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ASSESSMENT OF CRITICAL SUCCESS FACTORS IN REAL ESTATE DEVELOPMENT PROJECTS IN ADDIS ABABA

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RESEARCH PROJECT WORK

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Declaration Page

Declaration

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted at any university for a degree.

Signature: _____ Date: _____

Addis Ababa University
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This is to Certify that the thesis prepared by Bethlehem Hailu entitled: 'Assessment of Critical Success Factors in Real Estate Development Projects in Addis Ababa' submitted in partial fulfillment of the requirements for the Degree of Master of Arts in Project Management complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Abstract

There is a rapid growth in Real Estate industry in Ethiopia where many are using resources to conduct a number of development projects. Many Real Estate companies (Project Sponsors) only consider the financial aspects of the real estate development projects while many internal and external factors affect their success. This research aims to contribute to the efficiency and effectiveness of these companies in delivering real estate development projects. The objective of the study is to identify and assess critical success factors in real estate development projects as well as establish the relationship between CSFs and project success. A quantitative approach was applied where conceptual model was adopted to assess 8 main critical success factors: Client (Project Sponsor) Objectives, Client Core Competencies, Project Environment (Physical Environment, Economic Environment, Socio-Political Environment, Industrial Relations), Project Team Leaders Performance &Project Management Actions.. A total of 55 questionnaires were filled by project managers, engineers and formans engaged in real estate development projects by three real estates, Bole Beshale Project by Sunshine, Dodi 1 by Noah and Polilotus by Tsehay Real Estate. Descriptive statistics and correlation was applied using SPSS to analyze and interpret data. The major findings indicate that Client Objectives, Project Team Leaders Performance, Project Management Actions, Client Core Competency, Economic environment and Physical Environment are the most critical factors Moreover, a strong positive relationship was observed between Project Management Actions, Project Team Leader Performance and Client Core Competency. In conclusion, project success in Real Estate development can be achieved by focusing on delivering on time and with high construction quality. Moreover, client's (project sponsor) involvement in project initiation and planning phase, placement of competent and skilled project leaders and comprehensive project safety and quality management are critical to real estate development project's success.

***Key Words**: Critical Success Factors, Client Objectives, Client Core Competency, Project Team Leaders Performance, Project Management Actions*

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CHAPTER ONE INTRODUCTION

1.1. Background of the Study

Real estate development involves purchasing a tract of land, determining the marketing of the project, developing the building program and design, obtaining the necessary public approvals and financing, building the structure, then leasing, managing, and ultimately selling it(Prathamesh, 2015). Real estate construction projects, similar to other projects are measured based on project management performance. The iron triangle of cost, time and quality constitute major part of success criteria in construction projects (Atkinson, 1999).

Real estate development has become one of the fastest growing sectors in Ethiopian Economy**.** According to the World Bank report in 2018, the construction industry has contributed 3.5 % to the overall Ethiopia's GDP growth that registered 10.9% in 2017. The real estate industry coupled with construction industry accounted for 14.9% of the GDP in the 2008/2009 fiscal year, real estate taking more than 60% of the share. There has been a rapid growth in real estate investments in Ethiopia as evidenced by annual growth rate of 37% for the years of 2004-2012 (Access Capital, 2009).

With Ethiopia's economic growth rate, the rapidly changing real estate landscape in Addis Ababa is one of the more visible aspects of the extended period of growth recently experienced in Ethiopia (Access Capital, 2009). The residential real estate development in Addis Ababa takes a big share in the industry. According to Addis Ababa Investment Agency, it has issued over 200 real estate project licenses with annual growth of 22 % (Ethiopian Investment Authority as cited by Tadesse, 2013). The observed increase in the scope and scale of real estate activity has been driven by multiple factors. The factors include as overall economic growth, rise in urban population, a long-standing backlog of unmet housing demand, the expansion of

city roads and infrastructure, tax and investment schemes, extended lease periods, and reduced income tax incentives. (Access Capital, 2009).

Residential homes and neighborhoods built by real estate developer are now becoming increasingly common ever since the first large scale development was initiated by the pioneer in the industry, Ayat Real Estate (Access Capital, 2009). From among the many real estate companies, Sunshine Real Estate, Tsehay Real Estate and Noah Real Estate are notable ones that have a good reputation of project delivery.

Sunshine construction, under Sunshine Investment group was founded in 1984 with less than 10 employees. Three decades later, it currently has 3000 employees with a project delivery track record of 984 kilometers of road projects, 427 residential houses and 3254 apartments (Sunshine Investment Group, 2018). Bole Beshale Real Estate Project is a major real estate development project that plans to construct 1785 house and 308 apartment buildings in 10 years with planned budget of 515,089,544 55 birr. The project commenced in October 2011 and plans to be completed by March 2020 where April progress report indicates that 95.3 % of the work is going according to project plan (Bole Beshale Report, 2019)

From among the new real estate companies, Tsehay Real Estate was established in 2011 by CGC Oversees construction (Ethiopia) and Mr. Qian Xiao. Polilotus International center was developed over 30,000 m^2 plot of land inclusive of high level business offices, resort restaurants, shopping mall and 13 G+12 high quality level apartments with cost estimation of 3 billion birr. The residential G+13, that make up 70 % of the construction project, have been completed where as the rest are under construction (Tsehay Realities, 2018).

Lastly, Noah Real Estate was established in 2013 where it has delivered 5 residential and 4 commercial buildings with additional 7 projects underway in various sites of Addis Ababa (Noah Real Estate, 2019). Dodi 1 Real Estate project that is developing 64 apartment

complexes on 1000 square meter. It commenced on December 2016 and plans to finish on September 2019.

While some real estate companies have delivered their construction projects on budget, schedule and quality that has satisfied their customers, there are others such as Access and O-Logo Real Estates who have not delivered on their real estate construction project objectives and are thus battling lawsuits from unsatisfied buyers. Real estate developers are the project sponsors in which they play an important role in the project planning and execution of their residential home development projects as well as the project teams that are authorized with the projects to do so. The registered increased economic growth, shift of demographics from rural to urban, and rise in income indicate a positive growth to be expected in the real estate construction sector. However, between the periods of 1992-2006, the total number of real estate developers licensed by Ethiopian Investment Authority, have reached 1,667 with total capital of birr 31.9 billion of which 87% is under pre-implementation indicating how far it is behind the country's expectations (Eshete and Teshome, 2015). In Ethiopia, many real estate developers are using many resources to conduct a number of real estate development projects in which some have been observed to delay or completely fail at delivering according to plan. This calls for the identification and assessment of critical success factors for the betterment of the industry.

1.2. Statement of the Problem

The real estate development decisions generally consider only the financial aspects of the projects where feasibility calculations are based on the net present value (NPV) of the investments (Prathamesh, 2015). (Santankari and Jain, 2015) studied the success factors for real estate construction projects in India context where the researcher used 8 construction experts to identify and rank 23 success factors grouped into four clusters i.e. Financial,

customer, value added and operational. The researchers concluded that if they were to be implemented to real estate construction projects, they would increase project performance.

In 2009, Kiros conducted a research on 8 selected real estates in Addis Ababa to investigate the factors affecting real estate market in which the researcher concluded that insufficient land supply, increased housing construction materials and high price as the most notable ones. (Girma, 2007) conducted a study of assessing the factors that contributes to the success of projects management in real estate development construction projects and adopted 7 critical success factors from reviewing literature. Organizational planning, project manager goal commitment, project scope and work definition and control systems were found to be present in the real estate development projects in Ethiopia. The researcher added that project team motivation and goal orientation, project manager's competency, safety precautions and applied procedures and control systems had significant impact on the project management success though most project managers were observed to have lacked those critical factors.

Various research studies have been made to identify and assess critical success factors. They have been mainly focused from project manager's perspective, limited to few experts, and focused on external environment of the real estate industry. This research aimed to study success factors from different perspectives of human related, project related and external environment and assessing critical success factors in real estate development projects from the perspective of project teams of three real estates deemed successful. It will view project performance and success as a function of client objectives, client core competency, the project environment (physical, economic, socio-political and industrial relations), project team leadership and project management actions. As there is rapid growth in the real estate industry, the research aims to contribute to the efficiency and effectiveness of these companies in delivering their real estate development projects.

1.3. Basic Research Questions

1.3.1. What are the critical success factors of real estate development construction projects?

1.3.2. What is the relationship between critical success factors and project success?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of the study is to assess the critical success factors in real estate development construction projects in Addis Ababa

1.4.2. Specific objectives

- To identify and assess the critical success factors for real estate construction projects
- To determine the relationship between critical success factors and project success

1.5. Significance of the Study

This research study will be based on a quantitative assessment in which it tends to have applied significance. It will enable the selected real estate companies to identify and focus on specific success factors that they have themselves evaluated. The results of this study is expected to be a valuable knowledge for other real estate companies. More specifically, it will assist real estate companies when designing real estate development plans, team selection, and performance evaluation. The findings of this study may also be used as a source of information for those who are interested in conducting similar research on identifying critical success

factors in similar sector in Ethiopia or elsewhere. Lastly, it is expected to enhance the researcher's knowledge in Project Management.

1.6. Scope of the Study

The scope of the study will be focused to assessing the critical success factors in real estate development construction projects limited to three real estate companies located in Addis Ababa City Administration. The structured questionnaires was adapted from a study by. (Ramakrishna,N., Aswin Kumar, M., Vivek Kumar, D. and Arun Kumar ,G., 2012) on "Determinants of the Success of Real Estate Projects: A Study of Select Firms in Hyderabad" where they have identified 5 success factors; Client Objectives, Core Competency, Project Environment (Physical, Economic, Socio-Political and Industrial Relations), Project Team Leadership and Project Management Actions. The reason for the adaption of these success factors is that it views project success as a function of the objectives and characteristics of the client, the project environment, project team leadership characteristics and project management actions which allows the researcher to explore for the big picture.

The research methodology will be a quantitative research design where data will be collected in the form of questionnaires from the three real estate companies' project teams. By using quantitative approach together, the researcher gains an in depth understanding. The sample population will be limited to the project teams (project managers, engineers and formans) of the respective real estates. The study will not be inclusive of the real estates' contractors and consultants in the development projects. In addition, it will be focused on three real estate companies from many which might make it hard to generalize to the entire real estate industry.

1.7. Limitations of the Study

The researcher had few limitation with regard to the scope and content of the study as well as time constraints. Due to time limitations, the study was only limited to three real estates from among many in Addis Ababa for reasons of the unwillingness and request for animosity by most real estate developers approached. In addition, the research is limited to the views of project teams (project managers, engineers and formans) without linking those perceptions to the respective projects.

1.8. Definition of Terms

Client - is defined as the person or firm responsible for commissioning and paying for the design and construction of a facility (BPF, 1983)

Critical Success Factors – also known as key success factors, are defined as limited number (usually 3-8) of characteristics, conditions or variables that have a direct and serious impact on the effectiveness, efficiency and viability of an organization, program or project.(Business Dictionary,2019)

Client objectives – are the construction goals set by the owners of the projects within the iron triangle of cost, time and quality standards.

Client core competency- is attributes of the client's knowledge of the project, pre-contract design and documentation process, requirements of the finished building and the ability to convey those in order to reduce level of errors and omissions that leader to variation and disputes. (Ramakrishna et. al, 2012)

Economic Environment- refers to all the internal and external economic factors such as inflation, liquidity

Industrial relations – refers to the employment relationship between employers and employees, labor /trade unions, employer organizations and state. It includes the processes

through which these relationships are expressed (for instance, collective bargaining, workers participation in decision making and dispute settlements) and the management of conflicts between employers and workers when it arises (Wikipedia, 2019)

Physical Environment – refers to the part of human environment that includes purely physical factors such as soil, climate, water (Merriam Webster, 2019)

Project Environment – is the surrounding in which a project is undertaken and it includes air, water, land, natural resources, humans, and their interaction that is social, political and economic both within and outside of the project boundaries(Kohli,2006).

Real Estate – is property consisting of land and buildings on it along with its natural resources such as crops, minerals or water, immovable property of this nature; an interest vested in this, an item of real property, more generally buildings or housing in general (Wikipedia,2019).

Real Estate Development Project – is a business process, encompassing activities that range from the renovation and re-leasing if existing buildings to the purchase of raw land and the sale of developed properties or parcels to others (Wikipedia, 2019).

1.9. Organization of the Research Report

The research is organized in five chapters. The first chapter will include background of the study, statement of the problem, basic research questions, objectives of the study, definition of terms, significance of the study, and delimitation/scope of the study. The second chapter will include theoretical and empirical literature review about project management, construction, real estate and factors affecting project success. Chapter three will give a detailed description of the research design, participants, and sources of data, data collection and analysis methods to be employed. The fourth chapter will summarize the data analyzed and present the interpretation in light of the literature review. The last chapter will conclude, summarize and make recommendation for further research based on results found from the research.

CHAPTER TWO LITERATURE REVIEW

2.1. Project Definition

Many definitions have been developed to explain the meaning of a project. (Kezner, 2000) defined project as any series of activities and tasks that has a specific objective to be completed within certain specification, defined start and dates, funding limits and consumes resources. Whereas (PMI, 2013) defines project a temporary endeavor undertaken to create a unique product, service, or result. In addition, Project is defined as set of interrelated tasks to be executed over a fixed period and other limitations (Business Dictionary, 2019).

In 2015, Epstein published seven characteristics that define a project

a. A simple definable purpose, end item or result defined in terms of cost, schedule and performance requirements
b. Unique as it is one time activity requiring something different and never to be repeated exactly the same way
c. Temporary activities with in a time frame and goal to be achieved
d. Cuts across organizational lines as it needs to draw from the skills and talents from multiple professions and departments
e. Involves unfamiliarity as it differs from what's previously done with its own new elements of uncertainty and risk
f. Usually has something at stake as failure might jeopardize organization/firms or its goals
g. Process of working to achieve a goal where it passes through different project lifecycles and with that, the organizational structure and resources expenditure build with each succeeding phase; peak and then decline as the project nears completion

PMI (2013) reiterates the temporary nature of projects indicates that a project has a definite beginning and end where the end is reached when the project's objectives have been achieved or when the project is terminated because its objectives will not or cannot be met, or when the need for the project no longer exists. The application of project management practices is necessary to ensure the overall success of a project (Barker, 2014).

2.2. Project Management

Though the body of knowledge of project management was not yet known, the practice of project management dates back to the building of the pyramids in Egypt in 2500 BC and Great Wall of China in 208 BC. Historical data reveals that the workforce for this large project was organized into groups i.e. soldiers, common people and criminals where they were ordered to complete the project (Westland, 2018). The rules of project management began to take shape across corporate America around the time of World War II, and by the 1950's they were guiding civil construction projects. In the 1960's, Project Evaluation Review and Work Break Down Structure were developed by the US Department of Defense as well as the international Project Management Association and Project management institute were founded(Smart sheet,)(Westland,2018)

Kezner (2000) stated that project management can mean different things to different people as its concept is often misunderstood. Project Management is the art of creating the illusion that any outcome is the result of series of pre-determined, deliberate acts when, and in fact it was dumb luck. Project Management is the planning, organizing, directing and controlling of company resources of relatively short term objective that has been established to complete a specific goals and objectives. Furthermore, project management utilizes the system's approach to management by having functional personnel (the vertical hierarchy) assigned to a specific project (the horizontal hierarchy). Project management knowledge draws

on ten areas i.e. integration, scope, time, cost, quality, procurement, human resources, communications, risk management and stakeholder management. (PMI, 2019)

2.3. Project life cycle and Project Process Groups

A project life cycle is the series of phases that a project passes through from its initiation to its closure. The phases are generally sequential, and their names and numbers are determined by the management and control needs of the organization or organizations involved in the project, the nature of the project itself, and its area of application. It should not be confused with the Project Management Process Groups, because the processes in a Process Group consist of activities that may be performed and recur within each phase of a project as well as for the project as a whole (PMI, 2013).

A generic life cycle structure involves

- Starting the project
- Organizing and preparing
- Carrying out the project work, and
- Closing the project

Project life cycles can range from predictive or plan-driven approaches at one end to adaptive or change-driven approaches at the other.

A Predictive Lifecycle – is when the product and deliverables are defined at the beginning of the project and any changes to scope are carefully managed.

An Adaptive Lifecycle – is when the product is developed over multiple iterations and detailed scope is defined for each iteration only as the iteration begins.

2.4. Project Management Process Groups

PMI (2013) indicates that project management processes ensure the effective flow of the project throughout its life cycle. It encompass the tools and techniques involved in applying the skills and capabilities.

PMI's classification of the 5 project management process groups (2013)

A. **Initiating Process Group**- launches the process that can result in the authorization of a new project
B. **Planning Process Group**- establishes the scope of the project, refine the objectives, and define the course of action required to attain the objectives undertaken by the project
C. **Executing Process Group-** performed to complete the work defined in the project management plan to satisfy the project specifications.
D. **Monitoring and Controlling Process Group**- required to track, review, and regulate the progress and performance of the project.
E. **Closing Process Group-** performed to finalize all activities across all Process Groups to formally close the project or phase.

2.5. Project Management Organization and Team Roles

A project organization is a structure that facilitates the coordination and implementation of project activities. Its main reason is to create an environment that fosters interactions among the team members with a minimum amount of disruptions, overlaps and conflict (PM4dev, 2016). Organizational structures range from functional to projectized, with a variety of matrix structures in between (PMBOK, 2013).

A Functional Organization - is a hierarchy where each employee has one clear superior. Staff members are grouped by specialty, such as production, marketing, engineering, and accounting at the top level and specialties may be further subdivided into focused functional units, such as

mechanical and electrical engineering. Each department in a functional organization will do its project work independently of other departments.

A Matrix organizations – is a blend of functional and projectized characteristics which can be classified into weak, balanced, or strong depending on the relative level of power and influence between functional and project managers. Weak matrix organizations maintain many of the characteristics of a functional organization, and the role of the project manager is more of a coordinator or expediter. Strong matrix organizations have many of the characteristics of the projectized organization, and have full-time project managers with considerable authority and full-time project administrative staff. The balanced matrix organization recognizes the need for a project manager, where the project manager does not have the full authority over the project and project funding.

A Project Organization - often have organizational units called departments, but they can either report directly to the project manager or provide support services to the various projects. Most of the organization's resources are involved in project work, and project managers have a great deal of independence and authority. Virtual collaboration techniques are often used to accomplish the benefits of collocated teams.

The project team includes the project manager and the group of individuals who act together in performing the work of the project to achieve its objectives. The structure and characteristics of a project team can vary widely, but one constant is the project manager's role as the leader of the team, regardless of what authority the project manager may have over its members (PMBOK, 2013). The project teams include roles such as

Project management staff - The members of the team who perform project management activities such as scheduling, budgeting, reporting and control, communications, risk management and administrative support.

Project staff- the members of the team who carry out the work of creating the project deliverables.

Supporting experts - perform activities required to develop or execute the project management plan. These can include such roles as contracting, financial management, logistics, legal, safety, engineering, test, or quality control. Depending on the size of the project and level of support required, supporting experts may be assigned to work full time or may just participate on the team when their particular skills are required.

User or Customer Representatives - members of the organization who will accept the deliverables or products of the project may be assigned to act as representatives or liaisons to ensure proper coordination, advise on requirements, or validate the acceptability of the project's results.

Sellers – also called vendors, suppliers, or contractors, are external companies that enter into a contractual agreement to provide components or services necessary for the project.

Business partner members - members of business partners' organizations may be assigned as members of the project team to ensure proper coordination.

2.6. Project Management in Construction

Construction project management requires the skills and expertise of a traditional project manager but applied to the construction industry (Smart sheet, 2019**).** According to Project Management Institute**,** project management is the art of directing and coordinating human and material resources throughout the life of a project by using modern management techniques to achieve predetermined objectives of scope, cost, time, quality and participating objectives. By extending the definition, Construction Project Management often referred to as CM, is a professional service that uses specific project management techniques to oversee the planning, design, coordination and execution of construction project(Smart Sheet, 2019))(

Sinnaps,2019). Similar to Project management, construction project management goes through the five phases of initiation, planning, executing, monitoring and controlling and closure.

The Construction Extension to the Project Management Body of Knowledge (2000) adds four knowledge areas i.e. project safety management, project environment management, project financial management and project claim management to the project management knowledge areas.

A. **Project Safety Management** – includes the process required to assure that the construction `projects is executed with appropriate care to prevent accidents that cause or have the potential to cause personal injury or property damage. Major process include

   Safety planning- development of the approach to manage the various hazards to safety inherent in the project.

   Safety Plan Execution- carrying out the safety plan by carrying out the activities included

   Administration and Reporting – maintenance of safety records and reporting safety activities

B. **Project Environmental Management –** includes the processes required to ensure that the impact of the project execution to the surrounding environment will remain within the limits stated in the legal permits. Major processes include

   Environmental planning- identifying what are the characteristics of the environment surrounding the construction site and which environmental standards are relevant to the project, and determining what impact the project will bring to the environment and how to satisfy the identified environmental standards.

   Environmental Assurance- evaluating the results of environmental management on a regular basis to provide confidence that the project will satisfy the relevant environmental standards.

Environmental control – monitoring specific project results to determine if they comply with relevant environmental standards and identifying ways to eliminate causes of unsatisfactory performance.

C. **Project Financial Management** – includes the processes to acquire and manage the financial resources for the project and is more concerned with the revenue source and analyzing/ updating net cash flows for the construction project than is cost management.

The major process are

Financial planning- identifying key financial issues to be addressed and assigning project roles, responsibilities, and reporting relationships

Financial control – monitoring key influences and taking corrective measures if negative trends are recognized

Administration and Records – designing and maintaining a financial information storage /retrieval database to enable financial control to proceed in smooth way.

D. **Project Claim Management –** is an important process in construction where it describes the process required to eliminate or prevent construction claims from arising and for the expeditions handling of claims when they do occur.

Major processes are

Claim identification – starts with sufficient knowledge of the scope and contract terms to be aware when some activity appears to be a change in scope or terms requiring a contract adjustment.

Claim quantification- is the quantification of a claim once a decision has been made once an activity has been reviewed and decision is made that it's worthy pursuing a claim.

Claim prevention- is by executing a perfect, well scoped and risk allocated contract that is well executed will very likely not produce any claims. Since perfection cannot be obtained, most owners and contractors do their best towards that goal.

Claim resolution- justifiable disagreements may arise whether claim in question is a change to the contract or not, or whether the claimed amount of compensation or time requested is correct. The process begins with negotiation, perhaps at more than one level, before it moves to mediation, arbitration, and litigation, depending on the remedies afforded by the contract.

Construction projects can be large or small depending on many factors. (Chen, et.al, 2014) conducted a quantitative research on Optimal Project Organizational Structure for Construction Management where the researchers concluded that due to the numerous working interfaces, complicated networks and diversified team members of a large construction project, coordination efficiency among members of the construction team is vital to the project's success. For a simple network or small organization, the organizational structure could be decided based on experience or simple analysis and the impact of poor organization on the execution of such a small project is limited. The researchers recommended that incorporation of the Trend Model that clarifies the evaluation process and uses clear measures and variables to determine the optimal organizational structure instead of intuition. In addition, (Rowilson,1996**)** conducted a study on organizational structures for construction industry in which impact of environment and technological sophistication considered factors that shape project organizations**.** The researcher concluded that complex environments lead to greater decentralization of authority, mainly by delegation. In the dimension of technology, complexity led to a wider use of liaison devices on projects with a greater number of technical functional specialists being used by projects.

A construction project manager combines the responsibilities of a traditional project manager with the expertise of the construction industry (Wright, 2016) .There are number of

common project management challenges that a project manager is expected to work out in order to keep construction on track. They are undefined goals, scope changes (creep), inadequate skilled personnel, lack of accountability, improper risk management, ambiguous contingency plans, poor communications, impossible deadlines, resource deprivation and lack of stakeholder engagement (Wright,2016). **(**Auti and Skitmore, 2008) studied project management in India where 150 participants comprising of architects, engineers, project personnel and building surveyor. The results suggested that though the knowledge of project management exist, barriers for its application was observed. A major difference was also observed between the public and private sectors, with many of the respondents claiming that project management is possible on a large scale in the private sector but not in the public sector. The reason for the difference are government policies such as excessive bureaucracy, poor execution of projects, compromises on quality and standards, personal interests, low transparency and corruption.

(Ogunde et al., 2017) conducted a descriptive research to examine the challenges confronting construction project management system in Nigeria involving fifty nine (59) construction professionals. The result identified that passive participation from project manager, lack of client involvement in making decisions, provision of substandard materials, design error, lack of effective communication and poor treatment of workforce are challenges hampering the use of construction project management. The study recommended that the institutionalization of construction project management practice, compulsion of adequate training and skill modification programs for construction professionals to aid the sustainability of construction project management systems in Nigeria. (Tagesse,2017) assessed the construction performance challenges in selected university building constructions in which owners, contractors and consultants took part in the descriptive research. The results indicated that the challenges were escalation of material prices, unavailability of resources, number of

disputes between owners and project parties, review of failures and solving them and quality of equipment or machineries and raw materials.

2.7. Success in Project and Project Management

Project management cannot succeed unless the project manager is willing to employ the system's approach to project management by analyzing those variables that lead to success or failure. There has been much discussion on the nature and definition of project success but no consensus has emerged. (Bannerman, 2008). Since projects are temporary in nature, the success of the project should be measured in terms of completing the project within the constraints of scope, time, cost, quality, resources, and risk as approved between the project managers and senior management (PMBOK, 2013). Kezner (2000) argued that one of the most difficult task is predicting whether the project will be successful. While looking at time, cost and performance might identify immediate contribution to profits but will not identify whether the or not the project itself was managed successfully. Project Success is often measured by the actions of three groups: the project manager and the team, the parent organizations and consumer organizations as they can stimulate project success.

With extensive review of literature, Bannerman identifies three main streams that have aimed to identify the factors of success. The first stream aims to identify the prescriptive lists of critical success factors, failure factors or risk factors that project managers and governance bodies should take into account to ensure a positive project outcome and yet provides no explicit definition of project success. The second stream focuses on identifying other contingency variables that might impact project outcomes or require specific management intervention to mitigate any potential negative effects. They include project size, project type, life cycle stage, project management complexity and strategic versus operational mindset. The

third stream, often considered with the two streams, has the main interest in defining the criteria by which a project is judged to be success or failure.

Bannerman's Multilevel Project Success Framework that can be considered as an alternative approach to the problem of defining project success (2008).

Level 1- Process success – determination of success at this level considers the appropriateness of processes used, their alignment with the project progress and their integration and effectiveness in contributing to the project outcomes.

Level 2- Project Management Success- traditional criterion of project success determined on closeout against key project design parameters (schedule, budget and performance expectations) referring to project scope.

Level 3 – **Product success** – includes measures relating to the deliverables itself (such as its match to specifications, requirements and quality expectations) and to the client satisfaction (such as product acceptance, use and effectiveness)

Level 4- Business Success- accounted as accrual of positive net benefits to the organizations from the project. Success derives from whether project met the goals and objectives in the business plan, effectiveness and contribution of corporate governance to the project as well as net unintended benefits or negative impacts that arose from the investment

Level 5- Strategic success – Organizational benefits are assessed by external stakeholders such as investors, competitors, industry analysts or regulators. Success at this level will derive from net improvements in industry position, business growth and development, competitive advantage and /or strategic gain.

2.8. Critical Success Factors in Projects

Critical Success Factors (CSFs) also known as key success factors, are defined as limited number (usually 3-8) of characteristics, conditions or variables that have a direct and serious impact on the effectiveness, efficiency and viability of an organization, program or project. Activities associated with CSF must be performed at the highest possible level of excellences to achieve the intended overall objectives (Business Dictionary, 2019). Critical success factor is a variable that can have significant impact that delivers measurable improvements to the project success (Alias et.al, 2014).

(Davies, 2000) argued that in order to get a comprehensive answer of which factors are critical to project success depends on answering three separate questions: ‘‘What factors lead to project management success?’’, ‘‘What factors lead to a successful project?’’ and ‘‘What factors lead to consistently successful projects?’’ In order to answer this questions, the researcher drew on new empirical research from more than 70 large multi-national or national organizations to answer each of this questions and to identify 12 factors that are critical to project success.

The factors that are critical to project management success are those that correlate to on time and on cost performance

F1- Adequacy of company-wide education on the concepts of risk management.

F2- Maturity of an organization’s processes for assigning ownership of risks

F3- Adequacy with which a visible risk register is maintained

F4- Adequacy of an up-to-date risk management plan

F5- Adequacy of documentation of organizational responsibilities on the project

F6- Keep project (or project stage duration) as far below 3 years as possible (1 year is better).

The factors that correlate to on-cost performance are:

F7- Allow changes to scope only through a mature scope change control process.

F8- Maintain the integrity of the performance measurement baseline

The factor that leads to project success

F9- The existence of an effective benefits delivery and management process that involves the mutual co-operation of project management and line management functions.

The factor that leads to consistent corporate success are:

F10 – Portfolio and programme management practices that allow the enterprise to resource fully a suite of projects that are thoughtfully and dynamically matched to the corporate strategy and business objectives.

F11- A suite of project, programme and portfolio metrics that provides direct ‘‘line of sight’’ feedback on current project performance, and anticipated future success, so that project, portfolio and corporate decisions can be aligned.

F12- An effective means of ‘‘learning from experience’’ on projects, that combines explicit knowledge with tacit knowledge in a way that encourages people to learn and to embed that learning into continuous improvement of project management processes and practices

(Spalek,2005) conducted a study on critical success factors in project management in which 82 experts rated factors that have substantial influence on project success. The researcher concluded that the most important factors are i.e. formal establishing the project manager, project manager competencies, high authority of the project manager, clear and measurable goal, formally establishing project team and top management support. The critical success factors were rated to be the establishment of competent project manager with high authority, clear project goal, experienced and competent team and top management. (Ofori, 2013) sought to assess and project management practices and critical success factors for projects in Ghana by conducting an exploratory research. Results indicated that the CSFs that contribute to the success of a project include top management support, effective communication, clarity of

project purpose and goals, and stakeholder involvement. Documentation and dissemination of critical success factors and best practices in project management will improve the quality of project management in Ghana.

Critical Success factors vary by project types, life cycle phases, industries, nationalities, individuals and organizations (Muller and Judgev, 2012). The literature review research conducted by (Gheni et.al, 2017)identified factors related to the success of IT projects as committed and motivated team, internal communications, goals and objectives, use of tools and infrastructure, risk analysis, good estimation, skilled teams and lastly project monitoring in descending order. (Esmaeili, Pellicer & Molenaar,2016) conducted research from reviewing existing literature in which they identified upper management support, commitment, constructability reviews, teamwork, communication, and building trusts as shared key elements of success in most construction activities. The researchers added that previous studies 'major limitation lays in the emphasis on experts' subjective prioritization of CSFs and the limited number of empirical studies where it provides a vast opportunity to investigating CSFs and casual relationship between CSFs and project success. In addition, (Alias et al, 2014) conducted a survey to create a conceptual framework for CSFs in construction projects where Project Management actions, project procedures, Human Related factors, project related factors and External environment were identified as variables of project performance that in which directly influences project success.

(Inayat,2001) conducted a research on finding critical success factors in different construction projects by having international construction and project experts rate 53 factors in which 20,12 and 20 were for schedule, budget and quality performance respectively. The factors of capability of contractor key personnel, capability of consultant key personnel, level of skill labor required, and site access limitation were seen to be commonly significant for all the three objectives. Capability of client key personnel, recruitment and training procedures,

and latent site conditions were commonly significant for schedule and budget performance. Economics risks, adequacy of plans and specifications, pioneering status, project size, realistic obligations, and level of modularization, construction control meetings, and schedule updates were commonly significant for schedule and quality performance. The factor of functional plan was commonly significant for budget and quality performance.

(Pakseresht & Asgari, 2012) studied Critical Success Factors in construction projects of Pars Garma Company, one of the biggest construction companies in Iran with 500 million development budget thus far. The research findings indicate that the CSFs in construction projects have different priorities and weights but considering their importance, they are respectively: Technical and economic assessment of the project required resources, experience and executive records of project manager, project strategic planning, executive experiences of contractor team about the project subject and project control system.

2.9. Critical Success factors in Real Estate Development Projects

(Investopedia, 2019) defines Real Estate as property made up of land and the building on it as well as the natural resources of the land, including uncultivated flora and fauna, farmed crops and livestock, water and minerals.

Real estate is classified into three categories

A. **Residential Real Estate**- includes undeveloped land, houses, condominiums and town houses. The structures might be single-family or multi-family dwellings and maybe owner occupied or rental properties
B. **Commercial Real Estates** includes nonresidential structures such as office building, warehouses, and retail buildings. These buildings may be free standing or in shopping malls

C. **Industrial Real Estate** includes factories, business parks, mines and farms. These properties are usually larger in size and locations. It may include access to transportation hubs such as rail lines and harbors.

The act of manipulating, building on and/or designing and constructing new uses for real estate is known as developing. Developers purchase lands and either create or renovate the property, risking their resources and capital with expectation of investment reward. (Investopedia, 2018)

Real Estate development model usually consists of two sections; Deal summary and Cash Flow summary. The Deal summary includes all important assumptions including schedule, property statistics, development costs, financing assumptions, all listed to calculate the economics and profitability of the project. The cash flow model includes with revenue build up, monthly expenses, financing and finally levered free cash flows, net present value (NPV) and internal rate of return (IRR) of the project. (Corporate Finance institute, 2019)

The development and marketing of real estate, dates back to Europe in middle ages, when European colonists came to the United States (Encyclopedia, 2019). When developers invest in Real Estate Development, they consider many factors such as undeveloped property prices, accessibility of developable land, special investment conditions, developed property prices, tax and local payments, access to infrastructure, access to network, transport and communication junctions, social environment, state of social structure, availability of services, technical infrastructure state, fundamental characteristics of economic activity and competition on the property sale and rent market.

Real Estate Project management is a growing Real Estate development projects have their own CSFs. (Satankari & Jain, 2015) identified 23 success factors in real estate

construction that he grouped into 4 clusters i.e, Financial, Customer, Value Adding and operational. After being rated by 7 International Project Management Experts, the researcher concluded that there are interdependencies among the critical factors in which they were employed into real estate project, they will increase project performance. Volker (2011) evaluated 21 leading Dutch real estate renovation projects by interviewing client, consultant and, architect and contractors to investigate success and fail factors in sustainable real estate renovation projects. The results indicated that the ambition to attain sustainability was not pre-defined but the ambition developed throughout the project, mainly because of the potential sustainable reputation or the parties involved in the project. The composition, management and collaboration of the construction team were found to be very important during the process.

(Ramakrishna et al, 2012) started investigating critical success factors in real estate projects in Indian context though extensive review of prior research. In consultancy with industry professionals, they identified and broadly classified the success factors as client objectives, client core competency, project environment, project leader's performance and project management actions. Inclusive of client, consultant and contractors of 5 major real estate development projects they explored their contribution to project success confined to selected firms in Hyberdad. From among the factors, construction quality under client objectives was emphasized as important factor attached to project success as observed from high rankings and stronger association between consultant and contractor. Economic Environment showed strong positive relationship because due to the down turn of the construction industry and low investors' confidence. Technical skills, motivational skills and commitment towards projects under project team leadership and monitoring and updating plans, implementation of effective safety plan and standardization of operating procedures under project management actions showed positive relationship with project performance and success.

(Gholipour et. al,2019) conducted a research on foreign investments in Australian Residential properties in which the findings showed that foreign investments in existing houses do not increase prices but however a 10 % increase in foreign investment for real estate development decreases house prices by 1.95 %. In addition, the researcher concluded that real estate investments have a positive impact on housing construction activities in the long run.

(Ansah et. al,2019) conducted a quantitative research on constraints on housing supply in urban Ghana from the perspective of real estate developers where result showed that developers consider supply problems be driven by institutional factors such as land tenure arrangements, lengthy procedures in securing building permits and long processes of land acquisition and registration in Ghana.

2.10. Real Estate Development in Ethiopia

"Real estate development is among the government's priorities and aims at meeting nations' housing demands as well as giving a change for the society modern way of life," aceunated President Dr. Mulatu Teshome. Real estate and Construction are two of the 18 sectors in Ethiopia's national income statistics in which they accounted 14.9 % of GDP in 2008/2009 with real estate and construction comprising 9.1 and 5.8 % respectively. During the Derg Regime, large scale private housing construction by real estate developers were forbidden. The introduction of private real estate development started in the 1990's with large scale developments such as Ayat Real Estate and Sunshine Construction. (Yusuf, 2009).

The history of real estate development in Ethiopia is related to urbanization and urban land ownership (Berhanu, 2004). Based on the basis of land ownership, Ethiopia could be categorized into three periods private land ownership Period (pre 1975), Public Ownership (1975-93) and Public ownership with lease rights (post 1993). Private land ownership pre 1975

included landlords who wanted sell parcels of land for individuals who wanted to build houses. Most developers were landlords where they lacked planning or the authority. Public land ownership during the Derg regime showed that main developers were Government, parastatal institutions and public associations. Public ownership of land post 1993 were characterized by changes to laws of property development where it encouraged the private sector to have an active role in the economy (Berhanu, 2004)

The residential real estate market in Addis Ababa is evolving into a varied mix of extensive government-built condominiums (apparently for lower-income groups), mid-market developments by housing cooperatives, and largely high-end homes built by real estate developers and/or homeowner themselves (Mulugeta,2017). At present, residential homes and neighborhoods built by real estate developers are now becoming more common (Tadesse, 2013). Dominant Real Estate developers are Sunshine Real Estate, Ayat Real Estate, Habitat for flower Real Estate, Ropack International, Ambassador Real Estate, Trancon Real Estate, Gift Real Estate, Enyi Real Estate, Country Club developers, Akasas Real Estate and Flintstone homes are to name a few(Access Capital,2010).

(Mulugeta,2017) stated that housing is a significant issue in determining a country's development both in developing and developed states as well as in the urban and rural areas. Among the motivating factors for foreign real estate investors in Ethiopia are availability of cheap and young labor, excess demand of house due to rapid urbanization, increasing of per capita income due to rapid economic growth and availability of raw materials especially land, suitable business place in comparison to other African countries Among the challenges were legal challenges such as no legally designed regulations in Ethiopia, institutional challenges related to the institutional arrangement and support for investors, financial related challenges i.e. access to finance and poor housing financial institution in the state and labor related problems such as large number of unskilled labor that makes it difficult to get skilled

professionals as well as priority is not given. To sum up, priority of the real estate investment is not highly encouraged by the government of Ethiopia. (Mulugeta 2017).

Gift Real Estate Plc Founder and Manager Gebreyes Igeta 'the real estate sector has yet not developed as expected'. The main reason, according to him, is associated with the fact that real estate development is a recent phenomenon in Ethiopia. Besides, lack of experience, knowledge and skill gaps, shortage of input and advanced technologies are also major challenges of the sector. However, currently the sector is progressing better now than before (Gebrezgabiher, year).' A detailed review of policy amid at expanding the sector has been forwarded for the Council of Ministers. Once it is approved by Parliament and executed, it would solve the bottlenecks in the sector.' Ayalnesh Workneh, Deputy Head of the Ministry of Urban Development and Housing Public Relations Office.

2.11. Synthesis

Extensive review was conducted on conceptual, theoretical and empirical literature that indicated potential success factors in construction and real estate development projects specifically. The researcher has selected critical success factors from the published study i.e. 'Determinants of the Success of Real Estate Projects: A Study of Select Firms in Hyderabad' by (Ramakrishna N., Aswin Kumar,M., Vivek Kumar, D. and G. Arun Kumar,2012) . Five major factors were identified i.e. client objectives, client core competency, project environment, project team leaders performance and project management actions.

Client objectives often have impact on the project performance and the factors low construction cost, high construction quality and quick construction time. Client's competency give an idea of the knowledge of the project, in pre-contract design and documentation process, where the client should be fully conversant with the requirements of the finished building, consequently reducing the level of errors and omissions leading to variations and disputes.

Project environment external influences on the construction process. Broadly they may be grouped as physical, economic, socio-political and industrial relations. The project team is a combination of diverse groups that fulfill the necessary design, detailing and construction function whose performance depends on the skills and experience of project team leaders i.e. project manager, design team leader and construction team leader. The project management actions is primarily a system concerned with decision making for planning and controlling organizational objectives inclusive of choosing an overall strategy, setting specific objectives, designing structures and processes, selecting people, delegating responsibility, evaluating results and initiating changes. The 'iron triangle' of project that is time, cost and quality are the adopted success criteria to measure the success level of real estate construction projects and are used as dependent variables. In addition, the construction project being real estate development, the perception of the end users, i.e. buyers of the developed residential properties were included as success measures in the form of buyer satisfaction, current occupancy by the buyer and future purchase from the same real estate.

Conceptual Framework

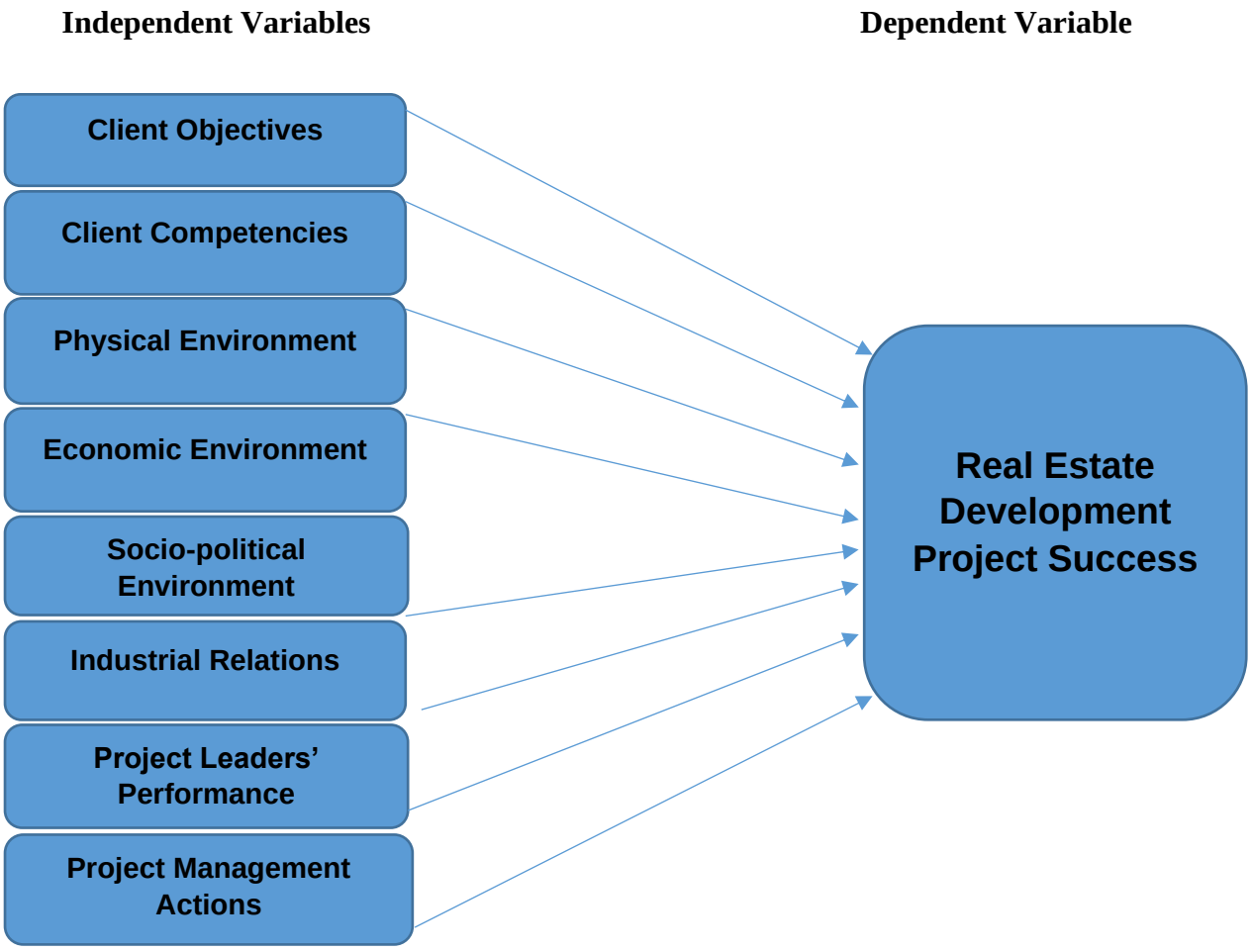

Figure 2.1 Conceptual framework of Critical Success Factors and Real Estate Development Project

Adopted from: Ramakrishna N., Aswin Kumar,M., Vivek Kumar, D. and G. Arun Kumar (2012) Determinants of the Success of Real Estate Projects: A Study of Select Firms in Hyderabad

CHAPTER THREE RESEARCH METHODOLOGY

3.1. Introduction

This chapter presents the research paradigm, approach, design and methods used for the purpose of the assessment of critical success factors in real estate development projects. The target population includes project teams of three real estate in Addis Ababa City Administration. Three real estates, i.e. Sunshine, Noah and Tsehay real estate were selected for the purpose of the study where as their real estate development teams took part in the qualitative assessment. The project team includes project managers, engineers, office and foremans.

3.2. Research Paradigm, Approach and Design

3.2.1. Research Paradigm

According to (Crotty, 2003), an epistemological assumption is a way of understanding and explaining how we know what we know (In this respect, this study employs the interpretive paradigm which, according to (Cohen, Manion and Keith, 2007), seeks to understand the subjective world of human experience. The study begins with individuals and sets out to understand their interpretations of the world around them. As such members of project teams in respective real estate projects are the ones who make sense of their reality, the researcher only holds the task of analyzing the views of participants. Furthermore, the study also positions itself within the constructivist ontological assumption which is a philosophical standpoint that holds the belief that what is to be studied is a social construction instead of an objective reality.

3.2.2. Research Design and Approach

The research was conducted to assess the critical success factors in real estate development construction projects in Addis Ababa. The research design was descriptive as it intended to generate evidence to a field that has not been well studied before in the context of

Ethiopia. The research approach was of a quantitative approach. The researcher intended to identify and adapt success factors from the published study in by (Ramakrishna N., Aswin Kumar,M., Vivek Kumar, D. and G. Arun Kumar,2012) on "Determinants of the Success of Real Estate Projects: A Study of Select Firms in Hyderabad" in which it was incorporated to the questionnaire. The study was conducted on three real estate development projects Bole Beshale, Dodi 1 and Polilotus international undertaken by Sunshine, Noah and Tsehay Real Estates.

3.3. Population and Sampling

The real estate development companies were selected based on convenient sampling. The target population was inclusive of real estate development project teams of the selected real estate's development projects that have been completed or on closing real phase stratified based on their respective projects i.e. Bole Beshale from Sunshine Real Estate, Polilotus International Center from Tsehay Real Estate and Dodi 1 from Noah Real estate. The project team of the respective projects was inclusive of project managers, engineers (Site engineers, finishing engineers and office engineers) and foremen. Convenience sampling was used to select the sample elements. Within that scope and project document collected from the real estates, the size of target population for Bole Beshale, Polilotus International and Noah Dodi project teams will be 26, 22 and 24 respectively. By using Yamane formula, the sample size will for each strata i.e. Sunshine, Noah and Tsehay is 24, 21 and 22 respectively.

$$n = \frac{N}{1 + N(e)^2}$$

Where n = The sample size

N= The size of the population

e= the error of 5 percentage point

where n= the sample size N1=26 N2=22 N3 =24

Type of Primary Data collection	Target population	Sampling Method	Sample size
Structured Questionnaires	72 Sunshine(Bole Beshale Real Estate Development) – 26 Noah(Dodi 1) – 22 Tsehay(Polilotus International)- 24	Convenience Sampling	64 Sunshine- 24 Noah- 21 Tsehay- 22

3.3.1. Sample Design

Stratified sampling was applied to select the three real estate as well as classify the target population into three based on the real estate company they are employed namely Sunshine, Noah and Tsehay. The target population included project team members of Bole Beshale Real Estate Project, Polilotus International Center and Noah Dodi 1 projects from Sunshine, Tsehay and Noah respectively. The sampling design was of non-probability where convenience sampling technique was employed for the selection of respondents. The project team members were inclusive of project managers, engineers, and foremen. The target population for Sunshine, Noah and Tsehay was 26, 22,and 24 respectively.

3.4. Data Collection

The data was collected in the form of structured questionnaires. The structured questionnaires were adapted from the study published in 2012 by (Ramakrishna et. al,2012) on "Determinants of the Success of Real Estate Projects: A Study of Select Firms in Hyderabad" where they identified 5 success factors; Client Objectives, Client Core Competency, The

Project Environment, The Project Team leadership and The Managerial Actions. Due to the diverse and broad nature of project environment, the project environment was further classified into independent variables i.e. physical environment, economic environment, Socio-political and Industrial relations. These has resulted in overall 8 independent variables. The questionnaire was prepared and distributed in Amharic, English and Chinese. The questionnaires were distributed to all the Project Managers, Engineers and Formans of the respective real estates on May 18-22. They were filled in and returned from May 27-June12. An oral consent to conduct this data collection was provided to the researcher from the real estates in reply to the letter of assistance from Addis Ababa University.

3.5. Data Analysis and Interpretation

Data obtained from the closed question questionnaires is described in (Bryman, 2012) as Pre-coded questions because such questions removes the need for the application of a coding frame to the question after it has been answered. This is because the range of answers has been predetermined and a numerical code have been pre-assigned to each possible answer. This is particularly appropriate in multiple-indicator (or multiple-item) measures of concepts, like Likert scales which produce strictly speaking ordinal variables. Subsequently, spearman's test of correlation was utilized for the analysis of pairs of ordinal variables on top of tables of frequency. To this end, IBM SPSS was used as a data analysis software.

3.6. Scale Reliability and Validity

The internal validity of the data was measured using Cronbach's alpha test which resulted in a significance level of above 0.70 except for the success factor physical environment that resulted in 0.624. According to Westergaard et al. (1989), Cronbach's alpha level 0.70, is 'a satisfactory level'; consequently, the measure of alpha for this study thus shows a satisfies the level of internal reliability. Moreover, with regards to validity concerns it should be noted

that measurement/construct validity is closely related to reliability (Bryman, 2012); hence, since the internal reliability of the data is high, measurement/construct validity of the study is high.

Independent variables	**Cronbach Alpha**
Client Objectives	.719
Client Core Competency	.715
Physical Environment	.624
Economic Environment	.736
Socio-political Environment	.750
Industrial Relations	.703
Project Leaders Performance	.769
Project Management Actions	.771

3.7. Ethical Consideration

The researcher has given due emphasis to a wide range of ethical consideration. Verbal consent was obtained for each person who filled out questionnaires. Moreover, the confidentiality of the information obtained was explicitly explained to each respondent and the data was treated as such with the utmost regard to the issue of secrecy. All questionnaires were scanned and kept in a password protected personal computer. In addition, no names of the people who participated in the study were obtained to keep anonymity of the participants. The raw data entered into analysis software is also kept in a password protected personal computer.

The real estate companies that took part in this study also gave verbal consent to have their identities and projects to be public information in this study via an administration personnel. With regards to the use of sources and literature, all institutions and people whose work and publications have been used in this study were given recognition and credit by in text citation and in referencing as per the Harvard style.

CHAPTER FOUR RESULTS AND DISCUSSION

4.1. Introduction

This chapter is dedicated to the data analysis and interpretations of the results emanating from the data collected using structured questionnaires from project teams belonging to Bole Beshale Real Estate Development of Sunshine Real Estate, Dodi1 Site of Noah Real Estate and Polilotus International of Tsehay Real Estate. A total of 64 questionnaires were given out to all the project teams from May 18-22, 2019 and 55 were returned by May 29-June 12, 2019 which makes the response rate 85.93 %.

4.2. Characteristics of the Respondents

The respondents that took part in this research were 14 project managers 18, engineers and 23 foremen that are engaged in their respective projects at Sunshine, Noah and Tsehay Real estates. From among the respondents, 50.9 % and 45.5 % were male and female respectively which indicates a balance between the compositions of both genders. The age wise distribution of the sample is dominated by the age range of 26-33 which is 47.3 % followed by 18-25 with 25.5 % of the population which indicates a young generation of professionals. The remaining respondents were from the age of 42-49 which made up 16.4 % where as the age range 34-41 constituted 10.9 %. Education level distribution indicate that 41.3 % of the respondents are undergraduate degree holders followed by vocational diploma holders that constitute 34.5 %. Graduate degree holders are 11 where as post graduate degree holders were 2. The composition of the respondents by company of employment indicate that 36.4 % ,30.9 % and 32.7 % were engaged in real estate development projects at Sunshine, Noah and Tsehay Real Estate respectively.

Table 4.1 General Characteristics of Respondents

General characteristics		Frequency	Percentile
Gender	Male	28	50.9%
	Female	25	45.5%
Age	18-25	14	25.5%
	26-33	26	47.3%
	34-41	6	10.9%
	42-49	9	16.4 %
Education level	Vocational Training	19	34.5%
	Undergraduate degree	23	41.3%
	Graduate Degree	11	20%
	Post graduate degree	2	3.6%
Job positions	Project managers	14	25.5%
	Engineers	18	32.7%
	Forman	23	41.8%
Company of Employment	Sunshine Real Estate	20	36.4%
	Noah Real Estate	17	30.9%
	Tsehay Real Estate	18	32.7%

Source – Own Survey (2019)

4.3. Descriptive analysis of Critical Success Factors

A series of questions were presented for the respondents to rate critical success factors they considered to be important for the successful completion of real estate construction projects. Those factors were client objectives, client core competencies, physical environment,

economic environment, socio-political environment, industrial relation, project team leader's performance and project management actions. The respondents uses Likert scale to rate critical success factors importance

1= very low 2= low 3=average 4= high 5= very high

And rate their respective project success as

1= strongly disagree 2= disagree 3=neutral 4= agree 5= strongly agree

A ratio from the difference of 1-5 was used to discuss the degree of central tendency. Adopted from (Chilesh, N and G.J Kikwasi, 2014)

1-1.80 (Very low) 1.80 – 2.60 (Low) 2.60 – 3.40 (Average) 3.40 – 4.20 (High) 4.20 – 5 (Very High)

4.3.1. Client Objectives

All the critical factors presented for the respondents were picked as important for the success of construction projects in the real estate companies in this study. From among these client objectives specifically, quick construction time is the most critical success factor with 80 % of the respondents ranking as high and above on a Likert scale with a high content mean of 4.20 whereas (Ramakrishna et. al, 2012) studied the determinant success factors in Real Estate projects in India where they found that construction quality was the most critical factor. High construction quality on the other hand was picked as the second most important critical factor in client objectives with a 87.2% of the respondents rating it as high and above on a Likert scale, with high mean value of 4.09. Low construction cost was given somewhat average emphasis by the respondents as an important factor for project success with 52.1%, 27.3% and 20% of the respondents responding from high and above, average and low and below rating with an average mean value of 3.49 and highest standard deviation of 1.200. The overall mean of the client objectives indicates 3.9 average with .63080 standard deviation, lowest than that off all separately.

Table 4.2 Client objectives

Factors	Very low		Low		Average		High		Very high		Mean	Std.D
	Fr	PCT	Fr	PCT	Fr	PCT	Fr	PCT	Fr	PCT		
Low construction cost	4	7.3%	7	12.7%	15	27.3%	16	29.1 %	13	23.6%	3.49	1.200
Quick construction time	-	-	3	5.5%	8	14.5%	19	34.5 %	25	45.5%	4.20	.890
High construction quality	3	5.5%	1	1.8%	3	5.5%	29	52.7 %	19	34.5%	4.09	.986

	Overall Mean	Std. Deviation
Client Objectives	3.9273	.63080

Source – Own Survey (2019)

The purpose of project management is to develop and implement plans to achieve a specific scope driven by the project objectives that is subjected to client organizational strategies. According to the respondents, quick construction time is the most critical success factor for project success from followed by high construction quality and low construction cost respectively. This indicates that real estate investment is highly time sensitive which shows buyers tend to make purchase decision based on delivery time and construction quality. Moreover, high construction quality is of a high significance to buyers in the same fashion delivery on agreed upon time. The clients setting their objectives accordingly contributes highly to project success in real estate development projects (Kezner, 2000) argued that project success is often measured by the actions of three groups: the project manager and the team, the parent organizations and consumer organizations as they can stimulate project success. CONSIG CWG emphasis that cost is an important consideration but however cost does not

take into account other factors. Cost does not focus on the ways in which quality can enhance profit beyond reducing waste. The impacts of poor quality in construction has adverse consequences that might indirectly affect profits such as increased cost, reduced health and safety, loss of reputation and more management time.

4.3.2. Client Core Competencies

All the critical success factors defining client core competencies were rated as average to very high importance to the projects' success by more than 85 % of the respondents. From among these factors, the ability of clients to make authoritative decisions scored was rated as the most important with 48.8 % and 45.5% of the respondents rating as above high and average respectively with highest mean score of 3.66. Following, the ability to contribute ideas to the design process was rated by 51.9 % as high and above importance and 33.3 % of the respondents ranking it with average importance to project success. The mean 3.59, indicated that it leans towards high importance. The ability of clients to define the roles of participating organizations was rated by 48.5% of the respondents as high and above with 3.53 mean where the average response leans towards high significance towards project success. The ability to effectively brief design teams was ranked as average and above by 87% of the respondents where the average score indicate a 3.47. The overall mean of the responses is 3.5 indicating high importance of client core competencies to project success.

Table 4. 3 Client core competencies

Factors	**Very low**		**Low**		**Average**		**High**		**Very high**		**Mean**	**Std. D**
	Fr	**PCT**	**Fr**	**PCT**	**Fr**	**PCT**	**Fr**	**PCT**	**Fr**	**PCT**		
Ability to effectively brief design teams	-	-	7	12.7 %	23	41.8%	17	30.9%	8	14.5%	3.47	.900
Ability to quickly make authoritative decisions	-	-	1	1.8%	25	45.5%	18	32.5%	9	16.4%	3.66	.786
Ability to effectively define the roles of participating organizations(Consultants and Contractors)			6	10.9	19	34.5%	25	45.5%	5	9.1%	3.53	.813
Ability to contribute ideas to the design process	1	1.9	7	13	18	33.3	15	27.8	13	24.1	3.59	1.055

	Overall Mean	Std. Deviation
Client Core Competencies	3.5697	.68112

Source – Own Survey (2019)

The results clearly indicate the importance of client involvement and competency in the project management of real estate development projects. The descriptive research undertaken by Ogunde et al. (2017, p.1) to examine the challenges confronting construction project management system in Nigeria involving fifty nine (59) construction professionals showed that the lack of client involvement in making decisions were major part of the problem. Bannerman(2008) Multilevel Project Success Framework indicates level 3 which is product success includes measures relating to the deliverables itself (such as its match to specifications, requirements and quality expectations) and to the client satisfaction (such as product acceptance, use and effectiveness). Indeed, if that success to be achieved, it's critical that the client's ability to clearly state their ideas and of objectives, divide and distribute roles and responsibilities as they see fit and make authoritative decisions when necessary.

4.3.3. Physical Environment

The project environment was classified as physical, economic, socio-political and industrial environments. Due to the broad and diverse nature of the project environment, each sub classification was treated as an independent variable. The sub classification in physical environment presented for the respondents were geographical locations, weather conditions, water supply, soil type and access to infrastructure where more than 75% of the respondents rated them as having average to very high importance to project success. Evidently, the percentage of the respondents that rated these factors very high and above are less than those that rated them as average importance.

From among these critical success factors, 47.75 of the respondents emphasized that access to infrastructure as the most critical for real estate development project performance with above high rating, high mean of 3.59 and with the least standard deviation of .804. The results agree with (Access Capital, 2009) report that the observed increase in the scope and scale of real estate activity in Addis Ababa has been driven by multiple factors. The factors include as overall economic growth, rise in urban population, a long-standing backlog of unmet housing demand, the expansion of city roads and infrastructure, tax and investment schemes, extended lease periods, and reduced income tax incentives.

The type of soil where construction takes place was rated high and above by 37.2% whilst 52.9 % found it average. The mean, 3.47, indicates it average and above importance following access to infrastructure. The average mean of the responses regarding water supply to real estate development site was 3.36 where 40 % & 40% of the respondents implied of its average and high and above importance. The geographical location of the development was rated as high and above by 40 % and 41.8 % of the respondents emphasizes on its average importance where the mean,3.18 indicate the same values. Lastly, the weather condition in which the development is taking place was ranked as the least critical with 3.18 mean and standard deviation of 1.107. The overall mean i.e, 3.3309 indicates that it has average importance to project success. The physical environment in which real estate development is undertaken is quite important. The natural surroundings as well as constructed one influences the setting in which project teams supposed to implement the project plan.

Table 4.4 Physical environment

Factors	**Very low**		**Low**		**Average**		**High**		**Very high**		**Mean**	**Std.D**
Physical Environment	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**		
Geographical location	7	12.7%	3	5.5%	25	41.8 %	17	30.9 %	5	9.1%	3.18	1.107
Weather conditions	4	7.3%	9	16.4 %	24	43.6. %	13	23.6 %	5	9.1%	3.11	1.031
Water supply	2	3.6%	9	16.4 %	22	40%	11	20%	11	20%	3.36	1.095
Soil type	-	-	5	9.8%	27	52.9 %	9	17.6 %	10	19.6 %	3.47	.924
Access to infrastructure	-	-	2	3.9%	25	49%	16	31.4 %	8	15.75 %	3.59	.804

	Overall Mean	Std. Deviation
Physical Environment Valid N (listwise)	3.3309	.74396

Source- Own Survey (2019)

4.3.4. Economic Environment

Economic environment is further sub classified to access to quality resources, availability of funds, and economic stand of a nation, inflation, financial liquidity and labor availability. Labor availability was rated as the most important factor with 71% of the

participants rating as high to very high importance with highest mean of 3.81. It is then followed by inflation where 96.2 % of the respondents ranked it as average and above importance to the success of a project. The access to quality resources the real estate development has with 63.7 % rating it as above high on Likert scale and 3.65 average mean of the responses. The availability of funds was rated as above high by 56.7 % of the respondents where the average mean is 3.60. Economic stand of a nation was rated as low, average, high and very high by 20%, 39.2%, 26.4% and 13.2 % respectively making the mean 3.32. The financial liquidity of the client company was rated as the least critical factor with 3.22 mean and 38.9 % of the respondents as rating it high and above importance whilst 14.8 % rated it as low and below on the Likert scale.

Tagesse(2017, p. 117) assessed the construction project performance challenges in selected university buildings in which the results indicated that the challenges were escalation of material prices, unavailability of resources, number of disputes between owners and project parties, review of failures and solving them and quality of equipment or machineries and raw materials. The result of the study indicates that the availability of labor is quite important as real estate development is labor intensive and requires many skilled and unskilled labor to build the properties. In addition, gaining access to quality resources means developing real estate properties that are of higher quality. This complements the results of the study that it's quite critical that a project's access quality resources determines partly its success, especially in real estate industry. The financial liquidity rated by the respondents confirm to the fact that most real estate companies operate on loans and reinvestment of sales revenue to new real estate development projects. Though the availability of funds that cover the costs of real estate developments projects is highly critical, the liquidity of the firm is not as so.

Table 4.5 Economic Environment

Economic Environment	**Very Low**		**Low**		**Average**		**High**		**Very High**		**Mean**	**Std. D**
	FR	PCT	FR	PCT	FR	PCT	FR	PCT	FR	PCT		
Access to quality resources	-		6	10.9 %	13	23.6 %	25	45.5 %	10	18.2 %	3.65	1.022
Availability of funds	-	-	9	16.4 %	15	27.3 %	20	36.4 %	11	20%	3.60	.993
Economic stand of a nation	-		11	20%	21	39.2 %	14	26.4 %	7	13.2 %	3.32	.956
Inflation	1	1.9 %	1	1.9%	20	38.5 %	20	38.5 %	10	19.2 %	3.71	.871
Financial liquidity	4	7.4 %	4	7.4%	25	46.3 %	33.3	33.3 %	3	5.6 %	3.22	.945
Labor availability	-	-	3	5.8%	10	19.2 %	20	38.5 %	17	32.5 %	3.87	1.172

	Overall Mean	Std. Deviation
Economic Environment Valid N (listwise)	3.5691	.60895

Source – Own Survey (2019)

4.3.5. Socio Political Environment

Socio- political environment is further classified to political stability, occupational and safety act, government expenditure on construction and demographic change. All four factors were rated as high and above importance by less than 50 % of the respondents. Occupational

health and safety act was rated as high importance and above and average by 47. 2% and 37.7% respectively, making it an average critical factor by 3.4 average. The political stability of a nation was given high and above importance by 33.9 whilst 47. 2% found the critical success factor as average, making it second in line with average mean of 3.13. Demographic change in age, sex and religion was rated by 34.8 as high and above, 34.8 average and 30.4 as low and below, resulting in a mean of 3. Lastly, government expenditure on construction was rated as low and below importance by 43.4 % of the respondents whilst 32.1 found it average resulting in 2.64 mean, making it the least critical. The overall mean of socio-political factor as a whole indicates its average importance compared to others with 3.0 mean.

These indicates that government spending on infrastructure and other public entities has more of low importance than anything else. The participant responses regarding demographic change seems to be conflicted between low, average and high importance with average of 3. Political stability is an important factor for real estate development as any instability stagnates the economy because individuals would rather stay financially liquid rather than invest in any fixed assets. Evidently, the Occupational and Safety act that has been around since 1940s have seldom been implemented and yet the respondents have given it an average importance.

Table 4.6 Socio political environment

Socio Political Environment	**Very low**		**Low**		**Average**		**High**		**Very High**		**Mean**	**Std. D**
	FR	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**		
Political Stability	4	7.5%	5	9.4%	25	47.2 %	13	24.5%	5	9.4%	3.13	1.093

Occupational Health and Safety Act	4	7.5%	4	7.5%	20	37.7 %	17	32.1%	8	15.1 %	3.40	1.080
Government Expenditure on construction	12	22.6 %	11	20.8 %	17	32.1 %	10	18.9%	3	5.7%	2.64	1.194
Demographic change	7	15.2 %	7	15.2 %	16	34.8 %	11	23.9%	5	10.9 %	3.00	1.211

	Mean	Std. Deviation
Socio Political Environment	3.0236	.83691
Valid N (listwise)		

Source – Own Survey (2019)

4.3.6. Industrial Relations

Industrial relations is sub classified to institutional factor, organizational structure of labor force, social and diversity of labor force and placement of conflict management. Placement of conflict management system was rated as an average success factor and yet with average importance indicator mean of 3.37. Placement of conflict management system is among critical success factors because it allows project manage to set goals, solve problems and settle personality differences which in return will have a positive impact in the completion of a project within time and budget. In following, social and cultural diversity was given high and above importance by 27. % of the respondents whilst 51.1 % found it average. Institutional factor such as government policy and labor legislation was found to be average importance indicated by 3.08 average mean with the lowest standard deviation of .796. (Mulugeta,2017) emphasized that from among the challenges that foreign real estate investors faced were legal

challenges such as no legally designed regulations and institutional arrangement and support for investors. To sum up, priority of the real estate investment is not highly encouraged by the government of Ethiopia Lastly, organizational structure of the labor force of a nation was rated below average indicated by the average mean of 2.98. The overall mean of the industrial relations factor indicates that it is slightly more critical than socio-political environment with average mean of 3.1503.

Table 4.7 Industrial Relations Environment

Industrial Relations Environment	**Very low**		**Low**		**Average**		**High**		**Very high**		**Mean**	**St. D**
	FR	PCT	FR	PCT	FR	PCT	FR	PCT	FR	PCT		
Institutional factor(government policy & labor legislation)	-	-	11	21.6%	28	54.9%	9	17.6%	3	5.9%	3.08	.796
Organizational structure of labor force	4	7.8 %	6	11.8%	30	58.8%	9	17.6%	2	3.9%	2.98	.883
Social and cultural diversity	-	-	10	21.3%	24	51.1%	8	17%	5	10.6 %	3.17	.892
Placement of conflict management	3	5.9 %	5	9.8%	20	39.2%	16	31.4%	7	13.7 %	3.37	1.03 8

	Overall Mean	Std. Deviation
Industrial Relations	3.1503	.66438

Source – Own Survey (2019)

4.3.7. Project Team Leaders' Performance

The project team leaders' performance is further classified to effective design team leader, effectiveness of construction team leader and measures of project team leader's performance. The character of an effective design team leader who is highly experienced professional that keeps the top management constantly informed of the wellbeing and progress of the project was rated as the most critical factor with an average mean of 3.96 and 68. 1% giving it high and above importance. Following the rank is the project manager's commitment to time, cost and quality objectives with average mean of 3.90. The experience and capabilities were rated by 83.1 % of the respondents as average and above critical factor which resulted in 3.84 average mean. The effectiveness of construction team leader that results in high construction performance which results in high time performance. The majority of the respondents, 93.6% to be exact, supported the fact that it has very high to average importance to high project performance on Likert scale and the average mean confirming with 3.81 value followed by Motivating skills with 3.80 mean value.

Moreover, more than 90 % of the respondents agreed that technical, organizational, coordinating, and motivating skills have average to very high importance to project success with 98. %, 96%, 98.1% and 96.1 % of the respondents respectively. Technical, planning, coordinating and organizing skills were somewhat rated to have equivalent importance with average mean of 3.78. A resourceful and knowledgeable professional team leader that ensures

the clients requirements brief is thorough, properly implemented and monitored and the project leader's working relationship with others resulted with the average mean value of the respondents that is 3.69 and 3.65. Though the early and continued involvement was rated by 54% of the respondents as high and above importance, the average mean indicate that it's the least critical with 3.58 value.

The analysis of the data collected clearly indicated that a design team leader that communicates with top management of progress matched with an effective construction team leader had a huge impact on the completion of the real estate development project on schedule where it will in return satisfy buyers whose homes have been delivered on time. The project leader's experiences and capabilities acquired over time, had an impact on its leadership skill that to the efficiency and effectiveness of project teams. The commitment to cost, time and quality objectives by project leaders led to team members to work accordingly to achieve project success.

Table 4. 8 Project Team Leader's Performance

Factors	**Very low**		**Low**		**Average**		**High**		**Very High**		**Mean**	**Std D**
	FR	PCT	FR	PCT	FR	PCT	FR	PCT	FR	PCT		
Effective Design team leader	-	-	4	7.8 %	19	37.3 %	17	33%	11	20 %	3.69	.905
Effectiveness of construction team leader	1	2.1	2	3.6	11	23.4	24	51.1	9	19	3.81	.876
Project leaders commitment to project objectives	1	2%			17	33.3	18	35.3		29.4	3.90	.900.

Technical skills	1	2%			21	38.2 %	16	31.4 %	13	25. 5%	3.78	.901
Planning skills			3	5.9%	17	30.9 %	19	37.3 %	12	23. 5%	3.78	.879
Organizing skills			2	3.9%	22	43.1 5	15	29.4 %	12	23. 5%	3.78	.874
Coordinating skills	1	2%			21	41.2 %	16	31.4 %	13	25. 5%	3.78	.901
Motivating skills			2	3.6%	20	36.4 %	15	29.4 %	14	27. 5%	3.80	.895
Early and continued involvement			4	8%	16	32%	22	40%	7	14 %	3.58	.971
Experience and capabilities			4	8%	16	29.1 %	22	40%	7	14 %	3.84	.946
Adaptabilities to changes in the project plan			5	9.8%	16	31.4 %	23	45.1	7	13. 7	3.63	.848
Support by the parent company			6	11.8 %	18	35.3 %	19	37.3 %	8	15. 7%	3.59	.900
Working relationships with others			2	3.9%	19	37.3 %	25	49%	5	9.8 %	3.65	.716

	Overall Mean	Std. Deviation
Project team leader performance	3.7462	.65311

Source – Own Survey (2019)

4.3.8. Project Management Actions

Several sub classifications were made to the critical success factor of Project Management actions. From among the many, holding regular meeting was rated as the most critical by 69.8 % of the respondents with 3.82 average mean value of the responses followed by development of good reporting system with 3.81 mean. Controlling the project progress was ranked by 64.1 % of the respondents as high and above critical factor for success resulting in 3.79 mean value. Implementing an effective quality assurance program was rated as high and above by 49% of the respondents and computing the mean responses resulted in 3.75. Implementation of an effective safety program and placement of standard procedures were rated as high and above importance by 49% and 59.4% by the respondents respectively, and in addition, the computation of their respective means resulted in similar yet slight difference of 3.68 and 3.65 respectively. Planning and installing communications system was rated as having above high importance by more than 50% of the respondents whereas 32.1% of the respondents rated as average. In accordance, the average mean resulted in 3.62 with high deviation of 1.023. Developing appropriate organizational structure was rated by 41 % of the respondents with high and above importance to project success. The mean of those responses resulted 3.58. Lastly, According to the respondents, Monitoring and updating plans was rated as high and above by 47.2 % while 34% rated as average where the mean value turned out to be 3.58, making it the least critical factor in this category according to the respondents

Table 4.9 Project Management Actions

Factors	**Very Low**		**Low**		**Average**		**High**		**Very High**			
	FR	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**Mean**	**Std.D**
Planning and installing communication system			8	15%	17	32.1%	15	28.3%	13	24.5%	3.62	1.023
Monitoring and updating plans			10	18.9 %	18	34%	15	28.3%	10	18.9%	3.47	1.012
Developing appropriate organizational structure			5	9.4 %	21	39.6%	18	34%	9	17%	3.58	.887
Controlling project progress	1	1.9%	4	7.5 %	14	26.7%	20	37.7%	14	26.4%	3.79	.988
Implementing an effective safety program			2	3.8 %	25	47.2	14	26.4	12	22.6%	3.68	.872
Development of good reporting system			4	7.5 %	19	35.8%	13	24.5%	17	32.1%	3.81	.982
Implementation of effective quality			1	1.9 %	21	39.6%	21	39.6%	10	18.9%	3.75	.782

assurance program												
Holding of regular meetings			2	3.8 %	14	26.4%	23	43.4%	14	19.2%	3.92	.829
Development of standard procedures	3	5.8%	1	1.9 %	17	32.7%	21	40.4%	10	19.2%	3.65	1.008

	Mean	Std. Deviation
Managerial actions	3.7124	.74710
Valid N (listwise)		

Source: Own Survey (2019)

Table 4. 10 Ranking of Critical Success factors according to respondents

Critical success factors	**Ranking according to mean**	**Standard Deviation**
Client Objectives	3.9273	.63080
Project Team Leaders Performance	3.7462	.65311
Managerial Actions	3.7124	.74710
Client Core Competency	3.5697	.68112
Economic Environment	3.5691	.60895
Physical Environment	3.3309	.74396
Industrial Relations Environment	3.1503	.66438
Socio-Political Environment	3.0236	.83691

Source: Own Survey (2019)

4.3.9. Project Success Assessment

The project success assessment was made by the respondents perception of the project success measured by its completion within the planned cost, time and quality standards. In addition, it was measured by the real estate success indicators which are buyer satisfaction, current use of property and future plans of another purchase by buyer .From among the indicators, 80.4% of the respondents agreed that current owners of real estate company will make future plans to buy another with the highest mean of 4.27 and lowest standard deviation .676. Following, the majority of the respondents, 87.8 %, responded that it's their perception that the buyers of the real estate developments are satisfied with their purchase with an overall mean of 4.14. From among the respondents, 80 % agreed that their real estate development project was completed on time resulting in 4.04 mean value where as 85.7 % agreed that the developed properties were completed within or higher quality than predetermined, resulting in the average response to 4.02. When asked if the buyer of the residential properties were using this properties, 71.5% of the respondents agreed to that notion with average mean of the response resulting in 4.00. Lastly, the 61.4% of the respondents agreed that the project is or being completed within or below budget. The overall mean for project success indicators resulted in 4.0399 where it indicates high agreeability that according to the perception of respondents, their project is a success.

Table 4. 11 Project Success Assessment

Factors	**Strongly disagree**		**Disagree**		**Neutral**		**Agree**		**Strongly agree**			
	FR	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**FR**	**PCT**	**Mean**	**Std D**
The project was completed on time or earlier	-	0	3	5.9%	7	13.7 %	26	51%	15	29.4 %	4.04	.824
The project was completed within or below budget			3	6.4%	15	31.9 %	26	55.3 %	3	6.1%	3.62	.709
The project was completed within or higher quality	2	4.1%	1	2%	4	8.2 %	29	59.2 %	13	26.5 %	4.02	.901
The buyer was satisfied			3	6.1%	3	6.1 %	27	55.1 %	16	32.7 %	4.14	.791
The buyer is using the property					14	28.6 %	21	42.9 %	14	28.6 %	4.00	.764
The buyer will come for future purchase					6	12.5 %	23	47.9 %	19	39.6 %	4.27	.676

	Mean	Std. Deviation
Project Success Indicators	4.0399	.59120

4.4. Relationship between Critical Success Factors and Project Success

This table lists the correlation of the critical success factors with project success on descending manner. According to the respondents, Project Management Actions, Project Team Leader Performance and Client Core Competency has indicated a positive strong correlation with project success.

Table 4. 12 Relationship between Critical Success Factors and Project Success

Critical Success Factors	**Correlation coefficient with Project Success**
Project Management Actions	.742
Project Team Leader Performance	.662
Client Core Competency	.549
Client Objectives	.439
Economic Environment	.197
Industrial Relations	.128
Physical Environment	.122
Socio-Political	-.083

Source - Own Survey (2019)

Project Management Actions have the highest positive correlation with project success with correlation coefficient of 0.742 which agrees with available literature. From among the sub variables, holding regular meetings, developing an effective reporting system and controlling project progress, are to name a few of the strong factors that contributed to the high mean of the responses. Project team leader's performance indicates a strong positive correlation with project success with .662 correlation coefficient. A major contributor to this variable is effectiveness of design team leader that keeps top management briefed in project progress as

well as the project manager's commitment to cost, time and quality objectives. In real estate development, design team consists of architects and engineers that develop conceptual and detailed design that ensures the property design will for its purpose. They are responsible for taking a client's idea and bringing it to life using their professional skills. The effectiveness of design team leaders has indicated its importance to project success, especially to the quality of the development. .(Abdulsamad & Chileshe, 2009) emphasized that the success and failure of any project depends on many factors but project leaders are considered to be key contributors to the success of a project as well as guide to the team members to achieve the client satisfaction(cost, time and quality). In addition, effective construction manager is highly critical that can manage construction time according to schedule. In addition, the project leaders experience and capabilities matched with technical, planning, coordinating and organizing skills has resulted in the strong correlation with project success. The other independent variable is client core competency where it established strong positive correlation with project success with an aggregate correlation coefficient value of .543. Of the components incorporated in main independent variable, ability to make authoritative decisions contributed the highest mean followed by ability to contribute ideas to the design process, ability to define the roles of participating organizations and ability to brief the design teams respectively. This is added to the emphasis that client involvement and ability to articulate their objectives as well as decision making power is quite relevant to the project success.

Client Objectives and project success are positively correlated with .439 aggregate correlation coefficient. Client objectives include; quick construction time, high construction quality and low construction cost of which quick construction time was emphasized by the respondents as the most important component of client objective as discussed above. This shows that according to respondents' perception, the client objectives are highly critical to the success of a real estate development project. However, the aggregate mean correlation

coefficient indicates a moderate level of strength between project success and client objective. It is well established that the cost, quality and time constitute major part of success criteria of construction projects that are commonly known as “iron triangle“ (Atkinson, 1999). (Coll, 2002) emphasized that the factors that affect a project's success are very consistent and some of them include knowledge, preparation, organization, leadership, teamwork, timeliness and effective conclusion. Each one of these factors is equally critical to the successful outcome of any worthy undertaking, and all should be taken very seriously. However, this study has concluded that factors vary in importance.

Real estate development project take place in the mist of various project environment. The results indicated that project environment is given less emphasis as a critical factor though it has resulted in positive relationship. From among the variables, Economic environment is the other main independent variable that has positive yet weak correlation with correlation coefficient of .197. From the sub classification, labor availability, availability of quality resources and availability of funds are main contributors to its criticality. Industrial Relations resulted in a positive weak correlation with project success with .128 correlation coefficient. The components of Industrial relations average to low mean contributed to its average importance and weak correlation. Physical environment indicated positive yet weak correlation with project success with correlation coefficient value for 0.122. The access to infrastructure is the main contributor to the aggregate mean value of physical environment. Real estate development is for the purpose of developing and selling to potential buyers where the development of infrastructure and proximity of geographical location will be part of the promotion. The water supply is an important factor for construction and for the buyers that will inhabit the project output of residential property. Evidently, the socio political factor indicated a slightly negative yet weak correlation with project success with -.083 correlation value. In

the evaluation of its criticality, the respondents viewed this particular factor as average to low importance to success of projects.

To sum up, the research have identified critical success factors according to the perception of the real estate project teams. The results have emphasized the client's objectives and competencies and project management actions as critical rather than the project environment and socio political factor. The human related factors and actions that combines realistic goals, competency and systematic approach to project management have indeed conveyed its importance to the success of a project.

CHAPTER FIVE CONCLUSION AND RECOMMENDATION

5.1. Introduction

The objective of the study was to find and assess critical success factors in real estate construction projects and their impact on successful completion of projects. In this final chapter, the conclusions and recommendations are presented.

5.2. Conclusion

The study was conducted to study critical success factors in real estate development projects. The study was conducted in three selected real estate development projects Bole Beshale Project of Sunshine Real Estate, Dodi 1 for Noah Real estate and Polilotus and Tsehaye real estate. The research objectives were to identify critical success factors and their relationship with project success. The study was conducted by collecting data through questionnaires to project managers, engineers and foremen of the three real estate companies. 8 critical success factors identified were included in the questionnaires in a Likert scale format adopting it from (Ramakrishna et.al,2012) on "Determinants of the Success of Real Estate Projects: A Study of Select Firms in Hyderabad". These critical factors are identified as Client Objectives, Client Core Competency, Physical Environment, Economic Environment, Industrial Relations, Socio-Political Environment, Project Team Leader's Performance and Managerial Actions. By utilizing the aforementioned critical factors and employing descriptive analysis and correlation studies, the study has responded to the research questions provided.

As confirmed from the sample taken for the analysis, six out of the eight were found to be critical success factors in the context of real estate development projects in Addis Ababa i.e. client objectives, client core competency, project team leaders performance, project management actions, economic environment and physical environment. From the critical success factors, project management actions, project team leader's performance and client core

competency were found to have a strong positive relationship with real estate development project success.

The most critical factor is client objectives especially quick construction time followed by high construction quality. Various real estate development projects are undertaken to achieve directly or indirectly organizational strategic plan and business value. The objective of real estate development is to build residential properties for the purpose of selling them to specific market segment. Given the objective, customers (buyers)'s have high influence and interest where their requirements are given priority in devising business objectives. As part of the overall project objective and organizational strategy, real estate developers being the project sponsors(clients) emphasis on delivering properties on time with high quality to gain competitive advantage.

Evidently, another critical success factor is the client core competency which has positive strong relationship with project success. The involvement and competency of the real estate developers during the initiation and planning phase creates a shared understanding of success criteria and improves deliverable acceptance and buyer satisfaction. In addition, it will result in less scope creep and design changes. Moreover, their ability to define the roles of the external stakeholders i.e. contractors and consultants decreases the chances of conflict arising in which all in all allows for the project to be executed with minimum problems arising.

The project manager in collaboration with project teams, directs the performance of the planned project activities and manages the various technical and organizational interfaces that exist within the project which is highly critical to project success. The results indicated the leadership ability of the project manager, design team leader and construction team leader is critical to ensure project performance matches expectations. Moreover, experienced and capable project leaders are necessary to identify, build, maintain, lead and inspire project teams to achieve high performance and project objectives. Necessary skills to possess by these team

leaders have been identified as of planning, organizing, coordinating, motivating and technical skills.

In order to achieve project success, project management actions was found to be critical contributor and resulted in the strongest positive correlation. Primarily, safety management, quality management and communication management were given higher emphasis as to contribution to project performance. Holding regular meeting, developing appropriate communication system, and development of good reporting system results in an approach to communicate most effectively and efficiently with stakeholders. Regular meetings serve as critical factor for project success as they are held primarily to share information and communicate with other team members about progress and collaboration. Monitoring and Controlling project progress, entails to setting standards, measure performance, compare performance to standards, determining the reasons for deviation if any and take corrective actions as need. It is one of the phases of project management that ensures the project's success if done in a correct manner.

The project environment comprises of physical, economic, socio political and industrial relations. From among the economic factors, the availability of labor and was emphasized as a key factors in real estate development project success. It's a quite expected result as the project team of construction project is a mix of individuals from different background with specific knowledge or skill necessary to carry out the project. Following, access to quality materials is emphasized as critical factor. The key to reliable construction is reliable techniques, technologies but most of building materials used including cement, reinforcement, concrete, bricks, tiles, etc and in real estate, the finishing materials are source of competition where developers tend to optimize the combination of functionality and attractiveness. Market conditions such as the rise in the cost of input materials was considered as critical success factor though it is contradictory to the recently experienced inflation of construction materials such

as reebar stagnated the construction materials in beginning of 2018. Socio-political and industrial factors were given average importance while the sub factors of political climate, institutional factors and organizational structures are conditions that influence, enhance or constrain projects according to project management body of knowledge.

In conclusion, the results indicate human related factors involving project sponsors and project team leaders were found to be critical to the success of real estate projects. These factors affect the success of a project though their degree of influence might vary. Success in real estate development projects will be achieved with clear objectives centered on buyer's requirements, competent project sponsors and project leaders and installation of project management systems.

5.3. Recommendation

The research has identified and rated critical success factors using the perception of project teams employed at three real estate's i.e. Sunshine, Noah and Tsehay Real Estate. Project stakeholders and governance framework is necessary for the project sponsors (Real Estate developers) and project leaders in order to align real estate development projects with business strategy and to make decisions that satisfy buyers needs and expectations with regard to delivery on time and of high quality. In addition, Real Estate developers should involve themselves in the project initiation and planning phase where all aspects of scope, time, cost, quality, communications, human resources, risks, procurements and stakeholder engagement is being analyzed. In order to achieve project success, project leaders should attain proper training in project team development that requires diverse skills. With regards to the critical success factors, though project environment is considered critical, the components apart show average to low importance to project success. Project Risk management should be strengthened by giving special to market conditions, political stability and government policy changes. The researcher suggests further research in this area of the relationship between two variables i.e. project management actions and project team leaders performance with real estate development

projects success in particular because the participants of the study who are company personnel might have over emphasized the importance of their managerial and leadership role as a critical factor for a real estate development project and viewed project management as average or low contributor. Furthermore, the researcher suggests further research in the areas of further assessing the critical factors in this study in relation to project success preferably each one by one, such as why market condition such rise in input materials is a critical success factor and to explore why socio-political issues have a negative relationship with project success.

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Appendix A

Questionnaires for Real Estate Development Project Teams'

Dear Respondents,

The researcher is conducting this study for the purpose of the partial fulfillment of the requirement for the subject of Master's in Project management with research title " Assessment of Critical Success Factors in Real Estate Construction Projects in Addis Ababa City Administration". The objective of the study is to identify success factors as well as to what extent those factors influence project success. The questionnaire is for the purpose of academic research in which the confidentiality of all respondents shall be respected. Thank you in advance

Instruction

The questionnaire will have two sections.

1. **Section 1: will use 5 independent variables to rate their influence on project success**.

   1.1.Client objectives
   1.2.Client Competency Measures
   1.3.Project Environment
   1.4.Project Team Leadership
   1.5.Managerial Action
2. **Section 2: Measure of Project success with the iron triangle of cost, time and quality**

In answering the questions,

- ✓ There is no need to write a name
- ✓ The responses will be recorded on a Rensis Likert Scale that has been adopted in which rating

1- Very Low,	2 – Low	3- Average	4- High	5- Very High
1- Strongly Disagree	2- disagree	3- Neutral	4- Agree	5- Strongly Agree

In rating the importance of each factors to project success

- ✓ Put ***X*** on the boxes to answer the questions on Likert Scale
- ✓ Please respond honestly to the best of your abilities

1. General Information

1.1. Gender

☐ Male ☐ Female

1.2. Age

☐ 18-25 ☐ 26-33 ☐ 34-41 ☐ 42-49 ☐ 50-57 ☐ 58<

1.3. Education Level

☐ Elementary level complete ☐ High School Diploma

☐ Vocational Training ☐ Undergraduate (Bachelor's Degree)

☐ Graduate (Master's degree) ☐ Post Graduate (Ph.D.) and above

1.4. Job Position

☐ Project Manager ☐ Engineer ☐ Forman ☐ Admin

For specific job description_____

2. Section I

Company of employment -_____

These are the identified success factors for real estate construction projects to assess in the context of Addis Ababa City Administration. Please answer by rating their contribution to project success using the 5 Likert scale.

Factors	Very Low	Low	Average	High	Very High
2.1. Client Objectives					
Low Construction Cost					
Quick Construction time					
High Construction Quality					
2.2. Client Core Competencies					
Ability to effectively brief design teams					
Ability to quickly make authoritative decisions					
Ability to effectively define the roles of participating organizations(Consultant and Contractor)					
Ability to contribute ideas to design process					
2.3. Project Environment					
2.3.1. Physical Environment					
Geographical location					
Weather patterns					
Water supply					
Soil type					
Access to infrastructure					
2.3.2. Economic Environment					
Access to quality resources					
Availability of Funds					
Economic stand of a nation					
Inflation					
Financial Liquidity					

Labor Availability					
2.3.3. Socio-political Environment					
Political stability					
Occupational Health and Safety Act					
Government Expenditure on construction					
Demographic Change					
2.3.4. Industrial Relations Environment					
Institutional factor(Government policy and labor legislations)					
Organizational Structure of labor force					
Social and cultural diversity(religion, ethnic groups, culture and customs) of labor force					
Placement of Conflict Management					
2.4. Project Team Leaders Performance					
2.4.1. Effectiveness of design team leader					
A resourceful and knowledgeable professional team ensuring that the client's requirement brief is thorough, properly implemented and monitored					
Highly experienced professionals keeping the top management constantly informed of the well-being and progress of the project					
2.4.2. Effectiveness of construction team leader High construction team performance results in high construction time performance and low construction team performance results in low construction time performance					
2.4.3. **Measures of Project Team Performance**					
Project leaders commitment to cost, time and quality objectives					
Technical skills of the project team leaders					
Planning skills of project team leaders					
Organizing skills of the project team leaders					
Coordinating skills of the project team leader					
Motivating skills of the project team leaders					

Project team leaders' early and continued involvement in the project					
Project team leaders' experience and capabilities					
Project team leaders' adaptability to changes in the project plan					
Support by project team leaders' parent company					
Project team leaders' working relationship with others					
2.5. Management Actions					
Planning and installing Communication system					
Monitoring and updating plans					
Developing an appropriate organizational structure					
Controlling project progress					
Implementing an effective safety program					
Development of good reporting system					
Implementation of effective quality assurance program					
Holding of regular meetings					
Development of standard procedures					

Section II - Project Success Assessment

Factors	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Project Success					
The project was completed on time or earlier					
The project was completed within or below budget					
The project was completed in with in or above to the quality standard					
The buyer was satisfied					
The buyer is using the property					
The buyer will comeback for future purchase					

Thank you for your cooperation

房地产开发项目团队调查问卷

亲爱的受访者，

研究人员正在进行这项研究，目的是部分满足硕士学位项目管理的要求，研究题目为“亚的斯亚贝巴市政府房地产建设项目关键成功因素的评估”。该研究的目的是确定成功因素以及这些因素对项目成功的影响程度。调查问卷用于学术研究，其中应尊重所有答复者的机密性。

指令

问卷将分为两部分。

1.第1部分：将使用5个自变量来评估它们对项目成功的影响。

1.1客户目标

1.2客户能力措施

1.3项目环境

1.4项目团队领导

1.5管理行动

2.第2节：以成本，时间和质量三角形衡量项目成功与否。

在回答问题时，

- ✓ 没有必要写一个名字
- ✓ 响应将以Rensis Likert量表记录，该等级已被采用

☐1-非常低，　☐2-低　　☐3-平均　　☐4-高　　☐5-非常高

☐1-非常不同意☐2-不同意　☐3-中立　　☐4-同意　☐5-非常同意

评估每个因素对项目成功的重要性

- ✓ 将x放在方框上以回答李克特量表上的问题
- ✓ 请诚实地回应您的最佳能力

1.一般信息

1.1性别

□男　　□女

1.2年龄

□18-25　□26-33　□34-41　□42-49　□50-57　□58<

1.3教育水平

□初级　　□高中毕业证

□职业培训　　□本科（学士学位）

□研究生（硕士学位）　　□研究生（博士）及以上

1.4工作职位

□专案经理　□工程师　□福曼　□管理员

□数据收集器　□工料测量师　□电工

具体职位描述_____

2.第一节

就业公司 - _____

这些是在亚的斯亚贝巴市政府的背景下评估房地产建设项目的成功因素。请使用5李克特量表对项目成功的评级贡献回答。

因素	非常低	低	平均	高	很高
2.1.建设成本低					
快速施工					
高施工质量					
2.2客户核心能力					

能够有效地向设计团队简要介绍					
能够快速做出权威决策					
能够有效地确定参与组织的角色（顾问和承包商）					
能够为设计过程贡献想法					
2.3。项目环境					
2.3.1物理环境					
地理位置					
天气模式					
供水					
土壤类型					
访问基础设施					
2.3.2。经济环境					
获得优质资源					
资金的可用性					
一个国家的经济立场					
通货膨胀					
财务流动性					
劳务供应					
2.3.3社会政治环境					
政治稳定					
职业健康与安全法					
政府建设支出					
人口变化					

2.3.4劳资关系环境					
制度因素（政府政策和劳动立法）					
劳动力的组织结构					
劳动力的社会和文化多样性（宗教，种族，文化和习俗）					
安置冲突管理					
2.4项目团队领导表现					
2.4.1设计团队负责人的有效性					
资源和知识渊博的专业团队确保客户的要求简明透彻，正确实施和监控					
经验丰富的专业人员让高层管理人员随时了解项目的福祉和进展情况					
2.4.2施工组长的有效性 高施工团队性能导致高施工时间性能和低施工团队性能导致低施工时间性能					
2.4.3项目团队绩效的衡量标准					
项目负责人致力于成本，时间和质量目标					
项目负责人的技术技能					
项目团队领导的规划技巧					
组织项目团队领导的技能					
协调项目团队领导的技能					
激励项目团队领导的技能					
项目团队领导早期并继续参与该项目					
项目令领导者对项目计划变更的适应性					

由项目团队领导的母公司提供支持					
项目令领导者与其他人的工作关系					
2.5管理行动					
规划和安装通信系统					
监控和更新计划					
建立适当的组织结构					
控制项目进度					
实施有效的安全计划					
制定良好的报告制度					
实施有效的质量保证计划					
举行定期会议					
制定标准程序					
整体管理行动					

因素	非常 不同意	不同意	中性	同意	非常同意
项目成功					
该项目已按时或更早完成					
该项目在预算内或低于预算完成					
该项目已达到或超过质量标准					
该项目只有很小的变化					
买家很满意					
b买家id使用属性					

买家将在未来购买时复出					
整体而言，该项目取得了成功					

谢谢您的合作！