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POST GRADUATE STUDIES

Evaluating the Impact of Agile Practices on Stakeholder Engagement in Commercial Bank of Ethiopia

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List of ACCRONYMS AND ABREIVATIONS

ATM -Automatic Teller machine

ANOVA -Analysis of Variance

CBE -commercial Bank of Ethiopia

PM -Project management

PMI -Project management institute

PO -Project Owner

Pos – Point of sales

MB – Mobile Banking

IB – Internet Banking

UAT – User acceptance Test

IS – Information System

IT -Information Technology

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Abstract

Agile methodology becomes aback- bone in Evaluating the Impact of Agile Practices on StakeholderEngagementbecause of its flexibility, collaboration, fast adaptation and iterative approach. Except traditional project managements frameworks agile prioritizes iterative development continuous feedback and close stakeholder engagement. In contrast to traditional project management frameworks, Agile emphasizes iterative development, ongoing feedback, and active stakeholder involvement, allowing teams to adapt to changing requirements effectively. This methodology has been particularly advantageous in dynamic and fast-paced settings, where maintaining a balance between speed and quality is essential.This study is deigned to quantitative type of research approach, which mean quantitative type of approach. in this study cross-sectional survey strategy through structured questionnaires to answer the research questions was deployed. In The data analysis model and the analysis result the researcher observed that agile practices are statistically significant with the stake holder and the researcher found that the mediating variable is also statistically significant with stakeholder and this implies that partial mediation is applied in the study.

Keywords:*Agile*, *Waterfall*, Scrum,agile methodology, Stake holder, Project Management

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The concept of agile project management is an iterative and pragmatic way or approach to deliver value that focusing on collaboration continues engagement of stakeholder and customer feedback throughout the project life cycle. (Dugbartey, A. N., & Kehinde, O. 2025.). In recent years, the banking industry has been undergoing rapid change, pushed by increasing competition, technological advancements, and rising customer expectations. To respond to these pressures, many financial institutions, including the Commercial Bank of Ethiopia (CBE), have started adopting agile ways of working. agile project management presents a practical and repeatable methodology for building a sound yet flexible project process. Agile project Management presents a practical and repeatable Methodology for building a sound yet flexible project process(Gary, 2004). Agile approaches are known for improving flexibility teamwork and communication but their actual influence on stakeholder engagement both internal and external has not been thoroughly studied in the Ethiopian banking context.This study aims to explore how the introduction of agile practices at CBE is shaping stakeholder interactions participation and decision-making. Agile project management project is the radical change of from traditional, rigid methodologies to pragmatic or flexible iterative and stakeholder or customer centric approach. The main principle of agile focus flexibility, collaboration, iteration development ongoing dialogue and open-door commination. (Matcha, S., &Avneesh, K. 2025). Agile methodology is the most software development methodology industry as compared to waterfall methodologies(Marques et al., 2023).The emergence of Research on agile Practice can be traced back the late 1990s primarily with evolving software industries(Dong et al., 2024).The Agile Manifesto was created in 2001 to support software developers and to ensure that software development efforts stay focused on customer needs(Dong et al., 2024).

Procedural model of Project management can be classified into plane driven method which follows a classical waterfall methods and agile Methods such as scrum that follow an iterative

test-driven approach(Thesing et al., 2021) in classical project management following a waterfall process of planning and execution, expected results are communicated relatively clearly by the client at the beginning of the project therefor the project can be worked through in goal and plan-oriented manner, it is plane historically from dick-off to completion with worked packages responsibilities and deadlines the aim is implementing the initial plan as precisely as possible this provides stability and structure(Thesing et al., 2021). One of the principles of agile is its focus on collaboration and transparency, agile teams typically include cross-functional members such developers testers and product owners(Sirisha et al., n.d.).

Agile model has itself two main versions of software development management, namely the Scrum method and the Test-driven development.(Dima &Maassen, 2018).The test-driven method is another version of software development within agile development (Dima&Maassen, 2018).Agile Methodologiessuch as scrum and Kanban, have gained widespread popularity in industries beyond software development, including finance, healthcare marketing and product design(Sirisha et al., n.d.).Agile model has itself two main versions of software development management namely the scrum method and the Test-driven development (Dima&Maassen, 2018).the scrum method is version of agile model that supports also a quick implementation of new customer requirements. An essential part of a successful implementation of the Scrum method is the involvement of the development teams, that have to meet daily to discuss software development progress and obstacles in order to quickly implement the requirements(Dima&Maassen, 2018)

Scrum is a framework for developing complex projects and organizing work based on set of values principles and practices that provide foundation for all members(Andrei, n.d.). Scrum framework gives great flexibility and versatility when facing changing constraints weather financial or technologically and its key for success is always targeting the highest priority tasks, each of these going through a process of steps i.e. requirement elaboration, design, development comprehensive testing, integration, documentation and approval (Andrei, n.d.).

daily Scrum represents daily meeting usually no longer than 15 minutes and occurring at the same time every(Andrei, n.d.) day which is not focusing on problem solving but rather what was accomplished since last daily scrum it synchronizes the work between team member and the

management update on the status of the project(Andrei, n.d.).In the cases of the scrum model the customer priorities are divided into so called sprint objectives and during two to four weeks these should be implemented in the product whereas the team should meet daily to discuss and solve progress and obstacles in the software development(Maassen, 2018).Requirements are split into short term objectives, named Sprints (maximum three to four weeks), that are established by the project manager or scrum master, as they can be named(Dima&Maassen, 2018)

Sprint is a f time boxed period (often not greater than 30 days depending on the team) during which a team works to complete a set of tasks and deliver a usable result(Andrei, n.d.).Sprint planning represents a meeting for creating the spring backlog and fixing the goals for the current spring while also clearing any ambiguities(Andrei, n.d.).

Agile Project management involves a repetitive and incremental process of carrying out a project throughout it complete life cycle. It is targeted to provide a new product or services in an incremental manner, allowing for continual feedback and adaptation Throughout the development process(Asrat, 2023).

The Water fall Model is static and its approach in system development is linear and sequential Manner completing one activity before the other.(Adenowo&Adenowo, 2013).The waterfall model is one of the oldest Model and follows linear and sequential process approach. It was first introduced in 1970 by Winston W.Roce, who described as phased approach to so software development where each phase must be completed before the next begins (Sirisha et al., n.d.).The waterfall model is the first applied software development strategy, resembling the designs that were used in other industries This strategy allows for a project to be split into multiple fixed phases, with each phase requiring the analysis and work from the previous phases(Andrei, n.d.).The Waterfall Model often called structural analysis and design model That follows sequential process and separate data in the system from the program that act on the data This traditional approach or the waterfall Model Provides rigid system development process Therefore software approach using this system is not upgradable or not easily maintained (Adenowo&Adenowo, 2013).Existing literature reveals that waterfall model uses linear approach and it is the only suitable way for sequential or procedural design.in water fall bugs detected at the end of the whole process and it is difficult to going back and fix for the entire

process(Adenowo&Adenowo, 2013).The Waterfall methodology complicates long-term maintenance and system upgrades, primarily because it fails to prioritize seamless integration between software components(Adenowo&Adenowo, 2013). The construction industry traditionally adopts sequential project management methodologies such as waterfall. The project phases are usually divided into initiation, planning, execution, control, monitoring, closure and the internal structure of each phase follows a sequential framework(Marques et al., 2023).waterfall development methodology is still a widely used way of working in software development industries even though many problems or bugs are existing with it(Petersen et al., n.d.).Waterfall breaks up projects based on requirement activities analysis design, coding and testing (Adenowo&Adenowo, 2013)as a whole waterfall model could be engaging the following phases analysis design, implementation (i.e. coding), tasting and operation and maintenance.(Adenowo&Adenowo, 2013). Waterfall model is connected to high cost and efforts that requires approval of many documents, changes are costly to implements iterations take a lot of effort and rework and problems are usually pushed to latter phases (Petersen et al., n.d.).few studies are explicitly focused on The waterfall model and some reasons for The failures of the waterfall approach have been indentiifeid.one reason mentioned by several studies is management of large scope ,i.e. requirements cannot be managed well and has been identified as the reason for the failure(Petersen et al., n.d.). classical project management is characterized by holistic planning in advance, stability a long-term perspective. Furthermore, the scope of classical project is clear possibly with foreseeable evolution. In contrast planning in agile project management is incremental continuous step by step flexible short term oriented(Thesing et al., 2021) .The basic problem of waterfall approach is that it pushes risk forward in time where its costly to undo mistakes from earlier phases Waterfall approach tends to mask real risks to a project until it is too late to do anything meaningful about them(Gary, 2004). The transformation from waterfall to agile model led to an increased dynamic business model that had less phases of the production process and where the process is repetitive with a main orientation of monthly improves of the released products(Maassen, 2018).The waterfall model has the risk of offering a product version that is already old in terms of what customer expects by the end of all process phases which is significant threat in a permanently changing technological environment as other competitors could have already developed better product versions(Maassen, 2018). Waterfall

model is a traditional software project management approaches and have limited iteration practices have been observed(Bizuayehu et al., 2018).Waterfall model is a linear project management model or and This model are likely less effective(Assefa & Markos, 2022) Other reasons also push teams to use agile methods In General Waterfall model is linear model of the traditional approach. Everything is planned in the beginning and every action stick to the plan during the implementation phase(Assefa & Markos, 2022).The adoption of project management techniques is a crucial decision for corporate governance in construction companies since the management of areas such as risk, cost, and communications are essential for the success or failure of an endeavor(Marques et al., 2023).

1.2. Background of the organization

The history of the Commercial Bank of Ethiopia (CBE) dates back to the establishment of the State Bank of Ethiopia in 1942. CBE was legally established as a share company in 1963 after splitting of State Bank of Ethiopia in to National Bank and Commercial Bank. In 1974, CBE merged with the privately-owned Addis Ababa Bank. Since then, it has been playing significant roles in the development of the country. Currently CBE has more than 40 million account holders and the number of Mobile banking users reach 12 million and Internet Banking users also reached more than 2.1 million as of February 30$^{th\ 2023}$. (CBE report, 2023)

Commercial bank of Ethiopia is the dominant or the leading financial organizations in the country thatprovide digitalizingbanking services to customers by adapting agile project management focusing on customer feedback and stakeholder engagement. Commercial Bank of Ethiopia has morethan 82 years of experience. Now it has almost 2000 branches totally in the country and outside the country like Djibouti and South Sudan and with having more than 60,000 employees (https://internal.portal), January, 2025

Commercial bank of Ethiopia is now offering services to customers with new technologies by adapting agile project management such as automatic teller machine (ATMs), pose (point of sale), mobile banking, internet banking, wallet services or mobile money system, card less banking, master card services, agent banking and utility services for third party integrationwith its wallet and it's mobile banking and its internet banking, (CBE procedure,2024).

1.3. Statement of the problem

Despite The rapid growth of agile Methodology practice globally, adoption and awareness are still low in the Commercial Bank of Ethiopia.Evaluating the Impact of Agile Practices on Stakeholder Engagement in Commercial Bank of Ethiopia is not well studied or notunderstood,this represents a significant knowledge gap that must be addressed to maximize the potential impact of agile practice on stake holder engagement in CBE.In the current rapidly evolving financial landscape of Ethiopia, the Commercial Bank of Ethiopia (CBE) has shifted from traditional project management or from waterfall method to Agile practices through its information system (IS)model. In fact, this transition from traditional to agile practices should lead to faster product delivery, higher transparency, and seamless collaboration between the bank's information system teams and its diverse stakeholders (Business teams and customers).Agile is known for its iterative and flexible relative to waterfall model since waterfall is linear and sequential in its behavior.by investigating key factors such as adaptability, stakeholder involvement, risk management and project complexity the study focused on to analysis the strength and limitation of the two methodologies i.e. agile and waterfall(Sirisha et al., n.d.). In Agile, projects are structured around small, incremental improvements across the cycle and allow teams to adapt to changing requirements and feedback and to respond to changing needs and feedback from stakeholders.

The main problem lies in the following areas: The Communication Gap: While Agile emphasizes continuous feedback, stake holder oftenfeels like passive recipients of new digital tools like, MB, IB CBE Birr, ATM, POSor digital Services. rather than active participants in the development lifecycle. Innovation vs. Adoption, yet high-speed innovation does not automatically translate into stakeholder satisfaction. Without a clear understanding of how Agile practices impact this relationship, the organization face innovation fatigue among it IS and stake holder or customer, source internal portal of CBE (https://internal.portal/). Currently, there is a lack of empirical research within the Ethiopian banking context that evaluates whether Agile practices actually improve stakeholder engagement or if they create further confusion. If this gap is not addressed, CBE may face low internal adoption rates, customer friction, and a failure to realize the full return on its digital investment. So, this Research needs to evaluate the impact of Agile practices

on stakeholder engagement, while specifically considering the mediating role of Service Innovation and performance of the services. Agile software project management holds the promise of delivering a quality software product as perthe requirements of the user by avoiding non-a value adding work(Bizuayehu et al., 2018).Agile project management has been recognized as a contemporary project management approach that has demonstrated its efficacy in ensuring project success. Agile methodologies can have a substantial impact on minimizing expenses related to project implementation. And also, utilization of agile methodology can have a substile impact on improving the overall quality of the final product(Asrat, 2023).Stakeholders are involved in order to create successfully improved products(Maassen, 2018) . The Agile model is mainly focused with bringing the stakeholders', especially customers' feedback suggestions continuously during a year in the form of frequent product releases, that can be evaluated and improved again by the users(Maassen, 2018). Now a days Commercial Bank of Ethiopia mainly relied on projects and service delivery approaches services availability and digitalization that require close collaboration with stakeholders. Agile practices are widely used as a means to improve communication, transparency, adaptability, and collaboration. Agile mode is the latest begin an adapting strategy to increased customer requirements and the changing business environments (Maassen, 2018). But agile practices in fact influence stakeholder engagement in the banking organization is not well understood in Ethiopia banking industries. Stakeholder engagement issues such as in adequate involvement of stakeholders in decision making inconsistent communication, limited feedback during project execution and mismatches between stakeholder expectations and project outcomes may hinder effective implementation of projects. Understanding of this relation is vital because without understanding of the agile practices, if Agile is adopted the organization may not fully realize benefits such as improved stakeholder satisfaction. The study is focused on to evaluate impact of Agile practices on stakeholder engagement in commercial Bank of Ethiopia.

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1.4. Research question

This research will focus on addressing the following questions:

1. How do current Agile practices different from water fall or traditional project management at CBE?
2. How does the speed of service performance or speed of services innovation explain the relationship between Agile practices and stakeholder satisfaction?
3. To what extent does the implementation of Agile practices influence stakeholder engagement?
4. What specific agile practices are currently employed by the Commercial Bank of Ethiopia, and how do they affect stakeholder engagement?
5. In what ways does the adoption of agile methodologies enhance communication effectiveness between the bank and its stakeholders?
6. How do stakeholders perceive the influence of agile practices on their engagement and decision-making roles?
7. What obstacles do employees and stakeholders encounter in achieving effective engagement within the context of agile practices?

1.5.Objective of the study

1.5.1 General objective

The general objective of the study is evaluating the Impact of Agile Practices on Stakeholder Engagement in Commercial Bank of Ethiopia.

1.5.2. Specific objective

The Specific objectives of thestudy are:

1. To assess how employee and customer digital competence influences the adoption of Agile-developed features
2. To assess the effectiveness of the digitalizationworking model in streamlining product development at CBE.
3. To identify and classify the agile practices implemented at the Commercial Bank of Ethiopia.
4. To assess the effectiveness of communication strategies employed under these agile practices regarding stakeholder engagement.
5. To analyze how stakeholders, view their level of involvement and decision-making authority in projects influenced by agile methods.
6. To identify and evaluate barriers to effective stakeholder engagement stemming from the adoption of agile methodologies.

1.6 Scope and limitation of the study

The study tries to describe impact of agile practices of stake holder engagement in commercial bank of Ethiopia and evaluating impact of agile practices in Commercial Bank of Ethiopia.The research will focus exclusively on the Commercial Bank of Ethiopia, examining recent agile practices and their effects on stakeholder engagement within a defined timeframe.

1.6.1. Limitation of the study

The main limitation of the research isStakeholders resistance to wards agile practices and limited number of participants as well. Limited access to data or resources isanother constrain of the study. Some of the limitations include challenges in accessing relevant data, bias in participant responses, and the generalizability of findings beyond this organization due to contextual differences

1.7. Significance of the study

The study is crucial to commercial Bank of Ethiopia by identifying and evaluating impact of agile practices on stake holder engagement to digitalize its banking system and to be competitive in banking industry through the world.The study aims to provide meaningful insights into how agile practices can enhance stakeholder engagement in the banking industry. The findings are expected to yield recommendations for improving collaboration and communication with stakeholders, ultimately leading to better project outcomes and enhanced organizational performance. The study is significant since it provides empirical evidence on how the Commercial Bank of Ethiopia can bridge the gap between its high-level digital strategy and ground-level execution. By focusing on Agile practices, the research offers a roadmap for improving stakeholder engagement in a highly competitive banking environment, ensuring that innovations like the 'Digital Factory' result in actual value for both the bank and its customers.

CHAPTER TWO

2. RELATED LITRATURE REVIEW

This chapter provides theoretical and empirical frame works for the study by reviewing related literatures on Evaluating the impact of agile practices on stakeholder engagement in commercial Bank of Ethiopia by categorizing into two main categories. The first categoriespresent theoretical literature on Evaluating the impact of agile practices on stakeholder engagement. Whereas The second section devoted to the review of empirical study in other countries at large and in Ethiopia along the gapes observed in particular.by intervening in each section, the researcher picks the gaps witnessed in empirical studies and shows this to be bridged by this study.

2.1 Theoretical reviews of Agile practices

A significant characteristics o of agile practice and development is that it aims substantial importance on human aspects in the project like friendliness, creativity, competence, and interaction. These characteristics become a top priority for theaspiring agile team. Skill development is crucial so that every member may produce more value with less time. The aims on human concerns lends a distinguishable to agile initiatives**(Dybå et al., 2014).**Agile Project managements represents a practical and repeatable Methodology for building a sound yet flexible project process(Gary, 2004). but if the methodology is practical, repeatable and flexible, we'll let that pass for now. It seems that what we have is a management problem not a project management problem(Gary, 2004). The need for agility is magnified in highly innovative businesses that are pushing the limits of current technology and thinking, and where key parts of projects often involve discovery or problem solving never encountered before(Gary, 2004).According to Gary, the unique features of the Agile PM Environment consists of Uncertainty; plus,Unique Expertise; plus Speed; where Uncertainty, both internal and external to the project, is the primary factor making the case for agile PM(Gary, 2004). Under agile, organizational adaptability is critical for an organization to be able to reinvent itself around the project (Gary, 2004). Most organizations in a technology-driven environment have many projects in a portfolio, Agility is all about making the right decisions during project execution (as well asplanning); agile PM is about creating the environment and tools to support

thosedecisions(Gary, 2004).Project management is applicable across all industries, but it has a particularly significant impact in sectors with higher financial value(Marques et al., 2023).The agile modeling practices requires active stakeholder participation to attain information and feedback on the product being developed and help to know the direction and strength of tshe development process as well as its prioritization. Researches have showed that the level of grasping among the stakeholders directly affects the project's success. Some Researches showed that less half percent of development projects issuccessfully deliveredwithin the expected time, budget and scope. The result of any project is depending on the stake holder associated with its development process. So, the direction of the project and the processes selection and periodization is determined by Stake holders. PMI defines the stakeholder as a "group of individuals or organizations that are actively involved in the project and whose interests directly influence the project's success".(Dybå et al., 2014a).The agile practice and development must involve multiple but crucial stakeholders to confirm the successful completion of the project. A study of the literature has demonstrated a significantly positive link between agility and stakeholder support.(Dybå et al., 2014a).stakeholder management focused on managing skills, human resource managing strategies, and the quality management approach. The management skills involve managing and organizing the whole developmental procedure, human resource management expertise is concerned with the human aspects of the project while quality management ensures the frequent assessment and review of the project.(Dybå et al., 2014a). The difficulty of Agile frame work scaling like scrum to large teams due to communication issues misalignment goals and lack of standardized practices across the teams. Agile methodologies can result in quicker delivery times and enhanced customer satisfaction, even in large-scale environments, by fostering better collaboration and incorporating regular feedback loops (Matcha& Kumar, n.d.,2025). Multiple studies have identified that the primary obstacles to scaling Agile are organizational culture and resistance to change(Matcha& Kumar, n.d.,2025).Regarding agile methodologies, the software development industry is the most widely known user. The sector has many proven success stories—both in cutting costs and in helping project managers boost productivity while ensuring the project scope aligns more closely with client expectations(Marques et al., 2023). Construction projects are often viewed as poor fits for agile methods, largely because they typically rely on sequential task execution. They also tend to

be guided by a rigid scope, and the high cost of managing changes during the execution phase makes agile-style flexibility more difficult(Marques et al., 2023).

2.1.1 Theoretical reviews of Stake holder practices

PMI characterizes stakeholders as groups or individuals who play an active role in a project and whose interests directly affect its success. These stakeholders frequently engage with the product owner, project leader, and project manager, offering support in the creation of the project's deliverables and services. Their involvement is crucial, as they are key contributors throughout the project. Stakeholders can encompass customers, employees, investors, suppliers, and various other entities. Stakeholders are responsible for defining the specifications for the products being designed, allowing them to evaluate their satisfaction with the outcomes. They can also determine whether their needs have been adequately met. Additionally, some stakeholders might not have specific product requirements but may focus on achieving revenue targets for the organization(Dybå et al., 2014).

2.1.2 Stakeholders in Agile Practices

In any given scenario, the response of a system is defined by the initial specifications. These responses are influenced by the needs and objectives of various stakeholders. Different project management approaches engage one or more stakeholders at different levels throughout the project lifecycle. In contrast, agile software development emphasizes the involvement of stakeholders at every level. They are actively engaged throughout the process and their feedback is regularly sought. Agile practices prioritize the involvement of all stakeholders to ensure that any necessary changes—whether due to evolving stakeholder demands, emerging technologies, or other influencing factors—can be addressed promptly (Dybå et al., 2014).In Agile projects, stakeholders are crucial for ensuring successful delivery and alignment with organizational objectives. Unlike traditional project management, where stakeholders tend to be on the sidelines during the development process, Agile focuses on ongoing stakeholder involvement throughout the entire project lifecycle. In Agile, essential stakeholder roles comprise the Product Owner, Scrum Master, and Development Team, each fulfilling unique responsibilities and making specific contributions (Adriana N Dugbartey&OlalekanKehinde, 2025).

2.1.3 Traditional Project management

Traditional Project management more of comes from linear structure and discreet mechanical view of System engineering and quality discipline. Traditional project management considers development to be a linear progression through clearly defined stages, such as requirements, design, coding, and testing. It operates on the assumption that there is nearly complete information about the project's goals and anticipated solutions. As a result, it struggles to adapt to changes in scope, timeline, or resources.(Dybå et al., 2014).key problems in project developments are not technological but managerial in nature (Dybå et al., 2014a).The classic method of software development is commonly represented by the waterfall model. It is a time-tested approach that is straightforward to understand. As a static model, it treats system development as a linear, step-by-step process, finishing one phase before moving to the next. Fowler [2] notes that in the waterfall approach, projects are divided into phases such as requirements analysis, design, coding, and testing(Adenowo&Adenowo, 2013). In summary, the waterfall model includes these stages: requirements analysis, design, implementation (coding), testing, and operation and maintenance, with acceptance testing also taking place within the process(Adenowo&Adenowo, 2013)

Traditional project management has provided a consistent framework for meeting predefined goals in stable environments, emphasizing structured planning and top-down control. Its approaches, including the waterfall model, follow a series of steps: initiation, planning, execution, monitoring, and closure. The predictability of this method makes it particularly suitable for well-defined projects with low levels of uncertainty, such as infrastructure development and manufacturing processes(Haddab, 2024). But the existence of traditional project management in dynamic contexts exposes significant drawback. Rigidity: The sequential planning inherent in traditional methods restricts adaptability to unforeseen changes, like evolving client priorities or shifting market conditions. The limitation of traditional agile methodologies has become specifically apparent in industries described by high rate of innovation and enhanced manufacture on this field of study project requirement mostly evolve through the lifecycle that leads continuous reassessment and realignment of the goals (Haddab, 2024).In the construction industry, sequential project management approaches—such as the

waterfall model—have traditionally been used. Typically, projects are split into stages including initiation (or definition), planning, execution, control/monitoring, and closure, with each phase following a step-by-step structure(Marques et al., 2023)

2.1.4The emergence and basic principles of agile methodologies

The shortcoming of traditional frameworks in handling pragmatic and iterative needs prompted the emergence of agile methodologies. Initially developed in the software industry, agile practices became widely embraced after the release of the Agile Manifesto in 2001. This manifesto articulated four key values and twelve guiding principles that emphasize flexibility, collaboration with stakeholders, and the incremental delivery of value (Haddab, 2024)Agile methodologies are based on fundamental principles aimed at improving flexibility, collaboration, and responsiveness in project management.Agile prioritizes simplicity by encouraging teams to concentrate on delivering the most valuable features first, thereby minimizing unnecessary complexity.Teams are urged to frequently evaluate their processes and adjust enhance efficiency and effectiveness. By closely aligning with business objectives and adopting a customer-focused approach, Agile methodologies help ensure that projects stay relevant and adaptable to evolving requirements(Adriana N Dugbartey&OlalekanKehinde, 2025).Agile comprise several frames works each tailed to specific project management needs. Scrum is one of the most famous framesworks of agile is based on time boxed iteration is sprint (Adriana N Dugbartey&OlalekanKehinde, 2025).in agile development, Developers work in a group with stake holder that represent the system’s user. the user acceptance to be implemented in each development cycle are jointly decided by the stake holder and the rest of the development team (Dybå et al., 2014b).Agile practices serve as a resilient foundation for Business organization for digital transformation, emphasizing versatile operations and continuous, step-by-step enhancements (Nwachukwu, A. S., &Boatengu, K. E. ,2024).Agile methodology replaces traditional project management with a repeating process that divides work into short 'sprints'. By including planning and feedback in every stage, teams can make quick changes and keep improving their products(Nwachukwu, A. S., &Boatengu, K. E. ,2024).

2.2 Empirical literature review

Various studies have been carried out toanalyze and evaluate the impact of agile practices and stake holder engagement in Business organization in developing as well as developed countries. Given the empirical literature available on the topic of this thesis, it is difficult to present the result of all the studies.

2.2.1 Studies in other countries

There are international studies on the Impact of Agile Practices on Stakeholder Engagement in Business organization as well as in Technology company among these are, Nwachukwu, A. S., &Boatengu, K. E. (2024), Dugbartey, A. N., & Kehinde, O. (2025), (Haddab, 2024), Serveral studies were conducted to identify and evaluate the impact of agile practice in stake holder engagement. It was observed that there were many factors from these are resistance to change, problem of dynamism, cultural and socio economies etc.

(PriscaAmajuoyi et al., 2024),on his study about Agile methodologies: Adapting product management to rapidly changing market condition he found that Agile methodologies offer a powerful framework for organizations seeking to thrive in today's fast-paced and competitive business landscape.

(Atobatele et al., 2021), on his study about Applying Agile and Scrum Methodologies to Improve Public Health Informatics Project Implementation and Delivery on his study he observed or found that the integration of agile and scrum methodology significantly changed the health informatics by promoting and adopting flexibility of project flexibility, improving collaboration among stakeholders, and speeding up the delivery of effective informatics solutions.

2.2.2 Studies in Ethiopia

In Ethiopia Evaluating the Impact of Agile Practices on Stakeholder Engagement are not studied. but There were some related studied about agile project practice in some organization like in ministry of innovation and Technology and Eldixsoftwre technology company studied by chrisitanNegese (2024) in (AAU) and he observed from his study that The organization has The

gap of commitment of the agile methodology implementation, inconsistency of the training, poor communication between The teams Another researcher in AAU WondwosenAsserfa in (2022) studied Agile project management practice and challenges in the case of CoreIT project at Starcom Network Solutions PLCon his study he observed or found the Challenge that ,Agile challenges found Communication between PO and PM, Software delivery delay, Cost overrun.Another Researcher YeabtsegaTassew in (2023) in AAU School of commerce studied Agile project management in modern Ethiopia's construction industry- explore the case study of application of post-tensioning on his study he found or observed that the level of agile adoption in current or modern Ethiopia construction industry and detecting The gap that lack of clear and compressive plane and practice in implementation of The agile project and implementing monitoring and evaluation system for tracking purpose. Clients stake holders were also lack of clear understanding about the agile practice.

Generally, in Ethiopia Agile project management and Stake holder engagement practice is not researched quiet enough before even currently not studied well.

2.3 Gaps observed in the studies

Generally in Ethiopia context Agile Methodology practice is in its infant stage and limited Researches are conducted or almost none on the specific area of evaluating The impact of agile practices in stake holder engagement this might be Agile methodology is a recent phenomenon to our country's banking industry and limited studies on technological advancement So this study will be the first of its kind in studying evaluating agile practices in stake holder engagement in AAU and this study will be a great milestone and literature reference to future studies on evaluating The impact of agile practices on stake holder engagement in commercial bank of Ethiopia.

The Agile methodologies are still relatively new in commercial bank of Ethiopia and it is almostin immature, therefor further study is needed to identify additional factors that facilitate adoption and success of Agile practices in case of Commercial Bank of Ethiopia Exploring for extra variables that will mitigate our ability to understand the Application of Agile practice in bankingindustry and predict usage intention more accurately is needed.

2.4 Conceptual Frame work

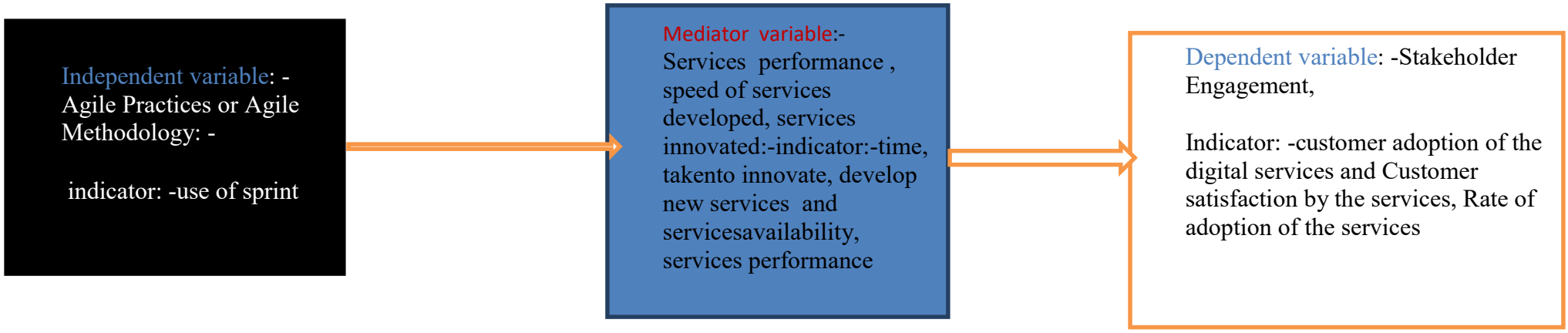


Figure 2.1 Model developed, Evaluating the Impact of Agile Practices on Stakeholder Engagement in the Commercial Bank of Ethiopia (sources: self-prepared)

2.5 Research Hypothesis development

The main objective of the study is to investigate and evaluate Impact of agile practices in stake holder engagement in commercial bank of Ethiopia in information System, System development and customization department and software developerteam, project managerand Business department head.to achieve the aim of the study, researcher Proposed a hypothesis based on the conceptual framework formulated.

The researcher Developed the following hypothesis: -

Agile practices inspire ProductOwners to make rapid growth, more of to make autonomous decisions, thereby declining theinvolvement fatigue caused by CBE's traditional management Methodology and approval layers.

H1: - There is a significant positive relationship between Agile practices and stakeholder engagement at the Commercial Bank of Ethiopia

Due to: - In a big bank, projects often stall because they are waiting for higher management direction and signature. Agile practice will fix this kind of traditional way of practicing Methodology.

H2 : Increased frequency of engagementamongdeveloper teams and business stakeholders' team through Daily Stand-ups positively Relates with the level of trust stakeholders have in the IT and IS department.

Due to: -perpetual communication reduces the us vs. them mentality common in large Business organization or banking industry like CBE.

H3 : Frequent Sprint Reviews, Demonstrations and communications lead to a higher rate of stakeholder requirement fulfillment than the traditional one-time hand-over method.

Due to: This test: - if showing, demonstratingand frankly communicating, the work every 2 weeks prohibits the organization from building the wrong features and scope creeping of the project.

H4 : The use of Visual Management toolsScrum board or Task Walls highly mitigates the transparency of project progress for the organization stakeholders with relative to traditional way of reporting.

Due to: Stakeholders frequently feel frustrated when they don't know the status of a project. Agile practice yields thisthis kind of issues visible.

H5: By Utilizing of Agile Practices substantially enhances the visibility of project progression for key stakeholders, ensuring they have a clear and continuous grasping of development features

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CHAPTER THREE

3. RESEARCH METHODOLOGY

This chapter deals with research methodology to dig out or to evaluate the impact of agile practices in stake holder engagement in banking industry ofEthiopia, specificallyin case of commercial bank of Ethiopia. On the basis of previous studies. This chapter covers the research design, population of the study, sampling procedure, data collection methods, data analysis, reliability and validity of the study and ethics.

Stake holder engagement is dependent variable in the study, whereas agile practices are independent variable and Services performance, speed of innovation or services development are mediating variables in the study These are all about the independent, mediating and dependent variable mentioned above.

3.1. Research Approach

This study is deigned toquantitative type of research approach, whichmean quantitative type of approach. Quantitative approach is structured approach that aimed to collecting numerical data and analyzing it by using statistical or computational techniques(Wisidagama&Marikkar, 2024).Quantitative data are measured objectively.quantitative approach adopts to measure the maturity of the agile Method i.e. scrumand success of the project by using questioner taken from scrum agile metrics(Bizuayehu et al., 2018). Quantitative study approach used to measure the level and maturity of the project(Bizuayehu et al., 2018).quantitative data analysis methods which include descriptive and some inferential statistical analysis to summarize and describe the data analysis(Negese&Asrat, n.d.).The data gathered for this study was analyzed and discussed in direct alignment with the literature review to highlight key areas of consistency. Quantitative research is built on an empirical process that is largely deductive. Researchers typically start with an existing theory and use it to develop testable hypotheses. Jonker and Pennink (2010) argued that the central feature of quantitative research is using a “theory” to frame and guide the understanding of the issue being investigated. Quantitative scholars often believe that generalizations that hold across different times and contexts are both achievable and desirable, and that the true causes behind social science outcomes can be identified in a reliable and valid

manner (Johnson and Onwuegbuzie, 2004). This approach also reflects the view that knowledge about reality can be produced “through the eyes of the researcher.” In this process, the researcher uses the findings to develop and refine theory. Practically, theory is usually converted into a conceptual model and expanded mainly through hypotheses. For researchers, this means that the theory must be carefully operationalized and then measured using specific variables and research questions.The quantitative analysis involved converting the raw data into meaningful content using descriptive and inferential analysis.Quantitative research approach involves identifying and evaluating the impact of agile practices in stake holder engagement in commercial bank of Ethiopia Due to the quantitative nature of the study, it covers who, what, when, where, and how questions in the questioner and were asked to respondents and answered accordingly.

3.2. Research Design

Research designs and methods for a particular study is somehow challenging task. However, in this study cross-sectional survey strategy through structured questionnaires to answer the research questions was deployed. A cross-sectional survey is an observational research design where data is collected from a sample population at one specific point in time. The cross-sectional design was suitable because it allowed data collection with a standardized questionnaire in agile practices in certain project. Cross-sectional survey is characterized by: data is collected simultaneously, there is no variable manipulation i.e. we observed and measure variables exactly as they exist in nature. The methodology referred to set of that technique’s researchers use to conduct an enquiry whereasthe design of the study is explanatory research type. Explanatory research is a type of research design that intended to scrutinize cause and effect relationship in agile practices with respect to stakeholder engagement in commercial bank of Ethiopia.Explanatory research is all about figuring out the "why" and "how" behind a specific phenomenon. It is characterized by establishing causality i.e. it proves that the independent variable directly causes a change in dependent variable.it is also forming Hypothesis frequently begin with specific testable prediction about how two things are interrelated or linked. It often uses structure methods like experiments, statistical regression, mediation analysis to rule out outside factors and prove the

connection is real. explanatory research focuses on finding the actual cause-and-effect relationships that drive it.

3.3. Target Population

Population is commonly used term to denote the number of people or items in a single area or in a defined area.it is refers to a cohort of individuals or participants with the specific attributes of interest and relevance. The target populations for this study wereEmployees involved in CBE's digital transformation, Digital Factory, Information system Operation, System development and customization, Digital channel application management, Management of information sciences, Digital Banking Business, Stake holder and Head Office IT staff, and Branch Performers. An appropriate sample size is crucial for making meaningful conclusions in a study. While a large sample can be difficult to manage, a small one may lead to inaccurate results. Thus, it's essential to choose a sample size that yields statistically significant outcomes. Additionally, it's important to ensure that the selected sample reflects an unbiased perspective.

Based on the formula of Yamane (1967) the sample size will be calculated as the below general formula.

n = N/(1+N(e2)

= 13000/ (1+25000(0.05^2)

204.7≈ 169

Therefore, out of the 13000 head quarter staff worker of commercial Bank of Ethiopia the researcher selected 169 workers randomly to accurately represent the situation; the researcher utilized the existing category of CBE. The study focused head quarter workers because they were the most convenient for the researcher to conduct the survey.

3.4. Sampling Techniques and sample size

Sampling involves selecting specific elements from larger population to represent the entire population. The study used Stratified random sampling method. The data was collected via stratified sampling distribution. stratified sampling is the process by which the population is divided into identical groups calledStra, and sample is randomly sorted out from each Strat. The motivation for selecting stratified systematic sampling method in the study was due to the population is uniformly sampled. Then, questionnaires were randomly

3.5. Data analysis

Data analysis is a means of cutback and buildup of data to a manageable size, summary development, and identification of patterns and application of appropriate techniques in analysis during the analysis of the data, the researcher used frequencies, standard deviations and mean.in general in the data analysis descriptive statistics, inferential analysis, regression analysis are applicable in the study. The study also used Pearson's correlation to determine any relationship between variables. This studywill use Statistical Package for Social Science (SPSS V .26) to do data analysis after sorting and coding of the raw data and findings presented in form of Tables and 0 to find literature on the area of the topic and related literature to have full data on the research topic this confirms the validity of the content. The researcher reviewed widely the related literature to prepare questioners.

In addition to this, the researcher confirms the statistical validity of the research, the researcher will collectquantitative data using cross-sectional survey questioner and analyzed the data using SPSS V.26, descriptive statistics, correlation, regression, linearity,Homoscedasticity, normality etc. will be deal in detail to observe the relationship of the independent, mediating and dependent variables and to arrive in real conclusion in the study.

3.6 Model Specification

Assuming we are using a linear relationship to see the impact, our specified model equation would look like this: based on previous model designed and modified using the variables from the above conceptual framework and is stated as follows

MA =f (Agile, SP, SA) where MA is equivalent to stakeholder engagement i.e. The dependent variable and Ag is agile practice i.e. independent variable, SP is Services performance and SA is services availability Where SP and SA is services performance and services availability is the mediation variable in the study. This may be expressed in another way as below $Y=B_{0+B1X1+B2X2+B3X3+E}$

Y=Stakeholder engagement

B0=Before factoring agile

B1, B2, B3= The coefficients (the weight or impact each specific Agile practice has)

E=The error term (other random things that affect engagement

This chapter presents how the study evaluates the impact of agile practices on stakeholder engagement in the Commercial Bank of Ethiopia. It explains the type of data used and the methods employed to collect it, including the sampling strategy and the sample size. The chapter also describes how the data are handled and the analytical techniques used to process and analyze the results. In addition, it outlines the process of developing the empirical model, including identifying and defining its components. Finally, it covers the measurement and selection of variables, the expected relationships between the dependent and independent variables, and the role of the mediation variable.

3.7. Ethical Considerations

Research needs not only Proficiency and diligence, but also it requires honesty, integrity, reliability, Confidentiality. Ethics are moral principles that govern person's behavior or conduct. It is established principle that govern moral choices about individuals' behavior and our relationships with others.

Personal data had kept strictly secrete and the questionnaires were distributed only those voluntary participants. Regarding to this questioner, participants will notbe harmed physically or emotionally.

CHAPTER FOUR

4. DATA ANALYSIS, PRESENTATION, INTERPRETATION AND RESULT DISCUSSION

This Chapter Discuses a description ofthe finding from the data obtained from the staff of commercial bank of Ethiopia.Data analysis was performed based on the responses obtained from the questionnaire surveys.

4.1. Result

This chapter Explains mainly descriptive analysis on dependent, independentand mediating variable of the study and the result of regression analysis that comprise the main finding of the study.

4.1.1 Demographic Profile Result

The study consisted a sample size of 169 respondents, from this,127 were Returned and this represents 75.15% response rate.

4.1.2. Gender Profile

Table 4.1 Gender Profiles

	Frequency	Percent
Male	82	64.6
Female	45	35.4
Total	127	100

Source: survey Result of March 2026

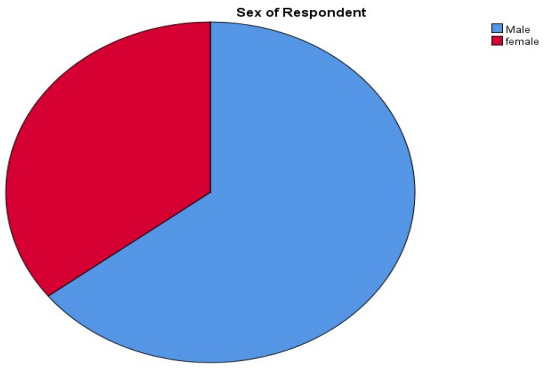


Fig 4.1 Pie chart of Gender of the respondent

According to the survey Result of March2026, from the survey, 82 of thetotals of the survey is male while 45 of the totals is female. This is demonstrated in percent as follows, 64.6% of the respondent were male while 35.4 % of the respondents were female. Generally, the survey result shows the majority of the survey respondents were males. Having with this data We can conclude that most majority of the worker in CBE is males.This clearly indicates that agile practices are experienced More of on males or males are experienced with agile practice Rather than females

4.1.3. Respondent of Age Profile

Table 4.2 Age Profiles Respondents

	Frequency	Percent
23-30	47	37.0
30-40	40	31.5
40-50	20	15.7
50-55	11	8.7
55+	9	7.1
Total	127	100

Source: The consumption of Survey Result of 2026

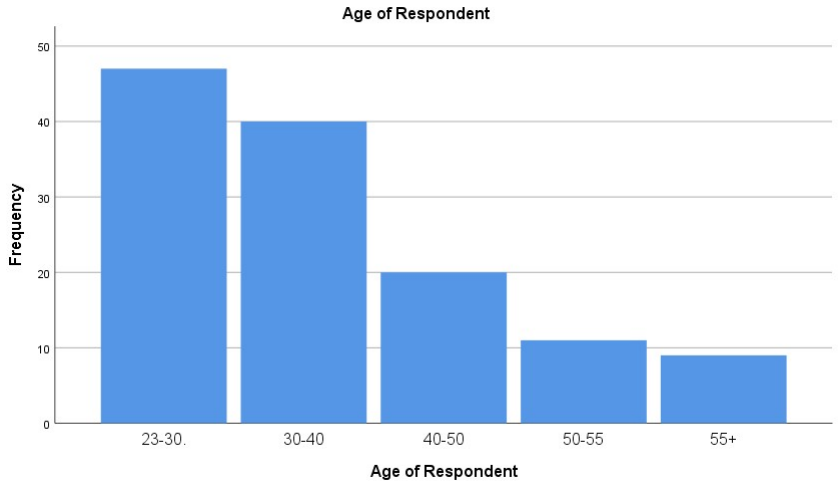


Fig 4.2 Histogram of age of the Respondent

Based on the survey Result of 2026 the highest percentage Stake holder engagement in agile practices adopters are between 23 years and 30 years old, followed by the year 30 years and 40 years, followed by between the year 40 years and 50 years, followed by 50 years and 55 years, followed by 55+ years. from this study as age increase stake holder engagement in agile practices adopters decreased which shows that whenan age increases the stake holder engagement in agile practices decreaseaccording to result of the survey. From here We can drawconclusion youngersare moreof adoptable to stake holder engagement in agile practices.

4.1.4. Respondentsof Educational Profile

Table 4.3 Respondent of Educational Level

	Frequency	Percent
Diploma	25	19.7
Degree	67	52.8
Master	30	23.6
PHD	5	3.9
Other	0	0
Total	127	100

Source: Survey Result of 2026

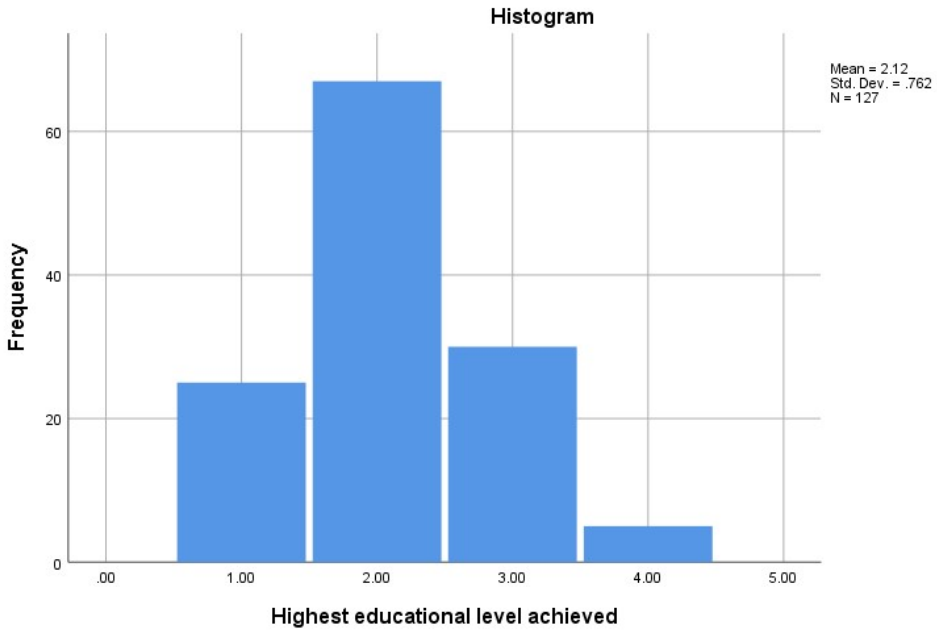


Fig 4.3 Histogram of education achieved level

According to the survey result of 2026, respondents, From The total of 127 Sample size ,67 of the respondent had university degree which is 52.8% had degree education level and 23.6 of the respondents had Master's degree from here We can conclude that Most of the respondent in 2026 survey Result had first degree.

4.1.6. Respondents monthly Income Profile

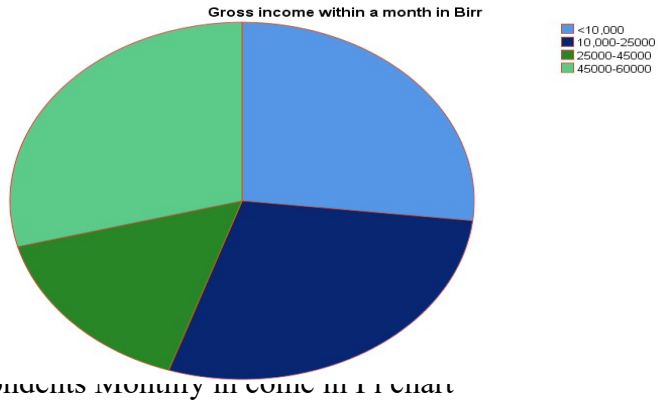


Fig 4.4 Respondents Monthly Income in Pie chart

Source: Survey Result March 2026

According to result of the survey of 2026 or based on the SPSS V26 result of the data in the above pie chart and table 29.1% of the respondent are paid in the range of 45k to 60k in monthly which is the highest number in respondent. According to the result of the survey the lowest pay able Respondents are in the range of less 10k which is in 26.8%.According to study monthly income do not have significant effect on stake holder engagement in agile practices as income increase adoptability of agile practices do not show significant effect on The Histogram as conclusion income do not have any effect on Stake holder engagement on agile practices.as income decrease or increase There is no visible relation between income and stake holder engagement in commercial bank of Ethiopia.

4.1.5. Respondent Occupational Profile

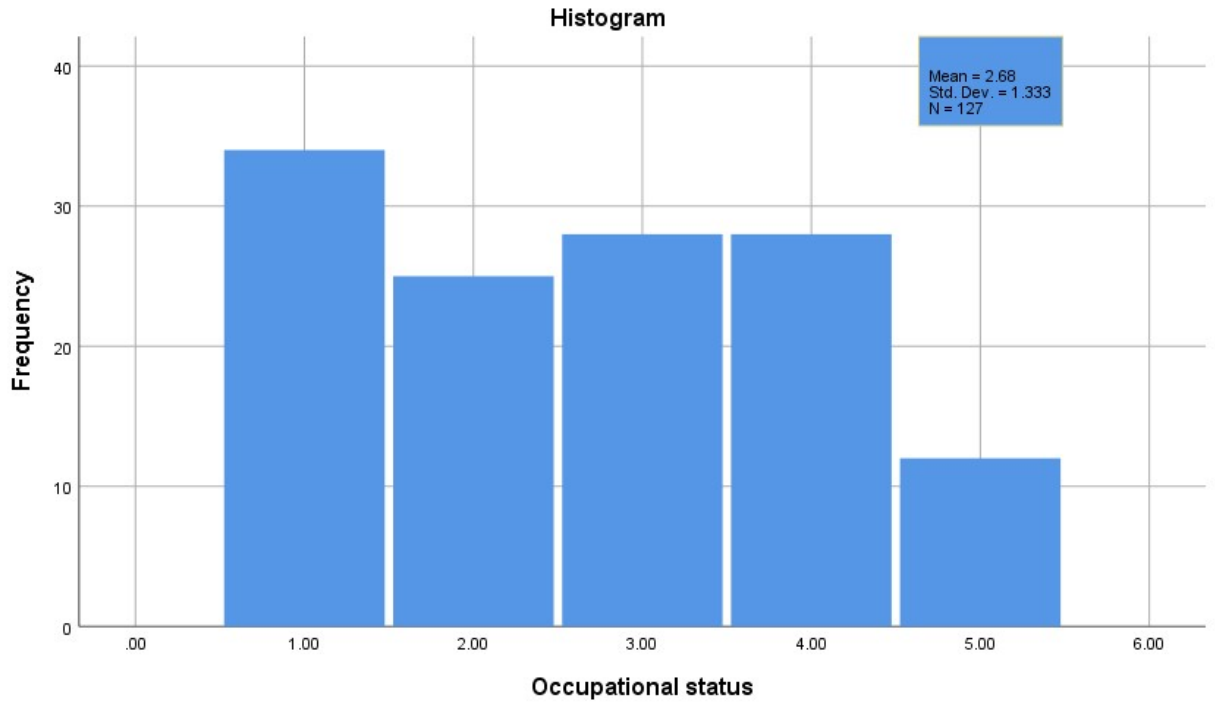


Fig 4.5 Occupational Status of Respondent in Histogram

According to the survey of the in the above figure Most of the respondents are the youth or the trainee in 2026 survey result of commercial bank if Ethiopia. Based on the Histogram of the given data the lowest of the respondents are Senior workers (March, 2026 survey result).

From This Histogram or survey result of 2026 Report we can draw conclusion that most of the respondents are youth or fresher, this implies that stake holder engagement in agile practices is more experienced in youth or fresher more than the senior worker i.e. agile is more practiced in fresher level rather than the senior level this indicates youths are dynamic towards new technology.

4.1.6Reliability Test Result

Reliability Tests Determine about the level of internal consistence of the item or data by using The Cronbach alpha Weather the data is reliable or not in the study.Cronbach alpha shows how closely set of data are related or not in model given. The reliability of the model is checked by Cronbach alpha. Based on the result of Cronbach alpha There is internal consistence is the study.

Case Processing Summary

		N	%
Cases	Valid	127	100.0
	Excluded[a]	0	.0
	Total	127	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.746	.748	7

Fig 4.6 Reliability Test Result

Cronbach alpha always lay on between zero and one. If Cronbach alpha approaches towards one it will have high level of reliability or have high level of internal consistency of the items or

variables. If it lays between 0.6 to 0.7 it will be questionable if it is reliable or not where as if it is below 0.6 its reliability is poor.

If the Cronbach's alpha is above 0.7 is internal level of consistency is high among The Items. From This reliability statistics of this study, The Cronbach's alpha is 0.746 This implies the internal level of consistency of the item is high and reliability assumption is valid in the study.Cronbach's Alpha = 0.746 indicates that the 7-item scale used to measure the construct has acceptable internal consistency. In other words, the items are sufficiently correlated and consistently reflect the same underlying concept

4.1.7 Linearity Assumption:

In data analysis anova or analysis of variance is used to determine or used to give information about the dependent and independent variable weather there is statically significant linear relation or not in the model. From the model analysis the value of P is "0.000" this value indicates there exist strong relationship the variables.it is good conformance of themodel. The very low value of p indicates that the relation of the variable is significant.

The "F" statistical value indicates that the linear Relation. If The value of "F" become higher There exist the linearity assumption. From the model the value of F is 45.43 This is high value indicates implication for The assumption is fulfilled.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	27.356	2	13.678	45.427	.000[b]
	Residual	37.336	124	.301		
	Total	64.692	126			

a. Dependent Variable: STEngagement

b. Predictors: (Constant), SP, Agile

STEngagement = Stakeholder engagement

The analysis of variance table offers a good understanding of how well the regression model fits the data specially it tests the predictors significantlyexplain the outcome variables. Since the sig or the "P" value is less than 0.05 The model is statistically significant.

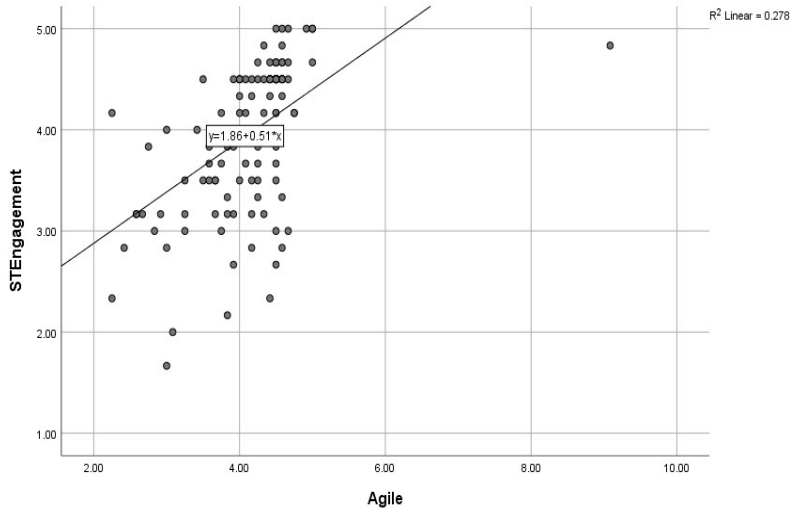


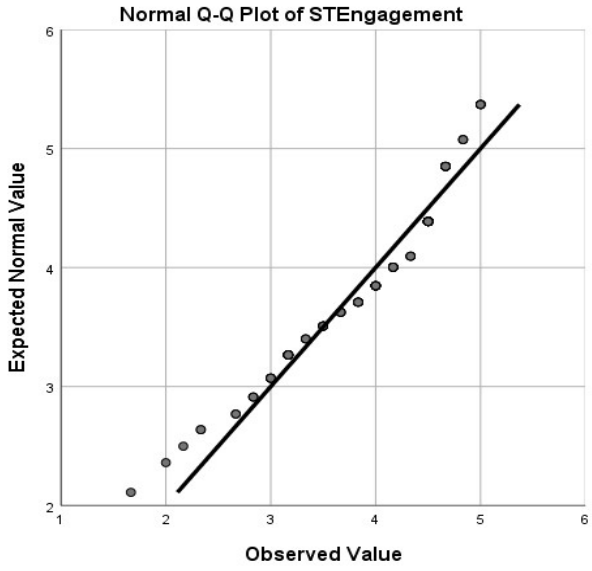
Fig 4.7 Linearity Assumption

The distributions are scattered randomly around the horizontal line and there is no discernible pattern. it is an implication for the linearity assumption fulfilment. Thescatter plot of the above distributionsis almost in being near in space This kind of distribution explains that there is no outlier in the distribution or the distributions are clustered This indicates almost linearity assumption is validbecause the distributions are clustered around the fit line. The model is expressed in Y=1.86+0.51x as the value of x increase the value of Y also increase directly.as The value of x decreases the value of y also decrease this is the linearity model.

4.1.8 Normality Assumption

The Q-Q plot Model under this shows the data are almost Normally distributed because the points are clustered to the line. There is no significant outlier in the distribution, the x axis represents the observed value of the dependent variable Where as the Y axis represented the expected value of Normal value.in this regard, the data points almost nearly go along with thenorm spread line,thisshows “the Stakeholder Engagement" variable is normally dispersed around The line.

Fig 4.8 Normality Assumption in Q-Q Plot



Normal distribution is about is the bell curve which is symmetric to about the mean of the distribution. If The data are away from the line we say that there will be Normality problem. But from this study or from data mode mentioned here data or points are near to The line which satisfy Normality assumption.

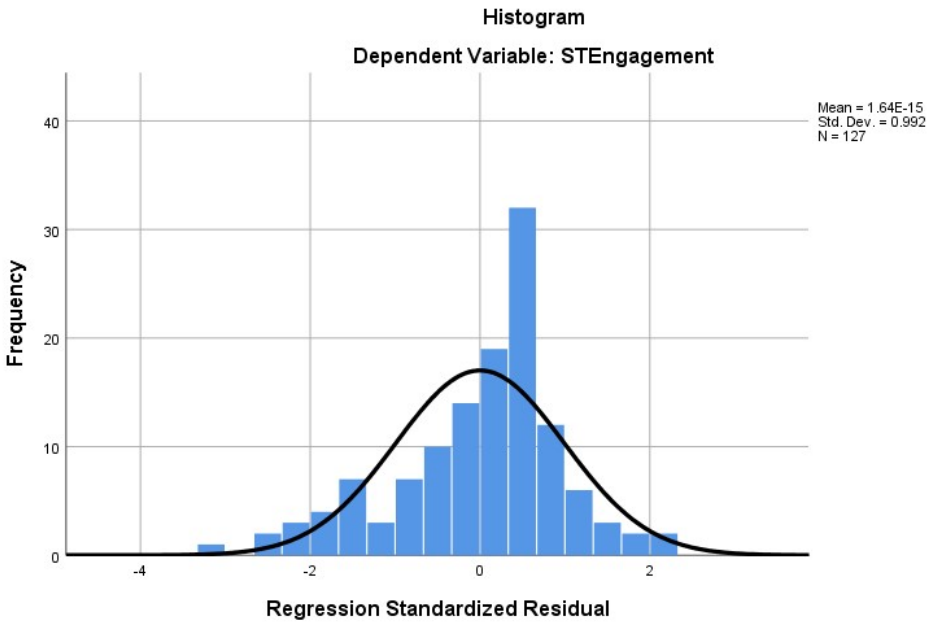


Fig 4.9 Normality Assumption in Histogram

In normality assumption the parabola curve not to be expected wider if the parabola curve wider or extended horizontally the assumption violate if the parabola closer and lay between -2 and 2 and the curve not extended the assumption is fulfilled. The Normality assumption in the histogram demonstrates or it lays form -4 o 2 but normality assumption in histogram distribution most of the time lays between -2 and 2 but from here it extends towards -4 slightly deviate the assumption.

4.1.9**Multi Co Linearity Assumption**

In the study of Multiple linear regression Tolerance and variance inflation factor are used to determine the existence of multicollinearity or not. Tolerance value lays in the range of zero and one if the value of tolerance closer to zero there will be high assumption multicollinearity where as if the value of tolerance is closer to one there will not be assumption multicollinearity.
In this research as shown the model result of the data tolerance value is 0.867 which is closest to one this indicates that There is no multicollinearity assumption in the model.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	1.110	.307		3.613	.000		
	Agile	.363	.071	.378	5.151	.000	.867	1.154
	SP	.349	.063	.409	5.584	.000	.867	1.154

a. Dependent Variable: STEngagement

ST Engagement =Stakeholder Engagement

Fig:4.10 Multicollinearity Model

Variance of inflation factor is the key to determine the existence of multicollinearity or not it is another measurement to identify Multicollinearity existence in the model. If the value of VIF is greater than ten there will be multicollinearity and if its value is less than ten There will not be multicollinearity. From the data of the above result The VIF value is almost near to one i.e. 1.154 This indicates that there is no multicollinearity in the model above.

4.2.1 Homoscedasticity Assumption

Homoscedasticity analysis relates to a core assumption of multiple linear regression: the assumption of equal variance. The unexplained part of the dependent variable or the error term has a constant variance across all observations. As a result, the residuals should show similar levels of spread around the regression line, regardless of the predicted (expected) values.

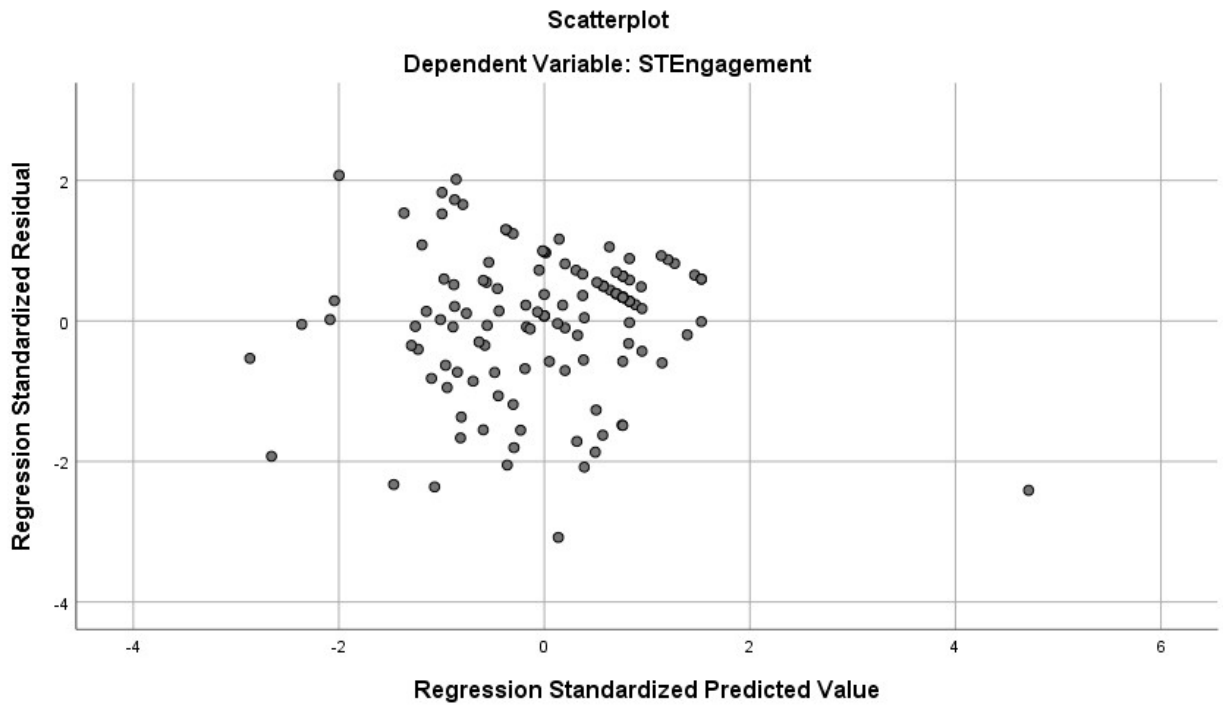


Fig 4.11 Homoscedasticity Distribution

Homoscedasticity Assumption is satisfied if the unexplained value is equally distributed Throughout the scatterplot. But from the above scatterplot the distribution is not uniform i.e. in some area distributed closer and, in some area, distributed wider somehow homoscedasticity assumption from this study is violated due to unequal distribution of the unexplained term, there is pattern in the distribution which is not expected in fact. The residual or the error term should distribute equally or uniformly to satisfy homoscedasticity assumption. If The residual accumulated in some area and wider in some area it will degrade the accuracy and precision.

4.2.2 Inferential Analysis

Inferential analysis incorporates using quantitative data to draw conclusion or inference about a complete population. It involves to deter mine the relationship between variables and statistical significance

4.2.3 Correlation Analysisand Assumption

Correlation analysis is a statistical method used to measure the relationship between two variable.it measures thestrength ofthe relationship between the variables.it tells us Two things how strong the correlation in which direction it goes the relation.Correlation analysis with itself is one.Correlation analysis lies between minus one and one. the correlation value of mines one is strong negative value of the correlation whereas the correlation value is positive one it is perfect correlation or strong positive. If the value of the correlation between the variable is zero, no correlation at all between the variable. If The correlation value lies between 0.75 and 1 it indicates high degree of the correlation value. if the value of the correlation lies between 0.5 and 0.75 The correlation is moderate where as if the value of correlation is between 0.25 and 0.5 it indicates the correlation is low finally if the correlation value lies between 0 and 0.25 it shows almost there is no correlation.

Correlation output can be generated in table form or in scatter plot form for the timebeing I use the table form to display theout put result as well to show the significance. Correlation can show two thing these are direction and magnitude.

N.B Correlation is not causation

Correlations

		Agile	SP	STEngagement
Agile	Pearson Correlation	1	.365**	.527**
	Sig. (2-tailed)		.000	.000
	N	127	127	127
SP	Pearson Correlation	.365**	1	.547**
	Sig. (2-tailed)	.000		.000
	N	127	127	127
STEngagement	Pearson Correlation	.527**	.547**	1
	Sig. (2-tailed)	.000	.000	
	N	127	127	127

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

Fig 4.12 correlation analysis Result

Correlation is significant at 0.01 as shown on the model of correlation analysis i.e. The significance level is at 99% confidence level.

From the correlation analysis agile with STEngagement is significant because the Pearson correlation value 0.527 it is above 0.5 and the sig value is 0.000.from The correlation analysis we can draw conclusion that services performance (SP)is mediating The agile practice and stakeholder engagement in commercial Bank of Ethiopia. From this analysis There exist the mediating variable in the relation. The type of mediation in this relation is partial mediation due to agile practice is significantly correlated with stakeholder engagement in the correlation analysis.

Service Performance is significantly correlated with stakeholder engagement with significance of .000 i.e. the confidence level is 100%. Stakeholder engagement is significantly correlated with both agile practice and service performance with significance level .000 i.e. 100% confidence level.

4.2.4 Regression Analysis and Assumption

Regression analysis is a method for modeling the relationship of variables it can make infer or predict variable based on one or more variable in other variables. in regression analysis we can measure the influence of one variable in other variables. Regression analysis tell us the cause and effect relationship of the variable.

4.2.5 Types of Regression analysis

Generally,there are two type of Regression analysis at the whole These are i.e. Linear Regression and Logistic Regression. Linear regression comprises simple linear regression and multiple linear regression whereas logistic regression categorized into the following binary logistic regression, ordered logistic regression and multinomial logistic Regression. Type and Selection of Regression analysis commonly depend on the nature of the dependent variable We are using in the model.

Simple Linear regression Model uses only one independent variable. The relationship between x and y is describe by linear function. Change in Y is assumed to be or caused by change in x. multiple linear regression contains more than one independent or predictive variable. The main

difference between simple linear regression and multiple linear regression are the number of independent variables exist in the model or in the analysis. Multiple linear regression uses several independent variables to explain the dependent variable where as simple linear regression uses only one or single independent variable to explain the dependent variable in the model or in analysis.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.650[a]	.423	.414	.54872

a. Predictors: (Constant), SP, Agile

b. Dependent Variable: STEngagement

From The model or from the regression analysis result the value of R (multiple correlation coefficient). explain the strength between the independent and dependent as well as the mediate variable how it affectsthe dependent variable. The relation of the independent variable and dependent variable is significant it follows partial mediation.R=.650 this value shows the strength of the input variable on the output variable is strong which is significant relation leads to partial mediation

R Square ranges from zero to one.RSquare is The extent in Which The dependent variable depends on The independent variable. The effect of the independent variable to change the depend variable. R square is .423 this value shows the model explains 42.3% of variance in the dependent variable.R Square may increase in value if we increase the number of in the model the independent variable

Adjusted R Square is used to adjust by considering the important variable in the analysis. Also Tell Us The amount of the effect of the independent variable That result on the dependent variable. Adjusted R Square =.414 i.e. adjusted R Square less than R Square because since adjusted R Square used to adjust by considering the important variable in the analysis. Std. Error of the estimate used to infer the population it it's value increase leads to week estimation in the model.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	27.356	2	13.678	45.427	.000[b]
	Residual	37.336	124	.301		
	Total	64.692	126			

a. Dependent Variable: STEngagement

b. Predictors: (Constant), SP, Agile

Sum of square tell us how much the data observation far from the mean and its value is always positive

F statistics tell us the comparation of independent variable with the dependent variable with their mean value. Since The sig value is less than 0.05 The mean difference or F Statistics is high as we observed in the model. In This model the model is highly significant because p value is zero in the model. From The analysis of variance, we observed the availability of high significance this will be explained in coefficients.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.110	.307		3.613	.000		
	Agile	.363	.071	.378	5.151	.000	.867	1.154
	SP	.349	.063	.409	5.584	.000	.867	1.154

a. Dependent Variable: STEngagement

Standardized coefficient beta tells us therelative effect of each independent variable on the dependent variable in the model.

Unstandardized coefficient std.error tell us for each independent variable one unit change by how much will affect The dependent variable. For one unite increase in the independent variable by how much will increase in the dependent variable in model. Another important point in the model is sig or" p" value in the analysis. The value of the significance is .000 implies it is statistically significant. Since The direct effect of independent variable with dependent variable is significant the mediator variable is partial mediation. The direct and the indirect effect of the analysis are significant since it is significant The mediation variable is partially mediate.

From The analysis of the model above the mediation variable is partial mediation because the direct effect of x and y are significant and the indirect effect also significant that results partial mediation in the analysis.

4.2.6 Mediation analysis Assumption and steps

Mediation is an explanation of Theoretical process. In The mediation model the independent variable x, expected to cause the Mediator variable M that resulted to cause the dependent variable Y. to exist mediation There must be significant relation between the Mediator "M" variable and independent "Variable X.

Mediation analysis is used to examine whether one or more variable used to convey the effect of independent variable on the dependent variable. Both multiple regression and structural equation modeling (path analysis) used to perform mediation analysis.

Assume That: **X=** agile i.e. it is predictor variable or input variable or independent variable

M= SP i.e. it is the meditation variable or the mediator variable

Y = STEngagment i.e. it is the dependent variable or the output variable**:**having this We follow steps and procedure to analyze Weather The mediation is partial mediation or full mediation based on SPSS V 26 Results.

Step 1Determine The total effect between x and y i.e. bivariate regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.863	.307		6.064	.000
	Agile	.507	.073	.527	6.933	.000

a. Dependent Variable: STEngagement

From The model the unstandardized coefficients of agile value of B=.507 with its standard error 7.3% and the standardized Beta value is .527 and the sig or "P" vale is .000 implies it is statistically significant. From here the bivariate regression statistically significant is approve based on the model. We can conclude that agile practices are statistically significant with stakeholder engagement in commercial Bank of Ethiopia.

Step 2 Estimate the direct effect of x and m i.e. bivariate regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.159	.394		5.473	.000
	Agile	.412	.094	.365	4.387	.000

a. Dependent Variable: SP

From Step 2 estimation of the direct effect of the independent variable and the mediation variable in bivariate regression assuming that the mediation variable is the dependent variable and now from the model the value of the unstandardized coefficient is .412 with its standard error 9.4% and standardized beta value is 4.387 and the sig value or "P" value is .000 i.e. agile practices is statically significant with the mediation variable SP Based on the model or the regression analysis

Step 3a Determine the direct effect between x and y i.e. multiple regression with x and m as predictors and y as dependent variable.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.110	.307		3.613	.000
	Agile	.363	.071	.378	5.151	.000
	SP	.349	.063	.409	5.584	.000

a. Dependent Variable: STEngagement

From step 3 determination of the effect of the multiple regression model x and m as considered as independentvariable and y as dependent variable in the assumption now the value of the independent variable of the unstandardized coefficients are SP =.349 with standard error of 6.3% and The Unstandardized coefficient value of the agile .363 with its standard error rate 7.1% and the standardized coefficients beta value is SP = .409, and standard beta value of Agile is = .378 and the sig. or P value is .000 From here we can conclude that the multiple regression Model is statically significant

Step 3b Determine The direct effect between m and y

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.157	.252		8.545	.000
	SP	.467	.064	.547	7.308	.000

a. Dependent Variable: STEngagement

From Step 3 The determination of direct effect between the mediation variable and the dependent variable assuming that the mediation variable is taken as the independent variable in this scenario and the result of the analysis is as follow. The unstandardized coefficients of SP value are .467 with its standard error rate 6.4% andthe standardized beta value of SP .547. The sig or The P value is .000 this implies that the model or the analysis is statistically significant.

Based on the analysis and the model of theregression Partial mediation is applied or the mediation we are observed in the analysis is partial mediation.

Generally, if the direct effect (X -Y) is significant and the indirect effect (X-M-Y) is significant the mediation is Partial Mediation.

If the direct effect (X-Y) is not significant and the indirect effect (X-M-Y) is significant thus a kind of mediation is Full Mediation but from these models and from this analysis Partial mediation is applicable.

4.2.7Regression Result

This section mainly concentrated onthe result of the impact of agile practice on Stakeholder engagement in commercial Bank of Ethiopia. The finding of theresult shows that the identified variables are Agile Practice the independent variable and the identified Mediating variables are Services performance,service or speed of Services development and services availability are mediating variables whereas Stakeholder engagement are the dependent variable in the study. From the analysis of the model agile practices directly affect the stakeholder engagement positively as agile practices habituated in commercial bank of Ethiopia stakeholder engagement is increase. There for the finding show that agile practice is key factor for stakeholder engagement in commercial bank of Ethiopia.

Services performance, services availability and speed of Serveries' innovation in commercial bank of Ethiopia is the mediating effect in stakeholder engagement in the organization. As service performance is become good stakeholder engagement is positively affected or there is direct relationship between the mediating variable and the dependent variable in the analysis there for stakeholder engagement is the output variable in the model and itis highly affected by those alreadyfound variables in commercial bank of Ethiopia There for commercial bank of Ethiopia need to practices or incorporate agile practices.

4.2.8Discussion of The Result

From the development of the hypothesis as we hypothesize there will be positive relationship between the agile practice and stakeholder engagement in commercial bank of Ethiopia, definitely there is significant positive relationship between the agile practices and stakeholder engagement in the analysis. There agile practices are statically significant and the hypothesis is accepted. And frequently engaging the agile team with the stakeholder increasing the level of trust between the teams. Agile practices through scrum board mitigate transparency of the project progress. Utilizing of Agile Practices substantially enhances the visibility of project progression for key stakeholders, ensuring they have a clear and continuous grasping of development features. Generally, the hypothesis developed in the conceptual framework is accepted and agile practices is statistically significant and highly affect the stakeholder engagement in the analysis result.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

The Objective of study is identifying the impact of agile practices in stake holder engagement in commercial bank of Ethiopia. According to the quantitative analysis of the research it can be explained agile practices and services performance, Services availability and speed of the innovation of the services are important variables in adoption of stake holder engagement in agile practices. According to finding of the study, this chapter presents the conclusion, recommendation and future work of the study.

5.1 Conclusions

Evaluating Impact of Stakeholders engagement in agile practices influenced by The Services performance and speed of the services and availability of the services. Agile emphasize continuous feedback and affect the stakeholder engagement positively in commercial bank of Ethiopia. From the study we identify Those variables agile practices as independent variable, services performance and speed of services innovation in the organization are mediating variable whereas engagement of stakeholder in the organization are dependent or output variable in the study

Agile Practices significantly affects stakeholder engagement and based on the study agile practices are more experienced or adopted by the youth rather than Senior workers This clearly indicates Youth are more adoptable to new technology and seniors are Somehow resistance to wards the new technology.

Generally, there is a significant positive relationship between Agile practices and stakeholder engagement at the Commercial Bank of Ethiopia based on the result of the study. And also, There also significant relationship between the mediating variable i.e. services performance and services availability with stakeholder engagement in the organization.

In General, based on the finding of the study the followings are drawn conclusions. Agile methodology becomes a back- bone in Evaluating the Impact of Agile Practices on StakeholderEngagementbecause of its flexibility, collaboration, fast adaptation and iterative approach. Except traditional project managements frameworks agile prioritizes iterative development continuous feedback and close stakeholder engagement. In contrast to traditional project management frameworks, Agile emphasizes iterative development, ongoing feedback, and active stakeholder involvement, allowing teams to adapt to changing requirements effectively. This methodology has been particularly advantageous in dynamic and fast-paced settings, where maintaining a balance between speed and quality is essential.

Agile methodology serves as a strong foundation for assessing the impact of Agile practices on stakeholder engagement due to its flexibility, collaborative nature, quick adaptation, and iterative approach. Unlike traditional project management frameworks, Agile emphasizes iterative development, continuous feedback, and close, active involvement of stakeholders. This enables teams to respond effectively to changing requirements. The approach is especially beneficial in fast-moving and unpredictable environments, where balancing speed with quality is critical. This study uses a quantitative research design, specifically employing a cross-sectional survey strategy. Data were collected through structured questionnaires to address the research questions. In the data analysis, the researcher found that Agile practices have a statistically significant relationship with stakeholders. The mediating variable was also statistically significant with stakeholders, indicating that partial mediation occurs in the study.

5.2 Recommendation

From the finding of the study only those who are youth or freshers are more adoptable to the new technology rather than the senior level of the worker therefore Commercial bank of Ethiopia take into consideration and try to innovate new services or feature to satisfied the need and the expectation of the Stakeholder.

The study may not have dealt with all factors or variables That affects Stake holder engagement in agile practices in commercial Bank of Ethiopia. Future studies could address other factors besides factors that mentioned from this study that affect stakeholder engagement in agile practices.In This study it focused in demographics factors with considering one organization but future study should include on geographical factors or conducting cross-region comparison studies with considering different organization.

Generally future study should include more variables that traced or identified in evaluating stakeholder engagement in agile practices in different organization

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APPENDIX



QUESTIONNAIRES ON: Dear respondents: The objective of this research questionnaire is to gather data from you in Evaluating the Impact of Agile Practices on Stakeholder Engagement in Commercial Bank of Ethiopia, in order to understand the impact of agile Practices on stake holder engagement in commercial Banking of Ethiopia. The quality of the research finding for this study will be based on the accuracy of the information you will provide. I assure you that the information you provide is going to be reported, demonstrated and communicated in aggregate and utmost care and confidentiality is maintained. My thanks also go to you, for your cooperation and take a time from your precious time to complete this questioner.

Notice: -

- Do not write your name

PART I: Demographics Instructions

Demographic profile of respondents

1. Sex of Respondent

(1) Male. (2) Female

2. Age of Respondent (1) 23-30. (2) 30-40. (3) 40-50. (4) 50-55. (5) 55+

3. Highest educational level achieved: (1). Diploma. (2) Degree. (3) Masters (4).PHD (5) other

4. Occupational status (1) trainee. (2) managerial trainee. (3) officer. (4) senior (5) lead solution.

5. Gross income within a month in Birr. (1) <10,000. (2) 10,000-25000. (3) 25000-45000. (4) 45000-60000. (5) 60000-100000 (6) 100,000+

6. For how long have you been working in commercial Bank of Ethiopia?

(1). Less than 3 year. (2). 3-6 years. (3). 6- 10 years. (4). 10-15. Years.(5) 15-20 years (6) More than 20 years

7. Which level is your role in CBE currently? (1). Analyst level. (2). Administrator level. (3). Senior lead level. (4). managerial level (5) senior lead solution level

8. Aside from your current tenure at the Commercial Bank of Ethiopia, have you previously participated in project environments that utilized Agile project management practices methodologies? 1). Yes 2). No

PART II:Evaluating the Impact of Agile Practices on Stakeholder Engagement in Commercial Bank of Ethiopia

Please indicatethe extentthat youagree,disagree or neutral witheach ofthefollowingstated, byticking

"X'from the scale of 1to5that bestconform yourlevel ofagreement tomentioned idea.

N.B. (A)StronglyDisagree. (B)Disagree (C)Neutral (D)Agree (E) Strongly Agree

Agile Practices	A	B	C	D	E
1. Commercial Bank of Ethiopia (CBE) has a good understanding of agile project management principles and practices					
2. To what extent do you agree that the implementation of Agile practices has led to tangible improvements in customer relations, team synergy, and project delivery?					
3.CBE utilizes Agile frameworks to accelerate its digital transformation journey and improve service delivery.					
4. Commercial bank of Ethiopia follows global best practices in its adoption of agile project management					
5 The Digital Factory model permits faster innovation of new banking features relative to the traditional models or the previous one					
6.Team members have good coordination with scrum master					
7. The agile team uses short, iterative sprints to complete the tasks					
8.The project manager has good communication with stake holder					
9. Cross-functional collaboration between the the agile team and the stake holder is the habit of the work flow.					

10. Feedbacks such as from customers and stake holders are used to perpetually mitigate the digital products like MB, IB, CBE Birr, ATM and pos					
11.digital channel Services are generally comfortable and are user- friend and customer use it without assistance.					
12. Agile teams are received adequate training on latest digital banking features and they are confident and can explain the technical skill of it.					
Stakeholder Engagement					
13. CBE's digital transformation is supported by well-defined procedural documentation that ensures clarity of roles and professional expectations for all involved stakeholders.					
14. There is a high level of trust and transparency between the development teams, scrum master and stake holders.					
15. Stake holders have good communication with project management team					
16. Scrum masters have good communication with Stake holders and customers					
17.Strategic partners and merchant entities demonstrate high levels of integration and active participation within the bank's digital transformation.					

18. I feel well-informed about the status of new digital product enhancements before they are launched.					
Speed of Service Innovation					
19. Agile implementation practices has served as a primary driver for operational efficiency, resulting in a swifter resolution of customer challenges and improved service reliability					
20. New digital features like master card, Virtual Cards, digital cards are introduced quickly due to agile practices implementation					
21.The current level of adoption of agile project management in commercial bank of Ethiopia is unsaturated.					
22.Agile project management practices have the potential to transform the banking system into digitalizing within short period of time					