St. Mary's University School of Graduate Studies

MA Program in Project Management

The Determinant factors to Project Success in the Ethiopian Real estate industry

By: Tigist Shemekt

Id No: SGS/0262/2012A

Advisor: Taye Amogne (PhD)

July, 2021

Addis Ababa, Ethiopia

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A Thesis Submitted to St. Mary's University School of Graduate Studies in Partial Fulfillment of the Requirements for the Master's Degree in project management

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Approved by Board of Examiners

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Advisor _____

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Internal Examiner _____

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DECLARATION

I the undersigned, declare that this research project is my own work and effort and it has not been submitted anywhere for any award. Where other sources of information have been used, they have been duly acknowledged.

Name of Candidate: Tigist Shemekt

Place: Addis Ababa, Ethiopia Date: July, 2021

Signature: _____

CERTIFICATION

This is to certify that Tigist Shemekt has carried out her research work on the topic entitled **"The Determinant factors to Project Success in the Ethiopian Real estate industry".** The study is an original work and is suitable for the submission for the reward of MA Degree in project management.

Advisor: Taye Amogne (PhD): _____

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List of Abbreviations and Acronyms

PS	Project Success
OP	Organizational Planning
PMGC	Project Management Goal Commitment
PTMGO	Project Team Motivation and Goal Orientation
PSWD	Project Scope and Work Definition
PMTC	Project Managers Technical Capabilities
SPAP	Safety Precautions and Applied Procedures
CS	Control Systems
PM	Project Management
PMS	Project Management Success
CSF	Criteria Success Factors
PMI	Project Management Institute

Abstract

This master thesis motive was to assess 'The Determinant factors to Project Success in the Ethiopian Real estate industry''. Ii is conducted with an objective of investigating the critical success factors of project success and its extent effect on project success. The study has met its objectives through providing answers for the basic questions of how successful real estate development construction projects' management is, what are the major critical success factors in real estate construction projects management success, and what impact do the factors have in real estate construction projects success. The study area is not adequately studied from Ethiopian real estate development companies' perspective and the problem is still unsolved which makes this study is valuable. The study is conducted on real estate developers in Addis Ababa. Both primary and secondary data were collected for the accomplishment of the study. For the primary data, 132 project managers were selected using simple random sampling method. The primary data are collected through questionnaires. The study has used Ashley & Jaselskis's (1987) seven critical success factors of construction projects as independent variables where project success is used as a dependent variable. Project success is measured in terms of time, cost and quality. Correlation technique was used to indicate the relationship between the independent and dependent variables and a binary logistic regression was used to identify the impact of the success factors over successful project completion. Six out of the seven critical success factors are found to have significant impact in the real estate development construction projects which are organizational planning, project manager goal commitment, project's scope and work definition, project manager's capabilities and experience, safety precautions and applied procedures and control system. But, only three have positive impact which is clarity of project scope and work definition, project managers' capability and work experience and use of control systems which is the major findings of the study.

Key words: Project management, Project success, Critical success factors, Real estate industry

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Project is a multidisciplinary word that has different meaning from different perspective and orientations. According to project management institute, PMI, (2000), Project is a temporary activity undertaken purposely to create a unique output with a given budget, time and standards.

Project management processes and project management knowledge areas are increasing in importance as more and more projects are becoming constrained to budgets, schedules and other performance factors. Project management brings structured and consistent performance resulting successes which ultimately bring about satisfaction of stakeholders.

The involvement of project management in different national strategic plans as well as in different levels of micro activities becomes more visible. Nowadays, the government of Ethiopia is on the way of implementing a five years strategic plan which is also part of the national 20 years visionary plan to transform the country to the level of middle income countries. Under this strategic plan, several projects are included such as Addis Ababa light railway project, national railway project, different national and state road projects, different mega hydraulic structures like dams and irrigations, and others. These projects have their own technical specifications, time and resource schedules as well as specified level of budget to pump.

With regard to the private sector, individuals set their social and private goals to accomplish by devoting the necessary resources. Up on the struggling for accomplishing their goals, the involvement of projects is vital tool to enjoy the bottom line of their efforts. Construction industry is one of the key areas that the government gives focus as one of the cornerstones of development. Significant amount of money is budgeted by the government for this sector which enables to involve the government itself as well as to facilitate the involvement of private entities.

Melat 2017, argues that most real estate industry in Ethiopia are mobilizing substantial amount of resources conducting a number of projects in the growth of residential buildings and most of the companies observed to fail to complete and deliver the residential buildings according to plan as construction projects are known for poor quality, delay and high cost.

The Real Estate industry is on the way of growing even though its speed is not within the required range. There are different reasons that can be raised for the existence of this problem. Scarce resources mainly money, management inefficiencies, insufficient infrastructure facilities are among the reasons (Fikadu, 2017). For projects provided with sufficient budget and comprehensive infrastructures, project management inefficiencies took the lion part for the result of poor project performance and project failure.

Therefore, this study focuses on assessing the practice of project management and its contribution for project success, major critical success factors and its impact on project success of selected Real Estate projects in Addis Ababa using information from selected real estate companies exist in Addis Ababa.

1.2. Statement of the Problem

Real estate companies are companies engaged in real estate investment. This type of investment is very crucial because of its impact in the process of maximizing the objective of all economic agents (householders, businesses, and government) especially in the developing countries such as Ethiopia through contributing to national income, job creation and economic stability.

Project is a set of objectives within a designated period and involving the commitment of resources (Chinedu .C and Fidelis I.,2011 p.58, and Baridam, 2002), simply defined management as "planning, directing, controlling and co-coordinating of individual, group or organizational goal and objectives with the ultimate aim of achieving maximum benefit". Therefore, following the above separate definitions of project and management, this study defines project management as a cost-effective method of achieving project success (PMI, 2008). Conditions that projects are successful when it achieves its multiple objectives within time, scope and quality. Moreover, many scholars defined Project success as a project that meets its objectives within a given budget and schedule.

By looking at the above project related concepts, anyone can tell that project management activities are a prerequisite for the success of any real estate investment project that serves the objective of the nation in general. However**, i**nstead of creating the desired situation from investments projects, it is a clear (mob) fact that Ethiopia has been experiencing a history of frailer in many projects including the GERD (grand Ethiopian renaissance dam) for the past three decades. In Ethiopia, 79.06 percent of projects had failed to meet their objectives (Lemma.T2014). Moreover, 72 percent of projects financed by Development Bank of Ethiopia (2013) were under failure category. Implementation delay, overestimation of project

return and poor manpower quality of projects were found to be statistically significant cause of project failures to meet their objectives (Getachew, 2015).

According to the researcher investigation, there are few related studies about the practice of project management in Ethiopian real estate industry and critical success factors to project success (Befkadu, 2017; Bethlehem, 2019 and Melat, 20017). Although those studies tried to investigate critical success factors of project management success and understand the extent of effect on critical success factors on project management success; they have been mainly focused on real estate developers who have completed at least one project site, limited to project managers' and also the problems such as, project delay, failure to meet the required specifications and customer dissatisfaction are still unsolved. This research is aimed to see project management successfulness and critical success factors from real estate developers who have and have not completed at least one project site perspectives.

Therefore, to minimize these problems (project delay, failure to meet the required specification and customer dissatisfaction) it is important to identify the critical success factors and its extent effect on project success in Ethiopia.

1.3. Research Questions

1) How successful real estate development construction projects' management in Ethiopia is?
2) What are the major critical success factors for real estate development projects management?
3) How critical success factors affect project management success?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of the study is to assess the practice of project management in real estate industry and its contribution to project success in Ethiopia.

1.4.2. Specific Objectives

The specific objectives of this study are:

1. To identify the major critical success factors of project management success in Ethiopia.
2. To measure the success level of real estate development construction projects management.

3. To measure the extent effect of critical factors of project success on projects management success.

1.5. Significance of the Study

The study will provide insights to real estate developers about the critical factors of project success and the effect of project management practices on the success of construction projects they undertake. It will empirically inform decision - makers and others concerned bodies about the problem at hand; to suggest ways and means of tackling the problem at hand and to fill in current gaps specified by the problem. It can also suggest possible research areas in addition to its purpose as an empirical evidence for further studies.

1.6. Scope of the Study

Consider the continuous increase in housing demand in the capital city of Ethiopia and effect on the supply side, the geographical area coverage of this study limited to the privately owned real estate companies with in Addis Ababa. The answer to the question why only private real estate companies is the researchers' consideration of governments' ten-year plan (2020 E.C.-2030E.C.) that proposes to give a responsibility of meeting 80% of the planned housing supply of Addis Ababa to private real companies. Regarding to time coverage, the study uses evidence on projects launched by the real estate companies with in the last 10 year. The reason for such decision is that to optimize the time and cost of data collection subject to the research budget. Thematically; the study is focused on measuring project management successfulness, identifying the critical success factors and its extent of effect on project success.

1.7. Limitation of the Study

The researcher had few limitations with regard to unwillingness and business of the respondents to give information. Due to this reason, the student researcher was challenged to address sampled real estates among many in Addis Ababa for reasons of the unwillingness and busyness. Moreover, cross checking were not made by obtaining information from customers, and from consultants, using different data gathering techniques to improve its validity because of boredom of respondents.

1.8. Ethical Considerations

There are limited ethical considerations for the study and appropriate approval pursued. The researcher was maintained confidentiality for participants in the study. The participants were

not being vulnerable in any way and were not being forced to participate as their involvement was completely being voluntary.

1.9. Definition of Terms

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)

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: – are a business process, encompassing activities that range from the renovation and re-leasing if exist buildings to the purchase of raw land and the sale of developed properties or parcels to others (Wikipedia, 2019).

Project: - is a multidisciplinary word that has different meaning from different perspective and orientations. (PMI, 20000)

CHAPTER TWO

LITERATURE REVIEW

This section tries to review theoretical literature and empirical evidence keeping the scope and objective of the research in mind. Hereunder, the theoretical foundations of this study briefly discussed followed and supported by empirical evidences.

2.1. Theoretical Review

2.1.1. Definition of Terms

Project management

Specialists believe that project management is strategically vital. Project management provides an effective set of tools to develop management capabilities to achieve specific organizational objectives, but project management is more than just a set of tools. Exciting possibilities await experts in project management (Larson and Grey, 2011, P3).Without trying to retrace different sources to describe "project and management," the meaning of project management cannot be briefly attempt to define.

Project

According to (Ntamere, 1995), a project is a discrete package of investment or endeavor, policy measures and institutional and other activities designed to achieve a specific objective or a set of objectives within a designated period and involving the commitment of resources (Chinedu .C and Fidelis I,2011 p. 58). Project is defined as any sequence of events or process which entails the putting together of different resources towards the attainment of a particular goal. A project can distinguish by the following characteristics: have to well-articulated aim, goal or screened objective. It must have a network of timed and cost activities to produce a specified product.

Management

Management simply can defined as “planning, directing, controlling and co-coordinating of individual, group or organizational goal and objectives with the ultimate aim of achieving maximum benefit”. In the view of (Baridam, 2002), management literally means getting things done through and with people, which have to do with the planning and directing of effort toward a common objective (Chinedu .C and Fidelis I,2011 ,p-59).

Therefore, project management is a cost-effective method to create cooperative relationships using a variety of methods. It is appropriate to address the challenges in the building sector,

the overall construction industry and the economy. The project manager's parts arise from the need for a technician who is responsible for overseeing events during the implementation process.

2.1.2. Project Management Processes

Project management processes can be described in terms of the integration between the processes, their interactions, and the purposes they serve. As mentioned above, project management processes are grouped into five categories known as Project Management Process Groups (or Process Groups)(PMI, 2013: P3):

- **Initiating Process Group: -** The processes in this grouped are used to define a new project or a new phase for ongoing project by having authorization for starting the project/phase.
- **Planning Process Group: -** The processes in this group are used to set scope and objectives for a project as well as to list down course of actions used to achieve those objectives.
- **Executing Process Group: -** The processes in this group are used to perform works of the project that are defined in the project management plan to achieve project requirements.
- **Monitoring and Controlling Process Group: -** The processes in this group are used to follow, review, and facilitate the flow and performance of a project. The processes are also used to identify the need for changes and execute them.
- **Closing Process Group: -**The processes in this group are used to finalize activities of a project or phase in a formal way. These project management process groups describe project in terms of phases. They involve several areas of project management applications. These areas refer to as 'project management knowledge areas.

2.1.3. Knowledge areas of Project Management

The project manager should have sufficient knowledge of these areas. Knowledge units are a set of ideas, terms and activities that create a unique field of work known as project management. Project group should make good use of these knowledge units and other extension of knowledge units for specific types of projects. (PMI, 2013:P60) Project management, integration management, time management, quality management, human resource management, communications management, cost management, risk management, procurement management and stakeholder management are ten general project-management knowledge areas.

Project Integration Management: In all areas of a project, Project Integration Management is all about maintaining stability, such as time, scope, cost, quality, human resources, communication, risk, procurement, stakeholders, and others. These are interconnected processes, and a single team cannot perform them. It is a vital area of knowledge and a highly valued component of the PMI. It is a process, which involves constant monitoring of the procedures that are performed during the project's life cycle. One key feature of project integration management is that it focuses entirely on a given project, keeping a watchful eye from initiation to project completion. (PMI, 2013 cited by Befkadu 2017)

According (PMI, 2013, p-63) Project integration management involves the processes and activities within the project management process groups to identify, define, combine, unify, and coordinate the different processes and project management activities. In the context of project management, integration includes features of unification, consolidation, communication and integrative actions that are crucial for the completion of controlled project execution, the successful management of stakeholder expectations and the fulfillment of requirements.

(Befkadu .W, 2017, p30-31) cited that Flowcharts, diagrams, and responsibility matrices are tools to capture the work processes associated with the execution of the project plan, according to (Saylor.org, 2009, p-25). The first draft of the manual on project procedures captures the historical and intuitive knowledge brought to the project by team members.

Project Scope Management: Scope is, when the specific criteria for the final product or service are collected. Also need to specify the limits in a scope statement. During the project, the limits of the administration must be established and verified, which means that supplies must be approved. The scope may change depending on the current state of the project. According to (PMI, 2013, P-106) cited by (befkadu .W, 2017, p-31), the management of the project scope contains the processes needed to ensure that the project is armed with all suitable efforts to achieve the project as needed. In other way, the scope of the project is a document that defines the parameters that describe a system and determine the project's behavior, what work is done within the project's limits, and the work that is external to the project's limits (Saylor.org, 2009,p-26).

Project Time Management: The project is subdivided into start dates, deadlines and budgets for each project to achieve the desire project success. In addition, circumstances change from time to time at any stage of the project, which means they are often reviewed. This includes project management, which includes creating a schedule for the project and deciding who is responsible. That means describing activities is not the same as doing WBS, but it is the same. So, create a to-do list that affects every aspect of the project. Definition of project

success often involves completing the project on time, according to (Saylor.org, 2009, P26). A key message in project time management is the importance of ensuring work proceeds effectively within individual tasks, along with the interaction of related tasks (Hameri and Heikkila, 2002,p-143, cited in Pasian, 2011, p-19). Project success, based on effective control of time management processes, instruments and practices, is the ultimate measure. The project manager is primarily responsible for developing and managing a realistic project schedule and project plan to complete the project on time.

Project Cost Management: This area covers the total budget of the project; the cost management plan determines the method used to establish the budget, how and when it is changed, and what methods are used to control it. Each project must be costly, including labor, materials, equipment, and all the resources needed to complete the project. (Befkadu, 2017)

This will determine the budget of the project after you have taken all the operating costs and combined them. Based on the data analysis, there is a desire to control costs. This is routinely done within the project to ensure that estimated costs are in line with actual expenditures. (Befkadu, 2017)

Project Quality Management: (PMI, 2013, p-227) stated that Project quality management works to ensure that the project requirements, including product requirements, are met and validated. A project can be completed punctually and on financial plan, but if the quality does not meet the set standards, it is a failure for the project. The management of plan quality is part of the overall project management plan, although it can be an independent document if it contains the product or service with quality details.

Quality assurance must be included in the process, which is the only way to ensure quality standards are met. Therefore, quality control must be monitored and assigned to ensure that these standards in the quality management plan are met.

Project Procurement Management: This involves with outside procurement, which is part of many projects such as hiring small contractors. If not implemented properly, it will clearly affect the budget and schedule. Planning is important for procurement management in identifying the additional needs of the project and the way that those contractors will participate. Next, hire the contractors to make those purchases, it is important to choose a job description, reference terms, feedback questions and seller. Individual processes need to be managed and supervised, and then the work is completed and everyone is satisfied. (PMI, 2013, p-366) stated that Project Procurement Management includes the procedures necessary from outside the project team to buy or acquire products, services, or results needed. The company can be either the buyer or seller of the goods, services, or outcomes of a project.

Nevertheless, the procurement effort on projects varies widely and depends on the type of project, as (Saylor.org, 2009, p-37) explained.

Project Human Resource Management: Human resource management is a branch of management, which deals with people at work in an organization. Human resource as a strategic and articulate method to the management of an organization's most treasured assets, the people working there individually and collectively contribute to the achievement of its objectives. (Story, 1989), cited in (Armstrong, 2006, p-1) believes that Human resource management can be regarded as a 'set of interrelated policies with an ideological and philosophical underpinning'. (Mathis and Jackson, 2006, p11-13) stated human resource management involves several activities such as human resource Planning and Analysis, equal Employment Opportunity, staffing, human resource development, compensation and benefits, health, safety, and security, employee and labor/management relations.

Project humans are as one wing of human resource management. The management of resources involves the organization, administration and leadership of the project team. The project team consists of individuals with assigned roles and responsibilities for the project's implementation. It is an important responsibility of the project management team to staff the project with the right skills, at the right place, and at the right time.

Project Risk Management: Risk management process is a system in which the risks of the project are regularly identified and managed during the project. The process involves a number of steps and warnings to reduce the risk and risk of each accident. An emergency procedure used to ensure that all hazards are regularly identified, quantified, monitored, transmitted and / or facilitated.

The key project risk management discipline lacks the optimality that is assumed in the standards of best practice. In this context, (Renn, 1998, p-64) cited in (Kutsch, 2008,p-2) the set of assumptions of a risk analysis that is primarily objective "is a virtue as much as it is a shortcoming."

Project risk management is the highest ranked factor for project failure (Whittaker, 1999, cited in Kutsch,2008, p-2), the systematic procedure of classifying, evaluating and responding to risks as project-related events or conditions that are not definitely known and that have the potential for adverse effects on an objective project (PMI, 2013, p3-10). Thus, care must be taken to properly manage risk management.

Project Communications Management: Communication-The characteristics and actions of the leader are human elements that have a major impact on the outcome of a project. The human component is a critical part of project management and can include the behaviors of people, the social system, political issues and problems with communication (Chiocchio and

Hobbs, 2014). Communication is an essential leadership skill in (Gladden, 2014). Communication is a gentle and subjective ability that project managers need to have (Chiocchio and Hobbs, 2014). For project success, communication is necessary and communication skills include reporting, presentation, relationship management and interpersonal skills (Ahsan, K., Ho, M., and Khan, S, 2013).

Communications issues are a part of known challenges in project management. One of the ten knowledge areas of the Project Management Body of Knowledge (PMBOK) guide is project communications management. Communication planning, communication management, and communication control are the primary processes for communication management (PMI,2013). Communication activities vary in size and include internal and external, formal and informal, vertical and horizontal reporting, official and unofficial reporting, written reporting, oral reporting, verbal reporting and nonverbal reporting (PMI 2013).

Project Stakeholder Management: Management of stakeholders has been one of the main areas of soft skills that has highlighted as essential to advance. The project stakeholder management processes needed to identify entities that could influence or influenced by the project, to assess stakeholder expectations, and to develop effective strategies to benefit from the participation of stakeholders.

(Legris and Collerette 2006), cited in(Pasian,2011, p-21) emphasize stakeholder management as a contribution that (Pasian, 2011, p-21) echo this view when they argue that effective stakeholder management can minimize changes in project planning and increase quality specifications (possibly through a Strategic Management Framework) as opposed to quantity specifications).In both research efforts, it implied that strategic management during project implementation could have an effect on cost control.

The management of stakeholders also pays attention to smooth communication with stakeholders in order to recognize their expectations and address conflict of interest issues. Satisfaction with stakeholders should be seen as the core of any project. Determine the stakeholders', Management of the stakeholder, Engagement of stakeholders and Control the participation of stakeholders are part of a well-structured project management (PMI, 2013, p-391)

2.1.4. Project Success

It supported by (PMI, 2008) that a project is successful when it reaches its triple objective that is finished within time, scope and quality. The success of a construction projects is important for the government, users and communities.

In modern construction projects, there are significant challenges for both the clients and contractors to deliver the project successfully due to increasing complexity in design and the involvement of stakeholders (Doloi, H., 2009).In the project management literature, project success has been widely discussed by many researchers. Most of the studies in project success have been focus on dimensions in how it is measured and other specific factors influencing the project success (Wang, X., Huang, J., 2006, p-24, 253–260).

For an architect, a project is success base on the aesthetic performance, and for a contractor, project is success when the contractor gets a profit from the project (Chan A P C., Scott, D., and Lam, E.W.M. 2002, p-120-128). Project will be considered as success when the project is completed on time, within budget and the quality is satisfied by all (Chan A P C., Scott, D., and Lam, E.W.M. 2002, p-120-128). Success also can defined as much better results than the expected or normally obtained in term of cost, schedule, quality, and safety. The meaning of 'success' itself has undergone many changes due to involvement of so many stakeholders in nowadays complex project environment(Chan A P C., Scott, D., and Lam, E.W.M. 2002 ,p-120-128). The concept of project success developed with criteria and standards to help project participants to complete projects with the most desirable results (Chan, A.P.C., Chan, A.P.L., 2004, p-203–221). However, this concept remains somewhat of an enigma, as there is no agreement on what should be the critical success criteria on construction projects despite several studies (Ahadzie, D.K., Proverbs, D.G., Olomolaiye, P.O., 2008, p-675–687).

2.1.5. Project Management and Project Success

Project management practices combined with a number of different components have a significant influence on project success and not all project management tools and strategies are immediately related with project success. Even a well-researched literature review without the application of basic literary practices has not been able to find a successful project.

According (Kerzner, 2009, p7-8) argued that corporate commitment to project management and this commitment must be visible.

It should be noted that just because a project is successful doesn't mean that the company as a whole is successful in its project management efforts. Excellence in project management can defined as a continuous stream of successfully managed projects. Any project can be drive to

success through formal power and strong executive interfering. However, there must be a strong one in order for a continual stream of successful projects to take place.

A study made in Dundy by A K Munns and B F Bjeirmi focused on the role of project management in achieving project success. The conclusion is that to make the project management team totally responsible for success would appear to be inappropriate and that the client should take an increased interest in the development and use of the project.

There also needs to be an improved distinction between success and failure for the project and project management interests. Project success could be assessed using three assessment criteria based not only on project management techniques but on other external criteria which are important for the successful implementation of projects, from conception through development and use, to the final close down.

Thus, for a project to be successful there must, first, be an improved appreciation of the role of project management within projects, and this role must be placed within the context of a wider project alongside other outside criteria and long-term expectations. Second, the project manager must allow the client to contribute actively in the planning and production phases and at the same time the project team involvement has to be extended into the utilization phase. This would be accommodated properly in a project evaluation technique that examines not only the implementation processes but also the economic and financial performance. (Befikadu, 2017)

Finally, one must always bear in mind that successful project management techniques will contribute to the achievement of projects, but project management will not stop a project from failing to succeed. The right project will succeed almost without the success of project management, but successful project management could enhance its success. Selecting the right project at the outset and screening out potentially unsuccessful projects, will be more important to ensuring total project success.

2.2. Empirical Review

As the theory suggests, effective project management is essential for a successful projects. Various scholars and researchers seen different problems that projects could face and investigated the relationship between project management success factors and project success. Hence, in this section review of some of the most important studies is presented

Different researchers in different countries investigated project success factors and success criteria from different industries perspectives. In this sub section, the methodology used and findings identified on studies conducted on project success, success factors and success criteria are reviewed.

Alan Murphy and Ann Led with (2007) investigated which critical success factors contribute for project success on high technology small and micro enterprises. The authors selected six critical factors what they have considered to have potentially highly influential critical success factors and conducted a survey on 200 high technology SMEs. Clear goals/objectives, senior management support, resource allocation, planning, monitoring and control, Client consultation and risk management are the selected critical success factors. Their finding indicates that the existence of a project manager and the use of project planning significantly contribute to project success. Control for projects resides primarily with owner managers and achieving quality standards is a significant success criterion. Additionally, having clear goals/objectives and top management support are identified as the most important success factors in the firms surveyed.

Lonna, Emil and Razvan (2012) on their quest investigated the main factors influencing project success through conducting a quantitative research method. They adopted Pinto and Slevin's critical success factors and tried to identify the top five project success influencing factors. The authors confirmed all the critical factors are important for project success yet they argue the top five influencing factors are clearly defined goal and directions, competent project team members, clearly defined roles and responsibilities, communication and consultation with stakeholders and compliance with the planned budget, time frame and performance criteria.

Alias, Zawawi, Yusof, and Aris (2014) have conducted a study to identify the relationship between critical success factors of project and project performance. The authors building their theoretical framework on five critical success factors as variables and investigated their influence on project performance using cost, time, quality and client satisfaction as performance measures. Project management action, project procedures, human factors, external issues and project related factors are the success criteria used as variables in the study. At the completion of the study, the authors proved there is a positive relationship between project performance and all the five critical success factors.

Chan WaiKuen (2007) developed conceptual framework and tasted it in Malaysia manufacturing sector. Chan's focus was identifying success measures of projects and contributing factors for manufacturing related projects. Chan adopted Pinto's critical success factors and the traditional time, cost and quality measure of project success in his study and investigated the relationship existed between the two. Based on his finding, Chan argue that all the critical success factors identified by Pinto and Slevin to be influential factors for project success in Malaysia manufacturing industry.

The studies conducted by Ashley et al. (1987), Nguyen et al (2004), Sanvido et al (1992), Chua et al (1999), Gudienė, Banaitis, Banaitienė, and Lopes (2013) and Cooper et al (2001) are one step closer to the study conducted by the student researcher from the above summarized studies. All this studies are conducted on critical success factors for construction projects.

Ashley (1987) started his investigating with 2000 success factors identified by prior researchers. By the interviews he conducted with construction management personals, he narrowed down the success factors to 46. With further investigation, the construction project management personnel rated 15 of the success factors are identified to have greater influence on project success compared to the others. Continuing his investigation, Ashley ultimately found that seven of the factors are critical for construction projects success. The critical success factors identified by Ashley are construction and design planning effort, scope and work definition, project manager goal commitment, project manager capabilities and experience, safety, and control systems.

Nguyen et al (2004) studied project success factors in large construction projects in Vietnam. Nguyen started his investigation with 20 success factors and identified five of critical success factors by the completion of the study. Among the 20 success factors he started his study with, competent project manager, adequate funding until project completion, multidisciplinary/competent project team, commitment to project, and availability of resources are found to be the critical ones. Nguyen's study also grouped the success factors into one of four components which are comfort, competence, commitment and communication. His findings found to be supportive to that of Ashley's study.

Sanvido et al (1992) identified the success criteria list for each of the contract parties: owner, designer, and contractor. Some of the owner success criteria included being on schedule, being on budget, and return on investment. Examples of the designer success criteria were client satisfaction, quality architectural product, well-defined scope, and social acceptability. Finally, contractors' criteria for measuring success included meeting the schedule, profit, being under budget (savings obtained for owner and/or contractor), safety, and client satisfaction.

Chua et al (1999) identified critical success for construction projects based on the accumulated knowledge and judgment of 20 experts in the industry. Sixty-seven success-related factors were considered and grouped under four main project aspects: project characteristic, contractual arrangements, project participants, and interactive process. The results of the study revealed that experts agree that there are different sets of construction success factors for different objectives. They determined that the probability of project

success can be increased if the inherent characteristics of the project are thoroughly understood, appropriate contractual arrangements are adopted, a competent management team is assigned, and a sound monitoring and control system is established.

Gudienė, Banaitis, Banaitienė, and Lopes (2013) used multiple criteria approach taking in to consideration seven groups of factors from different dimensions. A conceptual model that includes the grouped critical success factors affecting project success was developed. According to the authors' findings, the seven major groups of factors, namely external factors, institutional factors, projects related factors, project management/team members related factors, project manager related factors, client related factors and contractor related factors are proved to influence construction project success in Lithuania.

However, as far as the venture of the researcher is concerned, no published study is available that devotes its attention on investigating what factors influence project success or how projects success is to be measured in Ethiopian or Ethiopian companies perspective.

2.2.1. Real Estate Development Practice in Ethiopia

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 was illegal. The introduction of private real estate development happening 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, parasternal institutions and public associations. Public ownership of land post 1993 was 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). 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 that is 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)

2.2.2. Project Management Maturity in the Case of Ethiopian Contractors

There was a study entitled as Project Management Maturity in the Construction Industry of Developing Countries (The Case of Ethiopian Contractors) conducted by Yimam, Abadir H. in 2011. This research has studied the maturity of PM in the construction industry of developing countries; in the course, the research has also identified two major gaps in the existing maturity models and, proposed a PM maturity model to address the gaps and adapt it to the developing countries context. Using the model, maturity assessment of contractors in Ethiopia is undertaken and, low level of PM maturity (Informal practice of the basic processes) is found. (Cited by Befkadu, 2017)

Further, the research found ISO certified contractors‟ PM maturity to be higher than those which are not. Conducted by (Hailemeskel.T T., 2020, p-2), state that the project management knowledge base successful or not. High Project management organization, those have high maturity levels account for better project performance than the lower maturity.

According to the International Monetary Fund (IMF, 2018), cited by (Hailemeskel.T T. 2020,p-2) Ethiopian economy had shown a continuous growth driven by major public construction and infrastructural investment for the last 2 decades, with increasing demand for development. The economy showed an annual GDP growth rate of 7.7% in year 2017/2018 IMF Report, (2018).

Cited by (Hailemeskel.T, 2020, p-2). The federal government of Ethiopia is prioritizing the allocation of public funds to the infrastructure investment to achieve the national economic development goal of middle-income status by 2025 stated by (Sinesilassie, Tabish, and Jha, 2017).

(Fitch Solutions, 2019) argue that Ethiopian construction industry has shown rapid growth resulting in project success contrasting that of other developing countries. The 10-year forecast of the Ethiopian construction industry of 10.5% is the fastest growth rate in sub Saharan Africa and the second-fastest industry growth globally cited by (Hailemeskel.T T., 2020, p2)

The development of PM in the construction industry of developing countries has been studied in this research; the construction project management maturity level helps to recognize the gaps in project management knowledge for future improvement. Existing maturity models and a project management maturity model are proposed to address the barriers and readjust them to the context of developing countries. Using the model, contractors in Ethiopia are assessed for maturity and a low level of project management maturity is known. In order to attract investors to invest in construction growth, project management indexes have been described as the secret weapon of developed nations.

The construction industry is seen as the pivot on which every other economic activity rotates. The fact that every business or service of various types must have a shelter and a location in the environment demonstrates the significant importance of this sector. Therefore, any effort to reduce or eliminate the visible and not visible constraints that affect the success of project management in this sector directly or indirectly is the right step in the right direction.

There are various stakeholders in any complex building construction project with narrow goals different from the main objectives of realizing the cost, time, quality and material goals of the proposed construction projects. The only solution to ensure that construction and development do not fail collapse or be abandoned at an alarming rate is proper project management policy, as this threatens the basis of economic growth.

Project success, according to (Cleland et al, 1975) Cited in (Nwachukwu and Emoh, 2011, p-59), a project is termed successful if it passes four success test criteria. the time criterion – completed on time; the cost or money criterion – completed within budget; the effectiveness criterion – completed in accordance with the original set performance and quality standards; and client's satisfaction criterion – accepted by the intended users or clients whether the client is internal or from outside the organization. The above success criteria call for effective project execution by the utilization of proven management techniques of planning,

organizing, directing and control. The issues on life cycle management, time management, conflict resolution and management, networking, contracts management, project choice and project quality are the key factors that contribute to project success. Effective project choice, for example, which results in a good project selection, greatly improves the probability of project success especially when the project executed in accordance with project management implementation guidelines.

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According to (Cleland et, al, 1975) Cited in (Nwachukwu and Emoh, 2011, p-59), a project is termed as successful if it passes four success test criteria. That is the time criterion – completed on time; the cost or money criterion – completed within budget; the effectiveness criterion – completed in accordance with the original set performance and quality standards; and client's satisfaction criterion accepted by the intended users or clients whether the client is internal or from outside the organization. The above success criteria call for successful project execution by the utilization of proven management techniques of planning, organizing, directing and control. The issues on life cycle management, time management, conflict resolution and management, networking, contracts management, project choice and project quality are the key factors that contribute to project success. Effective project choice, for example, which results in a good project selection, greatly improves the likely hood of project success especially when the project is executed in accordance with project management implementation guidelines.

2.2.3. Project Management Success Factors

The following is a priority- based list of critical success factors for project management practices for sustainable housing development: Therefore, According to a study conducted by

(Abu bakri, Abu Razak and Awang,2013) cited by (Befkadu .w,2017 P-46) seeks to create a theoretical framework for success factors in project management in sustainable housing development. The methodology used was to review past literature on the subject in order to build up existing research work in the field and to identify critical success factors for best practices in project management.

2.2.4. Critical Success Factors of Project

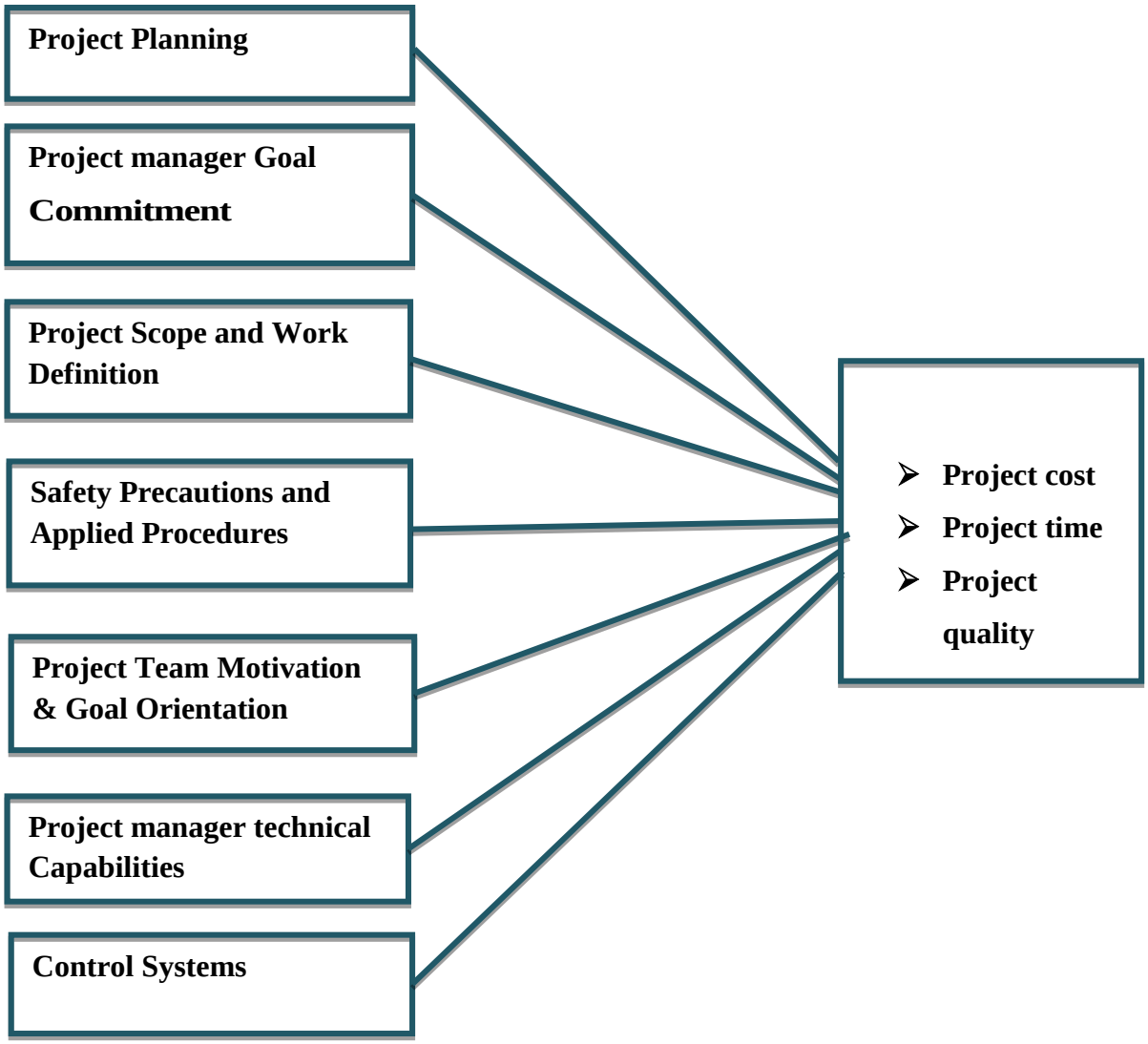
A research was conducted in Brunei Darussalam by a researcher called Rohaniyati Salleh in 2009 to identify success and delay factors which can help project parties reach their intended goals with greater efficiency. Data were collected and evaluated by statistical methods to identify the most significant causes of delay and to measure the strength and direction of the relationship between critical success factors and delay factors in order to examine project parties' evaluation of projects' critical success and delay factors, and to evaluate the influence of critical success factors on critical delay factors.

According to the research the following are seven most important causes of delay which contributed to the failure of building construction projects: On the other hand, the researcher has identified the most important critical success factors for building construction projects based on rank: (1) Project manager's capabilities and experience (2) Clarity of project scope and work definition (3) Organizational Planning (4) Use of control systems (5) Project manager's goal commitment (6) Project team motivation and goal orientation (7) Safety precaution and applied procedures

2.3. Conceptual Framework

In this study, project management is viewed from the perspectives of using knowledge areas of project management that are stated in the knowledge areas of project management in which 10 of them are acquired from PMI, (2013) and the additional four project management knowledge areas are acquired from PMI for construction extension, (2003). In this regard, Ashley et al (1987), proposed seven critical success factors for the construction projects. Since this study investigates in the real estate development, Ashley's construction project critical factors best suit it. In addition it is one of the widely accepted and applied frameworks in the study of construction project management success.

Figure 2.1 Conceptual Frame work



Source: Conceptual Framework(Ashley et al., 1987)

2.4. Hypothesis

The study employed (Ashley et al., 1987) seven critical success factors for construction project success to provide answers to the basic questions. The study attempted to identify the relationship between critical success factors and project success in real estate development construction projects. Accordingly, the following Research hypotheses are proposed.

- Organizational planning effort has a significant positive impact on project management success in real estate construction projects.
- Project manager goal commitment has a significant positive impact on project management success in real estate construction projects.
- Project team motivation and goal orientation has a significant positive impact on project management success in real estate construction projects.

- Project scope and work definition has a significant positive impact on project management success in real estate construction projects.
- Project managers' capability and experience has a significant positive impact on project management success in real estate construction projects.
- Safety precautions and applied procedures have a significant positive impact on project management success in real estate construction projects.
- The availability of proper control systems has a significant positive impact on project management success in real estate construction projects.

CHAPTER THREE

METHODOLOGY

This chapter comprises of research design; population and sample size; sampling techniques; type, source and collection instruments of the data; data collection procedures; data analysis.

3.1. Research Design

A research design is the overarching research framework that guides the logical enquiry that fits the research questions (Kothari, 2004; Vaus, 2001). Therefore, it is imperative to consider the nature of the research questions raised the objectives of the study as well as the overall context of the research problem when deciding on a study approach and design (Kothari, 2004). In this regard, this study employed quantitative research design (Survey) as the study aimed to provide a quantitative or numeric description of trends, attitudes, or opinions of real estate developers/managers/ and to examine the effect of project success factors on real estate project success by studying a sample.

Quantitative research approach is employed based on the type of data used in the research and it is used to address research questions based on analysis of numerical data or data that can be transformed into usable statistics (Creswell, 2013; Kothari, 2004). Therefore, this study follows a quantitative research approach to answer research questions and meet the study objectives.

3.2. Study population and Sample size

There are 844 real estate companies, which are registered under Addis Ababa City Administration Investment Bureau**.** Therefore, the sample size for this study will be 132 real estate companies. sample size is determined based on the famous Yamane formula (Israel, 1992; Yamane, 1967).

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

Where n is the sample size, N is population size, and e is the error margin.

$$n = \frac{844}{1 + 844\ (0.08)^2} = \mathbf{132}$$

Therefore, a project manager or senior consultants were contacted from each of the 132 real estate companies.

3.3. Sampling Techniques

The sampling method that is employed in this study to determines sample respondents are simple random sampling method. Because, it gives every real estate company in the population an equal chance and likelihood of being select in the sample. Special considerations were not given to either of the real estate companies and the position of the project managers, supervisors or owners in the project.

3.4. Methods of Data Collection

In this study both primary and secondary data are used. Secondary data is collected from books, articles and reports. These data are expected to help in introducing the concept of project management and project success; clarifying the theoretical frame work designed for the study; and to imply how much is known about the study area the research gap existed.

Primary data is collected through questionnaires which are the most important data-gathering tool that has applied in this research. This method of data collection is quite popular, particularly in the case of big inquires. It is being adopted by private individuals, research workers, private and public organizations, and even by governments. The researcher has prepared closed-ended questions for the respondents in written forms' to generate statistics.

The questionnaires also developed based on Ashley & Jaselskis's (1987) seven critical success factors and the 'iron- triangle' project success measure. The items in the questionnaire were validated and tested for reliability and used after it is assured to meet the requirements.

3.5. Validity Test

Validity is the extent to which the items or questions incorporated in the questionnaire measures what it is supposed to measure and performs as it is designed to perform (Hair et al, 2003). The item in this study's questionnaire are argued to be valid by the student researcher as they are designed according to Ashley's (1987) seven critical success factors for construction projects. Besides Ashley & Jaselskis's critical success factors, different studies conducted by Nguyen et al (2004), Sanvido et al (1992), Chua et al (1999), Gudienė, Banaitis, Banaitienė, and Lopes (2013) and Cooper et al (2001) are also considered by the student researcher in developing the questionnaire.

3.6. Method of Analysis

The analysis part of this paper is conducted by quantitative analysis (Descriptive and econometrics analysis) depending on the type of data collected. Descriptive analysis is used to give a picture of the data and for a summary of the analysis. The collected data is prepared based on its relevance to the study. After the data were screened and refined, it was organized and summarized using formats. The format has helped to easily analyze the data and focus on significant points to the study. The data analysis in this study comprised the coding, classification, and tabulation of evidence. In analyzing the quantitative data the researcher will follow the descriptive and econometric analysis. Finally, the researcher used SPSS software for both descriptive and inferential sections of the paper.

3.6.1. Descriptive Analysis

Descriptive statistics is one of the techniques used to summarize the data collected from a sample representing a given population. Descriptive statistics such as mean, percentage, and frequency have been used during data analysis. It is used to compare and contrast different categories of sample units with respect to the desired characteristics. This study applied descriptive statistical analysis to describe background information of the respondents and to assess the actual condition of project management practices in the real estate companies.

3.6.2. Inferential Analysis

Also, the inferential analysis method is used to understand the effect of independent variables on the dependent variable and to know to what extent the independent variables affect the dependent variable. In this research paper, project success is the dependent variable and project success constraints are considered as an independent variable. The dependent variable fulfills the key assumptions of the binary logistic regression model to identify the relationship between project success factors and project success. Because, the dependent variable project success is binary of success and failure choices.

Multinomial logistic regression is not chosen for this study as the interpretation of coefficients, because my dependent variable has no more than two choices and can’t be interpreted by multinomial logistic regression. Ordered logistic regression model also not chosen for this study, because my dependent variable has no more than two categories and are not ranked. Ordinary least square model is also not chosen for this study, because my dependent variable is not a real number, and the OLS model can’t interpret the data. So, the

binary logistic regression model is selected to identify the relationship of critical success factors and project success and make interpretations.

Model Specification

$$P(T) = \alpha 0 + \alpha 1 OP + \alpha 2 PMGC + \alpha 3 PTMGO + \alpha 4 PSWD + \alpha 5 PMTC + \alpha 6 SPAP + \alpha 7\ CS + \varepsilon \ldots (1)$$

$$P(C) = \boldsymbol{\beta_0} + \boldsymbol{\beta_1} OP + \boldsymbol{\beta_2} PMGC + \boldsymbol{\beta_3} PTMGO + \boldsymbol{\beta_4} PSWD + \boldsymbol{\beta_5}\ PMTC + \boldsymbol{\beta_6}\ SPAP + \boldsymbol{\beta_7}\ CS + \varepsilon \ldots (2)$$

$$P(Q) = \boldsymbol{\mu_0} + \boldsymbol{\mu_1} OP + \boldsymbol{\mu_2} PMGC + \boldsymbol{\mu_3} PTMGO + \boldsymbol{\mu_4} PSWD + \boldsymbol{\mu_5} PMTC + \boldsymbol{\mu_6} SPAP + \boldsymbol{\mu_7}\ CS + \varepsilon \ldots (3)$$

Where: OP is Organizational Planning; PMGC is Project Manager Goal Commitment; PTMGO is Project Team Motivation and Goal Orientation; PSWD is Project Scope and Work Definition; PMTC is Project Manager Technical Capabilities; SPAP is Safety Precautions and Applied Procedures; CS is Control Systems; αi and $\boldsymbol{\mu}$i are slope coefficients; and ε is error term. Where, $\alpha i > 0$

Diagnostic Tests

The likelihood ratio (LR) chi-square test used to test the **overall significance of the model**. Another test that we make in this study is **model goodness of fit** which is evaluated through Pseudo R-square However, this measures of goodness of fit is not as reliable as R-squared that is found in OLS(Hosmer and Lemeshow,2000).The study will also detect a **multicollinearity problem** by examining the standard error for the beta coefficients. A standard error larger than 2 indicates an existence of multicollinearity among independent variable, (IDRI, 2003). Robust estimation to tackle the possible **heteroscedasticity problem** in the model

CHAPTER FOUR

RESULTS AND DISSCUSIONS

In this chapter, the data collected were encoded, categorized, organized and analyzed by using Statistical Package for Social Sciences (SPSS) for descriptive and inferential statistics. From the questionnaire distributed all 132 were filled properly which means the response rate of the questionnaire distributed is 100%.

The findings of the primary data collected are presented under different sections. The demographic characteristics of the sample, the presence of the seven construction project success factors in the real estate sector and their impact on the success or failure of the construction are discussed separately.

In addition to this, the result of the binary logistic regression model that estimates the potential factors that influence the successful completion of real estate development construction projects is reported and discussed.

4.1. Descriptive Statistics

This part of the research paper presents demographic characteristics of respondents (Project managers or owners), description of project success constraints; and relationship between project successes with other important variables.

4.1.1. Demographic Characteristics

Table 4.1 Summary Statistics of socio demographic variables

Socio demographic variables		Respondents	
		Frequency	Percent
Sex	Female	32	24.2
	Male	100	75.8
Age	26-35	47	35.6
	36-45	48	36.4
	46-55	37	28.0
Education level	Diploma and under	8	6.1
	First Degree	47	35.6
	Masters and above	77	58.3
Work experience	less than 3 years	2	1.5
	3-6 years	17	12.9
	7-10 years	28	21.2
	Above 10 years	85	64.4

Source: Field survey, 2021

The study and analysis of demographic characteristics of relocates help to answer an essential question regarding about age, sex, education level and work experience of respondents. The study identified that from 132 project managers 100 (75.8%) are males and the remaining 32 (24.2) percent are females.

Concerning about age of the respondents, it is found out that 34.10% of project managers' are aged between 26 and 35, 32.6% between 36 and 45, 25.0% between 46 and 55, and the remaining 8,3% are aged 56 and above. This means, more than 90% of the project managers/real estate developers are aged above 25 and below 56. This situation shows that the majority of project managers are not in older age where the tendency to adopt new technologies and international experience is better as compared to the older ones.

Regarding educational level of respondents, 28.0 percent of the managers are educated up to diploma and below, 56.8 percent are degree holders and the reset 15,2 percent are masters and above.

Concerning about work experience of the project managers, 9.10 percent have less than 3 years' work experience, 30.3 percent have experience between 3 and 6 years, 36.4 percent between 7 and 10 years and 24.2 percent are more than 10 years. (See Table 4.1)

4.1.2. Critical Success Factors

In this sub-section of the analysis part the presence of critical success factors in the in the real estate development construction projects were presented. The questions were categorized

under seven critical success factors. And the collected for all the seven variables are analyzed and presented separately.

The responses were generated on a five-point Likert scale; 5= Strongly Agree, 4= Agree, 3= Neutral, 2= Disagree, and 1= Strongly Disagree. The respondents were required to state their level of agreement or disagreement. To determine the minimum and the maximum length of the 5-point Likert type scale, the range is calculated by (5 - 1 = 4) then divided by five as it is the greatest value of the scale (4 ÷ 5 = 0.80). Afterward, number one which is the least value in the scale was added to identify the maximum of this cell. The length of the cells is determined below based on traditional way and if mean score from 0.01 to 1.00 is (strongly disagree); from 1.01 to 2.00 is (disagree); from 2.01 until 3.00 is (neutral); 3.01 until 4:00 is (agree) and score from 4.01 until 5.00 is (strongly agree). Based on this Likert type scale, the level of agreement or disagreement of respondents on the seven critical success factors are presented as follows:

1. Project Planning

Table 4.2.Project Planning

Project planning	N	Mean	Std. Deviation
Adequate consideration and attention given in designing building	132	3.57	1.160
Constructions are thoroughly planned in advance before they are started.	132	3.82	1.318
Resources needed to carry out construction projects are well recognized in advance.	132	3.73	1.336
There is a proper estimation of the cost that will be needed to complete the construction.	132	3.33	1.551
Project schedule and construction completion time are well planned.	132	3.36	1.469
Average		3.56	1.367

Source: Field Survey, 2021

The response has shown in table 4.2 shows an average mean value of 3.56 indicating majority of the respondents' agreement on the presence of proper project planning of construction and design. Not only is this, but also the mean value of all variables greater than 3.00. This implies, the entire project managers are convinced with the proper implementation of construction planning activities in general terms and they agree with each variables of project planning.

2. Project Managers' goal commitment

Table 4.3 Project managers' goal commitment

Project manager goal commitment	N	Mean	Std. Deviation
Project managers are devoted to meet goal of the project they have assigned on.	132	3.50	1.551
Project managers initiate their team members for successfully completing the project.	132	3.54	1.550
The goals set for projects are perceived to be attainable by project managers.	132	3.30	1.615
Project managers often evaluate if the project is on the right path to meet its intended goal.	132	3.53	1.526
Project managers resist interferences and influences that might challenge project goal achievement.	132	3.39	1.491
Average		3.45	1.547

Source: Field Survey, 2021

The response indicates an average mean value of 3.45 as presented in table 4.3 indicating their commitment for the project goals at managing. The mean value of all variables greater than 3.00 indicates the entire project managers are convinced with each of the project managers' goal commitment activities.

3. Project team's motivation and goal orientation

Table 4.4 Project team's motivation and goal orientation

Project team's motivation and goal orientation	N	Mean	Std. Deviation
Project team members are motivated enough to turn the project they are assigned on in to a success.	132	3.64	1.291
Ideas of how to improve project performance are forwarded by project team members.	132	3.60	1.289
The effort of project team members is directed on activities that contribute for the project success.	132	3.74	1.334
Attaining the project goal is the priority for of the project team members.	132	3.65	1.353
Project team members accept any assignment as long as it would help for project goal attainment.	132	3.99	1.470
Average		3.73	1.348

Source: Field survey, 2021

The data in table 4.4 indicates an average mean value of 3.73 which is between 3.01 and 4.0 designating most of the respondents agreed project team members are adequately motivated and proper project goal orientation. Specifically, most of the respondent project managers agreed with each of the variables of project team's motivation and goal orientation. Because, the entire mean values in the table with a mean value of 3.63, 3.60, 3.74, 3.65 and 3.99 which all are above the average mean value 3.00. This implies that, there is no problem of teams' motivation and goal orientation in most of real estate developers' project team.

4. Clarity of the project's Scope and Work definition

Table 4.5 Clarity of the projects' scope and work definition

Clarity of the project's scope and work definition	N	Mean	Std. Deviation
Projects are well clarified.	132	3.80	1.190
Works to be done in construction projects are listed and defined properly.	122	4.02	1.269
Responsibilities of project participant parties are well illustrated.	132	3.83	1.285
Major activities need to be done	132	3.73	1.331
Criteria to measure whether a project is successful or not is placed in advance.	132	3.85	1.322
Average		3.85	1.280

Source: Field survey, 2021

The analyzed response of the project managers in table 4.5 indicates the existence of proper scope and work defining practice in the real estate development construction projects. This is indicated by the average mean value of 3.85. Most of the respondents agreed up on all of the items presented in under the variable. Specifically, most of the respondent project managers agreed with each of the variables of project scope clarity and work definition. Because, the entire mean values in the table with a mean value of 3.80, 3.83, 3.73, 3.85 and the remaining variable mean value 4.02 shows high agreement about the project's scope and work definition.

5. Project Manager's Capabilities and Experience

Table 4.6 Project managers' capabilities and experience

Project manager's capabilities and experience	N	Mean	Std. Deviation
Project managers are rich in technical capabilities that are needed to manage the project.	132	3.98	1.201
Alternative direction that leads to project goal achievement is provided by project managers when the first plan fails.	132	3.89	1.196
Project managers strongly bargain for the interest of the project not to be affected.	132	3.98	1.201
Project managers are assigned on projects only when they are believed to possess the required capabilities and experience.	132	3.58	1.127
Average		3.85	1.181

Source: Field survey, 2021

The result in table 4.6 indicates an average mean value of 3.85 which is between 3.01 and 4.0 designating most of the respondents agreed project managers are rich in capabilities and experience. Specifically, most of the respondent project managers agreed with each of the variables under project managers' capabilities and experience. Because, the entire mean values in the table with a mean value of 3.98, 3.89, 3.98 and 3.58 which are all above the average mean value 3.00. Most of the project managers agreed that project managers rich in technical capabilities their managerial capability is needed to successfully manage projects. This is indicated by the mean values of 3.85 for technical and managerial capabilities.

6. Safety Precautions and applied procedures

In construction industry safety of equipment's and workers is always in danger and needs to be protected. Appropriate construction companies such as real estate developers should develop or adopt a standard safety procedure. Hence, it has also been tried to investigate the safety and risk management procedures of the real estates under study.

Five items those are believed to assess the applied safety procedures of the real estates were presented to the respondents on which they expressed their level of agreement.

Table 4.7 Safety precautions and applied procedures

Safety precautions and applied procedures	N	Mean	Std. Deviation
The real estate pays greater attention for the safety of personnel and machineries throughout its operation.	132	3.56	1.006
Trainings on how to keep personnel and machineries from harm is facilitated by the real estate.	132	3.16	1.241
Accidents that could have been prevented if safety procedures are implemented are not observed in the real estate's projects.	132	3.02	1.214
The real estate has a well-designed safety standard.	132	3.27	1.216
The real estate monitors the implementation of its safety standards.	132	3.54	1.367
Average		3.31	1.209

Source: Field survey, 2021

The analyzed response in table 4.7 indicated the existence of good safety precaution and applied procedures in most of the real estate developers. This is indicated by the average mean of 3.31 and mean value greater than 3.0 for each variables.

7. Control System

Controlling of planned activities is quit important to increase the likelihood of successful completion in construction projects. Taking this in to consideration, control systems of construction projects is one dimension of project management that the study intended to assess. In this study whether or not proper controlling systems are applied in the real estate developers under investigation is tried to be assessed by three items provided to respondents to express their level of agreement on.

Table 4.8 Use of control systems

Use of control systems	N	Mean	Std. Deviation
Control systems to assure projects' timely completion are implemented.	132	4.00	0.791
Control systems that assure projects' completion within the cost limit are implemented.	132	3.90	0.846
Control systems that assure projects' completion based on the intended quality level are implemented.	132	4.17	0.712
Average		3.84	0.889

Source: Field Survey, 2021

For the items presented under the table 4.8, most of respondents indicated their high agreement in the existence of controlling systems of project completion on the planned

quality standards. The respondents' response indicates their agreement regarding the presence of controlling system for timely and in budget completion of projects. This is indicated in the table with a mean value of 3.90 and 4.00. This provides an average variable median of 3.84 indicating proper control systems are in practice in the real estate developing companies.

4.1.3. Project Success /Success criteria/

The project management success in the real estate construction projects is investigated from three different dimensions of the 'Iron Triangle' of project management. Respondents were asked whether or not they have completed the most recent project they have managed within the given time, cost and quality targets.

Table 4.9 Project success

Project Success		Respondents	
		Frequency	Percent
I have completed the most recent project I managed on the scheduled time.	Yes	69	52.3
	No	63	47.7
	Total	132	100%
I have completed the most recent project I managed on the budget allocated.	Yes	66	50
	No	66	50
	Total	132	100%
I have completed the most recent project I managed meeting the quality standard assigned.	Yes	74	56.1
	No	58	43.9
	Total	132	100

Source: Field survey, 2021

As shown in table 4.9, the study identified that about 69 (52.3%) of the respondents have completed the most recent project they have managed on the scheduled time where the other 63(47.7%) are failed to do so. In terms of budget, 66 (50%) of the respondents were able to complete the last project they have managed with the allocated budget while the other 66 (50%) needed additional financial resources to complete the projects. Lastly, project managers were asked if the maintained the planned quality level in the most recent project they have managed and which 74 (56.1%) of them have managed within the standard quality and the remaining 43.9% failed to do so.

4.2. Correlational Analysis

The correlation analysis is aiming to see the extent of strength or weakness relationship among variables. A correlation approach to 1(-1) shows a strong correlation, and one approaches 0 shows a weak relationship. Correlation analysis could have three important

advantages. First, it tells whether the relationship between the independent variable and the dependent variable is positive or negative. Second, it tells whether the relationship is strong or not. Third, it tells about whether there is a *Multi-collinearity* problem or not.

Pearson's correlations were used to evaluate the type and strength of relation existed between the independent variables. Pearson's correlation is the most widely used method of measuring the degree of relationship between variables. The interdependency is measured according to the scale recommended by Hair et al (2002) presented in the table below.

Table 4.10 Relation measurement scale between variables

Pearson Correlation	**Degree of Relation**
0.00-0.20	No Relation
0.21-0.40	Weak Relation
0.41-0.60	Moderate Relation
0.61-0.80	Strong Relation
0.81-1.00	Very Strong Relation

Source: Hair et al (2002)

The correlation results between independent and dependent variables found to be significant at 5 percent significant level. The result indicates the existence of positive relationships between all the independent variables with project completion on the time, cost and quality.

Table 4.11 Summarized correlation Analysis Result

		Time	Cost	Quality
Project planning	Pearson Correlation	-.616**	-.609**	-.542**
	Sig. (2-tailed)	0.000	0.000	0.000
	N	132	132	132
Project manager goal commitment	Pearson Correlation	-.687**	-.675**	-.454**
	Sig. (2-tailed)	0.000	0.000	0.000
	N	132	132	132
Project team's motivation and goal orientation	Pearson Correlation	-.649**	-.641**	-.306**
	Sig. (2-tailed)	0.000	0.000	0.000
	N	132	132	132
Clarity of the project's scope and work definition	Pearson Correlation	-.648**	-.640**	-.422**
	Sig. (2-tailed)	0.000	0.000	0.000
	N	132	132	132
Project manager's capabilities and experience	Pearson Correlation	-.589**	-.583**	-.436**
	Sig. (2-tailed)	0.000	0.000	0.000
	N	132	132	132
Safety precautions and applied procedures	Pearson Correlation	-.801**	-.770**	-.351**
	Sig. (2-tailed)	0.000	0.000	0.000
	N	132	132	132
Use of control systems	Pearson Correlation	-.685**	-.667**	-.345**
	Sig. (2-tailed)	0.000	0.000	0.000
	N	132	132	132

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

Source: Field Survey, 2021

As shown in the table 2.11, the first dependent variable, that is timely project completion, have strongly positively correlated with the independent variables project organizational planning (0.616), project management goal commitment (0.687), Clarity of the project's scope and work definition (0.648), project team's motivation and goal orientation (0.649) and use of control systems (0.685). It has also positively moderately correlation with project manager's capabilities and experience (0.589) and very strong positive relationship with Safety precautions and applied procedures (0.801).

The second dependent variable that is project completion on the allocated budget has strong positive correlation with all independent variables except project managers' capabilities and experience (0.583) which has positive moderate relationship.

Finally, weak positive relation is existed between the third dependent variable (meeting the quality standards) and the critical success factors, Project team's motivation and goal orientation (0.306), Safety precautions and applied procedures (0.351) and Use of control systems (0.345). And moderate positive relation with organizational planning (0.542), project

managers' goal commitment (0.454), clarity of the projects scope and work definition (0.422) and project managers' capabilities and work experience (0.436).

Where positive relationship is existed between dependent and independent variables, an improvement in the independent variable is observed, the dependent variable reacts in the same manner. In other words, increasing the independent variables those have positive relationship with the dependent variable, the dependent variables will also indicate improvement which increase the likelihood of project management success. The reverse is also true where if a significant negative relationship between dependent and independent variables exist, and increase in the independent variable exists, the dependent variable indicated a decrement.

4.3. Model Estimation and Hypothesis Testing

In order to analyze the impact of the critical success factors on project success, a binary logistic regression model was estimated through maximum likelihood estimation method. In the model, the three project success criteria (Iron Triangle) are considered as dependent variable while Ashley's (1987) seven critical success factors for construction projects are used as explanatory variables. Successful project completion in all the three criteria was codded as '1' where failure was codded '0'. The set of independent variables that are included in the model are organizational planning (OP), project manager goal commitment (PMGC), project team motivation and goal orientation (PTMGO), project scope and work definition (PSWD), project manager capabilities and experience (PMCE), safety precautions and applied procedures (SPAP) and control systems (CS).

The variables were presented in statistical equations as follows:

$$P(T) = \alpha 0 + \alpha 1 OP + \alpha 2 PMGC + \alpha 3 PTMGO + \alpha 4 PSWD + \alpha 5 PMTC + \alpha 6 SPAP + \alpha 7\ CS + \varepsilon \ldots (1)$$

$$P(C) = \boldsymbol{\beta 0} + \boldsymbol{\beta 1} OP + \boldsymbol{\beta 2} PMGC + \boldsymbol{\beta 3} PTMGO + \boldsymbol{\beta 4} PSWD + \boldsymbol{\beta 5} PMTC + \boldsymbol{\beta 6} SPAP + \boldsymbol{\beta 7}\ CS + \varepsilon \ldots (2)$$

$$P(Q) = \boldsymbol{\mu 0} + \boldsymbol{\mu 1} OP + \boldsymbol{\mu 2} PMGC + \boldsymbol{\mu 3} PTMGO + \boldsymbol{\mu 4} PSWD + \boldsymbol{\mu 5} PMTC + \boldsymbol{\mu 6} SPAP + \boldsymbol{\mu 7}\ CS + \varepsilon \ldots (3)$$

Logistic regression, which is similar with that of ordinary least square (OLS) regression, is used to estimate the model. Thus, logistic regression is used in this study to find out the critical success factors that have a potential impact on real estate development construction projects and to accept and reject the study's hypothesis. Critical success factors those have significant impacts on project success at (0.1) 10% and (0.05) 5% have proved the associated null hypotheses where the rest failed to do so indicating the existence of no significant impact on project success (dependent variable).

In the model estimation, beta/slope coefficients (β) and odd ratios (OR) for each variable are reported. The beta (β) coefficient indicates the expected change in the natural logs of odds ratio of dependent variable or project success because of one unit change in explanatory variable with all of the other variables in the model held constant. A relatively unambiguous term odds ratio is the ratio of two odds. The odd of an event happening by itself is defined as the probability that the event occurs divided by the probability that the event does not occur. Odds ratio is the transformed log or an exponential of beta coefficients.

If a beta coefficient is positive, its transformed log value (odds ratio) will be greater than one, meaning that project success is more likely to occur. If a coefficient is negative, its transformed log value will be less than one, and the odds of the event occurring or the probability of project success decreases. A coefficient of zero (0) has a transformed log value of 1.0, meaning that this coefficient does not change the odds of the event or project success by one way or the other.

The model goodness of fit is evaluated through Pseudo R-square with predicted values of 0.67 for the first, 0.69 for the second and 0.38 for the third models that may explain how much the variation in dependent variable is explained by explanatory variables.

H1: Project planning effort has a significant positive impact on project management success in real estate construction projects.

Project planning (planning of designs and constructions) has been found to have a significant impact on the probability of project management success. The estimated odds ratio indicated the probability of project management success increases as project planning efforts are increased. When the agreement level of project planning increased by one unit, the odds ratio of project completion in standard quality is increase by 0.04. It is known that when the odds ratio is lesser than 1, it implies that the probability of an event occurring, in this particular case project completion, in the standard quality decrease. This rejects the null hypothesis as the impact organizational planning has towards project success is positive.

Project planning in construction projects is argued by several authors and researchers to have a positive impact on project management success. Ashley and Jaselskis (1987), Sanvido et al (1992) and other many researchers have proven construction planning practices in one or another way have positive impacts in their investigations conducted in different countries. But, the finding of the study indicates organizational planning is not a successful factor in project management success.

H2: Project manager goal commitment has a significant positive impact on project management success in real estate construction projects.

Project manager's goal commitment has significant impact on successful project completion in terms of time and allocated budget and planned quality level. When the agreement level of project manager goal commitment increased by one unit, the odds ratio of project completion in terms of time and planned quality is increased by 0.04 and 0.604. But, when the agreement level of the project manager goal commitment increased by one unit the odds ratio off project completion in terms of allocated budget is not changed. Once again here is an odd ratio values lesser than 1 indicating a decrement on the probability of successful project completion in terms of time, allocated budget and planned quality level.

This fining stands against the theory and the second hypothesis of the study which stated project manager's goal commitment has a positive impact on project management success which it doesn't in this particular case. Thus, the second hypothesis is disproved.

H3: Project team motivation and goal orientation has a significant positive impact on project management success in real estate construction projects.

In the analysis, respondents' response indicated that project team member's motivation and goal oriented-ness doesn't affect project success in terms of time, budget and planned quality. This means, project team motivation and goal orientation is not statistically significant at 10 percent confidence interval.

H4: Project scope and work definition has a significant positive impact on project management success in real estate construction projects.

Project scope and work definition has a positive significant impact on project completion in planned quality. When the project scope and work definition increased by one unit, the odds ratio of project completion in the planned quality is increase by 12.95. While, the odd ratio value of project completion in the time scheduled and budget allocated 0.00 shows as there is no significant effect of one unit increase in project scope and work definition. This proves the null hypothesis which states project scope and work definition positively and significantly impact on project management success.

H5: Project managers' capability and experience has a significant positive impact on project management success in real estate construction projects.

The odds ratio of the relationship between project managers' competency and experience and successful project completion in terms of time is 1938.40. Meaning, a one unit increased in the agreement level of respondents response increase the odds ratio of timely project completion by 1938.4. This indicates the strong positive impact project managers' competency and experience have over timely project completion that is project management success. The fifth hypothesis is proven to be correct as it claims project managers' competency and experience has a significant positive impact on project success which actually has.

H6: Safety precautions and applied procedures have a significant positive impact on project management success in real estate construction projects.

The study also identified safety precautions and applied procedures of the real-estate developing companies have a significant impact on project management success in the time and allocated budget. As expected, the variable found to have a significant impact on the probability of the dependent variable occurring. When the level of agreement about the existence of proper safety precautions and applied procedures increased by one unit the odds ratio of successful project completion in terms of time and cost decrease by 0.041 and 0.058 respectively. This means, we reject the null hypothesis.

H7: The availability proper control system has a significant positive impact on project management success in real estate construction projects.

The finding of the study also shows, proper controlling have a significant positive impact on the project completion on the time schedule and allocated budget. When proper controlling system is increased by one unit, the odds ratio of project completion in the time scheduled and allocated budget is increased by 197 and 47.72 respectively. This means, control system has a significant positive impact on project management success. The finding proves the null hypothesis which states the control system has a significant positive impact on project success. (Table 4.12)

Table 4.12 Regression Result

Explanatory variables	Model 1*			Model 2**			Model 3***		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Project planning	0.020	0.986	1.020	2.478	0.182	11.920	-3.214	0.000	0.040
Project manager goal commitment	-3.223	0.009	0.040	-9.149	0.005	0.000	-0.504	0.048	0.604
Project team's motivation & goal orientation	-1.066	0.299	0.344	-4.250	0.771	0.014	0.560	0.152	1.751
Clarity of the project's scope & work definition	-12.935	0.009	0.000	-23.133	0.010	0.000	2.561	0.011	12.952
Project manager's capabilities and experience	7.570	0.093	1938.401	2.610	0.698	13.595	-0.821	0.254	0.440
Safety precautions & applied procedures	-3.188	0.023	0.041	-2.853	0.072	0.058	0.028	0.946	1.028
Use of control systems	5.282	0.059	197	17.681	0.005	47.720	0.595	0.271	1.814
Constant	27.414	0.000	8051123	65.054	0.243	1788541	1.673	0.308	5.329

*Time; **Cost; ***Quality

Source: Field Survey, 2021

Finally the models and interpretation of coefficients are as follows:

P (T) = 27.414- 3.223*PMGC* + 7.57*PMCE-3.188SPAP* + 5.282*CS* +*ε* … (1)

PMGC- For every one unit increase in the project management goal commitment agreement level, we expect a 3.223 decrease in the log odds of project successfulness in the time allocated, holding all other independent variables constant.

PMCE- For a one unit increase in the project managers' capabilities and experience agreement level, we expect a 7.57 increase in the log odds of project successfulness in the time allocated, holding all other independent variables remain constant.

SPAP-For a one unit increase in the agreement level of safety precautions and applied procedures, we expect a 3.188 decrease in the log odds of project successfulness in the time allocated, holding all other independent variables remain constant.

CS- For a one unit increase in the use of control systems agreement level, we expect a 5.282 increase in the odds of project successfulness in the time allocated, holding all other independent variables remain constant.

P(C) = 65.054-*2.853SPAP* + 17.681*CS* +*ε*… *(2*)

SPAP- For a one unit increase in the agreement level of safety precautions and applied procedures, we expect a 2.853 decrease in the log odds of project successfulness in budget allocated, holding other independent variables remain constant.

CS- For a one unit increase in the use of control systems Agreement level, we expect a 17.681 unit increase in the log odds of project successfulness in the budget allocated, holding all other variables remain constant.

P (Q)* = 1.673-*3.214PP -0.504PMGC+2.561PSWD+ε … (3)

PP- For a one unit increase in the agreement level of project planning, we expect a 3.214 decrease in the log odds of project successfulness in the quality planned, holding all other variables remain constant.

PMGC- For a one unit increase in the agreement level of project management goal commitment, we expect a 0.504 decrease in the log odds of project successfulness in the quality planned, holding all other variables remain constant.

PSWD- For a one unit increase in the agreement level of project scope and work definitions, we expect a 2.561 increase in the log odds of project successfulness in the quality planned, holding all other variables remain constant.

CHAPTER FIVE

SUMMARY AND RECOMMENDATIONS

With the intent of meeting the study's objective of finding out the existence level of critical success factors in real estate construction projects and their impact on successful project completion on the time scheduled, budget allocated and planned quality, the researcher conducted analysis of findings in the prior chapter. In this final chapter, the findings of the study are summarized and presented along with their implications, concluding remarks and recommendations.

5.1. Summary of Findings

As confirmed from the sample taken for the analysis, only one out of the seven critical success factors is not found to exist in the real estates. Project team's motivation and goal orientation is not found to exist in the real estates. The success factors also found to have a significant negative impact on project management success against what is theoretically right and expected. This indicates though the success factors are practiced in the real estates, it is not being done correctly in a way that contributes for the success of project management success.

Even if project managers believe they are fully committed for the attainment of goals of the projects, their effort in this dimension is hurting the success of project management than it is benefiting. Project managers also failed to motivate and initiate subordinate team members towards successful completion of projects.

Concerning about project teams motivation and goal orientation's significant positive impact over project management success, real estate developers have failed to motivate project team members and to make them and their effort goal oriented. Irrespective of the qualities project team members have in providing idea on how to increase the likelihood of project success, they lack the motivation and the willingness to take assignments that have greater importance for the project management success. The successful completion of the project is also found not to be the prior intention of the team members.

A proper definition of work and scope definition is being practiced in the real estate developer, and has significant positive impact on project success in the direction of planned quality. Works to be done in construction projects, what the projects are and are not about and responsibilities of project participants, what activities to be done and what outcome to expect and the criteria by which project success is measured are well clarified.

Real estate developers have a critical success factor that is proven to have a significant positive impact on project management success. Not with standing of being considered the

most prior critical success factor for construction project management success and proven to have a positive impact, project manager's competency and experience is found not to be adequate in the real estate development construction projects especially in terms time and cost. It is also true that project managers are assigned in the position without possessing the required capabilities and they fail to produce alternative directions when the project struggles to succeed in the time scheduled and allocated budget.

One of the very critical issues in any kind of construction, that is safety, is overlooked is real estate development construction projects. Safety precautions and applied procedures are found to have a significant negative impact on project management success. That means, even if they applied safety procedure their effort hurts the success of project than benefiting. Real estate construction projects found to lack of adequate trainings on the safety of machineries and personals, properly designed safety standards and follow-up on the proper implementation of the safety standards. Accidents those could have been prevented if proper safety precaution where taken also seen to happen in the real estate development construction projects.

The one success factor that has a positive significant impact on project success and existed in the real estate development construction projects is control systems. Proper controlling systems monitoring the successful completion of projects in terms of time and cost are implemented in the real estate development construction projects.

In general, there is no one success factor which has a significant positive impact on project success in all three measures of time, cost and planned quality. Among the critical success factors that are existed in the projects, some are found to have a negative impact in project management success against what is theoretically right. The cumulative effect of this has made real estate development construction projects' management to most likely fail than succeed in all three measures.

5.2. Recommendations

According to the findings of this study, real estate development construction projects are failing in every measure of project success. Real estate development construction projects take longer time than planned to be completed which by itself is a cause for cost over runs of projects. This leads the construction projects in to failure in being completed in the allocated budget. Planned quality standards are also found to be compromised.

Struggling with all these, it is wrong to expect for the real estate development sector to properly discharge its responsibility in reducing the housing problem. This calls for critical assessment of current practices and improvement in areas those are causing such failures. Implications and some possible recommendations on how to improve the identified problems

are tried to be provided by the researcher with the intention of improving project management success probability. The implications and recommendations are presented below.

- The planning practice of construction and design works which the real estate construction project managers argue to do right are negatively harming the likelihood of conation project management success in the standard quality. Reconsideration is due on the designing and construction planning to find out why it is harming the likelihood of project management success when it is supposed to positively contribute to the project success.
- What the project managers are believed to make their commitment for the project goal attainment is negatively affecting the probability of project management success. Project managers need to evaluate their commitment and shall try to find out which part of their activity that they believe to make them committed but causing failure and work on personal development for improvement.
- Most of the practical activities of construction projects are carried out by project team members, their motivation and goal oriented-ness is very critical for successful project management. It is also proven to be true in the findings of the study magnifying the importance of focusing on motivating project team members. Yet, before making any move, the specific problems that caused the lack of motivation by the project team members need to be identified. This calls for an investigation to be conducted on employees' motivation which the real estate developers take the initiative of.
- The more project managers' capable, the higher the probability of attaining project management success. This calls for capacity building activities on the current project managers and recruitment of only-and-only capable new project managers and existing project managers, capacity building shall be done through:

- Facilitating trainings for the project managers,
- Availing sponsorship in tuition fees of the managers educations, and
- Uninterrupted updating project managers on improvements in the construction sector.

In recruiting new project managers, real estate developers shall critically evaluate the experience and credentials of applicants which they claim to have. Applicants who are professionals and equipped with the required credentials should be hired.

- The safety standards which are overlooked by the real estate developers need to be focused on as employees are more productive when their safety at work place is not questionable. What safety practices need to be practiced that best protect employees and machineries from harm in Ethiopian construction need to be assessed and a safety procedure that feats best need to be designed. The Personal Protective Equipment (PPE) for Construction recommended by Environmental Health Safety (EHS) recommends construction workers on duty should at least:

(1)Protective gloves, (2) Hearing protection, (3) Full face shields when cutting, grinding, or chipping, (4) Chemical splash goggles, (5) Respiratory protection, and (6) Fall protection equipment when working above 6 feet.

For the machineries and equipment also, the development and practice of safety precautions and applied procedures will extend years of service maintaining the quality.

In general, taking into consideration what it could contribute for the nation and the society if project managements would be more successful in real estate development construction, greater emphasis shall be given for improvement. In that process:-

1. Experience sharing between domestic and international companies (real estates) on how to successfully manage construction projects would play a significant role.
2. Closely working with local and international academic institutions will also help to access improvements and updates in the construction sector.

Overall, the real estate developers and all stakeholders need to understand the critical nature of the responsibility they are bearing and act unreservedly for an improved successful project management.

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Appendix-A

ST.MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Questionnaire to be filled by real estate developers

Dear respondents,

I am TIGIST SHEMEKT, a student at ST. MARY'S UNIVERSITY, Addis Ababa Ethiopia.

This questionnaire is prepared for the fulfillment of conducting a thesis paper on 'The Practice of Project Management in Ethiopian Real Estate Industry and Its Impact on Project Success'. The information acquired through this questionnaire will be kept confidential and it is purely for academic purpose. There is no right or wrong answer here. Rather, your genuine, honest and timely response is vital for the accomplishment of this study. Therefore, you are kindly requested to give your response to each items/questions carefully. The researcher sincerely expresses her thanks in advance for devoting your time and energy to complete this questionnaire. Please note that you are not required to give your name in this questionnaire.

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Part I: Background information of respondents

Please provide your response to the following questions by putting the '✓'mark in the circles.

Q1. Sex: ○ Male ○ Female

Q2. Age: ○ under25 ○ 26-35 ○ 36-40 ○ 46-65

Q3. Education ○ Diploma ○1st Degree ○ 2nd Degree and above

Q4. Experience as a project manager: ○ below 3Years ○ 3-6Years ○ 6-10ears ○ above 10 Years

Part II: Project success factors

Please read the statements in the table and show to what extent you agree with them by marking by the '✓'mark

The numbers represent: 1 strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree.

Variables		Items	Agreement Scale				
			1	2	3	4	5
			SD	D	N	A	SA
Organizational Planning (OP)	OP1	Adequate consideration and attention is given in designing buildings.					
	OP2	Constructions are thoroughly planned in advance before they are started.					
	OP3	Resources needed to carry out construction projects are well recognized in advance.					
	OP4	There is a proper estimation of the cost that will be needed to complete the construction.					
	OP5	Project schedule and construction completion time are well planned.					
Project manager Goal commitment (PMGC)	PMGC1	Project managers are devoted to meet goal of the project they have assigned on.					
	PMGC2	Project managers initiate their team members for successfully completing the project.					
	PMGC3	The goals set for projects are perceived to be attainable by project managers.					
		Project managers often evaluate if					

	PMGC4	the project is on the right path to meet its intended goal.					
	PMGC5	Project managers resist interferences and influences that might challenge project goal achievement.					
Project team's Motivation and Goal orientation (TMGO)	**TMGO1**	Project team members are motivated enough to turn the project they are assigned on into a success.					
	TMGO2	Ideas of how to improve project performance are forwarded by project team members.					
	TMGO3	The effort of project team members is directed on activities that contribute for the project success.					
	TMGO4	Attaining the project goal is the priority for of the project team members.					
	TMGO5	Project team members accept any assignment as long as it would help for project goal attainment.					
Clarity of the project's scope and work definition (CP)	**CP1**	What projects are and are not about is well clarified.					
	CP2	Works to be done in construction projects are listed and defined properly.					
	CP3	Responsibilities of project participant parties are well illustrated.					
	CP4	What major activities need to be done and to what end result does they lead is clearly defined.					
	CP5	Criteria to measure whether a project is successful or not is placed in advance.					

Project manager's capabilities and experience (PMCE)	**PMCE1**	Project managers are rich in technical capabilities that are needed to manage the project.					
	PMCE2	Project managers are rich managerial capabilities that are needed to manage the project.					
	PMCE3	Alternative direction that leads to project goal achievement is provided by project managers when the first plan fails.					
	PMCE4	Project managers strongly bargain for the interest of the project not to be affected.					
	PMCE5	Project managers are assigned on projects only when they are believed to possess the required capabilities and experience.					
Safety precautions and applied procedures (SPAP)	**SPAP1**	The real estate pays greater attention for the safety of personnel and machineries throughout its operation.					
	SPAP2	Trainings on how to keep personnel and machineries from harm is facilitated by the real estate.					
	SPAP3	Accidents that could have been prevented if safety procedures are implemented are not observed in the real estate's projects.					
	SPAP4	The real estate has a well-designed safety standard.					
	SPAP5	The real estate monitors the implementation of its safety standards.					
	CS1	Control systems to assure projects' timely completion are implemented.					
	CS2	Control systems that assure projects'					

Use of control systems (CS)		completion within the cost limit are implemented.					
	CS3	Control systems that assure projects 'completions based on the intended quality level are implemented.					

Part III: Project success criteria (The Iron Triangle)

Please read the statements in the table and show if the last projects you have completed meet the three success criteria by marking by the '✓' mark.

Project Success (Time, Cost, Quality)

No.	Items	No 0	Neutral 1	Yes 2
1.	I have completed the most recent project I managed on the **scheduled time**.			
2.	I have completed the most recent project I managed on the **budget allocated**.			
3.	I have completed the most recent project I managed meeting the **quality standard**			

Appendix-B

Budget and Time Schedule

1. Budget Need

Activity	Rate	Total price in birr
Stationery material	Overall	1500
Secretarial and binding	Overall	1500
Transportation cost	Overall	1000
Data collectors perdiem	Overall	6000
other cost	Overall	1500
Total		**11,500.00**

2. Time Schedule

No.	**Activities**	**Months**																							
		Jan.				**Feb.**				**March**				**April**				**May**				**June**			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1.	Proposal Writing																								
2.	Refining Proposal																								
3.	Data collection																								
4.	Data organization																								
5.	Writing analysis and																								

	Interpretation of results																							
6.	Writing conclusion and recommendations																							
7.	Submission of 1st draft to advisors and improving it based on feedback.																							
8.	Writing the final version of the research report																							
9.	Thesis Defense period & Submitting final version of the paper																							

Table l: Time Schedule (Own source,2021)