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SCHOOL OF GRADUATE STUDIES

DETERMINANTS OF KEY STAKEHOLDERS' INVOLVEMENT ON THE SUCCESS OF WATER SUPPLY PROJECTS IN OROMIA: THE CASE OF ARSI-NEGELE WATER SUPPLY PROJECT

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DECLARATION

I, the undersigned, would like to declare that this thesis is my original work, prepared under the advice of Dr. Tesfaye Debela. All sources of materials used for the thesis have been duly acknowledged. I more confirm that the thesis has not been submitted either part or in full to any institution for the purpose of earning any degree.

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Name Signature

St. Mary's University, Addis Ababa **May 2017**

ENDORCEMENT

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor

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Advisor Signature

St. Mary's University, Addis Ababa May 2017

LIST OF FIGURES

ACRONYMS

APM = American Project Management

APMI = American Project Management Institute

BS = British Standards

GDP = Gross National Product

GPM = Germen Society of Project Management

IAEA = International Atomic Energy Agency

ISO = International Organizations of Standardization

IT = Information Technology

MDG = Millennium Goal Development

NWI = National WASH Inventory

OWWCE = Oromia Water Works Construction Enterprise

OWWDSE = Oromia Water Works Design and Supervision Enterprise

PMBOK = Project Management Body of Knowledge

PMI = Project Management Institute

RII = Relative Importance Index

SPSS = Statistical Package for Social Science

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In the course of preparation of this research paper, I interviewed a number of professional experts and managers as well as end users of the project were interviewed. They were kind enough to share their feelings, opinion, and existing facts towards the subject of my study as input so that the outcome of this study is not traced from any source. To them I wish to express my sincere gratitude. I am especially grateful to workers of Oromia Water and Energy Bureau, Oromia Water Works Construction Enterprise, Oromia Water Works Design and Supervision Enterprise, and some community members around the project.

Finally, I would like to extend my great thank to my wife, Wudie Getachew, who was restlessly motivating and supporting me to start and successfully complete this program.

Abstract

A number of literatures have pointed to the importance of stakeholders' role in the success of construction projects. As construction projects are complex and unique in their nature, stakeholders with diverse backgrounds of knowledge, skill, power, and interest such as owners, consultants, contractors, end users, and other primary and secondary stakeholders involve in achieving the project success. The main purpose of this paper is to investigate the determinants of the involvement of stakeholders on the success of the project under the study. Both the qualitative and quantitative methods were used together to collect and analyzed necessary data from envisaged sources. The quantitative data obtained through structured questionnaire survey to 50 respondents were analyzed via regression techniques by using the Statistical Package of Social Science (SPSS-20) and by using text analysis to analyze the qualitative data. According to the SPSS analysis results, project supply management, stakeholders' financial contribution, project monitoring and stakeholders' active decision makings are found to be the major determinants on the success of the project. Lastly, the researcher attempted to put his recommendations which mainly emphasizes on the following realities such as, first there should be strong contractual and legal relationships, obligations, liability, and enforcement among the key stakeholders; promoting and convincing the local community towards the aim and goal of the project; and phase based project implementation are the major one.

Keywords: Project, stakeholders, stakeholders' involvement, project success, water supply project, Oromia, Ethiopia.

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study

As businesses move quickly to keep up with fast-moving competitors, managing change becomes vital to success. This emphasis on change increases the importance of project management since a rapid rate of change brings a greater need of project management. Projects enable us to adapt to ever-changing environments. Some of the common situations requiring projects are re-engineering of organizations, assessing a company's direction in a new market, bringing out of new products (Hall, 2012), or adapting new technology and so many other conditions are all necessary changes accomplished through projects.

Project management has thus gained regard of a distinct concept used to drive not only business objectives, but also the economic development agenda of developing countries including Ethiopia. It is very clear that different packages of poverty reduction programs in Ethiopia, for instance, real estate development, construction of residential housing projects, construction of water supply and sanitation projects, building irrigation and drainage projects, building power projects, development of new products, and all other programs are comprehensively driven by projects and project management as a tool which optimizes the rate of success through efficient resource allocation and mobilization.

Even though every project has its own unique features, all of them have also common features together; that is, for more success, they pass through four phases such as initiation phase, planning phase, implementation phase and closing phases; and five process groups (Project Management Institute, 2013). The five process groups are: project initiation process group, project planning process group, project implementation process group, the monitoring and controlling process group, and the closing process group.

Success in terms of cost, schedule, and quality of a project requires key stakeholders' involvement in each phase and process group and is linked to the strength of the relationships created by effective, regular, and planned communication with all the members of stakeholder community (Bourne and Walker, 2005; Briner et al., 1996; Cleland, 1994). Like any other projects, in construction projects poor stakeholder management can lead to many serious problems such as

poor scope and work definition, inadequate resources assigned to the projects, poor communication, change in the scope of the work and unforeseen regulatory changes, all of which may be the major sources of delay and cost overrun (Yang, et al., 2009).

In developing countries like Ethiopia, the project management system is not similar to that of the developed countries Yimam (1999). Several claims appear in almost all construction industry; mostly they are not easily resolved and delays behind the schedule, poor quality and cost overrun are common problems in Ethiopia. Thus, whatever the nature of the project, various researchers (Kamp and Vos, 2008; Brown and Jones, 1998) have addressed that project failure is generally not only the result of lacking effective project management practice, but of inappropriate social interaction between the project stakeholders. Stakeholder management thus mainly focuses on continuous communication with stakeholders to understand their needs and expectations, addressing issues as they occur, managing conflicting of interests and promoting appropriate stakeholders' involvement in project decision and activities (PMBOK, 2013).

This study mainly focuses on the analysis of the determinants of key stakeholders' involvement on the success of the project under study since stakeholder analysis is an essential and integral part of project management (Aaltonen et al., 1997).

1.1.1. Project Background

Arsi Negele is found in West Arsi Administrative Zone of Oromia Regional State. It is situated in the Great East African Rift Valley on Addis-Hawasa road at a distance of 230 Kilometers from the capital of the county. According to the information obtained from the client office (Oromia Water, Mineral and Energy Bureau), it was intended by the client to construct a water supply project that has a capacity to serve the neighboring urban and rural areas of Arsi Negele, Siraro, Shala, and Shashemene. The construction of the project has been undertaken by Oromia Water Works Construction Enterprise (OWWCE) under the design and supervision of Oromia Water Works Design and Supervision Enterprise (OWWDSE). As per the contract document of the parties, the original contract agreement was signed to start the construction work on October 2009 and to complete on September 2011 and still it has been under construction in repeated contract amendments particularly in terms of cost and schedule.

1.2. Statement of the Problems

Most projects especially irrigation and water supply projects in Oromia have been seen to face problems of cost overrun, time behind schedule, and less conformity to stakeholders' needs and expectation (Annual Project Evaluation Reports of the Region, 2017). It was planned by regional Water and Energy Bureau to construct Water Supply and Sanitation project that has a capacity to serve Arsi Negele, Shashemene, Siraro and Shala rural and urban areas. In the first contract agreement between the owner of the project and the contractor under the supervision of the consultant, it was signed to start the construction work on October 2009 and to complete on September 2011. But the project was not completed as per the provided schedule by the client and the contractor. Again another schedule was amended to complete on June 2013 and it had not been completed as per the revised amendment; and for the third time, it was re-amended to complete on June 2015 and it is still under construction. Furthermore, the project cost has been increased from 27, 454, 898.18 ETB, in the first contract agreement to 115, 919, 979.67 ETB in the recent revised agreement and till now it has been under construction with the actual financial progress of about 23.7%. Even, no part of the project has still start giving required service for the beneficiaries. From this information cost overrun, time behind the schedule and dissatisfaction of the project stakeholders are apparently observed to be problematic symptoms. Based on this background information, even if other project success factors matter, the researcher believes that there is insufficient stakeholders' involvement as one important factor of project management practices, to impact the success of the project under the study. Moreover, almost no research has been locally conducted on this area with regard to the engagement of stakeholders on the project in the region.

1.3. Basic research Questions

1. Who are the key stakeholders involved in the project under the study; and what are their roles?
2. What is the degree of key stakeholders' involvement during the course of the project?
3. What is the relationship between the involvement of key stakeholders and the success of the project?

1.4. Objective of the Study

1.4.1. General Objective

The main objective of this research is to investigate the effect of the involvement of key stakeholders on the success of the project.

1.4.2. Specific Objectives

1. To identify the key stakeholders who are involving in the project and who significantly impact the success of the project.

2. To identify the degree of stakeholders' involvement on the project.

3. To find out the factors that determine stakeholders' involvement on the success of the project.

1.5. Hypotheses

The following hypotheses are formulated to investigate the determinants of stakeholders' involvement on the success of the project.

H0: There is no significant effect of top management support on the success of the project

H0: There is no significant effect of project team management on the success of the project.

H0: There is no significant effect of supply management on the success of the project.

H0: There is no significant effect of Stakeholders' decision making on the success of the project.

H0: There is no significant effect of monitoring on the success of the project.

H0: There is no significant effect of Stakeholders' financial contribution on the success of the project.

Hence, based on the supposed relationship between the independent and dependent variables, the following model equation is developed.

$\mathbf{Y = ß_0 + ß_1X_1 + ß_2X_2 + ß_3X_3 + ß_4X_4 + ß_5X_5 + ß_6X_6 + \varepsilon_i;}$ where,

Y= Project Success, B_0 = constant term,

ß1, ß2, ß3, ß4, ß5, ß6, ß7 = Beta coefficients

X_1 = Top management support

X_1 = Team management

X_3 = Stakeholder supply management

X_4 = Stakeholders' decision making

X_5 = Stakeholders' project monitoring

X_6 = Stakeholders' financial contribution

ε_i = Error term

Top Management Support

This area of stakeholder involvement is more limited to top management support in terms of the relationship between a project team and their immediate senior top managers; for example in the context of this study it addresses the relationship between contractor's top management and the project team as well as top management of consultants and project team. Thus, some authors for example Young and Jordan (2008) realized that one of the very critical success factors that have been associated with project success is top management support.

Project Team Management

All project activities are accomplished through project team. Project team is the composition of individuals with different knowledge, experiences, skills, and backgrounds. By managing all the aspects of project team, project manager accomplishes the overall project work to the required success. Newton (2015) posited that team leadership and team building is such an important and complex topic that an aspiring project manager should take the time to study as much as possible.

Supply Management

It is obvious that stakeholders can involve in a project by supplying necessary inputs to the project. In this study thus, project supply management refers to the procedure followed and the attention given by the stakeholders (suppliers) when necessary inputs such as construction materials and equipment are required by the project team. It is apparent that for any project to be successful, necessary materials and equipment should be supplied starting from requisition time by project team to its final delivery to the project. It particularly emphasizes on whether the required inputs are supplied at a required speed and time.

Decision Making

According to (Roeder, 2013), stakeholders may have the ability to make and influence decisions in the life of the project. In order to identify people who have a relatively higher power in decision making, a project manager needs to prioritize the identified stakeholders on the basis of their influence and vested interest.

Project Monitoring

It involves directly affected stakeholders in monitoring project impacts, mitigation and benefits and involves external monitors where they can enhance transparency and credibility (World Bank Group 2007).

Financial Contribution

Financial support is the basic requirement for project success. Thus, the stakeholders who are responsible to involve in the projects in financial contribution are believed to influence the project success positively or negatively.

1.6. Definition of terms

Project is a goal oriented non-repetitive activity having a particular set of constraints usually centered on time and resources, and measurable output (Maylor, 1999) .

Project is a temporary endeavor undertaken to create a unique product, service or result (PMBOK 2013).

Project management is a process of application of knowledge, skills, tools, and techniques to project activities to meet project requirements (PMI, 2013).

Project stakeholder: The Project Management Institute defined project stakeholder as the people, group, or organizations that could impact, or be impacted by either the success or failure of the project (PMBOK, 2013).

By Business Dictionary, stakeholder is defined as "a person, group or organization that has interest or concern in an organization. It implies that stakeholders can affect or be affected by the organization's actions, objective and policies.

Stakeholder management is the systematic identification, analysis, planning and implementation of actions designed to engage with stakeholders (PMBOK, 2013).

Stakeholder Involvement is an integral part of decision making process at different phases and with different stakeholder groups, in that involvement may take the form of sharing information, consultation, participation in dialogue, or deliberating on decisions (International Atomic Energy Agency, IAEA, 2012).

Project Success is measured in terms of completing the project within the constraints of scope, time, cost, quality, resources and risk as approved between the project manager and the senior management. Cleland (1986) suggested that project success is meaningful only if considered from two points: the first is the degree to which the project's technical performance objective was attained on time and within budget; and the second point is the contribution that the project made to the strategic mission of the enterprise.

1.7. Significance of the Study

This research is conducted with the intention that:

1. It will practically provide an insight to the key personnel such as project managers and higher management in clearly identifying the levels of stakeholders' involvement, their influence, their

importance and interests on the project so that they are dedicated in developing comprehensive project stakeholders' engagement plans (Saghatforoush et al., 2010).

2. This study can be a starting point for further studies on project stakeholder management on other similar areas.

3. In conducting this study the researcher gains significant knowledge and experience on stakeholder management specifically in construction sector of Ethiopia.

4. With the validation of the study, it is possible to verify and recognize that stakeholder management is the key success factor equal to other factors of project management practices.

5. It discloses to what extent the key stakeholders have to involve in the project so that the project will successfully be accomplished within the provided project constraints (project cost, project duration and specified project quality).

6. With this paper different authors and researchers in the discipline could be well acknowledged.

1.8. Scope and Limitations of the Study

The domain of this study is geographically limited to, Arsi Negele Shashenene, Siraro, and Shala rural and urban areas where the project is designed to give service to the end users community. Furthermore, the study mainly focuses on project stakeholders in the context of water works construction in Oromia Region.

During this study there was a barrier in collecting necessary data due to political issue occurred throughout the region. Moreover, there was a frequent reshuffling of workers who were expected to give pertinent information on the whole history of the project.

1.9. Organization of the Paper

This study consists of five Chapters as follows.

The first chapter of this paper deals with introduction which includes the general introduction to the topic of the study as well as the background of the organization under the study. It explains the background of the study, statement of the problem, basic research questions, hypotheses, research

objectives, definitions of terms, significance of the study, and organization of the report. The second chapter, literature review part broadly incorporates theoretical review, conceptual and empirical reviews which discusses on the definition of stakeholder, stakeholder management, and other related theories, concepts and related empirical reviews. Chapter three also discusses on research methodology .which includes the process of methodology that will be applied through the questionnaire as well as through analysis. Chapter four incorporates results and discussions which present the results of the research and associated argument in detail. The fifth chapter contains summary part which includes the conclusions, recommendations drawn from the research, and pointing out further researches.

CHAPTER TWO

REVIEW OF RELATED LITERATURES

2.1. Conceptual Literature Review

The conceptual framework for the study encompasses some of the project management practices believed to be directly contributed to the success of projects.

2.1.1. Power/Interest Matrix

Power/interest matrix is one the stakeholder analysis tools or models used for stakeholder analysis based on their level of authority (power) and their level of concern (interest) regarding the project outcomes. It is the four quadrants grid which was formalized by Johonson & Scholos (1999) to classify stakeholders in terms of power/interest or influence/interest. The model was modified and used in project environment by Olander and Landin (2005). The identified stakeholders are categorized by stakeholder management tool, stakeholder power/interest matrix as follows:

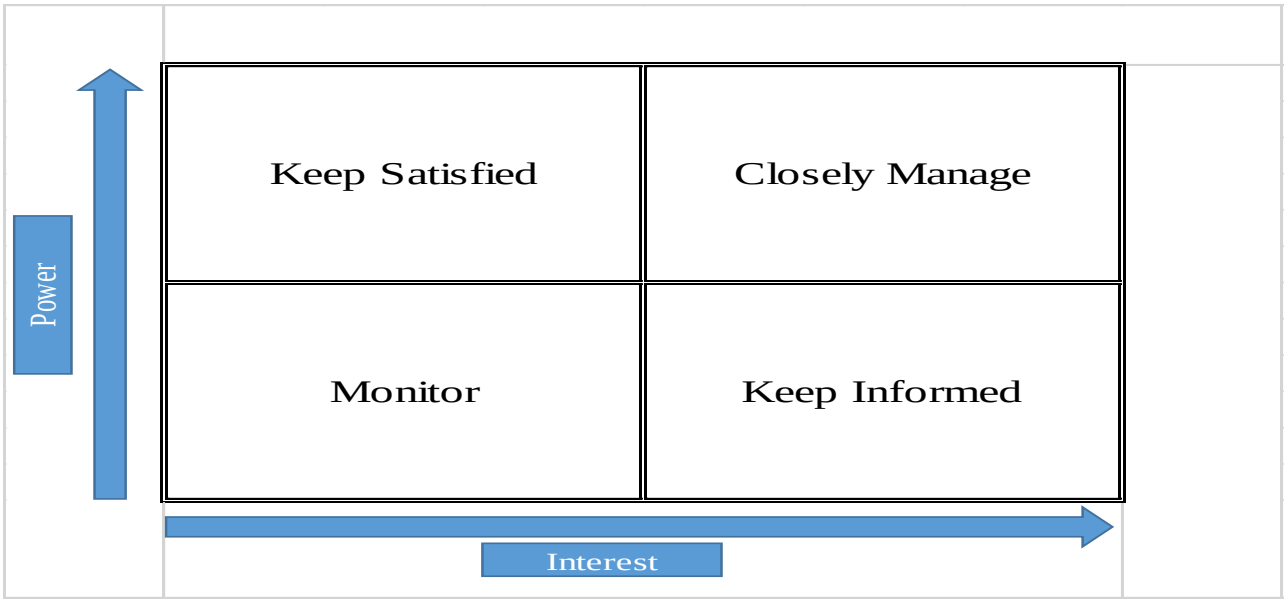

Fig. 2.1: Power – Interest Matrix:

Adapted from Mendelow, MA (1991).

High power, high interested people: these are the people we must fully engage and we make the greatest efforts to satisfy them so that the project will be successfully completed.

High power, less interested people: it is advisable to put enough work in with these people to keep them satisfied, but not so much that they become bored with your message.

Low power, high interest people: Keep these people adequately informed, and talk to them to ensure that no major issues are arising. These people can often be very helpful with the detail of the project.

Lower power, less interested people: again, monitor these people, but do not bore them with excessive communication.

Based on this classification, the stakeholders involved in the project can be categorized and prioritized as follows:

A. Actively engaged/Manage closely: - The stakeholders grouped in this category are the most important and named as key players of the project due to their high power and high interest.

B. Keep Informed: -These are stakeholders with low power and high interest. These are the one who need information in every progress of the report owing to their high interest but have low power of decision.

C. Keep Satisfied: - Stakeholders grouped in this category are possessing high power but low interest on the project.

D. Monitor/Occasionally Contact: - These are stakeholder possessing minimal effort to influence the project and low interest or participation.

For the purpose of this paper, stakeholders that are categorized under actively engage/closely manage are our concern because the main objective is to investigate the effect of their involvement on the success of project under the study.

2.1.2. The stakeholders' Involvement- Project Success Relationship

Obviously, project success is the function of all project management practices (listed in section 2.6) recognized in PMBOK guide. This conceptual framework shows that the ability (Knowledge

and skills) project managers have to properly apply those practices is the issue of success and failure for projects they manage. In other words, involving stakeholders in the project planning, execution and monitoring activities is the overriding factor to project success. Starting from this framework, it is possible to construct the relationship between the stakeholders' involvement and project success. In this particular topic, stakeholder involvement is limited to be in the areas of independent variables such as top management support, team management, supply management, decision making, project monitoring and financial contribution. The relationships and impacts these factors have with project success in terms of time, cost and quality will be investigated.

A. Top Management Support

In the context of project management, top management support is the willingness of top management to provide the necessary resources and authority for project success. Thus top management support is considered as one of the critical success factors identified in project success (Pinto & Slevin, 1987, 1989; Pinto & Slevin, 1989).

B. Project Team Management

The project team comprises the project manager and the group of individuals who act together in performing the work of the project to achieve the project objective. According to PMBOK (2013), the project team includes the project manager, project management staff, and team members who carry out the work but who are not necessarily involved with the management of the project.

According to Roeder (2013), project teams may be structured in many different ways, such as:

- Full-time, part-time, or on ad hoc basis.
- Dedicated to the project or borrowed from their regular jobs.
- Employed by some organizations as the project manager or by a different organization
- Subject matter experts or other generalists.
- Project customer/sponsors.

This implies that as far as they (team members) are assigned to undertake project tasks, except some, most of team members are the key to accomplish project goal and objectives, and hence properly managing project team is decisively important for project success. Therefore, project managers are expected to manage their project team by launching (motivating) and involving them in ongoing basis. Research has recognized that people management gains project success than technical concern does (Scott- Young & Samson, 2004). Nguyen et al. (2004), for example identified five critical success factors, among which are included a competent project manager and the availability of resources. It states that the project manager provides the team with the proper direction and goals, provides motivational support, and helps to resolve any interpersonal and organizational issues (Rauniar & Rawski, 2012).

D. Supply Management

In the context of this study, project supply management is limited to the timely, accurate, and cost effective procurement and delivery of materials and supply of construction equipment. The delivery of materials includes the offering of cement, steel, fittings and other materials whereas this in some aspect is related to the quality of suppliers. Two attributes are used to measure this factor; they are procurement method (selection of organizations for the design and construction of the project) and tendering method (procedures adopted for the selection of project materials and machineries). Supply management in this paper focuses mainly on procedures for the selection and supply of materials and machineries needed for the success of the project.

F. Stakeholders' Decision Making

Project stakeholders have both power and interest and even responsibility in decision making. Their power and interest in decision making may have some influence on the success of the project. According to Priemus, et al (2008), active decision making, design, and implementation regularly take place in a project is much helpful or even needed for successful implementation throughout the lifecycle of the project.

G. Project Monitoring

This part of stakeholder involvement in project explores the existing knowledge that links effective monitoring and evaluation to project success. (Prabhakar 2008) pointed that monitoring and

feedback was one of factors leading to project success. In the same way (Papke-Shields et al 2010) also conceived that the probability of achieving project success seemed to be enhanced among other factors, by constantly monitoring the progress of the project.

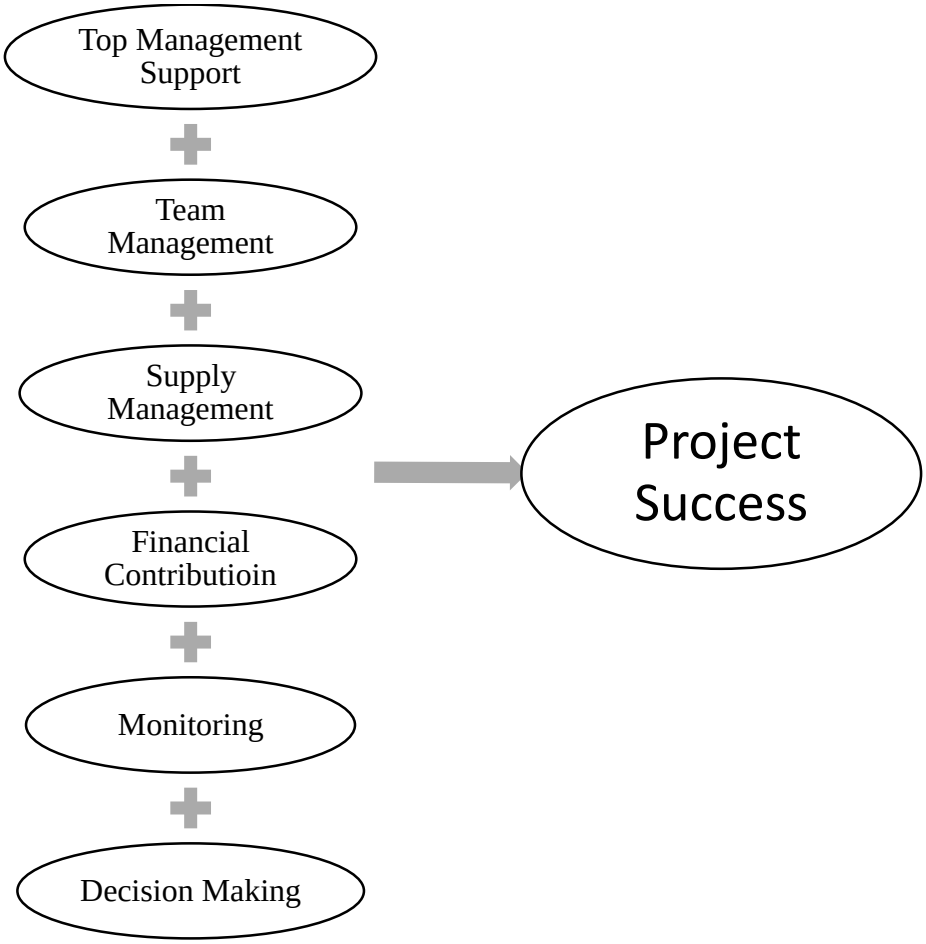

Fig. 2.2. The Conceptual Model (Own Model)

The above figure shows the conceptual relationship between the dependent and independent variables. As mapped in the figure, the operationalized variables of the determinants of stakeholder involvement (independent variable) are top management support, project team management, project supply management, stakeholders' decision making on the all issues of the project, project monitoring by project team and head office technical team and financial contribution; whereas the operationalized variables of success are completion of the project on the scheduled time, within the estimated budget and with specified quality and stakeholders' satisfaction.

2.2. Theoretical Literature Review

In many situations, projects have become the integral to execution of an organization's strategy because it is an intermediate tool to convert organizational vision to reality. Without projects, new products cannot be produced; products and services cannot be delivered to customers. As project is "a temporary endeavor undertaken to create a unique product or service" (PMI, 2013), projects are involved in a broad array of work areas such as businesses, government, academia, education, health, tourism, agriculture, manufacturing and society and undertaken at all levels of organizations.

In different development programs in developing countries like Ethiopia, for instance, poverty reduction programs apply different projects such as establishment of Small and Medium Enterprises (SME), housing projects, irrigation and water resource projects, rural water supply and sanitation projects, power projects, health facility projects, product development projects, roads and railway projects, IT projects, and others have been used as a means to reduce poverty in the countries.

In the process of strategic management, organizations assess *where they currently stand* and *where they want to be* and *how they are going to get there*. Strategy describes how an organization intends to compete with the limited resource available in the existing and perceived future environment taking in to account the projects' context, the level of complexity, uncertainty and ambiguity of the projects, the maturity of the clients and contractors, the market, etc. Project, as shown in the above model, is therefore a tool organizations use in a dynamic environment to mobilize and manage the resources available to arrive at the perceived future environment.

2.2.1. Project

Different institutes (PMI, 2000; APMI and GPM, ISO and others) defined project in different perspectives and perceptions that lead to different project management approaches. Some of these perceptions are as follows:

1. *Projects as tasks with special characteristics*: Traditionally, projects are defined as tasks with unique characteristics. These unique characteristics are complexity of the tasks, the high risk, and high strategic importance for the project-driven companies. The international institutes whose project understanding fits with this definition are for example, the Project Management Institute (PMI), the American Project Management Institute (APMI), and the German Society for Project

Management (GPM). According to GPM, project is an undertaking which is characterized by the uniqueness of conditions, such as objective, temporal, financial, personnel, and other limitations. Project (PMI, 2000) is defined as a temporary endeavor undertaken to create unique products and services.

2. *Projects as temporary organization*: In the context of organizational theory, people also perceive project as temporary organizations to perform business processes within the time boundary and this temporary organization has its own specific identity that is characterized by its specific objectives, project organization, project value, and project environment relationships. This temporary character is associated with the creation of project in project start process and the disbanding of the project in the project close-down process. Rodney Turner (2012) also stated this definition in a less prescriptive way which focuses on the key features as "a project is the temporary organization to which resources are assigned to do work to deliver beneficial change". Rodney Turner however tried to differentiate definition of project by other people that emphasize "temporary task" or "temporary endeavor" not all temporary tasks are projects. There are temporary tasks undertaken by temporary organization and temporary tasks (for example maintenance works) undertaken by routine organizations. He did not consider temporary tasks undertaken by routine organization as project.

3. *Projects as social systems*: The behavioral school takes as its premises that like any other organizations, projects can be viewed as social systems that have distinct boundaries to separate themselves from their environment with the specific characteristic of their social systems such as their social complexity, group dynamics, leadership, communication, team building, human resource management, and self-reliance (Huemann, et. al 2007).

4. *Project as set of tasks*: Alternatively to the above perceptions, project can be thought of as a well-defined set of interrelated tasks that must be completed in order to achieve project's goals and objectives (Klastorin 2004). There are two typical features of the projects in this sense. The first one is that many tasks are performed *concurrently* whereas the second key feature is the existence of *precedence* relationship between the tasks.

5. Perception of *Project as a Unique process*: ISO 9000 defined project as a "*unique process*, consisting of a set of coordinated and controlled activities with start and finish dates, undertaken

to achieve an objective conforming to specific requirements including constraints of time, cost and resources".

6. According to PMBOK (2013) the summarized definition of project is a temporary endeavor undertaken to create a unique product, service or result which is either tangible or intangible. Project is temporary in that it is composed of tasks performed in a definable period with start and end. PMBOK (2013) clarified that the end of a project is reached when three conditions are there: these are when the planned objective have been achieved, when the need for the project no longer exists, or when the project is terminated because its objective cannot be met.

Moreover, according to BS-6079-1, "Guide to Project Management", project is defined as "A unique set of coordinated activities, with a definite starting and finishing points, undertaken by an individual or organization to meet specific objectives within defined schedule, cost and performance parameters".

For all types of definitions, the common terms used to define project are its uniqueness, temporary, resource requirement, specific objectives and success criteria (cost, schedule and performance).

2.2.2. Project Management

Different authors give their definitions of project management. But the summarized definition given by Project Management Institute (PMBOK, 2013) is that project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.

The unique feature of project management over traditional management is that project management is essentially the management of change of all aspects of the project (managing activities and resources in a dynamic and complex environment), while traditional management is different in that it is just running functional or ongoing business over a continuum period of time.

2.2.3. Construction Project Management

There is a significant difference between the management of construction projects and other types of projects in which the difference mainly arises from the nature and characteristics of the project. To successfully achieve the projects, it is very important to recognize these differences.

The distinct characteristics of construction projects are:

- Its complexity, capital intensive, requiring significant management skill, involvement of wider range of experts in wider field (Chartered Institute of Building, 2002).
- The geographic location and condition of project site and the relation of the project environment must be addressed (PMI, 2007).
- Construction projects are subject to a variety of laws and regulations that aims to ensure police safety and minimize environmental impacts (Bennett, 2007).
- Relative to other industries, construction projects involve relatively intensive labor use, consume large amount of materials and physical tools (Jekale, 2004).
- Are usually remain stationary during the construction.
- Are usually undertaken outside, hence, they are susceptible to many variables such as weather and traffic (Gould & Joyce, 2003).

2.2.4. The Construction Industry in the Developing Countries

It is hardly possible to undertake any developing activity that does not involve construction. It has been visible that the industry has a great impact on the economy of all the countries, and hence all infrastructure facilities needed for development in the countries such as road construction, power projects, factories, agricultural investments, hospitals, etc., rely on the construction industry and thus the role the construction industry plays in developing countries is quite significant. Despite the industry's significant contribution, its development and efficiency is relatively low compared to other industries. For instance, according to Jekale (2004), major construction activities account for about 80% of the total capital asset, 10% of their GDP, and more than 50% of the wealth invested in the fixed asset. But high project performance is not common in the industry, especially in the developing country (Long et. al., 2004).

Other common challenges of construction industries in developing countries are the industry's large scale scope and its demand of huge capital which is in a pointed contrast with the low benefit (profit) and inferior management (Guangushe et. al., 2008). Moreover, the nature and characteristics of construction industry and construction projects in the developing countries is

quite different from developed countries in many features. According to (Jekale, 2004), for instance, fragmentation and compartmentalization, public sector dominating, substantial government interference, foreign finance dependency (especially public projects), dependency on imported inputs, domination by foreign construction firms especially on power projects. This is also the common situation in the current condition of Ethiopia.

2.2.5. Construction Project Management in Ethiopia

The history of construction project management is as long as the history of man. According to Woldemichael (2013), "in Ethiopia there have been ancient historical buildings such as the nine interconnected underground rock-hewn churches of Lalibela, the historic steles of Axum, erected centuries back on firm plinths were massive examples built or produced to remarkable standards. Even if there is no documented evidence of how it was planned and managed, it is easy for everyone to observe the physical structure of the buildings today and guess about what went in to producing and managing them". In addition to that with the introduction of modern civilization, particularly in the mid-18th century, a significant development in construction was observed. For example, the long aged Addis Ababa – Djibouti Railway-line is one example where such a project has been successfully carried out. During the Italian occupation of the 1930's there were also some construction activities, particularly in the development of long trunk roads. After the Italian occupation and before the 1960's, expatriate contractors generally dominated most of the medium and small civil and building projects.

Following the nationalization of many private construction companies plus the lack of international financing for the construction sector following the revolution of 1974, there was a significant decrease in the number of major civil engineering projects in the country (Kassay, 2003, pp.8).

After the change of government in 1991 however, a steady increase in projects was observed in the civil construction sector. Not only was there steady growth in the number of engineering projects financed locally, but the contribution of foreign financing agencies as well as the participation of international contractors as well as consultants in major civil engineering projects also increased.

2.2.6. Status of Water Supply and Sanitation in of Ethiopia

Ethiopia has remarkable progress in water and sanitation over the last two decades. According to (WHO/UNISEF Joint Monitoring Programme report, 2014), the country has improved water supply by 57% (97% in urban areas and 42% in rural areas), thus achieving the Millennium Development Goal (MDG). According to this report, the progress has been largely attributed to the establishment of a government-led WASH coordination mechanism involving key stakeholders such as Ministry of Water and Energy, Ministry of Health, Ministry of Education, Ministry of Finance and Economic Development, and as well as development partners such as other governmental and non-governmental organizations.

Despite the progress in provision of water, sanitation and health services in Ethiopia, 43% of population does not have access to an improved water source and 28% practice open defections. The National WASH Inventory (NWI) report of 2012 also indicates that the majority of health facilities in Ethiopia lack access to clean water and sanitation and only about 32% have access to safe water. Moreover, 17% of childhood deaths are associated with diarrhea (EDHS, 2011) which remains the third leading cause of under-five mortality attributed to poor water, sanitation and hygiene.

2.2.7. Project Success

The goal of project management is to ensure the success of the project. But success, as a subjective term, is dependent on the perspective of who are measuring it. That means the perceptions of people to the term project success are driven by individual beliefs about what was expected as the outcomes from any project. Apparently the perception of success is subjective and dependent on who has established some metrics and then making the measurements. For example, (Trevor et al, 2006) gave the explanation that the customer, the sponsor, the project manager, the project team, and the supplier each of these individuals separately or collectively in groups has different reasons for qualifying and defining project success. Conversely they can usually very quickly give an opinion on failure or give advice on what leads to failure. Thus just how each stakeholder can involve in success or failure is the key to the management of projects (Ashley et. al. 1987). Moreover, (Verzuh, 2005) pointed that most projects are successful when the products, services or results expected from them are achieved on time, on budget and in high quality (functionality and

performance). According to this source, project success is defined in perspective of project managers because they usually dedicated to perform project tasks within the scheduled time, budgeted cost, and specified quality. Due to different perception by different stakeholders on project success, delivering the required project outcome on time, within budget, and in higher quality is not sufficient. That means it satisfies some stakeholders whereas it does not satisfy others.

The other dimension of project success denoted as efficiency by (Shenhur and Dvir, 2007). Thus recognizing that our project's success is defined by perceptions of others is a powerful incentive to make sure that all parties involved in the project agree on the basics. This leads us to new rule for project managers.

1. Setting realistic expectations about the cost-schedule-quality equilibrium that agrees all the project's stakeholders.

2. Managing stakeholders' expectations throughout the project provided that everybody knows and accepts if the equilibrium changes.

3. Delivering the promised product on time, and within budget.

For the purpose of this paper the traditional success criteria such as achievement of the project within time, budgeted cost, and specified technical and functional quality is used to measure the project success with respect to project stakeholders' involvement.

2.2.8. Project Stakeholders

Projects are made up of groups of interrelated and interdependent temporary activities that require individual people or group of people or institutes to envision the idea for the project, propose project plans, review and approve the plans, perform the plans, monitor and control the performance of the project and finally close out the project. Whatever the project implements, to certain degree, those people or entity have some effect on the project or can be impacted by the decision or outcome of the project and all of these people or entities are project stakeholders. As projects are time constrained temporary endeavor, project managers must learn how to initiate and engage a team of stakeholders, manage the team for the limited duration of the project, then thank and disperse the team when the project is complete. This temporary nature of projects leads to

transient stakeholders since project stakeholders come and go as the project works through different phases (Roader, 2013), and thus project managers must be agile, adaptable and constantly attentive to understand their stakeholder environment.

2.2.9. Project Stakeholder Management

Project Stakeholder Management (PMBOK, 2013) is defined as the processes to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decision and execution. The vital issues to be focused during stakeholder management includes doing continuous communication with stakeholders to understand their needs and expectations, addressing issues as they occur, managing conflicting interests and fostering appropriate stakeholder engagement in project decisions and activities. According to this source, the processes of stakeholder management include the following:

2.2.9.1. Identifying of Stakeholders

The first step of a stakeholder analysis is to identify the key stakeholders. It is the process of:

- Identifying individual people, group of people, or organizational entity that could either positively or negatively impact or be impacted by an activity, decision, or outcome of the projects.
- Analyzing and documenting pertinent information on the subject of their interests, involvement, interdependencies, influences, and potential impact on project success.

2.2.9.2. Planning stakeholder management

This process of stakeholder management involves developing management strategies to effectively involve stakeholders throughout the project life cycle, based on the analysis of their needs, interests, and potential impact on project success.

2.2.9.3. Managing Stakeholder Involvement

It is the process of appropriately communicating and working with the stakeholders to meet their needs/expectations, to address issues as they occur, and to promote proper stakeholder engagement in project activities throughout project life cycle.

2.2.9.4. Controlling Stakeholder Involvement

Controlling stakeholder involvement is the process of continuously monitoring overall project stakeholder relationships and adjusting strategies and plans for engaging stakeholders.

2.2.10. Stakeholders in Construction Projects

The implementation of stakeholder theory has been far extended from its original application in strategic management to a number of fields including more recently, construction project management (Atkin & Skitmore, 2008). During the development of any major infrastructure projects including construction projects, different individuals, groups or organizations with different interests and power involve positively or negatively from initiation to closure of the projects. Those individuals, people or organizations with different interest or power in the process of the projects are referred to as stakeholders (Olander 2007). Construction project management by its nature is the process of planning and managing a variety of complex tasks that involve diversified number of stakeholders. Thus, project professionals need to be capable of managing their relationships with diversified number of stakeholders (Atkin & Skitmore, 2008; Olander & Landin, 2008).

In construction projects, during the different stages of project from initial planning through to the final closure and maintenance, specific parties get involved whose expectations can the outcomes of, or may be affected by, both negatively and positively the implementation of the project (Olander, 2007). These are:

- Clients
- Project Management Team
- Consultant and designing team
- Contractor

- Sub-contractor
- Employees
- Local communities/end users
- Funding bodies/Sponsor
- Government Authorities

These groups as acknowledged by scholars are the key stakeholders of construction projects. For instance, (Olander and Landin, 2005a) stated that the major stakeholders that play vital role in building and other construction projects are clients, consultants, designers, and project team. Newcombe (2003) also decaled that contractors, project team, sponsors, consultants, employers, suppliers are key players in construction projects.

2.2.11. Classification of Stakeholders in Construction Projects

Project stakeholders can be classified by different authors on the basis of different parameters. With respect to the project organization, stakeholders can be classified as internal and external stakeholders (Cleland, 1999). The internal stakeholders can be defined as those who are formally connected to the project (e.g. owners, customers and employees), whereas the external stakeholders are those who are affected by the project in some ways. The other type of classification is on the basis of the power/ interest matrix. Based on this classification, project stakeholders can be classified as key stakeholders, primary stakeholders, and secondary stakeholders. This research paper primarily focuses on this classification since the main objective of this research is to investigate the impact of key stakeholders.

In this classification, it is important to consider that stakeholders have relative power (positional, resource, and expert) of influence and vested interest throughout the entire processes of the project (Handy, 1993). Both their power and interest are factors that have an impact on the success of projects.

A. Key Stakeholders

According to Cleland & Ireland (2007), key stakeholders include those who have legal relationships with the project and a responsibility in the project management processes, such as – cost, time and quality management. Key stakeholders are those stakeholders, who are significantly able to influence decision making by virtue of their position, capabilities, knowledge, connections and scope of influence. They, for example, have considerable influence on the participation of other role players; they are even able to allow the participation of others along a continuum that ranges from full inclusion to total exclusion.

Key stakeholders have also power connections, meaning they have numerous relationships with other role players both institution-bound and personal. Finally, key stakeholders, without whose explicit approval the reform cannot be initiated, are vote players. As the name indicates, key stakeholders are the key and mandatory to the project execution both in terms of power and concern.

B. Primary Stakeholders

Similarly direct (primary) stakeholders are the people or groups of people or entity that stand to affect or be directly affected either positively or negatively, by an effort or the actions of the project. It include those who directly engage in planning, execution, administration, monitoring, evaluation and controlling of the overall activities project within the provided scope of the project (Laster, 2007).

C. Secondary Stakeholders

Both Cleland and Ireland (2007) and Laster (2007) agree that secondary and indirect stakeholders such as (environmental, social and economic groups; media and families) do not participate directly in the project. These are stakeholders having low power and low interest.

2.3. Empirical Literature Reviews

This section presents studies made earlier by different researchers and therefore it consists of many facts and figures observed in the context of this research topic. The observed facts and figures are used to support the validation this topic.

Most of project stakeholder management researches are criticized to be more of theoretical even though the empirical studies have been increasing during the recent years Achtrkamp & Vos, (2008). However there are some empirical researches conducted in this area to uncover the existing phenomena. For example, Newcombe (2003) investigated the concept of stakeholders as a multiple "client" to analyze the nature and influence of various stakeholders on major construction projects using stakeholder mapping tools such as power/interest matrix. The main finding of the paper suggests a stakeholder view on construction project and argues that the concept of client is absolute and replaced by the reality of stakeholder. In the same manner, Olander & Landin (2005) illustrated the use of the power/interest matrix to identify stakeholders who can significantly influence construction projects and recognized the dynamism feature of project stakeholder management throughout the phases of the projects.

Different researchers revealed and realized that stakeholders' involvement in one way or another has either positive or negative impacts on the success of projects. For example, on the subject of top management support, the research published by Pakistan Journal of Commerce and Social Sciences, year 2015, vol. 9(2) revealed that top management support plays an important role in project success as independent variable as well as strengthen the relationship between project manager's transformational leadership and project success by providing in time resources to save the project from failure. Moreover, the empirical study of project success factors conducted in 2012 by University of National and World Economy by managers and experts from relevant organizations reveals that the aid provided by top management to the project manager and project team when accomplishing their duties on the particular project plays important role in project success. Further, another finding (European Journal of Business Management, Vol. 1, Issue 11, 2014) show that there is a significant positive relationship between top management support and the performance of road projects in Kenya.

The other parameter is that ineffective information sharing within the project stakeholders leads to project failure. For instance, the research published by Global Journal of Environmental Science and Technology, 2014, V. 2(5) revealed that inability of stakeholders to properly carry out dissemination of information on projects negatively affects the work output on the project site.

Project managers are among the key stakeholders who need to be successful in accomplishing their projects within the planned schedule, budgeted cost and specified quality by managing project

team properly. People are the complicated part of the work process particularly issues affecting people eventually impact the broader organization. For instance, the research written by (Thamhain, 2012) revealed that managing team in relation to certain conditions, such as personal interest, pride and satisfaction with the work, professional work challenge, accomplishment and recognition, serve as catalyst toward unifying culturally diverse project team and their work process which eventually resulted in project success.

In relation to supply management Hounseung et al (2003) undertook a study about the framework for construction material logistics in customer satisfaction from owner to project manager level. This research looks at how supply of construction logistics influence project manager's level of satisfaction. Accordingly, the most significantly correlated factors in customer satisfaction were obtained from project manager's view. About 223 experienced project managers gave necessary data to the study and five important factors related to satisfaction were found through interviews with project managers. These comprise personnel, material flow, schedule loyalty, contractor's organization, and information flow. The study result suggests that *material flow* and *information flow* are worthy of the most attention. Satisfying the above factors particularly, material flow, will greatly improve the construction logistics that will, as a result, enormously increase the project manager's level of satisfaction in accordance with project success.

Kumar (2008) investigated about an existing procedures associated with procurement and logistics and to explore, suggest and implement various new ideas to complete power infrastructure project at Andaman-Nichobar profitably. As the project was totally different, new ideas and some other ways, were suggested related to procurement, especially logistic part, enabling the company to complete the project in the most efficient way.

Another fact related to material delivery studied by Matouzko (2012) concerns logistics at construction project. The study shows that most construction projects suffer from unnecessary activities on the site which indicates the need for improving construction logistics. The study also shows what consequences ineffective logistics solution could have on the construction project; while in contrast proper logistics planning and delivery positively contributes to the project success.

Moreover, the paper written by Karkkainen (2005) argued about emerging project management methods for construction projects create new kinds of confrontation for the delivery process of materials. The reason of such systems is to create short-term schedules, based on a constraint analysis of resources, for project tasks. This approach has two requirements for material deliveries: transparency of material availability and short response times in the supply chain. The empirically validated solution proposes a shipment to provide a pro-active delivery approach for efficient material deliveries.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1. Research Design

Research design is the conceptual configuration within which research is conducted; it comprises the outline for the collection, measurement and analysis of data. As such the design includes an outline of what is going to be done from formulating the hypothesis and its operational implications to the final analysis of data.

For the purpose of this paper, it is set to integrate two types of research design. In the first part of the design a descriptive case study is used to identify, analyze, and prioritize the project stakeholders, specific to the project under the study. The second face of the design involves a cause and effect relationship to test the effect of the determinants of the identified key stakeholders' involvement on the success of the project. Meanwhile, in consideration of the nature of research questions, the approach adopted to conduct this research is mixed approach that take part in both qualitative and quantitative approaches. The quantitative approach is used to measure the operationalized dependent variables of stakeholders' involvement such as top management support, project team management, material supply, decision making, financial contribution, and project monitoring; whereas the qualitative approach is used to describe the objective and subjective questions to be answered by some respondents particularly in the managerial position and community members so that it supports the narrow quantitative responses and clarifies broad personal attitude, opinion and view towards the project success.

3.2. Research Methodology

Research methodology includes tools, techniques, and steps that are generally adopted in studying the defined research problem and thereby achieve the predetermined objective. In this paper the following methods and steps as well as necessary justifications are used to give necessary solutions to the defined problem.

3.2.1. Types of Data and Techniques of Data Collection

3.2.1.1. Types of Data

The purpose of the researcher is to use both primary and secondary data. Primary data in this paper is the firsthand data which is gathered for the first time from the respondents by using the designed questionnaire regarding all the necessary points of the research questions. That means, in addition to general questions, it includes all the necessary responses to be directly given for the first time by the respondents regarding the mentioned measuring variables of stakeholders' involvement (top management support, team management, proper supply of materials and equipment, financial contribution, project monitoring, decision making,) in the project under the study as well as the dependent variable (success) of the project. The secondary data for this research is the archival data which has been gathered or prepared previously by other bodies and believed to be appropriate for this research. It includes contract sign date, project start date, project completion date, contract amendment, initial project contract amount, amended contract amount, reasons for amendment, reported claims, contractual disputes, and other data that are necessary to support the validation of the research. In this case the primary data was collected from the pertinent respondents at head offices, at the project, at wereda and zone offices and at community level; whereas the secondary data was collected from documented archives such as published sources, periodic reports, strategic plan of the focused organizations, contractual documents of the parties, and other data from the project.

3.2.1.2 Techniques of Data Collection

The technique used to collect the required data is via a written questionnaire, also referred to as self-administered questionnaire that constitute both objective and subjective questions. The questionnaires were distributed to respondents in the targeted organizations who are selected to give their response in written form both what they choose from the objective questions as well as what they feel towards the pointed issues. The process was conducted in such a way that the researcher assigned trained data collectors and hand-delivered the questionnaires to the data collectors. Furthermore, the researcher also by his own interviewed some people particularly at

managerial positions and at community level to get more description and clarification that supports the narrow objective responses.

3.3. Population and Sampling Techniques

A total of 60 questionnaires were planned to be distributed to 60 respondents to collect the required data from the predetermined sources such as offices of client (at head office, wereda and zone offices), contractor, consultant, project, and some project beneficiaries at community level. A stratified purposive sampling method was used in the mentioned organizations to collect the respondents' partaking in the questionnaire. This sampling method was used by considering that the selected group of people have sufficient information and also have better proximity of influencing all aspects of the project under the study. It is intended to stratify the employees in the envisaged organizations in to three non-overlapping sub-groups so that the classification will constitutes employees at top management level, at supervisory level, and individual workers at lower level within the departments. However, the members intended to be incorporated in the respondents from each stratum includes those in managerial positions and experts who have experience and day to day direct contact with the project in decision making, project leadership, financial facilitation, material delivery, procurement, monitoring and controlling, coordination and project records.

Apart from the above organizations, areal sampling method was used in order to take necessary data regarding the perception of the beneficiaries involved at community level. This is due to the fact that the project was designed to provide the intended services on four sites that are somewhat far apart from each other and the attitude of community representatives at each site will be investigated.

3.4. Procedures of Data Collection

A sequential mixed method procedure was used such that the study was begun with the quantitative method, followed by a qualitative method involving detailed exploration of the attitude of different individuals.

The required data was collected from pre-determined sources by trained data collectors. Before starting data collection, deployed data collectors were given orientation on the objective of the

study. To fully understand the procedures and steps how to conduct their data collection, they were given short term orientation and clear instructions on each question, their time usage, as well as their conditional approach during data collection. After the data collectors start their work, occasional field checks and regular supervision was conducted by the researcher to ensure that the data collectors are doing their assigned job sincerely and efficiently. In the same manner, the researcher was also undertaking a careful watch to keep the survey as much as realistic; i.e. to ensure that the survey is under statistical control so that the collected data is in accordance with the required standard.

As soon as the questionnaire was prepared, reviewed by the academic advisor and edited by the researcher, it was scheduled to gather the relevant data within 20 days. During data collection, it was strongly dedicated to minimize the number of non-respondents to make the expected responses more secured.

3.5. Methods of Data Analysis

Data analysis is the critical examination of the data for studying the characteristics of the phenomena under study and for determining the patterns of relationship among the variables relating to it using both quantitative and qualitative methods. Technically before analysis, the collected data was processed (edited, codded, classified, tabulated) and so that they are amenable to analysis. Thus in accordance with this, the following operation was carried out:

3.5.1. Editing Data

In this step, the collected data was examined and the observed errors and omissions were detected and corrected to ensure that the data is accurate, consistent with other facts gathered, and uniformly entered as completed as possible. Two levels editing was carried out, both at field level and at center (office). At field level, the illegible writings, language, ambiguous explanations, and other similar errors related to data collection were reviewed when and as soon as the data was collected.

Apart from this, editing the collected data was carefully undertaken at center after the filled questionnaire from each of the respondents was collected and brought to office to edit other errors accordingly.

3.5.2. Coding Data

Coding refers to the process of assigning numerals or other symbols to answers so that responses can be put into a limited number of categories or classes. In this step, the edited data was codded in order to have an efficient analysis so that through coding several replies were reduced and reorganized to a small number of classes that contain the critical information required for analysis.

3.5.3. Data Classification and Tabulation

At this phase of data processing, the data with common characteristics were classified in to groups or classes such as descriptive (literacy, sex, age, position) or numerical (such as service years). Further, the classified data was arranged in some kind of concise and logical order for further analysis.

3.5.4. Data Analysis

As the nature of the research is mixed, both quantitative and qualitative analysis method were adopted to disclose the relationship between the dependent variable (project success) and the independent variables (stakeholders' involvement). Both statistical and text (non-statistical) analysis and interpretation was used in this section.

Regression analysis technique was used to analyze the quantitative data with regard to investigation of the cause-effect relationship between the intended quantitative variables. The analysis was done by using Statistical Package for Social Science version 20 (SPSS 20). At the same time a text analysis method of analysis was used in analyzing qualitative data to describe the content, structure and functions of the messages contained in texts.

3.5.4.1. The Relative Importance Index (RII)

Likert scaling was used for ranking questions that have an agreed level. The respondents are required to rate the importance of each factor on a 5-point likert scale using 1 for strongly disagree, 2 disagree, 3 neutral, 4 for agree and 5 for strongly agree.

Relative Importance Index (RII): $\sum W/AN = \frac{5n5+4n4+3n3+2n2+1n1}{5N}$

Where W is the weighting given to each factor by the respondent, ranging from 1 to 5, such as n_1 = number of respondents for “strongly disagree”,

n_2 = number of respondents for “disagree”,

n_3 = number of respondents for “neutral”,

n_4 = number of respondents for “agree”,

n_5 = number of respondents for “strongly agree”.

"A" is the highest weight (i.e. 5 in the study) and N is the total number of samples. The relative agreement index ranges from 0 to 1 (Tam and Le, 2006).

In addition to statistical analysis technique, text (no-statistical) analysis with depth interview technique was also used to qualitatively explore the desire, feelings, attitude and the satisfaction level of some respondents at all level regarding the success and the success factors of the project in study.

3.5.4.*2* Reliability Check

This method is used to measure the reliability of the questionnaire between each field and the mean of the whole fields of the questionnaire. The normal range of Cronbach's coefficient *alpha* (α) value is between 0.0 and + 1.0, and the higher values reflects a higher degree of internal consistency (George and Mallery, 2003).

The closer the Alpha (α) is to 1, the greater the internal consistency of items in the instrument being assumed. Accordingly, the result reveals that the coefficient is 0.87, which is almost near to +1, and hence there is high internal consistency.

3.5.4.3. Test of Significance

It is used to determine if the mean is significantly different from a hypothesized value. If the P-value (Sig.) is smaller than or equal to the level of significance, then the mean is significantly

different from hypothesized value. The sign of the test value indicates whether the mean is significantly greater or smaller than hypothesized value. On the other hand, if the P-value (Sig.) is greater than the level of significance, then the mean is insignificantly different from a hypothesized value.

3.5.4.4. Spearman rank correlation coefficient

A Spearman rank correlation coefficient is used to determine whether there is evidence of a linear relationship between two ordinal variables, or, if both variables are interval and the normality requirement may not be satisfied (Lehman, Ann. 2005). The sample Spearman correlation coefficient is denoted r_s and is given by:

$$\mathrm{rs} = 1 - \frac{6\sum_{\mathrm{i}}^{\mathrm{n}} = \mathrm{d2i}}{n(n2-1)}$$

Where:

r_S = Spearman's rank correlation coefficient

d = the difference in ranking between the usage and effectiveness of factors

n = the number of factors

The linear correlation coefficient takes a value between -1 and +1. If the value of correlation coefficient is equal to 1, the two variables are perfectly correlated and the scatter of the points of the variables will lie on a positively slopped straight line. Similarly, if the correlation coefficient between the two variables (X and Y) is negative, the scatter of the points of these variables will lie on a negatively slopped straight line and such a correlation is perfectly negative correlation. It may be noted that the closer the scatter of points to the line, the higher is the degree of correlation between variables.

3.5.4.5 Validity of Questionnaire

Validity refers to the degree to which an instrument measures what it is supposed to be measuring. Validity has a number of different aspects and assessment approaches. Statistical validity is used to evaluate instrument validity, which include internal validity and structure validity.

I. Internal Validity

The internal validity of the questionnaire is the first statistical test that is used to test the validity of the questionnaire. It determines the degree to which a study minimizes systematic error (or "bias").

3.6. Ethical Considerations

Respondents were guaranteed that on one will have access for an individual respondent's except the researcher for this research purpose only. The researcher also approved that the overall data collection procedure was performed in considering that the moral of the respondents and the community members as well as the confidentiality of the concerned organizations to be secured in all aspects

CHAPTER FOUR: FINDINGS AND DISCUSSION

4.1. Findings of the Study

The study is set out to investigate the effect of stakeholders' involvement on the success of Arsi Negele Water Supply Project. It attempts to verify whether the degree of stakeholders' involvement contributes to the existing problem (cost overrun, time behind the schedule, and customer dissatisfaction) on the project.

Data was collected from public offices (client, contractor, and consultant), and the end user community members. In this process all quantitative and qualitative data were collected from client, contractor, and consultant offices, while data via interview was collected from some of the respondents at the managerial position and from envisaged end users of the project. Among the respondents 26 people are from contractor office, 9 from client office and 15 from consultant office. Interviews were intentionally directed to higher officials (top management) who seem hesitant to spend time filling the questionnaires, and community members who have ability to orally explain the existing fact, but not active in writing.

Based on the provided conceptual approach, all the data collected by the pre-designed questionnaire were screened and codded; and to ensure its stability and reliability, data analysis software SPSS 20 was used.

The statistical population of this research consists of 60 people including managers, supervisors and experts in the central offices, project offices, and zonal offices. The particular departments more purposively focused during data collection were selected by considering that the population in that area has better awareness, knowledge, and sufficient information to give their response towards the project to be studied. These departments are contract administration, construction, design, supervision, purchasing and supply and finance departments. Since they have weak contact

with the project, other departments like human resource department, department of legal affairs were purposely ignored.

4.1.1 Survey Response Rate

A total of 60 questionnaires were distributed and 53 were returned out of which 3 are defected. This data was, thus, analyzed based on 50 non-defected responses given by 38 male (76%) and 12 women (24%). The statistical data shows that out of those population 12% are unmarried, 74% are married and 4% are divorced.

4.1.2 Demographic Profile of the Respondents

The demographic profile as gathered by the questionnaire is the profile that summarizes age, sex, marital status, year of experience, job position, and job location of the respondents as provided in Table 4.1.

Table 4.1. Demographic Profile of the Respondents

N0.	Demographic variables	Category	Frequency	Percent
1	Sex	Male	38	76
		Female	12	24
2	Age	18-30	12	22
		31-45	19	40
		46-60	19	38
3	Educational Attainment	Diploma	4	8
		BA/BSc.	27	54
		Masters & Above	19	38
4	Marital Status	Single	11	22
		Married	37	74
		Divorced	2	4
		Widowed	0	0
5	Year of Experience	1-5	4	8
		6-10	26	52
		11-15	12	24
		16-20	6	12
		21 and above	2	4
6	Job Position category	Top Management	7	14
		Middle Management	11	22
		Supervisory	6	12
		Expert	26	52
		Head Office	36	72

7	Job location	Project Office	6	12
		Zone & Wereda Offices	8	16

4.1.3 Questionnaire Survey Results

The questionnaire integrates different questions designed to answer the basic research questions in alignment with the specific objectives of the research. The opinions and questions put in the questionnaire are responded by the respondents as follows:

Who are the key stakeholders to the project under the study and what are their roles?

This question is aimed to first identify the key stakeholders whose effect is assumed to affect the success of the project. Based on the question, directly some common construction project stakeholders written on different literature and stakeholders who actually interact with the project under consideration (the client, the contractor, the consultant, and end users) were checked by the questionnaire whether they are key, primary or secondary. The response of almost the entire respondents (58% strongly agree and 32% agree) discloses that they are key stakeholders to the project. Moreover, 72% and 90% of the respondents gave strongly agree and agree responses respectively on their organizations to have high power and high interest on the project. Accordingly, based on this analysis, the identified key stakeholders to the project are as mentioned below:

- Client (Oromia Water, Mineral & Energy Bureau
- Consultant (Oromia Water Works Design & Supervision Enterprise)
- Contractor (Oromia Water Works Construction Enterprise)
- Project end users/Beneficiaries

This indicates that all the stakeholders mentioned from 1 to 4 in are key stakeholders to the project since they are categorized to have high power and high interest on the project.

4.1.4 Role of the Stakeholders

Role of the Contractor

Broadly, the roles of Contractor in any construction Project is constructing or building and taking over the project on time. In this domain, planning, scheduling, implementation, rescheduling, monitoring, and controlling are the major tasks of the contractor. As a contractor for the project, Oromia Water Works Construction Enterprise develops water resources; construct roads and buildings, manage project, administer contract.

Role of the Consultant

Consultant is an organization/institution or an individual who is represented on behalf of the client. The common role of the consultant is designing, supervision, project management, contract administration. As a consultant, Oromia Water Works Design and Supervision Enterprise do all these works.

Role of the Client

Client is the owner of the project to be constructed. The roles of the client is conducting pre-feasibility and feasibility study; conducting project appraisal, facilitating project budget, final project evaluation, and others. The owner of this project, Oromia Water Energy and Mineral Bureau, is responsible for all these activities.

Role of End Users

The main contributions of the end users/beneficiaries are:

- Permission of site access on which the project camp is constructed,
- Provision of land over which the pipeline is laid, and the water structure is built
- Providing security coverage for the entire project.
- Organizing water distribution mechanism by the time the project start to provide relevant service
- Conducting necessary operation and maintenance after the closure of the project.

Table 4.2: Respondents perception on what area they involve in the project and whether they know the project to be studied

No.	Questions	Choices	Percent	Frequency
1	In what aspect you are involving in the project?	Top Management support	6	12
		Team management	10	20
		Supply management	4	8
		Project monitoring	13	26
		Financial Contribution	1	2
		Decision Making	5	10
2	Do you know Arsi Negele Water Supply Project?	Yes	47	94
		No	3	6

Table 4.3: A descriptive analysis of the responses on the category of stakeholders, level of their power and their interest

No.	Questions	Quantity	Level of Agreement				
			Strongly Disagre	Disagree	Neutral	Agree	Strongly Agree
1	Your organization is stakeholder to Arsi Negele Water Supply Project	Frequency	1	0	0	13	36
		Percent	2	0	0	26	72
2	Your organization involves in the project as key stakeholder	Frequency	2	2	1	26	19
		Percent	4	4	2	52	38
3	Your organization involves in the project as primary stakeholder	Frequency	7	21	4	5	13
		Percent	14	42	8	10	26
4	Your organization involves in the project as secondary stakeholder	Frequency	38	10	2	0	0
		Percent	76	20	4	0	0
5	Your organization has no attachment to the project	Frequency	47	3	0	0	0
		Percent	94	6	0	0	0
6	Your organization has high power on the project	Frequency	1	5	0	8	36
		Percent	2	10	0	16	72
7	Your organization has high interest to the success of the project	Frequency	0	0	0	5	45
		Percent	0	0	0	10	90
8	Your organization has actively involved in the project	Frequency	0	25	1	5	19
		Percent	0	50	2	10	38

4.2. Inferential Analysis

Here inferential statistics is used to make inferences about population. Instead of using the entire population to gather data, the researcher collect data from a certain portion of the population.

4.2.1 Reliability Test

The reliability of the instrument was checked and the scale were proved as highly reliable with the help of SPSS 20 (Chronbach's Alpha = 0.870, table 4.4 below)

Table 4.4. Reliability Test

Chronbach's Alpha	Number of items
0.870	7

4.2.2 Hypotheses Test

Here the hypothesis test examines two opposing hypotheses about a population: the null hypothesis and the alternative hypothesis. Null hypothesis is the statement being tested whereas the alternative hypothesis is the statement we want to be able to conclude is true.

Table 4.5: Regression Coefficients

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**95% confidence**	
	β	**Std. error**	**Beta**			**Lower bound**	**Upper bound**
β0	**1.382**	**.775**	**-**	**1.785**	**.081**	**-.180**	**2.944**
X1	**0.603**	**.207**	**.591**	**2.909**	**.006**	**-.185**	**1.021**
X2	**0.457**	**.208**	**.536**	**2.201**	**.033**	**-.876**	**.038**
X3	**0.421**	**.337**	**.448**	**1.248**	**.219**	**-.259**	**1.101**
X4	**0.214**	**.288**	**.246**	**.743**	**.461**	**-.795**	**.467**

X5	**0.322**	**.215**	**.386**	**1.499**	**.141**	**-.755**	**.161**
X6	**0.111**	**.284**	**.103**	**.393**	**.696**	**-.461**	**.697**

Table 4.6: Model Summary

Model	R	R-Square	Adjusted R-square	Std. error of the estimate	Change Statistics				
					R-squre chang	F change	df1	df2	Sig. F change
1	0.51	0.258	0.155	0.61671	0.258	2.494	6	43	0.037

Table 4.7: ANOVA

Model	Sum of squares	Df	Mean of Square	F	Sig.
Regression	5.691	6	0.948	2.494	0.037
Residual	16.354	43	0.38		
Total	22.045	49			

Based on the sample data, the test determines whether to reject the null hypothesis. The p-value is used to make the determination. If the p-value is less than or equal to the level of significance (95%), which is a cut-off point that we define, then we can reject the null hypothesis and accept the alternative hypothesis. Based on this statistical technique, the previously formulated hypotheses were tested as follows.

H0: There is no significant effect of top management support on the success of the project

H_1: There is a significant effect of top management support on the success of the project

To check if the top management support has significant effect on the success of the project, 95% confidence level of significant interval is used. The p-value of top management support ($p = 0.006 < 0.05$), and hence the value of null hypothesis is significant. Therefore, the null hypothesis is supported and concluded that top management support (the alternative hypothesis) has no significant effect on the success of the project.

H0: There is no significant effect of project team management on the success of the project

H_2: There is a significant effect of project team management on the success of the project

By doing the same analysis with the above variable, p-value is less than the level of significance; that means ($p = 0.033 < 0.05$). Hence, the value is significant, the null hypothesis is supported and the alternative hypothesis is rejected.

H0: There is no significant effect of supply management on the success of the project

H_3: There is no significant effect of supply management on the success of the project

For this hypothesis, the obtained p-value is greater than 0.05; that means ($p = 0.219 > 0.05$), and the value is insignificant. Therefore, the null hypothesis is rejected and, the alternative hypothesis is accepted.

H0: There is no significant effect of financial contribution by stakeholders on the success of* the *project

H_4: There is a significant effect of financial contribution by stakeholders on the success of the project

The obtained p-value is greater than 0.05; that means, ($p = 0.461 > 0.05$), and hence the value is insignificant. Therefore, according to this research, the null hypothesis is rejected and financial contribution by the stakeholders has significant effect on the success of the project.

H0: Project monitoring has no significant effect on the success the project.

H_5: Project monitoring has a significant effect on the success the project.

The p-value is greater than 0.05. That means ($p = 0.141 > 0.05$), and hence the value is insignificant. Therefore, according to this research, the null hypothesis is rejected and concluded that project monitoring has a significant effect on the success of the project.

H0: Active decision making on critical issues has no significant effect on the success of the project.

H_6: Active decision making on critical issues has a significant effect on the success of the project.

In the same way the obtained p-value for this hypothesis is 0.696 which is greater than 0.05. That means (p =0.696 > 0.05), and hence the value is insignificant, null hypothesis is rejected. Therefore, in the context of this research, active decision making has a significant effect on the success of the project.

In general, a regression statistical techniques was used for the analysis. Here regression is used to test whether an overall relationship exists between the dependent variable and a set of independent variables. It is also used to measure the relative importance of independent variables in explaining the dependent variable. Generally the output of the SPSS 20 Software shows the following model that shows their relationship.

$\mathbf{Y = ß_0 + ß_1X_1 + ß_2X_2 + ß_3X_3 + ß_4X_4 + ß_5X_5 + ß_6X_6 + \varepsilon_i}$ **;** Where the software output gives the constants: ß0 = 1.382; ß1= 0.603; ß2 = 0.457; ß3 = 0.421; ß4 = 0.214; ß5 = 0.322; ß6 = 0.111 and $\varepsilon_i = 0.775$ (Appendix 002). Therefore, from the analysis, the formulated model equation can be expressed as:

$$Y = 1.382 + 0.603\ X_1 + 0.457X_2 + 0.421X_3 + 0.214X_4 + 0.322X_5 + 0.111X_6 + 0.775$$

4.3. Discussions

Since the available data includes both qualitative and quantitative aspect, it is necessary to use a suitable analysis methods accordingly. For this research, triangulation method was widely used because comparing the quantitative result with the qualitative data is widely used and in the same manner the qualitative result is compared with the results on the literature.

The key stakeholders identified in this finding are those public organizations who are immediate (on the first line next to the project organization). The result revealed that they relatively have higher power and higher interest in all aspects of the project. The researcher argued that why the project fails as long as they possess high power and high interest. Among the averaged responses given by the respondents, failure of the stakeholders to communicate each other, failure to create integration among them, absence of collaboration between them, timely reshuffling of workers at managerial position are the main responses.

The mission of the contractor of this project, as one of key stakeholders is, "developing water resources; constructing roads and buildings, utilizing latest available technology manned by skilled professionals, rendering quality and productive services on time and at designated places, to the benefit of the population". In this mission statement, even if one of the purpose of the company is rendering quality and productive services on time and at designated places, this paper reveals that there is project cost overrun and time behind the schedule and even dissatisfaction of the project stakeholders. From this fact it is possible to judge that there was less degree of stakeholders' involvement during the implementation of the project.

It was attempted to assess the feelings of the respondents whether their organization has actively involved in the project, and 50% disagree, 38% strongly agree and 10% agree that their organization has actively involved in the project. This data shows that there is nearly balanced figure between "agree" and "disagree". Based on this quantitative data, the researcher attempted to interview some experts and top managers why nearly half of the respondents feel that they have actively involved in the project while the rest do not. The averaged reason given by those people is that the degree of involvement of each individual person varies based on position, department, job title, proximity to the project, etc. That means, based on their position, title, department, proximity to the project, some individuals have actually involved in the project to their maximum effort while others may not. From this reason the researcher suggests that it is better to investigate the extent of the stakeholders involvement in the project on the basis of these parameters (title, department, proximity to the project, self-commitment, etc.), which needs to conduct detail comparative study on the basis of title, position, department, and relative proximity to the project.

Even if the researcher hypothesized that six operationalized variables of stakeholder involvement (such as top management support, team management, supply management, decision making, project monitoring, and financial contribution) are the cause for cost and time overrun of the project, this finding reveals that except two factors (top management support and team leadership), the rest four have been found to be the cause to significant failure. This can be supported by Pinto & Slevin, (1987) that project monitoring is one of the critical success factors identified for project success. On the other hand, research by (Scott- Young & Samson, 2004) acknowledges that active decision making on resource mobilization, financial support by the top management gains project success than technical concern does. It was also stated that Rauniar and Rawski (2012), to enhance

project success, the project manager provides the team with the proper direction and goals, provides motivational support, and helps to resolve any interpersonal and organizational issues.

Now, it is also important to examine the existing relationships between the dependent variable (project success) and the significantly influencing independent variables form the above model equation. Since the coefficient of all independent variables are different from zero, there is linear relationship between the dependent variable (project success) and the independent variables.

Another important parameter is testing goodness of fit of the regression equation by determining R square (R^2). The calculated R^2 from the equation 0.258 or 25.8 (Table 4.6). It implies that 25.8 percent of the variations in the dependent variable are explained by the variations in the independent variables (top management support, team management, supply management, financial contribution, active decision making, project monitoring and control). However, as per the analysis, since other four independent variables other than top management support and team management have been verified to have significant influence on the success of the project, it is possible to conclude that the value of R^2 for this particular test is due to the effect of supply management, financial support, active decision making, and project monitoring. Here 25.8% variation is due to independent variables incorporated in this paper means, on the other hands 74.2% variation of the dependent variable is due to other factors other than those mentioned here. The same thing is true that the error term (ε_i) is 0.775, which is very large number in this test. This indicates that there are omitted independent variables which need to be incorporated in the model. Therefore, it denotes that it is important to conduct further study on other variables that can be hypothesized to affect the success of the project. If other additional independent (explanatory) variables are added in the model, R^2 can be shifted upward from current value (0.258) to somewhere between 0.258 and 1.

Moreover, another statistically important parameter to be determined is coefficient of correlation (r) which measures the association between the dependent and independent variables. This means both the direction and intensity of relationship between the variables is determined in such a way that if r is negative there is a reverse relationship between the variables whereas if r is positive, there is positive relationship between the variables. Accordingly, from the developed model all the

independent variables have positive relationship with project success. This implies that as their values increase, the project success will be enhanced.

As indicated on Table 4.8, the coefficient of determination between, for instance, project success and top management support is 0.0225 or 2.25%. This implies that 2.25% of the variance in project success is accounted for top management support, 3.3% for team management, 0% for supply management, 0.23% for financial contribution, 3.3% for project monitoring, and 19.4% for active decision making.

The respondents were asked a very critical question if construction of Arsi Negele Water Supply Project has achieved the strategic goal of the client or not. The response rate for this particular equation discloses that 12% of the respondents responded "yes" and 88% "no" (appendix-003). Here the same idea is suggested by Cleland (1986) that project success is meaningful only if it considerably contributes to the strategic goal of the enterprise. Therefore, this logic tells us that the project is not successful since it has not achieved the strategic goal of the owner. In the same manner, PMI (2001) connoted that it requires the involvement of the right people (key stakeholders) at the right time to make certain that the projects or the components of the projects operate successfully so that above all, it requires the commitment of those involved stakeholders. A well-orchestrated involvement of key stakeholders leads to the high level of commitment required to move the projects toward common organizational goals. This idea signifies that projects which are able to achieve organizational goal are the indicator of the success criteria.

Another very crucial matter of the project is that the observed level of satisfaction of the targeted end users/beneficiaries. To verify this problem a question was raised if construction of Arsi Negele Water Supply Project has achieved the satisfaction of end users or not. The analysis reveals that 46 of the respondents (92%) answered "no", and 4 of them (8%) answered "yes". The researcher notifies that this observation is in relation to the effect of stakeholder involvement verified in hypotheses 3 to 6. Accordingly (Kevin Forsberg et. al. 2005) suggest that project requirements start with what the user really needs (not what the provider perceives that the user needs) and end when those needs are satisfied as evidenced by successful user validation.

Still another critical question raised to be answered by the respondents is whether the project stakeholders have been satisfied with time taken; budget consumed and specified quality of the

project. The response rate towards this question is that 49 of the respondents (98%) answered “no” whereas 1 respondent (2%) answered “yes”. From this result, it is easy to say that dissatisfaction of nearly the entire stakeholders with those parameters is the implication of failure of the project.

It was also attempted to know from some top managers why some of the respondents, in their response, still be certain that proper top management support, team management, supply management, decision making, financial contribution and project monitoring have been done to the project whereas, in contrast, most of the respondents disagree with this idea. The reason given for this argument is that even if the projects is not successful so far (due to cost overrun, time behind schedule, and dissatisfaction of stakeholders), some of key stakeholders have still attempted to undertake their expected duty and responsibility to their maximum effort. This indicates that the extent to which the key stakeholders has committed to involve in the project varies from person to person, department to department, or one phase to another phase of the project. For instance, some respondents were interviewed and still debate that proper design, supervision, and decision making on their side have been properly done to the project.

CHAPTER FIVE

CONCLUSION, RECOMMENDATION AND LIMITATIONS OF THE STUDY

5.1. Summary

In order to survive in a dynamic business landscape, organizations need to be familiar with this ever-changing environments. Projects, being a change management tool, is becoming a contrivance which helps the organizations to adopt to these vigorous environment.

Regardless of the nature of the project, different researchers have pointed that project failure is generally not only the result of lacking effective project management practices, but of unsuitable social collaboration and communication among the project stakeholders. Stakeholder management, thus mainly focuses on continuous communication with stakeholders to recognize their needs and expectations and managing conflicts of interests and promoting appropriate stakeholder's involvement in project decision and activities.

As stakeholder management is the essential and integral part of project management (PMBOK, 2013), the main focus of this study is to investigate the determinants of stakeholders' involvement on the success of the project under the study. The study was carried out on Arsi Negele Water Supply Project, which was designed to cover the urban and rural areas of Arsi negele, Shala, Siraro and shashemene. It has been proved that there was cost overrun, delay and stakeholders' satisfaction on the project. The researcher believes that, as the major project management practice, stakeholder involvement has significant contribution in the observed failure.

Stakeholders involve in project in providing top management support, managing project team, supplying of necessary inputs, providing financial care, project monitoring, decision making, etc. and these operationalized stakeholders involvement, in this research, were tested to have significant effect on the success of the project. In the first place, stakeholders (the Employer, Contractor, Consultant, and End users of the project) were checked to be the key stakeholders for the project by stakeholder analysis tool, power-interest grid. Next to that the effect of the involvement of these stakeholders were tested by statistical tool, SPSS-20. In association with this the following main findings are presented as follows:

All the identified key stakeholders have their own role in the project. In short, employer conducts pre-feasibility and feasibility study, project appraisal, facilitating project budget, final project evaluation, and others. The owner of this project, Oromia Water Energy and Mineral Bureau, is responsible for all these activities. The contractor is responsible to construct or build and takes over the project on time, whereas the consultant is deployed to design, supervision, project management, contract administration. The end users contribute to the project in different activities undertaken at lower level such as land permission, providing protection for project, etc.

Moreover, based on the inferential analysis conducted to investigate the effect of stakeholders' involvement on the project, independent factors such as supply management, financial contribution, project monitoring and active decision making were found to have significant effect on the success of the project.

5.2. Conclusion

Stakeholder involvement in construction projects is one of the project management practices and is among the critical success factors that influence project success in terms of time, cost, and customer satisfaction. Arsi Negele Water Supply Project is one of the water supply projects in Oromia region that have faced cost overrun, time behind the schedule, and customer dissatisfaction. The main purpose of this research is to investigate the determinants of stakeholders' involvement on the success of the project during the planning and implementation stage. A mixed approach of data collection, analysis and interpretation was used to investigate the causal relationship between the dependent and independent variables; and thus both statistical and text analysis method were used to analyze the collected data.

The research revealed that among the hypothesized six posited factors, the four factors such as, supply management, financial contribution of the stakeholders, project monitoring and active decision making by them have been found to be the determinant factors of stakeholders' involvement to the success of the project.

6.2. Recommendation

1. Since the result of this research shows that there are factors other than the factors tested in the analysis, it is recommend that further research should be conducted on other sides of stakeholders' involvement (communication, consultation, etc.).

2. There should be a strong contractual, legal and collaborative relationship between the contracting parties of the project. There shall also exist obligations and liabilities, with strict legal enforcement towards achieving the implementation of the project.

3. The top management shall be dedicated to consistently give sufficient financial and material support for the project team especially during the construction period.

4. Instead of investing the available resources on the entire project, it is advisable to run the project phase by phase. Therefore, at least some part of the end users community and the other stakeholders can be satisfied with the output of the project.

5. Strict project monitoring by the project team and active decision making by the top management, if practiced, has high value for the success of the project.

6.3. Limitations of the Study

Limitation of the research is a brief discussion of the problems encountered during the study and the available constraints in terms of time, data, financial and human resources. Accordingly, in the context of this paper, the actual problems came across during this research are as follows:

1. Shortage of budget: - since there was no financial support from any source for the purpose of this research, this paper was conducted with considerable financial stress.

2. Limitation of data: - Even if a lot of books and journal articles are available from different sources, it was not possible to find sufficient locally published research papers that is able to support this paper. The other very critical constraint during data collection is that almost all of top managers who knows the history of the project from the beginning have been shifted to other offices. As a result, obtaining sufficient and real information via interview was exceptionally tiresome.

3. Time limitation: - with respect to the geographical areas of the study and other compulsory works other than this research paper, time limitation was very critical.

4. Absence of necessary background data from the web sites of the targeted organizations was also a big constraint.

5. Shortage of locally published research papers particularly in the area of project stakeholder management is another constraint encountered in the research.

7. Absence of project full data since there was big damage on the project due to political issue few months before.

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Appendices

Appendix -001

Reliability Statistics

Cronbach's Alpha	N of Items
.870	7

Appendix -002

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.382	.775		1.785	.081	-.180	2.944
	meantopmgt	.603	.207	.591	2.909	.006	.185	1.021
	meanteammgt	.457	.208	.536	2.201	.033	-.876	.038
	meansupmgt	.421	.337	.448	1.248	.219	-.259	1.101
	meanfincont	.214	.288	.246	.743	.461	-.795	.467
	meanpromont	.322	.215	.386	1.499	.141	-.755	.161
	meandecmak	.111	.284	.103	.393	.696	-.461	.697

a. Dependent Variable: meansuccess

Appendix -003

Do you think construction of Arsi Negele Water Supply Project has achieved the strategic goal of the client?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	6	12.0	12.0	12.0
	No	44	88.0	88.0	100.0
	Total	50	100.0	100.0	

Appendix - 004

Correlations

		meantopmgt	meanteammgt	meansupmgt	meanfincont	meanpromont
Mean top mgt	Pearson Correlation	1	.617**	.611**	.729**	.655**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	50	50	50	50	50
Mean team mgt	Pearson Correlation	.617**	1	.769**	.644**	.710**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	50	50	50	50	50
Mean sup. mgt	Pearson Correlation	.611**	.769**	1	.828**	.751**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	50	50	50	50	50
Mean fin. cont	Pearson Correlation	.729**	.644**	.828**	1	.827**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	50	50	50	50	50
Mean pro.mont	Pearson Correlation	.655**	.710**	.751**	.827**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	50	50	50	50	50
Mean dec. mak	Pearson Correlation	.465**	.759**	.824**	.587**	.622**
	Sig. (2-tailed)	.001	.000	.000	.000	.000
	N	50	50	50	50	50
Mean success	Pearson Correlation	.150	-.181	-.011	-.048	-.182
	Sig. (2-tailed)	.298	.209	.940	.742	.206
	N	50	50	50	50	

**. Correlation is significant at the 0.01 level (2-tailed).

Questionnaire on "Assessment of the Effect of Stakeholders Involvement on the Construction of Arsi Negele Water Supply Project".

St. Mary's University

Dear valued respondents

This questionnaire is prepared to complete Master's Program of Project Management at St. Mary's University. The purpose of this questionnaire is to investigate the effect of involvement of key stakeholders on the construction of Arsi Negele Water Supply Project. Your response will be kept strictly confidential and it will be used for academic purpose only.

- In all cases when answer options are available please thick (X) in your response box
- Otherwise, if description is necessary, I appreciate if you write down your idea either in English, Amharic, or Afan Oromo.

Thank you for your cooperation.

Part I. Participant information

1. Sex; Male ☐ Female ☐

2. Age

18 – 30 years ☐

31- 45 years ☐

46 – 60 years ☐

Above 60 years ☐

3. Marital status

Single ☐ married ☐ Divorced ☐ Widow ☐

4. Educational Level

Below Diploma ☐ Diploma ☐ First Degree ☐ Second Degree and above ☐

5. Please indicate your years of professional experience in Construction Company. Please choose only one of the following.

From 1 – 5 ☐

From 6 – 10 ☐

From 11 – 15 ☐

From 16 – 20 ☐

From 21 and above ☐

6. Your status/position in the company

Top Manager ☐ Middle manager ☐ Supervisor ☐ Expert ☐ Other ☐

7. What is your specific profession (field of work) in the organization?

Civil/water Engineer ☐

Architectural Engineer ☐

Construction management ☐

General management ☐

Information Technology ☐

Accounting/Finance ☐

Quantity Surveying ☐

Purchasing and Supply management ☐

Others, (please specify)

_____

8. Do you know Arsi Negele Water Supply Project? Yes ☐ No ☐

9. If yes, in what aspect you have been involving in the project?

Top management support ☐ Team management ☐ Communication ☐

Decision making ☐ Supplying of materials and equipment ☐

Project Monitoring ☐ Financial contribution ☐ if others, specify

II. Questions related to Stakeholder Identification, degree of their Involvement in the Project and effect of their involvement in the project.

Dear respondents: before you answer the following questions, please be familiar with the following definitions of stakeholders.

Definitions

Key Stakeholders are those stakeholders, who are significantly able to influence decision making by virtue of their position, capabilities, knowledge, connections and scope of influence.

Primary Stakeholders are those stakeholders who have comparatively lower power and lower interest than key stakeholders and are those who directly engage in planning, execution, and administration of the project (Laster, 2007)

Secondary Stakeholders are those who do not directly participate in the project.

Please indicate your level of agreement with the following statements about stakeholder involvement in Arsi Negele Water Supply project.

1= strongly disagree 2 = Disagree 3= Neutral 4 = Agree 5= strongly agree

Please choose and mark (X) to you thinks the appropriate response for each item.

Description	1	2	3	4	5
Your organization is a stakeholder to Arsi Negele Water Supply project					
Your feeling on the level of attachment of your organization to the project:					
a. Your organization involves on the project as key stakeholder					
b. Your organization involves on the project as primary stakeholder					
c. Your organization involves on the project as secondary stakeholder					
d. Your organization has no attachment to the project at all					
Your Attitude towards the power and interest your organization have over the project					
The degree of power your organization have on the project:					
a. Your organization has high power					
b. Your organization has medium power					
c. Your organization has low power					
The level of stake (interest) your organization has on the project					

a.Your organization has high interest on the success of the project					
b. Your organization has medium interest on the success of the project.					
c. Your organization has low interest on the success of the project					
Degree of Involvement in the Project	**1**	**2**	**3**	**4**	**5**
Your feeling towards the involvement your organization on the project:					
a. Your organization has actively involved in the project					
b. Your organization has less actively involved in the project					
c. Your organization had no involvement in the project at all					
Aspects of Involvement of the Stakeholders in the Project					
Effective support of top management has significant effect on:					
a. timely completion of the project					
b. cost efficiency of the project					
c. quality of the project					
d. Satisfaction of the client and the end users of the project					
You feel that Top Management has given sufficient support to the project					
Effective project team management by the project manager has significant effect on:					
a. the timely completion of the project					
b. cost efficiency of the project					
c. quality of the project					
d. satisfaction of the client and the targeted end users of the project					
You feel that the project manager has properly managed the project team					
Timely and sufficient supply of materials and equipment to the project has a significant effect on:					
a. timely completion of the project					
b. cost efficiency of the project					
c. quality of the project					
d. satisfaction of the client and the end users of the project					
You feel that necessary materials and construction machineries have been supplied sufficiently and on time to the project					
The financial contribution/support done by your organization or by other organizations has a significant effect on:					
a. timely completion of the project					
b. cost efficiency of the project					
c. quality of the project					
d. satisfaction of the client and the end users of the project					
You feel that proper financial contribution has been done to the project					

You feel that proper project monitoring and control has a significant effect on:					
a. timely completion of the project					
b. cost efficiency of the project					
c. quality of the project					
d. satisfaction of the client and the end users of the project					
You feel that proper monitoring and control has been done to the project					
You feel that active decision making on project issues has a significant effect on:					
a. timely completion of the project					
b. cost efficiency of the project					
c. quality of the project					
d. satisfaction of the client and the end users of the project					
You feel that active decision have been made for every issues of the project					

III. Subjective Questions

1. Do you think construction of Arsi Negele Water Supply Project has achieved the strategic goal of the client?

Yes ☐ No ☐

Please give your opinion (if any)

_____
_____
_____
_____

3. Do you think construction of Arsi Negele Water Supply Project has achieved the satisfaction of end users?

Yes ☐ No ☐

Please give your opinion (if any)

_____

_____
_____
_____

4. Do you think construction of Arsi Negele Water Supply Project has been attaining the satisfaction of other stakeholders other than end users?

Yes ☐ No ☐

Please give your opinion (if any)

_____
_____
_____
_____
_____

5. Do you think the stakeholders have been satisfied with the time taken; budget consumed, and specified quality to run the project?

Yes ☐ No ☐

Please give your opinion (if any)

_____
_____
_____
_____

6. I am interested in any other comments you might have concerning the stakeholder management practices (identification, classification, prioritization, engagement of the stakeholders) in water supply projects run by your organization; please use the space provided for any of your comment.

_____
_____
_____

Thank You