



Addis Ababa University
College of Business and Economics
School of Commerce

**External Environmental Factors Influencing Project Success:
The Case of Addis Ababa Saving House Development Enterprise
(40/60 Project)**

A Project Work Submitted to the School of Graduate Studies at Addis
Ababa University College of Business and Economics in Partial Fulfillment
of the Requirements for the Degree of Master of Arts in Project
Management

Research Advisor – Abraraw Chane (PhD)

By: Hilina Yifru

ID No. GSE/6873/09

Addis Ababa, Ethiopia

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DECLARATION

I Hilina Yifru, declare that this work entitled “**External Environmental Factors Influencing Project Success: The Case of Addis Ababa Saving House Development Enterprise (40/60 Project)**” is the outcome of my own effort and that all source of materials used for the study have been duly acknowledged. I have produced it independently except for the guidance and suggestion of the research advisor. This study has not been submitted for any degree in this university or any other universities. It is offered for the partial fulfillment of the degree of MA in Project Management.

Hilina Yifru

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Addis Ababa University School of Commerce
Graduate Program

External Environmental Factors Influencing Project Success:

The Case of Addis Ababa Saving House Development

Enterprise (40/60 Project)

By

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STATEMENT OF CERTIFICATE

This is to certify that Hilina Yifru has carried out her research work on the topic entitled, **“External Environmental Factors Influencing Project Success: The Case of Addis Ababa Saving House Development Enterprise (40/60 Project)”**, for the partial fulfillment of, Masters of Art in Project Management at Addis Ababa University-School of Commerce. This study is an original work and not submitted earlier for any degree either at this university or any other universities.

Advisor: Dr. Abraraw Chane

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LIST OF ACRONYMS

AASHDE	Addis Ababa Saving house development Enterprises
AAHDO	Addis Ababa Housing Development Project Office
ANOVA	Analysis of Variance
FMLHUD	Federal Ministry of Lands, Housing and Urban Development
IHDP	Integrated Housing Development Program
MSE	Micro and Small Enterprise
MDG	Millennium development goal
PEST	Political Environmental Social and Technological factors
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PMO	Project Management Office
PSC	Project Success Criteria
SPSS	Statistical Package for Social Sciences
SHDA	Saving House Development Agency
UNHABITAT	United Nations Human Settlement Program

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ABSTRACT

The concept of construction project development may be impaired without a good knowledge and successful management of the impact of external environmental factors influencing the performance of project. This study aims to identify the influence of external environmental factors on Addis Ababa Saving House Development Enterprise specifically 40/60 project. The instrument used for the data collection was structured questionnaire and the target population consisted of 174 project managers in 11 sites. The methods employed were mean score, Pearson correlation and regression analysis. Twenty-one facets were identified as an indicator of the factors having an influence on housing project success and they were categorized under clusters; political, economic and financial, social and cultural and technological factors. The result of the Pearson correlation analysis of time and cost overruns with the identified factors affecting project performance revealed that the clusters of economic and financial factor, technological factor and political factor have significant relationship on p-values of 0.000, while the cluster of social and cultural factors has no significant relationship with project success. The research recommended that project managers should take cognizance external environmental factors that may influence success of the project in order to come up with the challenges through a process and prevention of more cost and time overruns.

Key words: *Project success, External environmental factors*

CHAPTER ONE

INTRODUCTION

This chapter presented the background of the research, background of the organization, statement of the problem, research objectives, research questions, and significance of the study, scope of the study, limitation of the study, definition of terms and organization of the study.

1.1. Background of the Study

There is general agreement that housing contributes significantly to the advancement of quality of life and general well-being of individuals (Erguden, 2001). The housing sector creates employment, reduces poverty and contributes to economic recovery and growth in many nations (Arku, 2006). Thus housing has economic, social and cultural importance. However, many developing countries are experiencing rapid growth in population and urbanization. As a result, provision of adequate housing remains a major challenge facing governments in those countries (Sivam, 2002; Bredenoord and Lindert, 2010). Despite the fact that governments have long been putting more effort into addressing this problem, little success has been recorded (Datta and Jones, 2001). It is obvious that the housing problem is more prevalent in Africa and developing parts of Asia (UN-Habitat, 2010). Bredenoord and Lindert (2010) reported that most countries in Africa, Asia and Latin America lack adequate and decent housing for the majority of their citizens. UN-Habitat (2010) reported that the urban population is rapidly increasing, especially in the developing world, and thus national governments are challenged with the major task of providing decent accommodation for their people. For instance, UN-Habitat (2013) reveals that the world's urban population in 2011 was 3.63 billion people, equivalent to 52.1% of the world's total population; this figure will increase to 6.25 billion people by the year 2050 and will represent 67.2% of the global population. In developing countries alone 5.12 billion people will be living in urban cities by 2050. Furthermore, UN-Habitat (2010) claims that by the year 2030 approximately 3 billion people worldwide, mostly from developing countries, will need decent housing with infrastructure and services. These statistics are alarming as they suggest that national governments, especially in developing countries, must put greater effort into providing additional housing for their increasing populations.

Additional mass housing production is needed each year to address the housing problem in developing countries. Moreover, because the majority of people in these countries are low income earners, it is essential to thoroughly address housing financing issues given its significant

role in home ownership. Sivam (2002) argues that housing financing is not well developed in most developing countries. The formal housing financing system contributes less than 20% to housing purchases, and even though the majority of people in these countries are low incomes earners, they must pay mortgages within a short period of time and at a very high interest rate. Consequently, financing for housing development more often comes from informal sources of credit. Whereas in developed countries, most families own homes through mortgages that have low down payment requirements and long- term monthly repayment periods, the lack of an effective housing financing system in developing countries makes it difficult for many families to own homes. However, there is a general consensus that to ensure a sustainable urban environment, social, economic and environmental issues of the urban development must be included in the overall urban planning framework (Bredenoord and Lindert, 2010). Nevertheless UN-Habitat (2012) reported that external environmental factors, such as social and economic aspects of housing, have not been adequately addressed in many developing countries' housing policies. Consequently, decent and affordable housing remains only a dream for the majority of people in those countries. In addition, UN-Habitat (2012) observed that public housing in developing countries is often built according to low standards and fails to consider the needs of residents; furthermore, it is often located in remote areas that lack basic infrastructure and social amenities.

Based on the millennium development goals (MDGs) and the growth and transformation plan of the city AASHDE has been planned its work and implement it accordingly. The main objective was overcoming the scarcity of residential houses phase by phase and to resolve the problem forever, improving saving culture of the society and improving construction industry (AASHDE, 2018).

Construction projects are known to be difficult to be completed in schedule and budget, due to many factors. These factors can be external or internal. With no exception, projects undertaking Addis Ababa Saving House Enterprise are characterized by various failure factors which require through investigation to come up with a project success model (AASHDE Strategic Plan, 2016).

As a result, it is important to note that until recently researchers have not paid attention to critical success factors influencing project success in Addis Ababa Saving House Development

Enterprise. This paper therefore aims to establish the effect of environmental factor on the success of 40/60 condominium housing project in the case enterprise.

1.2. Research Environment / Context

1.2.1. Overview of Addis Ababa Saving House Development Enterprise

In order to aim at general and holistic direction of development goals, the formulation of housing policy was indispensable. Thus, the Addis Ababa City Government Cabinet, in accordance with Article 23(1) of the Addis Ababa City Government Revised Charter Proclamation No. 361/2003, issued regulation No. 58/2014 so as to establish Addis Ababa Saving Houses Development Enterprise (AASHDE).

The program comprises of four different schemes based on percent of advance payment modalities such as 10/90, 20/80, 40/60 and housing association. The financial sources for the schemes include bank loan, city budget and down payments from beneficiaries of the project. The independent financial source of housing program is the Commercial Bank of Ethiopia (CBE), which provides funding directly to housing development program and loan service to the beneficiaries. Private sector enterprises participated in designing, supplying construction materials, and in the actual construction work phases (UN-HABITAT, 2011). The program is aimed at enhancing the construction industry through mass construction of buildings, introducing new technology, capacity building of contractors (financial and technical supports), creating skilled and semi-skilled professionals, and micro and small enterprises, improving the living standards of residents, reducing slums, and creating job opportunities (UNHABITAT, 2011).

In 2013/14 the 40/60 saving houses development was launched by Addis Ababa city administration saving houses development enterprise (AASHDE). Currently, the housing construction is under going on 11 sites with eight topologies, i.e., B+G+7, B+G+8, B+G+9, B+G+10, 2B+G+12, 2B+G+13, 2B+G+15 and 2B+G+18, which will have a total of 38,925 houses. According to AASHDE, from those sites, only two sites which are located in Senga Tera and Crown Hotel (Kality) are completed. The other remaining 11 sites (Bole Ayat (lot1,2,3), Meri-Ayat, Ehel Nigid, Asko, Hinsu Akrahe, Meri Lonka, Bole Bulbula (1,2), Bole Beshale, Turist and Semit) are still in progress.

The enterprise faces different challenges like scarcity of open land in the inner city, construction material supply shortage, delay in decision making, infrastructure problem, scarcity of finance, lack of coordination between stockholders and so on (AASHDE ,2017).

1.3. Statement of the Problem

According to AASHDE (2017), construction sector is playing greater role in the development of Ethiopian economy. The ‘Urban Development Policy’ of the country indicated that urban development involves multi-sectarian activities that include inter-related and coordinated developments of the industrial, commercial, infrastructure and service sectors.

In order to aim at general and holistic direction of these common development goals, the formulation of this policy was indispensable. Besides widespread shortage of residential houses and dilapidated of urban villages was taken as the basic constraints related to development of urbane and good governance. Hence, special attention will be given to ‘*housing*’ in urban development activities.

Consequently, Schultz et al. (1987) suggested that two groups of factors were responsible for the success of project that the housing sector requires a rapid sustainable delivery and provision of residence (FMLHUD, 2011). This is particularly significant now that there are prevalent housing estates’ needs because of the ever increasing population and urbanization in the country. There is the need to provide a quality housing estate that would fulfill the health, safety and secure tenure aspects of the building, drainage, safe water supply, ventilation, waste management, and of socially, economically and environmental preference of sustainable development (Abu Baker et al., 2009).

Today, the ineffective and insufficient implementation of project management processes in the social (public) housing estates’ delivery affects the housing estate completion on time, with poor quality and poor service provision (Habtewold,2017). The results of these circumstances are expected to impact on the comfort, tenure, safety and security of life and properties that people should receive if living in such housing estate units, and diminution of the aesthetic values of the built environment.

The people who are in need of housing schemes were registered in demanding one, two or three bedrooms as per the income level. During the given registration time 164,779 people were registered for all bedroom types. From these, 16,547 were registered for one bedroom, 75,793 for two bedrooms and 72,439 were demanding for three bedrooms. Therefore, AASHDE have been working day and night for satisfying the demands of these citizens in focusing on the given duties and responsibilities and the strategic plan as well (AASHDA, 2017).

Only 1,292 40/60 saving housing units in Sengatera and Crown 40/60 project sites are completed out of 38,240 housing units that are under construction (SHDE, June 17, 2018). At the current rate of construction, it might take more to deliver the houses fully to the registered public under the 40/60 housing scheme.

The mechanism for financing the project is bank loan that follows the procedure of first the government borrowed through bond modalities and build the housing schemes in different typologies then the residents who are in need of the houses are expected to save 40% of the total construction cost for the given housing units registered and are allowed to take the rest 60% from a bank as a loan and so then they are benefited to receive the house they registered for. And it's from this source that the enterprise takes as a loan from Commercial Bank of Ethiopia to handle its projects. Thus, the source of finance for the construction of saving houses could be revolving on fund of the Commercial Bank of Ethiopia (CBE) and saving by the beneficiaries (AASHDA report, 2017)

There is an argument between many scholars how to measure project success and criteria for measurement, therefore many factors are mentioned based on the project type. The study conducted by Ashley and Jaselskis's (1987) produced one of the famous findings in the study area identifying seven critical success factors particularly for construction projects. Beside studies conducted by Nguyen et al (2004), Sanvido et al (1992), Chua et al (1999), Gudienè, Banaitis, Banaitienè, and Lopes (2013) and Cooper et al (2001) are also available. However, no studies are available which is conducted on investigating the role of external environment factors on project success from Ethiopian companies' perspectives. Of course Tena (2017) studied factors affecting success of projects in Addis Ababa City Roads Authority and Mamuye (2016)

did his graduate thesis on identification of the major causes to the delay in the construction of 40/60 saving houses.

To the best of the researcher's knowledge, no research was done which identify external environmental factor influencing the project success in Addis Ababa Saving House Development Enterprise. Filling this gap is believed to be the main contribution of this research.

Therefore, this research study identifies the influence of external environmental factor affecting project success in AASHDE. In doing this, the existing project success practices evaluated from various critical success factors.

1.4. Research Objective

As research is guided by an objective, this section presents the intended outcomes of this study. The formulated main objective and the specific objective that elaborate the research are presented below:

1.4.1. General Objective

The general objective of this study is to identify the influence of external environmental factor on the project success of Addis Ababa Saving House Development Enterprise.

1.4.2. Specific Objectives

The study is conducted with the intention of meeting the following specific objectives:

- I. To identify the effect of political factors on the 40/60 housing projects' success.
- II. To identify the effect of economic and financial factors on the 40/60 housing projects' success.
- III. To identify the effect of social and cultural factors on the 40/60 housing projects' success.
- IV. To identify the effect of technological factors on the 40/60 housing projects' success.

1.5. Research Question

In light of the research objectives stated in the above section, the research has made an attempt to find out answers to the following basic questions:

- i. Is there a relationship between political factor of 40/60 project and project success in AASHDE?
- ii. Is there a relationship between economic and financial factor of 40/60 project and project success in AASHDE?
- iii. Is there a relationship between social and cultural factor of 40/60 project and project success in AASHDE?
- iv. Is there a relationship between technological factor of 40/60 project and project success in AASHDE?

1.6. Significance of the Study

The study has the following significance: -

- Identifying factors affecting success of projects will help in dealing with the issues since the inception stage of upcoming projects and to control them for projects under implementation. Accordingly, the findings from this research and the developed success framework will serve as an input to AASHDE to manage its projects successfully.
- On top of that, providing an insight towards progress in infrastructural development particularly in the construction of housing in Addis Ababa, home to 25% of the country's urban population, an official diplomatic capital of Africa, and the fourth largest diplomatic center in the world is believed to have a considerable impact on the economic and social sectors of the country as physical infrastructure has influences in facilitating and enhancing economic activities.
- On the other hand, the findings from this study can provide inputs for further research works such as an impact assessment of project delays and quality problems and mitigation techniques against delays and cost overruns.
- The study also contributes to the project management discipline by adding literature and findings to improvement of other similar projects.

1.7. Scope of the Study

Conducting all parts of Ethiopian construction industry survey requires greater resources like budget and time which was beyond the capacity of the researcher. Due to this, the study was limited to housing construction among all construction types and 40/60 condominiums among housing projects which is undertaken by Addis Ababa Saving House Development Enterprise. In addition it accounted project success from the subject matter and PEST factors from external environmental factors because these factors are commonly used for environmental scanning. Besides, the study measures from project manager perspective at one point in time rather than over a period as in longitudinal studies and used quantitative approach rather than using mixed approach.

1.8. Limitation of the Study

The main limitation of the study was unwillingness of the respondent to fill the questionnaire, delay in returning back the questionnaire, shortage of time and budget to undertake the study. But the researcher was not restricted by this factor to find the solution selected problem.

1.9. Definition of Terms

Project management: The Project Management Institute describes project management as: “the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements” (PMI, 2008).

External environmental factors: These factors include political environment, economic environment and social environment, affect the success of projects (Musa, M.M., Amirudin, R., Sofield, T. and Musa, M.A., 2015).

Project success: The fact that a project has achieved the objective or goal of a particular project (De Wit, 1988).

1.10. Organization of the Study

This research study entitled: “*External environmental factors influencing project success in Addis Ababa Saving House Development Enterprise*” is organized in the following manner:

Chapter one explains the issue that is discussed in this study. It also high light, the background of the research, back ground of the organization, statement of the problem, research objective, research question, significance of the study, scope of the study, limitation of the study and organization of the study.

Chapter two focuses on review of related literature in which earlier studies on the area are highlighted and presented. Theoretical review of the literature and empirical evidences of critical success factors affecting project success of construction projects are discussed in detail.

Chapter three describes the research design utilized. Specifically, the chapter describes research design, target population, sampling techniques, source of data and type, the measuring instrument used, the procedure followed to gather data and the statistical techniques used to analyze the data and finally, ethical consideration that should be taken into account.

Chapter four reports the results of the empirical analysis. Further, it was preceded with an analysis of the descriptive statistics on the variable under consideration. To facilitate ease in conducting the empirical analysis, the result of the descriptive, Pearson correlation coefficient analysis presented first, followed by inferential analysis with multiple regression analysis.

Chapter five describes the finding in greater detail. Based on that, the researcher summarizes, concludes and recommend. Finally; the chapter concludes with implication for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1. Construction Environment

The construction environment according to Youker (1992) is the aggregate of surrounding things, conditions or influences. Akinsola et al. (1997) describe this environment as all external influence on the construction process. Thus, the environment includes virtually everything outside the project; its technology, the nature of its products, customer and competitors, its geographical setting, and the economic, political and even metrological climate in which it must operate. Bennett (1991) in a major review of project management theory established that the environment interferes with the planned progress of construction projects. The less predictable the environment and the greater its potential effects, the more it must be taken into account in managing the development of construction projects.

A review of the results of hundreds of World Bank projects by Youker (1992) indicated that success or failure often depends on factors in the general environment outside the control of the project manager. The review pointed out that in the management of projects, a good understanding of the different features and factors within the environment that can have an effect on the project is essential. This can form a basis for analysis for overcoming or mitigating their effects on project performance.

Project managers, in addition to their traditional functions, must set up a process to scan the environment, to identify potential problems, and to try to establish power relationships that can help in the management of the key actors and factors on which successful implementation depends. The study of Youker (1992) also revealed that some factors within the environment pose greater challenges to projects, management, and organizational structure than others. These factors should form the focus for the management of the projects environment. While an analysis of the key elements of the environment may not necessarily solve all problems, some of which are truly structural, they can provide a basis for establishing reasonable project objectives and also give an early warning of potential problems. Clients who initiate projects must put in place

appropriate management, organizational structures, systems, and procedures for overcoming the effects of the environment.

2.2. Project Success Factors

A number of studies have been conducted to identify factors that influence the success of projects. Lim and Mohamed (1999) defined success factors as any circumstances, fact or influence that contributes to the success or failure of a project. Cooke-Davies (2002) added that success factors are those factors that contribute to successful project outcomes.

In international construction projects performance is affected by more complex and dynamic factors than domestic projects; frequently being exposed to serious external uncertainties such as political economical social and cultural risks, as well as internal risks from within the project (Kim et al.,2009).

Belassi and Tukel (1996) developed a framework for critical success factors of projects and classify the factors into four groups, factors related to the project, factors related to the project manager and team members, factors related to the organization, and factors related to the external environment. Variables that measure external environmental factors include the political environment, economic environment and social environment.

The project environment in many developing countries like Nigeria present special challenges for project managers that almost presupposes extensive cost and time overruns even before a project commences. These challenges arise mainly from inherent risks such as political instability, excessive bureaucratic contract procedures, and lack of adequate infrastructure such as transportation networks, electricity supply, and telecommunications systems. In recognition of these unique problems, previous research studies have suggested that there is a need to develop appropriate management tools and techniques specifically tailored to the project environment of developing countries (Faniran et al., 2000).

Samson and Lama (2002) also remarked that performance arises in large construction projects due to many reasons such as: incompetent designers/contractors, poor estimation and change management, social and technological issues, site related issues and improper techniques and

tools. As confirmed by Chan, Scotto and Chan (2004) developed a conceptual framework for factors affecting construction project success. The identified factors have been classified into five groups, namely; project management related factors, project related factors, human related factors, project procedure and the external environment. Variables under the external environment include the political environment, economic environment and social environment.

Gudienė et al. (2013) defined external environmental factors as those factors affecting the success of construction projects, which are mostly beyond the control of the management team. These factors include political, economic and social factors (Belassi and Tukel, 1996).

2.3. Project Environmental Factors

The factors identified by Walker (1989) and Hughes (1989) as constituting environment of projects are political, legal, institutional, cultural, sociological, technological resources, economic, financial, and physical (infrastructure). Both studies directed attention to some factors within the environment that pose greater challenges to projects, management and organizational structure than others and suggested that these factors should form the focus for the management of the projects environment.

2.3.1. Economic and Financial

The economic and financial aspect zeroed on the level of general economic activity, as well as the resources available to carry out the work and it includes the economic competition of various degrees around the appointment of all the parties of the building project. Financial limits always seem to exist on building projects according to Obalola (2006) whose study clarified that financial environment forces are distinguished from economic ones on the basis that economics is to do with the deployment of resources, whereas financial limitations a restrict to do with money.

A challenging task for any project manager is to ensure that a project is financially viable within a fluctuating economic environment (Odeh and Battaineh, 2002) and since periodic economic cycles significantly affect the activities of the construction industry, accurate forecasting of economic trends both local and global is important (Oladapo and Olotuah, 2007). Li , Akintoye,

Edwards and Hardcastle (2005) also agree on sound economic policy and a stable macro-economic environment as critical factors to the success of construction projects.

2.3.2. Construction Technology and Resources

Technology is an aspect of the environment that should be considered in developing strategic plans. Oladapo and Olotuah (2007) maintained that the appropriate construction technology can be measured by the availability of locally made plant and equipment, skilled manpower resources, extent of local material resources and the degree of utilization of such local construction resources. Projects which required the construction technology and resources of developed countries.

The lack of technological know-how and the shortage of managerial manpower were considered to be one of the major problems and constraints facing Nigeria. The situation as at 1980 was described thus: “lack of basic knowledge of production methods and design techniques for machinery constitute a serious constraint to rapid industrialization of the country. The situation is aggravated by acute shortage of managerial manpower”. As at today, the country still remains a net importer of technical manpower, virtually many spare parts are imported and most investment in research and development are made abroad, except those sponsored by the government in public owned institutions.

2.3.3. Political

Political environment is concerned with government policy and the effect of political decisions upon construction projects. The significant roles played by the government in the construction industry are mostly clients, regulators of the national economy, and regulators of the construction environment such as laws that guide ethics and construction practices and many others. This inferred that governments can significantly increase or decrease the demand for construction services through budgetary measures and monetary policies. In its capacity as regulators of the construction environment, governments influence the development and building approval processes and enforce compliance with acts and regulations. As observed by Mansfield et al. (1994), governments may also invoke their powers to initiate or stop projects on political, social and environmental grounds.

Political factors concern political stability and government intervention in providing both incentives and enabling environments for public housing development (Chen et al., 2012). Government has an important role to play in ensuring the success of public housing in terms of infrastructure development, provision of a favorable legal framework, and guarantees to developers.

Political stability, national unity and good political leadership are thus crucial to national development. Thomas and Martin (1994) believed that no project exists in a vacuum but is rather subject to an array of influences from regulatory control to political and industrial intervention and opined that managers of the construction project will take cognizance of the political aspect that can produce an uncertain environment such as unstable government, unpredictable shifts in the economy and unexpected changes in consumer demand.

2.3.4. Legal

The legal environment facing organizations is becoming more complex and affecting businesses more directly. It has become increasingly difficult for businesses to take action without encountering laws and regulations. The construction operates within the covers of planning and environment regulations, codes of practice, safety regulations, licensing, insurances and taxation laws. These laws, codes and regulations are generally well defined, making it possible to predict their impact on construction projects with reasonable accuracy. However, Martin and Thomas (2004) observed that changes to industrial, safety, taxation and environmental laws are not uncommon and problems may arise when the law changes during the life of a project.

2.3.5. Physical

The physical environment within which a construction project is sited may impact considerably on its development as construction projects are always affected by physical influences. The geographical location of a project, ground conditions and weather patterns are the most common examples of physical influences. They are unpredictable and as such management actions have not been able to prevent their occurrence. Nevertheless, Martin and Thomas (2004) opined that managers of construction works will take significant consideration of physical effects when planning the management strategies to avoid extremes which can take advantage of available.

2.3.6. Socio-cultural

The socio-cultural dimensions of the environment consist of customs, lifestyles, and values that characterize a society William (2002) while population demographics, rising educational levels, norms and values, language and attitudes toward social responsibilities are examples of socio-cultural variables Engobo (2009). These variables have the potential to influence or affect organizations that operates within the society.

Social factors have been concerned with the issues of the cultural aspect, health consideration and the general life style of society (Gudiené et al., 2013). The study of Engobo (2009) revealed that Delta State communities shared most of the aforementioned variables as it comprises mainly Igbo (Anioma people), Urhobo, Isoko, Ijaw and Itsekiri and in the management of construction projects within the communities, “Pidgin English” which is an adulterated form of the English language is commonly used for oral communication among the illiterate workforce. Also the incessant kidnapping of expatriate construction workers, militancy and the demand by the groups of unemployed youths for illegal fees popularly called “settlement” which usually causes delays ranging from days to weeks on construction activities are examples of the lifestyles.

Thus, William (2002) and Engobo (2009) signaled that managers and supervisors of construction work within this region need to adopt appropriate leadership styles in the management of projects to avoid unnecessary time and cost overruns.

2.3.7. Institutional

The construction industry professionals in Nigeria have constituted institutions which are established by an act or a decree and are also recognized by the government. Oladapo and Olotuah (2007) viewed that the experiences gathered in the course of many years of professional practice can be borrowed during research processes.

2.4. Overview of Project and Project Success

2.4.1 Project

The Project Management Institute (2000), define a project as a temporary, definitive beginning and definitive end, endeavor undertaken to create a unique product or service. Projects can be

considered as the achievement of a specific objective and involve the utilization of resources on a series of activities or tasks.

Projects are also a group of activities that have to be performed with limited resources to yield specific objectives, in a specific time, and in a specific locality. Thus, projects are an investment on which resources are used to create assets that will produce benefits over an expanded period of time. It is 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 the constraints of time, cost and resources (PMI, 2004).

According to Hillson D., (2002), all projects are risky and there are three separate reasons for that. The first reason is that all projects share common characteristics which inevitably introduce uncertainty. Some of this common characteristics are projects are unique, complex, involve assumptions and constraints, performed by people and involve change from a known present to an unknown future. The second reason is that all projects are undertaken to achieve some specific objectives. The final reason is that all projects are affected by the external environment they exist in.

PMI (2005) examined the various elements of projects as identified by the following set of definitions:

Projects are complex, one time processes: a project arises for a specific purpose or to meet a stated goal. They are complex because they typically require the co-ordinate inputs of numerous members of the organization, project members may be from different departments or other organizational unit or from one functional area. On the other hand, some projects such as new product introductions, work best with representatives from many functions, including marketing, engineering, production and design. Because a project is intended to fulfill a stated goal, it is temporary. It exists only until its goal has been met, and at that point, it is dissolved.

Projects are limited by budget, schedule and resources: project work requires that members work with limited financial and human resources for a specified time period. They do not run indefinitely. Once the assignment is completed, the project team disbands. Until those points, all

its activities are constrained by limitations on budget and personnel availability. Projects are “resource constrained” activities.

Projects are developed to resolve a clear goal or set goals: there is no such thing as a project team with an on-going, non-specific purpose. Its goals, or deliverables, define the nature of the project and that is its team. Projects are designed to yield a tangible result, either as a new product or service. Whether the goal is to build a new bridge, implement a new account receivable system or win a presidential election, the goal must be specific and the project organized to achieve a stated aim.

Projects are customer focused: whether the project is responding to the needs of an internal organizational unit (e.g. accounting) or intended to exploit a market opportunity external to the organization the underlying purpose of any project is to satisfy customer needs. In the past, this goal was sometimes overlooked. Projects were considered successful if they attained technical, budgetary or scheduling goals. More and more, however, companies have realized that the primary goal of a project is customer satisfaction. If that goal is neglected, a firm runs the risk of “doing the wrong things well” pursuing projects that may be done efficiently but ignore customer needs or fail commercially.

2.4.2. Project Success

Project success is an abstract concept and determining whether a project is successful is subjective and extremely complex (Parfitt & Sanvido, 1993; Chan, 2002). Oxford advance learners’ dictionary defines “success” as “the fact that you have achieved something that you want and have been trying to do or get”. Therefore, the PS could be defined as the fact that a project has achieved the objectives or goals of a particular project. McCoy (1986) observes that a standard definition of project success does not exist nor an expected methodology of measuring it.

The conventional way of defining project success is the level of conformance between the predetermined aims and anticipations of the project with the actual project outcome, or simply, a project is successful when all the planned and expected results are achieved. (Moradi & Zanjirchi , 2012)

De Wit (1988) and other distinguish between project success (measured against the overall objectives of the project) and project management success (measured against the widespread and traditional measures of performance against cost, time and quality).

Baccarini (1999) also points out that project management literature often confusingly intertwines two separate dimensions of project success.

Project management success: This focuses upon the project process and, in particular, the successful accomplishment of cost, time, and quality objectives.

Product success: This deals with the effects of the project's final product. It is common for project management literature to confusingly intertwine these two separate components of project success and present them as a single homogenous group.

In the past years the simple definition for success of project was only based on the implementation phase of the project life cycle and product life cycle. But in these days the definition of the project is required from the beginning till the end of the project and product life cycles (Muller and Turner, 2007). For projects to be implemented successfully, the two components of project success must be clearly defined, agreed and progressively reviewed by all parties. These two components are the project success criteria relating to the users and sponsors and the project success factors that are required to deliver those success criteria (Wateridge, 1995). On the same note Cooke-Davis (2002) emphasize the importance of distinguishing between the two components of project success namely the success criteria which he describes as the benchmark to measure or judge success or failure and success factors which are the management inputs and systems that would lead to project success.

Project success is one of the nine project management school of thoughts. According to many literatures, it seems that the definition of project success is quite misleading. Numerous authors have researched the subject on project success but the concept of project success remained ambiguously defined. Project success is probably the most frequently discussed topic in the field of project management, yet it is the least agreed upon even though it was for more than two decades, researchers have labored to identify managerial variables critical to success. It has often proved difficult to define words such as success, because it means different things to different

people (stakeholders) and is very context-dependent. Westerveld (2003) construct a model that link all the variables of project success which he differentiates as success criteria and success factors in one consistent model which he called the Project Excellent Model.

2.5. Project Success Criteria

Success criteria are defined by Muller and Turner (2007) as variables that measure project success. Relevant success criteria have to be identified and then, success factors should be determined in order to increase the chances of project success. Traditionally, time, cost and specifications which are often referred to as iron-triangle or/and triple-constraints in literature are used as PSC. This traditional approach is mentioned by Pinto and Slevin (1988), Muller and Turner (2007) and PMI 2013.

Many different authors mention several criteria in addition to the traditional ones. Baccarini, (1999) suggests product success, which consists of owner's strategy, user satisfaction, profitability, and market share together with project management success, which resembles the time, cost, quality, project management process and stakeholders' satisfaction as components that form project success concept. Other author Toor and Ogunlana (2009) proposed the following criteria for measuring success: project completion on time, within budget and to specified quality; safety, efficiency, effectiveness, free from defect, meets stakeholders' expectations, and minimal construction disputes and conflicts. Likewise, Crawford and Pollack (2004) group construction project success criteria into objective measures (e.g. time, cost, safety and environment) and subjective measures (e.g. quality, functionality and satisfaction of different project participants).

Lim and Mohammad (1999) disperse success criteria into micro viewpoint completion (e.g. time, cost, quality, performance and safety) and macro viewpoint completion (e.g. time, satisfaction, utility, and operation). Furthermore, Khan developed a model for measuring success was selected for this study as it is based on most recent literature. The model contains the three criteria, which are typically termed the iron triangle (project efficiency criteria), plus four additional project success criteria dimensions: organizational benefits, project impact, future potential and stakeholder satisfaction (Khan, Turner and Maqsood, 2013).

Atkinson (1999) also classified success criteria into two measures - success at the delivery stage and success at post-delivery stage. The success criteria at the delivery stage include cost, time and quality. These criteria measure the efficiency of project management or project management success. On the other hand, the project success criteria at the post-delivery stage are divided into product success criteria and organizational success criteria. The product success criteria include end user satisfaction, environmental impact, contractors' profit, team members' satisfaction, etc., while the organizational success criteria are the benefit to the organization, which includes improved efficiency, improved effectiveness, increased profits, reduced waste and promotion of organizational learning.

Therefore, literatures, project success criteria have been used in various ways depend on their objectives and type of projects.

2.6. Project Success Measurement Criteria

Criteria are the sets of principles or standards by which success can be judged. In other words, the conditions on which decision can be made. Critical Success Factors are measured against standards that are defined as success criteria. De wit (1988) and Cooke-Davies (2002) Suggested Project success criteria are a means by which success or failure of a project will be judged.

According to Chan et al (2004), suggests that for a successful framework, the relationship between critical success factors should be identified by a successful framework. Westerveld (2003) stated that in several studies conducted previously that project success relies on developing a comprehensive framework to link success factors and success criteria. Combining these elements not merely results in project success but leads to on-going improvement.

The identified success criteria (dependent variable) are measured by the external environmental success factors (independent variables) set parallel to each criterion. Measurement can be conducted by collecting information and analyzed using statistical tools and techniques. The success criteria (dependent variables) to be tested are: complete the project within time (time performance), complete the project within budget (cost performance) and complete the project with specified quality (quality performance).

2.7. Empirical Literature

The result is consistent with that of UN-Habitat (2011) and Chen et al. (2012), who emphasize the importance of economic factor on project success. Measures of economic factor include a stable economic environment, accessible credit facilities, low interest rate, a long-term loan repayment period and a low down payment requirement. Thus, the government should ensure a stable economic environment to encourage the private sector to invest in public housing projects, as many investors will not participate in uncertain economic conditions.

Li et al. (2005) noted that a stable economic environment plays an important role in mitigating risk for the private sector. Accessibility of long-term loans at low interest rates is essential in most developing countries, as the majority of their populations are low income earners who cannot save money for homes. Therefore, they rely on available credit to own decent housing. In addition, a long repayment period is vital to many households, as low income earners will find it difficult to repay mortgages in short periods. Furthermore, low interest rates on loans will make housing more affordable to low income earners. In some developing countries like Nigeria, the interest rate can be 22% or higher. This makes housing beyond the reach of most people.

Okonjo-Iweala (2014) reported that the lack of appropriate housing finance mechanisms creates a situation whereby many Nigerians who do have large amounts of money up front to buy housing outright are unable to own decent homes. Earlier Erguden (2001) revealed that a lack of an effective housing financing system is a major constraint for low income housing delivery in developing countries. The results also confirm that the social factor is significantly related to public housing project success. The variables of social factor are good project location, appropriate design, flexibility of design and construction, and end user involvement. The findings are in consistent with those of Ihuah, Kakulu and Eaton (2014), Turcotte and Geiser (2010), and Nguyen, Ogunlana and Lan (2004). These findings mean that public housing should be built in a good location in a safe and healthy environment. In addition, because the residents are low income earners, housing should also be located where there is easy access to public transportation, work places, commercial establishments and essential public institutions such as schools and hospitals. Chen, Sebstad and O'Connell (1999) argued that site limitation and location are the important attributes that affect quality performance in construction projects.

On the other hand, Turcotte et al.(2010) assert that housing should be designed to provide adequate space, lighting and ventilation and provide respect for occupants. These results also suggest that the design of housing should be flexible and adaptable to allow occupants to make changes to the layout of their homes to meet their future needs following an increase in family size or economic status, or to depict their cultural heritage. This is in line with the findings of Ihuah et al. (2014), which suggest that cultural differences in Nigeria influence the end users in choosing a particular housing type. In the same publication, emphasis has been placed on the importance of end user involvement in the design and management of public housing projects.

2.8. Conceptual Framework

Figure 1 shows the related research model with external environment as on the left hand side and project success on the right. The external environment contains: political, economic and financial, Social and cultural and political dimension. The project success will be treated as dependent variable and the external environment is an explanatory variable i.e. independent variable.

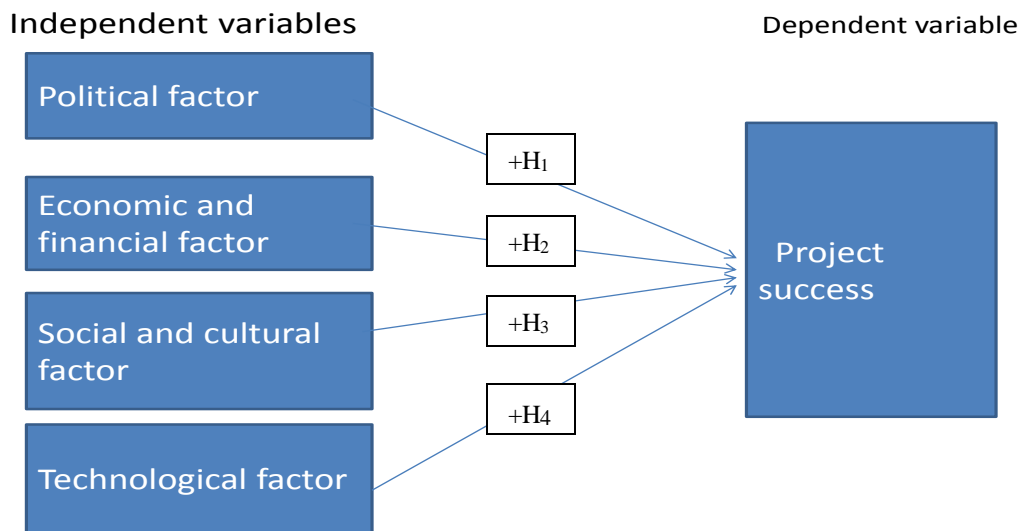


Figure 1 Conceptual Framework of the study

Source: Developed by the researcher.

2.9. Working Hypotheses

For the purpose of providing answers for the basic research questions, from Ashley et al. (1987) success factor are selected for this study and critical success factors for construction projects success developed. The study has tried to identify the relationship existed between external environmental factors and project success in AASHDE. Therefore, the following hypotheses were formulated: -

H₁: *Political factor has positive influence on project success*

H₂: *Economic and financial factor has positive influence on project success*

H₃: *Social and cultural factor has positive influence on project success*

H₄: *Technological factor has positive influence on project success*

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This chapter sets out the detailed methodology was applied in this research. It includes research design, target population, sampling techniques, and source of data and type, measuring instrument used, the procedures to be followed for gathering data, and how the data is analyzed and presented.

Research methodology is a way of systematically solving the problem under research. Thus, it is considered as a terminology that describes structure of conducting research. In sum, there are many different types research methodologies used in various types of research and the term constitutes research design, data gathering and data analysis (Kothari, 2004).

3.2. Research Design

The researcher used descriptive survey design, because it tried to describe the actual phenomenon as it is and this design has been used in various related research to achieve a better result out of the study. Quantitative research approach involves the processes of collecting, analyzing, interpreting, and writing the results of a study (Creswell, 2009). Besides, it also helps to show whether there exist significant relationships between the variables of interest.

3.3. Target Population

Under Addis Ababa housing development project office (AAHDO), there are 4 project management offices. Each project management offices manage one or more sites. The project management office and their respective sites are the following: -

Table 3. 1 The project management office and the respective sites

Project management office	Site
PMO1	Ehele Negede , Asko, Hinsu Akrahe, Turiste, Bole Bulbula
PMO2	Meri Lonka, Bole Ayate(lot 1, 2, 3)
PMO3	Bole Beshale
PMO 4	Bole Ayate 1(lot 4), Bole Ayate 2, Semite

The population of this study is project managers of 40/60 housing. The sampling frame of this study was all project managers who has first degree and above and have worked directly in the project. In those 11 sites, total of 355 blocks are included and one project manager manage 1-4 blocks. So the study population involved those 174 project managers.

3.4. Sampling Technique

According to the recommendation of Hosmer and Lemeshow (2000) and Long (1997), the minimum sample size should not be less than 10 per independent variable in case of regression analysis and it should not be less than 100 in aggregate. The theoretical framework of the study, which is discussed in the preceding chapter, suggests 4 independent variables. This implies that the sample size should not be less than 40. Yet, this doesn't meet Hosmer and Lemeshow's other suggestion which required a minimum sample size of 100 to conduct a regression analysis. Taking this in to consideration, the researcher had decided to employ census survey method and to conduct the study on all the 174 project managers.

3.5. Source of Data and Type

Regarding to the research design proposed above, both primary and secondary sources of data were preferred in this research to obtain the required data for conducting the research. The primary data which is quantitative was collected through questionnaires. Most of the information pertaining to the secondary data sources was obtained from published and unpublished documents, different researches, magazines, pamphlets, internets and information from Addis Ababa Saving Housing Development Enterprise.

The questionnaire was developed based on Ashley et al. (1987) for 'iron triangle' project success measure and the part of a questionnaire related to external environmental factor was developed by Walker (1989) and Hughes (1989). The items in the questionnaire were validated and tested for reliability and used after it is assured to meet the requirements in both cases.

3.6. Data Collection

Survey method of data collection was used. Questionnaire survey was also be used to elicit the attitude of project managers on the influence of external environmental factors on condominium housing project success in 4 project offices. The secondary data was obtained through document analysis to supplement the primary data. A number of books, journals and articles, condominium housing project documents are reviewed.

3.7. Methods of Data Analysis

All data gathered were analyzed through quantitative research approaches. The data collected using structured survey/quantitative approach were edited, coded, cleaned and entered into application software. Then, it was analyzed using statistical package for social science (SPSS 20 version). For the purpose of the study descriptive statistics were used to analyze the data that was collected from respondents and inferential statistics were also used for further statistical analysis.

Besides, the methods employed were mean score, Pearson correlation and regression. Twenty-one facets are identified as environmental factors indicator having an impact on project success and categorized under clusters; political, economic and financial, socio-cultural and technological.

3.8. Validity and Reliability Tests

3.8.1. Validity

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. It can also be thought of as utility. In other words, validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested (Kothari, 2004). Its determination is primarily judgmental and intuitive; there

is no numerical way to express it. Based on this, the student researcher undertook discussions with professionals and incorporates feedback of the research advisor in customizing the instrument.

3.8.2. Reliability

Internal consistency or reliability is a measure of consistency between different items of the same construct. Cronbach's alpha is a reliability measure designed by Lee Cronbach in 1951 (Bhattacharjee, 2012). It is a coefficient of reliability and it is commonly used as a measure of the internal consistency or reliability of a psychometric test score for a sample of examinees. For testing the reliability of the data instrument Cronbach's alpha was calculated. According to Zikmund, Babin and Griffin (2010) scales with coefficient alpha between 0.8 and 0.95 are considered to have very good quality, scales with coefficient alpha between 0.7 and 0.8 are considered to have good reliability, and coefficient alpha between 0.6 and 0.7 indicates fair reliability. Accordingly, reliability test for those three variables (economic and financial, social and cultural and project success) have good quality and for the remaining two variables (political and technological) have very good quality.

Variable	No of items	Cronbach's alpha result
Political	5	0.83
Economic and financial	6	0.76
Social & cultural	5	0.72
Technological	5	0.87
Project success	3	0.76

Source: Own survey, 2019

3.9. Research Ethics

Ethics refers to the appropriateness of behavior in relation to the rights of those who become the subject of your work, or are affected by it. According to Blumberg (2005) ethics is defined as the

“moral principles, norms or standards of behavior that guide moral choices about our behavior and our relationships with others”. Anonymity refers to concealing the identity of the participants in all documents resulting from the research; and confidentiality is concerned with the right of access to the data provided by individual participants and, in particular, the need to keep these data secret or private. With this appreciation of the value of ethical considerations in field work practice, the researcher was guided by benchmarked professional and moral standards associated with good research practice.

CHAPTER FOUR

RESULTS AND DISCUSSION

The main objective of this paper is to examine the relationship between external environmental factors and project success in AASHDE 40/60 housing projects. In this chapter, the data obtained in the study are analyzed, presented, interpreted and discussed. The chapter starts by providing the demographic and personal information of the project managers. The descriptive and inferential statistics are presented thereafter.

A total of 174 questionnaires were distributed to project managers currently working in all 11 sites. Out of these, 150 (86.2%) usable questionnaires were collected. This response rate is quite large to confidently run the analysis. Accordingly, the analysis of this study is based on the responses obtained from these respondents.

4.1. Demographic Information of Respondent

The first part of the questionnaire consisted of six items about demographic information of the respondents. It covered the personal data of respondents such as: the phase of 40/60 project the respondents involve in, their construction related experience, their level of education, their gender, their age and marital status of project managers. The following subsequent tables below summarized the demographic characteristics of the respondents.

Age Category	Frequency	Percent	Valid Percent	Cumulative Percent
20-30	80	53.3	53.3	53.3
31-40	44	29.3	29.3	82.7
41-50	23	15.3	15.3	98.0
Above 50	3	2.0	2.0	100.0
Total	150	100.0	100.0	

Source: Own Survey, 2019

The tabular presentation of the age distribution of the project managers is presented in table 4.1. The majority of the respondents (n = 80 or 53.3%) fall in the age category of 20-30 years followed by the age range 31-40 constituting about 44 (29.3%). Having group of professionals that belong to the most active and energetic age group may help the organization to achieve its goals.

Item	Frequency	Percent	Valid Percent	Cumulative Percent
Male	104	69.3	69.3	69.3
Female	46	30.6	30.6	100
Total	150	100	100	

Source: Own Survey, 2019

Table 4.2 above presents the gender distribution of the respondents. There are a larger number of male respondents to that of female respondents. Male respondents comprised of 65.3% (n= 104) compared to 30.6% (n = 46) female respondents. This indicates that the number of proportion between male and female project managers in the enterprise is not proportional.

Item	Frequency	Percent	Valid Percent	Cumulative Percent
Single	86	57.3	57.3	57.3
Married	53	35.3	35.3	92.7
Divorced	11	7.3	7.3	100.0
Total	150	99.3	100.0	

Source: Own Survey, 2019

Table 4.3 above illustrates that out of the 150 respondents who participated in this survey, 86(57.3%) of the respondents were single, 53(35.3%) married, and 11 (7.3%) are divorced.

Item	Frequency	Percent	Valid Percent	Cumulative Percent
Bachelor Degree	117	78.0	78.0	78.0
Post graduate degree	33	22.0	22.0	100.0
Total	150	100	100.0	

Source: Own Survey, 2019

From the table, it is evidenced that the respondents from the case enterprise hold a range of educational qualification from bachelor degree to masters' degree level; the majority of the respondents which represents 78% (117) are first degree holders and 22% (33) are master's degree holders. It shows that majority of the enterprise project managers are professional enough to fill the questionnaires with full understanding.

Item	Frequency	Percent	Valid Percent	Cumulative Percent
2-3 years	5	3.3	3.3	3.3
3-4 years	34	22.7	22.7	26.0
4-5 years	48	32.0	32.0	58.0
>5 years	63	42.0	42.0	100.0
Total	150	100.0	100.0	

Source: Own Survey, 2019

With regard to years of experience in construction 5(3.3%) have 2-3 years' experience, 22.7% (34) of them have been working in construction projects from 3-4 years, 32 % (48) project managers have an experience of 4-5 years, and 42% (63) of them have above 5years of experience. The majority of the respondents have above 5-year experience, it is believed that

project managers are well experienced and have a sound knowledge about their enterprise policy, system, practices and procedure.

Item	Frequency	Percent	Valid Percent	Cumulative Percent
Phase 1	27	18.0	18.0	18.0
Phase 2	39	26.0	26.0	44.0
Phase 3	46	30.7	30.7	74.7
Phase 4	38	25.3	25.3	100.0
Total	150	100.0	100.0	

Source: Own Survey, 2019

Since 40/60 projects are operated in different phases, currently a number of project managers involved in those phases described as: most of the respondents (30.7%) are involved in phase 3, the reason behind this is because the typology of phase 3 projects are 2B+G+15 and 2B+G+18. In other words; if a length of a building is large, it will be managed by a single project manager. The other phases 1, 2 and 4 have involved 18%, 26% and 38% project managers respectively.

4.2. Data Analysis

4.2.1. Univariate Analysis

In this section, descriptive statistics in the form of mean, standard deviation, skewness and kurtosis, range for the various components of external environmental factors and project success dimensions is computed.

Table 4. 7 Descriptive for the parameters of external environmental factors and project success.						
Variables	N	Range	Mean	Std. Deviation	Skewness	Kurtosis
Political factor	150	2.00	3.5200	.51292	1.434	1.904
Economic and financial factor	150	2.17	3.8789	.51084	.530	.389
Social and cultural factor	150	2.60	3.2627	.67482	.323	-.508
Technological factor	150	2.00	3.6200	.57917	.487	-.620
Project success criteria	150	2.00	3.5222	.55485	1.068	.675
Valid N (listwise)	150					

Source: Own Survey, 2019

Table 4.7 shows the mean and standard deviation and range of each of the four dimensions of external environmental factors and project success as a dependent variable dimension. Ajan (2015), described descriptive mean decision rule is represented on the next table.

Mean range	Description
1.00-1.80	Poor/Strongly disagree
1.81-2.60	Fair/Disagree
2.61-3.40	Neutral
3.41-4.20	good/Agree
4.21-5.00	V/good /Strongly agree

Table 4. 8 Description mean decision rule

Accordingly, the mean range of political, economic and financial and also technological factor remain between 3.41-4.20 which represent good agreement level among project managers on the relationship between those external environmental factors and project success. But the social and cultural factor lay in neutral range meaning the respondents are neither agreed nor disagreed on

the influence of socio-cultural factor on project success. A slight difference between the means values of the variables were observed, that means there is no significant difference in terms of contribution for project success.

The value of the skewness and kurtosis of all dimensions and sub-dimensions and dimensions of the data are normally distributed since skewness and kurtosis is between ± 2 (Hair et al., 2010). Hence, it confirmed that data witness to normality assumptions.

Table 4. 9 Descriptive statistics for political factors			
Political factor	N	Mean	Std. Deviation
Political agitation	150	3.3600	.59393
Election	150	3.4200	.65814
Policy instability	150	3.4267	.69848
Legislation	150	3.6133	.64284
Instability in governance	150	3.7800	.72232
Valid N (listwise)	150		

Source: Own Survey, 2019

Table depicts the mean score of respondents who support political factors have significant effect on project success. In the above table, the mean scores are ranked in ascending order. The result shows that instability in governance has highest mean score means majority of the respondents agree on the significant effect of political stability on project success. The others political factors legislation, policy instability, election and political agitation have a mean value 3.6, 3.42, 3.42 and 3.36 respectively. Accordingly, to the description of Ajan (2015), the mean range of all political factors except political agitation represents good agreement level. These means project managers agreed on those indicators have influence on project success. But political agitation as indicator lay in neutral range meaning the respondents are neither agreed nor disagreed on the influence of this indicator on project success.

Economic and financial factor	N	Mean	Std. Deviation
Access to capital	150	4.0533	.67343
Unexpected prices raises for materials	150	4.0467	.65882
Unexpected prices raises for labor	150	4.0267	.70422
Inflation rate	150	3.9067	.77153
Foreign exchange rate	150	3.7333	.96702
Inadequate working capital	150	3.5067	.71181
Valid N (list wise)	150		

Source: Own Survey, 2019

With regard to economic and financial factor, the mean score of respondents who support the factors have significant effect on project success is presented. In the above table, the mean scores are ranked in descending order. The result shows that access to capital has highest mean score means and majority of the respondents agree on the significant effect of economic stability on project success. The others unexpected prices raise for materials, unexpected prices raise for labor, inflation rate, foreign exchange rate and inadequate working capital have a mean value 4.0467, 4.0267, 3.9067, 3.733 and 3.5067 respectively. Accordingly, to the description of Ajan (2015), the mean range of all economic and financial factors represents good agreement level. These means project managers involved in the study agree on the influence of those indicators on project success or the influence of economic and financial factor on project success.

Social and cultural factor	N	Mean	Std. Deviation
Civil conflicts or disturbance	150	3.4333	.94419
Hidden obstruction	150	3.3467	1.01655
Beliefs/customs	150	3.2867	.97854
literacy level	150	3.2400	1.10933
Social amenities	150	3.0067	.80682
Valid N (listwise)	150		

Source: Own Survey, 2019

As can be shown from table above the mean score of respondents who support social and cultural factors have significant effect on project success is presented. The mean scores are ranked in descending order. The result shows that civil conflicts or disturbance have highest mean score means majority of the respondents agree on the significant effect of peace on project success. The others social and cultural variables hidden obstruction, beliefs/customs, literacy level and social amenities have a mean value 3.3467, 3.2867, 3.24 and 3.0067 respectively. Accordingly, to the description of Ajan (2015), the mean range of all social and cultural factors except civil conflict represents neutral agreement level. Project managers involved in the study neither disagree nor agree on the influence of those indicators on project success. But they agreed on the influence of civil conflict on project success because it remains in good agreement range.

Technological factor	N	Mean	Std. Deviation
Late delivery of materials and equipments	150	3.7733	.75215
Importation of materials and equipment	150	3.7467	.77880
Strike by the labor force	150	3.6133	.69308
Shortage of labor	150	3.5467	.68136
Shortage of plant/scarcity of equipment	150	3.4200	.65814
Valid N (listwise)	150		

Source: Own Survey, 2019

The above table depicts the mean score of respondents who support technological factors have significant effect on project success. The mean scores are ranked in descending order. The result shows that late delivery of materials and equipment's has highest mean score means majority of the respondents agree on the significant effect of timely delivery of material on project success. The others technological variables importation of materials and equipment, strike by the labor force, shortage of labor and shortage of plant/scarcity of equipment have a mean value 3.7467,

3.6133, 3.5467 and 3.42 respectively. Accordingly, to the description of Ajan (2015), the mean range of all technological factors represents good agreement level. These means project managers involved in the study agree on the influence of this indicator on project success or the influence of technological factors on project success.

4.3. Inferential Statics

Inferential statistics is calculated in order to determine the relationships that exist between the dependent variable (project success) and independent variables (political factor, economic and financial factor, social and cultural factor and technological factor). Also, it was used to perform regression analysis, analysis of variance, and to test the research hypotheses.

4.3.1. Bivariate /Multivariate Analysis

The bivariate analysis includes the correlation and regression analysis which is used to investigate whether a relationship exists between external environmental factors and project success. Using Pearson correlation with two tailed test of significance, the correlation analysis is made to investigate the relationships. Using the regression analysis, the impact of the variables is investigated.

Correlation analysis is applied to test the “interdependency” of the variables. The interdependency is measured according to the scale recommended by Hair et al (2002) and presented in the table 4.13 below.

Table 4. 13 Relation measurement scale between variables

	<i>No relation</i>	<i>Week relation</i>	<i>Moderate relation</i>	<i>Strong relation</i>	<i>Very strong relation</i>
<i>Pearson Correlation</i>	0.00-0.20	0.21-0.40	0.41-0.60	0.61-0.80	0.80-1.00

In this section, the direction and degree of the strength of the relationship among the variables are determined using correlation analysis (Table 4.13) below, and it is possible to examine the correlation among all dimensions of the independent variables of external environmental factors

and the dependent variable project success. The correlation analysis result provides initial evidences for further analysis of the hypotheses determined in the study.

		Political factors	Economic and financial factors	Social and cultural factors	Technological factors	Project success criteria
Political factor	Pearson Correlation	1				
	Sig. (2-tailed)					
Economic and financial factors	Pearson Correlation	.578**	1			
	Sig. (2-tailed)	.000				
Social and cultural factor	Pearson Correlation	.067	.053	1		
	Sig. (2-tailed)	.418	.522			
Technological factor	Pearson Correlation	.900**	.620**	.054	1	
	Sig. (2-tailed)	.000	.000	.513		
Project success criteria	Pearson Correlation	.968**	.623**	.069	.928**	1
	Sig. (2-tailed)	.000	.000	.405	.000	

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

Source: Own Survey, 2019

Pearson correlation is preferred because it can assess the linear relationship between two variables by using number that falls within the range of ± 1 (Morgan et al., 2004). The result indicates the existence of positive relationships between all the variables except social and cultural factor. No relation (neither positive nor negative) is existed between the dependent variable that is project success factor and the independent variable social and cultural factor that

is (.069). On the other hand, there is a very strong relationship between the dependent variable project success factor and independent variables technological factor (.928) and political factor (.968). The other variable economic and financial factor (.623) has strong relation with dependent variable.

Besides, the correlation between each independent variable was used to test the multicollinearity problems. The correlation between all of the independent variables should not exceed 0.90 to avoid multicollinearity problem (Hair et al., 1998). Referring to the table 4.14, correlation for all of the correlation values had not exceeded 0.90. Hence, there was no multicollinearity problem in this model.

4.4. Regression analysis

Multiple linear regressions had been employed in the study to assess the strength of the relationship between independent variables and single dependent variable. The predictors are stronger when the R² value is nearer to 1.

Table 4. 15 Regression analysis.

Model	R	R Square	Adjusted R Square
Political factor	.968 ^a	.938	.937
Economic and Financial factor	.623 ^a	.388	.384
Social and cultural factor	.069 ^a	.005	-.002
Technological factor	.928 ^a	.861	.860

Source: Own Survey 2019

As we can see in the model summary generated from the table political factor has R²=0.938 which indicates that 93.8 % of the variance in the project success criteria can be explained by political factor, the rest 6.2 % variability is affected by other external factors which are not included in this test of relationship. Here, economic and financial factor has R²=0.388 which indicates 38.8% of the variability in the project success criteria has been explained by the economic and financial factor and 61.2 % variability is explained by other factors. Model

summery from technological factor shows that the 86.1% of variance of project success criteria is explained by technological factor and the remaining percent is by other factors. But the model indicates the variance in project success criteria not explained by social and cultural factor.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.978 ^a	.956	.955	.11734

a. Predictors: (Constant), Technological, Social, Economic, Political

Source: Survey, 2019

R Square (coefficient of determination) is to investigate the strength that the independent variables can explain the variations in the dependent variables. As a whole, the Model Summary generated indicates that 95.6 % of the variance in the project success criteria can be explained by external environmental factors, the rest 4.4 % variability is affected by other factors which are not included in this test of relationship.

4.5. ANOVA of the Dependent Variable

F ratio is used to assess the overall fitness of the regression model. The result from ANOVA indicates that dependent variable was predictable by independent variables or not.

Table 4. 17 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
P	Regression	43.022	1	43.022	2235.589	.000 ^b
	Residual	2.848	148	.019		
	Total	45.870	149			
E	Regression	17.817	1	17.817	93.992	.000 ^b
	Residual	28.054	148	.190		
	Total	45.870	149			
S	Regression	.216	1	.216	.699	.405 ^b
	Residual	45.655	148	.308		
	Total	45.870	149			
T	Regression	39.502	1	39.502	918.058	.000 ^b
	Residual	6.368	148	.043		
	Total	45.870	149			

a. Dependent variable: Project success

b. Predicators: political factor (1), Economic and financial factor (2), Social and cultural factor (3), Technological factor (4)

Source: Own Survey, 2019

The ANOVA generated from dependent variables demonstrated that, there is significant relationship between dependent and independent variables the above table revealed that project success criteria (time, cost and quality) and the success factor which is political has highly significant relationship at (F=2235.589, P=0.000). This means the political factor has significant effect on project success criteria (time, cost & quality) of housing construction project. The other factor which is economic and financial factor has significant relation with project success criteria at (F=93.992, P=0.000). This indicates that an economic and financial factor in

combination has significant effect on the project success criteria in housing construction project. The last variable technological factor in construction project has significant relation with project success criteria at (F=918.058, P=0.000). The above table also revealed that project success criteria and the success factor which is social and cultural has no significant relationship. Therefore, the entire external environmental factors have significant combined effect on the project success criteria (time, cost and quality) of the housing construction project except the social and cultural factor.

Thus, the result indicates that project success (dependent variable) was predictable by political factor, economic and financial factor and technological factor but not social and cultural factor. In other word the regression model was consider fit for those three variables.

4.6. Analysis Regression Coefficients

Beta coefficient had been used to examine the expected change in the dependent variable due to the change in one unit of the independent variables; R² coefficient had been used to investigate the strength that the independent variables can explain the dependent variables.

Table 4. 18 Regression Coefficient

	Un standardized Coefficients		Standardized Coefficients	Sig.	Collinearity Statistics	
	B	Std. Error	Beta		Tolerance	VIF
(Constant)	-.298	.090		.001		
P	.752	.043	.695	.000	.189	5.294
E	.059	.024	.055	.015	.613	1.631
S	.004	.014	.005	.774	.995	1.005
T	.257	.040	.268	.000	.175	5.716

a. Dependent Variable: PSC

Own Survey 2019

P-value of political factor, economic factor and technological factor were less than 0.05 as shown in table 4.18. This indicates that each of the independent variables significantly affect project

success. However, the p-value of social and cultural variable is exceeded 0.05 and it indicates that social and cultural factor is not a significant predictor of project success.

In addition, the effectiveness of each independent variable in affecting the dependent variable is determined by the standardized coefficients beta value. From the Table 4.18, it is found that political factor ($\beta = 0.695$) is the most influential factor followed by technological factor ($\beta = 0.268$), economic and financial factor ($\beta = 0.055$) and lastly social and cultural factor ($\beta = 0.005$) is the least influential factor on project success. A unit improvement in political indicators refers a 0.695 increase in housing project success. The interpretation is the same for remaining variables but improving social and cultural indicators has no impact on PS in AASHDE.

The regression equation written as:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$$

Y = Project success

X₁ = political factor

X₂ = Economic and financial factor

X₃ = Social and cultural factor

X₄ = Technological factor

e = error term

Therefore, the regression equation employed in this research was written as:
project success = $-0.298 + 0.695(\text{political factor}) + 0.055(\text{economic and financial factor}) + 0.005(\text{social and cultural factor}) + 0.268(\text{technological factor}) + \text{error term}$.

e represents the deviation at the actual observations from their estimation values, since most observations are close to the line but do not fall exactly on the line. In this study social and cultural factor and economic and financial factors are close to the line as compared to the remaining two factors.

Multicollinearity refers to the relationship among the independent variables. It exists when the independent variables are highly correlated (Pallant, 2007). Small degree of multicollinearity is tolerance value and VIF values are above 0.10 and below 10 respectively.

As seen from the above table 4.18, the tolerance value of all variables is above 0.1 and also their VIF value is below 10 which indicate that there is no degree of multi collinearity problem among variables.

4.7. Hypothesis Testing

The regression analysis is conducted to show the relationship between the project success criteria and the four external environmental factors.

4.7.1. Political factor has a significant influence on project success in construction project.

The result of the regression test presented in ANOVA table above suggested that, there was a significant relationship ($F=2235.589$, $P=0.000$) between the project success and the success factor in combined. In addition to this, the combined association is strong ($R^2=.937$), which means that 93.7% of the total variation in project success criteria was influence of political factor. From the regression result in the above table it can be concluded that political factor ($\beta=.752$, $p=0.00$) has significant positive influence on project success.

4.7.2. Economic and financial factor has a significant influence on project success in construction project.

Economic and financial factor has significant relation ($F=93.992$, $P=0.000$) between the project success criteria and the success factor. The combined association is relatively moderate ($R^2=.384$) which means that 38.4% of the total variation in project success criteria is influenced by economic and financial factor. From the regression result in the above table it can be concluded that economic and financial factor ($\beta=.055$, $p=0.015$) has significant positive influence on project success.

4.7.3. Social and cultural factor has no significant influence on project success in construction project.

There is no significant relationship ($F=.699$, $p>0.05$) between the project success criteria and the social and cultural factors. The combined association is very weak ($R^2=-.002$), which means that the total variation in project success criteria has not the influence of social and cultural factor.

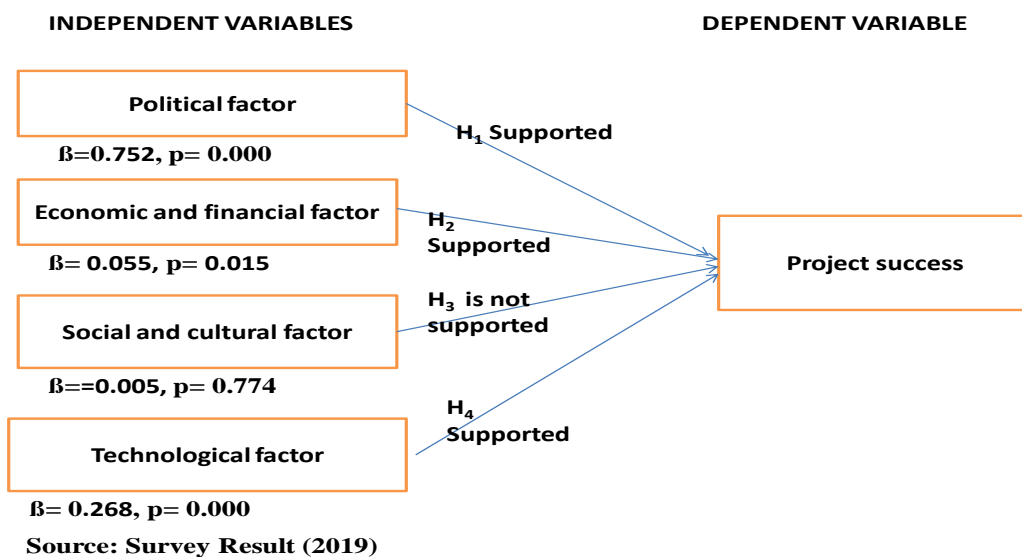
From the regression result in the above table 4.18, it can be concluded that social and cultural factor ($\beta=.005$, $p=.774$) has no significant influence on project success.

4.7.4. Technological factor has a significant influence on project success in construction project.

Technological factor has significant relation ($F=918.058, P=0.000$) between the project success criteria and the success factor the combined association is relatively strong as compared to economic and financial factor ($R^2=.860$), which means that 86% of the total variation in project success criteria was influenced by technological factor. From the regression result in the above table it can be concluded that technological factor ($\beta=.268$, $p=0.00$) has significant positive influence on project success.

In general, this indicates that each of the four external environmental factors except social and cultural factor in a regression model is significantly affect project success in the case enterprise. Hence, the three factors strongly correlated with the success of the project where by the entire hypotheses (H_1 , H_2 , and H_4) except H_3 supported by this research model as shown in the figure 2 below.

Figure 2. Result of multiple regression analysis from the scope of the research



4.8. Discussion

The study found that political factor has a direct effect on project success, and the relationship is significant (H_1 is supported). Measures of political factor are instability in governance, political agitation, policy instability, legislation and election. This result is consistent with that of Hwang and Lim (2013) who stress the importance of a stable political environment in successful implementation of projects. Thomas and Martin (1994) also believed that managers of the construction project should take cognizance of the political aspect that can produce an uncertain environment such as unstable government, unpredictable shifts in the economy and unexpected changes in consumer demand. Otherwise the likely meeting project objective never happens.

The results from this study reveal that, there is significant relationship between economic and financial factor and housing project success (H_2 is supported). Measures of economic factor include inflation rate, inadequate working capital, and foreign exchange rate, unexpected prices rise for materials and access to capital. The result is consistent with that of UN-Habitat (2011) and Chen et al. (2012), who emphasize the importance of economic factor on project success. Li et al. (2005) noted that a stable economic environment plays an important role in mitigating risk for housing projects. In other way, periodic economic cycles significantly affect the activity of construction industry (Odeh and Battaineh, 2002). Because ensuring financial viability in fluctuating environment is the most challenging task for any project managers. Oladapo and Olotuah(2007)also recommend accurate forecasting of economic trends both local and global is important. Thus, the government should ensure a stable economic environment.

But the results of this study confirm that the social and cultural factor is not significantly related to public housing project success (H_3 is not supported). The variables of social and cultural factor are civil conflicts or disturbance, beliefs/Customs, hidden obstruction, access to social amenities and literacy level. Engobo (2009) agree on those variables have the potential to influence or affect organizations that operates within the society. Social factors have been concerned with the issues of the cultural aspect; health consideration and the general life style of society (Gudienė et al., 2013). The results of the study not support this agreement. The project managers of 40/60 public housing only consider delivering houses on continuous bases and not give any consideration at all whether it built in a good location in a safe and healthy environment and easy

access to public transportation, work places, commercial establishments and essential public institutions such as schools and hospitals, attention to access to public transportation, work places, commercial establishments and essential public institutions such as schools and hospitals.

Lastly, the results also confirm that technological factor is significantly related to public housing project success (H₄ is Supported). The variables of technological factor are shortage of labor, shortage of plant/scarcity of equipment parts, importation of materials and equipment, strike by the labor force and equipments. Oladapo and Olotuah (2007) maintained that the appropriate construction technology can be measured by the availability of locally made plant and equipment and skilled manpower resources. AASHDE faces lack of foreign currency for importation of material, scarcity of import and delay in delivery of inputs from MSE side are the reason for low progress in 40/60 projects (AAHDA, 2018).

On the whole, this study found that the economic and financial factor, political factor and technological factor have a direct effect on the success of public housing projects in AASHDE and that the relationships are significant. These factors should get adequate attention in the formulation of housing policies and in planning and development of public housing in the case enterprise.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

With the intent of meeting the study's objective of finding out the existence level of external environmental factors in AASHDE 40/60 project and their influence on successful project completion, the researcher had presented in-depth analysis of findings in the prior chapter. In this final chapter, the findings of the study are summarized and presented along with their implications, concluding remarks and recommendations.

5.1. Summary of the findings

Project success can be improved by studying and improving factors that affect these three dimensions; time, cost and quality. Accordingly, this research has strived to identify the effect of external environmental factor responsible to project delays, cost overrun and quality problems in AASHDE. Those selected environmental factors are political, economic and financial, social and cultural and technological factors.

To investigate the influence of those factors census was made among 174 project managers and the response rate was 86.1%. Among them 53.3% of project managers lay between 20-30 age category, 69.3% were male, 57.3% were single, 78% had bachelor degree, 42% have greater than five-year experience and majority of the 30.7% of the respondent involved in phase three of a project.

The results indicate that respondents agreed on the influence of economic and financial factors like access to capital, unexpected prices raise for materials, unexpected prices raise for labor, inflation rate, foreign exchange rate and inadequate working capital on project success at mean level of 4.0533, 4.0465, 4.0265, 3.9067, 3.733 and 3.5067 respectively. The variables of political factor such that instability in governance, legislation, policy instability, election and political agitation has impact on project success at mean agreement level of 3.36, 3.42, 3.4267, 3.6133 and 3.78 respectively. The result of this finding further social and factor such that civil conflicts or disturbance, hidden obstruction, beliefs/customs and social amenities have impact on project success at mean agreement level of 3.3433, 3.3467, 3.2867, 3.24 and 3.0067 respectively. In

addition, the technological factors like late delivery of materials and equipment's, importation of materials and equipment, strike by the labor force, shortage of labor and shortage of plant/scarcity of equipment parts influence project success at mean agreement level of 3.773, 3.7467, 3.6133, 3.5467 and 3.42 respectively. Collectively the mean agreement on economic and financial factor is 3.8789, on technological factor is 3.62, on political factor is 3.52 and on social and cultural factor is 3.2627.

Depending on the result of inferential statistics indicate that, the independent variables political factors, technological factors, economic and financial factors and social and cultural factors correlated with project success criteria (PSC) at 0.968, 0.928, 0.623 and 0.069 respectively. Their level of significant is 0.000 except social and cultural factor which is 0.405.

From regression analysis of political factors factor has $R^2=0.938$, technological factor has $R^2=0.861$, economic and financial factor has $R^2=0.388$ and social and cultural factor has $R^2=0.005$. Collectively the independent variables have $R^2=0.955$.

Hypothesis result shows that the hypothesis which supports the positive relationship between social and cultural factor and project success is not supported and the other hypothesizes which support the positive relationship economic and financial, political and technological factors on project success are supported.

5.2. Conclusion

The aim of this paper was to identify the effects of selected external environmental factor such as; economic, social and cultural, political factors and technological factors on 40/60 housing project success.

The study findings have concluded that this is not the only factors that affect project success. Legal, institutional and physical factors are also other factors but the researcher chooses four common macro-environmental factors used in the environmental scanning which are collectively called PEST.

The majority of project manager in the case enterprise are young, energetic and professional. Many managers have experience and sound knowledge on the enterprise policy, system,

practices and procedure. Because of the type of typology in Bole Beshale site (Phase 3, 40/60 project), the project office involve more managers as compared.

The variables of political factor such that instability in governance, legislation, policy instability, election and political agitation also has significant influence on the housing project in descending order. Because public housing projects are usually funded or subsidized with public funds, an unstable political environment (frequent changes of government) can affect the project implementation, which may lead to delays in completion and cost overruns.

The results indicate that effective economic and financial factors like access to capital, unexpected prices rise for materials, unexpected prices rise for labor, inflation rate, foreign exchange rate and inadequate working capital significantly influence the success of housing projects in descending order. The study developed a model that can guide housing policy-makers and project management team members to implement a successful public housing scheme.

The result of this finding further investigate there is no significant relation exist between social factors such that civil conflicts or disturbance, hidden obstruction, beliefs/customs and social amenities and project success. The project managers consider only delivering houses on continuous bases and not give any consideration at all whether it built in a good location in a safe and healthy environment and easy access to social amenities.

In addition, the technological factors like late delivery of materials and equipments, importation of materials and equipment, strike by the labor force, shortage of labor and shortage of plant/scarcity of equipment parts have significant effect on the case enterprise in descending order. The appropriate construction technology can be measured by the availability of locally made plant and equipment and skilled manpower resources. AASHDE faces different challenges in relation to the existing technology.

From the PEST factors all except the social one have positive influence on contribution of project success (time, cost, quality) and the most significant factor for project success in 40/60 housing project is political factor followed by technological factor and economic and financial factor.

Public housing project success depends on the influence of several external factors, some of which are within the control of project management teams while others are not. Social factor can be addressed by both the government and project team members, political and economic factors can only be controlled by the government. Furthermore, from the study it can be argued that political factor and technological factor can strongly influence project success or general well-being. Similarly, an effective financial system (economic factor) is essential with regard to flow of incomes and affordability of the completed housing units. Thus these three factors should be given adequate attention in the formulation and implementation of housing policies in case enterprise. Future research should examine the interrelationship between these factors.

5.3. Implications and Recommendations

40/60 housing project has playing greater role in the reduction of the critical housing problem in the city. However, development construction projects are failing in every measure of project success. Construction projects take longer time than planned to be completed which by itself is a cause for cost overruns of projects. This leads the construction projects in to failure in being completed in the allocated budget. Planned quality standards are also found to be compromised.

Struggling with all these, it is wrong to expect for to this sector to properly discharge its responsibility in reducing the housing problem. This calls for critical assessment of current practices and improvement in areas those are causing such failures. Implications and some possible recommendations on how to improve the identified problems are tried to be provided by the researcher. The implications and recommendations are presented below.

- Project managers should take cognizance external environmental factors that may influence success of the project in order to come up with the challenges through a process and prevention of more cost and time overruns. (Like improving forecasting ability, taking lesson from trends...)
- The enterprise must recruit experience man powers who deliver inputs in continual base and also the government should provide support those MSE in delivering up to date equipment's and in facilitating importation process.

- Success factors that have significant effect on the overall success of the project should be managed selectively according to their effects.
- Today more project managers consider project quality to be the most important objective. Quality can be assured by identifying and eliminating the factors that cause poor project performance. Thus, project managers need better understanding of external environmental success /failure factors and how to measure them.
- Public housing projects are usually funded or subsidized with public funds, an unstable political environment and unstable economic environments can affect the project implementation, which may lead to delays in completion and cost overruns. Thus, three external environmental factors (political, economic and financial and technological factor which have influence on success should get adequate attention in the formulation and implementation of housing policies.
- An effective financial system (economic factor) is essential with regard to flow of incomes and affordability of the completed housing units.
- Implementing strong monitoring and control practices, technology transfer and keeping quality according to agreements must be solved in other similar projects by taking lesson from these housing projects.

5.4. Suggestions for Further Research

Since the idea of external environmental factors is relatively new and not practical to study those factors in Ethiopia, it would be valuable to conduct further research in the topic. Since this research is based on 40/60 projects and specific condominium housing project, further study can be conducted on many organizations and sectors. This will allow for greater reliability to provide important statistical generalizations. A study on similar case will also be interesting since it will help to visualize the severity of those factors in project progress in the enterprise. Besides, the study attempted to analyze findings based on the quantitative data only. So in the future study, a multi methods approach including interview and focus group discussions could improve understanding and explore project success intention further. Similarly, future researchers may use other models to investigate other variables that have a potential to influence the variance in

project success and also it is better to investigate both internal and external factor to ensure the success of a project. Lastly, the present study focused on the influence of external environmental factors on project success only from project manager perspective and did not measure the perceptions from consultant and client side.

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Appendix 1: Questionnaire

Addis Ababa
University
(Since 1950)



ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

Masters of Art (MA) Program in Project Management Questionnaire to be distributed to

Addis Ababa Saving House Development Enterprises

Dear Respondents:

I am a Master's student in Addis Ababa University School of Commerce. I would like to express my sincere appreciation for your generous time, honest and prompt responses.

This questionnaire is designed to solicit information purely for academic purpose. It is the major requirement to complete the research on the topic: "*External Environmental Factors on the Project Success of Addis Ababa Saving House Development Enterprise*" in pursuance of Masters of Art in Project Management.

This questionnaire will take approximately 15-20 minutes and considered your invaluable support in responding to this questionnaire genuinely is paramount importance to the success of this study. You are not required to write your name and all information you provide will be handled in strict confidential manner.

The questions in this instrument are organized in three sections:

PART I: General Information

PART II: Questionnaire to external factors affecting project success

PART III: project Success Criteria Related issues

If you have any questions about this survey, please do not hesitate to contact me at my phone number 0900012085 or via my email address: dhiluga@gmail.com.

Thank you very much for your time and participation.

PART I: General Information

1. Age

- a) 20.-30 years
- b) 31 -40 years
- c) 41-50 years
- d) Above 51years

2. Sex

- a) Male
- b) Female

3. Level of Education

- a) Bachelor
- b) University Degree Postgraduate (MA/MSC) and above

4. Marital status

- a) Single
- b) Married
- c) divorced

5. For how many years have you worked on construction projects?

- a) Less than 2years
- b) 2 – 3 years
- c) 3 – 4years
- d) 4 – 5years
- e) Greater than 5 years

6. In which phase you participate in construction of condominium house projects?

- a) Phase 1
- b) Phase 2
- c) phase 3
- d) phase 4

PART II: Questionnaire to External factors affecting project success

INSTRUCTION:

For each of the following factors, please indicate your level of agreement, as they apply to your organization's perception on Housing Condominium Development projects by ticking the appropriate boxes.

Variable	Not significant (NS)	Slightly significant (SS)	Moderate significant (MS)	Very significant (VS)	Extremely significant (ES)
1. Political					
1.1 How do you rate the effect of Instability in Governance on the housing project?					
1.2 How do you rate the significant effect of Political agitation on the housing project?					
1.3 How do you rate the significant effect Policy instability on the housing project?					
1.4 How do you rate the significant effect Legislation on the housing project?					
1.5 How do you rate the significant effect Election on the housing project?					
2. Economic and Financial					
2.1 How do you rate the significant effect Inflation rate on the housing project?					
2.2 How do you rate the significant effect of Inadequate working capital on the housing project?					

Variable	Not significant (NS)	Slightly significant (SS)	Moderate significant (MS)	Very significant (VS)	Extremely significant (ES)
2.3 How do you rate the significant effect of Foreign exchange rate on the housing project?					
2.4 How do you rate the significant effect of Unexpected prices raises for labor on the housing project?					
2.5 How do you rate the significant effect of Unexpected prices raises for materials on the housing project?					
2.6 How do you rate the significant effect of Access to capital on the housing project?					
3.Social and cultural					
3.1 How do you rate the significant effect of civil conflicts or disturbance (e.g. youth restiveness and militancy) on the housing project?					
3.2 How do you rate the significant effect of beliefs/customs on the housing project?					
3.3 How do you rate the significant effect of hidden obstruction on the housing project?					

Variable	Not significant (NS)	Slightly significant (SS)	Moderate significant (MS)	Very significant (VS)	Extremely significant (ES)
3.4 How do you rate the significant effect access to social amenities (e.g. med-care) on the housing project?					
3.5 How do you rate the significant effect of literacy level on the housing project?					
4. Construction technology and Resources					
4.1 How do you rate the significant effect of shortage of labor on the housing project?					
4.2 How do you rate the significant effect of shortage of plant/scarcity of equipment parts on the housing project?					
4.3 How do you rate the significant effect of Importation of materials and equipment on the housing project?					
4.4 How do you rate the significant effect of Strike by the labor force on the housing project?					

Variable	Not significant (NS)	Slightly significant (SS)	Moderate significant (MS)	Very significant (VS)	Extremely significant (ES)
4.5 How do you rate the significant effect of Late delivery of materials and equipment's on the housing project?					

Part III: Related with success criteria

For the following statements, please show your choices by putting tick mark (✓) in the given space. Please answer the question with respect to project area assigned.

Project success related issues	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
5.1 The project will be completed on the scheduled time frame.					
5.2 The project will be completed on the quality standard.					
5.3 The project will be completed on the budget allotted.					

Thank you for your sound cooperation!!!