

**INFLUENCE OF ORGANIZATIONAL PROJECT
MATURITY PRACTICES ON PERFORMANCE OF STATE
CORPORATIONS. A CASE OF SOUTH NYANZA SUGAR
COMPANY LIMITED**

BY

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DECLARATION

This research project is my original work and has never been presented for the award of any degree in any other university.

.....Date.....

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This Research Project Report has been presented for examination with my approval as the University Supervisor.

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DEDICATION

This research project report is dedicated to the following persons who have assisted and support me in this undertaking; my wife Mrs. Roselyn A. Otieno for her forbearance, patience, moral, material and financial support in undertaking this course, father and mother Mr. and Mrs. J. O. Adera respectively for enabling my early education.

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ABBREVIATIONS AND ACRONYMS

COMESA:	Common Market for Eastern and Southern African States
GoK:	Government of Kenya
KSB:	Kenya Sugar Board
Ksh:	Kenya Shillings
LAPSET:	Lamu Port Southern Sudan and Ethiopia Transport Corridor project.
IT:	Information technology
MDG:	Millennium Development Goals
OECD/FAO:	Organization for Economic Cooperation and Development and Food and Agricultural Organization
PC:	Performance Contract
PwC:	PricewaterhouseCoopers
PMBOK:	Project Management Body of Knowledge
SNSC:	South Nyanza Sugar Company Limited (Sonysugar)
UK:	United Kingdom
UN:	United Nations
UNDP:	United Nations Development Program
UNEP:	United Nations Environment Program
UON:	University of Nairobi
USA:	United States of America
V2030:	Kenya Vision 2030
WTO:	World Trade Organization

ABSTRACT

Project performance in the public sector in Kenya poses a significant challenge despite increasing allocation of funds for development programs and projects. The local sugar sector continues to attract interest in light of its inability to realize its full potential and attain regional competitiveness. The study aimed at investigating the existence and influence of organizational project maturity practices on the performance of South Nyanza Sugar Company Limited in light of its historic weak business results strategy deployment. The objective of the study was to assess the role, extent and influence of project factors and practices in the knowledge areas of communication, risk, human resource, quality and procurement management practices on project results and organizational performance. The study conceptually defined organizational project maturity practices along various dimensions. The independent variables included the project communication, risk, quality, procurement and human resource management whilst the dependent variables were project scope, cost and time performance. The study is significant in that it examines new approaches for improving the management of projects in the public sector, offers an alternative but effective framework for management of opportunities for diversification of product base within the Kenyan sugar industry and provides options for improved Sugar sector project performance and enhanced global competitiveness. The study will spur further research interest in other aspects of an sponsor organization that impact project performance and help resolve the vexing question of poor utilization of development funds by governments and government agencies through effective project and program implementation. The study was a descriptive research that targeted all the employees of South Nyanza Sugar Company Limited in the job grades between Supervisors and Executive management who regularly interact with project work. A sample size of 196 was adopted using the Krejcie & Morgan table. A sampling frame was used to randomly select the sample of respondents who were segregated through a stratification framework to assure representation of the different job cadres within the population in the study sample. A self-administered questionnaire was sent to the respondents and structured interviews and document examination was also conducted. Content reliability of the research questionnaire was tested using a test - retest method alongside an acceptance criterion. 10% of the population was used in piloting the questionnaire. Expert advice from the researcher's supervisor and South Nyanza Sugar Company Limited functional managers acting as subject matter experts was used to validate the research tools. Information from empirical studies and reference texts in the nine knowledge areas in project management maturity and piloting of the questionnaire was used to improve the content of the data collection tools. A response rate of 61.73 % was achieved. Data collected was analyzed using descriptive statistics. The study findings indicate all respondents had above 'O' level education, majority had served the company for 5 years and above, were male and were above the 35 year age bracket. The major research findings were that significant relationship existed between project performance in the areas of scope, time and cost and the prevalence of use of the organizational project management maturity practices of communication, risk, quality, procurement, human resource management. The findings indicated that the most prevalent practice was in procurement management compared to communication, risk, quality, human resource management all of which had low index for prevalence. The researcher recommends improvement in the maturity practices of project communication, risk, quality, procurement and human resource through benchmarking and development of effective metrics for tracking performance in each element of maturity to consistently improve project performance.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Project management maturity is a concept used in an organizational context to describe the level of project management capability within an organization. The concept of Maturity derives from the root word 'mature' which equates to becoming fully grown and developed. The Oxford Advanced Learner's Dictionary describes maturity as a state of having reached full growth or maximum development through becoming better at a particular skill and quality. According to Cooke and Tate (2011), an organizations project management maturity is an indicator of the extent to which it possesses capability to continuously accomplish what it sets out to undertake to the level and quality it intended or it desired through the use and practice of appropriate project management methodology. Andersen & Jessen (2003) suggested that the state of organizational project maturity ascribes a meaning that equates an organization to a state of being perfectly conditioned to undertake implementation of its projects and deal with attendant challenges as it strives to achieve the intended goals and objectives for which the project was being implemented. Organizational project management maturity is thus a benchmark for assessing project management capability of an implementing organization.

The significance of creating benchmarks for project management capability is best understood in the context of the increasing preference and use of project management approaches and techniques in the delivery of projects and programs in both public and private sectors globally (PwC., 2007; Burke 2003). The key features and attributes of project management maturity practices include the presence and use of standard methods to

manage the knowledge areas of scope, time, cost, quality, communication, human resources, procurement and integration (PwC., 2007; Burke, 2003; Cooke & Tate, 2011; Ibbs & Kwak, 2000). Burke (2003), citing PMBOK (2000), stated that the project components of scope, time, cost and quality are core elements that determine the deliverable aspects of a project whilst the rest of the elements provide a means of achieving the deliverable objectives. These latter elements include communication, risk, human resources, procurement and integration management. The concept of maturity models is widely used in the discipline of project management, its main attraction being its capacity to compel organizations to continuously rethink and transform the way they manage project actions and activities using established best practice as benchmarks for comparing own practices with the best in class or the competition (Pennypacker & Grant, 2003).

The global context and situation regarding organizational project management maturity practices was illustrated in the global survey conducted by PricewaterhouseCoopers in which organizations were assessed on the state of project management maturity (PwC, 2007). The key finding in the survey was the discovery of a clear link between higher project maturity levels and high project performance. The report was the second such survey following on a similar survey conducted in 2004. The 2004 study was prompted by the global consulting experience of PwC and their regular interaction with multiple project frameworks within different client organizations from which they noted that significant differences existed across organizations in project performance with some delivering successful projects (within scope, on time and within budget) consistently better than others (PwC 2004). The 2007 PwC survey, as a follow up study, laid focus on identification of leading project management practices, trends and their implication on organizational performance. The study also set out to determine reasons for project failure. The two studies concluded that global organizations were increasingly leveraging project

management as a method to achieve critical business objectives and as such project management practices were becoming vital to corporate success. The surveys covered all major sectors of the global economy from which organizations were sampled for the study. The regions covered in the study included Africa, Asia, Australia, Europe, North America and South America. The African sample of respondents, that made 13% of the total sample pool, was drawn from South Africa. Some specific findings in the study findings were that project performance was directly linked to project management practices, staff development programs had the greatest impact on project performance, project management certification had a linkage to high performing projects, use of project management methodology was wide spread in the sample and up scaled the likelihood of high project performance, a positive correlation existed between project performance, use of project management software and project management office.

Software projects generally have a high failure rate. A survey by Dorsey (2000), citing the CHAOS report of the Standish group, revealed that one in every three IT project failed (Dorsey, 2000). The failed projects were not delivered on time within budget and according to specification. Belzer (2004) observed that in developed economies of the UK and USA, a noticeable decline in failed IT projects had been witnessed in recent years. A similar trend in decline in IT project failure rate in the USA was reported in the CHAOS report of 2002 by the Standish group (CHAOS, 2002). The report attributed the decline to a finding that soft skills in project management, that rarely received needed attention in a project environment, were equally as important as hard skills. Most project management methodologies extensively covered the hard skills during their evolution in which time research efforts were largely geared towards refining the knowledge and skills in hard aspects of management of projects. The more developed economies had examined the soft skills in project management that rarely received needed attention in a project environment.

The developed nations had consciously incorporated the soft skills in their training for project competency thus making for maturity in their project practices which translated into better performance.

The CHAOS (2002) study reported a higher failure rate in IT projects in developing economies of Africa. A survey by Sonnekus & Labuschagne (2004) reported a 22% IT project failure rate in South Africa which rate mirrored the USA levels of the year 2000. A similar survey in Mauritius recorded a 50% failure rate for software projects in which extended timelines, cost overruns and quality problems with respect to project scope achievement were predominant (Sonnekus & Labuschagne, 2004).

Assessment of project activity across various African countries in the SADC region revealed a litany of project failures in both public and private sectors (Rwelamila & Asalan, 2010). Whereas a host of causes were identified as key factors behind poor project performance, the dimensions which represented bad practices in project management could best be addressed through a better and improved understanding of good project management characteristics and project management best practice. According to Rwalemila & Asalan (2010), the realization of project management best practice in Africa would only commence from a process that resulted from a resolution of the challenges that define the character and nature of project failures on the continent.

A study in Ghana reported that time delays and cost overruns were prevalent features of projects assessed in the study over a period of 20 years. The findings of the Ghanaian study indicated that out of 47 projects undertaken, over 30 projects overshot the timelines and budgets representing over 60% of all projects (Frimpong et al, 2003).

Gituro & Kagiri, (2008) in a study on performance of power projects in the Kenyan power sector, with a focus on Kenya Power Generating Company (KENGEN); a utility

company, revealed that power projects frequently overshot their timelines and budgets by significant levels ranging up to 50% and 29% respectively.

As projects increased in scale and complexity, as is the case of modern day projects, the physical and financial resource requirements increased commensurately thus escalating the social implications and financial risk related to projects failing to achieve their intended goals. Potential for project failure placed a great demand on institutions and organizations undertaking such projects of strategic importance and their project management professionals to apply appropriate and effective project techniques and practices in project management to diminish the risks (Cooke & Tate, 2011). Indeed, Graham and Englund (2004) observed that empirical evidence was abundant on the direct linkage between successful development of projects and their use as the principal way of implementing growth strategies for both public and private sector organizations and also for implementing change. Many other researchers and writers, Cooke and Tate (2011), Burke (2003), Gareis (2000), all asserted that many organizations and government agencies were increasingly turning to management by projects to deliver their strategies and long term objectives. Organizations and nation states were increasingly resorting to use of project approaches to achieve their strategic objectives both in the long and short term. Projects as defined by Cooke and Tate (2011) are effective frameworks for mastering and delivering organizational goals and requisite change necessary for adapting to a rapidly changing external environment brought about by globalization. According to Cooke and Tate (2011), the likelihood of use of a project model was enhanced when an organization stood to gain or lose significantly by not doing so. This contention was reinforced by the specific character attributes that distinguish and qualify project management as better suited to deliver in a high risk environment possessing significant constraints of time, quality and cost than other forms of management such as operations or general management. The

definition of a project introduced a premise that a standard framework existed for performing all tasks that constituted project work and activities. The second premise conferred by the definition of a project was the context of a project as a temporary organizational form, that was unique to itself and which imposed a definite lifecycle through which delivery of all its goals and objectives was undertaken. The implication of a project being a temporary organization imposed a viewpoint that the internal clients and stakeholders in a project organization generally belonged to an umbrella 'parent' organization under which the project was undertaken. The form, structure and management practices within the 'umbrella' or project sponsoring organization to which a project was domiciled impacted on the project in multiple ways. These premises inherent in the definition of a project and the implications thereof are critical considerations in making choices on use of project approaches in implementing strategies.

Competitiveness in the global sugar industry is characterized by the highly efficient and diversified sugar milling companies in the regions of North and South America, Asia and Australia. In Africa, South Africa ranks among the global best producers from a technological and cost competitiveness perspective (OECD-FAO., 2011). In a regional context, the COMESA region comprising some Eastern and Southern African countries of which Kenya is a member features Mauritius, Egypt, Malawi, Zambia, Swaziland, South Africa and Sudan as its most efficient sugar producers. The Kenyan sugar industry does not feature among the top seven efficient producers in Africa thus hampering the local industries prospects for growth. The Kenyan millers are exposed to competition from more efficient regional producers due to liberalized trading in the COMESA free trade area. The Kenyan Sugar Industry Strategic Plan for 2010 -2014 envisages a World Class Multi Product Sugarcane Industry through creation of an efficient, diversified and globally competitive industry (KSB, 2010; COMESA, 2012). Various studies and reports reveal that

the attainment of the goal of global competitiveness by the Kenyan sugar industry presented a serious challenge as was evident from the status of the local sugar industry and its performance (Boss, 2012; KSB, 2010, Republic of Kenya, 2009; Kegode, 2005; Ojera, 2001). A review of the Kenyan Sugar Industry Strategic Plan 2004 – 2009 revealed that the competitiveness and diversification goals were never attained (KSB, 2004)

A state corporation is a corporation created by a government in which it invests a significant equity stake to partake in offering services and goods on its behalf to its citizens. Several state corporations were formed by the government of Kenya soon after independence to meet both commercial and social goals in various regions of the country and sectors of the economy (Njiru, 2008; Republic of Kenya, 1964). South Nyanza Sugar Company (Sonysugar) is one such state corporation that was set up in 1976 for the purpose of helping achieve sugar import substitution and self-sufficiency, promote cash crop economy in the greater southern part of Kenya, and facilitate full land utilization and job creation. The company fulfills its vision and mandate through successive five years strategic plans. A review of the company strategic plans and performance for the past 5 years indicated the Company did not fully achieve its key strategies and projects (Table 4.68). The performance results realized by Sonysugar in period of the study underscored the need for the company to re-examine its project management delivery practices and approaches to address the causes of consistent underperformance in projects. Indeed the situation of poor project performance was not unique to Sonysugar and was prevalent in other public corporations and government ministries/agencies as was revealed in the report by GoK task force on development of Sector Performance Standards for 2009-2030 (Republic of Kenya, 2010). The Sonysugar organizational constraints in project performance and delivery were significant in light of the looming COMESA regional competitiveness challenge and anticipated adverse consequences besides anticipated

negative impacts on livelihoods of many Kenyans who depended on the local sugar industry in the event of collapse due to regional competitiveness pressures (KSB, 2010).

The objective of the proposed study was to investigate the influence of organizational project maturity practices on performance of South Nyanza Sugar Company Limited. The study would provide information to inform actions and decisions by state corporations especially in the sugar sector that were necessary to improve the project management environment and overall project performance. Improvements in project performance would help the local sugar industry achieve the anticipated growth and development in line with the stated mission and vision and further make a significant contribution to the achievement of the national development goals set out in Kenya vision 2030 strategy (Republic of Kenya, 2008). The study was driven by concern about historic underperformance of state corporations in the sugar subsector and the public sector agencies in general within Kenya (Ojera, 2001; KSB, 2010; Republic of Kenya, 2009; Njiru, 2008; Anyanzwa, 2009) .

1.2 Statement of the Problem

Table 4.68 depicts a six year performance record for Sonysugar in the key indicators of project performance as measured by development index and other performance assessment criteria. This framework of reporting performance was also used by the company in reporting its annual performance under GoK guidelines for performance contracting by government agencies and corporations (Republic of Kenya, 2010). The data indicated consistent under achievement by Sonysugar in implementing its strategic plans and achieving its strategic goals through undertaking planned capital projects. The performance results were not unique to Sonysugar and were similar to other public sugar mills (KSB, 2010). The debt portfolio of the state owned sugar milling companies stood at over Kshs.40 billion as at June 2012, illustrated the magnitude of the performance problem in

the local sugar sector (Anyanzwa, 2009). The developmental problems in the public sector and the local sugar industry ranged from chronic high poverty levels in the sugarcane growing regions in Kenya, level of unpreparedness of the Kenyan sugar industry for planned 2014 expiry of COMESA import safeguards that offered protection to the local industry from competing with imported sugar, the chronic underperformance of the public sector in implementing national and institutional development programs, inability of sugar companies to realize full potential in power co-generation despite national power illustrates the need and urgency for action (KSB, 2010; Fayo, 2012; Anyanzwa, 2009).

The failure of the public owned sugar corporations to deliver on their mandate was largely due to their inability to translate their mid and long term strategic plans into viable implementable projects to drive corporate competitiveness, growth and development. The strategic goals would best be delivered through development of project management capabilities and the use of proven and effective project management techniques and practices. This study was necessitated by the need to investigate the organizational project management practices in state corporations in Kenya and their influence on organizational project performance and successes besides the implications on achievement of strategic plans. The study assessed constraints and challenges in project management in Sonysugar against established organizational project maturity practices. The study examined the effectiveness in implementation of Sonysugar strategic plans and its capital project. The researcher's interest in the study was induced by the prevalent situation of chronic underperformance in the area of utilization of development funds by GoK and project implementation challenges within Sonysugar as depicted in table 4.68 (Opiyo and Ndegwa, 2012).

1.3 Purpose of the Study

The purpose of the study was to investigate the influence of organizational project maturity practices on performance of South Nyanza Sugar Company Limited.

1.4 Objectives of the Study

This study sought to achieve the following objectives:

1. To establish the extent to which project communication management practices influenced project performance in Sonysugar.
2. To examine the extent to which project risk management practices influence project performance in Sonysugar.
3. To assess the influence of project quality management practices on project performance in Sonysugar.
4. To determine the extent to which project procurement management practices influenced project performance in Sonysugar.
5. To determine the extent to which project human resource management practices influenced project performance in Sonysugar.

1.5 Research Questions

The proposed study sought to answer the following questions

1. To what extent does project communication management practices influence project performance in Sonysugar.
2. To what extent does project risk management practices in Sonysugar influence project performance in Sonysugar.
3. To what extent does project risk management practices in Sonysugar influence project performance in Sonysugar.

4. To what extent does project human resource management practices in Sonysugar influence project performance in Sonysugar.

1.6 Significance of the study

The researcher hoped to highlight and contribute information on potential new approaches for improving the management of projects and implementing organizational change in the sugar industry and public sector in Kenya in light of historic challenges. More specifically, this study would help the sugar sector agencies and Sonysugar in particular focus on specific actions, desired attributes and requirements necessary to improve the organizational environment that favorably impact project management outcomes and spur further research interest in aspect of an organization that influence project management maturity not covered in the study. The Kenyan sugar industry is a major employer and contributor to the national economy (KSB, 2010). The industry according to Kenya Sugar Board (2010) supports over 250,000 small scale farmers and an estimated six million Kenyans derived livelihood directly or indirectly from the industry. The industry saved foreign exchange and contributed significantly to tax revenue for GoK. Within the sugar belt, the industry made significant contribution to infrastructure (roads, bridges, and drains), social amenities (education, health, sports and recreation) and urban development (Sugar towns- Awendo, Chemelil, Muhoroni, Mumias).

On a wider scale, the study findings would make a contribution to the body of knowledge in Project management practice within Kenya and in GoK agencies. The provision of an effective project management framework for management of new opportunities and challenges that could potentially arise from the unique opportunities presented by recent discovery of Coal and Oil in Kitui and Turkana districts respectively and the Kenya vision 2030 programs/goals was extremely important in light of historical factors (Republic of Kenya 2008).

The study was expected to further provide scope for improved definition of project management best practice in systems, structures and processes in an organizational context and through benchmarking, provide insight into organizational factors unique to public sector organizations that uniquely affected project performance. The study would further create awareness on areas of project environment needing urgent attention.

1.7 Limitation of Study

The limitations included limited project documentation in some respects arising from poor document storage and traceability, thereby limiting access to some information on historical events, perceptions that the study was a fault finding exercise hence poor respondent response rate and inaccurate response arising from suspicion and or lack of understanding query contained in the questionnaire. Costs related to accessing literature and reference materials and also development and production of data collection instruments, as well as expenditure in other related activities exerted a constrain on the study.

The remedies for the limitations included preparation of a detailed and comprehensive inventory of available projects documents and its use as a checklist for document solicitation, enlisting support of workplace colleagues in creating an understanding on the objectives of the study as well as use of a transmittal letter to respondents disclosing the purpose of the study as purely academic and conveying a commitment to confidentiality between the researcher and the respondents. The cost related limitation was mitigated through a trade-off on the sample size in such a manner that it was not too large to impose a constraint on the available resources and not too small to lack representativeness for the target population.

1.8 Basic assumptions of the study

The study presumed that within Sonysugar there existed a project management organization and the company linked its strategic and capital development plans to a project management framework. The other assumption of the study was that the respondents would be willing to give information honestly and objectively, the sample drawn would be representative of the target population in all key characteristics and that the data collection instruments would be valid and reliable in measuring the intended outcome.

1.9 Delimitations of the study

The study was confined to South Nyanza Sugar Company Limited; a state corporation located in Awendo District in Migori County within the republic of Kenya. The study sought to investigate the influence of organizational project maturity practices on project performance in state corporations. The population comprised all supervisory and management personnel within Sonysugar who interface with and were routinely involved in project management activity. The population was stratified along hierarchical job grades that reflected seniority within the corporate organizational hierarchy and which defined the responsibility and decision making authority levels of the personnel in the study. The study took cognizance of hierarchy.

1.10: Definitions of Significant terms used in the study

Organizational Project Management Maturity: Concept that describes the degree or extent of an organization's capability in use of project or program approach or methodology in implementation of its strategies

Project Performance: The notion of a project meeting the needs and expectations of its stakeholders in the area of scope, cost and timelines and its processes adhering to standard methods

Program: A group of related projects managed in a coordinated manner to obtain benefits and control not available from managing them individually.

Project: A temporary endeavor undertaken to create a unique product or service or result.

Project Communication Management: The knowledge area in project management that employs the processes required for the distribution, storage, retrieval and ultimate disposition of project information

Project Human resource Management: The knowledge area in project management that employs the processes required for effective management of human resources

Project Management: Technique for managing projects using specific knowledge, skills, tools and techniques in the tasks to meet the requirements of scope, quality, time and cost

Project Quality Management: The knowledge area in project management that assures that the needs for which the project is being undertaken is built into the approach, standard processes, metrics, definitions, plan details and guides implementation action

Project Scope Management: The knowledge area in project management that ensures that the project includes all the work required, excluding all else to complete the project successfully.

Project Risk Management: The knowledge area in project management that ensures that the project risk are identified, quantified, monitored and actions for mitigation are carried out successfully.

Project Cost Management: The knowledge area in project management that ensures that the project funding requirements, cash flow and financial records are managed effectively to ensure successful completion within budget

Project Time Management: The knowledge area in project management that ensures that the project schedules are prepared accurately and implemented in a timely manner within planned targets

Project Procurement Management: The knowledge area in project management that includes all the processes required to acquire goods and services from outside the organization undertaking the project to attain the project scope

State Corporation: A commercial undertaking in which a government owns equity in excess of 50%

1.11 Organization of the study

The study is organized in chapters numbered one to five. Chapter one comprises background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations of the study, delimitations of the study, basic assumptions of the study, definitions of significant terms and organization of study.

Chapter two comprises introduction, concept of organizational project maturity, performance of state corporations and role in national development, context of project performance, performance of South Nyanza Sugar Company Limited, extent to which

project communication management practices in Sonysugar influence project performance, the extent to which project risk management practices influence project performance, quality management practices in Sonysugar and the influence on project performance, project procurement management practices in Sonysugar and the influence on project performance, project human resource management practice in Sonysugar and the influence on project performance. The chapter also features the study's theoretical framework and conceptual framework.

Chapter three captures the research methodology outlining research design, target population, sample size determination and sample selection techniques, research instruments, instrument pre testing, validity testing of the instruments, reliability testing of the instruments, data collection procedures, data analysis techniques and ethical considerations.

Chapter four displays data analysis, presentation and interpretation, with chapter five featuring summary of findings, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1: Introduction

This chapter reviews literature on the concept of organizational project management maturity, its linkage to organizational and project performance and also the performance and role of state corporations in national development. Other literature reviewed, covered the subject of organizational factors that influence project delivery and the performance of the sugar industry. This chapter presents the theoretical framework of the study and the study's conceptual framework.

2.2: The concept of organizational project maturity

Project management practice is as old the Pharaonic era in ancient Egypt when the pyramids were built. More recently the construction of the Panama Canal in Mexico and the Mombasa to Port Florence railway line were significant large scale projects that needed effective management. The need to codify project management practices and techniques had more recently been driven by several factors key of which is the triple constraints of cost, time and quality in projects.

Projects are defined as a temporary endeavor undertaken to create a unique product or service (PMBOK, 2000; Burke, 2003; Cooke & Tate, 2011). Gareis (2000) stated that a project as a temporary organization was set up for the performance of a relatively unique process of high complexity resulting in a specified product. Burke (2003) introduced the context of a project as beneficial change which used special project management techniques to plan and control the scope of work. This was necessary to deliver a product to satisfy the clients and stakeholder's needs and expectations. Implicit in the various definitions of a project was the creation of new and unique product or service as the outcome of a project, which outcome was of increased benefit to the project implementing

or sponsoring organization. Projects are thus by default designed to increase organisational value when implemented.

According to Porter (1984), a key goal of any organization pursuing business sustainability and growth was the maintenance of competitive advantage in its markets. PwC (2007), citing its study of global corporations in all continents, concluded that organizations in all segments of industry across the globe were increasingly leveraging project management as a method or approach to achieve critical business objectives. In this regard, effective project management was becoming vital factor to corporate success. The study observed that corporate managers having realized the critical role of project management in facilitating successful execution strategies continued to support corporate initiatives aimed at rapid evolution and maturity of organizational project management practices since the competency was increasingly becoming a strategic imperative for successful organizations.

Burke (2003), conceptualized project management as the application of knowledge, skills, tools and techniques to project activities within an organization in order to meet stakeholder needs and expectations from implementing the project. Project management techniques are increasingly applicable in diverse areas of society including industry, commerce, sports and domestic services. The use of projects in diverse areas of human activity was becoming pervasive and thus causing an increasing shift to management by projects in many organizations. This trend was spurred by the increased coding of best practices in project management across the globe in several industry segments (Gareis, 2000; PwC, 2007; Burke, 2003; Cooke & Tate, 2011). Projects by their inherent nature operate on a premise that a standard framework existed for performing all projects tasks that constitute the project scope. This premise imposed a condition that projects were

essentially orderly undertakings and proceeded during implementation through a definite lifecycle through which delivery the intended goal and objectives was achieved. The second premise conferred by the very definition of a project was the context of existence of a temporary organisational form unique to all projects. These two viewpoints implied that besides a definite structure, clients and stakeholders existed in a project undertaking and that all projects generally were executed under an umbrella 'parent' organization or sponsor. The parent organization provided the structure in which the temporary project organization was anchored.

Project management offers a structured approach to managing projects (Burke, 2003). This assertion suggests some form or internal structure that characterizes projects. The Oxford dictionary defines 'structured' as having a definite predetermined pattern (Hornby, 2010). Structured also denotes patterned, methodical, orderly, integrated though showing differentiated parts. Indeed projects have an orderly and integrated structure incorporating different roles and activities making the whole framework.

The theoretical underpinnings of this study was the general systems theory that conceptualizes a system as comprising a set of interdependent parts and elements that work together in synergy to create a whole in which the output of the whole was significantly greater than that of the individual units (Bertalanffy, 1950; Lucey, 2004). This study conceptualized a project as comprising several interdependent components that were integrated in a project organization to deliver the project goal. This conceptual framework was critical in examining the extent to which the various essential elements necessary for project performance were present and functional both within the temporary project organization and the sponsor organization. The essential elements in a project that comprise the research study variables were the nine knowledge areas in project

management (Burke, 2003; Cooke & Tate, 2011). The conceptual framework envisaged organisational project management maturity as a measure of the extent to which the independent variables comprising communication, risk, quality, scope, procurement and human resource and project integration influenced project performance as measured by scope, time and cost and results achieved against plan.

Projects comprise effective frameworks for mastering and delivering organizational goals and requisite change necessary for adapting to a rapidly changing external environment in which the organization operated. Organizations and governments use projects and programs to achieve their strategic objectives. Several researchers and writer Gareis (2000); Cooke & Tate (2011); Burke (2003), all posit that many organizations and government agencies were increasingly turning to management by projects to deliver their strategies and long term objectives. Large scale construction and infrastructure projects are delivered by governments using the project model as the delivery mode. Corporations and national governments package significant change initiatives as strategic and national development plans respectively for delivery through projects and programs. The dynamism introduced by globalization of trade between nations forced nations and corporations across geographical locations and industry sectors to continuously rethink their strategic priorities. According to Peters (2003), there were few competitive advantages that were sustainable over a significant period of time in the prevailing dynamic business environment, thus the ability to create new sources of competitive advantage was the only sustainable competitive advantage an organization possessed. The local sugar industry was not been insulated from this global competitiveness dynamic. Reforms in the global sugar industry were triggered by reforms in the EU sugar regime.

The preference for the project model for delivery of national and corporate objectives and goals according to Cooke & Tate (2011) was enhanced when an organization stood to gain or lose significantly by not doing so. This assertion was reinforced by the specific character attributes that distinguished and qualified project management as better suited to deliver in any high risk environment possessing significant constraints of time, quality and cost compared to other forms of management such as operations or general management.

Burke (2003) examined causes of project failure, attributing the most cases to poor management of the triple constraints of cost, time and quality by the project team and the attendant task complexity inherent in all projects. Indeed a project's failure to achieve the intended goals and objectives would result to significant organizational performance challenges arising from the significant levels of resources deployed especially for large scale projects and delays in realizing anticipated benefits (Chandra, 2006; Cooke & Tate, 2011). The triple constraints have been cited as drivers of complexity in any project management environment faced by a project team and its implementers as they pursue the project objectives (Burke, 2003; Atkinson, 1999). Cooke & Tate, (2011) and PwC, 2007 cited the role of management as a key factor in project success through shaping the environment in which a project tasks were performed. The sponsor or host organization provided a supportive environment for project performance. Whereas several other factors have been cited by various researchers and professionals in the field of project management as determinants of project success, there however was evidence that some key factors shaped the environment for project success in an organization. Various studies Remy (1997), Fincher et al. (1997) pointed out the link between performance of projects and maturity of the organizations ability to deal with projects. Crawford (1998) cited competency of project manager, teams and organization (maturity) as factors that were determinants of efficient and effective performance of projects. The extent to which an

organization applied established standard practices in managing its projects constituted the context of organizational project management maturity (Cooke & Tate, 2011).

According to the Project Management Institute (2008), the concept of organizational project management maturity assumed a direct correlation between an organizations capability in project management and its effectiveness in implementing a project and achieving strategic objectives and goals for the project. Cooke & Tate (2011) aver that the extent to which an organization practiced this type of project management was referred to as organisational project management maturity. The maturity model defines the organizational project management capability and outlines a framework for project success.

The Oxford dictionary defines maturity as the quality or state of being fully developed with respect to an entity. The concept of maturity in an organizational context denoted an ideal condition existing within the target organization for performing its tasks and achieving its objectives. Andersen & Jessen (2003) suggested that project maturity may indicate that an organization described thus was perfectly conditioned to deal with its projects. Utopian conditions however do not exist in reality within organizations for project performance, thus a measure of extent of maturity within an organization was adopted by project management professionals in describing maturity levels within organizations (Cooke & Tate, 2011). Improvements in organizational project management maturity took time. Differences existed across industries and organizations with respect to levels of maturity (PwC, 2007). Further to this, a scalar paradigm was envisaged in characterizing the gradual scaling up of the levels of project maturity with each level depicting the extent of maturity in an organization at a point in time. Project management impacts organizations in several ways as they engage in innovation and implementation of change processes. Ibbs and Kwak (2000) developed a model for assessment of maturity of

project management processes with. The methodology covered eight knowledge areas and six project phases. The model provided tools for assessing areas possessing opportunity for improvement in project management. Andersen & Jessen (2003) investigated the level of project management maturity in various institutions using a three dimensional model that included knowledge, attitudes and actions. The study observed weaknesses in actions and progress in knowledge and attitude dimensions and established the concept of hierarchy in maturity within organizations hence the context of maturity ladder of progression in project performance. Ibbs and Reginato (2002) established improved project performance as the value of project management to an implementing organization. Potential negative impacts of weak project management include cost escalation and increased risk to the implementing organization of non achievement of desired goal despite the investment. Knowledge management plays a key role in organizational maturity (Cooke & Tate, 2011). The knowledge sharing mechanisms include formal and informal approaches in a project environment. Increasing knowledge and effective management of knowledge is a key driver to competitiveness (Porter, 1984). Personnel mobility and exits could lead to loss of tacit knowledge. Knowledge transfer between projects is a key critical success factor for continued success of firms.

2.3: Performance of State corporations and their role in national development.

Several perspectives are discussed under literature review and these form the context in which performance of public sector corporations was examined with a view to determining some of the critical success factors that influenced public sector performance.

Globalization resulted in increasing disparities across nations and regions in the sharing the world's economic wealth (Samuelson, 1973; Singh, 2009). This situation was not sustainable in the long run due to the widening gap in the economic status of nations their

citizens. The greater interdependency and resultant expansion of trade arising from globalization gave rise to the free trade philosophy. There was however general disagreement on how to balance need to regulate international trade and for countries to retain 'economic sovereignty' at the same time. This predicament poses a challenge to nations and organizations to consider new intervention models to redress the situation of economic underdevelopment. The consistent challenges to delivering on expected change across nations and at institutional level created an imperative to consider other options for performing development projects and programs and also to examine inherent inadequacies limiting project performance.

The performance of the public sector in delivering economic and social development was critical and significant to a nation's economic performance and welfare of her citizens. In developing countries, the private sector was small and largely underdeveloped thus placing a large burden on the public sector to deliver the bulk of goods and services to the population. For most developing nations and some developed countries, national development plans were generally packaged as projects or programs for effective management of the implementation process and this aided leverage of scarce national resources in development. Indeed some studies cast the performance of the public sector in many developing countries in the spotlight as a serial underperformer in the provision of goods and services (Ayee, 2005; Roll, 2011). Whereas the critical role of free market principles, which espouse an expanded role for private sector, as the panacea for speeding up the rate of economic development in most developing nations had been widely publicized, opinion seemed to vary. Njiru, (2008) asserted in her discourse on the concept of the developmental state that the phenomenal growth of the South East Asian economies of Japan, Singapore and South Korea, some of whom were at par with Kenya in terms of level of economic development in the 60's was not attributed to adherence and following of

free market principles prescribed by the western nations. Is there a case for re-evaluating policy approaches for addressing public sector performance? Roll, (2011) challenged the notion of public sector incapacity by stating that available evidence of pockets of excellence in developing countries had been recorded even in weak governance states, citing studies in Nigeria. There appeared to be no unanimity on the suggested positive correlation between performance of state corporations and project delivery and their equity structure.

The practice of setting up state corporations to perform specific functions on behalf of governments was widespread globally however, the spate of privatization in the western world resulted in reduction in number of such public corporations in the developed nations. Several state corporations were formed by the government of Kenya soon after independence to meet both commercial and social goals in various sectors of the economy (Njiru, 2008; Republic of Kenya, 2004). These government corporations operate in diverse economic sectors where either there is a monopoly or the government had a strategic interest. Since they broadly permeated all sectors of the economy, the state corporations are important in national economic welfare of a country. Indeed a study by Szamoszegi & Kyle (2011) attributed the phenomenal growth of the Chinese economy since the 80's to state corporations making a significant contribution. The rationale behind the heavy involvement of the government of Kenya in development activities was the enormous challenge of general underdevelopment in most regions of the country under the colonial administration. Sessional paper no.10 of 1965 sought to empower indigenous Kenyans post independence to participate fully in economic activities of the nation (Republic of Kenya, 1964). These objectives were largely at variance with those of the private sector which according to Elkin (2005) citing a survey by McKinsey included; Profitability 89%, Growth 82%, Market share 66, Employees welfare 62%, Product quality and service

60%, Research and Development 54%, Expansion outside core business 51%, Efficiency 50%, Financial stability 49% and Management development 35%. This study indicated that the private sector aims were lean on social welfare and in the context of developing nations, assumed great significance in evaluating the rationale and justification for policy shifts adopted by developing nations proposing passing on the provision of goods and services to private agencies from public institutions, following the structural adjustment programs. The regional and local realities demanded greater social intervention by governments and government agencies to mitigate effects of long term deprivation of large segments of the population in the countries. Indeed this approach of heavy reliance and shift to greater private sector role expansion in all sectors of economies of developing nations could inadvertently create conflict predisposing factors as was noted in the post election violence report that cited as a possible cause the regional development disparities and inequalities (Kreigler et al. 2008). Such outcomes would be a tragic consequence of defective policy interventions.

Despite continued GoK intervention, several reports highlighted the dire situation of poor public sector agency performance in project implementation (Opiyo and Ndegwa, 2012; KSB, 2010; Anyanzwa, 2009). The privatization policy of the Kenyan government was proposed to address chronic failure of state corporations to achieve their goals and remedy to improve performance. This policy is premised on the incapacity of the public sector to deliver on strategic goals of the commercial state enterprises. Various reports on privatization, (Republic of Kenya, 2005; Republic of Kenya 2009), citing various studies, postulated that the government of Kenya was incapable of participating effectively in commercial and industrial enterprises and needed to divest completely to allow private equity participation in such enterprises. This position is significant in that it informed all actions including the sugar industry privatization process without examining empirical

evidence on causes for the successes or failure of the organizations to achieve their strategic goals and development projects. Is it therefore possible that other factors belie poor delivery on strategic goals by state corporations? This debate is further clouded by foreign AID and attendant conditionality. The claims surrounding the Africa 'poverty trap' debate in which various experts assert that increasing and possibly doubling official development assistance to Africa would significantly dent the vicious cycle of poverty thus causing improved economic development had been challenged using empirical evidence from studies on selected Asian countries (Riedel, 2006). Citing a study on Vietnam, the researcher posed a rhetorical question as to how many more countries would benefit from being cut off from international AID. Riedel (2006) claimed that the World Bank acknowledged the fallacy of the increased AID as a panacea for growth in a study it commissioned. Despite the information, the Millennium Development Goals framework was premised on more AID to poor countries. Other studies by Ayee, (2005) and Akonor, (2007) reinforce the position that more AID did not necessarily equate to increase development. Policy makers and planners were partly to blame for the state of affairs. The number of policy papers and plans that failed to deliver on their stated objectives and absence of vital practical lessons learnt from implementation challenges were several (Republic of Kenya, 2008: Republic of Kenya, 2007, UNDP, 2009). Since independence, Kenya had produced several Sessional papers and policy documents yet still lagged behind many contemporary nations on key economic indicators (MDG, 2010; Republic of Kenya 2012). These failures in program and project delivery were an indictment on planners and implementing agencies. The more recent lamentations attributed to the UN secretary general on Africa poverty despite adequate resource endowment and reported underutilization of budgeted development funds by GoK were an implicit manifestation of inadequate project implementation capacity. The UN head, according to the report,

emphasized need for greater effort by developing countries in the world and Africa in particular to meet MDG goals by 2015. Poverty, hunger and disparities in health, education and participation in society were preventing hundreds of millions of citizens from fully realizing their potential. At institutional level, several strategies remain unimplemented due to challenges in managing project delivery. The situation alluded to indicate the urgency for action and need to significantly improve project and program delivery mechanisms. The MDG, (2010) report did forecast a failure to attain any of the goals by the planned date of 2015 and this portends dire consequences for vast majority of developing country population.

The failure by public sector organizations in developing countries to effectively deliver their mandate was probably due to their inability to translate short and long term plans into effective projects and programs to drive the process of delivery the needed change (KSB, 2010; Kegode, 2005; Ojera, 2001; Cooke & Tate, 2011). The frequent reviews of development and strategic plans and regular shortfalls in meeting objectives were testimony of weak project delivery environment. The reality of needed change envisaged could only be delivered on the back of using projects and programs as the vehicle for delivering the change (Cooke and Tate, 2011). Implicit in the definition of development is the idea of improvement of human kind or change in circumstances for the better. McMichael (2007) suggested that conventionally, development was viewed as a universal necessity for society. The familiar sight of societal ills in many developing nations such as slums, grinding poverty and crime were indicators of failure of policy interventions pursued by governments to mitigate such outcomes.

The state of the world economy was best described as one in turmoil (UN, 2012). The United Nations in its situational assessment acknowledged that the debt crisis in the Euro

area was the single biggest threat to the world economy. It further suggested that the solution lied in addressing the policy inadequacies both at national and international level. This amounted to a tacit admission of policy failure in the development planning processes and outcomes for governments and the regional economies both in developed and developing nations. A reversal of this unfortunate situation was hinged on enhancing project management capability within implementing agencies or nations.

From the forgoing, it was considered reasonable to examine the implications of failure of various development models and policies historically pursued by leading world economies with the aim of bringing about needed change in global economic standards and that of developing nations. The failure was largely to blame for the global economic crises. What then would deliver the needed change that the world needed to mitigate the challenges and crises? Was it possible that effective project management could be at the core of delivering the needed change? Indeed, Cooke and Tate (2011) declare that projects were the preferred mode of how organizations delivered change. Other researchers, Andersen (2003), Crawford (1998), and Atkinson (1999) made similar assertions on the positive correlation between projects and change or achievement of organizational goals. Since strategy denoted a future focus in which uncertainty was a key element, organizations used strategies to manage future challenges and opportunities. Organizations that were adept at achieving their strategic objectives were also good at managing projects (Cooke and Tate, 2011).

The twin challenge of achieving vision 2030 goals and enhancing project delivery was possible with use of organizational project management maturity model to improve project delivery. According to Cooke and Tate (2011), project maturity with respect to project modeling encompassed, structures, processes, policy and training within the project

organization in all the key knowledge areas and critical success factors for projects which included management of time, cost, quality, procurement, human resource, risk, scope, integration and communications.

The national budgetary review implementation report from office of Controller Budget for Kenya for the quarter three period of 2011-2013 indicated that of budgeted development expenditure of 106 billion of budget was not spent. Some factors alluded to as causing this situation by various government leaders included rigid procurement hurdles and donor funding conditionality's besides lack of adequate capacity for project management, delays in obtaining no objection from donors and accountability issues (Opiyo & Ndegwa, 2012). The admission by GoK of inadequate project management capacity despite its long experience spanning over 40 years in implementing development programs and projects explained the general state of the country's inability to meet its economic development goals and below expectation performance of public sector.

The discourse on project success has two thrusts, the success criteria and the success factors. The success criteria is concerned with the evaluation aspects on how success in a project undertaking was judged and the success factors concern the elements and character attributes whose presence contributed to the success of projects. The knowledge areas are facilitative aspects and processes that augment capability and delivery mechanisms for implementing project plans in an organization and fall in the category of success factors (Stare, 2011; PwC, 2007; Andersen and Jessen 2003; Burke, 2003; Ibbs and Kwak, 2000).

This study was necessitated by the need to investigate the factors that constrain the public sector and state corporations in the sugar sector from effectively delivering on their strategic plans and goals. The study's independent and dependant variables were

operationalised in table 5.1 that formed the basis for collecting data to test relationships between variables.

2.3.1 The context of project performance

Projects are typically set up to achieve a goal and a set of objectives hence goal achievement is a prime concern and key performance criterion (Packendorff, J., 1995). Whereas meeting the project objectives of cost, time and quality was equated to success in project implementation, determining the factors contributing to the project's success was equally important in project management. Evaluation was thus necessary for quantitative determination of reasons for good and bad performance in projects. When projects were delivered late outside the allocated time, they lost some or all of their value. In competitive markets, where significant advantage accrued to early entrants, market share suffered for late entrants (Cooke & Tate, 2011). Delays also resulted in cost escalation. The time management tools included Gantt charts

Cost, time and quality are inextricably linked to measurement of success of projects in project management in the last 50 years (Atkinson 1999). However time and costs targets were at best guesses at time of project planning when they were calculated. This was so because without knowledge of the reality to be faced during project implementation, it was difficult to accurately ascertain the estimates. Other criteria for project success have however been considered by various researchers in light of emerging gaps arising from the reality of continued project failures despite advances in project management techniques.

The PwC (2007) global survey on the state of organizational project maturity concluded that organizations were increasingly leveraging project management as a method to achieve critical business objectives and as such project management practices were becoming vital to corporate success. The survey covered all major sectors in the global economy from

which organizations were sampled for the study. The sampled organizations were drawn from Africa, Asia, Australia, Europe, North America and South America with the entire Africa sample of respondents that made 13% of the total sample drawn from South Africa. The key findings were that project performance was directly linked to project management, staff development programs had the greatest impact on project performance, project management certification had a linkage to high performing projects, use of project management methodology was widespread in the sample and increased likelihood of higher project performance, a positive correlation existed between project performance and project management software and project management office was prevalent practice.

Project performance was premised on the project delivering to set criteria as a determinant of its success. According to Muller and Jugdev (2012), citing various studies on critical success factors for projects, a wide diversity existed in how success was defined and measured in projects and noted the variations in the critical success factors by project types, life cycle phases, industries, nationalities, individuals and organizations.

Burke (2003) observed that effective planning and control of a project required accurate estimation of the project parameters of time and cost. Estimation was however a best approximation based on time available, techniques, employed, information available and expertise of the estimator. The factors of scope, specifications, time, resources, materials, equipment and risks all effected project cost estimates.

Table 5.1 depicts the Operationalization of variables as measurable indicators in the study. The table details the framework for expressing the research problem being investigated as a set of variables measurable through use of a set of indicators. Sony sugar had implemented projects for over thirty years and in the previous ten years, focused project implementation through five year corporate strategic plans. Despite the over 30

years experience undertaking project work, the company continued to grapple with challenges of poor project and operational performance as shown in table 4.68. The GoK framework for results based management for all state corporations, government ministries and agencies involving performance contracting with the sole objective of improving delivery of strategies for all public sector organizations had not made significant positive impact. Despite all these initiatives, the Sonysugar corporate and project performance still presented a challenge. The project implementation challenges in Sonysugar were noted to be prevalent in other GoK agencies (MDG, 2010; KSB, 2010; Opiyo & Ndegwa, 2012; Republic of Kenya, 2005).

2.3.2 Performance of South Nyanza Sugar Company Limited

Trends in the global sugar industry are characterized by the highly efficient and broadly diversified portfolio producers in North and South America, Asia and Australia. In Africa, South Africa ranks among the global best (OECD-FAO, 2011). In a regional context, the COMESA region has among its most efficient producers Mauritius, Malawi, Zambia, Swaziland, South Africa and Sudan.

The Kenya Sugar Industry Strategic Plan 2010-2014 cites as its rationale a need to create a ‘World Class Multi Product Sugarcane Industry’ through attainment of increased efficiencies and diversification of product base. The attainment of this goal is challenging in the prevailing performance environment that characterized the local sugar industry. Available evidence pointed to an industry which despite its immense potential, was bedeviled with arrange of performance problems and challenges that contributed largely to its historic underperformance and hence inability to realize the objectives for which it was set up (Ojera, 2011). The state owned mills and the local sugar industry in general have

largely been unable to achieve the stated strategic goals (Republic of Kenya, 2007; KSB, 2010)

South Nyanza Sugar Company is a state corporation that was set up in 1976 by GoK for the purpose of helping achieve sugar import substitution and self sufficiency, promoting cash crop economy in the greater southern Nyanza region of Kenya, facilitating full land utilization and job creation. Its other aims were to promote regional economic development, improve welfare of the population within the region and undertake commercial operations profitably. The Company fulfills its mandate and vision through five year strategic plans.

A review of Sonysugar corporate performance against its strategies for the past six years is depicted in table 4.68. The consistent underperformance in project implementation and other strategic indicators for the Company that was aimed at enhancing its growth and business prospects and competitiveness remains unachieved. Whereas this performance level was considerably low, it however earned Sonysugar a favorable relative competitive ranking in the GoK performance contracting framework which attests to the general low performance levels in GoK agencies. This level of performance reported in table 4.68 justified the need to examine the Sonysugar delivery mechanism for projects.

Sugar industries globally are protected from full competition due to country and regional disparities in the production environment. Various reports (Boss, 2012; Tiwari, 2012) indicate that protectionism was a global phenomena not restricted to the local sugar industry. This finding compounds the question of relevance of WTO as a platform for establishing equity in guiding international trade between nations and therefore presents a valid concern that the Kenyan sugar milling company's performance challenges arising from global trade were not unique to COMESA and Kenya. Boss (2012) citing a study by

Krugman (2000), reported that without exception, all major sugar producing countries apply protectionist policy instruments to protect their local industries. This assertion is corroborated by various reports (Tiwari, 2012; OECD-FAO., 2011).

In its quest to attain global competitiveness status, the local industry formulated a strategic plan to guide its focus and actions towards achieving the goal. Kenya Sugar Industry strategic plan for 2004 -2009 depicts the broad range of potential products that are derivatives of sugarcane processing. The scope for increased value addition in sugar cane processing industries was clearly evident in the plan. This potential remained largely underutilized in the local sugar industry on account of historical poor project performance and project delivery mechanisms (KSB, 2010). The Kenyan sugar sector needed to improve project performance at field and factory levels. The failure to achieve the planned goals for the 2004-2009 Kenya Sugar Industry strategic plan was clear evidence of project management challenges at national level. In the case of Sonysugar, the envisaged product diversification plans remain unattained ten years since they were first conceptualized despite established potential in the sugar industry for value addition through Co-generation of Electricity and Ethanol production (Galvez, 1998; KSB, 2010).

The objective of the proposed study was to investigate the level and influence of organizational project maturity practices within Sonysugar and their impact on project performance of the company. The study would provide information that would influence actions and decisions by state corporations especially in the sugar sector to help improve their internal project management environment and improve overall project performance and successes. Improvements in project performance would help the local sugar industry achieve the anticipated growth in line with its stated mission and vision contribute to the achievement of the national development goals set out in Kenya vision 2030. The study

was driven by concern about historic underperformance of state corporations in the sugar subsector and the public sector agencies in general within Kenya besides specific challenges with project implementation (KSB, 2010; Opiyo & Ndegwa, 2012).

Kegode (2005) reported an increase in number of private investors setting up new sugar new mills in various parts of the country. Whereas the increase in number of sugar milling companies may depict an improved business and operating environment in the subsector, a review sectors performance revealed that no single mill would compete effectively with regional producers (Republic of Kenya, 2009).

The Kenyan government draft policy on bio-fuels citing a study by UNEP in 2009 under the heading, 'Atlas of Our Changing Environment' observed that the phenomenal increase in demand for indigenous forest products for fuel wood for domestic household use was unsustainable and would deplete the forests (Republic of Kenya, 2009). The attendant impacts on weather patterns marked by prolonged drought and drying rivers would affect planning for agricultural production in significant ways. The water towers of Cherangany, Mau Forest, Mt. Elgon, Aberdares and Mt. Kenya are threatened national resources from over exploitation for household energy supplies (Republic of Kenya, 2008). The sugar industry presents a viable option to this challenge through production of bio-fuels from sugar cane processing. The sugarcane molasses based bio-fuels were a viable alternative to wood fuel and charcoal for household use and also kerosene for lighting. Other potential uses of bio-fuels included industrial and motor fuel usage through blending with petroleum.

The cogeneration potential for export of electrical power to the national grid existed in the sugar industry but was largely untapped. The capacity in the eleven operating sugar mills was in excess of 200MW of renewable energy (KSB, 2010). Despite the public sugar mills planning the full implementation of plans for exploiting power generation and export

potential as a business and competitiveness strategy in the last ten years, this goal largely remains unattained (KSB, 2010).

The aim of setting up the public sugar mills in various regions of Kenya was to help achieve import substitution and self sufficiency, promotion of cash crop economy, facilitation of full land utilization and job creation, enhancing regional economic development and improvement of welfare of the population and commercialization of operations and profitability. These aims remain largely unattained (Njiru, 2008; Kegode, 2005; Ojera 2001; KSB, 2010).

2.4 Influence of project communication management practices in Sonysugar

The value of project communication management is best evaluated against timeline of actions to avert project failure through regular performance reporting, monitoring, oversight and reporting on valuable lessons at project administrative closure. It would be reasonable to infer that the litany of project failures documented could be attributed partly to communication handicaps. Project communication management includes the processes to ensure timely and appropriate generation, collection, distribution, storage, retrieval and ultimate disposition of project information (Burke, 2003). PMBOK project communication management includes the process for identification of project stakeholders, planning communication, gathering and distribution of information, managing stakeholder expectations and reporting performance. (PMBOK, 2000)

In a project environment, the project organizations' systems needed to collect and process information from outside sources in order to adapt to the environmental factors that impact on the project. The awareness and acquisition of relevant knowledge about such factors is vital to project success.

Projects incorporate multiple but unique tasks involving the integration of various stakeholders and project team besides suppliers. Information sharing is therefore critical to enhancing decision processes and project control. Communication would therefore impact on project performance positively or negatively depending on level of effectiveness (Burke, 2003, Cooke & Tate, 2011).

2.5 Influence of project risk management practices in Sonysugar.

Uncertainty is an inevitable feature of most projects and present difficulties to project managers. Despite considerable effort using milestones to anticipate outcomes, risk management to prevent disasters and sequential iteration to ensure synergy in inputs to a project, overruns still occur in schedules, costs or specification and in extreme cases projects are abandoned altogether (Meyer et al., 2002).

Project risk management includes the processes of conducting risk management planning, risk identification, analysis, response planning, monitoring and control of the risks. PMBOK risk management processes include planning risk management, identifying risk, performing a qualitative and quantitative risk analysis, planning risk response, monitoring and control of risk (PMBOK, 2000).

Risks detract projects from achieving their goals, objectives, plans and expected results hence is a key consideration in project performance. An early identification is thus a key consideration in any risk management process (Burke, 2003; Cooke & Tate, 2011). The measurement and assessment of likely impacts of identified risks forms the basis of any likely mitigation measures and action plans thereafter. The decision hurdle as to selected option for risk control involves equating the cost of the intervention to cost impact of the risk. Risk is pervasive and cuts across all project aspects of quality, communication, cost, time, human resource, procurement, integration and scope.

Risk management involves the use of processes that are logically consistent and structured for enumerating likely risk impacts. This approach provides a structured way of dealing with future uncertainty. Risks arise because of uncertainty about the future. According to Cooke & Tate (2011), risk exposure may arise from possibility of financial, social or economic loss or gain, physical damage, injury or delay, changes in relationship between parties to a contract.

Organizations and nation states undertake projects or in some cases groups of related projects that together make up large programs, some of which were on a large scale involving significant capital outlay. The key rationale for risk management, especially for large projects and programs, included the increased scale of potential loss or gain in large projects not managed effectively, the uncertainty of future cash flows from projects with long life cycle involving large initial investments with potential impacts ranging from changing economic conditions, technological factors, demand for products and services, social, competitive, operating and environmental factors.

Various approaches in use for project risk management included standard methods and best practice from various professional associations. Given the uniqueness of projects as a first time initiative, some risk is inherent due to unknown impacts. Risk management may be categorized and compared with project critical success factors of scope, schedule, quality and costs. Prediction and control of risks during project planning stages and implementation is at the core of risk management. Systemic tools and methods help identify risk, quantify, prioritize and track the risk and control any loss associated with risk related problem and help focus a project to successful delivery. Use of contracts and outsourcing to offload risks inherent in some tasks to another third party entity was a means for risk mitigation.

Schedule and time risks declines as more tasks were completed and the remaining tasks became more predictable. Projects in this stage tended towards more accurate forecasts and there was overall reduced potential of uncertain events influencing project outcomes and costs.

The real world situation required organizations to make decisions based on incomplete information which brought with it a certain level of uncertainty about the outcome. Uncertainty invariably led to risk and according to Burke (2003) risk had always been part of project management. Indeed projects being unique with no two projects being similar inherently possessed some level of risk given the 'newness' of each project.

Responsibility for risk management is best defined with respect to job positions whose scope of work would be affected by a risk factor. Project scope defines the boundaries of what is and what is included in project processes and tasks and thus essentially represents the key aspects of project work forming a key component of the project plan. Scope directed project delivery to fulfilling objectives and aligning efforts of team members. Scope changes outside the plan was a risk factor and had implications on project timelines and effort besides costs, all of which could affect adherence to project budgets, quality plans, human resource requirements, procurement plans and project integration (Burke 2003; Cooke & Tate, 2011). Scope management started with scope definition which was the most important part of upfront process of defining a project. Effective management of scope change was critical to project success (Besner & Hobbs, 2012).

Gituro and Kigiri (2008), in a case of study of power projects undertaken by Kenya Generation Company (KENGEN) cite scope changes as a key risk factor among other factors causing cost and time overruns.

According to Besner and Hobbs (2012), a direct relationship existed between uncertainty and the degree of project definition. Projects that were poorly defined tended to portray highly uncertain contexts according to the study findings that focused on examining the interplay between the risk management and uncertainty and measured the relation between the extent of use of risk management and the level of project uncertainty.

Piperca & Floricel (2012) showed that the project managers tended to underestimate certain risks in their study that aimed at understanding the origins and nature of unexpected events that affected complex projects using the conceptual model of projects as social systems. In the social context, the authors argued that a project related to its environment in a manner mediated by the communication framework defining the said social environment established by the communication model adopted by project participants.

2.6 Influence of project quality management practices in Sonysugar

The essence of quality management in a project is best illustrated in the context of the serious implication of errors, defects and deficiencies in defining requirements, planning the project execution and delivery process and meeting client/stakeholder expectations and project goal.

Burke (2003) in outlining the key project knowledge areas defines quality management as one such key requirement that encompasses the application of all processes, tools, skills and techniques that ensure the project outcome or product meets the customer expectations. The applicable techniques include quality assurance, quality control and total quality management.

Cooke & Tate (2011) link the tasks of ensuring quality in a project to meeting the agreed on customer requirement. The quality specifications provide a basis for judging adequacy of deliverables on project completion and detail the acceptance criteria for the project.

Project quality management according to Burke (2003), citing PMBOK, is the processes required to ensure that the project will satisfy the need for which it is undertaken by addressing the management of the project and the product of the project. Project quality management includes the processes and activities of the implementing organization that determine the quality policies, objectives and responsibilities so that the project would meet the expectations of all stakeholders. Quality management in a project context refers to the quality standards and definitions of how the standards would be achieved in all processes and systems facilitating project management organization. The quality philosophy may derive from the project sponsoring organizations quality policy or orientation. Conformance to project quality plan assures the project achieves its objectives (Burke, 2003, Cooke & Tate, 2011).

2.7 Influence of project procurement management practices in Sonysugar

Project procurement management includes processes necessary to procure from third parties goods, services and works (Burke, 2003).

Procurement involves significant contractual requirements hence the need for specialist knowledge and skills in procurement specialists as a key resource (Cooke & Tate, 2011). Procurement uses specific processes and procedures to ensure sound contracts (PPDA, 2005). The contracts are designed with provisions aimed at motivating and reinforcing desired compliance with supply requirements by all contractors and suppliers.

Projects utilize various resources in the delivery process. Careful planning for timely resource availability is necessary to avoid constraints that impede project progress and performance (Burke, 2003; Cooke & Tate, 2011). The material resources (goods) and services are acquired from third parties through a procurement process guided by

procedures. The procurement processes are formulated and embedded in project procurement plans during project planning/stage.

In the context of GoK, the procurement process is regulated using Public Procurement and Disposal Act -2005 and Regulation 2006 and is applicable to all public institutions.

Procurement aids scope achievement through resource acquisition from outside the organization. The procurement plans are formulated during project planning. According to Cooke & Tate (2011), when procurement plans are fully implemented, the review must focus on resource use, products, contracts, expertise and work packages to assure obligations of all parties to a contract are met and any disputes resolved.

2.8 Influence project human management practice in Sonysugar

Citing a study of Slovenian enterprises, Stare, A (2011) observed that organizational culture played a role in impacting project performance negatively with most completed projects exceeding the planned time and costs.

Most projects do not operate in isolation from the business environment of the implementing organization which ideally should be complimentary to the requirements of good project management. Culture is rooted in people and it subconsciously influences their behavior and performance and vice versa (Cole, 2004). Culture has several dimensions shared by all members of an organization and guides how work gets done. The organizational culture defines the context for management practices and behaviors, methods of operation and the organizations management system. Organizational culture affects project management in multiple ways according to (Packendorff, 1995). These include; the way different organizational functional roles interact and support each other in the pursuit of project goals, employee commitment to project goals and how effectively they achieve balance with other competing goals, how resource allocation and work

planning for projects is undertaken and how managers evaluate performance of project teams and project outcomes.

Burke (2003) stated that 18% of IT projects were implemented within Budget, 50% exceeded the estimates and 30% were cancelled before completion due to high estimates. Among the factors cited then for project failure included unclear roles of project personnel, lack of management support, inadequate skills and neglect of stakeholders such as users and customers (Burke, 2003; Standish, 2008).

The complexity, scale and variety of project tasks and projects within an organization required increased participation of various functions and employees hence the increased interactions and relationships on a short term basis due to short project time spans and the temporary organizational nature amongst personnel outside their traditional roles. This interfered with established functional lines and decision processes. The preferred matrix organization structure requires clear definition and management of roles, cross functional tasks, competencies and relationships between several stakeholders to avoid conflicts and attendant disruption of project work flows (Cole, 2004). The HR maturity model provided the context for managing project team competency, work environment, organizational performance management, authority levels for project management, policies and rules for organizational support besides employee involvement and commitment.

Shared values, strong culture clear mission and direction, cross functional integration, empowerment, leadership style, performance culture, systems support, people management style, staffing, line management support, monitoring, prioritizing, formal procedures and roles

Project human resource management is defined as a subset of project management that includes the processes required to make the most effective use of people involved with the

project and is based on project deliverables, risks and quality plans (Cooke & Tate, 2011). Identification of human resources and skills is a key outcome of these processes.

People are an integral component of management in the context of team workings and organizational effectiveness, project human resource practices can thus affect team work, team development, retention, quality, cost and legal requirement. The PwC (2007) study sought to examine the extent to which people impacted on project performance and observed in their findings that the ability to manage people effectively was an essential skill for all project managers. Project success depended on the coordinated efforts of persons in key project roles such as project team members, sponsors, customers and stakeholders. The study examined project manager skills, training and development programs, organizational culture, motivation and incentive schemes and career opportunities for project managers across regions and industries. The key study finding was that project staff development programs had the greatest impact on project performance when used regularly.

Cooke and Tate (2011) state that project human resource management includes all processes that are required to make the most effective use of people involved in the project. Team development and leadership are the key avenues of human resource management. According to Cooke and Tate (2011), human resource management monitoring and oversight needed to be scheduled periodically and to prevent the practices from affecting team work, team development, retention, quality and cost.

The human resource is a key factor in successful delivery of projects. The project manager and project team need to possess competence in those areas that had greatest impact on successful outcomes.

2.9 Empirical Literature

Several studies have been reviewed on the organizational project management maturity concept and its influence on project performance globally (Andersen & Jessen, 2003; Fincher & Levin, 1997; Crawford, 1998, Ibbs & Kwak, 2000; Hillson, 2003, Pennypacker et al., 2003; Remy, 1997; PMBOK, 2000).

PwC (2007), in its second global survey on the current state of project management maturity in organization across the world attributes consistent better performance in projects by some organizations compared to others to the factor of level of project maturity in an organization. An earlier survey, PwC (2004) revealed a link between higher organizational project maturity levels and high project performance. The need to identify leading project management practices and trends besides causes of project failure were key considerations in 2007 study. The survey collected data from top and senior management besides project managers in the selected global organizations survey. The survey's main objectives were to identify current global trends in project management maturity projects. The respondents in the study were selected from various organizations drawn from 26 countries across Africa, Asia, Australia, Europe, North America and South America in diverse industry sectors that included Technology, Information, Communication, Entertainment, Consumer and Industrial products, financial services, Public sector and Pharmaceuticals. The survey group in the study comprised companies of various sizes. The study results showed that the desire and drive to improve levels of project management maturity within organization is a shared goal across global regions and industry sectors.

According to Hillson (2003), organizations using Project Management Maturity Model rely on the framework to support the development of effective project management. The maturity model allowed organizations to continually assess their project management capability against agreed criteria, set realistic targets for improvements and measure progress towards enhanced capability.

2.10 Theoretical Framework

Theories are constructs that aid explanation of phenomena. Systems theory was used to guide the premises on which this research study was conducted. There were several parallels between projects and systems. These included integration of components, the beneficial aspects of change and the significance of the assemblage of component parts in providing an outcome not capable of being achieved by the disparate parts of the assemblage.

The whole system of a project to the assembler also referred to as sponsor or owner in the context of an individual project, was a case of one having special interest in the transformation work of the system so depicted. Other common attributes of systems that mirror project features included, development of emergent properties (the whole) as in project impacts, possession of a single common objective for sub-systems forming the whole systems to avoid sub-optimality, a state of being ordered and hierarchical in interrelationships and that impacts that cause any change to any individual subsystem and parts of the system affected the whole system. Other features included the circumstance of systems operating in the context of a larger environment and had clear delineating boundaries, required control of processes through feedback mechanisms for sustenance and also all systems expended resources just as projects did (Bertalanffy, 1950). These

elements and features that constitute general systems thinking as defined by Bertalanffy, (1950) describes the systems approach or general systems theory (Lucey, 2004).

General System's theory was used to build the conceptual model for this research study. A project when viewed as a system comprised the nine knowledge areas that included the elements of communication, risk, procurement, quality, human resource, scope, cost, time and integration.

The study was conceptualized to test the existence of and strength of relationship between a set of independent and dependant variables. The observable phenomena that attest to the existence and effect of the variable were illustrated in the conceptual framework as indicators.

2.11 Conceptual framework of the study

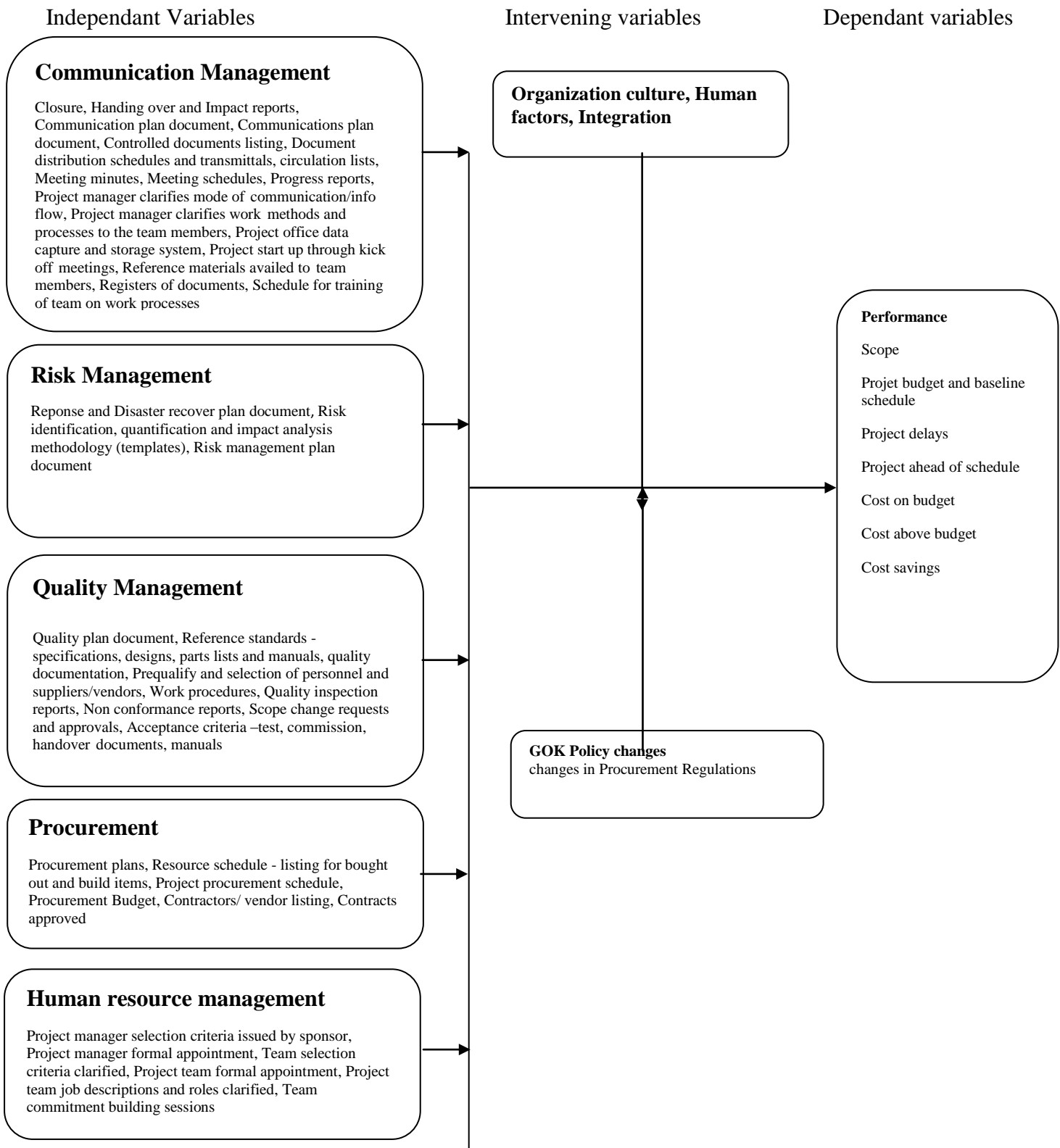
Concepts symbolize several interrelated ideas and simplify a view of something we wish to represent for some specific purpose. They explain the relationship between interlinked ideas and further explain possible connection between variables and help answer questions that address research objectives. According to Kombo and Tromp (2006), a conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. The study was grounded on the conceptual framework as illustrated in figure 2.1.

The conceptual framework describes a model depicting a project management maturity model that was used as a basis for analyzing elements of project system and their interplay as independent and dependant variables in the study population. The study focused on an examination of various organizational project maturity practices and their influence on corporate performance in Sonysugar. A review of literature indicated that the sugar industry in Kenya lagged behind its regional and global competitors in business and

technological competitiveness. Sonysugar continued to underperform on its strategic plan delivery as evident from its operating results and unimplemented strategies.

Maturity models were examined as providing the context for explaining disparities in project performance across global regions and industry sectors. These models provide a framework for improving processes and activity in project environments. Whereas several models existed for assessing organizational capability to deliver project goals, there was no universal global standard model for maturity. However, some key similarities in all such frameworks included the hierarchical nature allowing for a scalar growth in capability as organizations refined their project practices starting from an initial level or baseline in which organizations practice project activity on informal basis and in an uncoordinated manner to the top level optimal scale at which organizations fully standardized their project management practices and fully practiced continual improvement of their project environment. The other similarity was the use of the universal nine key knowledge areas in project management in all models of organizational project maturity.

figure 2.1: Conceptual framework of the study



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter focuses on the research methodology outlining the research design, target population, sample size and selection techniques, research instruments, their pre-testing, tests for validity and reliability, data collection and analysis procedures and ethical considerations in the research.

3.2 Research Design

The researcher adopted a descriptive survey research design for the study. Kothari (2010) describes research design as the arrangement of conditions for collection and analysis of data in a manner that aimed to combine relevance to the research purpose with economy in procedure. A research design shows how all major component parts of a research project work complementarily in trying to address the central research questions (Kombo & Tromp, 2006). A rigorous research methodology adopted in a study allowed for obtaining useful results and inferences (Denscombe, 2010). Creating and maintaining appropriate sample sizes for surveys, use of triangulation techniques and drawing associations between concepts and data collected are some criteria for building rigor in research methodology and help the researcher maintain objectivity. The research processes maintains a high level of reliability resulting to data and results that lead to useful conclusions. Different research designs have different weaknesses and strengths which render them useful or inappropriate for some type of studies. Descriptive research results to detailed description of the state of affairs in the study population as is. Kerlinger (1969),

suggested, that besides fact finding, descriptive studies may result to formulation of important principles of knowledge and further offer solutions to significant problems.

The need for readily accessible, adequate and reliable data sources was a key consideration in selecting the descriptive survey design and also the researchers' knowledge of the subject of project management. The methods used for data collection included structured interviews, self administered questionnaires as suggested by Orodho (2003) and document analysis. This design enabled the researcher collect data for analysis to answer the research questions. The situation was described adequately and inferences made from the results obtained. It is hoped conclusions and recommendations arising from the study shall go a long way in achieving the purpose for the research and providing a solution to the problem.

3.3 Target population

A population refers to an entire group of individuals, events or objects having a common observable characteristic (Mugenda & Mugenda, 2003). Samples are usually drawn from a population for measurement purposes. The target population in the study was 403 company employees in the payroll of Sonysugar at the level of supervisor to Executive management who ordinarily in the course of a year would engage in some form of project activity either directly or indirectly. A sampling frame contains information about the research population. (Denscombe, 2010). The selected sampling frame in the study was drawn and developed from company employee records for the entire workforce of Sonysugar and included all persons in supervision grades to top management cadres.

3.4 Sample size and selection techniques

Sampling is the process of selecting a number of individuals from a population for study in a manner that the individual selected bore features and characteristics similar to the large group- the population from which they were selected (Mugenda & Mugenda, 2003). Kombo and Tromp (2006) stated that sample properties were studied to gain information about the whole population. The sample had its members referred to as subjects or respondents in the study. Both non probability and probability sampling was used in this research study.

3.4.1 Sample size

The researcher used the table for determining the sample size in social research activities developed by Krejcie Morgan (1970) based on the formula published by the National Education Association (1960) to arrive at a sample size (n) of 196. A population (N) of 403 subjects as was the case of Sonysugar fell in the range 400 and 420 in the table with corresponding samples sizes of 196 and 201 respectively. The number 403 tended towards 400 hence the researcher settled on a sample size of 196 for the study.

Table 3.1: The Sampling frame

Job Category	Grade	Population (N)	Sample size (n)
Executive management	SE2-SE1	7	4
Snr. management	SE3	21	10
Middle management	SM2-SM1	97	47
Supervisors	SC3-SM3	278	135
Universe Total		403	196

Source: Human Resource records for SNSC.

3.4.2 Selection technique

The sampling frame segregated the population into various subgroups. A stratified random sampling technique was used to select random samples from the homogenous subgroup of job categories and grading as depicted in table 3.1. The respondents were selected from the subgroups by using randomized criteria that listed all subjects in each subgroup of the population by their first names in alphabetic order from A to Z and assigned each subject a serial number following alphabetic ordering. Thereafter, the sample was selected by picking every even number on the list as was determined by the researcher tossing a coin in which the heads toss equated to an even selection having been pre-selected as even for heads and odd for tails.

3.5 Research Instruments

The instruments most commonly used for data collection in social science research are questionnaires, interview schedules, observational forms and standardized tests (Mugenda

& Mugenda, 2003). The researcher used an interview schedule, questionnaires and document analysis framework for collecting data in the study. The research design selected and the nature of data determined the choice of instruments selected and developed for data collection.

Document analysis and examination was undertaken for all the documents listed in the checklist. Document analysis refers to a thorough examination and review of documents (both official and personal) with relevant content to the subject matter under enquiry. The documents examined included all project related plans, budget documents, meeting minutes, procurement and human resource records, schedules, lists, reports, procedures, , financial records, drawings and designs as outlined in the checklist for the documents. The data recorded was analyzed to establish the existence and accuracy of the information sought.

The research study was modeled along the organizational project management maturity model and analysis methodology developed by Ibbs & Kwak (2000) for assessment of extent of project management maturity within an organization. The assessment tool provided a set of indicators for organizations to use in identifying key areas of opportunity for improvement in project management capability. There was however no single universal model broadly accepted in all industries for measurement of project management maturity practices. The researcher therefore adopted the basic nine knowledge areas criteria in project management to model a maturity assessment framework (Ibbs & Kwak, 2002; Cooke & Tate, 2011; Burke, 2003). The design of a measurement framework for assessing the influence of organizational project maturity practices made use of questionnaires for primary data collection. The study adapted eight knowledge areas framework to meet the specific needs of the enquiry and used indicators for the measurement (Burke, 2003). A 5

level Likert scale was used to estimate the level of usage of each dimension of the indicator as assessed through queries in the questionnaire. The questionnaire was divided into two sections to measure influence of organizational project maturity practices on corporate and project performance. Each sub section was developed to address the research questions. The two sections included queries on, general information on the respondents (section 1), Organisational Project Management Process Maturity indicators and performance assessment (section 2). A document analysis template and interview schedule gathered information on actual project performance that was used to test the information gathered in the questionnaires.

3.5.1 Piloting the research Instrument

To test the reliability of the research questionnaire, the researcher used the test - retest method for piloting in which the questionnaire was administered twice after an interval of seven days to 10% of the population who were randomly selected and used as pre test sample. The subjects used in pre-testing were excluded from the selected sample in the main study (Mugenda & Mugenda, 2003). Pre-testing the instrument was carried out to ensure the instrument content was unambiguous and had the same meaning to all pretest respondents and potential respondents in the main study. During pre-testing, the researcher assessed the clarity of questions in the instrument. The questionnaire was coded to distinguish the respondents by sub groups.

3.5.2 Validity of Instruments

Mugenda & Mugenda (2003) describe validity as the degree of accuracy with which the data obtained in the study represent the variables tested and whether the inferences are meaningful representation of the phenomena studied. The credibility of a research study needs demonstration as part of the research process. Validity of research instruments used

refers to the extent of accuracy of data collected by the instrument and the appropriateness for its use in answering the research questions (Denscombe, 2010). The three research tools used in the study were validated using expert advice from the researchers' supervisor, the Sonysugar Project Officer, Procurement office, Financial Accountant and Human Resource Officer. Content validity was further considered with respect to information obtained from empirical studies and reference texts in the nine knowledge areas in project management (Burke 2003; Cooke & Tate, 2011; Ibbs & Kwak 2000; Ghorbanah et al., 2011).

3.5.3 Reliability of Data Collection Instruments

Reliability of a research instrument refers to whether the instrument is neutral in its effect and consistent across multiple occasions of its use (Denscombe, 2010; Mugenda & Mugenda, 2003). Reliability answers the question as to whether the research instrument would produce the same or similar results consistently on different occasions of its use in data collection all other things being held constant. Three sets of instruments were used to collect data. These included interview schedules, self administered questionnaires and document analysis template. The reliability test for the questionnaire at pilot testing yielded a correlation coefficient of 0.7 using the Pearson method for product moment correlation coefficient. The coefficient of correlation score was considered adequate for acceptance of the questionnaire since the two tests administered on the same group after an interval of one week indicated a high degree of linear relationship for the outcomes.

3.6 Data collection procedures

The researcher sought authorization from the Managing Director of Sonysugar before commencement of data collection and the study. On receipt of the formal consent, a brief to top management and functional managers was undertaken by the researcher create

awareness among employees about the study, the information requirements and to obtain their support and cooperation.

Thereafter, the researcher and the three assistants delivered the questionnaires to the selected respondents forming the sample during which time their cooperation was solicited and consensus reached on collection timelines. Physical follow-up and telephone calls were made to forestall low response rate. A list of documents for examination and analysis was presented to key functional managers and the Sonysugar project office. A follow up was made to the targeted key informants to secure document release and agree period of usage and return. A document request pro-forma was prepared for document control. A draft schedule for interviewing top management and project office personnel was prepared and agreement sought on the appropriate days for conducting interviews for the selected respondents. All the data collection instruments returned/collected had their data extracted and entered in summary tables. The information from the interviews and documents examined was summarized and classified.

3.7 Data analysis techniques

Preliminary cleaning of data and subsequent coding was undertaken to enable effective use for statistical treatment. The data was organized for analysis through coding and tabulation. Relationships and patterns were established and the patterns examined to determine appropriateness, consistency and adequacy of the information derived from the data to facilitate answering the research questions besides shedding more light on the phenomena under study. Data analysis was done through compilation of frequency tables and computation of percentages to aid comparisons. The data from the questionnaires was compared with information obtained from documents examined and interviews with project office personnel.

3.8 Ethical Considerations

The main ethical consideration was obtaining necessary authorization from the agency studied. Confidentiality in treating sources of information-respondents and the organization in line with applicable corporate policies was adhered to. Formal requests and regular guidance from the research project supervisor was regularly sought/ obtained to assure compliance with highest ethical standards in the study. The information obtained was only used for the study.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.1 Introduction

The chapter discusses data analysis, presentation, interpretation and discussion in tandem with the purpose of the study, which was to assess the influence of organizational project maturity practices on performance of South Nyanza Sugar Company Limited.

4.2 Response Rate

A total of 196 questionnaire copies were administered, of which 121 were fully completed representing 61.73% response rate. Despite initial agreement and several follow ups and inquiries made to all respondents sampled in the survey and to whom questionnaires were issued, 38.27 failed to respond. Response rate refers to the number of subjects sampled in a study who respond to the research instruments. A response rate of 50% was deemed adequate for analysis and reporting, response rate of 60% was good and a response rate of 70% and over was considered very good (Mugenda & Mugenda, 2003). The study returned a good response rate at 61.73 and was considered adequate for analysis and reporting.

4.3 Demographic characteristics of the respondents

The respondents stated their gender, age, highest level of educational achievement, current job grade, length of service in the company and their general knowledge and awareness of Sony sugar project management practices. The respondents were also requested to indicate the specific nature of engagement in project activity within the company for the period of the study.

4.3.1. Gender distribution of respondents

Gender was considered to be significant to the study for it would indicate the nature of activities different gender orientations would prefer in the context of project work and help identify and address any gender based impacts. The respondents were requested to complete the questionnaire indicating their gender and their responses were captured in table 4.1.

Table 4.1 Gender distribution of respondents

Gender	Frequency	Percentage
Female	25	20.7
Male	96	79.3
Total	121	41.2

According to the findings in Table 4.1, 25 (20.7%) respondents were Female and 96 (79.3%) male. This demonstrated the inequitable participation of women in the management affairs of the company and project activity. The low participation of women in key project activities implied their exclusion in critical decision making within Sonysugar.

4.3.2 Age characteristics of the respondents

Age was regarded as a significant variable in the study, since relatively younger people are rarely found in higher managerial ranks within public corporations and other decision making activities. The respondents were asked to fill the questionnaire stating their ages and their responses are depicted in table 4.2.

Table 4.2 Age distribution of respondents

Age band	Frequency	Percentage
Above 55	18	32.2
45 to 55	25	20.7
35 to 45	42	34.7
Below 35	15	12.4
Total	121	100

Table 4.2 shows the age profiles of the respondents. 18 (32.2%) respondents were in the age set above 55 years, (34.7%) between 35 to 45 and 15 (12.4%) below 35 years. The youth who fall in the age bracket of 35 years and below represented the smallest group among the respondents followed by those above 55 years. This finding could impact on the organization favorable in terms of it being able to draw benefits on a longer term basis from collective experience gathered from previous project activity since with an aging workforce close to exiting the organization, the collective pool of knowledge and experience acquired in project implementation would not be retained to benefit successive projects.

4.3.3. Education of respondents

Education was considered important in the study since project management was a relatively fast evolving field in which a minimum level of conceptual, comprehension and technical knowledge in several core skill areas such as accounting and engineering was necessary for respondents to offer accurate and factual information required in the study. The respondents were asked to state in the questionnaire their highest level of education which is shown in table 4.3.

Table 4.3 Highest level of Education of respondents

Education Qualification level	Frequency	Percentage
Post graduate	5	4.1
Undergraduate degree	16	13.2
Diploma	42	34.8
Secondary cert.	58	47.9
Primary cert.	0	0
Other	0	0
Total	121	100

All the respondents had some form of education above primary level. Table 4.3 showed that more than 63 (52.1%) respondents had a minimum of a diploma qualification post secondary education. This finding was useful in the context of planning and deriving benefit from training programs and capacity building besides effective deployment of company personnel in project tasks and roles.

4.3.4 Job grade of the respondents

The job grading was a factor profiled in the study because of its direct linkage to authority structures and decision making roles within the organization hence its significance. Job grading was important in determining the relevance and usefulness of respondent information in the study arising from their unique roles in project work. Responsibilities and roles in the organization were determined on the basis of positions held and grades attached to the positions held by the respondents. Respondents were asked to state in the questionnaire their highest level of education which is shown in table 4.4.

Table 4.4 Job grade of respondents

Job grade	Frequency	Percentage
Executive	3	2.4
Management		
Snr.	25	20.7
Management		
Middle	37	30.6
Management		
Supervisors	56	46.3
Total	121	100

According to the findings in table 4.4, 52 (51.3%) respondents forming the majority were in Senior to middle management job grades in the organization. Only 3 (2.4%) respondents were in executive positions with strategic level responsibility and decision making authority. This information was necessary in light of the single point of authority focus necessary in any project undertaking in which such authority was vested in a project manager to drive implementation actions. The implication of this finding was that the company would regularly rely on the senior to middle management cadre for project team leadership roles by virtue of their skill and authority levels and face the challenge of inadequacy of number of competent and effective persons for project manager roles in larger and complex projects from its limited pool of potential persons with executive authority among its management employee cadre with the necessary orientation and decision making focus acquired and gained in their normal functional roles. This was considered important in that appointments of project managers for all temporary project undertakings was a routine need that would ordinarily arise for each project undertaken in the ordinary course of implementing organizational strategies.

4.3.5 Length of service of respondents in the Company

The service period of the respondents in the company was considered essential since this gave an indication of likelihood of the respondents' prior participation in project work and hence possessing insight and knowledge on various aspects of project management practices in use at Sonysugar. The length of service in the company was considered important in that it

equated to the likelihood multiple engagements with project tasks and activities which would qualify a respondent as possessing relevant information on the study content. To gain insight and benefit from successive project implementation, each project offered unique vital lessons and learning points and lessons to the project teams and thus the length of service in the organization served a useful purpose in the analysis of various aspects of project management arising from the depth of knowledge covering several strategic planning periods. Company strategic plans were developed on a five year implementation cycle. The respondents were requested to state their service periods in the company in the questionnaire and the data is as shown in table 4.5.

Table 4.5 Length of service of respondents

No. Years	Frequency	Percentage
Above 10	93	76.9
5 to 10	16	13.2
Below 5	12	9.9
Total	121	100

Table 4.5 indicated that 93(76.9%) respondents had served for over 10 years in the company during which time they participated in implementation of two corporate strategic plans and multiple projects. 12 (9.9%) of the respondents had served below 5 years. This data set while closely mirroring the age profile of the respondents as depicted in table 4.2 indicated a high level of retention of personnel within the company. The implication was that retention of personnel aided an accumulation of knowledge, experience and skills in project management practices thus enhancing overall corporate capabilities in project implementation. The other important implication was that the respondents in the study in the study would possess useful information on project management practices adopted within the company through their association with project work thus validating the data collected.

4.3.6 Awareness about Project management practices and processes.

Awareness and knowledge of organizational project management practices was considered important since it formed the core of the study. The respondents were asked in the questionnaire to indicate whether or not they were familiar or aware of the elements in the nine project management knowledge areas that constituted the core of project management practice.

An analysis of the level of awareness among respondents was necessary to validate the findings and inferences from the data collected. The respondents were requested to indicate awareness or knowledge about various aspects of organizational project management maturity practices in the questionnaire and the data is shown in table 4.6

Table 4.6 Awareness of Project Management practices and processes

Knowledge areas	Frequency	Percentage
Scope	36	29.8
Time	106	87.6
Quality	42	34.7
Cost	118	97.5
Communication	25	20.7
Risk	16	13.2
HR	15	12.4
Procurement	88	72.7
Integration	3	2.5
Total weighted	121	41.2

The analysis in table 4.6 shows a weighted score for the 121 respondents at 41.2% out of a maximum 100%. The score was indicative of a general low level of understanding and knowledge of standard project management practices. This was not surprising in light of consistent poor project performance experienced in the company. This low overall weighted score was however with exceptions. The higher awareness scores were recorded in time management with 106 respondents, cost management with 118 and procurement management with 88 respondents professing awareness in those project knowledge areas.

4.3.7. Roles in project undertakings played by respondent

Project roles performed by the respondents were considered to be significant in the study since it indicated the nature of interaction and direct involvement of respondents in project activity in Sonysugar thus validating the information in the survey. The respondents were requested to complete the questionnaire indicating their roles and their responses were captured in table 4.7

Table 4.7 Project roles of respondents

No. Years	Frequency	Percentage
Stakeholder	118	97.5
Sponsor	3	2.5
Project Manager	12	9.9
Project Team Member	50	41.3
User	117	96.7
Procurement/Contract	96	79.3
Personnel recruitment	6	5.0
Technical Specialist	5	4.1
Contractor	0	0
Other	0	0
Total	121	NA

Table 4.7 depicted a high response rate for the roles of stakeholder role play at 118 (97.5%), user 117(96.7%) and procurement 96(79.3%) respectively. The respondents indicated having played such a role in project work in Sonysugar. The fact that most respondents acknowledged having been stakeholders in a project process in Sonysugar can be attributed to the reality that all members in the sample group regularly interface with capital projects by virtue of their roles as users who prepare budgets, initiate procurement and monitor costs and timelines in the procurement process. Other common project roles included procurement and project team membership as depicted in the table.

4.4 The influence of project communication management practices on performance

To obtain information on the independent variable of project communication management and identify the level of institutionalized usage of best practices under the knowledge framework for communication management maturity in Sonysugar project management function, a set of project communication dimensions were used as indicators and a 5 level Likert scale was used to estimate the level of usage of each communication dimension in the questionnaire.

4.4.1: Project communication plan

A project Communication plan was a dimension considered important in the study since it outlined the framework for all project communication the absence of which would be indicative

of informal project communication practice. The communication plan identifies who, what, how, when, feedback and recording aspects for all project communication in a single document. The plan clarifies and details the lines of communication, the scope and format of communication, the methods of communication, feedback and document control framework and storage and retrieval systems for information on all project tasks. Effective communication is premised on a good communication plan. The plan enables synergy amongst all project stakeholders in the project environment. All project communication should be recorded in the project office. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.8.

Table 4.8: Project communication plan

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	0	0
Most times	5	4.1
Some times	6	5
Never	110	90.9
Total	121	100

The data analysis in table 4.8 revealed that a communication plan was not in existence and use in SonySugar with over 110 (90.9%) respondent questionnaires returning a negative response on the dimension. This outcome was validated through document examination that ascertained that indeed a communication plan did not exist. An interview with project office personnel further confirmed the non existence of a formal project communication plan. Three questionnaires returned a no score for the query but were accepted for further analysis since it did not affect their completeness as all other queries were responded to.

4.4.2: Project kick off meetings

A project kick off meeting is essential for formal project commencement. The meeting outlines and communicates broad issues on the project to all stakeholders, project team, contractors, client and suppliers through a brief that also touches on all key aspects of the project to obtain a common understanding on expectations, goal, processes, documentation, progress reviews, and measures of performance, obligations, timelines, scope, integration, payments and communication. The respondents were requested to complete the questionnaire

indicating their knowledge/awareness of this dimension and their responses were captured in table 4.9.

Table 4.9: Project kick off meetings in Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	10	8.3
Frequently	19	15.7
Most times	68	56.2
Some times	23	19
Never	1	0.8
Total	121	100

Table 4.9 shows that over 120 (99.2%) respondents were of the view that some meetings in one form or another were held to commence project work however this practice was informal and not routine and was not mandatory as only 10 (8.3%) respondents reported kick off meetings were always held. The data analysis revealed that use of the kick of meeting approach to signify project start and communicate was not an established practice in Sonysugar. The document examination and interviews with project office personnel confirmed the existence of records of attendance to such meetings whenever held for some projects however most projects were deficient in this respect thus validating this finding. There was a need to institutionalize the consistent use of kick of meetings to rally project teams and all stakeholders and to communicate project commencement.

4.4.3 Project meeting schedule

Schedules were considered important since they facilitated better preparation and conduct of project meetings and ensured sufficiency of information on timing of meetings. The schedules assured availability of meeting participants and proposed venue thus ensuring full participation of key project personnel in the meetings. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.10

Table 4.10: Awareness of project meeting schedules at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	0	0
Frequency	0	0
Most times	11	9.1
Some times	29	24
Never	81	66.9
Total	121	100

The information in Table 4.10 indicated that 81 (66.9%) respondents were of the view that meeting schedules were nonexistent in Sonysugar. This was confirmed through documents examined and interviews with project office personnel that demonstrated among other things the frequent absence of formal meeting schedules. However some exceptional cases were noted in the documents examined but the schedule preparation was clearly not routine practice in Sonysugar.

4.4.4 Project reference materials

Reference materials were a formal guide to project activity and actions and were thus considered critical to project success hence their inclusion in the study. The scope of reference materials required in a project environment included documented project information such as project feasibility reports, previous project reports, technical reports, designs, drawings and information, project plans, standards and the project charter. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.11

Table 4.11: Accessibility of project reference materials at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	14	11.5
Frequently	10	8.3
Most times	26	21.5
Some times	21	17.4
Never	50	41.3
Total	121	100

Table 4.11 revealed that 50 (41.3%) respondents indicated total lack of awareness, knowledge and access to any form of reference material in their project related work. The absence of project communication plan partly accounted for this finding. Effective documentation requires ample and appropriate storage facility in a project office with effective retrieval and document storage systems for ease of reference by project teams. The project office was found lacking in capacity to effectively collect and store project reference materials.

4.4.5: Clarification of work procedures

Clarification of work procedures was considered important in the study since it was a necessary function of the project manager at the project kick off stage and during the project life cycle. The effectiveness of the project manager had a direct bearing on project success. The importance of clarity in work procedures was to prevent project team members working at cross purposes and causing conflicts besides wastage of resources. Delays in effecting actions in project environment could also be attributed to absence of clarity on work procedures hence procrastination by project teams. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.12.

Table 4.12: Clarification of work procedures by the Project Manager

Level of use/Knowledge	Frequency	Percentage
Always	4	33
Frequently	11	9.1
Most times	17	14
Some times	31	25.6
Never	58	48
Total	121	100

Table 4.12 shows that 58(48%) respondents were of the view that meetings for continuous review and issuance of formal work methods were never held in the company. This finding when considered alongside the 31(25.6%) respondents who reported that such meetings were held on some occasions, made the finding significant in that 89 (73.6%) respondents cited inadequate attention to this critical organisational project maturity dimension. The absence of incontrovertible evidence to the contrary in documents examined and interviews with project

office personnel confirmed the finding. Project office personnel however held during interviews that such actions were routinely undertaken but never recorded. There was need to document all project activity of significance to enhance maturity in organizational project practices.

4.4.6: Project team training on work processes

Training of the project team was considered important in the study since training enhanced a team’s capability to deliver project activities and the level of training would reflect emphasis of this capability dimension in the organization. Project success was premised on the collective team and individual skills and competencies. The project skills included technical skills and project management techniques. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.3

Table 4.13: Project team training on first appointment at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	0	0
Most times	2	1.7
Some times	17	14
Never	102	84.3
Total	121	100

The data analysis in table 4.13 revealed that project team training is not regularly practiced in the company with 102 (84.3%) respondents reporting never having witnessed in such training in the absence of any document presented during analysis to verify claims of existence of training of project teams on appointment, as was indicated by the project office during interview it was concluded that the observation by respondents reflected reality on the ground.

4.4.7 Project meeting minutes

Project meeting minutes were considered necessary to record all project actions, reviews and decision during implementation hence its inclusion in the study. Project meeting minutes are formal record of the deliberations and resolutions. Project meetings were considered essential to facilitate timely and effective communication of project information. Project meetings were to be organized with a clear agenda clarifying the purpose and communicated through a notice to all relevant participants. The notice would include information on the venue and the time for commencement. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.14.

Table 4.14: Preparation of project meeting minutes at Sonysugar

Knowledge of use/Knowledge	Frequency	Percentage
Always	91	75.2
Frequently	19	15.7
Most times	6	5.0
Some times	5	4.1
Never	0	0
Total	121	100

As indicated in table 4.14, 91 (75.2%) respondents reported that meeting minutes were regularly prepared as routine project practice. Several minutes were presented for analysis to which confirmed the observation by majority of the respondents. It was significant that no respondent reported total lack of awareness.

4.4.8 Project document distribution schedules

The project document distribution schedules were considered necessary and important for inclusion in the study since they acted as a check and audit trail for documents issued to all relevant persons in the project team to whom the information in the documents being circulated was intended. This assured delivery of targeted information on project matters to aid timely communication and decision making by key project personnel. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.15

Table 4.15: Usage of Project document distribution schedules at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	8	6.7
Frequently	13	10.7
Most times	9	7.4
Some times	27	22.3
Never	64	52.9
Total	121	100

The table 4.15 shows that 64 (52.9%) respondents reported the non existence of a project document distribution schedule. Indeed the documents examined confirmed absence of such schedules. Over 40 (40%) respondents confirmed the informal nature of usage of this maturity dimension reporting rare to occasional usage.

4.4.9: Project progression reporting and progress reports

Project progress monitoring was considered necessary since it guided a project to successful completion through taking stock of positive progress and considering actions for mitigating deviations from plan. This necessitated its inclusion in the study. The project manager scheduled project progress meetings that also served as forums to build consensus among team members and other project stakeholders and for decision making especially on changes of plan. The progress review and reporting included review of reported actions from previous meetings, report on progress by specific work packages, discussion on scope changes and implications and or approvals, review of controlled document issues, discussions non conformity to quality reports, claims and approval requests for payment of invoices for contracted work or suppliers. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.16.

Table 4.16: Usage of project progression reporting and progress reports at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	13	10.7
Frequently	8	6.6
Most times	6	5
Some times	29	24
Never	65	53.7
Total	121	100

Table 4.16 revealed 65 (53.7%) respondents reported they had never participated or witnessed any form of progress reporting or review sessions. 29 (24%) respondents reported occasional but rare usage of progress reviews. This was considered a significant indicator of high risk factor potentially leading to project failure in the company. The documents examined failed to locate any templates or records that could demonstrate any form of progression monitoring. There were no monitoring reports or milestone sign offs. There however were some minutes of review meetings that included some aspects of progress reporting but this was inadequate.

4.4.10: Controlled project documents list

The controlled project document list was considered important in the study since it aided the identification and distribution of sensitive project documents to key project stakeholders and project team members for whom the information was relevant and to no one else. This assured accurate and targeted communication of sensitive project information to relevant project personnel only. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.17.

Table 4.17: Usage of controlled project documents list at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	13	10.7
Frequently	9	7.4
Most times	2	1.7
Some times	6	5
Never	91	75.2
Total	121	100

Table 4.17 revealed 91 (75.2%) respondents were not aware of any document controls or a listing of controlled project documents in the organization. This was considered unusual in light of the sensitive nature of some project documentation especially with regard to contracts, personnel records on payments, disciplinary records and financial information that required controlled circulation to key persons.

4.4.11: Project closure, handing over and impact reporting

Project closure, handing over and impact reporting were considered important in the study since closures rallied all project stakeholders, client, sponsor and project team to a common position of general agreement on project ending and cessation of further activity with regard to the project and hence stem further resource usage and expenditure. This event would also enable a review as to whether the project met the intended client objectives and a record made of the vital lessons from its implementation by way of a handover report. An impact analysis would enable a longer term evaluation of the project as to whether the benefits accruing were sustained in the longer term. Handover reports make useful reference materials for future projects with respect to proven methodologies and lessons learned. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.18

Table 4.18: Procedures for project closure, handing over and impact reporting at Sonysugar

Level of use/ knowledge	Frequency	Percentage
Always	0	0
Frequently	0	0
Most times	2	1.7
Some times	6	5.0
Never	113	93.3
Total	121	100

The analysis in table 4.18 revealed that 113 (93.3%) of the respondents reported lack of procedures for project closure and handing over. This was observed to be a serious anomaly in project practice. However in some cases where hand over reports were present, the signoff reports examined during document examination were neither detailed in content and appeared only focused on facilitating the contractor's payments.

4.4.12: Registers for project documents

The project document registers were considered relevant for identification and listing of all project documents hence its inclusion in the study. The registers also act as checklists and audit trail for all project documents. Project documents provide useful reference materials on all project matters. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.19

Table 4.19: Usage of registers for project documents at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	3	2.5
Frequently	11	9.1
Most times	7	5.7
Some times	2	1.7
Never	98	81
Total	121	100

The analysis reveals that 98 (81%) respondents reported non existence or knowledge of project document registers as recorded in table 4.19. This was considered significant in light of

likelihood of document loss and absence of a framework for traceability offered by document registers. Document analysis corroborated this finding. The project office personnel acknowledged this situation as a weakness during interview. This was a key risk factor.

4.4.13: Project office data capture and storage

The project office, its data capture and storage systems were considered key to project success in light of the significance of project documentation and document referencing in project management in all project life cycle stages from idea formulation through to project evaluation post completion and handing over. The necessitated its inclusion in the study as an important dimension. As a maturity dimension, the project office data management system centralizes project data on multiple projects; disseminate information such as project standards, procedures, form templates and all other formal project documents. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.20.

Table 4.20: Usage of project office data capture and storage

Level of use/Knowledge	Frequency	Percentage
Always	22	18.2
Frequently	46	38
Most times	31	25.6
Some times	21	17.4
Never	1	0.8
Total	121	100

Table 4.20 indicates a reasonable spread of respondents acknowledging existence and interface with project office and its activities. Only 1 (0.8%) respondent reported lack of knowledge about project office. Indeed a project office was confirmed in existence and operational. However, some inadequacies were noted during interviews with project office personnel. These included inability of some project office personnel to clearly articulate their role in project management, provide a full scope of standard documentation for all projects and to readily trace and retrieve active documentation relating to ongoing projects. Some documents were also found missing from the files.

A low aggregate index score of .358 or 35.8 % for regular use of the independent variable project communication management was recorded. This demonstrated the low level of establishment of standard communication maturity practices in Sonysugar.

4.5: The influence of project risk management practices on performance

To obtain information on independent variable project risk management and identify its level of usage in Sonysugar project management function, a set of project risk dimensions were used as indicators and a 5 level Likert scale was used to estimate the level of prevalence of use of each risk management dimension in the questionnaire.

4.5.1: Project risk management plan

Risk management was considered important in the study since a high level of unmitigated risk would derail a project causing the implementation agency to miss out on the possibility of converting risk into opportunity. A project risk management plan formally outlines how the project implementing organization would respond to risk in general. The plan clarifies and details the objectives, identifies risk and provides an impact quantification framework, details a response plan for all uncertainty, risk and constraints identified. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.21.

Table 4.21: Usage of Project risk management plan at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	0	0
Most times	0	0
Some times	4	3.3
Never	117	96.7
Total	121	100

Table 4.21 indicated the lack of awareness and absence of a risk management plan was reported by 117 (96.7%) respondents. This finding was confirmed through document examination. This factor may account to a large extent for the inadequacies in project performance reported by the organization and low success rates since projects by their inherent

nature bore significant levels of uncertainty hence and risks. The absence of a risk management plan predisposes a project to poor performance.

4.5.2 Risk identification, qualification and impact analysis.

The identification of risk and the quantification of potential impact through analysis was considered important during project planning to ensure no significant risk event with a likelihood of occurrence was omitted from the planning of risk response, hence its inclusion in the study. A projects risk profile changes as it project proceeds through its various life cycle phases. The risk quantification and impact analysis was relevant to assess the probability of occurrence and to aid prioritization of actions to minimize specific risks with highest impact. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.22.

Table 4.22: Methodology in use for risk identification, quantification and impact analysis at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	8	6.6
Frequently	13	10.7
Most times	30	24.8
Some times	28	23.1
Never	42	34.8
Total	121	100

8 (6.6%) respondents as shown in table 4.22 indicated awareness and knowledge of a risk assessment methodology for projects in the company. This response rate was considered low and indicated a general lack of awareness and usage of this critical tool in risk management practice in the organization. This finding was confirmed in the interview with project management office personnel and may account for the project results depicted in table 4.68.

4.5.3: Risk response planning, monitoring and disaster recovery

The risk response planning and monitoring was considered important in the study in light of the prevalent uncertainty in a project environment the need to address adverse risk and the associated factors. Disasters are sudden un-planned events that are catastrophic in nature and

curtail progress of project activity towards achieving its goal. The disaster recovery framework outlines a contingency plan aimed at reducing the consequences of a disaster to an acceptable level. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.23.

Table 4.23: Risk response planning, monitoring and disaster recovery at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	14	11.6
Most times	9	7.4
Some times	5	4.1
Never	93	76.9
Total	121	100

Table 4.23 indicated that most respondents reported that risk response planning, monitoring and disaster recovery practices in the company were inadequate. 93 (76.9%) respondents reported lack of awareness. There were no documents available on this dimension and the interview with project office personnel was not conclusive in absence of documentary evidence to corroborate the claims of formal project risk planning processes in the organization.

A low aggregate index score of .203 or 20.3 % for regular use of the independent variable project risk management was recorded. This demonstrated the low level of establishment of standard risk management maturity practices in Sonysugar.

4.6: The influence of project quality management practices on performance

To obtain information on the independent variable project quality management and identify its level of institutionalized usage in Sonysugar project management function, a set of project quality dimensions were used as indicators and a 5 level Likert scale was used to estimate the level of prevalence of usage of each dimension within Sonysugar.

4.6.1: Project quality management plan

A quality plan was considered important in the study since the plan identified all relevant quality documentation and reference standards detailing specifications relevant to the project and communicated the requirements to all project stakeholders and vendors/suppliers. The plan outlined all quality activities and detailed compliance criteria for acceptance of outputs and outcomes. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.24.

Table 4.24: Project quality management plan at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	15	12.4
Frequently	11	9.1
Most times	27	22.3
Some times	32	26.4
Never	36	29.8
Total	121	100

The number of respondents in table 4.24 who reported existence and regular usage of a quality management plan (Always/Frequently) were 26 (21.5%) respondents indicating informal usage of the plan. The absence confirmed through document review indicated absence of a structured framework for performance of quality management activities.

4.6.2: Project quality reference standards

The quality reference standards were important in the study since they clarified in detail the quality requirements and expectations of all parties contributing to project implementation processes and efforts. The standards were the bench mark against which conformance would be tested and spelt out rejection criteria for all inputs and outputs not conforming to requirements. The standards facilitate quality inspections and reviews by project teams and the project manager. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.25.

Table 4.25: Project quality reference standards at SonySugar

Level of use/knowledge	Frequency	Percentage
Always	7	5.8
Frequently	13	10.7
Most times	53	43.8
Some times	48	39.7
Never	0	0
Total	121	100

Table 4.25 showed that only 7 (5.8%) respondents reported regular use of quality reference standards. The inconsistent use of the standards reflected lack of institutionalized practice for this dimension. The documents examined as standards were inadequate lacking reference to other national or international standards and did not prove the existence of a pattern of regular use of this practice in all projects.

4.6.3 Prequalification of vendors and suppliers

Vendors and supplier prequalification was considered important in the study since they supplied critical inputs/resources to the project and thus impacted project outcomes significantly. Defective or low quality inputs affected project performance hence the important value of this practice. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.26.

Table 4.26: Prequalification of vendors and suppliers at SonySugar

Level of use/knowledge	Frequency	Percentage
Always	96	79.3
Frequently	10	8.3
Most times	4	3.3
Some times	11	9.1
Never	0	0
Total	121	100

Table 4.26 indicated that prequalification practice was widespread as reported by 96 (73.3%) of the respondents. This was probably related to prevalent use of the prequalification of vendors for all corporate supplies including project specific procurements. This was a mandatory requirement spelt out in a statute.

4.6.4 Documented project work procedures

Documentation of work procedures for projects was considered important in the study since it had a bearing on consistency of work procedures used by the project team to avoid informal and subjective actions in project work. The documentation process assumed that consistent work procedures based on standardized actions assured consistent outputs. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.27.

Table 4.27: Documented project work procedures at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	17	14.0
Frequently	16	13.2
Most times	49	40.5
Some times	23	19.0
Never times	16	13.3
Total	100	100

Varied responses from the study respondents as indicated in table 4.27 was noted with an even distribution between the two extremes of low and regular usage. The largest response group of 49 (40.5%) respondents reported high level of usage of the practice lying between the two extremes. This was probably due to the corporate wide documentation of work procedures as part of third party certification. Documents examined revealed inconsistent use across projects.

4.6.5: Quality Inspection Reports

The quality inspection reports were considered important in the study since they recorded the outcome of a process that was a critical control input to the project during implementation. Quality inspection pre-empts significant deviation from plan during project implementation by pointing out at early stages any deviations and focuses a project on its goal. The respondents

were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.28.

Table 4.28: Project quality inspection reports at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	4	3.3
Frequently	20	16.5
Most times	12	9.9
Some times	18	14.9
Never	67	55.4
Total	121	100

Table 4.28 revealed that 67 (55.4%) respondents reported absence of quality inspection reports for projects in the company. Only 4 (3.3%) respondents reported consistent usage of quality inspection reports. The documents examined did not confirm regular usage. The number of reports availed by project management office for examination was inadequate and this confirmed the practice was in minimal use.

4.6.6 Non conformance reports

Non conformance reports were considered important in the study since they highlighted failed efforts or outcomes of activities during project implementation. The reports highlighted the need for urgent corrective action and represented a reference for actions and interventions needed or taken to keep the project on course to achieving its goal. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.29.

Table 4.29: Project non conformance reports at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	0	0
Frequently	3	2.5
Most times	9	7.4
Some times	3	2.5
Never	105	87.6
Total	121	100

The table showed low usage of the non conformance reporting framework with 105 (87.6%) respondents reporting non use and no respondents reporting consistent use across corporate projects. This situation deprived projects of focused attention for correcting deviations from plan and quality standards and might explain the overall low project success rate within the company.

4.6.7: Scope change reports and approvals

The scope change reports and approvals were considered important in the study because unplanned scope changes impacted negatively on project objectives since project scope determined the essential content of a project. A critical monitoring of the approved scope was critical to project success. Scope changes needed to be kept to minimal and where necessary, the changes needed a formal review of change request and approval. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.30.

Table 4.30: Project scope change reports approvals at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	0	0
Frequently	10	8.3
Most times	7	5.8
Some times	11	9.1
Never	93	76.8
Total	121	100

Table 4.30 showed that 93 (76.8%) respondents reported absence or lack of awareness about scope change reports and the approvals in the Sonysugar. Other respondents reported informal and non routine usage. Documents examined validated this finding. Scope changes represent the one biggest risk factor in a project environment and an absence of a framework for its management was considered detrimental to project success.

4.6.8: Documented acceptance testing criteria, commissioning and handover

Documentation of acceptance testing criteria, commissioning and handover were considered important in the study to ensure projects regularly attained the set quality specifications and objectives. The assessment of projects with regard to fulfilling client needs and expectations was critical to assessing project success. Projects are set up to achieve specific goals and objectives against which they need to be assessed. The clients need to assume control over the project outputs after handover by the Project Manager and the team. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.31.

Table 4.31: Documentation on project acceptance testing criteria, commissioning and handover at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	3	2.5
Frequently	8	6.6
Most times	30	24.8
Some times	62	51.2
Never	18	14.9
Total	121	100

As indicated in table 4.31, only 3 (2.5%) respondents reported regular use of project acceptance testing criteria, commissioning and handover in the company whilst 18(14.9%) reported lack of awareness or non existence as a practice. The majority of the respondents reported non routine usage 100 (82.6%) with a shift in response towards occasional but rare use. The low level of use of this practice may explain the historic consistent performance challenges emanating from not leveraging useful lessons from closed projects to plan new projects in Sonysugar.

4.7 The influence of project procurement management practices on performance

To obtain information on the independent variable project procurement management and identify its level of institutionalized usage in Sonysugar project management function, a set of project procurement dimensions were used as indicators and a 5 level Likert scale was used to estimate the level of prevalence of usage of each procurement dimension in Sonysugar.

4.7.1: Project procurement management plan

A procurement plan was considered important in the study since it identified all relevant processes for acquisition of goods and services to attain project scope. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.32.

Table 4.32: Project procurement management plan at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	112	92.6
Frequently	3	2.5
Most times	5	4.1
Some times	1	0.8
Never	0	0
Total	121	100

Table 4.32 showed that 112 (92.6 %) respondents indicated awareness or regular usage of the procurement plan. Documents examined confirmed this finding.

4.7.2: Resource schedule

Resource schedules were considered important in the study since projects used considerable resources that needed to be identified early and planned for to accomplish the scope. The schedule identified the resources and the quantities and was a critical resource in planning to avoid delays. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.33.

Table 4.33: Project resource schedule usage at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	21	17.4
Frequently	35	28.9
Most times	16	13.2
Some times	29	24
Never	20	16.5
Total	121	100

Resource scheduling and its use was reported in table 4.33 to be used inconsistently across projects. This level of familiarity was attributed to the corporate and centralized nature of resource budgeting in the organization in which all resources are budgeted for at corporate level. 20 (16.5%) respondents however indicated non familiarity with resource schedules. Informal usage was confirmed from documents examined.

4.7.3: Project procurement schedule

Procurement scheduling was important in the study since a range of resources were obtained from outside the organization and thus the planning of availability of procured resources required synchronization with consideration given to the timing for the resource need, procurement cycle time for specific resources and cash flows to avoid the project stalling due to shortage of resources. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.34.

Table 4.34: Project procurement schedule usage at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	106	87.6
Frequently	8	6.6
Most times	5	4.1
Some times	2	1.7
Never	0	0
Total	121	100

According to table 4.34, 106 (87.6%) respondents indicated knowledge of the procurement plan for Sonysugar. The high response rate for familiarity with this procurement practice in project work was probably due to the corporate approach to centralized procurement planning practiced in the company in which project related procurement was incorporated in the corporate procurement plan.

4.7.4: Procurement solicitation planning and monitoring

Project procurement solicitation planning and monitoring was considered important in the study since this critical activity ensured the procurement process delivered resources in a prompt manner to the project. Effective planning assured timely deliver, cost effective procurement and conformity with applicable statutes on procurement. Solicitation planning and monitoring included detailing procedures for obtaining all requisite procurement information, quotations, bids, offers, proposals and contract negotiations and tracking progress in accordance with the procurement schedule. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.35.

Table 4.35: Procurement solicitation planning and monitoring at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	92	76
Frequently	18	14.9
Most times	5	4.1
Some times	3	2.5
Never	3	2.5
Total	121	100

Table 4.35 showed that 92 (76%) respondents indicated consistent usage of procurement solicitation planning and monitoring at Sonysugar. The high response rate for familiarity with this procurement practice in project work was probably due to the corporate approach to centralized procurement. Interviews with project office personnel and documents examined confirmed this finding.

4.7.5: Source selection process and contractors/vendors listing

Source selection process and contractor/vendor listing was considered important in the study since qualified contractors and vendors were identified through this process. The capability of the selected sources and contractors supplying resources and services to the project was a key determinant to project success. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.36.

Table 4.36: Source selection process and contractors/vendor listing at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	87	71.9
Frequently	23	19
Most times	10	8.3
Some times	1	0.8
Never	0	0
Total	121	100

87 (71.9%) respondents according to table 4.36 indicated consistent usage of source selection process and contractors/vendor listing in Sonysugar. The high response rate for familiarity with this procurement practice in project was probably due to the corporate approach to centralized procurement management practiced in the company in which project related procurement is incorporated in the corporate procurement.

4.7.6: Contracts administration and closeout

Contracts were considered important in the study due to their prevalence in corporate projects where the organization outsourced services to contractors and hence its implications on scope delivery. Contracts defined obligations and addressed compliance issues as part of risk management. The respondents were requested to complete questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.37.

Table 4.37: Contracts administration and closeout

Level of use/Knowledge	Frequency	Percentage
Always	18	14.9
Frequently	12	9.9
Most times	1	0.8
Some times	59	48.8
Never	31	25.6
Total	121	100

Table 4.37 indicated that 31 (25.6%) respondents reported lack of knowledge about project contracts administration and closeout at Sonysugar. Another 59 (48.8%) respondents reported occasional but rare usage. These two findings indicated a generally low prevalence of the practice of project contracts management and project closeout in Sonysugar.

4.8: The influence of project human resource management practices on performance

To obtain information on the independent variable project human resource management and identify its level of institutionalized usage in Sonysugar project management function, a set of project human resource dimensions were chosen as indicators and a 5 level Likert scale was used to estimate the level of each human resource dimension.

4.8.1: Project manager selection criteria

The project manager selection criterion was considered important in the study because the project manager bore single point responsibility for management and results of the project and hence a clear specification on personal and professional qualifications for the project manager position needed to be issued by the sponsor for selection purposes. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.38.

Table 4.38: Project Manager Selection criteria issued by sponsor at Sonysugar

Level of use/knowledge	Frequency	Percentage
Always	26	21.5
Frequently	25	20.7
Most times	32	26.4
Some times	37	30.6
Never	1	1
Total	121	100

The results in table 4.38 showed that the issuance of project manager selection criteria by the sponsor was not a routine practice in Sonysugar and was not an established practice. Only 26 (21.5%) respondents reported knowledge of established/regular use of the practice. Documents examined confirmed this finding.

4.8.2: Project manager appointment process

The project manager appointment process was considered important in the study because the project manager, was the person exercising single point responsibility for project tasks and results. The respondents were requested to complete the questionnaire indicating their knowledge/aware of this dimension and their responses were captured in table 4.39.

Table 4.39: Formal project manager appointment process for each project undertaken

Level of use/Knowledge	Frequency	Percentage
Always	7	5.8
Frequently	19	15.7
Most times	27	22.3
Some times	16	13.2
Never	52	43
Total	121	100

Table 4.39 indicated that 52 (43%) respondents reported lack of knowledge of established/regular use of the practice of formal project manager appointment process for each project

undertaken at Sonysugar. Only 7(5.8%) respondents reported consistent use of the practice. Project office personnel confirmed this finding.

4.8.3: Team selection process

The project team selection was considered important in the study because the project team is the assisted the project managers deliver the results and the team brought to the project specific skills and competencies for its execution. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.40.

Table 4.40: Project team selection process for each project undertaken at Sonysugar.

Level of use/knowledge	Frequency	Percentage
Always	12	9.9
Frequently	26	21.5
Most times	51	42.1
Sometimes	18	14.9
Never	14	11.6
Total	121	100

The data in table 4.40 indicated that 14 (11.6%) respondents reported lack of knowledge of a Project team selection process for each project in the company whilst 12(9.9%) reported a consistent and established usage. The majority of the respondents reported usage on an informal basis. The documents examined and interview with project office personnel confirmed informal usage.

4.8.4: Project team appointment process

The project team appointment process was considered important in the study because this requirement enabled commencement of the project implementation process. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table4.41.

Table 4.41: Formal project team appointment process for each project undertaken at Sonysugar.

Level of use/knowledge	Frequency	Percentage
Always	12	9.9
Frequently	26	21.5
Most times	32	26.4
Some times	14	11.6
Never	37	30.6
Total	121	100

Table 4.41 indicated that 37 (30.6%) respondents reported lack of knowledge of formal project team appointment process for each project in the company whilst 12 (9.9%) reported a consistent and established usage of formal team appointment. Half the respondents reported usage on an informal basis.

4.8.5: Job descriptions and clear roles for project team members

Job descriptions were considered important in the study since clarity of roles and jobs besides selection of competent persons with requisite skills was only possible with clear job descriptions. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.42.

Table 4.42: Job descriptions and clear roles for project team members for each project undertaken at Sonysugar.

Level of use/Knowledge	Frequency	Percentage
Always	6	5
Frequently	12	11.6
Most times	29	24
Some times	48	39.7
Never	24	19.7
Total	121	100

Table 4.42 indicates that only 6 (5%) respondents reported consistent and established usage of job descriptions for project teams. The rest of the respondents either reported inconsistent usage or non use. Documents examined confirmed this finding.

4.8.6: Team Building and Commitment Sessions

Team building was considered important in the study since the project team being a temporary organization faced challenges of creating immediate synergy and integration to deliver the project goal despite the constraints of time. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.43.

Table 4.43: Team building and commitment sessions for project team members for each project undertaken at Sonysugar.

Level of use/knowledge	Frequency	Percentage
Always	1	0.8
Frequently	12	9.9
Most times	8	6.6
Some times	56	46.3
Never	44	36.4
Total	121	100

Table 4.43 indicated that 44 (36.4%) respondents reported non familiarity with team building efforts or commitment sessions. Another 56 (46.3%) respondents indicated informal but rare usage of the practice in the company for project work. Documents examined and interviews with project office personnel confirmed this finding.

4.8.7: Team engagement rules and code of conduct

Team engagement rules and code of conduct was considered important in the study since a clear code was necessary to define acceptable behavior and conduct in a team environment for all members and stakeholders and spell out penalties for non-conformance. This framework enabled conflict resolution. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.44.

Table 4.44: Formal and clear team engagement rules and code of conduct for project teams in projects undertaken at Sonysugar.

Level of use/knowledge	Frequency	Percentage
Always	3	2.5
Frequently	20	16.5
Most times	5	4.1
Some times	13	10.7
Never	80	66.2
Total	121	100

As indicated in table 4.44, 80 (66.2%) respondents reported non familiarity with any form of formal and clear team engagement rules and code of conduct provisions or practice in project work at Sonysugar. Documents examined confirmed this finding.

4.8.9: Project organization structure, authority levels and reporting lines

Project organization structure, authority levels reporting lines were considered important in the study since most team members were assigned to the project for a short period of time, the project presented a different setting to their normal work hence the need for a structured work organization and decision lines to avoid conflict. The respondents were requested to complete the questionnaire indicating their knowledge/awareness and their responses were captured in table 4.45.

Table 4.45: Project organization structure, authority levels and reporting lines for project team members in projects undertaken at Sonysugar.

Level of use/knowledge	Frequency	Percentage
Always	78	64.5
Frequently	26	21.5
Most times	7	5.8
Some times	10	8.2
Never	0	0
Total	121	100

Table 4.45 indicated that 78 (64.5%) respondents reported familiarity and knowledge of a formal project organization structure, clear project authority levels and reporting lines in the company.

4.9: The project performance

Project performance was evaluated based on the framework of the triple constraints of cost, scope and time as indices of project success in situations of project completion within scope cost and time initially planned. An index measuring prevalence for each on the three attributes of cost, time and scope was computed by aggregating the specific elements of each individual performance score measured from respondent responses. The respondent scoring was compared to actual data on project performance as assessed from company document examined.

4.9.1: Project Cost Management

To obtain information on the dependent variable of project cost management and identify its dependency on the selected independent variables, a set of project cost indicators were chosen and a 5 level Likert scale was used to estimate the attributes in the study.

Project cost management includes the processes required to ensure the project is completed within approved budget. Tables 4.46 to 4.43 measure the existence and uses of various dimensions of cost management as per the survey responses. The responses were evaluated against the document trail analyzed and interviews held with project office personnel.

4.9.1.1: Bill of materials

The bill of materials preparations was considered important in the study since it aided the project costing process and comparison with budget by quantifying the physical resource needs and costing the same, using a baseline for reference during actual project implementation and resource use. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.46.

Table 4.46: Bill of Materials

Level of Use/Knowledge	Frequency	Percentage
Always	36	29.8
Frequently	21	17.4
Most times	8	6.6
Some times	31	25.6
Never	25	20.6
Total	121	100

The table 4.46 indicated that 25 (20.6%) respondents reported non familiarity with bill of materials preparation and use in the company. With only 36 (29.8%) respondents reporting consistent usage, this practice was noted to be inconsistent in application across company projects. The finding was confirmed through the documents examined.

4.9.1.2: Resource schedules and rates for projects

The resources schedules and prices were considered important in the study since they listed, quantified and priced the total resource requirements for projects. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.47.

Table 4.47: Resource schedules and rates for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	11	9.1
Frequently	43	35.5
Most times	18	14.9
Some times	34	28.1
Never	15	12.4
Total	121	100

The data analysis in table 4.47 indicated that 11 (9.1%) respondents reported consistent practice of preparation of resource schedules and rates for use across company projects with another 15 (12.4%) reporting non existence. This practice was reported to be informal in usage

in the company. Interview with project office personnel and document examination revealed the inconsistent usage across projects.

4.9.1.3: Project budget documentation

The project budget document was considered important in the study as a baseline for comparing actual costs and reporting of project cost performance. The budget provided the approval for expenditure along specific lines. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.48.

Table 4.48: Project budget documentation for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	88	72.7
Frequently	12	9.9
Most times	5	4.1
Some times	16	13.3
Never	0	0
Total	121	100

Table 4.48 indicated that 88 (72.7%) respondents reported consistent use of project budget documentation across company projects. This finding was consistent with the documents examined.

4.9.1.4: Project expenditure and cost reports

Expenditure and cost reports were considered important in the study since they aided tracking of project performance in the area of expenditure reporting and control during implementation. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.49.

Table 4.49: Project expenditure and cost reports for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	52	43
Frequently	31	25.6
Most times	18	14.9
Some times	12	9.9
Never	8	6.6
Total	121	100

Out of the survey, 52 (43%) respondents according to table 4.49 reported consistent use of project expenditure and cost reports in company projects. Another 31 (25.6%) respondents reported frequent use of the practice. Documents examined confirmed this finding.

4.9.1.5: Cash flow statements

Cash flow statements were considered important in the study as they aided timely planning and adequate financing of project activities and resource acquisition for projects. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.50.

Table 4.50: Cash flow statements for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	5	4.1
Frequently	11	9.1
Most times	8	6.6
Some times	31	25.6
Never	66	54.6
Total	121	100

Table 4.50 indicated that 66 (54.6%) respondents reported lack of knowledge or non usage of cash flow statements for company projects. This coupled with 31 (25.6%) respondents reporting limited or occasional usage of cash flow statements. The finding indicated a high incidence of non usage of the practice.

4.9.1.6: Funding and funds availability

Funding and funds availability were considered important in the study since they provided the necessary guarantees' and assurance that funds for the various project activities were adequately provided for. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.51.

Table 4.51: Funding and funds availability for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	6	5
Frequently	3	2.5
Most times	12	10
Some times	27	22.5
Never	73	60
Total	121	100

According to table 4.51, 73 (60%) respondents reported lack of information and knowledge about project funding and availability of funds for various project activities. The interview with project office personnel corroborated this finding.

4.9.1.7: Project budget review

Project budget reviews were considered important in the study since they were necessary to authorize expenditure for scope changes and other cost variations and also offer controls for project expenditure. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.52.

Table 4.52: Project budget reviews for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	58	47.9
Frequently	29	24
Most times	31	25.6
Some times	3	2.5
Never	0	0
Total	121	100

Table 4.52 showed that 58 (47.9%) respondents reported consistent use of project budget reviews for company projects and another 29 (24%) respondents reported frequent use of project budget reviews. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.1.8: Project budget revision approvals

Project budget revision approvals were considered important in the study since offered controls for project expenditure reviews to mitigate risk of cost overruns in light of cost constraints. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.53.

Table 4.53: Project budget revision approvals for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	52	43
Frequently	33	27.3
Most times	24	19.8
Some times	12	9.9
Never	0	0
Total	121	100

According to table 4.53, 52 (43%) respondents reported consistent use of project budget revision approvals for company projects and another 33 (27.3%) respondents reported frequent use of project budget revision approval. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.2: Project scope management

To obtain information on the dependent variable project scope management and identify its dependency on the selected independent variables, a set of project scope indicators were used and a 5 level Likert scale was used to estimate and quantify the attributes in the study. Scope management includes all processes required to ensure that the project included specifically all work required to complete the project successfully.

Tables 4.54 to 4.60 contain data on the existence and usage of various dimensions of scope management as per the survey responses. The responses were evaluated against the document trail analyzed and interview with project management officer personnel.

4.9.2.1: Project scope definition

Project scope definition was considered important in the study as it was necessary to clearly define the project boundary to determine what was and what was not included as activities and outputs of the project. The respondents were requested to complete the questionnaire indicating their knowledge/awareness and their responses were captured in table 4.54.

Table 4.54: Project scope definition for project undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	36	29.8
Frequently	21	17.4
Most times	46	38
Some times	18	14.8
Never	0	0
Total	121	100

Table 4.54 indicates that 36 (29.8%) respondents reported consistent application of scope definition in all projects. Whereas no respondent reported complete lack of acknowledgment, the rest of the respondents indicated the non-routine nature of use of scope definition.

4.9.2.2: Project scope breakdown

The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.55.

Table 4.55: Project scope breakdown for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	5	4.1
Frequently	21	17.3
Most times	33	27.3
Some times	29	24
Never	33	27.3
Total	121	100

According to table 4.55, 5 (4.1%) respondents reported consistent use of project scope breakdown for company projects and another 33 (27.3%) respondents reported non use of project scope breakdown. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.2.3: Project work breakdown

The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.56.

Table 4.56: Project work breakdown for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	7	5.7
Frequently	3	2.5
Most times	25	20.7
Some times	29	24
Never	57	47.1
Total	121	100

Table 4.56 indicated that 36 (29.8%) respondents reported consistent application of scope definition in all projects. Whereas no respondent reported complete lack of knowledge, the rest of the respondents indicated the non routine usage of scope definition in Sonysugar. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.2.4: Project activity log book

Project activity log books were considered important in the study since they provided a firsthand record of all project activity and hence an effective audit trail. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.57.

Table 4.57: Project activity log books for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	25	20.7
Frequently	21	17.4
Most times	59	48.8
Some times	16	13.1
Never	0	0
Total	121	100

According to table 4.57, 25(20.7%) respondents reported consistent use of project activity log books for project work in the company. The practice was considered widespread but informal going by the response. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.2.5: Project work package authorization

Project work package authorization was considered important in the study since work package authorization was the framework that facilitated sequential performance of project work through formal closures and signoffs enabling commencement of subsequent work packages. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.58.

Table 4.58: Project work package authorization for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	10	8.2
Most times	12	9.9
Some times	23	19
Never	76	62.9
Total	121	100

76 (62.9%) respondents according to table 4.58 reported total lack of knowledge or use of project work package authorization in the company. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.2.6: Project work and task sheets

Project work and task sheets were considered important in the study since they were basic project data collection tools for work tasks and time performance. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.59.

Table 4.59: Project work and task sheets for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	65	53.7
Frequently	31	25.6
Most times	14	11.6
Some times	11	9.1
Never	0	0
Total	121	100

Table 4.59 showed that 65 (53.7%) respondents reported consistent use of project work and task sheets. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.2.7: Scope change documentation

Scope change documentation was considered important in the study since scope changes were significant events in a project with direct bearing on performance in time, costs and objectives. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were recorded in table 4.60.

Table 4.60: Project scope change documentation for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	0	0
Most times	0	0
Some times	14	11.6
Never	107	88.4
Total	121	100

Table 4.60 showed that 107(88.4%) respondents reported non familiarity with scope change documentation in the company. A document examination validated this finding in the absence of hard copy evidence of the practice.

4.9.3: Project time management

To obtain information on the dependent variable project time management and identify its dependency on the selected independent variables, a set of project time indicators were chosen and a 5 level Likert scale was used to estimate the attributes in the study.

Time management includes all processes required to ensure timely completion of the project. Time management is shaped by efforts such as defining the project interim deliverables and or work activities, sequencing them into a schedule and estimating their effort and duration to facilitate schedule control and monitoring.

Tables 4.61 to 4.67 measure the existence and usage of various dimensions of cost management as per the survey responses. The responses were evaluated against the documents analyzed and information from project management office personnel.

4.9.3.1: Project progress monitoring and review

Project progress monitoring was considered important in the study since it ensured project implementation followed approved plans. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.61.

Table 4.61: Project progress monitoring and review for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	5	4.1
Most times	17	14
Some times	13	10.7
Never	86	71.2
Total	121	100

According to table 4.61, 86(71.2%) respondents reported non familiarity with project progress monitoring and review in company projects. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.3.2: Key project calendar dates

Key project calendar dates were considered important in the study since they determined key targets dates and project duration planning. The key dates enabled formulation of project milestones that aided tracking of implementation progress. The respondents were requested to complete the questionnaire indicating their knowledge/awareness and their responses were captured in table 4.62.

Table 4.62: Key project calendar dates undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	21	17.4
Frequently	37	30.6
Most times	30	24.8
Some times	14	11.6
Never	9	15.6
Total	121	100

The data in table 4.62 showed that 21 (17.4%) respondents reported consistent information availability and possession of knowledge on key project target dates while 9 (15.6%) respondents reported complete lack of knowledge.

4.9.3.3: Network techniques for activity definition and sequencing

Network techniques for activity definition and sequencing were considered important in the study since they were the basis on which project schedules and activity duration estimation were prepared. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.63.

Table 4.63: Network techniques for activity definition and sequencing

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	8	6.6
Most times	17	14
Some times	21	17.4
Never	75	62
Total	121	100

According to table 4.63, 75 (62%) respondents reported non familiarity with the practice of network techniques for activity definition and sequencing in the company.

4.9.3.4: Estimation of activity duration

Estimation of activity duration was considered important in the study as a pre-planning process necessary to bundle all estimates into complete project duration from start to finish. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of the dimension and their responses were captured in table 4.64.

Table 4.64: Estimation of activity duration for projects undertaken at Sony sugar

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	3	2.5
Most times	19	15.7
Some times	43	35.5
Never	50	41.3
Total	121	100

According to table 4.64, 50 (41.3%) respondents reported non familiarity with the practice of estimation of project activity duration. These findings were confirmed in the interviews with project office personnel and documents examined.

4.9.3.5: Schedule-Critical path, mile stone definition and Gantt chart preparation.

Schedule-critical path and mile stone definition and Gantt chart preparation was considered important in the study since they are necessary tools and instruments for preparing schedules for tracking and recording time performance of a project during implementation.

The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.65.

Table 4.65: Schedule-Critical path and milestone definition and Gantt chart preparation for projects undertaken at Sonysugar.

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	6	5.0
Most times	14	11.6
Some times	23	19.0
Never	78	64.4
Total	121	100

Table 4.65 showed that 78(64.4%) respondents reported total non-familiarity or knowledge of schedule-critical path and mile stone definition and Gantt chart preparation process for projects in the company. The finding demonstrated the company regularly failed to utilize network techniques and estimation methods to prepare schedule histograms for tracking work progress. These findings were confirmed in the interviews with project office personnel and documents examined

4.9.3.6: Time sheets, progress monitoring and reviews

Time sheets, progress monitoring and reviews were considered important in the study since they are necessary tools and instruments for tracking and recording time performance of project during implementation. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.66.

Table 4.66: Time sheets, progress monitoring and reviews for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	0	0
Frequently	1	0.8
Most times	8	6.6
Some times	39	32.2
Never	73	60.4
Total	121	100

The data table 4.66 revealed time sheets; progress monitoring and reviews were not part of routine project practice. 73(60.4%) respondents reporting non use. This outcome was confirmed through document examined. The document analysis and interview with project office personnel failed to confirm or validate the existence of a framework or tools for time and progress monitoring despite claims by the project office personnel during interviews.

4.9.3.7: Timelines revision

Timelines revision was considered important in the study since it provided a formal framework for revision and approval of revised timelines for project implementation. This was necessary since approved timelines provided a baseline for assessing project time performance. The respondents were requested to complete the questionnaire indicating their knowledge/awareness of this dimension and their responses were captured in table 4.67.

Table 4.67: Timelines revision for projects undertaken at Sonysugar

Level of use/Knowledge	Frequency	Percentage
Always	1	0.8
Frequently	4	3.3
Most times	15	12.4
Some times	11	9.1
Never	90	74.4
Total	121	100

Table 4.67 showed that 90 (74.4%) respondents rejected the notion of project timelines revision as a practice in Sonysugar. Interviews with the project office personnel and document

analysis indicated that project timelines were not arrived at using standard estimation techniques. This rendered timelines review impractical and devoid of an objective basis and framework for its performance.

4.9.3.8: Sonysugar project performance results

The data on performance results in table 4.68 were extracted from company records on performance contracting with GoK for the year 2006 to 2012. The development index is an indicator of capital and project related expenditure or budget utilization as a ratio of total recurrent and development expenditure in a period and was a performance target. The index shows projects expenditure as a ratio of overall company expenditure on operations and maintenance.

Table 4.68: Project performance results for Sonysugar for Financial periods 2006/07 to 2011/12

Criterion	Unit		2006/	2007/	2008/	2009/	2010/	2011
	Of measure		2007	2008	2009	2010	2011	2012
Development Index	Actual		8.52	8.55	4.91	32.30	6.60	12.55
	Plan		18.45	7.01	8.95	16.06	12.67	24.37
Sugar cane milled	Actual	tons	655994	628227	586052	558054	725827	637547
	Plan	tons						
Project completion rate	Actual	%						
	plan	%						

Source: South Nyanza Sugar Company Limited, 2012

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1: Introduction

This chapter presents the summary of findings, conclusions and recommendations both for policy formulation and further research.

5.2: Summary of findings

In the research study, the respondents who were company employees in the payroll of Sonysugar were asked to evaluate using a questionnaire, the corporate project management practices along the nine knowledge areas of project management that constitute a benchmark for best practice in project management maturity practices. The evaluation yielded averages as an index for maturity in the various dimensions that depicted maturity in the nine project knowledge areas. The findings were verified using information from document examination and analysis besides structured interviews with project office personnel in Sonysugar. Where an indicator or practice was found to be present most of the times, frequently or always as recorded in the questionnaire, the finding was aggregated to reflect regular use or practice of that dimension. In cases where the indicator or practice was prevalent some of the time, this finding was classified as rare practice and where the finding was the dimension was nonexistent; it was classified as never in use. An index on a scale of 0 to 1 was computed from aggregated questionnaire data and used to quantify the strength of prevalence of a dimension or practice as regular practice, rare practice or never in use. A score of 1 represented the highest level of maturity of 100 % equating to benchmark best practice with 0 the lower end of the scale equating to non existence of best practice.

In the case of findings on project communication management, an index of 0.358 for regular usage and 0.530 for non existence was recorded after analysis of data on the indicator. This finding established that communication management was deficient hence the low project performance.

With respect to findings on project risk management, an index of 0.203 for regular usage and 0.695 for non existence was recorded after analysis of data on the indicator. Risk management practices were deficient and hence the low project performance.

In the case of findings on project quality management an index of 0.438 for regular usage and 0.347 for non existence was recorded. The quality score was evenly distributed however the low project performance confirmed the inadequacy noted in quality management maturity.

With respect to findings on project procurement an index of 0,795 for regular usage and 0.074 for non existence was recorded. Project performance was low despite this finding.

In the case of project human resource management an index of 0.521 and 0.260 for non existence was recorded.

With respect to findings on scope, cost and time management, indices of 0.280, 0.692 and 0.250 were recorded respectively for regular usage. Despite the high prevalence of cost management practices, project performance was low for the period of the study.

5.3: Conclusion

The results of the research into the project management maturity practices in use at Sonysugar Company depicted a low level of adoption of maturity practices in all the eight knowledge areas that were surveyed with the exception of procurement and cost management. These findings were altogether not surprising in light of the prevalent poor project performance in the years examined. Most projects exceeded their timeline and budgets as was evident from the documents examined. Table 4.68 illustrated the weak operating and business results against targets. Awareness and knowledge amongst management and supervisory about appropriate project management techniques and methodology was low. Scope, time, risk and communication management practices scored low on prevalence. Scope variation was a common feature in most projects examined which was attributed to poor scope definition and scope change control as was revealed in the questionnaire responses and document examination. The highest level of maturity that equated to regularity of usage of standard benchmark practices was found in procurement practices with an index of 0.795 or 79.5 % equating to respondents reporting regular use while the lowest score was in risk management with an index of 0.203 or 20.3 %. The higher index in prevalence of procurement practices may be attributed to the established use of procurement regulations and manuals issued by the public procurement regulatory agency for the government of Kenya hence the compliance dimension made the practices obligatory to the organization on all procurement matters. The high index for prevalence of

cost management practice may be attributed to the routine use of standard cost practice based on the international accounting standards and government of Kenya regulations at corporate levels and within individual projects.

The research revealed that the use of standard benchmark practices for project management was generally low in Sonysugar; the practices were informal in most cases. Capacity development in project management skills for key personnel was not a priority and no professional in the company had project management certification as was clear from the records examined. The project office was not adequately resourced and project managers lacked requisite authority to drive actions.

As key project success determinants, the low index for risk, scope and time management may account for the consistent project performance challenges in Sonysugar.

The results of this research are useful as contribution in multiple ways to project management practice in Sonysugar, the local sugar industry and Kenya. The results pinpointed the key areas of organizational project management maturity practices that required greatest attention. The results pointed to a need to create institutional models to benchmark project management practices against established standards as a process for continual improvement and a road map for up scaling the level of maturity against established best practice.

5.4: Recommendations

In light of the findings of the study and the conclusions made, recommendations were made on the basis of two parameters; recommendation for policy formulation and further research.

5.4.1: Recommendations for policy formulation

Sonysugar needed to consider a comprehensive review of the policy in the area of project management to incorporate training in project maturity best practices, techniques and methodology for all key personnel.

The government of Kenya may a policy review in the area of project implementation to make use of the organizational project maturity model for project management mandatory for all national development projects.

Kenya's development partners should consider using the organizational project maturity framework as a criterion for project delivery when consideration is given to requests for project funding by agencies of the government of Kenya.

5.4.2: Suggestions for further research

1. A study should be commissioned to establish the extent of implementation of project maturity practices in private sugar companies
2. A study should be conducted to establish the extent of implementation of project maturity within other public sectors other than the sugar industry
3. A determination of which project management best practices are commonly implemented in local community projects
4. A comparative study on organizational project maturity practices should be carried out in both public sector projects and private ones in Kenya

Table 5.1: Operationalization Table

OBJECTIVES	VARIABLES	INDICATORS	MEASUREMENT SCALE	DATA COLLECTION METHODS	DATA ANALYSIS TECHNIQUE
To establish the extent to which project communication management practices influence performance	Independent- Communication practices	<ul style="list-style-type: none"> *Closure, Handing over and Impact reports *Communication plan document *Communications plan document *Controlled documents listing *Document distribution schedules and transmittals, circulation lists, *Meeting minutes *Meeting schedules *Progress reports *Project manager clarifies mode of communication/info flow *Project manager clarifies work methods and processes to the team members. *Project office data capture and storage system *Project start up through kick off meetings. *Reference materials availed to team members. *Registers of documents *Schedule for training of team on work processes 	Nominal Ordinal	Document analysis Questionnaire Interviews	Coding Frequency analysis
To examine the extent to which project risk management practices influence project performance	Dependant- Scope, time and cost baselines met Independent- Risk management practices	<ul style="list-style-type: none"> *Reponse and Disaster recover plan document *Risk identification, quantification and impact analysis methodology (templates) *Risk management plan document 	Nominal Ordinal	Document analysis Questionnaire Interviews	Coding Frequency analysis
To assess the extent to which project quality management practices influence project performance	Independent- Quality practices	<ul style="list-style-type: none"> *Quality plan document *Reference standards- specifications, designs, parts lists and manuals, quality documentation *Prequalify and selection of personnel and suppliers/vendors *Work procedures *Quality inspection reports *Non conformance reports *Scope change requests and approvals 117 	Nominal Ordinal	Document analysis Questionnaire Interviews	Coding Frequency analysis

		<ul style="list-style-type: none"> *Acceptance criteria/test/commission/handover documents *Manuals 			
To determine the extent to which project procurement management practices influence project performance	Independent- procurement practices	<ul style="list-style-type: none"> *Procurement plan *Resource schedule- listing for bought out and build items *Project procurement schedule *Procurement Budget *Contractors/ vendor listing *Contracts approved 	Ordinal Ratio Nominal	Document analysis Questionnaire Interviews	Coding Frequency analysis
To assess the extent to which project human resources management practices influence project performance	Independent- Human resource practices	<ul style="list-style-type: none"> *Project manager selection criteria issued by sponsor *Project manager formal appointment *Team selection criteria clarified *Project team formal appointment *Project team job descriptions and roles clarified *Team commitment building sessions *Human resource manual for code of conduct *Organisation and authority/ reporting lines clarified 	Nominal Ordinal	Document analysis Questionnaire Interviews	Coding Frequency analysis

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APPENDIX I

QUESTIONNAIRE FOR RESPONDENTS IN THE RESEARCH STUDY ON THE INFLUENCE OF ORGANISATIONAL PROJECT MATURITY PRACTICES ON PROJECT PERFORMANCE

Preamble.

The objective of this questionnaire is to solicit responses from selected respondents to assist gather information that will help improve the project success factors in South Nyanza Sugar Company Limited. The study is supervised by the University of Nairobi for academic purposes.

Instructions to respondents on filling the questionnaire.

Your responses and answers shall be handled confidentially. Please do not sign or endorse your name or put a mark that may reveal your identity. This is necessary to help maintain confidentiality of your responses.

SECTION: 1

INFORMATION ABOUT YOURSELF

Please answer the questions below to the best of your knowledge. **(Place tick in correct bracket or enter response in dotted area)**

1. State your gender: Female () Male ()
2. Indicate your age in years.....
3. What is the highest level of formal education you attained?
 - i. Primary school certificate ()
 - ii. Secondary school certificate ()
 - iii. Certificate ()
 - iv. Diploma ()
 - v. Undergraduate degree ()
 - vi. Post graduate qualifications ()
 - vii. Other ()
4. Select the present level or job grade for the position you currently hold in the company.
 - i. Supervisors SC3-SM3 ()
 - ii. Middle management; SM2-SM1 ()

iii. Snr management; SE3 ()

iv. Executive management; SE2-SE1 ()

5. How many years have you been in company service?

Indicate the number of years.....

6. Indicate extent of your awareness of the following listed aspects of Sonysugar project management processes or practices : **(Tick the appropriate answer)**

		I am not aware	Little extent	Some extent	High extent
i	Scope				
ii	Time				
iii	Quality				
iv	Cost				
v	Communication				
vi	Risk				
vii	Human resources				
viii	Procurement				
ix	Integration				

7. Have you ever played any of the following roles in a project process at Sonysugar? **(Tick appropriate answer).**

i. Stakeholder ()

ii. Sponsor ()

iii. Project manager ()

iv. Project team member ()

v. User ()

vi. Procurement and contract facilitation ()

vii. Personnel recruitment ()

viii. Technical specialist ()

ix. Contractor ()

x. Other?**(please specify)**

SECTION: II

INFORMATION ABOUT MATURE PROJECT ELEMENTS

A. INFORMATION ABOUT PROJECT COMMUNICATION PRACTICES.

8. Indicate extent of your knowledge of SonySugar project communication management practices in following areas: **(Tick the appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Communications plan document					
Project start up through kick off meeting.					
Project meeting schedule					
Reference materials availed to project team members.					
Project manager clarifies work methods and processes to the team members.					
Schedule for training of project team on work processes					
Project manager clarifies mode of					

communication/info flow to project team					
Meeting minutes					
	Always	Frequently	Most times	Sometimes	Never
Project document distribution schedules and transmittals, circulation lists,					
Progress reports					
Controlled project documents list					
Project closure, handing over and Impact reports					
Registers of project documents					
Project office data capture and storage system					

B. INFORMATION ABOUT PROJECT RISK MANAGEMENT PRACTICES.

9. Indicate extent of your knowledge of Sonysugar project risk management practices in following areas: **(Tick the appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Risk management plan document					
Risk identification, quantification and					

impact analysis methodology (templates)					
Reponse and Disaster recover plan document					

C. INFORMATION ABOUT PROJECT QUALITY MANAGEMENT PRACTICES.

10. Indicate extent of your knowledge of Sonysugar project quality management processes or practices in following areas: **(Tick the appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Project Quality plan document					
Project reference standards-specifications, designs, parts lists and manuals, quality documentation					
Prequalify and selection of suppliers and vendors					
Documented project work procedures					
Project quality inspection reports					
Project non conformance reports					
Project scope change requests and approvals					
Documentation of project acceptance criteria, test, commissioning and handover					

D. INFORMATION ABOUT PROJECT PROCUREMENT PRACTICES.

11. Indicate extent of your knowledge of Sonysugar project procurement management practices in following areas: **(Tick the appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Procurement plan					
Resource schedule- list bought out and build items					
Project procurement schedule					
Solicitation planning and monitoring					
Contractors/ vendor selection/listing					
Contracts administration/ closeout					

E. INFORMATION ABOUT PROJECT RESOURCE PRACTICES.

12. Indicate extent of your knowledge of SonySugar project human resource management practices in following areas: **(Tick the appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Project manager selection criteria issued by sponsor					
Project manager formal appointment					
Team selection criteria clarified					
Project team formal appointment					
Project team job descriptions and roles clarified					
Team commitment building sessions					
Team engagement rules and code clarified					
Organization and Authority/ reporting lines clarified					

F. INFORMATION ABOUT PROJECT COST PERFORMANCE MANAGEMENT

13. To the best of your knowledge does the company have documented procedures for management of project costs? **(Tick appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Bill of materials					
Resource schedules and rates					
Project Budget document					
Expenditure/cost reports					
Cash flow projection statements					
Funds availability					
Budget reviews					
Budget revision approvals					

G. INFORMATION ABOUT PROJECT SCOPE MANAGEMENT PRACTICES

15. To the best of your knowledge does the company have documented procedures for management of project scope? **(Tick appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Scope definition					
Scope breakdown					
Work break down structure					
Activity log books					

Work package authorization					
Work/ task sheets					
Scope change documentation					
Progress monitoring and review					

H. INFORMATION ABOUT PROJECT TIME MANAGEMENT PRACTICES

16. To the best of your knowledge does the company have documented procedures for management of project duration and timelines? **(tick appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Key project calendar dates					
Network techniques-activity defined and sequenced					
Estimation of activity duration					
Schedule-Critical path and mile stones defined, Gantt chart prepared					
Time sheets, progress monitoring and reviews					
Timelines revision					

APPENDIX II

INTERVIEW GUIDE

This interview schedule shall guide the interview session for Sonysugar project office Personnel.

1. Has the company provided the necessary environment for effective project performance?
.....
Please comment on your answer to above query, indicating two key areas of support and two areas of inadequate support.....
.....
2. Reflect on your answer to above question on inadequate company support and propose a remedy to improve the situation.
.....
.....
3. What do you know to be factors that contribute to an appropriate project management environment?
4. Do you consider the environment at Sonysugar conducive for effective project management?
.....
5. Please comment on the role of the company management in project management
.....
.....
6. What is your knowledge of project management qualifications for project management professionals?.....
.....
7. What do you think is the relevance of project management to a company?
8. In which areas of the company do you think project management is relevant?
.....
.....
9. Projects holds the key to to a more prosperous company do you agree with this statement?

	Somewhat disagree	Strongly disagree	Disagree	Agree	Strongly agree

10. Explain your opinion in response to the above query.....
.....
.....

11. What is your opinion on current project management challenges in Sonysugar?
.....
.....
.....

12. What mitigation measures do you propose for the above challenges (if any)?
.....
.....

13. What qualifications does one need to be a project manager in the company?
.....
.....
.....
.....

14. Indicate extent of your knowledge of Sonysugar project integration management processes in following areas: **(Tick the appropriate answer)**

	CONFIRM KNOWLEDGE OF AND OR USE IN PAST OR PRESENT IN PROJECT UNDERTAKINGS				
	Always	Frequently	Most times	Sometimes	Never
Project sponsor identified					
Stake holders identified					
Stakeholder needs assessment					
Project charter document					
Project brief document					

Project governance/management structure					
Project feasibility study					
Project proposal document					
Project baseline plan					

15. What do you understand organizational project management maturity to mean?

.....
.....

16. What do you consider to be the appropriate selection criteria for a project team?

.....
.....
.....

17. Is the routine selection criterion for project team members in strict compliance with the above criteria?

	Always	Frequently	Most times	Sometimes	Never

18. Describe measures for project success?

.....
.....
.....
.....

19. How is project performance evaluated at Sonysugar?

.....
.....
.....

20. Comment about project knowledge areas and how they affect corporate performance

.....
.....

APPENDIX IV
LETTER OF AUTHORIZATION



South Nyanza Sugar Company Limited

Head Office
P. O. Box 107, CODE 40405, SARE - AWENDO (KENYA)
Tel: 020 802 9200-3
Cell: +254 0722 205345/6/7
+254 0733 333348/9/50
Fax: 020 802 9204
E-mail: administration@sonysugar.co.ke
Website: www.sonysugar.co.ke

Our Ref : SNSC/MD/HR/1334/2012

Tuesday 2nd October 2012

Mr. Bernard Otieno Adera,
Emp. No. 3313 / Student No. L50/65363/2011
South Nyanza Sugar Company Ltd,
P. O. Box 107,
SARE AWENDO.

Dear Sir,

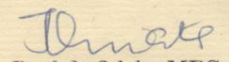
**RE: AUTHORISATION TO UNDERTAKE DATA COLLECTION FROM
SONY SUGAR COMPANY LIMITED**

This refers to your application for permission to collect data towards your research study on the "Influence of Organizational Project Maturity Practices on performance of South Nyanza Sugar Company Ltd".

Management has taken cognizance of the relevance of the study towards improving company performance and also the approval earlier granted to you to undertake the course.

Please therefore liaise with respective Departmental Heads to facilitate the process where necessary.

Yours faithfully,
For : **South Nyanza Sugar Company Limited**


Paul O. Odola, MBS
Managing Director

NAIROBI OFFICE - UTALII HOUSE P.O. Box 48979 NAIROBI
TEL: 020 802 3935/6 FAX: 020 802 8790
CELL: +254 733 - 333346

All correspondence should be addressed to the Managing Director