ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

COLLEGE OF BUSINESS AND ECONOMICS

MBA - PROJECT MANAGEMENT PROGRAM

PERFORMANCE ASSESSMENT OF ARCHITECTS AS PROJECT MANAGERS IN DESIGN BUILD FIRMS: THE CASE of ATK BUILDING INVESTMENTS

BY: BETHEL KASSAHUN

A Project Work Submitted to School of Commerce, Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Masters in Project Management

ADVISOR: DR. ABRARAW CHANE

JUNE, 2023 G.C

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APPROVED BY BOARD OF EXAMINERS

_____	_____
Advisor	**Signature**
_____	_____
Internal Examiner	**Signature**
_____	_____
External Examiner	**Signature**

DECLARATION

I, the undersigned, declare that this research project entitled with “Performance Assessment of Architects as Project Managers in Design Build Firms: The Case of ATK BUILDING INVESTMENTS” is my original work prepared under the guidance of my advisor Dr. Abraraw Chane. I further confirm that the thesis has not been presented and submitted either in part or in full to any other higher learning institutions for the purpose of earning any degree. All sources of material used for the thesis have been duly acknowledged.

Declared by: Bethel Kassahun

Signature _____ Date _____

Advisor: Dr. Abraraw Chane

Signature _____ Date _____

STATEMENT OF CERTEFICATION

This is to certify that Bethel Kassahun has done a study on the topic “Performance Assessment of Architects as Project Managers in Design Build Firms: The Case of ATK BUILDING INVESTMENTS under my supervision. This work is original and suitable for the submission in partial fulfillment of the requirement for the award of degree of Masters in Project Management.

Dr. Abraraw Chane

Signature _____ Date _____

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Acronyms/Abbreviations

PM – Project Manager, Project Management

ArPM – Architect project manager

KPI – Key performance indicator

OTD - On Time Delivery

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First and foremost, I want to thank Almighty God for giving me the strength to finish this thesis. Then, I'd want to sincerely thank my adviser, Dr. Abraraw Chane, for his advice, help, and unwavering support during this project. And I'm grateful to my husband, children, and my whole family who have stood with me and helped me along the way. Additionally, I would like to express my gratitude to the entire ATK BUILDING INVESTMENTS crew for their perseverance and efforts in helping me by answering to my questioners. Without your assistance, this effort would have failed. Thank you all again!

Abstract

The purpose of this study is to assess the performance of architects as project managers in design build firms specifically in the case of ATK BUILDING INVESTMENTS. In order to achieve this project objective, the research applied a mixed research method which combines qualitative and quantitative methods. And the research design used is descriptive. From the total of 12 populations, a census of 9 is taken. Primary data are used throughout the study. The research instruments that are applied are self-administered questionnaire and unstructured interview. The questionnaire was communicated electronically but the interviews were undertaken with a face to face (in-person) data collection method. For data analysis a descriptive statistics is used. And the result of the analysis shows that ArPMs in ATK BUILDING INVESTMENTS perform highly at project closing and project execution phase and are very good at business oriented key performance indicators. It is analyzed that for ArPMs to perform better, it is helpful to use digitalized system, to be engaged in self-upgrading programs and to continue practicing.

Key words: Performance, Architect Project Manager (ArPM), Design Build, Key Performance Indicator (KPI)

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Assessing the performance of architects as project managers in design build firms should be done in a regular base to meet current project management demands. It is a very helpful task since the good performance of architect project managers implies the success of a project and also a firm. To know the status of ArPM performance, it should be evaluated using standardized methods. The result of the analysis shows what ArPMs performance looks like and where they stand. This helps them improve their performance and upgrade their profession in the future. ArPM Performance assessment can be done through self-evaluation or peer review.

In the outside world it is the architect who is assigned as a project manager in design build firms. But in the case of our country this is not the case. Other professionals in the sector like engineers or construction managers are preferred to be assigned as a project manager. It was difficult to find a larger design-build company that could be used as a case study with sufficient number of respondents for sampling since there are very limited design build firms in our country. Therefore a smaller design build firm (ATK BUILDING INVESTMENTS), which is developer is studied by taking a census. In this particular study, the performance of architects as project managers at ATK BUIDLING INVESTMENTS is assessed.

1.2. Background of the Company

ATK BUILDING INVESTMENTS is building design and construction firm founded in 2012, and it has its main office in Addis Ababa, Ethiopia. ATK employs about 30 people.

ATK BUIDLING INVESTMENTS, originally "ATK Consultancy", evolved into a conglomerate investment company in Addis Ababa, Ethiopia, mainly offering building design and construction services. Turnkey projects are the company's primary focus when working with private clients. The scale of the projects being done includes everything from single-family homes to tall hotels, apartments, and commercial structures. Project management, feasibility analyses, and cost and quantity surveys are other services provided. With an unwavering commitment to achieving efficiency and cost in the design and construction industries, ATK BI is exceptional in that it provides its clients with a one-stop solution from conception to delivery.

Amanuel Teshome Kebede is a Practicing Professional Architect, BSC in Architecture from AAU in Ethiopia and M.Arch in Advanced Architecture from University of Lueven in Belgium. He has over 15 years of experience in the field. As a shareholder and technical manager of the business, he is in charge of ATK BI's design and construction section. Additionally, he serves as a vice president of the Association of Ethiopian Architects' and he is a lecturer at the Ethiopian Institute of Architecture Building Construction and City Development, or EiABC with more than ten years of teaching experience as well. [Source: company profile]

1.3. Statement of the Problem

Right after graduation, architects are not prepared for project management positions. The majority of them are ready to use their imaginations and creative ability, but they fall short when it comes to strictly project management abilities like risk assessment and mitigation, effective communication, integration, and cost assessment. Most of the problems resulted from being 100% creative and 0% organized. Beginner architects suffer from a lack of organization in their documents, drafts and emails. [2]

Therefore they are not preferred to be assigned as project managers in the existing scenario of our country.

The absence of a suitable architect as a PM (ArPM), as an agreeable and capable manager with appropriate plans and points of view, is one of the major causes of project failures in developing countries, according to statistics. [1] Previous studies are not done specifically on the performance assessment of architects as project managers in design build firms in the context of our country. To make projects successful, a competent and practically evaluated project manager should be assigned.

1.4. Research Questions

Based on the problems stated above, three questions are formed as below:

A) What is the performance status of ATK BUIDLING INVESTMENTS architect project managers when evaluated with their duties at each project phases?

B) What is the performance status of ATK BUIDLING INVESTMENTS architect project managers when evaluated with the project oriented KPIs?

C) What is the performance status of ATK BUIDLING INVESTMENTS architect project managers when evaluated with the business oriented KPIs?

1.5. Objectives of the Study

1.5.1. General Objective of the Study

The general objective of this study is to assess the performance of architects as project managers in design build firms specifically focusing to ATK BUIDLING INVESTMENTS.

1.5.2. Specific Objective of the Study

The specific objectives of this study are:

A) To evaluate the performance status of architects as project managers in ATK BUIDLING INVESTMENTS based on their duties at each project phase, project oriented KPIs and business oriented KPIs.

B) To suggest the scholarly recommendations to boost architects performance as project managers.

1.6. Definitions of Terms / Concepts / Constructs

Project Management: is the direction and oversight of a project using particular tools and control methods, including cost control, manpower management, time management, plant or machinery management, communication management, and motivation management. [1] According to BSI 2001, it is the organization, tracking, and motivation of everyone involved in a project to accomplish its goals on schedule, within budget, and with the desired level of quality. And as defined by Project Management Institute (PMI), “Project management is the application of knowledge, skills and techniques to execute projects effectively and efficiently”. [4]

Architecture: is the art and technique of designing and building which serves both utilitarian and aesthetic ends. [22]

Architect: According to Architect’s registration council of Nigeria (ARCON) and the Nigerian institute of architects (NIA) conditions of engagement and remuneration services 21st September 2011, “Architect shall mean the professional architectural firm, organization or person commissioned by the Client to carry out the services required under the Agreement”. [4]

Design-build: is a way of delivering construction projects where the designer and builder collaborate under a single contract from the start of the project to ensure cohesion and uniformity throughout the process. [23]

Performance: is what the project manager is able to do or accomplish while applying his or her project management knowledge. [27]

1.7. Significance of the Study

In order to determine whether a project will succeed or fail, this study evaluates architects' performance status as project managers in design and construction companies. It assists in identifying the components lacking from current project management practice and makes recommendations for how to improve the efficiency of architect project managers in their line of work. This means that by testing out the ideas, the finest project management technique will be used in the future. And by closing the study gap, it also adds to the body of literature on the topic.

1.8. Scope of the Study

Geographic scope: it is limited to ATK BUIDLING INVESTMENTS which is located in Addis Ababa, Ethiopia.

Methodological Scope: for this study a mixed method research and a descriptive research design are applied. It only uses primary sources of data. The research instrument that was used is self-administered questionnaires and unstructured interview. The collected data was analyzed with a descriptive statistics.

Conceptual Scope: the focus of this study is limited to the performance assessment of project managers who are architects in a design build firms.

1.9. Delimitation of the Study

Due to the scope of the study focuses on a small sized design build firm in terms of number of employees, it is not possible to generalize the study result for all design build firms. The number of architect project managers in ATK could not represent all ArPM.

1.10. Organization of the Research Report

There are five chapters in the study. The introduction, which is the first chapter, contains information about the background of the study, background of the company, the statement of the problem, the research questions, the general and specific objectives of the study, definitions of terms /concepts/ constructs, the significance of the study, the scope of the study, the delimitation of the study, and the organization of the research report. The second chapter is on literature review. It contains an introduction, theoretical review, empirical review and conceptual framework. And the third chapter is about the research methodology. The topics under this section are research approach, research design, sampling design, sources of data collection, research instrument, method of data collection, procedures of data collection, data analysis methods, validity and reliability and ethical consideration. The forth chapter contains data presentation, analysis and interpretation. The last but not the least is chapter five. It is all about summery, conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2. Literature Review

2.1. Introduction

No matter how big or small the building project is, architectural projects are extremely difficult tasks. [2] There are numerous parties and stakeholders involved, numerous procedures to take into account, contractors, suppliers, local authorities—the list is endless. Communication, site analysis, project planning, estimating, overseeing and connecting, following and adapting, finalizing, and closing are all aspects of project management in design and city planning. And construction project management has four stages. These are: Design, Pre-construction, Procurement and Construction. [2] Project managers are in charge of overseeing each of these. Any expert who works in the design and construction industries could be the project manager for a design build project. That would be a civil engineer, a project manager, an architect, or another expert. But most of the time the architects are the project managers in the outside world.

The success of a project's implementation will be determined by the project manager's position. Therefore, lowering challenges is greatly aided by an architect's capacity as a project manager. The competent architect project manager is the one who is equipped with the basic professional skills. Project managers in the design and construction industries have a difficult job to do because they have to oversee a diversity of work on the job site. From the initial stages of design to execution and demolition, they are fully responsible for planning, organizing, leading, controlling, and overseeing. Hegazy also stated that project managers' main goal is to maximize resource allocation and leveling. And the project manager's CADD survival guide

outlines the tasks and obligations of PMs along with fundamental management elements like project control, project administration, financial control, client relations, business development, design output, team management, and quality assurance. Team management in a sense is that creating a good team spirit to exploit the bests of every member in the team work. The performance of the architect is crucial because any choice made at the project's outset will have an impact on its outcome. [1]

Most problems stem from being 100% creative and 0% organized. [2] It is crystal obvious that the role of modern project managers has changed. In order to meet today's professional demands, PMs must add non-engineering knowledge and skills to their conventional functions. [1] For architects project management becomes both a necessity and also a career option. In a fast-paced setting, architectural project managers must be able to combine their technical expertise and creative aptitude. [9]

2.2. Theoretical Literature Review

2.2.1. Architects as Project Manager

To ensure that the construction was proceeding to the proper standard and that all regulatory and quality boxes were being checked, as well as environmental and planning laws, the architect needed to keep track of all the papers and revisions as well as keep track of on-site inspections. [3]

When it comes to coordinating logistics and other general support services as needed by the scope and scale of the project, the architect serves as the client's representative on the project team in his role as the project manager. More than any other person, architects as project managers have a significant impact on a project

and have the power to transform it from a potential triumph to a resounding failure or vice versa. The architect is taught to visualize their design in their mind, which motivates them to put in extra effort to meet their objectives as a designer and provider of solutions. He also has a tendency to use his creativity to envision the result and put forth a lot of effort to bring it about when tasked with managing a construction job. [4]

2.2.2. Project Manager's Skill

An architect project manager should have the following skills: detail planning, scheduling and construction estimation of operating procedure, supervision, inspection and testing, plan and submittal review, property management and correspondence, negotiation with clients and creating binding agreements [1]; Risk management, Creative problem-solving, Design software fluency, Expertise in standards and practices, Decision-making, Communication, Field experience [5,6]; Organization, Leadership, Time management, proactive, level-headed, collaborative. [7] [8]

2.2.3. Project Manager Duties

2.2.3.1. Introduction

The primary objective of a project manager is to represent the customer's interests and ensure that the functional, financial, and aesthetic objectives are met by the project. His/her responsibility is to make communication between the project's consultants, the project design team, and you easier. [7] Every architect is a project manager when it comes to managing architectural projects for small businesses and

independent contractors doing all paperwork handling, communication, billing, and dealing with administrations and authorities. [2]

They are crucial to the design process because they estimate project and construction costs, direct design changes to stay within your project's budget, keep you informed about budgets and cost estimates, and defend your interests throughout construction. The project manager serves as a resource and team member for contractors. In addition to managing the project team, they are in charge of scheduling and hosting meetings with the project team and the stakeholders as well as managing budgets and schedules throughout the planning process. [7]

Architectural project managers are in charge of planning and constructing structures. To keep projects on schedule and within price, they collaborate with engineers, contractors, architects, and other experts. They might also be in charge of overseeing the daily activities of their group or company. This could involve actions like recruiting new workers, writing job specifications, establishing performance standards, etc. [8]

2.2.3.2. Project Manager Duties at Initiation Phase

Any project management activity starts with initiation phase. The project must be defined on paper during this phase. In order to communicate their thoughts and aspirations, all stakeholders should be involved. Stakeholders include the shareholders, employees, consumers, government, and the community. During this stage, the major deliverables of the project must be discussed. The following are a few questions to be addressed during the project initiation stage: what is the end product of the project?, what are the factors contributing for the success of the project?, how much does the project cost?, when is the project delivery deadline?,

what is the responsibility of each stakeholder?, and who are the clients? It is part of his/her job as a project manager to imagine each delivery and how to make it happen. While some projects need to conduct a feasibility assessment and others don't need an in-depth study. At this stage, it's also important to specify the budget source, since it is impossible even to imagine or plan the project without money. [28]

2.2.3.3. Project manager Duties at Planning Phase

Planning is therefore an essential phase in project management since if you don't plan, you are intending to fail. The goal of this stage is to create a road map for completing the project's deliverables. Setting goals is an essential part of project planning, thus they must be SMART and CLEAR. SMART stands for S-specific, M-measurable, A-attainable, R-realistic and T-time bound. In addition to creating goals, the project manager must create a project plan that includes information on the project's scope statement, work breakdown structure, Gaant chart, communication strategy, and risk management strategy. [28]

2.2.3.4. Project manager Duties at Execution Phase

The foundation of every project management process is this step. The written plan is transformed into concrete, measurable tasks throughout execution. During this phase, the deliverables must be finished while following the project schedule. It is the project manager's responsibility to assign tasks to the team and maintain team activity through status meetings, reports, and schedule reports. Some of the functions of this phase include: executing tasks and assignments, establishment of human resource needs, assigning resources, procurement of the required material, setting up tracking systems, and modifying the project's needs. Any project's

execution stage determines its success. To complete the duties at this stage, cooperation, communication, and teamwork are essential. Beyond simply providing direction, the project manager also need to inspire, lead, and assist your team in completing the tasks. [28]

2.2.3.5. Project manager duties at Monitoring & Evaluation Phase

Learning the skill of foresight—being able to anticipate things—is a crucial component of being a manager. In order to accomplish the initial goals, you must monitor and analyze the project to determine where you are on schedule and what needs to be adjusted. Cost, quality, objectives and time are the major determinants for performance. If expenditure is above the project budget, the appropriate adjustment is going to be done. Quality evaluates how well your team members follow to the necessary standards. And the project's objectives show whether it is on track to achieve the goals of its stakeholders. Remember that while your strategy may change, your goals won't. As a result, everything you do should be directed toward achieving the project's goals. The project manager will adjust to working extra or subcontracting some jobs if the project is not finished by the due date in order to meet the deadline.

2.2.3.6. Project manager duties at Closing Phase

When a client receives the project, all stakeholders have been informed, and the appropriate party has received all project documentation, the project is considered to be completed. It is the project manager's duty to tell the team of any successes and failures. A status meeting with the team should be done, if possible, and the project manager should thank everyone for their excellent efforts in completing the

deliverables. Additionally, he/she should discuss unfinished jobs that need more time and money with stakeholders and make a plan to finish them. During this phase, it's also vital to release teams and terminate contracts. Quality, time, and budget are the three main constraints of any project. A project manager should make an effort to complete projects on schedule, under budget and with quality. Efficiency is consequently a key competency in project management; being able to maximise any resource will differentiate you from the competition.

2.2.4. Architect Project Managers' Performance

Different competencies' traits, behaviors, and other characteristics have an impact on how well a task is performed. According to Bertelsen et al., a lack of project management system proficiency on the part of an architect, particularly during the briefing phase of the construction process, may lead to ineffective collaboration and supervision of the design team. Another problem is how critically acclaimed ArPM's performance is in comparison to both the public and private sectors. Successful construction companies now place a strong emphasis on ensuring that PMs acquire the primary skills necessary for them to succeed in their positions. Frank claims that the PM directly controls 34–47% of a project's performance. Therefore, it is evident that a PM is essential to a building project's success. Although project management philosophies, processes, methods, and tools are crucial parts of effective project management, one of the most crucial components is the project manager's skill.

ssThe effectiveness of construction process and the finished product have a direct relationship to the project's management. It is crucial to strike a balance between the creative aspect of a good design, the human aspect of keeping the client and employees happy, and at the same time, the financial aspect of earning a profit to

keep the practice operating and successful. [9] The majority of beginning architects struggle with disorganization in their emails, drafts, and documents. [2]

2.2.5. Contemporary Architectural Project Management Trend

In recent years, architects have been integrated into the construction industry as a manager with executive authority on the job site. [1] The need for more technical talent, the value of collaboration, and a greater focus on sustainability are today's trends in architectural project management. [8] A transition from architect to a project manager becomes common due to Project management diversifies an architect's career, Project managers are in demand, Project management has more leadership opportunities. [5] It developed into a significant contribution to the field of architecture. [9]

2.2.6. Architectural Project Management Challenges

One of the major difficulties that architect face has to do with their aptitude for managing and solving issues. Poor planning, unfamiliar technology, lack of familiarity with green buildings and materials, inappropriate scheduling, and subpar workmanship are the major difficulties encountered by architect project managers in construction projects. It has always been challenging to put new systems or projects into practise. Increases in the size and complexity of a structure, as well as the active systems that support its infrastructure and buildings, integrated project delivery and building information modelling, bad design, and inadequate planning, can all pose significant challenges for a project's completion. [1]

As projects developed and the physical structure was built, problems could come up that necessitated markups and changes. Because they hadn't yet noticed the email

in their inbox with an update, stakeholders on the site ran the risk of working on the outdated copies of the plans. The management of all the involved documents is a challenging task, particularly when input from other stakeholders is involved. [3] According to Khoury, due to fast changes in the design processes results in the division of architectural design from systems design and engineering. [1]

2.2.7. Architectural Project Management Solutions

Information technology should be used by professionals to support advanced procedures, improve decision-making, and provide them a competitive edge. They should also choose project supervisors more carefully. Another significant obstacle for architect project managers to overcome when handling a construction program is a lack of cross-functional communication. [1] To manage when and how much to interact with everyone involved, including a client, a clear schedule should be established. Version control will become an issue if you use various independent tools for email, storage, and research. To get around that issue, architects should use specialized project management tools. [2] Digital building management software, such as BIM software (Building Information Modeling) software, can assist in resolving or preventing all of the typical issues that may arise during a project. [3]

2.2.8. Project Managers Performance Assessment

According to Harvey, Project managers ought to be judged on how well they complete a project. However, because most of what they do is very qualitative and challenging to measure, it is difficult to assess their performance. Because of this, many of their coworkers would find it difficult to describe what they do in detail. There are six key performance indicators (KPIs) that form the foundation for

assessing the performance of a project manager: on-time delivery, on-budget, process improvements, relationships and communication, risk management and customer orientation. [10] These six evaluation criteria can be classified into two major categories: project oriented and business oriented. Project oriented architect project managers performance assessment criteria are: on-time delivery, on-budget delivery and risk management. Whereas business oriented criteria are: process improvements, relationships and communication, customer orientation. It is very necessary to be aware of them and choose the finest KPIs to routinely evaluate performance as an individual and also as an organization, even though not everyone will prioritize these KPIs equally.

A. Project Oriented Key Performance Indicators (KPIs)

2.2.8.1. On Time Delivery (OTD)

The whole project plan must be managed by the project manager. This entails organizing the timely creation of each deliverable and working to make sure the budget is sufficient for the strategy. To identify any inconsistencies, a skilled project manager will regularly evaluate the plan to the actual progress. [10] On Time Delivery (OTD) is a metric for measuring the effectiveness of the supply chain, which is important for evaluating carrier performance and preserving client satisfaction. This KPI demonstrates whether or not the architect project manager is succeeding in achieving deadline commitments. [11]

2.2.8.2. On Budget Delivery

Budget management and anticipating overruns may fall within the purview of project managers to avoid unpleasant surprises. The three key areas that must be tightly

monitored for budget management are resources (headcount and related dollar budget), development operations resources (DevOps), and network operations resources (NetOps). If there are financial restrictions, a talented project manager might look for other opportunities to make savings in other areas. If there is no likelihood of a turnaround, they should stop the situation from getting worse and, along with the product manager, request permission to spend more money. [10] [11]

2.2.8.3. Risk Management

According to Connie Emerson, a project risk is a potential future occurrence that might or could not occur but, if it does, will have some bearing on the project's goals. It could be either a threat or an opportunity. While risk management is basically about examining your project's goals, identifying the threats to those goals, and determining out what you can do to address them early on. Project managers need to be able to control the risk or uncertainty that comes with changing conditions as projects are growing more dynamic this time. Risk management is the process of identifying, evaluating, and avoiding or minimising project hazards that could potentially affect the desired outcomes. Project managers are often responsible for overseeing the risk management process throughout the duration of a certain project. [12]

There are hazards involved in every project that can either be controlled or ignored. Evaluating good project manager is very challenging than evaluating poor project manager since all the quantifiable damages and adverse effects are managed, resulting in no uncontrolled risks in the case of a good project manager. Examining a project manager's readiness and the effects of their choices are two ways to judge

them. A good project manager will create a risk mitigation plan by determine which risks demand consideration and action. [10] [11]

A contingency plan should be created by the project management during the planning phase of the project. It is a workable strategy that should be implemented if a risk that has been recognized materializes. It serves as sort of a "Plan B" for when things don't turn out as planned. It specifies a list of steps that should be performed to lessen the effects of the occurrence. [13]

Architect project managers' project oriented performance is evaluated using the following key performance indicators (KPIs) as shown on the table below.

Table 2.1 Project Manager's Performance Evaluation based on Project Oriented Key Performance Indicators (KPIs)

Orientation	Key Performance Indicator (KPI)	Evaluation	Explanation
Project Oriented	On-time Delivery	Exceeded expectations	Completed faster than planned
		Good	Completed on-time
		Acceptable	Insignificantly late
		Poor	Significantly late
	On-budget Delivery	Exceeded expectations	Project completed with savings of 10% or more, budget milestones were planned and achieved
		Good	Project completed with 0-10% savings, budget milestones were planned and achieved
		Acceptable	Project budget was exceeded by less than 10%, budget milestones were planned but not achieved
		Poor	Project budget was exceeded by more than 10%, budget milestones were not achieved
	Risk	Exceeded	Maintained a risk mitigation plan with

	Management	expectations	clear actions and was able to clearly communicate their decisions
		Good	Maintained a risk mitigation plan but the responses to risks were not well thought-through or realistic
		Acceptable	Did not have a risk mitigation plan but had given some thought to it and was able to communicate at least some risks
		Poor	Did not think about risks and managed them ad-hoc when they arose

Source: [10]

B. Business Oriented Key Performance Indicators (KPIs)

2.2.8.4. Process Improvements

Processes are internal guidelines for how work is carried out within a group or organization. Most workers regard procedures as being the law and rarely question them. However, it is the project manager's duty to continuously scrutinize the procedures and look for ways to enhance them. This goes above and above the evaluation standards for Agile projects' on-time delivery. Process improvement is a mechanism that enables input on processes to be gathered and evaluated in order to assure on going improvement. It is the process of figuring out how to make already-in place procedures quicker, more precise, more efficient, and more dependable. It is a methodical approach to process identification, analysis, and redesign in order to increase effectiveness, efficiency, and agility. It entails locating inefficiencies or bottlenecks in current processes, investigating the underlying reasons of these problems, and putting new procedures into place to fix them.

Time may be saved by removing pointless dependencies, money can be saved by automating procedures and removing human labour, and customer satisfaction can be raised by streamlining interactions and enhancing the customer experience. Process improvement is like pruning off all the extra growth from an overgrown tree

or bush to give it a better shape to grow in while keeping aesthetics. Process improvement finds process components and functional skills that may be developed further—or weeded out—to improve process quality. Its goal is to continually increase the efficacy and efficiency of processes. Instead of being a one-time event, this practice should be viewed as a continuous activity. Businesses who have used it attest to waste reduction, operational efficiency growth, and mindshare enhancement by more effectively leveraging their current resources.

Process improvement typically leads to increased productivity, better process visibility and performance, cost and quality management, shorter cycle times, regulatory compliance, and efficient resource management. Process improvements rarely have a binary result, unlike time and budget reviews. Process improvements sometimes involve other departments of the business, which can be challenging for the project manager to modify. For this reason, it is crucial to add "effort" as an evaluation factor. An effort shows that every effort was made to optimize efficiency gains given the company's circumstances. Moreover, the biggest efficiency gains will come from selecting the most profitable process upgrades. [10] [14] [15] [16]

2.2.8.5. Relationships and Communication

The project manager serves as the primary point of contact for all the businesses engaged in launching a product. These connections must accurately express the project manager's intention to meet client needs with an excellent solution within the specified timeframe. One of the best strategies to guarantee the project's success is to foster strong ties among the participants. By taking into account what they can do with the potential they have, when they are able to finalize and submit it, and what the project manager can work out to support, the project manager may determine

whether partner organizations are capable of meeting the needs of the project. Speaking with staff members from different departments can give you important information about the caliber of the connections the project manager has made. A more thorough approach would be to carry out a comprehensive assessment of communication and interpersonal abilities. The performance of the project manager can then be assessed using the findings. We find it simpler to collaborate and complete tasks with the aid of others when we have strong ties and open lines of communication. This is a task that every project manager ought to perform. [10] [17] [18]

2.2.8.6. Customer Orientation

Grieve defines customer orientation as a business strategy that prioritizes the needs of the client over those of the company. Customer-focused firms are aware that their operations won't succeed unless they continually increase their customer attention. It's a way of thinking that connects the objectives of your company and those of your clients. Recognizing that customers are the business is the first step in creating a customer-focused culture. According to Tony Hsieh, the founder of Zappos, customer service need to permeate every aspect of the business, not simply a certain division. Empathy, the capacity to comprehend and act on customer data, agility (customer-oriented businesses swiftly adjust to consumer needs), good communication, active listening, problem-solving abilities, and customer focus are some examples of customer-orientation qualities. [19]

The wants and needs of the client are prioritized over those of the company. Businesses would prioritize their own needs and desires over those of their clients if they took a business-oriented strategy. In contrast, a customer-oriented strategy

emphasizes giving customers helpful, considerate, and all-encompassing solutions. The latter complements an inbound philosophy effectively. [21] It is accomplished by doing responsible, on-going research on the customer's demands, perceptions, preferences, attitudes, and levels of satisfaction. Such data is required to comprehend both the present and potential future customers. The business is able to identify trends before they materialize in this way and thereafter create tactics to remain current with and competitive in the industry. [20]

A skilled project manager would continuously assess decisions in light of the customer's viewpoint and the company's profitability objectives. In making decisions on products, they will reflect the viewpoint of the customer and investigate the potential reactions of the client. When assessing a project manager's strategy to their role, look for a win-win mentality that strikes a balance between customer goals and business goals. Create goals with the client in mind for a thorough project management evaluation. The project manager must collaborate with the entire team to foresee potential hiccups that could harm the company's relationship with the client. [10] Architect project managers' business oriented performance is evaluated using the following key performance indicators (KPIs) as shown on the table below.

Table 2.2 Project Manager's Performance Evaluation based on Business Oriented Key Performance Indicators (KPIs)

Orientation	Key Performance Indicator (KPI)	Evaluation	Explanation
Business Oriented	Process Improvements	Exceeded expectations	Process improvements were constantly undertaken and provided valuable efficiency gains most of the time
		Good	Process improvements were undertaken often and provided valuable efficiency gains a lot of the time
		Acceptable	Process improvements were undertaken often but provided small efficiency gains
		Poor	Barely any process improvements were undertaken
	Relationships and Communications	Exceeded expectations	Engaged with other departments proactively and other departments engaged proactively with the project manager or their team
		Good	Engaged with other departments proactively
		Acceptable	Engaged with other departments reactively
		Poor	Rarely engaged with other departments
	Customer Orientation	Exceeded expectations	Brought the customer perspective to all discussions and decisions and was able to balance it with business goals
		Good	Brought the customer perspective to most discussions and decisions and was sometimes able to balance it with business goals
		Acceptable	Brought the customer perspective to discussions and decisions more often than not but was not able to balance it with business goals
		Poor	Rarely represented the customer and focused on business goals only

2.3. Empirical Literature Review

This section of the study presents research papers that have a kind of similarities with that of this study area. Their topics are about project managers which are found to be helpful to assess the competencies and performances of project managers. The researchers try to indicate and highlight the issues that are related to project managers' performance in one way or another and provide recommendations that can boost their performance.

2.3.1. The Effect of Project Managers' Competence on Project Success: The Case of Ethiopian Airlines Group (Samuel, 2019)

This senior research paper was prepared by Samuel Nigatu and presented to the Addis Ababa University College of Commerce Project Management Department.

The paper outlines the elements of a project manager's competences and how they relate to the success of a project. The three parts of competencies are: skill, knowledge, and attitude. Skill competency is the most significant of these, followed by knowledge and attitude. Therefore, in order to improve both their soft and hard skills, the researcher advises project managers to regularly participate in training and knowledge development programs. It is found that there is a significant relationship between project manager competency and project success, meaning that projects with highly competent project managers are more likely to succeed. This implies that competency or skill is one of the elements affecting the performance of project managers.

2.3.2. Practices of Project Manager Selection in Ethio Telecom (Ali, 2017)

The second senior research paper is prepared by Ali Fentaw and presented to Addis Ababa University College of Commerce Project Management Department.

The primary conclusions of the article showed that, when assigning someone to be a project manager, the knowledge areas of project management are not effectively exercised; instead, emphasis is placed on a person's technical talents. There is discovered to be a substantial and statistically significant association between project management knowledge and application and the overall selection criteria for project managers. It is determined that seniority should be considered when choosing a project manager since this factor impacts performance status because necessary abilities are gained via work experience. The study suggested using all of the project management knowledge areas to increase success.

2.3.3. The Effect of Project Managers' Emotional Intelligence and Competencies on Project Success: The Case of Addis Ababa City Road Authority Projects (Ashenafi, 2021)

The third senior research paper is prepared by Ashenafi Sema and presented to Addis Ababa University College of Commerce Project Management Department.

The project manager has the potential for project success or failure, according to the literature review. The two main factors required to examine the possible effects of change on project success were emotional intelligence and project management competency. The competency of the project manager has predictive value for the project's success, according to this research finding. It can be considered, together with other aspects, as one of the deciding elements for project success. As a result, the competency of project managers significantly influenced the success of the

project. On the other hand, project managers' emotional intelligence had little bearing on the outcome of the project.

2.3.4. ASSESSMENT OF THE USE OF DIGITALIZATION TO MANAGE CONSTRUCTION PROJECTS AND ITS PERCEIVED EFFECT ON PROJECT SUCCESS (MUNA, 2021)

The last but not the least senior research paper is prepared by Muna Beshir and presented to Addis Ababa University College of Commerce Project Management Department.

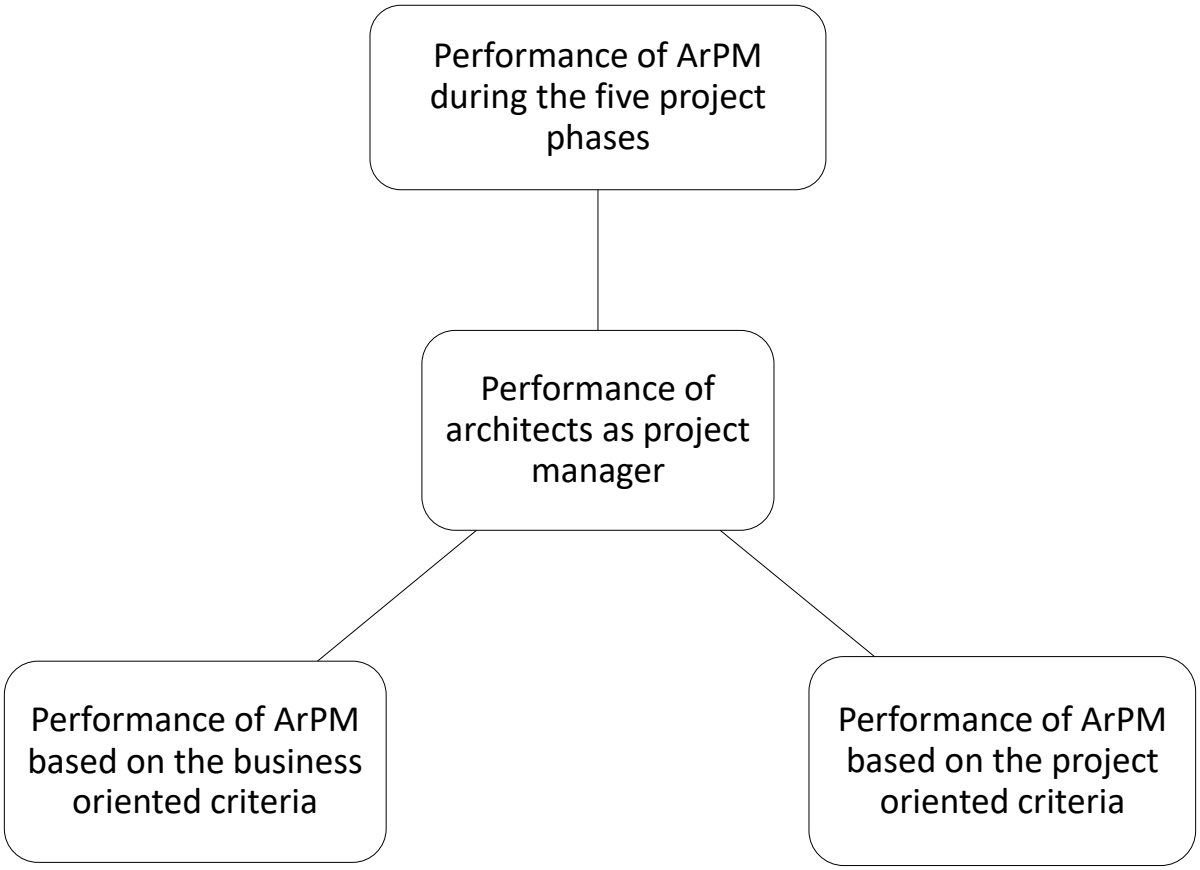
The usage of digitalization in building construction projects has been evaluated by this study. The majority of project managers in Ethiopia's building construction industry are aware of how important digital media is to project success. However, the survey results show that they are generally not used very much to manage projects. Since the construction industry typically employs a traditional approach to project implementation, it is extremely uncommon to discover businesses with well-structured documentation and management systems. The study contends that project managers' performance, whether manual or electronic, has an impact. This implies that project managers can improve their success in terms of the six key performance indexes (KPIs) by using digital media to manage their projects.

2.4. Conceptual Framework

A conceptual framework is one that outlines how a research process' pertinent aims fit together to provide logical findings. [24] [25] It lays out the requirements for defining a research question and identifying relevant, significant solutions. It ties together the concepts, hypotheses, presumptions, and ideas that underlie

a research and presents them in a narrative, graphical, or pictorial way. [26] The conceptual framework for this study is presented below.

Figure 2.1: Conceptual framework of the study



CHAPTER THREE

METHODOLOGY

3. Research Methodology

This section describes the research approach, research design, sampling design, sources of data collection, research instrument, method of data collection, procedures of data collection, data analysis methods and ethical consideration.

3.1. Research Approach

This research used a mixed methods research to assess the performance of architects as project managers in design and construction firms. In order to better comprehend a phenomenon and respond to the research questions, mixed methods research mixes and integrates qualitative and quantitative research approaches in one study. [30] [31] It provides more in-depth findings. Qualitative data shows effect, whereas quantitative data answers “how?” and “why?” [29] It makes the most of the strengths of each data type while neutralizing their weaknesses, expands their evidence, improves the credibility of their findings, and illustrates the results from one method with the results from the other one. [30], [31] Therefore to achieve these bests, the research uses a mixed research approach.

3.2. Research Design

The framework of the research methodologies and procedures a researcher selects to carry out a study is known as the research design. The layout enables researchers to focus on developing research techniques appropriate for the topic and set up their investigations for success. [32] [33]

Descriptive research design describes the situation or case in depth and the research's primary subject matter in the research study. It is a theory-based design method created by gathering, analyzing, and presenting collected data. The researcher does not control or change any of the variables but just observes and measures them. It helps others better comprehend the necessity for the research by revealing the study. In general, it provides answers to the who, what, when, where, and how questions related to a specific research problem, but a descriptive study is unable to provide definitive answers to the why questions. [32] [33] [34] [35] In this aspect descriptive research design is chosen for this study.

3.1. Sampling Design

Population is a complete set of elements (persons or objects) that possess some common characteristic defined by the sampling criteria established by the researcher. [39] According to Pritha Bhandari a population is the entire group that you want to draw conclusions about. [40] The population of this study includes 12 senior and mid-level building design and construction professionals. These are: architects, PMs, engineers and construction managers. For this research a sampling method was not used to select respondents from the targeted population. 9 respondents were taken as a census from the available population. The collection includes 2 senior architects, 1 senior office engineer, 2 mid-level office engineers, 1 senior construction manager and 1 senior engineer and 2 mid-level engineers. The 2 ArPMs do self-evaluation on the status of their performance since they know how they are at each evaluating element. One of the 2 ArPMs is a supervisor. Each ArPM is also evaluated by the other 8 respondents who are PMs, senior and mid-level design and construction professionals.

3.2. Sources of Data Collection

3.2.1. Primary Sources of Data Collection

There are two types of data which are known as primary and secondary data. Depending on the research style and the data the researcher collects, either or both of the data kinds may be employed. For this research primary data are used. According to Ajayi, primary data is fresh, original information that is directly gathered by the researcher from sources including interviews, case studies, surveys, and observations in accordance with his needs. [36] It provides first-hand information on the topic.

3.3. Research Instrument

In this research a self-administered questionnaire and unstructured interview are used. The questionnaires were filled without the presence of the researcher but some of the respondents needed an explanation for the questions that is done through telephone. It somehow avoids the researcher bias. The unstructured interview contains open ended questions which give more freedom for the interviewee to express his ideas.

3.4. Method of Data Collection

The questionnaires are administered to the respondents in an electronic form through a Google form but the interview was undertaken with the design team head, and design and construction head through a face to face or in-person data collection method in this study.

3.5. Procedures of Data Collection

The electronic questionnaire is prepared on Google form including both close ended and open ended questions. Then the link for the questionnaire form is send to the respondents through telegram and email. Then the respondents are followed up through a telephone to submit the questionnaire online. Whereas the interviews with the design department head and with the design and construction head were first scheduled through a telephone and undertaken face to face at different times. Both interviews were recorded for the later analysis.

3.6. Data Analysis Methods

Before analysis, all the surveys underwent reliability and verification checks following the pilot test. To extract understandable patterns or themes from the material, all the data that has been gathered has been structured, arranged, and categorized. Every item of data was edited, coded, tabulated, and then assessed in accordance with the appropriate themes. A descriptive statistics were applied and results are presented with percentages and numbers. Tables, figures, and numbers were also used to present further findings.

3.7. Validity and Reliability

Reliability refers to the stability of the utilized measuring instrument and its consistency over time, whereas validity refers to whether the measuring instrument measures the behavior or quality it is supposed to measure and is a measure of how well the measuring instrument fulfills its job. The pursuit of validity and dependability is given the appropriate consideration. [41] By using data from a variety of sources, including interviews, site visits, document reviews, and literature, the data in this

study is triangulated. The validity is confirmed by using standardized questionnaire which majorly consists of multiple questions. And the result of reliability test is presented as follows.

Table 3.1 Reliability test result

Cronbach's Alpha	No. of items
0.722	19

Source: pilot tests result (2023)

3.8. Ethical Consideration

Ethical considerations in research are set of principles and guidelines which researchers must apply in their research designs and practices. These principles include voluntary participation, informed consent, anonymity, confidentiality, potential for harm, and results communication. [37] [38] Accordingly questionnaires and interviews are done with only voluntary participants. A brief explanation of necessary information and purpose of the research is done. Participants' identities, responses and confidential information are protected unless otherwise required by legal bodies. Generally, fair, open and two way communications is created with the participants. Participants also have given the right to quit from the research at any time they wanted to do so.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4. Presentation, Analysis and Interpretation

4.1. Introduction

This part of the study presents the information which is collected through the survey from the sample population. Likert type and open ended questions are used. The likert type questions have four and five levels. Both the demographic data and the performance evaluation of architect project managers in ATK BUILDING INVESTMENTS in terms of their duties and in terms of the six performance indicators are presented with tabulation and interpreted with a discussion.

4.2. Demographic data

4.2.1. Questioners Response Rate

The response rate of respondents is summarized as follows.

Table 4.1 Response Rate of Respondents

Response Rate	Frequency	Percentage
Responded	9	100%
Not responded	0	0%
Total	9	100

Source: survey result (2023)

As it is shown in table 4.1 above, all respondents fill and return the questionnaire appropriately.

4.2.2. Gender of Respondents

The gender of the respondents is summarized as follows.

Table 4.2 Gender of Respondents

Gender	Frequency	Percentage
Male	6	66.7%
Female	3	33.3%
Total	9	100

Source: survey result (2023)

As it is shown in table 4.2 above, from the total of 9 respondents, 6 of them are male which represents 66.7% and the rest 3 respondents are female which is 33.3%. This implies that firm is dominated by male employees.

4.2.3. Age of Respondents

The age of the respondents is summarized as follows.

Table 4.3 Age of Respondents

Age	Frequency	Percentage
20-29	3	33.3%
30-39	3	33.3%
40-49	3	33.3%
50 and above	0	0%
Total	9	100

Source: survey result (2023)

As it is shown in table 4.3 above, from the total of 9 respondents, 3 of them are in the age category of 20-29, 3 of them are in the age category of 30-39 and 3 of them are in the age category of 40-49 which is 33.3% each and there are no respondents in the age category of 50 and above. This implies that all of the company's work

force is in the age range with fresh energy to update themselves and to coup up with the dynamic changes of the sector. They have the possibility to improve their professional performance.

4.2.4. Educational Level of Respondents

The educational level of the respondents is summarized as follows.

Table 4.4 Educational Level of Respondents

Educational Level	Frequency	Percentage
Certificate	-	-
Diploma	-	-
BA/BSC	6	66.7%
MA/MSC	3	33.3%
Total	9	100

Source: survey result (2023)

According to the respondents' level of education that is shown in the above table 4.4, none of them have a diploma or certificate; but the majority, 6 respondents, have first degrees, and 2 have second degrees. This demonstrates that respondents' high level of education and their ability to comprehend and reply to the questions.

4.2.5. Profession (Qualification) of Respondents

The profession (qualification) of the respondents is summarized as follows.

Table 4.5 Profession (Qualification) of Respondents

Profession (Qualification)	Frequency	Percentage
Architecture	2	22.2%
Engineering	6	66.6%
Construction management	1	11.1%
Total	9	100

Source: survey result (2023)

The sample of the study includes professionals with educational background of Architecture, Engineering and construction management. As it is shown in table 4.5 above, among the professionals 2 of them are Architects which is 22.2%, 6 of them are Engineers (66.6%) and 1 of them is Construction managers which is 11.1%. This shows that all of the professionals can understand project management knowledge areas and evaluate project managers accordingly since they are found in the same sector.

4.2.6. Position of Respondents

The position of the respondents is summarized as follows.

Table 4.6 Position of Respondents

Job Title (Position)	Frequency	Percentage
Design Department Head at ATK, Lecturer at AAU, EiABC	1	11.1%
Design and Construction Head at ATK, Lecturer at AAU EiABC	1	11.1%
Chief Resident Supervisor	1	11.1%

Deputy General Manager	1	11.1%
Senior office engineer	1	11.1%
Resident engineer	2	22.2%
Supervisor and Quantity surveyor	2	22.2%
Total	9	100

Source: survey result (2023)

As it is shown in table 4.6 above, the position (job title) of 1 of the respondents is Design Department Head at ATK and Lecturer at EiABC, AAU (11.1%), 1 Design and Construction Department Head at ATK and Lecturer at EiABC, AAU (11.1%), 1 Chief Resident Supervisor (11.1%), 1 Deputy General Manager (11.1%), 1 Senior office engineer (11.1%), 2 Resident engineers (22.2%) and 2 Supervisor and Quantity surveyors (22.2%). This implies that the first five respondents are senior professionals who are project managers in ATK.

4.2.7. Work Experience of Respondents

The work experience of the respondents is summarized as follows.

Table 4.7 Work experience of Respondents

Work experience	Frequency	Percentage
5 and less than 5 years	2	22.2%
6-10 years	3	33.3%
11-15 years	-	-
Over 15 years	4	44.4%
Total	9	100

Source: survey result (2023)

As it is shown above on table 4.7, 2 of the respondents have 5 and less than five years (22.2%), 3 of the respondents have a range of 6-10 years (33.3%) and 3 of them have over 15 years of work experience (44.4%). This implies that most of the respondents are well experienced in their filled. We can say that they are experts in their line of work.

As the design team head and the design and construction head strongly stated during their interview, experience of the ArPM is a very important element for their better performance. This can be seen in the case of ATK. There are only 3 junior professionals—1 architect and 2 engineers—who are not included in the population because they might not be mature enough on the subject matter. This means there are only 15 design and construction professionals in the firm. But they are working on many projects, including those on large scales since the firm is a developer. They don't outsource work, and all projects are managed by them. This shows that the seniors who are the project managers, especially the architects, are highly qualified and are even lecturers in Universities.

Despite not taking part in bidding, they are always conducting business. This is a result of their extensive customer base. This, they claim, is the end result of their more than 23-year involvement in the industry.

4.2.8. Work Experience of Respondents in ATK

The work experience of the respondents in ATK is summarized as follows.

Table 4.8 Work experience of Respondents in ATK

Work experience in ATK	Frequency	Percentage
5 and less than 5 years	5	55.5%
6-10 years	2	22.2%
11-15 years	2	22.2%
Over 15 years	-	-
Total	9	100

Source: survey result (2023)

According to the above table 4.8, 5 of the respondents have 5 and less than 5 years' experience in ATK which represents 55.5%, 2 of the respondents have a range of 6-10 years (22.2%) and 2 has an experience in a range of 11-15 years (22.2%). This implies that especially the four senior project managers work together in this company 6 to 11 years together which creates strongly bonded team and successful company. And some of them even become shareholders of the business especially the senior ones.

As it is discussed in the literature review, according to the CADD survival guide, which lists out the tasks and obligations of a project manager, team management is one of the points. Since all architectural and construction projects require teamwork, there should be a team spirit in the teams that are organized for every duty. And the interviews show that working together for longer periods of time makes teams know each other well, and the potential, capacity and even progress of each one through time are well known among them. This enables them to accept and respect each other, which is the secret to their current success.

4.1. Performance Evaluation in terms of Duties

The performance of architect project managers is evaluated using their duties at each phase of a project which are divided into five: initiation, planning, execution, monitoring and evaluation, and finally closing. The evaluation uses a five point likert scale as follows.

Table 4.9 Performance evaluation of project managers in terms of their duty

Project phases	Project Manager's Duties		Scale				
			Out standing	Very good	Good	Below average	Poor
Initiation phase	Defining the project on paper	N	4	5			
		%	44.4%	55.5%			
	Visualizing the project and its deliverables	N	5	4			
		%	55.5%	44.4%			
	Defining the funding source	N	2	6	1		
		%	22.2%	66.6%	11.1%		
Planning phase	Goal setting	N	3	5	1		
		%	33.3%	55.5%	11.1%		
	Designing a project plan	N	3	4	2		
		%	33.3%	44.4%	22.2%		
Execution phase	Allocating tasks to teams	N	3	5	1		
		%	33.3%	55.5%	11.1%		
	Keeping the team on toes through status meetings, reports, and schedule reports	N	5	4			
		%	55.5%	44.4%			
	Directing by motivating, leading, and supporting the team	N	6	3			
		%	66.6%	33.3%			
Monitoring and evaluation phase	Following project progress to meet the planned objective , cost, quality, and time	N	1	6	2		
		%	11.1%	66.6%	22.2%		

Project phases	Project Manager's Duties		Scale				
			Out standing	Very good	Good	Below average	Poor
Closing phase	Delivering the project to the customers	N	3	5	1		
		%	33.3%	55.5%	11.1%		
	Communicating with all the stakeholders	N	5	4			
		%	55.5%	44.4%			
	Handing over all the project documents to the appropriate stakeholder	N	5	4			
		%	55.5%	44.4%			

Source: survey result (2023)

At the initiation phase there are three evaluating project manager duties: defining the project on paper, visualizing the project and its deliverables and defining the funding source. Defining the project on paper is more marked (55.5%) as very good and the rest 44.4% as outstanding. The evaluation for visualizing the project and its deliverables is marked 55.5% as outstanding and 44.4% very good. Defining the funding source is highly scored (66.6%) as very good, and 22.2% as outstanding and 11.1% as good.

At the planning phase the duties mentioned are goal setting and designing the project plan. Goal setting is scored 55.5% as very good, next 33.3% as outstanding and then 11.1% as good. Whereas designing the project plan is scored 44.4% as very good, 33.3% as outstanding and 11.1% as good.

At the execution phase the evaluating duties are scored as follows. Allocating tasks to teams is scored highly (55.5%) as very good, then as outstanding 33.3% and rarely (11.1%) as good. Keeping the team on toes through status meetings, reports, and schedule reports is scored 55.5% outstanding and as very good 44.4%.

Directing by motivating, leading, and supporting the team is scored 66.6% as outstanding and 33.3% as very good.

At the monitoring and evaluation phase following project progress to meet the planned objective, cost, quality, and time is the duty of the project manager. It is scored 66.6% as very good and the rest is scored as 11.1% outstanding and as 22.2% good.

At the closing phase, delivering the project to the customers is scored 55.5% as very good, 33.3% as outstanding and 11.1% as good. Communicating with all the stakeholders is scored 55.5% as outstanding and the rest 44.4% as very good. Handing over all the project documents to the appropriate stakeholder is also scored similar to that of the communication one.

This implies that the performance of ATK ArPMs, based on the duties that are performed under each project phase, is generally evaluated as outstanding and very good by most of the respondents. Only some of the duties are evaluated as good by some respondents. Generally speaking, their performance is above average.

4.1. Performance Evaluation in terms of KPIs

The performance of the project managers is evaluated using six key performance indicators which are divided into two broader categories, project oriented indicators and business oriented indicators. The evaluation uses a four level likert scale as follows.

Table 4.10 Performance evaluation of project managers in terms of the six KPIs

Orientation	KPI		Scale			
			Exceeded expectations	Good	Acceptable	Poor
Project oriented	On-time delivery	N		5	4	
		%		55.5%	44.4%	
	On-budget delivery	N	1	6	2	
		%	11.1%	66.6%	22.2%	
	Risk management	N	3	5	1	
		%	33.3%	55.5%	11.1%	
Business oriented	Process improvement	N	3	3	3	
		%	33.3%	33.3%	33.3%	
	Relation & communication	N	6	2	1	
		%	66.6%	22.2%	11.1%	
	Customer orientation	N	5	2	2	
		%	55.5%	22.2%	22.2%	

Source: survey result (2023)

The project oriented KPI's that are used to evaluate are on-time delivery, on-budget delivery and risk management. Responses for on-time delivery are rated as 55.5% good and 44.4% acceptable. And on-budget delivery is scored 11.1% as exceeded expectation, 66.6% as good and 22.2% as acceptable. 55.5% of risk management is scored as good, 33.3% as exceeded expectation and 11.1% as acceptable. Then the second part is business oriented KPIs. In the case of process improvement the exceeded expectation, good and acceptable takes 33.3% each. And relation and communication is scored as 66.6% exceeded expectation, and as 22.2% good and 11.1% acceptable. Lastly customer orientation is rated as 55.5% exceeded

expectation, 22.2% good and 22.2% acceptable. According to the respondents the overall performance status of architects working as project managers is evaluated as 44.4% exceeded expectation, 44.4% good and 11.1% acceptable.

This implies that the performance of ATK ArPMs, based on the six KPIs, is generally evaluated as exceeded expectation and good by most of the respondents. But lower number of respondents evaluates the indicators as acceptable. Generally speaking, their performance is again above average.

4.1. Qualitative information

Finally, there are additional information mentioned under qualitative interviews on architect project managers performance. These are discussed below.

For the evaluation of architect project manager's performance, On-time delivery and on-budget is highly prioritized by most of the respondents, then process improvement and finally customer orientation and risk management. In addition to the detailed construction management techniques different tools that are used to manage projects are MS project scheduling, and continuous checking using up-to-date checklist.

According to the respondents, for the better performance of architect project managers should develop the ability of effective communication and team work, time management, good leadership, good technical knowledge, potential risks identification and mitigation, budget management and should be committed to Continues trainings (on job, block trainings etc...).

CHAPTER FIVE

SUMMARY, CONCLUSION, RECOMENDATION

5. Summary, Conclusion, Recommendation

5.1. Introduction

This chapter includes the summary of the analyzed data, the conclusions drawn from all the summary of quantitative and qualitative data and finally recommendations are forwarded.

5.2. Summary

The purpose of this study is to assess the performance of architect project managers in ATK BUILDING INVESTMENTS. There are 5 project managers in this company and 2 of them are architects. The performance of these professionals is evaluated based on the major duties of project managers and also based on the six KPIs separately. The demographic information depicts that most of the respondents are matured enough to give the relevant information to the research survey. Based on the detailed analysis of the study, the following major findings are summarized.

5.2.1. Performance of ArPM at each Project Stage

5.2.1.1. Performance at project initiation phase

Among the duties of architect project managers in ATK at project initiation stage, visualizing the project and its deliverables is the one which is performed well in the first place. And secondly defining the project on paper is well done then lastly defining the funding source is performed well.

5.2.1.2. Performance at project planning phase

At project initiation stage the two major duties of ArPM in ATK are goal setting and designing a project plan. Based on the analysis result, goal setting is performed better than designing a project plan by ATK architect project managers.

5.2.1.3. Performance at project execution phase

At project execution stage directing by motivating, leading, and supporting the team is well performed in the first place and then comes keeping the team on toes through status meetings, reports, and scheduled reports. Then allocating tasks to teams is performed well in the third place.

5.2.1.4. Performance at project monitoring and evaluation phase

At monitoring and evaluation project stage the major duty of architect project managers at ATK is following project progress to meet the planned objective, cost, quality, and time. According to the analysis their performance is very good.

5.2.1.5. Performance at project closing

At project closing stage communicating with all the stakeholders and handing over all the project documents to the appropriate stakeholder are performed well equally at the first place. And secondly delivering the project to the customers is performed well.

5.2.2. Performance of ArPM in terms of KPIs

5.2.2.1. Performance of ArPM in terms of Project Oriented KPIs

The three project oriented indicators are: on-time delivery, on-budget delivery and risk management. Among these indicators, risk management is performed better in the first place, then on-budget delivery secondly, and on-time delivery lastly.

5.2.2.2. Performance of ArPM in terms of Business Oriented KPIs

The three business oriented indicators are: process improvement, relation and communication and customer orientation. Among these indicators relation and communication is performed better in the first place, then customer orientation secondly, and process improvement lastly.

5.3. Conclusion

As the purpose of this study is assessing the performance of ArPM in the case of ATK, all major research processes done above through theoretical and empirical literature reviews and the analysis made from the survey results of the case study ATK BUILDING INVESTMENTS are done. Finally the conclusions that are presented blow are drawn.

- ATK BUILDING INVESTMENTS ArPMs performed well at project execution phase in the first place, at project initiation phase in the second place, at project closing phase in the third place, at project planning phase in the fourth place and at monitoring and evaluation phase in the fifth place.
- The ArPMs performed better at business oriented key performance indicators than that of project oriented KPIs. It is a successful firm when evaluated from the perspective of business.

- Architects with mid-level and junior experiences in ATK do not fit for a project manager position. This shows that at least introduction to project management is not thought in the curriculum of first degree architecture and also at least one project management software training at the masters' level at universities which could be further developed through on job trainings.
- All the 5 senior design and construction building professionals of ATK are project managers, from which 2 of them are ArPMs. Both of them perform excellently and professionally. This shows that experience is very necessary for a higher performance status.
- For ArPMs to perform better, it is helpful to use digitalized project management tools in addition to Microsoft project scheduling, to be engaged in self-upgrading programs and to continue practicing in the field to get informal on job experiences and knowledge.
- In general, the study concludes that having knowledge and experience on project management knowledge areas has a great impact on the performance of ArPMs.

5.4. Limitation of the Study

In the search of design build firms for the case study there were very limited number of firms practicing as the name indicates. Most of them are either only designers or only builders in the construction sector unless and otherwise they themselves are developers. So this is one of the limitations of the study. The other limitation to this study is that, there is very small number of project managers who are architects.

5.5. Suggestion for further study

The factors that led to the limited number of architect project managers in design-build firms in our country, despite the fact that the global trend is shifting in the opposite direction and assigning architects as project managers in the building sector, as well as the reasons why design-build firms were not more common but rather operated separately or as a sister company, are the research gaps that are identified and recommended for future researchers.

5.6. Recommendation

Based on the above major findings, even if the ArPMs at ATK have a very good performance, the following recommendations are forwarded which could help them to enhance their performance.

- The ArPMs at ATK should majorly improve their performance during project planning and project monitoring and evaluation phases.
- They should workout to improve the project oriented performance indicators. These are on-time delivery, on budget delivery and risk management with the consideration of the affecting scenarios. They should organize a formal risk management system instead of using a traditional system.
- To perform better in managing projects, it is better for ArPMs to use a better digitalized method. This could enable them to avoid the drawbacks of on-time delivery, on-budget delivery and risk management.

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APPENDICES

Appendix-A

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
COLLEGE OF BUSINESS AND ECONOMICS
MBA - PROJECT MANAGEMENT PROGRAM

This questionnaire is developed for responders to the investigation into how well architects perform in their roles as project managers in design and build firms, specifically in the context of the company you work in.

Dear respected respondents,

I, Bethel Kassahun, am a Masters student in the School of Commerce at Addis Ababa University. I am conducting academic research on the performance assessment of architects as project managers in design-build firms in the case of ATK BUILDING INVESTMENTS. The objective of this study is to assess the performance of architects who serve as project managers and to offer suggestions for improving their performance. Your information is treated with extreme confidentiality and anonymity and is solely used for research purposes. I appreciate you taking time to complete the survey and I humbly ask you to keep in mind that the quality of this work entirely depends on your candid responses and comments. Please do not hesitate to contact me if you are unclear about anything. You can contact me at your convenience at 0913916442 or 0913228326.

Research Title

"Performance assessment of architects as project managers in design-build firms: the case of ATK BUILDING INVESTMENTS."

Section 1: Demographic information

You don't need to express your name.

1. Gender

   - [ ] Male
   - [ ] Female

2. Age

   - [ ] 20-29
   - [ ] 30-39
   - [ ] 40-49
   - [ ] 50 and above

3. Marital status

   - [ ] Married
   - [ ] Unmarried
   - [ ] Divorced

4. Level of education

   - [ ] Certificate
   - [ ] Diploma
   - [ ] BA/BSC
   - [ ] MA/MSC

5. Qualification (Profession)

   _____

6. Job title (Position)

   _____

7. Work experience

   _____

8. Work experience in this company

   _____

Section 2: Performance evaluation in terms of project managers' responsibilities

Evaluation at each project phase

1. Handling responsibility in project initiation stage.

   1.1 Defining the project on paper

   - [ ] Outstanding
   - [ ] Very good
   - [ ] Good
   - [ ] Below average
   - [ ] Poor

1.2 Visualizing the project and its deliverables

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

1.3 Defining the funding source

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

2. Handling responsibility in project planning stage.

2.1 Goal setting

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

2.2 Designing a project plan

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

3. Handling responsibility in project execution stage.

3.1 Allocating tasks to teams

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

3.2 Keeping the team on toes through status meetings, reports, and schedule reports

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

3.3 Directing by motivating, leading, and supporting the team

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

4. Handling responsibility in project monitoring and evaluation stage.

   4.1 Following project progress to meet the planned objective , cost, quality, and time

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

5. Handling responsibility in project closing stage.

   5.1 Delivering the project to the customers

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

5.2 Communicating with all the stakeholders

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

5.3 Handing over all the project documents to the appropriate stakeholder

- [ ] Outstanding
- [ ] Very good
- [ ] Good
- [ ] Below average
- [ ] Poor

Section 3: General evaluation

Performance evaluation in terms of key performance indicators (KPIs): Performance of architects as a project manager.

Explanation for on-time delivery evaluation.

On-time Delivery	Exceeded expectations	Completed faster than planned
	Good	Completed on-time
	Acceptable	Insignificantly late
	Poor	Significantly late

1. Evaluate on-time delivery status of project managers, taking all affecting scenarios into account.

- [ ] Exceeded expectations
- [ ] Good
- [ ] Acceptable
- [ ] Poor

Explanation for on-budget delivery evaluation.

On-budget Delivery	Exceeded expectations	Project completed with savings of 10% or more, budget milestones were planned and achieved
	Good	Project completed with 0-10% savings, budget milestones were planned and achieved
	Acceptable	Project budget was exceeded by less than 10%, budget milestones were planned but not achieved
	Poor	Project budget was exceeded by more than 10%, budget milestones were not achieved

2. Evaluate on-budget delivery status of project managers, taking all affecting scenarios into account.

- [ ] Exceeded expectations
- [ ] Good
- [ ] Acceptable
- [ ] Poor

Explanation for risk management evaluation.

Risk Management	Exceeded expectations	Maintained a risk mitigation plan with clear actions and was able to clearly communicate their decisions
	Good	Maintained a risk mitigation plan but the responses to risks were not well thought-through or realistic
	Acceptable	Did not have a risk mitigation plan but had given some thought to it and was able to communicate at least some risks
	Poor	Did not think about risks and managed them ad-hoc when they arose

3. Evaluate risk management status of project managers?

- [ ] Exceeded expectations
- [ ] Good
- [ ] Acceptable
- [ ] Poor

Explanation for process improvement evaluation.

Process Improvements	Exceeded expectations	Process improvements were constantly undertaken and provided valuable efficiency gains most of the time
	Good	Process improvements were undertaken often and provided valuable efficiency gains a lot of the time
	Acceptable	Process improvements were undertaken often but provided small efficiency gains
	Poor	Barely any process improvements were undertaken

4. How much do architect project managers initiate and involve in process improvements within the company or a project?

- [ ] Exceeded expectations
- [ ] Good
- [ ] Acceptable
- [ ] Poor

Explanation of relationships and communications evaluation.

Relationships and Communications	Exceeded expectations	Engaged with other departments proactively and other departments engaged proactively with the project manager or their team
	Good	Engaged with other departments proactively
	Acceptable	Engaged with other departments reactively
	Poor	Rarely engaged with other departments

5. What does the relationship and communication look like between different departments of the company and project managers?

- [ ] Exceeded expectations
- [ ] Good
- [ ] Acceptable
- [ ] Poor

Explanation for customer orientation evaluation.

Customer Orientation	Exceeded expectations	Brought the customer perspective to all discussions and decisions and was able to balance it with business goals
	Good	Brought the customer perspective to most discussions and decisions and was sometimes able to balance it with business goals
	Acceptable	Brought the customer perspective to discussions and decisions more often than not but was not able to balance it with business goals
	Poor	Rarely represented the customer and focused on business goals only

6. Evaluate customer orientation of project managers over business orientation.

- [ ] Exceeded expectations
- [ ] Good
- [ ] Acceptable
- [ ] Poor

7. What does the overall performance status of architects working as project managers look like in this company?

- [ ] Exceeded expectations
- [ ] Good
- [ ] Acceptable
- [ ] Poor

Section 3: General Questions

1. Which one of the six Key Performance Indicators (KPIs) do you prioritize to evaluate architect project managers' performance status? (on-time delivery, on-budget delivery, risk management, process improvements, relationships and communication, customer orientation)

   _____

2. What are the tools that are used in your company to manage projects?

   _____

3. What is your suggestion for a better performance of architect project managers?

   _____

Thank you very much!

Appendix-B

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
COLLEGE OF BUSINESS AND ECONOMICS
MBA - PROJECT MANAGEMENT PROGRAM

This interview is prepared for responders to the investigation into how well architects perform in their roles as project managers in design and build firms, specifically in the context of the company you work in.

Research Title

"Performance assessment of architects as project managers in design-build firms: the case of ATK BUILDING INVESTMENTS."

Unstructured Interview guide for Design Department Head

1. Position:
2. Qualification:
3. Work experience:
4. What is the status of architect project managers' performance in ATK BUILDING INVESTMENT at each six stages of a project? (Initiation, Planning, Execution, Monitoring and Evaluation, and Closing)
5. What is the status of architect project managers' performance in ATK BUILDING INVESTMENT in terms of the six key performance indicators (KPIs)? (On-time delivery, on-budget delivery, risk management, process improvement, relationship and communication, and customer orientation)
6. Which key performance indicator (KPI) do you prioritize as a company?

7. What does the general performance status of architect project managers' performance in ATK BUILDING INVESTMENT?
8. What are the tools that are used as a company to manage projects?
9. What is your suggestion for a better performance of architect project managers?

Thank you very much!