

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

GRADUATE STUDIES PROGRAM

THE ROLE OF EFFECTIVE SCOPE MANAGEMENT ON CONSTRUCTION PROJECT SUCCESS IN ETHIOPIA REAL ESTATE (EVIDENCE FROM A SELECTED REAL ESTATE): THE MODERATION ROLE OF STAKEHOLDER ENGAGEMENT

A FINAL THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN PROJECT MANAGEMENT

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Declaration

I Mussie Desta declare that this title "the role of effective Project scope management on construction project success in Ethiopia Real Estate(Evidence from a selected real estate): Moderation role of stakeholder engagement" is an original report my research, has been written by me and has not been submitted for any previous degree. The experimental work is almost entirely my own work, and collaborative contributions have been indicated clearly and acknowledged. Due references have been provided on supporting literature and resources, I declare that this seminar was composed by myself, that the work contained here is my own, except where explicitly stated otherwise in the text, and that this work has not been submitted for any other degree or professional qualification.

Name _____

Signature _____

Date_____

Certification

This is to certify that the seminar and senior essay entitled "The role of effective Project scope management on construction project success in Ethiopia Real Estate (Evidence from a selected real estate): Moderation role of stakeholder engagement" submitted to the Department of project management, school of commerce in the partial fulfillment of the requirements for the Degree of Masters of project management conducted by Mussie Desta. This work is carried out by the candidate under the strict supervision of the advisor.

Advisor_____

Signature_____

Date_____

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BY: MUSSIE DESTA

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Acronyms

ANOVA–Analysis of Variance

IT- Information Technology

PMBOK- Project management body of knowledge

PMI- Project management institute

PM- Project Manager

SPSS- Statistical Package for the Social Sciences

SD- standard deviation

TOC- Theory of constraint

VIF- variance inflation factor

WBS- Work Breakdown Structure

Abstract

This is a study that focuses on the effective of scope management on project success in a selected 7 real estate with a moderation of stakeholder engagement. The research was built on two theory: stakeholder theory and theory of constraint. The researcher used explanatory research design and quantitative data to know the effect of each dimension on performance. Due to small population, the researcher decided to take a census. Out of 208 respondent, 157 respondent returned the questionnaire. A close ended questionnaire was used. Data analysis was used in SPSS Software version 25. Descriptive and inferential test were used like ANOVA, correlation and regression to get the result. Result showed that scope definition, WBS, scope verification and control has a positive and significant impact on success real estate. The R squared has shown 57.1% that is explained by explanatory variables on project success. With the inclusion of the moderator, 63.6% of the variation is explained by the independent variables, an increase of 6.5%. *Total effect has increased to 77.3 (13.8% increase) with interaction. The moderation of stakeholder engagement impacted the relation between scope definition with (0.301), wbs with (0.312), verification with (0.362), control (0.322) on project success positively and significant by strengthening it. Recommendation was given as such: Organization should have a full document and sharing it with teams, Develop detailed schedule and cost for WBS, Checking scope everyday like auditing regularly to adjust to ensure success and Company should also invest in digital project management tools. Future research are also stated.*

Key words: Scope definition, WBS, scope verification, scope control, stakeholder engagement, scope management

Chapter 1: Introduction

1.1 Background of the study

Project scope management has been recognized that bring achievement when it comes to delivering a project. It entails all the work or activity included in the project following that plan and ultimately delivering for the client. (Larson and Gray, 2018). If they don't implement scope management plan, like not defining scope at the start of the project, will likely bring project collapse and also bring financial disaster. (Ogunberu et al., 2018)

Before diving into project management, one must understand the meaning of a project. Project is any activity or task that creates a value, has a start and end life within the constraint of human and non-human resources. Project management is having all of knowledge, human capital and equipment to attain a requirement. It classifies into 5 process groups: initiation(choosing project which are viable due to feasibility studies), planning(defining the scope and resources), execution(implementation), monitor and control(checking progress and making corrective adjustment) and finally closure(closing all the resources) (kerzner, 2018)

The construction sector is a dominant role for performance of the country. It categorize and supply in public and private and housing infrastructure. Kirchberger, (2020). Real estate is among the construction industry that includes many dimensions of property like commercial, residential, industrial and other aspects. (Real Estate Ranking and Review, 2015). It contributes a major component for GDP around 15-28% in some Europe countries. (kongela, 2013).

Recent study on challenges of real estate development in Ethiopia pointed the challenges of real estate development like policies, rules and regulations, requirement of high capital, lack of material that requires for construction, inflation in material price, foreign currency and devaluation, political issue, requirement of high capital and issues with land acquisition are identified as essential ones. Wendafrash (2021)

Scope refers to all details and features that goes into the project outcome with the required budget and time. Project scope management ensures that all details and features, the activity it requires to accomplish the goal. If the project is out of scope like uncontrollable adjustment, this leads to scope creep(PMI, 2013)

Scope can mean two things (PMI, 2017), Product scope- the features that characterizes a product or service. Project scope- this is the performance or every activity that undertakes to produce an output within the boundary of the scope. One of the knowledge areas in project management is Project scope management. Its an activity to encompass only the work, resource required that an organization able to do to achieve a success.

Ethiopia, being capital of Addis Ababa is 2nd populous country after Nigeria and also considered among the developing countries. (Zewdu & Aregaw ,2015), In terms of industry contribution, GDP escalated to 5.6%, the GDCF significantly increased from 60% in 1996/97 to 75% in 2002/03. Construction sector is playing a gigantic role in performance of the Ethiopian economy. It create job opportunity, expansion of other sector, market opportunity for supplier and generate income for the government of the country (Ethiopian Economic Association, 2008).

Real estate is a recent development and targeted for upper class. However, it was started 25 years ago such as Ayat, ropack, and jackros real estate. As the population grows, more house was needed and real estate expanded (wendafrash, 2021). In Ethiopia, the construction is expediting by higher demand for infrastructure and housing project. (Getachew & Fekadu, 2021).

Scope definition is one of the process in scope management process when delivering a project. It outline the plan before executing a project. However, most developing countries neglect this because of lack of stakeholder engagement involved in a project. (Tuulila et al, n,d)

The performance in Ethiopia have shown good development while developing a project. Report from, Ethiopian Ministry of Infrastructure (2022), It showed the finishing time reduced by 12% in the past five years, their budget management showed an increment from 50% to 65% according to Ethiopian Bureau of Finance (2023). Ethiopian Project Management Association (2021), also reported that stakeholder satisfaction has risen to 80%.

The real estate in Ethiopia has shown a significant improvement in recent years due to population growth, urbanization, requiring more housing for residential property. However, there are issues that can impact it success which leads to delay, cost overrun, quality issue and failure of the project. Scope is one of the issues that mostly seen as a factor responsible for project success.

According to Belete(2019), scope management is an important factor to success, but there are some challenges that Ethiopia faces like no attention of scope definition, Not having enough stakeholder

participation before the project and during the project, adjustment during the project can bring problems like scope creep which are unbearable are the challenges in construction sector.

Therefore, addressing this issue is very meaningful for the sector and therefore, this study will dive on the role of effective scope management on project success with moderating of stakeholder management

1.2 Statement of the problem

According to PMI (2017), Project scope management is one of the project knowledge areas that is key for project success. In the scope management, negligence to this area has a huge consequence which could impact the budget, time and quality which make the project delay or failure. From an international studies, it implies that one of the causes for the failure is lack of defined scope, because of this, project experiences scope creep.

In project management, Scope is one of the iron triangle for measuring success (Kerzner and Saladis, 2009; Shirazi et al., 2017). Scope is often treated as a term difficult to answer compared to cost and time because it doesn't expressed in quantitative terms as the other two creating confusion and impact on a project success. It reported that 19% of the project are failed while 50% of them suffer from scope creep. PMI(2017),

Globally, The construction field has shown a spike and huge influence in most of the countries. (Emmett & Langston, 2019). It seems to have issues globally in perspective of project failing. Reports shows that project are executed but in middle phase (at the half of completion) are usually cancelled and 50% of the completed project experience 190% budget overrun and 220% delay. It can also see as this sector seems to have a lot of persistent issues when it comes to delivering the project successfully. (Abukuse & Kisimbii, 2019).

From the scope management process, making improper or neglecting in scope definition and control are often leads to compromised quality, budget overrun and delays. Maeresera, (2019), This is because of the repeating over and over again like scope creep, conflict between stakeholder which continue to occur in construction and became a huge global issue despite having all the advanced tools of project management frameworks (Al-Rubaiei, 2018).

According to Lampa (2017), Scope validation or verification and control are often neglected that has significant contribution to outcome like time compliance and stakeholder satisfaction. They point out It implies that the literature for definition and planning phases are much discussed, while validation and control remain unexplored.

Fageha et al (2013), state that one of the process in scope management like scope definition is difficult to manage and major issues in the construction sector. The Ethiopian real estate has been growing at expediting rate and important for the economy. It showed a good pace and come up with a two digit increase of economy growth. (Arsema Eyassu, 2020). Despite this, there is a concern regarding delivering the project with required time, Scope and Quality. The obstacle they face while performing the work is effective scope management.

In general, Ethiopia real estate mostly in construction, they implement the project without finishing the scope requirement, and later on they decide to add scope that is uncontrollable which could impact the project duration leading to cost overrun, time overrun and delays. This is also has a ripple effect on WBS, scope verification and scope control. There is always an issue regarding schedule delay on delivering some projects and not finishing projects at the expected quality which might be an issue for a customers that can bring dissatisfaction.

Therefore, there is shortage of evidence regarding the study of scope management process in Ethiopia. This study will address all the gaps into consideration by taking scope definition, WBS, scope verification and scope control to see the role of effective of scope management in Real estate construction success in Ethiopia with moderation of stakeholder engagement.

1.3 General Objectives

The general objective is to investigate the role of effective scope management on project success with moderating role of stakeholder engagement

1.4 Specific objectives

- To assess the effect of scope definition on construction project success real estate
- To investigate the effect of WBS on construction project success real estate
- To analyze the influence of scope verification on construction project success real estate

- To explore the moderation role of stakeholder engagement in relationship between scope management and project success
- To examine the effect of scope Control on construction Real estate project success

1.5 Research Question

- What is the effect of scope definition on construction real estate project success?
- What is the effect of WBS on construction on construction real estate project success?
- What is the effect of scope verification on construction real estate project success?
- What is the moderating effect of stakeholder engagement in relationship between scope management and project success?
- What is the effect of scope control on construction real estate success?

1.6 scope of the study

The study covers in the effective of scope management in Ethiopia Real estate construction success. The individuals that are targeted in the study are: supervisor, project manager, staff, contractor and consultant. Engineers were not included in the study. They are selected because they are key participant in the construction and have the knowledge in scope management field. The study covers only in selected 7 real estate construction sector mainly on Ovid, Ayat, Gift, Tsehay, Noah, sunshine and Flinstone real estate. It covers the 7 real estate in Ethiopia because they are major companies that delivered more projects, more experienced than the others and they're considered to be in the top ten real estate. This study will also use the explanatory research design

1.7 Significance of the study

The study is significant as it provides brief knowledge in knowing the relationship between effective scope management and project success. It also add a new knowledge in taking moderating variable of the role of stakeholder engagement, bringing empirical evidences in Ethiopia context. This is useful for project managers to get a clear image and knowledge in real estate companies to understand the awareness of the effect it has on project success and take drastic action like having a better strategy for avoiding wastage of resource to improve efficiency and success. This paper also aware for people who involved in a real estate construction to take serious consideration when

creating the scope definition and to involve the stakeholders in every process creating collaboration and improve performance. In addition, real estate companies can boost their performance knowing the effect it has and considering the suggestion it pointed out by the researcher.

1.8 Limitation of the study

This researcher is limited to the effective project scope management on construction real estate in Ethiopia context. The researcher encountered a challenges such as some respondent are unwilling to cooperate and give a response in questionnaire due to their busy schedule and time. Secondary data was not collected because they believe that real estate is a competitive company and getting the performance data will compromise them. The study is only limited to 7 companies meaning that generalizability is only for the seven companies. The variables are only focused on scope definition, WBS, scope verification and scope control which neglect other variables that affect success. It only used an explanatory research design since there is limited timed and budget.

1.9 Definition of terms

- Project success- is completing the project outline or original plan within the constrained budget, time, scope and quality.
- Project scope management- is including all the activity that undertakes in the project within the boundary to achieve success
- Project management- refers to including all the knowledge, skills and technique into an execution to achieve an objective.(PMBOK, 2017)
- Project- is a temporary campaign that creates unique value within the required time and budget
- Stakeholder engagement- it's the involvement or participation in project decision making and also in phases of projects (PMI, 2017)
- Scope definition- the 2nd stage in the process of scope management which is writing the description of the project and product. It includes what's included and what not included aligning with the boundary (PMI, 2017)
- WBS- this is define as breaking down a whole complex project into detailed activities to assign resources and individuals for each work.
- Scope verification- this is the process of making sure every scope that was included is accepted or not or what was delivered

- Scope control- is monitoring the performance and showing where it reached and making corrective adjustment to the scope baseline

1.10 organization of the paper

The study is dissected in to five chapters. The first chapter focuses on introduction of the study. It includes background of the study area, statement of the problem, objective of the study, scope of the study, limitation of the study, definitions of the variable and organization of the paper. The second chapter presents the literature that explains scope management and project success and empirical literature. The third chapter deals with methodology of the study. The fourth chapter is about data analysis and interpretation based on findings. The fifth chapter contains conclusion and recommendation.

Chapter 2: Literature Review

2.1 Theoretical review

Project

As PMBOK(2017) defines it's a short term campaign to produce a unique deliverables or value. The value could be product or service. Achieving these goals may produce more than one output. These could be: Unique product- which can be a component of another item, Unique service, Unique result, Amalgamation of unique product and service

Wysocki's (2011), explained project as a complicated, unique that has a start and end time and achieving it with the required time and schedule that aligns with the original stipulations. He further explains that a project are dependent on operation to complete it successfully. Heerkens (2002), a project is a temporary to arrive in a unique goal.

Unlike operation, A project has start and end life which means a temporary until achieving a goal. It's has smaller projects like a work package to achieve the final endeavor or product. Its something that will never replicate in another time and same resources which is why it makes it unique. Heerkens (2002). Burke (2007), stated that a project may have unique characteristics: Start and end life, Has distinct lifecycle like initiation, design, execution and closeout), They have defined time constraint which the project will be finished, There are non-routine which means one opportunity to achieve the right way, The entire project is a responsibility of the project manager ,Resource must be allocated in efficiently manner since they come from different parties, A project team is established and involve them in organizational matrix structure.

Stakeholder theory

The theory was originated from Ian Mitroff in 1983. Stakeholder is someone who has interest, power or influence or influenced by project.

Mitchell et al. (1997), formulate the idea that stakeholder will be important to the managers and eventually they consider them as an asset for the organization and giving them enough attention by closely managing in urgency and legitimacy. Success of an organization is determined by fulfilling the needs and satisfaction of stakeholder. (McDonald, n.d.). Stakeholder can be: supplier, customer, community and government which can be affect or affected to the organization. It follows that organization should be able to create an output to make sure all the stakeholder are in

check. Limitation they pointed by other scholars is that involving all stakeholder is a challenging thing for a company. It looks for a way to build a relationship with the company and tackling the obstacles that organization face from initiation to execution. (Blackburn, 2019).

The theory is chosen because of the involvement of stakeholder in different phases of the project or project scope management process might improve the project success of the organization.

Theory of constraint

In a modern world, Every organization face challenges and issues in order to survive and compete with other organization. Organization tries to find the best way that works for their strategy and be a competitive against their rival firms. TOC comes into play here that concentrate on the weakest ring of the same chain. It was developed by a prominent figure Goldratee in 1984. It identifies that slows down a company performance and know the relationships. No matter the company, this theory is used to improve the system by spotting the problem and preparing for a change. this way, managers can understand and effectively manage the company on constraint and system thinking. (Quesado & Branco, 2017).

Project are difficult to predict as to what to expect because of its dynamicity, evolve in technology and uncertainty that includes the three constraint like time, content and budget(Gupta & Boyd, 2008). In a project the constraint: budget, time and scope have influential effect on performance but they depend on each other. If one of them is mismanaged, it will transfer to other two. Therefore, before the start of the project, one must be committed to define the scope in order to have a stable performance and avoid any hindrances.

This theory helps to know it influences project success with the involvement of different stakeholder and to support organization and ensure success.

Project scope management

It's a management that is by a process that ensures that all activities or resources are in boundary to achieve a goal successfully (kerzner, 2009). (Muddasar, 2016), The project boundary is measured in many dimension but this one is in perspective of scope. The mission of scope management is ensuring what to include or not in the project. Most of the project fail is because of exceeding the boundary of the project due to their poor management. This could be from a

various reasons like there could be a conflict between stakeholders on scope, or by not giving attention to the scope planning or defining it, adding more activity that was not part of the plan leading to scope creep that can impact the project duration, budget and time duration. Scope creep According to PMI (2017), scope creep is unmanageable to a project scope which is not part of the original time, cost and budget. In every project, scope change is unavoidable but it needs to be controlled and managed in every step of the way.

Schwalbe (2010) mentioned five process in managing scope management:

Plan scope management- this is creating a plan that records everything on how the project or product will be describe, confirm and controlled.

Collect requirement- this is a process that looks at customer needs and fulfilling what the customer requires to meet the required objective. It basically includes all the features and deliverables for creation of the product or value, Define scope this is explaining the scope of the product or project in a clear and understanding way. It has three process which to produce an output: input, process and output. For input, it includes setting project charter, setting plan, reviewing documents, organizational process asset and tool and technique using expert judgment, analysis of data, decision making and product analysis.

Schwalbe (2010), stated the output are project scope statement and document updates. Create WBS- this is a process that dissect each project into a chunks or work packages to look it in a detailed way. Their input are similar to others except in the output they produce is differ in creating scope baseline which is just an accepted version of scope statement and updating a document like assumption log and requirement documentation. Mishra and Soota (2005) assert that breaking down project scope into smaller details and giving responsibility for each person that involves in a project does facilitate the structure for the work and success.

Verify scope is the 4th process which is confirming the project deliverable whether it's acceptable or not. There are input, tool and technique and output similar to others. The key point is that there is an inspection where the team will investigate and make a decision.

Control scope is the last process that keep track of scope so that it wouldn't be out of boundary and making sure that it sticks to original baseline. Key stakeholder should carefully give attention at this stage because it could impact the budget and timeline if it slips.

Significant of project management

According to PMBOK(2017), its the application of all knowledge, skill and technique to achieve the requirement. By integrating all these application, project management can be a success. It achieves the goal by optimization of its resource productively. Effective project management can: Meet project objectives, Boost the likelihood of success, Forecasting, Delivering the project at the required time ,Try to rectify the situation, Balance the resource constraint (time, cost , scope, quality)While, poor management may lead to: Cost overrun, Quality may compromised, Stakeholder may be unsatisfied, Recognition may deteriorate, Not delivering the project within the time frame as expected. The important significant of project management is to have stability in a project implementation and success. One project is called accomplished when all the activites are being met and judged by the performance measure. Assaf, & Hejji(2006).

Scope definition and performance

Schwalbe (2011), state that the scope management is a useful concept and the difficulty in project scope management is scope definition. Its substantial for the team should define it carefully at the beginning of the project to avoid any rework, meeting the client requirement and to reduce scope creep.

Defining the project scope at the early stage of the project is very essential for the project success by including stakeholder views. The reason for this is to have all the remarkable information before proceeding to the next stage and the work to be achieved to avoid major change which could hamper the success of the project.

(Nicholas, 2004) When defining the scope of the project at the beginning of the project, it needs to have comprehensive information of what needs to be included with explanation. This is called scope statement. Every time when there is change in the project, the statement is to be updated. Scope statement is a statement that states what outcome it will tell and how the work will be carried out throughout the entire detailed project. Hence, before executing the project, all key stakeholder should be involved in the project, should try to come to an agreement so that there wouldn't be disharmony or conflict amongst them in the statement. (Portny, 2010)

Mirza et al.,(2013), when the scope of a project is not properly defined, it could have severe consequence in the project success. The scope checklist needs to be checked and managed when

executing the work to avoid any additional work, budget overrun. Additionally, if the project duration is extended, so does the cost of material will be inflated which is inflation and also the motivation people who have involved in a project such as team members will deteriorate.

So its important to be serious to manage scope at any phase of a project since it has a another effect on the duration, cost, and other related factors of the project.

Mirza et al. (2013) examine the contribution of scope on success with the methodology used entailed review of existing literature.it showed, many projects were in good shape at the start of project but most of them do not achieve much success. The reason for this is the lack of understanding or defining project and product scope at the start of the project. If the project is managed properly and defined from the start of the project, then it would've achieve success in terms of cost, time and budget.

Work Breakdown structure and success of a project

According to PMI(2017), WBS is the process of breakdown project into a chunk or breaking down a large project into a smaller detailed one, so that it can be managed easily. Its done once or specified time. The planned work is included in under WBS so called "work package" where the work is tracked and monitored in easier way. Work package is a portion located at minimal level that needs to be delivered of each section in the WBS. In a project, each work package has an activity that must be delivered along with its own information.

Siami-Irdemoosa et al.,(2015), studied on WBS in the underground construction and pointed that its paramount for success of a project. Few studies focuses on methodologies to create that is suitable for WBS project and those are mostly focus on construction like apartment. This study presented a neural network as new methodology to use WBS for more complex underground projects. This has been used in a tunnel case and the model is able to produce the WBS and its activities compared to its project planner.

According to (Burke, 1999), in order to have clear understanding of scope is to have WBS for any project. This is to make it easier to manage their resources like budget. Moreover, its easier for stakeholder and project team to see the component of the work what was achieved or not to make it successful project (Larson and Gray, 2018). In WBS, its essentially going from upper level to

lower level by first considering as a whole component or project then moving sub deliverable until it ends.

Scope verification and project success

Scope verification is one of the process that makes sure everything that was planned or outline in the scope statement was delivered or not. It's ensuring that the deliverable were meeting the original scope like quality, requirement, output and others. It can help to avoid modify and control the scope plan so that they could be no extended duration or budget overrun. (Hans, 2013). This process can be used at any phases of project like beginning, middle or at the end of the project. Schwalbe (2011), the main tool for this is inspecting throughout the project by the project team or stakeholder.

Mahmoud (2018), points out that it's very meaningful to make sure that the original project scope meets the final output that was delivered. It needs careful investigation to scrutinize every detail in the project. (Hans, 2013) opposed the PM in making sure everything is aligned with requisites condition. Therefore, verification is considerable in checking the requirement to guarantee an achievement of the project.

Scope verification is one of the process that secures whether the team and stakeholder involving in the project are delivering what was agreeing upon fulfilling the customer desire and satisfaction (Brewer & Dittman, 2010). In addition, it helps for the project to avoid any major change that can impact the project performance. (Schwalbe, 2011)

Scope control and project success

This is also a fundamental stage where they keep track of the project level including the product scope to make sure it doesn't slip to the original accepted baseline. This is an advantageous since the baseline is tracked in all phases of the project. Therefore, this stage is needs a careful attention as it takes corrective action to tweak making sure all the necessary adjustment in the project. it can also point that it can be used to control to modify any change that occurs.(PMI, 2017)

Scope control is also needed to watch over in avoiding scope creep which is the inclusion of some details in the already accepted version of the plan. Wysocki(2011), In this phase, the team who are involved in the project try to track the scope and watch out for any alteration. Its basically keeping

it aligned with the original boundary. However, if the issues came from scope verification, the scope must be adjusted.

Project success

The term project success commonly measured through the iron triangle, time, scope and cost. (Atkinson, 1999; Ika, 2015). Mostly, it usually measured whether project were successfully within the stipulated time and cost. Although, some studies focused on time, quality and cost to success. (Agarwal & Rathod, 2006),In todays modern world, some studies are including client inputs, stakeholder satisfaction besides the usual measurement. (Ika, 2015). So, The traditional measure might not be enough as customer might be dissatisfied in the quality of the project which is a major impact in the success of the project.



Figure 1 iron triangle

Source: Atkinson(1999)

Scope- The accepted and deliverables within in that boundary in a project

Time- the required duration for the project in the lifecycle

Cost- the allocated budget for the project and what it costed at the end of the project

Ika and Donnelly (2017) also argued that stakeholder engagement and management are detrimental to success. Project success means that the project that was delivered was achieved efficiently and effectively in terms of time, cost, scope and quality. (PMI, 2017).

Stakeholder engagement

In project, there are different stakeholder that are trying to achieve a goal, each has a unique role who has responsibilities. It could be like client, employee, manager, team and others who can impact the project. Their impact could be direct or indirect involving in the project. They also have influence on the success of the project (Amadi et al.,2018). Tengan and Aigbavboa (2017), studies on engagement of stakeholder in monitoring and evaluating on construction sector and it showed that project are very complication and needs the involvement of stakeholder in M&E that can lead to growth and collaboration. It adopted questionnaire instrument, interview and result showed that stakeholder involves in construction but no engagement in monitoring and evaluation which leads to unpleasant situation like showing failure, delay, poor quality, disapproval among the client and not aligning with standard scope. Thus, its necessary for the stakeholder to engage them in a project since they will guide decision making and implementing the project. (PMI, 2017). (Lückmann & Färber, 2016), the involvement of stakeholder depends on the success of the project, not involving all could bring a consequence to the project.

Magassouba et al.,(2019), on the impact of stakeholder engagement on performance of project in Guinea. It found that its very vital to for stakeholder to engage and participate and contribute to execution and success. It seen that adjustment made by Administration and Control of Major Projects and Public Procurement was motivating the stakeholder to bolster performance

Maina and Kimutai (2018), investigated stakeholder engagement and performance measured in terms of cost, time and quality. It focused on dimension of stakeholder needs, communication, management of conflicts and stakeholder participation. It reached that stakeholder management and participation had positively and significant impacted the project but participation had robust effect, stakeholder need and communication being the last.

According to olander(2005), mentioned that engaging stakeholder is a crucial aspect to facilitate in activities that's being delivered in construction sector and avoid any dispute in executing the project. Mfolo, & Mhlambi (2025), found a result that stakeholder engagement is one of the most key element that influence the project scope management success

Moderating effect of stakeholder engagement

Organization have a lot of stakeholder that participate with different influence, interest and they play a huge role in the performance of organization. Freeman, (1984). The organization performance can be impacted by their involvement directly or indirectly. It needs an engaging stakeholder with good energy to have a good performance in the company. This is important for the case that it can have a moderating effect between project management and success. (Khan &Warris, 2021)

Stakeholder play a huge factor in a project success when executing a project in a lifecycle of a project from a start of a project to closing a project. (Rohrbacher, 2001; Williams & Dair, 2007). World bank(2012), states that the engaging stakeholder with a benefit of easier management for people with higher authority. In construction, by building a healthy relationship with stakeholder can be related to sustainability. The main idea of this, is to engage all stakeholder in every phase of the project from start to end by getting all their input in order to have a smooth performance. (Bourne & Walker, 2005). Earlier studies have been conducted the relation between stakeholder engagement and project success. Ika and Donnelly (2017), indicated that engaging stakeholder in a project with high commitment are crucial for project success. Similarly other studies Nangoli et al. (2016) suggests that stakeholder should be involved and gathered them in a project before the project starts. Fraz et al. (2016), implied that in order to have a project success, stakeholder management is key thing to know their interest and concerns in a project involvement. This implies that how stakeholder management can significantly change the performance of the project by involving them from the initiation of the project.

By engaging stakeholder in a project while establishing the scope definition, there is a decent chance that organization will perform well. This is because a better participation creates exchanging information, experience, building confidence from a perspective of each stakeholder which facilitate management and expedite performance. (Beierle and Konisky 2001; Brody 2003). This process allows for stakeholder like contractor, consultant to find a solution for any problem they face in regards to community. (Marshall and Jones, 2005). In doing so, the construction sector can gain better knowledge, delivering quality works. (Mitchell, 2005). The other importance for stakeholder engagement is that it can improve the management of the resource like avoiding

wastage of unnecessary cost, delay while executing the project. This mostly occurs in developing countries in a public sector projects such as Saudi Arabia. (Assaf and Al-Hejji, 2006)

Previous studies shows that stakeholder engagement (26.09%) with all the necessary digital tools can show a huge level of responsibility which can bring improved project success. Mfolo, & Mhlambi (2025)

Stakeholder is indispensable in scope management that involve in defining the scope or tweaking in the middle of a project, because of beneficiaries or other purpose which impact the project performance positively or negatively (Nyakoyo & Odhiambo, 2020). In order to achieve a success, Erkul et al.,(2019), stakeholder must be managed everyday by project managers to know their interest, influence, expectation in a project scope. Establishing a good understand communication is a key determinant to success. It also implies that they should be involved in verifying and controlling the scope basically in all phases of project to ensure a decent performance. This shows that taking stakeholder engagement can strengthen or weaken the relationship between each process and performance.

2.2 Empirical Review

An examination by (Mwangi, & Yusuf, 2022), investigated on "project scope management and successful implementation of infrastructural health program in nairobi county"the objective was to explore on scope planning, scope budgeting, scope scheduling, scope control on health infrastructure which is based on stakeholder theory, pure theory of public expenditure, theory of constraint and theory of change. The target population was 120 personnel of 40 health facilities and questionnaire was also used to collect the data. Multiple regression was used to investigate the relationship between scope management and success. The result showed that all variables showed significant positive effect on success

A study by (Ogunberu et al.,2018), analyzed "project scope management practices on project success among telecommunication organizations in Nigeria. It used primary data with questionnaire selected from project sponsor, managers and project team. Data were analyzed by descriptive and inferential. Result showed that customer satisfaction, expectation, resource allocation, project cost, duration and quality were success criteria with the first two being the most critical ones.

Gitahi,(2023) researched on project scope management and performance of projects: a case of water and sanitation in Mombasa. The study was to investigate scope planning, stakeholder engagement, scope control and WBS on performance**.** It targeted 14 water project from 2012-19 with purposive sampling selecting senior manager to answer the questionnaire. The outcome showed positive association for stakeholder engagement and weak association for WBS. Regression result showed that scope planning, stakeholder engagement, scope control and WBS influence water project. About 55.8 explained by the independent variable, while 44.2 were attributed due to residual effect because of not included in the model.

(Mbutu et al., 2022), explored scope definition on government construction performance that was built on theory of constraints in kenya. It employed cross sectional and descriptive design for the study. With 320 construction project, 178 were selected. Primary data was also adopted to collect semi structured questionnaire. The data was analyzed by descriptive and inferential analysis. The result showed that it had a significant and positive effect on performance with coefficient determination of 38.4 by the independent variable.

Wachira & Nkirina, (2024), Examines on the effect of scope definition on real estate performance. The researcher employed descriptive research design with target population of 414 employee in 46 real estate. The respondent were chosen based on stratified random sampling. Primary data was also used to collect questionnaire and analyzed by descriptive and inferential. It deduce by finding that there is a positive direct relation between scope definition and performance of real estate developers and also found that scope change management had a positive effect on performance of real estate. It recommends to develop a clear schedule, clear goals, making realistic assumption, everyone working on the same goal to achieve high quality.

Banda Jr and Pretorius (2016), on scope definition and performance in Malawi. 12 project were selected using purposive sampling. Both qualitative and quantitative were adopted to achieve the objective. Interview and questionnaire were used and found that there is a significant correlation between scope definition and success in road construction.

An analysis by Anari & Omwenga (2024), that explored on relationship between scope verification and performance of digitization in kenya. The method it used was descritpve with questionnaire. the target population were digitization project with a sample size of 109 chosen by random sampling. The data was analyzed by regression. It found that scope verification had a positive

effect on performance with r squared of 36.6% explained by verification. Recommendation was given as for the organization to conduct regular project metrics to ensure a decent performance.

A study made by Njau & Ogolla (2017), analysis on determinant of project scope performance. It employed descriptive research design and collected quantitative data. The targeted population were: **supervisor, manager, staff and project beneficiary.** It was 200 population selecting sample of 60 respondent through stratified sampling technique. A questionnaire was also implemented. By using regression model, it showed that the use of WBS and scope change highly predicted project scope performance. Hypothesis test @ 95% showed project manager competency and stakeholder management had no impact on scope performance. While, WBS and scope change had significant impact. It recommends to establish an online portal to exchange information on different activities to make it success and efficient.

An inquiry by Twaissi, & Aldehayyat (2021), researched on the relationship between formal strategic planning and organizational performance with moderator of stakeholder participation in Jordan mainly manufacturing companies. The objective was to know the effect of strategic planning and performance and also to investigate the moderation effect it has whether it impacts positively or negatively. The targeted individuals were chief executives or managers a total of 220. A questionnaire was used and for analysis AMOS software was implemented. Structural equation model was used to know the relationship it has on performance. it was found that strategic planning influences performance positively and stakeholder participation increases the relationship between strategic planning and performance.

A study by Kebir (2021), tried to examine on scope change management in building Ethiopian construction success on design and supervision works in Ethiopia**.** The objective was to investigate on the variables that are requirement collection, project scope definition, WBS, verification and scope control. It employed descriptive design to achieve the objective. Questionnaire with close ended was adopted to collect the data from 154 respondent. Descriptive statistics was used to describe the characteristics giving an output for the mean and standard deviation. The outcome showed that the five factors: requirement collection, scope definition, WBS creation, scope verification and scope pointed out that they are not used regularly and needs more development.

An investigation by Kebede (2019), Assessed how the process of scope management like scope change, the use of WBS and how stakeholder management impacted performance in Ethiopia

40/60 condominium. It acquired descriptive design for the study. The target population was 84 selecting a 46 individuals to fill the questionnaire. The individuals are: supervisor, project manager, staff and other stakeholder. It describe and analyzes in terms of the iron triangle (time, cost and quality). the reliability has showed 0.85 which is an acceptable level. The result showed that there is lack of knowledge, skill, no interview with stakeholder, incomplete definition in project scope. Also, not giving attention to time and cost estimation and no agreement between stakeholder in project activities are the major obstacles in scope management process and gives practical solution on how to rectify them.

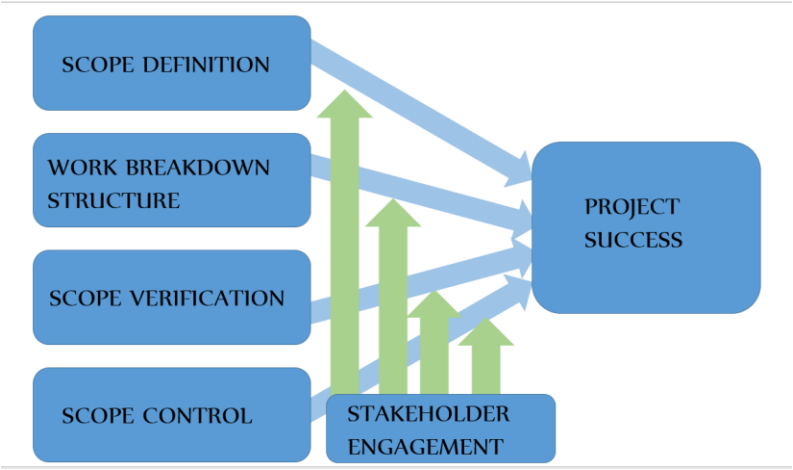
A study on Practices and challenges of Project Scope Management in The case of Awash Bank's in Ethiopia's IT Projects was investigated by Belete (2019), which Descriptive design was employed. Population was 40 employees in IT project. The sampling technique was census sampling due to low population. Primary data was used to collect data like questionnaire and interview. The result showed that the challenges were managing scope change like changing request in the middle of project, error in defining scope, lack of involvement in stakeholder, value added change that can bring scope creep. The strength were full commitment and strong business sense, while weakness showed lack of defining clear requirement and lack of knowledge

2.3 Research Gap

A various research emphasize on scope management and project performance but the factors of scope verification and scope control that has significant impact on success have been neglected. Another study by Kebede(2019), Njau,& Ogolla, (2017), Kebir(2021) conducted on the impact by employing descriptive design but this only describes what it happens not answering the effect by using explanatory design showing there is a methodological Gap. Mbutu et al.,(2022), Wachira & Nkirina, (2024), study on only scope definition and performance which neglected to include other variables like scope verification and control which has huge role in project success. Besides that, none of this studies do include on moderation variable "stakeholder engagement" which changes the strength between independent and dependent variable. At last, this study will take place in Ethiopia Real estate construction which is not undertaken before taken as a contextual gap.

2.4 Conceptual framework

Figure 2 conceptual framework



Source: Mbutu (2022), Wachira & Nkirina, (2024), Banda Jr and Pretorius (2016), Gitahi,(2023)

2.5 Hypothesis

H1: The relationship between scope definition and project success is positive and significant

H2: The relationship between WBS and project success is positive and significant

H3: The relationship between scope verification and project success is positive and significant

H4: The relationship between scope control and project success is positive and significant

H5: stakeholder engagement moderates the relation between scope definition and project success in real estate positively

H6: stakeholder engagement moderates the relation between WBS and project success in real estate positively

H7: stakeholder engagement moderates the relation between scope verification and project success in real estate positively

H8: stakeholder engagement moderates the relation between scope control and project success in real estate positively

Chapter 3: Research Methodology

Introduction

Silverman (1998), defined Methodology as any approach which can be applied in any research to achieve its objectives. Yin (2009) explained research design as a rational thinking moving from current to future endeavor. This refers to from setting research Objectives to achieving those goals interpreting the results. Therefore, this chapter underscores all the approach, sampling technique, data collection through analysis on how to tackle the study in order to reach a conclusion.

3.1 Description of the study area

This study "Effective of scope management on project success: moderation of stakeholder engagement" was focused on 7 different real estate company specifically: Ovid, Ayat, Gift, Noah, Sunshine, Flinstone, and Tsehay real estate in Ethiopia, Addis Ababa. Since, focusing on one company might not be sufficient for the study. These companies deliver projects in housing construction. They are picked purposively because they are in the top 10 real estate companies considered to be the best and also they delivered more projects, more experienced. According to business listing in 2021 and 2022, it clarifies the top 10 real estate companies in Ethiopia. The target population that it selected are the ones who involved in construction sector like Project manager, contractor, consultant, supervisor and staffs.

3.2 Research Design

Research design is a process to be followed according to plan for collecting, analyzing and interpreting the data. It answers the research problem or the objective that was set out by the researcher. In nutshell, it provides an overview of the procedure, method on how to collect and analyze the data. As explained by Robson (2002), three main research design are: exploratory, descriptive and explanatory. The study used explanatory research design with quantitative approach. This is because its measured in numerical data from respondent opinion. According to Grey(2014), Explanatory design explains the "why" instead of "What" questions in descriptive research. It points out reasons when something happens and appropriate for cause and effect relationship.

3.3 Research Approach

Quantitative research was used in this research since its related with survey and numerically that shows relationships (Creswell, 2014). Survey can be used in a different technique like questionnaire, interview and other techniques. Saunders, & Thornhill (2009). Questionnaire is applied in this study.

3.4 Population and Sample

According to Aagaard & Hauer (2013), population includes people, elements, and events, group of things, or households that are targeted for the study. The unit of analysis for this case are the individuals that are targeted such as: supervisor, project manager, contractor, consultant and staff**.** They are considered because they are key participant in construction area. Sample is selecting a portion of the population because there is no time and resources to study the whole population. (Taherdoost, 2017). The research adopted a census sampling from each company as the population is too small at the higher level to achieve the objective and also from all 7, it was chosen. Census technique is a method to include all the individuals in the study (Kothari, 2004). Therefore, this study dives in to effective scope management on project success in selected real estate companies.

The census for the population from the 7 company found to be 208 individuals (respondent).

3.5 Data source and type

For the type of data source that was used in this research is primary data. As explained by Kothari(2004), primary data are first hand, original data gathered by the researcher by using different techniques. Primary data will be utilized using survey questionnaire. Secondary data are data that already exists that was collected by other peoples. But in this study, it was not collected.

3.6 Data collection procedure

A structured questionnaire is considered to be the best for gathering the data collected from indiviudals. (Askia, 1999). The researcher distributed a closed end questionnaire designed in such a way that the respondents state their opinion to the statements lists by putting a tick mark on one of their choices from five choices on the Likert scale (1= strongly disagree, 2= Disagree, 3=Neutral, 4= Agree and 5= strongly agree.) Krosnick,(1997). The researcher has tested the reliability of the data as a pilot test for the 10 respondent and finally as a whole test.

3.7 Ethical consideration

The researcher appreciated or cited the work of other authors used in any part of the research by using the required APA format. The researcher remained objective during the discussions and analysis used throughout the research report. Likewise, the data that was gathered from each company were secured for the purpose of company's confidentiality, stating that its only for academic purpose and not for any other motive.

3.8 Data analysis

The researcher used a statistical software, namely SPSS for the gathered data. The study used regressions and correlation on scope management dimensions like scope definition, verification and others variables mentioned earlier to see the effect. Different statistical analysis tools like Excel, was used to see in summarizing in graphical and chart to make it more attractive and understanding. Descriptive statistics like the mean and standard deviation were used to describe the data and inferential analysis like correlation, regression and other tests were used to make the objective success.

The model that represent this study:

$$Y= \beta_0+ \beta_1X_1+ \beta_2X_2+ \beta_3.X_3+ \beta_4.X_4+ \beta_5.M+ \beta_6X_1*M+ \beta_7X_2*M+ \beta_8X3*M+ \beta_9X_4*M+ \varepsilon$$

Where, β_0= constant

β_1- β_9- coefficient

X1= scope definition

X2- WBS

X3- scope verification

X4- scope control

X5- stakeholder engagement

3.9 Validity test

Validity test refers to the truthfulness of the data to whether the measurement is trying what we want to measure or not. (Chan & Idris, 2017) ,state that the most significant thing to do in validity is to measure the idea that supposed to measure. The various ways to confirm validity are: content, convergent, construct, predictive and concurrent. This research employed content validity which means the questionnaire was adopted from previous research paper.

3.10 Reliability test

According to (Chan & Idris, 2017), Reliability relates to repeatability or getting the same consistent result as time goes by. The measurement for this reliability is done by Cronbach's Alpha that tells the true measurement index for the variables. Its interpreted as: An alpha index of 0.7 is rational and logical which is acceptable. The result has shown a 0.859 which is an acceptable level

Table 1 reliability

Variable	Items	Cronbach Alpha
Scope definition	5	0.849
WBS	5	0.891
Scope Verification	4	0.778
Scope Control	5	0.860
Project Success	4	0.897
Stakeholder Engagement	7	0.882
Total(Average)	**30**	**0.859**

Source: SPSS Output(2026)

Chapter 4: Data Analysis and Interpretation

4.1 Introduction

This section presents from the start of data collection to the analysis on the "role of effective scope management and project success with moderating role of stakeholder engagement" that was conducted purposively in 7 selected real estate specifically (Ovid, Ayat, Sunshine, Tsehay, Flintstone, Gift and Noah real-estate). The reason for selection of this is because the data can be found and they are in the top 10 real-estate in Ethiopia. The data analysis was conducted using SPSS software and different test were used like Normality, Reliability, Regression, Multicollinearity and other tests was implemented. The output were interpreted with great detail to make this study easier to understand.

4.2 Response Rate

The researcher distributed 208 questionnaire as a census in aggregate for the 7 companies. The returned for the questionnaire is 157 respondent (75.4%), while the 51(24.6%) did not respond. The non-response doesn't affect the result or bring bias in the result since its above acceptable rate(75.4%)

Table 2 Response Rate

Total respondent	**Frequency**	**Percentage**
Returned	157	75.4%
Not returned	51	24.6%
Total	208	100%

Source: survey data(2026)

Company selection

Table 3 Company selection

Real estate name	**Number of targeted respondent**	**Returned**
Ayat real estate	24	21
Ovid Real estate	32	23
Sunshine real estate	24	20

Tsehay real estate	36	27
Noah real estate	33	23
Gift real estate	29	21
Flinstone real estate	30	22
Total	208	157

Source: Survey data

The researcher implemented a census survey to achieve the objective. From each real estate the targeted population were: contractor, consultant, PM, supervisor and staff. Due to some reasons like people had a tight schedule, some questionnaire were not returned, so it gathered a 157 questionnaire. other people would've been involved to replace the non-response if it was taken as a sample, but this study adopted the census technique.

4.3 Demographic Profile of Respondent

Gender of respondent

Table 4 demographic information

Gender of respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	115	73.2	73.2	73.2
	Female	42	26.8	26.8	100.0
	Total	157	100.0	100.0	

Source: SPSS Output(2026)

The result shows that the male are 73.2% with a frequency of 115 involved in the 7 real estate companies, while female is around 26.8(42). This shows males are dominant in a construction sector which means most responses came from male workers, understanding the situation clearly.

Position in the project

Table 5 position in real estate

position				
	Frequency	Percent	Valid Percent	Cumulative Percent

Valid	project manager	18	11.5	11.5	11.5
	supervisor	30	19.1	19.1	30.6
	staff	36	22.9	22.9	53.5
	contractor	38	24.2	24.2	77.7
	consultant	35	22.3	22.3	100.0
	Total	157	100.0	100.0	

Source: SPSS Output(2026)

From the table Result, it indicate that out of the total 157 respondent, 18 of them belong to project manager which accounts for 11.5% out of the total, 30 of them were supervisor accounts about 19.1%, 36 of them belong to staff who involve in the project accounts about 22.9, 38 of them are contractor which is the highest from the rest of them that accounts about 24.2 and lastly, consultant were 35 members which accounts for 22.3 that involve in a project in the 7 companies. Contractor found to be the highest among the others, because they are the ones involving in most of the construction, controlling daily activities in a project implementation, more or less.

Work Experience in real estate

Table 6 experience of respondents

Involvement in real estate					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 years	33	21.0	21.0	21.0
	6-10 years	74	47.1	47.1	68.2
	11-15 years	42	26.8	26.8	94.9
	More than 15 years	8	5.1	5.1	100.0
	Total	157	100.0	100.0	

Source: SPSS Output(2026)

From the table, we can see that from the total of 157 people involved, 33 of them had worked from 1-5 years of experience which accounts for about 21%. 74 of them had worked for about 6-10 years and they are about 47% which represent the highest. While, 42 people who involve in the project had worked for 11-15 years showing a 26.8% and lastly, the rest of the people which are 8 of them worked for more than 15 years, and they account for about 5.1%. Most of the respondents

are between 6-10 years' experience, indicating that they can give relevant information and they are also very experienced on the study of scope management in real estate.

Age of respondent

Table 7 Age of respondent

Age of respondent					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-29	14	8.9	8.9	8.9
	30-40	87	55.4	55.4	64.3
	41-49	55	35.0	35.0	99.4
	50 and above	1	.6	.6	100.0
	Total	157	100.0	100.0	

Source: SPSS Output(2026)

From the table above, Age is another item on the list, most of these person who involve in real estate project are in the age range of 30-40(55.4%) a frequency of 87 people, 41-49(35%) a frequency of 55 people and 21-29(8.9%) a frequency of 14 people are involved in the real estate construction project. We can deduce that most of the employee involved in construction are in their prime as people who are more productive and experience are valuable for the sector.

Level of education

Table 8 level of education of respondent

Level of education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bachelor degree	100	63.7	63.7	63.7
	Masters degree and above	57	36.3	36.3	100.0
	Total	**157**	**100.0**	**100.0**	

Source: Survey Output(2026)

On this section, the level of education of the people mostly have taken the bachelor degree a frequency of 100 people (63.7) and 57 of them(36.3%) have the masters degree and above.

Bachelor degree refers to having accomplished a certain study in a university, while Masters degree is 2nd highest degree to gain a better knowledge, experience and skill set. This means that most of the respondents acquires bachelor degree, so they have acceptable minimum knowledge to take part in the organization and to answer the questions of scope management correctly, generally.

4.4 Descriptive statistics

This is the descriptive statistics for all the variables explanation like scope definition, WBS, scope verification, control, stakeholder engagement and project success. So, in this case we will list out the items that was measured under that variable by looking the mean and standard deviation. (Sözen & Güven, 2019), stated that a Likert scale interpretation for a mean value between 1.00 and 1.80 falls to strongly disagree, 1.81 to 2.60 falls to disagree, 2.61 to 3.40 to Neutral, 3.41 to 4.20 to Agree and lastly 4.20 to 5.00 is considered as strongly Agree

Scope definition

Table 9 descriptive statistics for scope definition

Descriptive Statistics			
Scope definition items	**N**	**Mean**	**Std. Deviation**
boundary of the scope has impact on schedule and budget	157	3.45	.880
Scope management tasks associated with scope are well recorded and accessible to the team	157	3.35	.933
Expertise judgment provided was given a brief attention while establishing the boundary of the real estate construction project	157	3.54	.820
There is a way to identify the activities	157	3.48	.903

within the scope and share with the team workers			
The contractor is asked for thought on design and construction related issues	157	3.45	.957
Overall	**157**	**3.4522**	**0.710**

From the descriptive statistics, we can see a list of questions that measures scope definition in the real estate projects. The table shows that on average, respondent agree on the question "There is a way to identify the activities within the scope and share with the team members." Has a Mean of (3.48) and SD of (0.903) and "Expertise judgment provided was given a brief attention while establishing the boundary of the real estate construction project" has a mean and SD (3.54, 0.820) respectively. This mean, they believe they involve while establishing the scope of the project. Overall, it has an average mean of 3.45. This means that respondent agree that defining scope is implemented at the start of the project . The others "The contractor is asked for opinion for input on design and constructability problems" has a mean of 3.45 and 0.957. while, they also agree that "boundary of the scope has impact on schedule and budget." has an average of (3.45) and SD (.880) with low variability.

Work breakdown structure

Table 10 descriptive statistics for WBS

Descriptive Statistics			
WBS	N	Mean	Std. Deviation
There is a proper document that provides detailed Activities, and scheduling information about each component of the work	157	3.27	.938
The contractor is involved when	157	3.15	.919

dividing the work Package in to activities and elements.			
There is a consideration of historical information related Design information, available from past projects relevant to the current project	157	3.20	.946
There is Under estimating activity duration and cost estimation and activity sequencing	157	3.18	.979
There is awareness about possible information loss between stakeholders of the project	157	3.11	.927
Total Average	**157**	**3.1847**	**0.7852**

Source: SPSS Output(2026)

As the table shows, it implies that on average respondents slightly think that "There is a proper document that provides detailed Activities, and scheduling information about each component of the work" an average of 3.27 and SD (.938). They also indifferent in that "contractor involved when dividing the work Package in to activities and elements with a mean of 3.15 and SD (.919). with third question, they also believe that its not clear for them that "There is a consideration of historical information related Design information, available from past projects relevant to the current project" with a mean of 3.20 and SD (.946). it also shows that to "Under estimating activity duration and cost estimation and activity sequencing in a construction real estate" is neutral considering the mean of 3.18 and SD (.979). Lastly, "There is awareness about possible information loss between stakeholders of the project" shows a mean of 3.11 and SD (.927) concluding that they are neutral to aware loss information between them. But in general, it showed an average of 3.1847 and SD of 0.78. the standard deviation indicates less variability. So, its

important for this issue to be clear in order to have good awareness and to have more information availability for people that involve in the real estate.

Scope Verification

Table 11 descriptive statistics for scope verification

Descriptive Statistics			
	N	Mean	Std. Deviation
Inspections of qualities such as measuring and Examining whether deliverables meet requirements and performance criteria are considered.	157	3.42	.900
Updates on work performance information that define the projects report status on the project completion are duly communicated and documented.	157	3.48	.837
There is a clear agreements between the client and the contractor Concerning how to verify the activities with what is stated in the contract on regular basis.	157	3.36	.878
Regular meetings are held between the client and the Contractor to ensure that both parties are regularly updated	157	3.42	.878

about the status of the project			
Total Average	**157**	**3.422**	**0.679**

From the table, it implies that scope verification in real estate project success, "Inspections of qualities such as measuring and Examining whether deliverables meet requirements and performance criteria are considered." and "Updates on work performance information that define the projects report status on the project completion are duly communicated and documented." And "Regular meetings are held between the client and the Contractor to ensure that both parties are regularly updated about the status of the project" respondent accept that they agree on these three items and are the highest from the item questions and Has a Mean of (3.42) and S.D of (0.9), mean of (3.48), SD(0.837) and mean (3.42), SD(.878) respectively. To see it overall, it has an average mean of 3.422, and SD (0.679) this means that respondent generally agree that project is verified regularly.

Scope Control

Table 12 descriptive statistics for scope control

Descriptive Statistics			
	N	Mean	Std. Deviation
There is a system to Monitoring the scope creep and Change requests within the defined boundaries considering the delay and cost incurred.	157	3.18	.953
There is a Project performance measurements to Assess the magnitude of variation in cost and time frame from the original scope baseline.	157	3.19	.863
There is a system keeping track of scope	157	3.15	.921

changes to seek for Patterns is considered.			
There is a formal agreement to a discussion between that Involves The contractor on scope changes.	157	3.13	.992
the contractor is asked for opinion	157	3.03	.996
Average	**157**	**3.1376**	**0.757**

The output tables shows that the item for scope verification measurement. The table shows that on average, respondent are neutral/slightly to agree on the question "There is a system to Monitoring the scope creep and Change requests within the defined boundaries considering the delay and cost incurred." and "There is a Project performance measurements to Assess the magnitude of variation in cost and time frame from the original scope baseline." Have shown that it has a Mean of (3.18) and S.D of (0.95), mean of (3.19), SD(0.86) respectively. While, the rest are the lowest believing that they are neutral on "There is a system keeping track of scope changes to seek for Patterns is considered" With a mean of 3.15 and SD (.921). "There is a formal agreement to a discussion between that Involves The contractor on scope changes" showed an average of 3.13 and SD(.992). The aggregate total showed that, it has an average mean of 3.1376 and SD(0.757) showing more consistent in deviation. They assume that they are neutral on Monitoring and controlling the scope in construction project success.

Stakeholder engagement

Table 13 descriptive statistics for stakeholder engagement

Descriptive Statistics			
	N	Mean	Std. Deviation
Project managers involve the stakeholders like donors, government in designing the scope of the project	157	3.64	.954

The stakeholders must approve any changes in the real estate project scope before it is implemented	157	3.57	.942
The scope is a reflection of the expectations of the stakeholders	157	3.50	.978
Stakeholders are communicated to on the progress of the real estate projects	157	3.62	.916
The communication lines are open to receive views/feedback from project stakeholders	157	3.60	.933
The stakeholders are involved in monitoring of the projects for transparency	157	3.66	.978
Stakeholders are involved when subdividing project deliverables and project work into smaller, more manageable components	157	3.64	1.000
Overall Average	**157**	**3.6069**	**0.7323**

For stakeholder engagement table, Respondent agree that "Project managers involve the stakeholders like donors, government in designing the scope of the project" with average of (3.64), SD (.954) and they also agree that "The stakeholders must approve any changes in the real estate project scope before it is implemented" Has a Mean of (3.57) and S.D of (.942), respectively. Most

respondent agreed that“ stakeholders are involved in monitoring of the projects for transparency” is the highest mean scored 3.66 with SD (.978). In total, it averaged around of 3.60, this means that respondent generally agree that stakeholder are involved in a project.

Project Success

Table 14 descriptive statistics for project success

Descriptive Statistics			
	N	Mean	Std. Deviation
Project are often finished within the estimated budget	157	3.15	.962
Project are often finished within the allowed time	157	3.12	.983
The organization allows the project to be finished within the scope	157	3.23	.940
The project is finished within the required standard quality	157	3.15	.999
Overall Average	**157**	**3.16**	**.8486**

Source: SPSS Output (2026)

In this case, project success is the accomplishment of a project what the respondent believed in the real estate. The table shows that on average, respondent are neutral on the question “the organization allows the project to be finished within the scope” and “project are often finished within the estimated budget” are the highest from the item questions and Has a Mean of (3.23) and S.D of (0.940), mean of (3.15), SD(0.96) respectively. While, project are often finished within the allowed time” shown an average of 3.12 and SD (.983). It can be deduced that they are the highest mean or average for the first two that was answered. The entire question averaged 3.16 and SD(.8486). this means that respondent are closer to agreement on project success in construction project but not quite there yet.

4.5 Correlation test

This is to determine the direction and strength of relationship between scope definition, WBS, scope verification, scope control and project success whether its positive or negative relationship but doesn't tell causation. Sharma(2008). Pearson correlation was used in this study to know the strength and direction of the variables. The interpretation for this test is in the range of -1 to 1 which means a negative correlation(if the independent increases, the dependent decreases) and a positive correlation(if the independent variable increases, the dependent also increases).

Table 15 correlation test

Correlations						
		sd_mean	mean_wbs	m_verif	m_contr	succ_mean
sd_mean	Pearson Correlation	1				.375**
mean_wbs	Pearson Correlation	.153	1			.394**
m_verif	Pearson Correlation	.079	-.010	1		.366**
m_contr	Pearson Correlation	-.064	-.137	-.066	1	.346**
succ_mean	Pearson Correlation	**.375****	**.394****	**.366****	**.346****	1
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: SPSS Output(2026)

From the result, it can be interpreted as we can see that there are independent variables (scope definition, WBS, scope verification, scope control) and dependent variable of project success. In this case we only see the the independent variable with the dependent variable and see whether the pearson correlation(r) is positively correlated or negatively correlation with the significance (p). First variable shows ($r = 0.375$ and $p < 0.05$) between scope definition and project success shows a positive, low correlation and significant, the 2nd variable shows that there is a statistically significant, positive correlation between WBS and project success ($r = .394$ and $p < 0.05$). Third variable shows between scope verification and project success is significant and positive correlated ($r = .366$ and $p < 0.05$). lastly, scope control also shows that there is a statistically significant, positive correlation between scope control and project success ($r = .346$ and $p < 0.05$). They all showed a low correlation but significant result.

4.6 Regression Analysis

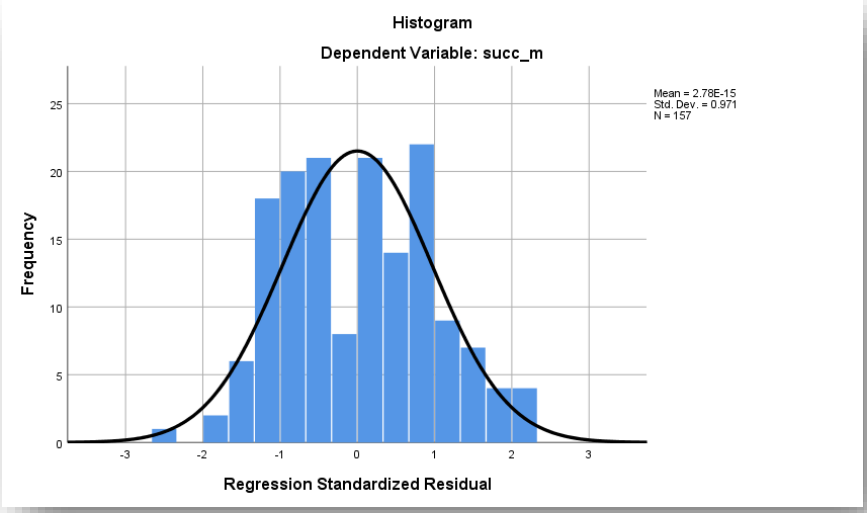
This study has used Multiple regression since the researcher is using more than variable to know the relationship between scope definition, wbs, scope verification, and control on project success in real estate construction. For a regression to work, there are some test that need to work in order to run regression (assumption to be fulfilled) like Multicollinearity, Normality, Homoscedasticity has to be tested. Regression can tell us the relationship between the independent variable and dependent variable and also to test the moderation effect in the analysis.

4.6.1 Model diagnostic tests

4.6.1.1 Normality test

This is one of the assumption that must be fulfilled in order to move to other tests. (Osborne & Waters, 2002), This assumption state that residuals should be normally distributed and not the independent variables ultimately P value and t-test will be sound. (Chen, 2003a; 2003b; 2003c). Smith (2012), state that P-P plot and Q-Q plot are appropriate to test normality as it provides great observation between normal and error distribution. The shipairo walk test is used to determine whether its significant or not. If P value is greater than 0.05, its normal and if its less than .5 then its not normal

Figure 3 normality curve



Source: SPSS Output(2026)

Table 16 Normality result

Tests of Normality		
	Kolmogorov-Smirnov[a]	Shapiro-Wilk

	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.062	157	.200*	.992	157	.489
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

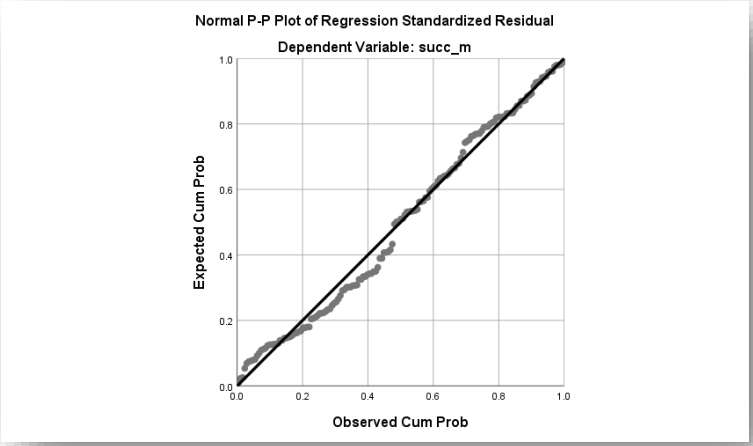
Source: SPSS Output(2026)

From the above graph, it shows that p value is greater 0.05, indicating the residuals is normally distributed where the 1st assumption is fulfilled.

4.6.1.2 Linearity test

(Pallant, 2005), Linearity test is a test that should have a dotted line closer to the dependent variable and not any other shape. A SPSS software was used to test see the variables of independent variables on the dependent variables. So the graph shows a closer dotted lines showing how scope definition, WBS, scope verification and control influence project success.

Figure 4 linearity test



Source: SPSS Output (2026)

4.6.1.3 Multicollinearity test

Young(2017), Multicollinearity test is to whether two or more independent variables are correlated with each other. Variance inflation factor tells how much of the regression coefficient increase when the independent variables are the same. Belsley (1991), expressed for the tolerance is the inverse of VIF. The interpretation is that the low tolerance, the higher it is getting closer to multicollinearity. The value of VIF =1 indicates that the they are not correlated at all. VIF between

1 and 5, are moderately correlated, VIF between 5 - 10 indicates highly correlated variables. In this range and after 10 there is a serious problem in the variables indicating multicollinearity.

Table 17 Multicollinearity result

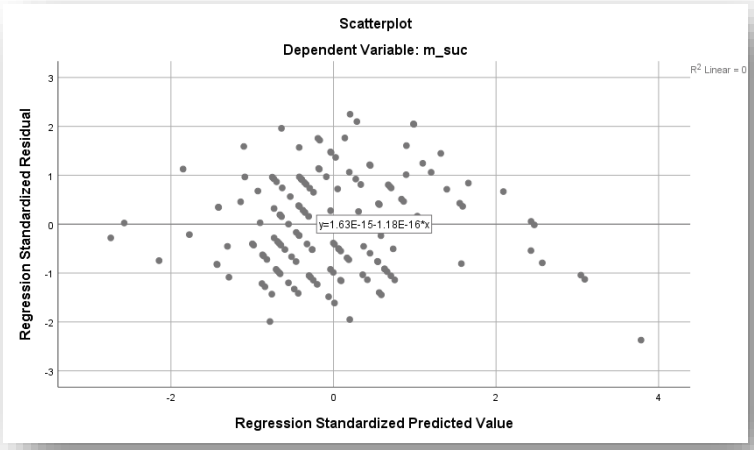
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	sd1	.933	1.072
	wbs	.950	1.053
	verif	.988	1.013
	contr	.975	1.026
	stak	.957	1.044

Source: SPSS output(2026)

From the table, we can see that the VIF for all the variables are in the range of 1-5 which is moderately correlated but no issues with multicollinearity since its less than 10

4.6.1.4 Homoscedasticity Test

Figure 5 homoscedasticity test



Source: SPSS Output(2026)

Homoscedasticity refers to the error term become stable or constant across the independent variables. Meaning that variance of disturbance is the same no matter of x. the figure shows mostly

as x increase, its stable, except on a few which is acceptable implying no issues of heteroscedasticity

4.6.2 Linear Regressions Analysis (Model Test Results)

4.6.2.1 Model summary

Table 18 regression model summary

Model Summary[d]									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.756[a]	.571	.560	.56318	.571	50.563	4	152	.000
2	.797[b]	.636	.624	.52054	.065	26.924	1	151	.000
3	.879[c]	.773	.760	.41610	.138	22.327	4	147	.000
a. Predictors: (Constant), c_contr, c_sd1, c_verif, c_wbs									
b. Predictors: (Constant), c_contr, c_sd1, c_verif, c_wbs, c_stak									
c. Predictors: (Constant), c_contr, c_sd1, c_verif, c_wbs, c_stak, int1, int4, int2, int3									
d. Dependent Variable: m_suc									

Source: SPSS Output(2026)

From the above table, we can see that there are three models. The first one is the effect of the relationship between scope management process on success without including moderator. From the table, R value is to know the strength between independent and dependent variable. The model shows 75.6% indicating a strong relationship between them. R squared is 57.1% which mean that 57.1% of the variation is explained by independent variables(scope definition, WBS, scope verification, control) on project success. The rest 42.9% is explained by the error term which is not introduced in this model. The second model includes with all the independent variable and including the moderation. The result showed that 63.6% of the variation accounts by the independent and moderation on project success. In model 3, R squared increased to 77.3 just by introducing the interactions 1 to 4. We can conclude that the introduction of a moderation has increased the R squared by 6.5% in the model 2 and then to 13.8% increment with the interaction. The sig f change is also less than 0.05 for all models indicating that the models are significant.

4.6.2.2 Anova Coefficients

Table 19 ANOVA coefficients

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	64.148	4	16.037	50.563	.000[b]
	Residual	48.210	152	.317		
	Total	112.358	156			
2	Regression	71.444	5	14.289	52.734	.000[c]
	Residual	40.915	151	.271		
	Total	112.358	156			
3	Regression	86.907	9	9.656	55.771	.000[d]
	Residual	25.452	147	.173		
	Total	112.358	156			
a. Dependent Variable: m_suc						
b. Predictors: (Constant), c_contr, c_sd1, c_verif, c_wbs						
c. Predictors: (Constant), c_contr, c_sd1, c_verif, c_wbs, c_stak						
d. Predictors: (Constant), c_contr, c_sd1, c_verif, c_wbs, c_stak, int1, int4, int2, int3						

Source: SPSS Output(2026)

As shown in table, it showed with stakeholder engagement on relation between scope management dimensions and project success. The p-value for both models are less than 0.05 implying it's a significant. The F value of both 52.7, 50.56 and 55.7 are greater than F critical (2.3) interpreting as the model is a good fit.

4.6.2.3 Multiple Regression Results – Unstandardized and Standardized Beta Coefficients

Direct effect of the scope definition, WBS, scope verification and control on project success and moderating role of stakeholder engagement

Table 20 unstandardized and standardized Beta coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.

		B	Std. Error	Beta		
1	(Constant)	3.162	.045		70.359	.000
	sd1	.371	.065	.311	5.756	.000
	wbs	.445	.059	.412	7.587	.000
	verif	.470	.067	.375	7.024	.000
	contr	.501	.060	.448	8.318	.000
2	(Constant)	3.162	.042		76.123	.000
	sd1	.432	.061	.362	7.109	.000
	wbs	.416	.054	.385	7.650	.000
	verif	.458	.062	.366	7.401	.000
	contr	.505	.056	.451	9.075	.000
	stak	.302	.058	.260	5.189	.000

Source: SPSS Output(2026)

From the above table, Model 1 shows the direct effect it has on project success

Y= 3.162+ **0**.371$\mathbf{X_1}$+**0**.445$\mathbf{X_2}$+**0**.470$\mathbf{X_3}$ +**0**.501$\mathbf{X_4}$ + **ε-------model coefficients**

Where, β0= constant

β_1- β_4- coefficient

X1= scope definition

X2- WBS

X3- scope verification

X4- scope control

Scope definition having (Beta=0.37, sig<0.05) shows that when one unit change in scope definition, the performance increases by (0.37) keeping other constant. And it shows a statistically significant that can tell us that there is a huge influential factor on project success.

Bingham and Gibson (2017), found that scope defining at the early stage can bring a huge performance in project infrastructure. Similarly, Collins, *et al.* (2017), a study on scope definition and planning discover that having all this, can deliver efficiency in terms of budget, reduction of wastage, having organized timeline which showed a positive effect on performance.

Mbutu et al., (2022), showed that scope definition impacted performance in construction.

A study also shows, Banda and Pretorius (2016), investigated the relation between scope definition and performance of project In Malawi, finding that there was a huge association between scope definition and construction rural road project signifying that a project that was defined clearly has shown a decent success, while a project that was not clearly defined, showed clearly not meeting objectives implying a bad performance in the project.

For variable 2, WBS have (Beta=0.44, sig<0.05) also demonstrate that when one unit change in WBS, the performance of the project increases by 0.44 positively. It also showed a significant result meaning there is an impact on success.

Previous Study by Al-Kasasbeh, *et al.* (2020), confirms that work breakdown structure in a project can facilitate the work, easier to assign resource influences project performance positively. Similar study by Siami-Irdemoosa, *et al.* (2015), also found that project success is impacted by dividing project into details, activities, assigning budget, individual so that its easier to manage.

3rd variable shows that scope verification having (Beta=0.47, sig<0.05) signifies that when one unit change in scope verification, success grows by (0.47). The p value showed a significant result that verification does really impact success of a real estate project. This means that when doing inspecting regularly whether the activities are according to the original plan, the project success increases by 0.47.

This proves from the study Anari, & Omwenga, (2024), that showed that scope verification is huge factor in influencing project digitization in kenya. The correlation were also positive between scope verification and performance of a project highlighting that verification is needed every single time to complete an activity and improve the performance of the company. Its indispensable to involve stakeholder in this stage to make sure that everything is according to the plan as expected.

(Mahmoud, 2018), showed that its very critical for managers to check the deliverables were met carefully so that to avoid any time overrun. (Hans, 2013), also showed that scope verification is the best way to make sure every activities that was planned out is checked and aligned according to the original plan then showed that scope verification is very crucial in determining project success.

4th variable shows that scope control having a coefficient of (Beta=0.50, sig<0.05) shows that when one unit change in scope control, the performance of project increases by 0.50. And it found that this increase is the highest from above all showing that it really affect success by a significant amount. Besides that, it showed a statistically significant on the impact of project success.

Kariega (2021), investigates on the determinants of project performance in non governmental organization project in kenya, confirms that scope control really impacts performance. Other study by Mkutano (2018), explored the project management practices on performance of NGO in kenya and found that there is huge performance when using the practices effectively like communication, stakeholder involvement and Monitoring and controlling the project.

The standard coefficient tells the relative strength of each independent variables in predicting project success. Scope control is the highest predictor compared to others with a beta of 0.448, one shift of standard deviation in scope control, it increases the project success by 0.448 standard deviation. A one standard deviation increase in WBS is associated with (0.412) SD unit increase. This shows that in real estate, they should focus mostly in controlling the scope to have a better success.

$Y= 3.162+ 0.432X1+ 0.416X2+0.458X3+0.505X4+0.30M$------Model 2

This model 2 adds a moderating variable to determine the combined effect between the two. It showed a beta of 0.43 on scope definition and performance, WBS coefficient (0.416), verification (0.45), control (0.50), all showing a positive effect on success in real estate and significant. Stakeholder engagement has shown a statistically significant on project success with less than p value of 0.05. The coefficient is 0.30 with t value of 5.18. in this case, we reject the null hypothesis(no significant effect between scope management and project success when stakeholder is introduced) and accept the alternate hypothesis that there is a significant effect when stakeholder is involved.

Moderator of stakeholder engagement effect in relationship between scope management and success with interaction plot

$Y=3.176+.301X_{1*}M+.312X_{2*}M+.362X3_{*}M+.322X_{4*}M+\varepsilon$-----interaction coefficients

Stakeholder engagement on the relationship between scope definition and project success

Table 21 interaction between scope definition and stakeholder engagement result

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
3	(Constant)	3.176	.034		93.889	.000		
	c_sd1	.428	.049	.358	8.802	.000	.932	1.072
	int1	.301	.065	.183	4.632	.000	.986	1.014
a. Dependent Variable: succ_mean								

Source: SPSS Output(2026)

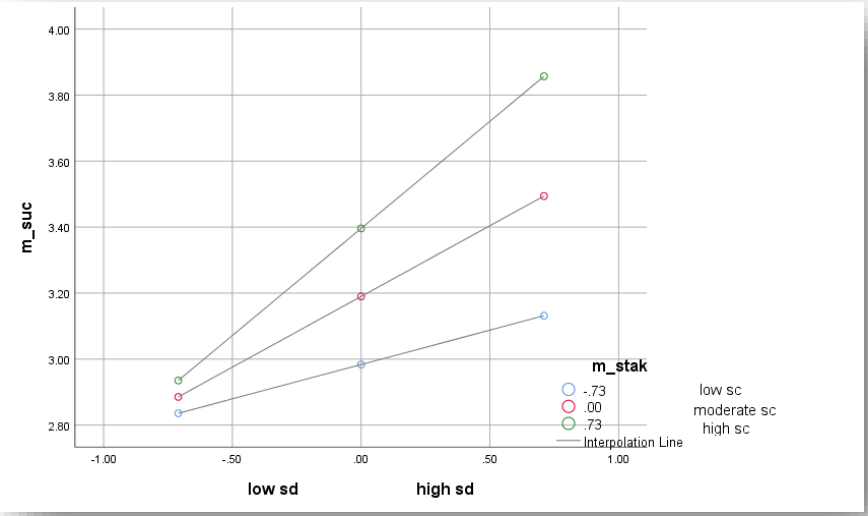


Figure 6 interaction for scope definition

This is to test the effect of stakeholder engagement on the relationship between scope definition and project success. From the table, it shows that the interaction between scope definition and project success have a substantial influence on project success with a p value of less than 0.05 and a beta (0.301) showing a positive effect indicating when stakeholder engagement is high, the effect of scope definition and project success becomes higher. The result also showed that scope definition when interaction is included, its significant and positive effect on project success ($p< 0.05$) with a beta of 0.428. From the figure 6, the interaction plot is depicted to understand it better on the effect. The graph showed a steeper slope for higher stakeholder engagement, the effect of scope definition and project success is robust rather than at low level of stakeholder engagement.

At low stakeholder engagement, the graph shows a less steep line indicating that when there is less engagement in the real estate, the impact of scope definition and project success weakens it.

Twaissi, & Aldehayyat, (2021), that showed the moderation relation between strategic planning and organizational performance discovered that stakeholder participation makes the relationship between planning and performance are much improved. The study aligns with this finding.

Stakeholder engagement on the relationship between WBS and performance

Table 22 interaction between WBS and stakeholder engagement result

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
3	(Constant)	3.176	.034		93.889	.000		
	c_wbs	.393	.044	.364	8.875	.000	.915	1.092
	int2	.312	.063	.204	4.920	.000	.900	1.112
a. Dependent Variable: succ_mean								

Source: SPSS Output(2026)

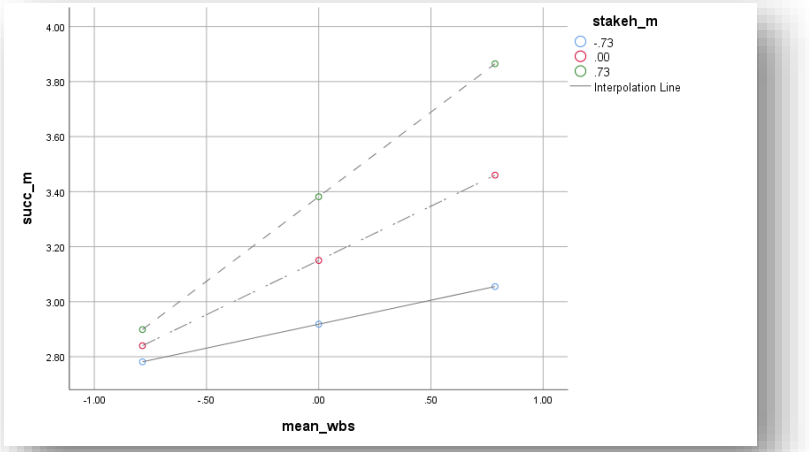


Figure 7 interaction plot for wbs

Result shows that wbs has a significant effect on project success with a coefficient of 0.39 and a p value of less than 0.05. The interaction term, moderating stakeholder engagement and WBS on project success revealed a beta of .312 and p value of less than 0.05 resulting a significant influence on project performance. The introduction of stakeholder engagement strengthens the relationship

between WBS and project success. From figure 7, at a higher level of WBS , the steeper the graph, the higher for WBS and the performance is immense.

Stakeholder engagement on the relationship between scope verification and performance

Table 23 interaction between scope verification and stakeholder engagement result

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
3	(Constant)	3.176	.034		93.889	.000		
	c_verif	.470	.050	.375	9.388	.000	.965	1.037
	int3	.362	.068	.224	5.319	.000	.870	1.150
a. Dependent Variable: succ_mean								

Source: SPSS Output(2026)

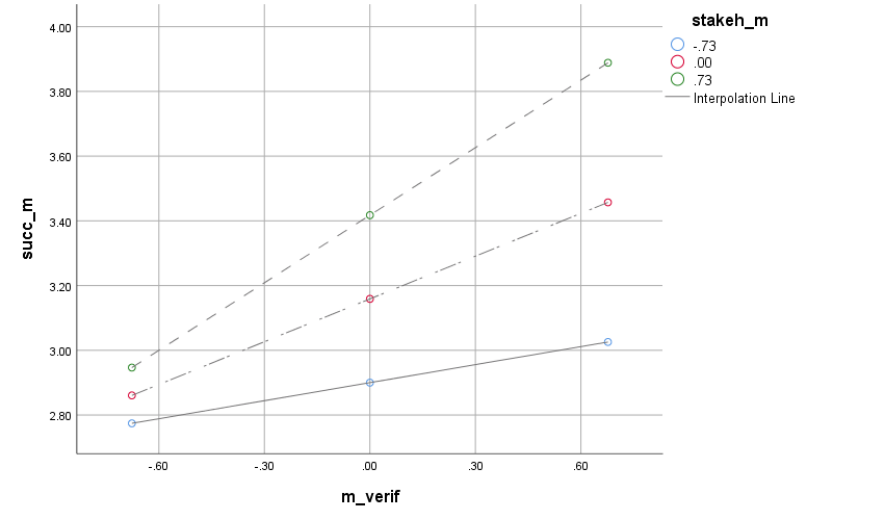


Figure 8 interaction plot for verification

From the table, it shows that for interaction 3(Scope verification x stakeholder engagement) is statistically significant showing a p value of less than 0.05 and a beta of 0.362 showing a positive effect interpreting as when stakeholder engagement is high, the effect of scope definition and project success becomes higher. Scope verification by itself has shown a positive and significant effect on project success when interaction is included with a beta of 0.470 and p value of less 0.05.

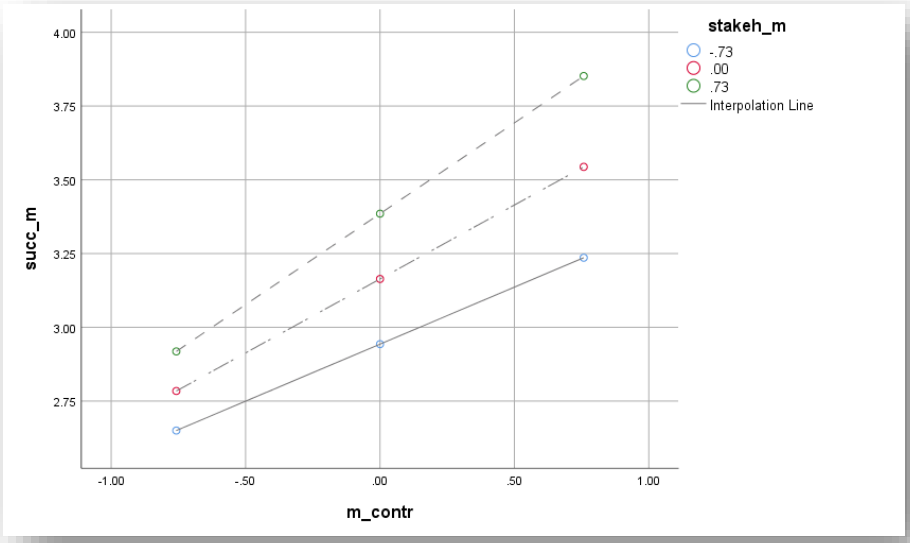
Stakeholder engagement on the relationship between scope control and performance

Table 24 interaction between scope control and stakeholder engagement result

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
3	(Constant)	3.176	.034		93.889	.000		
	c_contr	.482	.045	.430	10.718	.000	.956	1.047
	int4	.322	.064	.208	5.006	.000	.894	1.118
a. Dependent Variable: succ_mean								

Source: SPSS Output(2026)

Figure 9 interaction for control



Source: SPSS Output (2026)

From the above table, scope control has shown a significant and positive effect on project performance of real estate with a beta 0.482 and p <0.05. The interaction 4 between scope verification and stakeholder engagement has a significant impact on project performance with p value of less than 0.05 and a beta (0.322) showing a positive which strengthens the relationship between scope verification and project success, indicating when stakeholder engagement is high, the effect of scope control and project success becomes higher. This confirms the hypothesis 8. From a figure 9, a steeper slope indicates a high stakeholder engagement, that demonstrates the

relationship between scope control and project success is robust when stakeholder engagement is at high level.

Another study by Bunyasi (2025), Stakeholder participation and effectiveness of monitoring and evaluation systems among road safety projects in kenya, found that when involving more stakeholder in decision making and consultation would make it more easier to manage project to monitor and evaluate the project efficiently and effectively. At the same time, the performance will be elevated. Also confirms that at higher stakeholder participation, the effect between scope control and performance is larger.

Study by Bobae, (2024), found that engaging stakeholder like clients, suppliers and other key parties should be involved in a project lifecycle decision like scope management process to produce an effective and desired result to avoid conflict, and misunderstanding, effective communication and ultimately boost performance in outcome. If there is more participant in the project, there is more exchanging of information, skilled individuals with different opinions, analytical skill and can make a better a decision and their involvement in different scope management process can attract a better plan, to have awareness in decision making to have an effective scope management and accelerate project accomplishment within time and budget. This study aligns with the current finding that stakeholder engagement is a key element to bolster the relationship between scope management and project success.

Table 25 Hypothesis result

Hypothesis	**Outcome**
H1: The relationship between scope definition and project success is positive and significant	The result aligned with the hypothesis stating that there is significant positive relationship between scope definition and project success
H2: The relationship between WBS and project success is positive and significant	The result aligned with the hypothesis 2 stating that there is significant positive relationship between WBS and project success
H3: The relationship between scope verification and project success is positive and significant	The result aligned with the hypothesis 3 stating that there is significant positive relationship between Verification and project success

H4: The relationship between scope control and project success is positive and significant	The result aligned with the hypothesis 4 stating that there is significant positive relationship between control and project success
H5: The stakeholder engagement as moderating variable between scope definition and project success moderates the relationship	The result aligned with the hypothesis 5 stating that it moderates positively between scope definition and project success
H6: The stakeholder engagement as moderating variable between WBS and project success make it higher	The result aligned with the hypothesis 6 stating that it moderates positively between WBS and project success
H7: The stakeholder engagement as moderating variable between scope verification and project success make it higher	The result aligned with the hypothesis 7 stating that it moderates positively between verification and project success
H8: The stakeholder engagement as moderating variable between scope control and project success make it higher	The result aligned with the hypothesis 8 stating that it moderates positively between scope control and project success

4.7 Comparison with previous finding

Table 26 comparison with previous results

Author	*Title*	*Method/approach*	*sample*	*Finding*	*Comparison*
Mwangi, L. W., & Yusuf, M. (2022)	project scope management and successful implementation of infrastructural health program in nairobi county	Descriptive research design, questionnaire	The target population was 120 personnel of 40 health projects	Scope planning, budgeting, scheduling and control has a significant, positive effect on infrastructural success	This study confirms that scope control has a positive effect on real estate construction success
GITAHI, G. J. (2023)	project scope management and performance of projects: a case of water and sanitation in Mombasa.	Descriptive design and Semi structured questionnaire	It targeted 14 water project from 2012-19 with purposive sampling selecting senior manager	The outcome showed positive association for stakeholder engagement and weak association for WBS. Regression result showed that scope planning, stakeholder engagement, scope control and WBS influence water project	In this study, it aligns with previous study being a weak correlation on WBS and performance. it also support that WBS, stakeholder engagement and scope control influenced project positively
Banda Jr and	scope definition and performance in Malawi.	Both qualitative and	12 project were selected using	found that there is a significant correlation between scope	It validate that scope definition associates positively on project road construction success

Pretorius (2016),		quantitative were adopted to achieve the objective.	purposive sampling.	definition and success in road construction.	
Anari & Omwenga (2024)	Scope verification and performance of digitization projects in state agencies in kenya	descriptive research design applied with questionnaires, and positivism philosophy	150 individuals, with a sample size of 109 by using random sampling	The study found substantial positive influence of scope verification on the digitization performance in Kenya as with r squared of 36.6%. recommended to implement a better strategies to have a better quality performance.	Backs up the study by finding scope verification has positive effect on project success

Based on the table, the research mostly confirms with the previous finding, showing consistency across studies. Paper mostly are from Africa, Ethiopia studies has not been investigated as previous researchers focused on describing the variables and not showing the effect it has on project success. Research showed that scope definition, wbs, verification and control had a positive and significant effect on success aligns with previous examination.

Chapter 5: Summary, Conclusion and Recommendation

Introduction

This section is divided into three section: summarizes the major finding, conclusion and recommendation according to the result on the study that was conducted on investigating the role of effective scope management on project success with a moderation of stakeholder engagement.

5.1 Summary of Major Finding

In this summary, all the effect of the independent (scope definition, WBS, scope verification and scope control) and dependent variable (project success) with the moderating of stakeholder engagement in real estate will be stated here. The data analysis was done by SPSS software version 25. The summary will introduce as follows:

- This study has taken place on real estate company selected 7 companies on purpose. In descriptive analysis, it was found that in the organization mostly they agreed on scope definition, verification and stakeholder engagement. They believed that scope definition is defined before the beginning of a project with a moderate agreement. They also believed that scope is verified in the project
- The variables scope definition, WBS, scope verification and control has shown a positive and significant effect on project success. This implies that all dimension of project scope management are very crucial and determines the success of a project. Neglecting them, could bring consequences like scope creep and delays, quality issue.
- Stakeholder engagement taken as a moderator has moderated the relationship positively between scope management and project success. Meaning that the effect between scope definition, WBS, scope verification and control have stronger effect when stakeholder are more involved in scope management.

5.2 Conclusion

In a nutshell, to have an effective scope management, organization should have a dedication in developing scope definition, and involving stakeholders in all process. Therefore, this study focused on effective scope management in real estate success. Finding shows that scope definition,

WBS, scope verification, and scope control reveals significant and positive effect on performance. This means that enhancing scope definition, WBS, scope verification and control can create a better success in real estate construction. Stakeholder engagement as a moderator also has a significant positive effect between scope management and project success in real estate construction. The more stakeholder participation there is, the better they can optimize resources avoid scope issue, delays, client dissatisfaction and better management. It was concluded that by having a detailed document for a project and sharing with the team, and investing more in digital PM tools, auditing regularly can have an effective scope management and a better success.

5.3 Recommendation

Suggestion is given based on the finding of the result, which for Project manager or who manages the company should take consideration of this.

- Organization should have a full document stating the details of activities and sharing it with the team to have a good understanding in defining the scope, while project manager have responsibility to make a clear objective in the document details.
- Since the effect of WBS on project success is significant, its important to break complex project into detailed activities by developing schedule and cost for each to deliver efficiently.
- Checking scope everyday like auditing whether its aligned with project scope plan is needed regularly to adjust and to ensure success.
- Company show invest in digital project management tools, so that everyone can see what's happening and see updates and status of the project
- Lastly, since stakeholder has stronger effect in relation to scope management and project success, the best thing to do is to engage more stakeholder creating more collaboration, sharing experience in each lifecycle of a project from defining the scope to controlling the scope.

5.4 Limitation of the study

The study is limited to 7 real estate companies. So this study only applies to the 7 companies namely Ovid, Ayat, Tsehay, Gift, Noah, Flinstone and sunshine. Other could be the limited used

of variables as there are missing variables like organizational maturity determines success. Only quantitative study is used in this study

5.5 Suggestion for Future studies

- The R squared for the model has shown a 77.3% of the variation, showing that there are missing variables which has an impact on performance. Therefore, its advisable to consider variables like organizational Maturity to see the impact of scope management and project performance
- Future researchers should use both quantitative and qualitative data (mixed method) like interview to strengthen the result
- Also, the secondary data for the study may weaken the study. So, future investigator may collect like performance data to make the study robust if its possible.

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Appendix I
Addis Ababa University
School of Commerce

Questionnaire

Dear Sir/Madam;

This research questionnaire aims at collecting information the role of effective scope management on private real estate project success. I am a graduate student at Addis Ababa University School of Commerce and currently I am conducting a research for the partial fulfillment of my Master of Arts in Project Management.

It's urgent that u fill this information from your experience about the role of effective scope management on construction project success is very important to make the study possible and achievable. I kindly request you to spend few minutes responding freely to the questions based on your knowledge. The information you provide will only be used for academic purpose and not for other purposes.

Your assistance is appreciated!

Mussie Desta,

mussiedesta6@gmail.com

SECTION I: DEMOGRAPHIC INFORMATION

Demographic profile

choose from the alternative option

1. Gender *

Mark only one oval.

- male
- Female

2. Age *

Mark only one oval.

- 21-29
- 30-40
- 41-49
- 50 and above

3. Educational Status *

Mark only one oval.

- diploma
- bachelor degree
- Masters degree and above

4. how long have you been working in real estate project *

Mark only one oval.

- 1-5 years
- 6-10 years
- 11-15 years
- More than 15 years

5. what is your position *

Mark only one oval.

- project manager
- supervisor
- contractor
- staff
- Consultant

Section 2:

no	Defining Project Scope	5	4	3	2	1
1	Finishing in defining of project scope and its impact on critical factors of the project.					
2	Scope management tasks associated with scope are well recorded and					

	accessible to the team					
3	Expertise judgment provided was given a brief attention while establishing the boundary of the project					
4	There is approach to distinguish the exact content of activities within the scope and explain this to team members.					
5	The contractor is asked for opinion for input on design and constructability issues.					

Verify Scope		**5**	**4**	**3**	**2**	**1**
1	Inspections of qualities such as measuring and Examining whether deliverables meet requirements and performance criteria are considered.					
2	Updates on work performance information that define the projects report status on the project completion are duly communicated and documented.					
3	There is a clear agreements between the client					

	and the contractor Concerning how to verify the activities with what is stated in the contract on regular basis.					
4	Regular meetings are held between the client and the Contractor to ensure that both parties are regularly updated about the status of the project					

Control Scope

	Control Scope	**5**	**4**	**3**	**2**	**1**
1	There is a system to Monitoring the scope creep and Change requests within the defined boundaries considering the delay and cost incurred.					
2	There is a Project performance measurements to Assess the magnitude of variation in terms of cost and time frame from the original scope baseline.					
3	There is a system keeping track of scope changes to seek for Patterns is considered.					

4	There is a formal agreement to a discussion between that Involves The contractor on scope changes.					

WBS

	Create Work Breakdown structure	**5**	**4**	**3**	**2**	**1**
1	There is proper document that provides detailed Activities, and scheduling information about each component of the work					
2	The contractor is participated when dividing the work items in to activities and elements.					
3	There is a consideration related to historical information related Design information, available from past projects relevant to the current project.					
4	There is under estimating activity duration and cost					

	estimation and activity sequencing					
5	There is awareness about possible information loss between stakeholders of the project					

Source: **(kalkidan Kebede, 2019)**

Stakeholder engagement

Stakeholder Engagement	**1**	**2**	**3**	**4**	**5**
Project managers engage the stakeholders (donors, government and residents) in designing the scope of the project					
The stakeholders must approve any changes in the real estate project scope before it is implemented					
The scope is a reflection of the expectations of the stakeholders					
Stakeholders are communicated to on the progress of the real estate projects					
The communication lines are open to receive views/feedback from project stakeholders					
The stakeholders are involved in monitoring of the projects for transparency					
Stakeholders are involved in creating Work breakdown structure					
Stakeholders are involved when verifying the scope of the work					

Source: **Gichuhi John Gitahi(2018)**

	Project success	**5**	**4**	**3**	**2**	**1**
1	project are often finished within the estimated budget					
2	project are often finished within the allowed time					

3	the organization allows the project to be finished within the scope					
4	the project is finished within the required standard quality					

Source: Santos, Barriga and Jugend (2014)