, issues and changes within the project. It is inevitable that such projects suffer from scope creep, milestone delays, poor deliverable quality and a lack of customer satisfaction. So, to avoid project failure: a repeatable project methodology to be used with structured project processes for initiating, planning, executing and closing projects effectively.

A project may still be successful despite the failings of project management because it meets the higher and long-term objectives. At the point when the project management is completed the short-term orientation could be one of failure but the long-term outcome could be a success, because the larger set of objectives are satisfied instead of the narrow subset which constitutes project management. The majority of literature on project management stresses the importance of techniques in achieving project objectives. They stress how successful implementation of techniques contributes to a successful project. Duncan and Gorsha both claim that project management is an important part in project success. Duncan and Gorsha ~, in studying the reasons for project management failure, argued that failure could be avoided by paying careful attention to the project management factors which caused failure. Duncan and Gorsha identified three problem areas which indicate the success of a project.

These are under-costing, overspending and late delivery. It is suggested that project planning is needed to overcome these problems. Lackman has discussed the different tools available to a project manager to achieve success. These include work breakdown structures, client information sheets and project plans, among others. The early development of strategies, philosophies and methodologies of project implementation has been stressed by Kumar as the most important factoring achieving success. He suggested that by gathering sufficient public sector project information and being aware of project considerations and constraints; it is possible to tailor strategies and methodologies which are specific to a certain situation. Such well-defined strategies will assist in providing a satisfying and successful implementation of a project.

They also emphasize that a project can be a success despite a poor project management performance. If, as this argument implies, project management is purely a subset of the project as a whole, then it is suggested that the broader decisions in selecting a suitable project in the first place are more likely to influence the overall success of the project than can be achieved merely through the techniques of project management. The techniques may help to ensure a successful implementation of the project, but if the project is fundamentally flawed from the start, it would be unlikely that techniques alone could salvage it. The techniques may help to identify the unfeasible nature of the project, and indicate that it should be abandoned or changed cases, the project was instigated at the behest of the client, and the financial and other rewards for the client hinge on its successful implementation.

Cooke-Davies (2004b) articulates that both project success and project management success are important to any project. If a project achieves project success without project management success, there is the inevitable conclusion that even greater benefits could have been realized. On the other hand, if

project management success is achieved without project success, then the owner or sponsor has failed to obtain the benefits that the project was designed to achieve (Fortune and White, 2006). As project become the currency for improve med business performance, making project management a core capability of successful organizations in turn becomes paramount. But to demonstrate the true competence, project management success cannot be an occasional event. Performance that is good, on average is not sufficient. Repeatability and relentless improvement must be the standard. Therefore, to understand an organization's project management effectiveness is to determine its project management maturity (PMM). It's significant in a sense that by having a grasp of where a company lies on the spectrum, management can determine its project management strength and weakness (Ibbs et al., 2004).

2.3.3 Project Management Maturity (PMM)

Companies frequently opt to implement standard project management method as given by PMI, APM etc. These companies expect that such an approach can led to better performance (Milosevic and Patanakul, 2005). Recently, the Project Management Institute (PMI) issued a new standard, the Organizational Project Management Maturity Model (OPM3) which suggests the adoption of standard project management methods. The purpose of this standard is to provide a way for organizations to understand their project management practices and to measure the maturity of PM process (PMI, 2003). The concept of maturity was born in Total Quality Management movement, where the application of statistical process control techniques showed that improving the maturity level of any technical process leads to two things: a reduction in the variability inherent in the process, and an improvement in the performance of the process (Cooke-Davies, 2003). Based on this concept Carnegie-Mellon University has developed the Capability Maturity Model to measure organization process maturity. According to this model the organization process maturity advances through five stages. These stages are:

- Level 1: Ad hoc (Chaotic): the starting point for use of a new process
- Level 2: Repeatable: the process is able to be used repeatedly, with rough repeatable outcomes
- Level 3: Defined: the process is defined/confirmed as a standard business process
- Level 4: Managed: the process is managed according to the metrics described in the defined stage
- Level 5: Optimized: process management includes deliberate process optimization or improvement.

In addition to the above discussion on project management maturity the PMI (2003) defined project management maturity as the degree to which an organization practices organizational project management. The two most renowned project management maturity models are OGC's PMMM (Office of Government of Commerce which has produced PRINCE2, Project Management Maturity Model) and OPM3 developed by Project Management Institute (PMI). Integral in measuring the organization project management maturity the organization advances through a series of five stages of maturity. The table below will illustrate the PMMM by OGC's.

2.3.4 Project Attributes

Projects come in all shapes and sizes. (Schwalbe, 2009) spelt out the following attributes in project definition; A project has a unique purpose. Every project should have a well-defined objective. For example, many people hire firms to design and build a new house, but each house, like each person, is unique. A project is temporary. A project has a definite beginning and a definite end. For a home construction project, owners usually have a date in mind when they'd like to move into their new home. A project is developed using progressive elaboration or in an iterative fashion. Projects are often defined broadly when they begin, and as time passes, the project's specific details become clearer. For example, there are many decisions that must be made in planning and building a new house. It works best to draft preliminary plans for owners to approve before more detailed plans are developed. A project requires resources, often from various areas. Resources include people, hardware, software, or other assets. Many different types of people, skill sets, and resources are needed to build a home. A project should have a primary customer or sponsor. Most projects have many interested parties or stakeholders, but someone must take the primary role of sponsorship. The project sponsor usually provides the direction and funding for the project. A project involves uncertainty. Because every project is unique, it is sometimes difficult to define the project's objectives clearly, estimate exactly how long it will take to complete, or

determine how much it will cost. External factors also cause uncertainty, such as a supplier going out of business or a project team member needing unplanned time off. Uncertainty is one of the main reasons project managements is so challenging, because uncertainty invokes risk. Project risk is taken seriously and people pay more attention to predicting risk events so that contingencies and risk mitigation strategies can be planned. Of immense importance is the power of communication made possible by satellites and the Internet, effectively shrinking the world and making it possible to transmit drawings, reports and other documents almost instantaneously to almost anywhere.

2.3.5 Project Constraints

Every project is constrained in different ways. Some project managers focus on scope, time, and cost constraints. These limitations are sometimes referred to in project management as the triple constraint. To create a successful project, project managers must consider scope, time, and cost and balance these three often-competing goals. They must consider the following:

- Scope: What work will be done as part of the project? What unique product, service, or result does the customer or sponsor expect from the project?
- Time: How long should it take to complete the project? What is the project's schedule?
- Cost: What should it cost to complete the project? What is the project's budget? What resources are needed? Other people focus on the quadruple constraint, which adds quality as a fourth constraint.
- Quality: How good does the quality of the products or services need to be? What do we need to do to satisfy the customer?

2.3.6 Complex Project Management

A recent addition in the list of professional organization 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 behavior is emergent and the behavior 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.

2.3.7 Project Management Definitions

According to (Dearstyne, 2012), a project is a temporary endeavor undertaken to create a unique product, service, or result. Kerzner (2015) defined project management practices as a practice which when adopted by firms results in good business value and greater benefit realization for firms and individuals whiles (Badewi, 2016), added that for the success of business projects project management practices is a major requirement. Association for Project Management (APM, 2012) defines project management as "the process by which projects are defined, planned, monitored, controlled and delivered such that the agreed benefits are realized" Project management plays an irreplaceable role within management of each modern private, public and not-for-profit organization. It makes it possible to carry out various activities within the defined range and quality, within the required period and without exceeding the budget or even with better results than expected. According to the Project Management Institute (2004), Project management is the application of knowledge, skills, tools and techniques to project activities to meet project requirements. Project management can be described as a form of implementation that aims to

improve the work in order to achieve high performance (Loo, 2002); it comprises activities or processes that add value to the final product of the project and therefore to the organization where it is implemented. Project management, therefore, can be implemented by means of tools and techniques, which should be tailored to the organization's context.

Tailoring delineates how to adapt processes, tools, and techniques of the organization to every type of project, in order to meet each one's needs (PMI, 2017). As Crawford, Hobbs, and Turner (2005) stated about the project management approach: "there was greater success when procedures were tailored to project type than when a common approach was used". The implementation of tailored project management tools and techniques in organizations is identified by Fernandes, Ward, and Araújo (2014) as one of the 15 key project management improvement initiatives to improve project management practice in organizations. Project management is "the application of knowledge, skills, tools and techniques to project activities to meet the project requirements (Schwalbe, 2009). Project management is the planning, organizing, monitoring and controlling of all aspects of a project and the management and leadership of all involved to achieve the project objectives safely and within agreed criteria for time, cost, scope and performance/quality".

Havranek (2017) also defined project management as "the art and science of planning, organizing, integrating, directing and controlling all committed resources throughout the life of a project to achieve the predetermined objectives of scope, quality, cost and customer satisfaction". Furtherance to this, Kerzner (2003) offered the following definition of project management: "Project management is the planning, organizing, directing and controlling of company resources for a relatively short-term objective that has been established to complete specific goals and objectives". Westland (2006) also defines project management as: "the skills, tools and management processes required to undertake a project successfully". It incorporates: A set of skills: specialist knowledge, skills and experience are required to reduce the level of risk within a project and thereby enhance its likelihood of success. A suite of tools: various types of tools are used by project managers to improve their chances of success. Examples include document templates, registers, planning software, modeling software, audit checklists and review forms. A series of processes: various processes and techniques are required to monitor and control time, cost, quality and scope of projects. Examples include time management, cost management, quality management, change management, risk management and issue management.

2.3.8 Project management Process

Organizations using project management have shown better utilization of resources, shorter development times, reduced costs, interdepartmental cooperation that builds synergies across the organization, and a better focus on results and quality. (Morris, 2007). Each project proceeds through a life cycle (almost typical) from preplanning to post evaluation. During implementation changes and differences are encountered and decisions are bound to be taken so that the project can proceed to completion. Management teams are usually grouped from various disciplines and backgrounds reflecting different attitudes and beliefs imposing distant views and solutions that lead to severe conflicts.

2.4 Project Cycle Management

The idea of a life cycle suggests that a project has a life. This implies a sequence of phases, including birth, growth, maturity, aging and death. The project management life cycle describes the different phases that a project normally passes through as it progresses to a conclusion. It is based on the idea that, although all projects are different, they all progress through similar phases. Each phase completes a stage of the project (Martin, 2006). Project management cycle refers to the stages in a project's development. Project cycle management is important because it demonstrates the logic that governs a project. It also helps in developing plans for carrying out the project. Project Cycle Management (PCM) was introduced by the European Commission in the early 1990's to improve the quality of project design and management and thereby to improve aid effectiveness (ITAD, 1999).

The way in which projects are planned and carried out follows a sequence beginning with an agreed strategy that leads to an idea for a specific action oriented towards achieving a set of objectives which is then formulated, implemented and evaluated with a view to improve the strategy for further action. Project Cycle Management is an approach to managing projects. It determines particular phases

of the project and outlines specific actions and approaches to be taken within these phases. The PCM approach provides for planning and review processes throughout a cycle and allows for multiple project cycles to be supported. Furtherance to this, the project cycle also provides a structure to ensure that stakeholders are consulted and relevant information is available throughout the life of the project, so that decisions can be made at key stages in the life of a project.

3.0 RESEARCH METHODOLOGY

This chapter attempts to explain the way the research was carried out. This include: research approach, research design, population and sample size of the study, sample and sampling techniques, and data collection procedure instrument.

3.1 Research Design

According to Saunders et al. (2009), research methodology is a general plan of how researchers go about answering research question(s). Primary and secondary data were used for the study. A mixed-method technique, thus both quantitative and qualitative techniques was used to collect primary data while books, journals and internet were used to collect secondary data for the study. Combining qualitative and quantitative approaches within the same piece of research enabled the researcher to provide richer detailed analysis. Linking qualitative and quantitative data also ensured the overall effectiveness of the research process as one can enhance the findings of the other. This study adopted a case study strategy to answer the research questions. Case study was adopted because it helped the researcher to conduct empirical investigations into the phenomenon using GWCL as evidence. This helped to gain a rich understanding of purchasing as a major factor in organizations productivity. It was also used because; case study approach has the capability to generate answers to the questions, Why? What? and How?

3.2 Ethical Considerations

The principal researcher formally sought the consent of all respondents and observed all the necessary protocol. A formal letter was sent by the researcher to inform the authorities of the GWCL Takoradi about the researcher's interest to conduct a study in their institution. The researcher ensured that information given by any respondent were treated and confidentially to the extent that no any piece of information was taken out of concealment. The identities of key informants were not disclosed in the report since the research is to appraise what pertains and not to use personal opinions of individuals.

3.3 Research Methods

Quantitative approach was used in this study. According to Enayet and Supinit (2016), this type of research approach requires quantifiable data involving numerical and statistical explanations. They also asserted that quantitative research is used to quantify the problem by way of generating numerical data or data that can be transformed into usable statistics. It is used to quantify attitudes, opinions, behaviours, and other defined variables and generalize results from a larger sample population. Quantitative approach tends to be highly specific describing clear relationships between dependent and independent variables.

3.5 Samples

It was not economically feasible, among other constraints to contact all the people at GWCL, hence a sampling size of Seventy (70) was included in the study. The respondents were Twenty (20) project planning and development, Ten (10) from commercial departments, ten (10) from Water Quality Assurance, five (5) from corporate planning, Ten (10) from Business Development and fifteen (15) from Land and Estates. This sample size was chosen because there is little variation in the target population; hence the outcome from this sample will be representative. This sample was also taken because of the amount of data that needed to be collected. The employees were selected using convenience sampling (haphazard sampling) techniques.

3.6 Questionnaires

A questionnaire is an instrument in written form that has a number of items and administered to several people to collect data for surveys. The researcher employed questionnaires as a data collection

method for the management and other staffs in selected departments. The questionnaires are close ended questions of which Respondents ticked the applicable answer per their view. The close ended questions are important because the researcher had various views with respect to some particular questions. Questionnaire provided an efficient means by which statistically quantifiable information were collected. The responses were arranged in categories, analyzed and presented mainly in a narrative form. However, some quantitative tools used such as percentage and average will also be used in the analysis to establish some relationships.

3.7 Interviews

This is the process where verbal questioning is used as the main technique in data collection. Another instrument adopted by the researcher to gather information about or from an individual usually through oral interaction with that individual. The method will therefore be used to enable the researcher to ask questions that the questionnaires did not cover. Though interview is conducted by most people in various forms, it should be noted that interviews conducted by a researcher should employ empiricism in the data collection exercise.

4.0 DATA ANALYSIS AND RESEARCH RESULTS

4.1 Data and Information Description

This chapter entails the findings and analysis of data collected based on the questionnaires distributed and conducted with top management of project planning and development, commercial departments, Water Quality Assurance, Corporate planning, Business Development, and Land and Estates. Seventy (70) questionnaires were distributed and all were returned and analyzed. Data is presented in simple tables, and the corresponding responses converted into percentages.

4.2 Analysis of the Questionnaires

Table 5.1: Questionnaire Return Rate

Responses	Number issued	Number collected	Returned Rate
Project Planning & Dev't	20	20	20
Commercial Dep't	10	10	10
Water Quality Assurance	5	5	5
Corporate Planning	5	5	5
Business Development	10	10	10
Land and Estates	15	15	15
Total	70	70	70

Source: Author's field survey, February 2021

The results from Table 5.1 show a high number of questionnaires return rate. Respondents participated well in the study which provided (100%) of project planning and development, commercial departments, Water Quality Assurance, Corporate planning, Business Development, and Land and Estates department. This was taken as a good response for analysis of the variables under study. According to Mugenda & Mugenda (1999) the return rate is high enough to provide the required information.

3.3 Demographic Characteristics of Respondents

This Section shows the background of respondents that participated in the research topic. Key variables considered were gender, age, academic level, department and working experience of respondents.

3.3.1 Gender of Respondents

This section deals with gender of the respondents.

Table 5.2: Gender of Respondents

	Gender	Frequency	Percent
Valid	Male	45	64.3
	Female	25	35.7
	Total	70	100.0

Source: Author's field survey, February 2021

Table 5.2 shows the gender of respondents. It came out that, majority of the respondents representing 64.3% were male while few of them representing 35.7% were female. This means that, majority of the workers at Ghana Water Company were male. Despite this, the study involved both male and female.

3.3.2 Age of Respondents

This section deals with the age of the respondents. The result is shown in Table 5.3 below.

Table 5.3: Age of Respondents

	Frequency	Percent
16-30 years	25	35.71
31-45 years	34	48.57
46-60 years	11	15.71
Total	70	100.0

Source: Author's field survey, February 2021

From Table 5.3 above, 25(35.71%) of the respondents had ages between 16-30 years while 34(48.57%) of the respondents had ages between 31-45 years. 11(15.71%) of the respondents had ages between 46-60 years. This shows that most of the staff involved in the management of the organization are matured in age and all other things being equal are better placed to take decisions that positively affect the goal congruence of the project management practices in Ghana Water Company

3.3.3 Level of Education of Respondents

One other factor which was considered under the bio data of respondents was academic / professional qualification of respondents which are deemed necessary in determining the competence of the staff of the institution. The results are shown in Table 5.4 below.

Table 4: Level of Education of Respondent.

Level Of Education	Frequency	Percent
Ordinary Diploma	5	7.14
HND	31	44.29
First Degree	16	22.86
Master's Degree	11	15.71
Professional Qualification	7	10
Total	70	100.0

Source: Author's field survey, February 2021

Table 5.4 above shows that 16(22.86) % of the respondents had first degree. These included Bachelors of Education, Arts, Science, and Administration among others. Again, 5(7.14%) and 31(44.29%) of the respondents in the organization had ordinary diploma and HND respectively. Finally, 11(15.71%) and 7(10%) of the respondents had Masters and other professional Qualifications (IPMP, ICM-UK etc.) respectively. This denotes that all the respondents have attained a level of academic qualification which would help the study attain its objectives.

3.3.4 Department of Respondents

This section deals with the various departments of the respondents where the research was undertaken. This reveals the extent to which the respondents understood the subject under study.

Table 5.5: Which department are you?

	Frequency	Percent	Valid Percent
Planning and Development	20	28.6	28.6
Commercial	16	22.9	22.9
Water Quality Assurance	11	15.7	15.7
Corporate Planning	10	14.3	14.3
Land and Estates	5	7.1	7.1
Business Development	8	11.4	11.4
Total	70	100.0	100.0

Source: Author's field survey, February 2021

Table 5.5 shows some departments within the Ghana Water Company where the research was conducted. It is observed that out of 100%, 28.6% were from the Planning and Development, 22.9% were from the Commercial Department, 15.7% were from the Water Quality Assurance, 14.3% from the Corporate Planning Department, 7.1% were from Land and Estates whilst 11.4% of the respondents were in the Business Development department. The research was however conducted within these departments.

3.3.5 Length of Service

In talking about working experience, one cannot discount the length of service one spends on the job. It was therefore imperative to capture the length of time respondents had spent with the assembly at the time of data collection. Responses given by respondents are presented in Table 5.6.

Table 5.6: Length of Service

	Frequency	Percent
Less than 5 years	28	40.0
5-10 years	28	40.0
More than 10 years	14	20.0
Total	70	100.0

Source: Author's field Survey, February 2021

Table 5.6 shows that 28(40%) of the respondents had worked with the assembly for less than 5 years. This is coupled with the remaining 42 (60) % of respondents who had worked with the institution for more than five years. This finding connotes that majority of the assembly's staff had stayed and worked with it for a reasonable length of time. The implication is also that, there is consistency in thought in so far as implementation of decisions of the institution is concerned.

4.4 Conclusion from the Questionnaires

The response from the respondent was very good and this helped the study in achieving its goals.

3.4.1 Examine project management practices in Ghana Water Company, Takoradi

The study sought out to know if the organization had a project management unit. The results are shown in the table below

Table 5.7: Do you have a project management unit?

	Frequency	Percent	Valid Percent
Valid Yes	70	100.0	100.0

Source: Author's field Survey, February 2021

From Table 5.7 above, all respondents indicated that the institution had a project management unit.

Even though the institution had a project management unit, the study sought to inquire about how long the unit has been in existence. The responses are shown in Table 5.8 below.

Table 5.8: How long has the Project Management unit been in existence?

	Frequency	Percent
Valid Less than 5 years	2	2.9
Valid 5-10 years	6	8.6
Valid More than 10 years	62	88.6
Total	70	100.0

Source: Author's field Survey, February 2021

From the table above, 2(2.9%) of the respondent indicated that the unit had been in existence for less than 5 years while 6(8.6%) of the respondents indicated the unit has been in existence between 5-10years while 62(88.6%) representing the majority indicated that the unit had been in existence for more than 10years. This implies that the unit has been in existence for more than 10years. The study sought to know about how often the project management unit meet on issues relating to project for the institution, the result is shown in table 5.9 below.

Table 5.9: How often the project management units meet?

	N	Minimum	Maximum	Mean	Std. Deviation
Daily	70	1	4	2.11	1.057
Weekly	70	1	5	2.20	.942
Bi- Weekly	70	1	5	2.26	.695
Monthly	70	2	5	3.70	1.289
Quarterly	70	3	5	4.34	.796
Biannual	70	1	5	4.01	1.136
Yearly	70	1	5	4.41	.843
Valid N (listwise)	70				

Source: Author's field Survey, February 2021

The Table 5.9 above shows the how often the project management unit meet in GWCL. From the table, it can be seen that Daily, Weekly and Biweekly had a mean of less than 2.5 which implies that the respondent disagreed that the unit don't meet as such but upon deliberations, respondents said that the unit meet on such only when there are emergencies. Monthly(Mean=3.70), Quarterly (Mean=4.34), Biannual (Mean=4.01) and a Yearly(Mean=4.41) were confirmed as the meeting times of the project management unit with its respective standard deviation value of 1.289,.796,1.136 and 0.843 which are all less than 1.5. This shows a less dispersion of opinions of respondents. This means that, the mean values can be depended upon. It can therefore be concluded that, the project management unit meet often on monthly, quarterly, Biannual and Yearly basis. The study wanted to know if by chance the project management unit did works on private works. The responses are shown in Table 5.10 below.

Table 5.10: How many of your projects were private projects?

	Frequency	Percent
Valid all were Government projects	70	100.0

Source: Author's field Survey, February 2021

All the respondents indicated that all projects done by the units are strictly government projects. In as much as projects were done strictly for government the study sought to know the duration it takes for funds to be released for the project commencements after all the project management protocols had been duly dealt with from their unit. The responses are shown in Table 5.11 below.

Table 5.11: Project Funds Release Duration

	N	Minimum	Maximum	Mean	Std. Deviation
Daily	70	1	4	2.11	1.057
Weekly	70	1	5	2.20	.942
Bi- Weekly	70	1	5	2.26	.695
Monthly	70	2	5	3.70	1.289
Quarterly	70	3	5	4.34	.796
Biannual	70	1	5	4.01	1.136
Yearly	70	1	5	4.41	.843
Valid N (listwise)	70				

Source: Author's field Survey, February 2021

From Table 5.11 above it can be seen that respondents agreed that funds for project are released mostly on quarterly, biannually or Yearly basis. That notwithstanding when critical issues popups up funds are released within that onto to curb it.

4.4.2 Project Management practices adopted in Ghana Water Company

Project management involves using specific processes, knowledge, skills and techniques to meet project goals and deliverables successfully. It helps to drive, guide, and execute company-identified value-added goals by applying processes and methodologies to plan, initiate, execute, monitor, and close all activities related to a given business project in alignment with the organization's overall strategic objectives.

Table 12: Project management practices adopted in Ghana Water Company

	N	Minimum	Maximum	Mean	Std. Deviation
Total Quality Management	70	2	5	4.46	.846
Managing New Technologies	70	2	5	4.43	.926
Training and development	70	2	5	4.36	.869
Environmental, Health and Safety Attributes	70	2	5	4.31	.910
Realistic Cost and Time Estimation	70	2	5	4.24	.955
Effective Planning and Controlling	70	2	5	4.43	.844
Valid N (list wise)	70				

Source: Author's field Survey, February 2021

Table 5.12 shows that, a calculated mean score of 4.46 which is close to 5 on the Likert scale confirms Total Quality management as a project management practice adopted by GWCL with its standard deviation value of 0.8 which shows a less dispersion of responses. Managing New Technologies (Mean=4.43), Training and Development (Mean=4.36), Environmental Health and Safety Attributes (Mean=4.31), Realistic Cost and Time Estimation (Mean=4.24), Effective Planning and Controlling (Mean=4.43) on the Likert Scale means agree and their standard deviation value of less than 1.5 confirming a low dispersion which means that, the mean value can be depended upon. It can therefore be concluded that, Total Quality Management, Managing New Technologies, Training and development, Environmental Health and Safety Attributes, Realistic Cost and Time Estimation and Effective Planning and Controlling are the Project Management practices adopted by the Ghana Water Company, Takoradi.

4.4.3 Factors affecting compliance with the project management practices adopted in the Ghana Water Company

In as much the institution have adopted some project management practices for GWCL, the study sought to look at the factors affecting the institutions compliance on the adopted practices. The responses are shown in Table 5.13 below. Table 13: Factors affecting compliance with the project management practices adopted in the Ghana Water Company

	N	Minimum	Maximum	Mean	Std. Deviation
Financial Factors	70	3	5	4.61	.572
Managerial Factors	70	1	5	3.99	1.083
Technological Factors	70	1	5	4.19	1.011
Trained Staff	70	3	5	4.50	.676
Socio-Cultural Factors	70	3	5	4.66	.587
Political Factors	70	1	5	4.13	.992
Valid N (listwise)	70				

Source: Author's field Survey, February 2021

From Table 5.13, it came out that, a calculated mean score of 3.99, 4.19, 4.13 which is close to 4 (denoting Agree) on the Likert scale and a standard deviation value of 1.083, 1.01 and .99 respectively which shows a less dispersion of opinions confirms that Managerial Factors, Technological factors and Political Factors are the factors affecting the compliance of the institution to project management practices. Moreover, a calculated mean score of 4.61, 4.50 and 4.66 which is close to 5 (denoting strongly Agree) on the Likert scale, and its standard deviation values of .572, .676 and .587 respectively shows that, financial factors, Trained staff and socio-cultural factors are the factors affecting the compliance of the institution to project management practices.

5.0 CONCLUSION

The purpose of the study was to examine the project management practices at Ghana Water Company Ltd, Nsawam. This chapter is mostly concerned about the summary, conclusion, and recommendations of the study that will be of great benefit to the Ghana Water Company in the evaluation of the of efficient project management practices on the corporate performance of public institutions.

5.1 Findings and Discoveries

This section repeats in less detail the major findings of the study. It was discovered during the study in relation to the question as to how can the project management practices be examined? What project management practices are adopted in the public sector organization and factors that affect compliance with the project management practices adopted in the public sector organization?

5.1.1 Examine project management practices in Ghana Water Company, Takoradi

The study revealed that the institution has a project management unit and the unit has been in existence for more than 10 years and all projects are government based. The project management unit meet often meet on monthly, quarterly, Biannual and Yearly basis.

5.1.2 Project management practices adopted in Ghana Water Company, Takoradi

The study has also revealed that the institution had adopted project management strategies such as; total quality management, managing new technologies, training and development, environmental, health and safety attributes, realistic cost and time estimation, and effective planning and controlling strategies.

5.1.3 Factors affecting Compliance with Project Management practices

The study revealed that some factors affected the institutions compliance with the project management practices. These include; financial factors, managerial factors, technological factors, trained staff, social cultural factors and political factors

5.2 Limitation to the Study

The study undertaken by the researcher faced with some challenges. Firstly, the process of gaining information and authority to administer questionnaires to the case study for GWCL, Nsawam was very bureaucratic, and thus prevented the researcher from getting adequate information for the data analysis. As an alternative however, the researcher relied on close friends as employees of the case study to administer the questionnaires.

Secondly, the selection of top management of Central Administration, staff of Finance office, planning and development, project planning, and Water works does not fully represent the entire views of the entities in the country and collecting data from all the Public institutions was not feasible because of time and other resources.

Notwithstanding these challenges, the validity and reliability of the study were not be compromised.

5.3 Recommendations

On the basis of the findings and conclusions drawn on the study, the researcher has the following recommendations to make as a measure to streamline the project management practices. The recommendations may be applicable in some instances and some may not be applicable. Where applicable, conscious effort should be made to effect changes; The Project unit should continue to educate all key actors in professional conduct of their activities. The authorities should adopt effective criteria to give their employees a technical know-how of the project management practices through workshops etc. The authorities should ensure that negative interference from mainly political and other top management of the institution are minimized or even avoided. The Researcher also recommends that frequent inspections ought to be done on water projects performances by the Project facilitators to address challenges facing the community on matters pertaining to the performance and sustainability. Finally, Authorities of should investigate cases of alleged malpractices and non-compliance in the project management practice for efficiency and effectiveness.

5.4 Conclusions

Based on the findings of the study a conclusion of the study is drawn. Despite the presumed efficiency in project management practices, the study concludes that there are some weaknesses in the project management practices in the institution but can minimized through transparency and accountability.

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