ADDIS ABABA UNIVERSITY

COLLEGE OF BUSSINESS AND ECONOMICS

SCHOOL OF COMMERCE

STAKEHOLDERS' MANAGEMENT PRACTICE ON INFORMATION TECHNOLOGY PROJECTS: THE CASE OF ETHIOPIAN AIRLINES GROUP

BY: YEMANE YOHANNS

JUNE, 2020

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YEMANE YOHANNS

A RESEARCH PROJECT SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER OF ARTS IN PROJECT MANAGEMENT

ADVISOR
BANTIE WORKIE (PHD)

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Statement of Declaration

I, **Yemane Yohanns,** hereby declare that the thesis entitled on: "Stakeholders' Management Practice on Information Technology projects: The Case of Ethiopian Airlines Group" has been conducted by me under the guidance and supervision of Bantie Workie (PhD). I also declare that all materials and sources used for this project research have been accredited appropriately. I am also declaring that this work had not been submitted for the award of any academic Degree or Diploma Program in this or any other institution

Yemane Yohanns

Signature _____

Date_____

Statement of Certification

This is to certify that **Yemane Yohanns** has carried out this research project work on the topic entitled **Stakeholders' Management Practice on Information Technology projects: The case of Ethiopian Airlines Group** under my supervision. This work is original in nature and it is sufficient for submission for the partial fulfillment for the requirements of the award of Masters of Art in Project Management.

Bantie Workie (PHD)

Signature: _____

Date**:** _____

Approval Sheet

Stakeholders' Management Practice on Information Technology projects: The case of Ethiopian Airlines Group

By

Yemane Yohanns

Approved by the Board of Examiners

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Abstract

The main purpose of this project work is to examine the influence of project stakeholder management in Ethiopian Airlines IT projects. Mixed methods research approach is applied to produce more complete understanding of the research problem. And a descriptive research design is used for setting out baselines for the study. The (primary and secondary) data were obtained from 40 questionnaire respondents (through five point Likert scale), interviews with six selected individuals and internal documents. The findings of the study revealed ETG IT projects stakeholder management processes practice were moderate. Identify stakeholders and manage stakeholders' engagement processes were relatively well practiced compared to plan stakeholder management, and monitor stakeholder engagement. The study inferred project manager, project board (sponsor) and vendor had positive impact based on the stakeholder impact analysis undergone on selected IT projects stakeholders. Moreover, the study related to comparative importance of project management 'Knowledge Areas', project stakeholder management were ranked 7th only topping human/resource, communication and procurement management on their contribution to Ethiopian Airlines Group IT projects performance. To improve IT projects performance, the study recommend that PMO shall give focus on project stakeholder management. The study also endorses a stakeholder impact analysis method used in this project work for its considerations of more stakeholder attributes compared to the existing stakeholder impact analysis based on 'Power vs Interest' matrix. Overall, the proper practice of project stakeholder management on IT projects helps stakeholders' interest grow, enables sound stakeholders' relationship, and boost overall business performance.

Key*words*: *IT Project Management, Stakeholder Management, stakeholder theory, Ethiopian Airlines Group*

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List of Acronyms

Abbreviation	Long term
ETG	Ethiopian Airlines Group
PM	Project Management
PMI	Project Management Institute
PMBOK	Project Management Book of Knowledge
IT	Information Technology
SM	Stakeholder Management
SH	Stakeholder
IT PMO	Information Technology Project Management Office
SPSS	Statistical package for Social Science
PCmM	Project Communication Management
PC**M**	Project Cost Management
PIM	Project Integration Management
PHRM	Project Human Resource Management
PPM	Project Procurement Management
PQM	Project Quality Management
PRM	Project Risk Management
PSHM	Project Stakeholder Management
PSM	Project Scope Management
PTM	Project Time Management
KA	Knowledge Areas
ViII	Vested interest Impact Index
PRINCE 2	PRojects IN Controlled Environments

Chapter One:

1. Introduction

Ethiopian Airlines Group implemented project management to leverage the knowledge of broad groups of stakeholders in both internal and external projects. The importance of project stakeholders' management is managing the relationship between project and its stakeholders. The main purpose of this study was to lay foundation in examining the influence of project stakeholder management in Ethiopian Airlines IT projects. In this chapter, the study briefed readers about organization's background, IT projects management practice in relation to stakeholder management, the central point of problem statement, and research questions set. It further identified the general and specific objectives of stakeholders' influence on IT projects in Ethiopian Airlines perspective. The significance, scope, limitation, and organization of the study are also explained in this chapter. At the end, the definitions and terms of the whole study are stated at the end of this chapter.

1.1. Background of the Study

As cited in (Assem Al-Hajj & Mario M. Zraunig, 2018) the BS ISO 10006:1997 defines a project as: "a unique process consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including constraints of time, cost and resources". The concept of stakeholder management includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution (PMBOK, 2017).

Barik & Panda (2014) presented many factors contributing to organizational growth that was an asset at its inorganic level. Barik & Panda (2014) also thought, for creation of assets, organizations has to go for projects. Consequently, Barik & Panda (2014) indicated projects had to consume a lot of resources among which people come attached in different agencies called stakeholders. Projects push organizations towards the wave of Information Technology revolution to find a way to improved efficiency, commercial exploitation and business impact.

Ethiopian Airlines tailored framework that integrates levels of IT projects size, complexity and associate specific project stakeholder management practices to its various categories. In the

framework, the influence, interest, importance and impact of stakeholders, stakeholder relations, stakeholder engagement and stakeholder management was essential. Due to the growing need of stakeholder management in project management office, a study is expedited to examine the status of stakeholder management practice in Ethiopian Airlines Group IT projects.

Ethiopian Airlines Group simply Ethiopian hereafter ETG, is Ethiopia's flag carrier and is solely owned by the Government of the Federal Democratic Republic of Ethiopia. ETG was founded on 21st Dec, 1945. ETG commenced its first flight took place to Cairo via Asmara on 8th April 1946. Ethiopian's 15-year strategic plan called 'Vision 2025' envisions becoming the leading airline group in Africa with seven strategic business units.

In Ethiopian Airlines Group 74 year's successful journey the use of Information Technology has a crucial role in easing doing aviation business. As it is posted in the company's website (Ethiopian Goes Fully Digital, 2017) ETG CEO said in his press release, "Ethiopian has embedded digitization in our organizational operating system with our valued customers in our mind."

Ethiopian Airlines internal documents show the role of IT in providing new system solutions, technologies, business processes and procedures to the business continuously apart from supporting the existing operational environment. For these reasons, ETG has established, independent IT Project Management Office (PMO) department in order to create business benefits and attaining the business strategic objectives. PMO has a document intended to clearly explain the project management core processes, and deliverables Ethiopian Airlines adopts in order to deliver value to the business. While the rest of all project management body of knowledge's are described in one or another way in standard operating procedures and IT working manual the researcher didn't find the key word 'Stakeholder' searching in the whole document. A working manual for PMO named "Project Management Core Processes and Management Products" didn't include stakeholder management indicates a little or no focus is given despite their impact to the project success or business performance.

1.3. Statement of the Problem

The problem, as basis for this research, lays in the context of the little/no attention given by project management office for project stakeholder management in the working manual produced for IT projects. Project and its stakeholders can be viewed as a network in which the actors

interact with each other and exchange information, resources and results (Milosevic, 1989). Generally, the information and resources that are input to the project are controlled by stakeholders. Among which, project manager (one of the stakeholders) may need to tailor the way stakeholders are managed based on stakeholders identification, analysis, and tools and techniques.

Projects underwent in IT needs the management of their relationship with their stakeholders. According to (Alexander & Robertson, 2004), regardless of the project structure an organization adopts, the stakeholder's group is often not within the project manager's range of contacts, although those stakeholders will still be in place after the project completes, where the project manager will most likely to be assigned to another project. Previous research suggests that most IT project problems are related to stakeholder management and organizational behavior, not technical problems (Hartman & Ashrafi, 2002). Though ETG has hundred plus outsourced IT projects that costs millions of dollars, not all common stakeholder management guidance offered is applicable to all types and scales of projects. Hence, the researcher's motivation to study the influence of project stakeholder management on outsourced IT projects is in order to design organization specific project stakeholder management strategies, approaches and principles in line of IT projects.

A study by Henok (2018) titled 'Assessing the Effect of Project Monitoring and Controlling Practice on Project Success: In The Case Of Ethiopian Airlines Digital Project Management Office' depicts the success of on-going project is measured in terms of time, cost and expectation of stakeholders. Other research work finds out the proper communication between stakeholders was found to be a factor that determines the success of ERP implementation with particular reference to Ethiopian Airlines (Sintayoh, 2014). In another study related to IT projects, Ethiopian Airlines IT projects prominent stakeholder, project manager, has strong effect on project success. Though the study by Samuel (2018) focuses on project manager's competency effect on project success elements the attitude of the stakeholder was also discussed. Up to the researcher's scope the rationality of project stakeholder management practice in Ethiopian Airlines IT projects was not investigated. Therefore there is a research gap and need to examine the influence of project stakeholder management practice in Ethiopian Airlines Group Corporate IT – project management office. The benefits of improved stakeholder management and better

outcomes on ground are reaped after examining the current practice and devising appropriate parameters.

1.4. Research Questions

In this study three research questions are formulated as the following;

1. What are the current practices of stakeholder management in Ethiopian Airlines Group IT projects?
2. How to analyze stakeholders' influence on ETG IT projects?
3. Is project stakeholder management a key determinant in Ethiopian Airlines Group IT projects with respect to the other knowledge areas?

1.5. Research Objectives

The general objective of this research is to examine the influence of project stakeholder management challenges and prospects of Information Technology (IT) projects in Ethiopian Airlines.

In order to achieve the general objective of the study in detail, the research has addressed the below specific objectives:

(i) Explain the stakeholder management practice in Ethiopia Airlines IT projects.

(ii) Analyze selected stakeholders' impact on ETG IT projects.

(iii) Assess stakeholder management's level of importance relative to other project management body of knowledge on IT projects.

1.6. Significance of the Study

This research will benefit Ethiopian Airlines Group by examining stakeholder management implementation within IT projects stakeholder management. Specifically this research will serve as basis work for further stakeholder management on IT projects. In general, this study can also help in investigating the practices of identifying stakeholders, planning stakeholder management plan, managing and monitoring stakeholder engagement. It also helps in analyzing particular stakeholders' impact in IT projects.

Ethiopian Airlines Group IT projects' success relies on efficient management of the relationship between the project and its stakeholders. Henceforth, assessing the research gap of stakeholders management influence on hundred millions dollars investment IT projects' were found critical.

1.7. Scope of the Study

The scope of this project work is to examine the practice of stakeholder management processes in IT Project Management office in Ethiopian Airlines Group (ETG).

1.7.1 Conceptual Scope:

The scope of the study is limited to examining the influence of stakeholder management in information technology projects. The research of the study is confined to the practice of IT projects management in Ethiopian Airlines headquarters. Hence the conclusions drawn from this research are applied to the Information system improvement and IT - business alignment in the airline.

1.7.2 Geographical Scope

The study focuses on the stakeholder management processes on IT projects lead under the project management office due to familiarity and proximity of the study area and availability of data. Ethiopian airlines operate all over the world and have a total of 126 offices outside Addis Ababa. This research uses respondents from the headquarters where all IT projects are implemented from. And due to the nature of the project, almost all the project managers work in the Headquarters both for administrative and strategic decision (Samuel, N., 2019).

As described above, the important selected topics are stakeholder management processes, stakeholder impact analysis, and project management knowledge areas' prioritized importance in Ethiopian IT projects.

1.8. Limitation of the Study

The major limitation of this research is generalizability. Generalization, which is an act of reasoning that, involves drawing broad inferences from particular observations (Polit &Beck, 2010). As the research considered Ethiopian Airlines Group, the limited observations are specific to Ethiopian Airlines Group; this study can't be generalized to other organizations. Even, within the organization, comparison for similar project papers it cannot be applied to projects other than IT projects.

1.9. Definition of Terms

Terms	Definition of Terms
IT PMO	An office responsible for managing IT projects in ETG.

Stake	Stake is finical, reputational, protecting or enhancing some 'right' or 'property' owned by the stakeholder, or simply positional (Project Management Institute, 2017).
Stakeholder	The stakeholders are defined as any individual, group or organization who have vested interest in the success of project and the environment it operates (Olander, 2007).
Stakeholder Theory	A "theory of organizations", that helps to nourish a relational model of organizations by revisiting questions about "who" is actually working with (in) the firm (Salma & Yvon, 2005).
Power	The ability to mobilize social and political forces, as well as from their ability to withdraw resources from the project organization. (Project Management Institute, 2017)
Legitimacy	Stakeholders, who bear some sort of risk in relation to the organization, be it beneficial or harmful. (Project Management Institute, 2017)
Urgency	The degree to which claims (or stakes) call for immediate attention. (Project Management Institute, 2017)
Latent Stakeholders	One attribute, low salience. Managers may do nothing about these stakeholders and may not even recognize them as stakeholders. (Mitchell, R., Agle, B. and Wood, D., 1997)
Expectant stakeholders	Two attributes, moderate salience. Active rather passive. Seen by managers as 'expecting something'. Likely higher level engagement with these stakeholders. (Mitchell, R., Agle, B. and Wood, D., 1997)
Definitive stakeholder	All three attributes, high salience. Managers give immediate priority to these stakeholders. (Mitchell, R., Agle, B. and Wood, D., 1997)

Table 1: Definitions and terms

1.10. Organization of the paper

The paper is organized in to five chapters each dealing with ideas for one common purpose. In chapter one; background of the study, history of the organization, statement of the problem, objective of the study both general and specific objectives, research questions, significance of the

study, scope of the study, limitation of the study, methodology, definitions and terms are included. In chapter two, reviews of theoretical and empirical literatures are included to support the study. In chapter three; research methodology is briefly stated including the research type, sampling method, sample size, data collection instrument, and research model were included. In chapter four analyses, interpretation and discussion of data were presented. Under chapter five general summary of the paper, final conclusion, possible recommendations and further research area were included.

Chapter Two:

2. Literature Review

2.1. Theoretical review

This chapter deals with the literature regarding project, project management body of knowledge, stakeholder management, stakeholder impact analysis, and project stakeholder management practices in Ethiopian IT projects.

2.1.1 Project and Project management

Kerzner (2009) as cited in (Ali, 2019), describes project as series of activities and tasks that have a specific objective to be completed within certain specifications, have define start and end dates, have funding limits, consume human and non-human resources are multifunctional management processes are logically linked by the outputs they produce and apply globally across industries. Processes may contain overlapping activities that occur throughout the project.

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements and is accomplished through the appropriate application and integration of the project management processes identified for the project (Project Management Institute, 2017). Project management enables organizations to execute projects effectively and efficiently.

Project Management Institute (2017) defines the project management body of knowledge (PMBOK) as a term that describes the knowledge within the profession of project management.

The project management body of knowledge includes proven traditional practices that are widely applied as well as innovative practices that are emerging in the profession. According to PMI, PMBOK 6th edition there are 10 body of knowledge. The focus of this study was on examining the influence of one of the project management body of knowledge (project stakeholder management) on Ethiopian Airlines Group outsourced IT projects.

2.2 Project Stakeholder Management

Project Management Institute (2013) states project stakeholder management includes the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution.

The influence of stakeholders on the success of a project is higher than that if the company's management, as economic activity in projects is more intensive (Grabar & Salmakov, 2014). For projects in new environment it is necessary to coordinate the project's interfaces in contrast to debugged interfaces in management of the organization. Stakeholders have a dual relationship with the performance of the project, because their actions can influence the project, but, on the other hand, the results of the project may affect their interests (Pacagnella et al, 2015). From a practical point of view, stakeholder management allows the project leaders to create factors that lead to the effective participation of stakeholders in the project and consequently allow the leaders to reap the benefits of the engagement of the stakeholders with regard to obtaining resources and using their influence (Purvis et al., 2014).

Stakeholder management in a project must also involve an understanding of the behavior of the stakeholders during the life cycle of the project, with the aim of performing actions that meet their expectations (Beringer et al, 2013). As Alltonen (2011) cited in Pacagnella et al, (2015) the management of stakeholders in a project involves a process of interpretation, which can generate different understandings of the environment surrounding the managerial actions that are subsequently taken. Therefore Alltonen (2011) claims, the inadequate management of these stakeholders can easily lead to misunderstandings and conflicts between them, affecting the success of the project. In addition, Karlsen, Jan. (2002) indicated that clients and end users are the most important project stakeholders but all stakeholders are equal when it comes to causing problems and uncertainty to the project.

Nguyen, Nhat Hong and Skitmore, Martin and Wong, Johnny Kwok Wai (2009) stated stakeholder management is an important part of the strategic management of organizations. Project stakeholders may influence projects either positively or negatively and therefore the assessment of stakeholder influence is an important task for project managers to enhance the likelihood of project success (Nguyen et al., 2009).

2.2.1 Project Stakeholder Management Processes

According to Project Management Institute (2017) there are four project stakeholder management processes namely: identify stakeholder, plan stakeholder management, manage stakeholder engagement and monitor stakeholder management.

2.2.1.1 Identify Stakeholder:

Identifying stakeholders is the process of identifying and analyzing stakeholders and finding out their overall interaction, engagement and potential impact on project success (Project Management Institute, 2017). Despite project diversity in nature and complexity, every project will naturally have stakeholders who are impacted by or can impact, adversely or favorably, the project. The influence of project stakeholders doesn't have to be necessarily proportional. Project management (2017) describes the inputs, tools and techniques, and outputs of the process are revealed in the below figure 1.

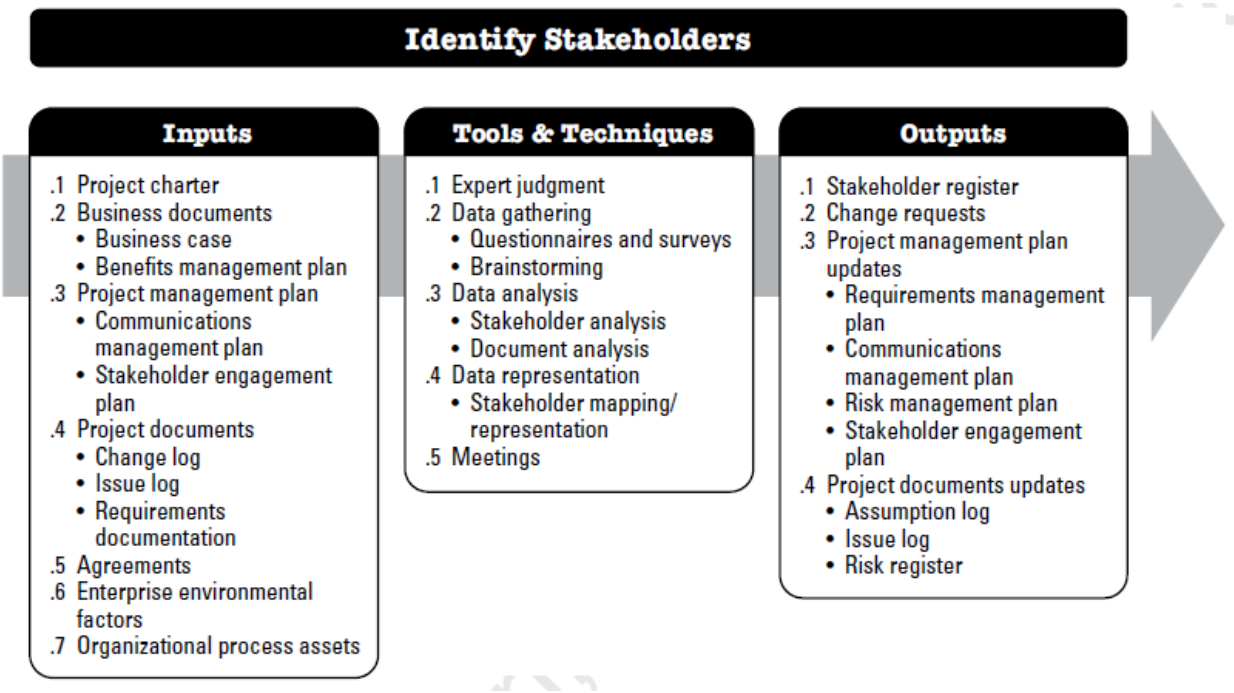

Figure 1: Identify Stakeholders (PMBOK, 2017).

The following attributes are taken as inputs.

- ✓ Project charter: which identifies the key stakeholder list and information about the responsibilities of the stakeholders?
- ✓ Business documents: under which both business case and benefit management plan are sources of information about the project's stakeholders.
- ✓ Agreements: contains references to additional stakeholders.
- ✓ Environmental Economic Factor and Organizational Process Assets that can influence identifying stakeholders are part of this category

In the tools and techniques part of identify stakeholders the following capabilities and opportunities are useful. The expertise from expert judgment, data gathering using questionnaires & surveys, brainstorming and brain writing that elicits inputs from reviews, groups or the mass information collection techniques. Data analysis, specifically stakeholder analysis results in the list of stakeholders' relevant information about stake's interest, rights, ownership, knowledge and contribution.

Similarly, Linda, (2015) stated the process of stakeholder identification focuses on developing a complete list of stakeholders with their key attributes.

2.2.1.2 Plan Stakeholder Management:

Plan Stakeholder Engagement is the process of developing approaches to involve project stakeholders based on their needs, expectations, interests, and potential impact on the project (Project Management Institute, 2017). The main purpose of planning the stakeholder engagement is to lay the foundation for effective, maintainable relationships, and communication with stakeholders' needs, expectations, interests, and potential impact on the project.

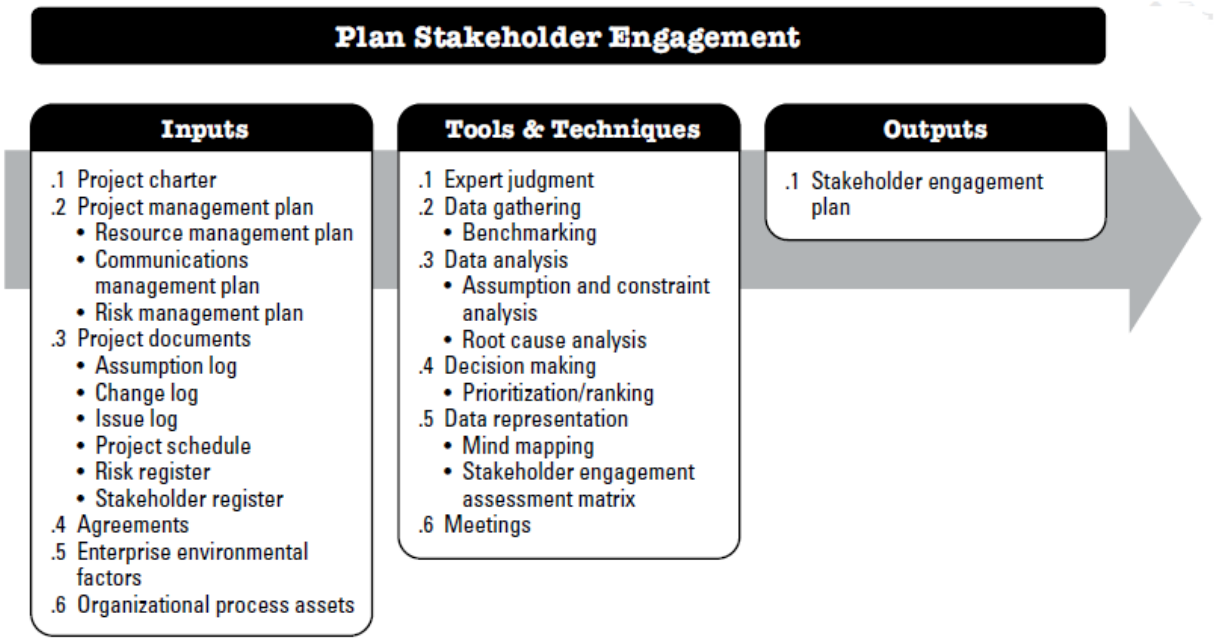

Figure 2 : Plan stakeholder management (PMI, 2017).

2.2.1.3 Manage Stakeholder Engagement

Manage Stakeholder Engagement is the process of communicating and working with stakeholders to meet their needs and expectations, address issues, and foster appropriate

stakeholder involvement (Project Management Institute, 2017). The key benefit of managing stakeholder engagement process is that it allows the project manager to increase support and minimize resistance from stakeholders.

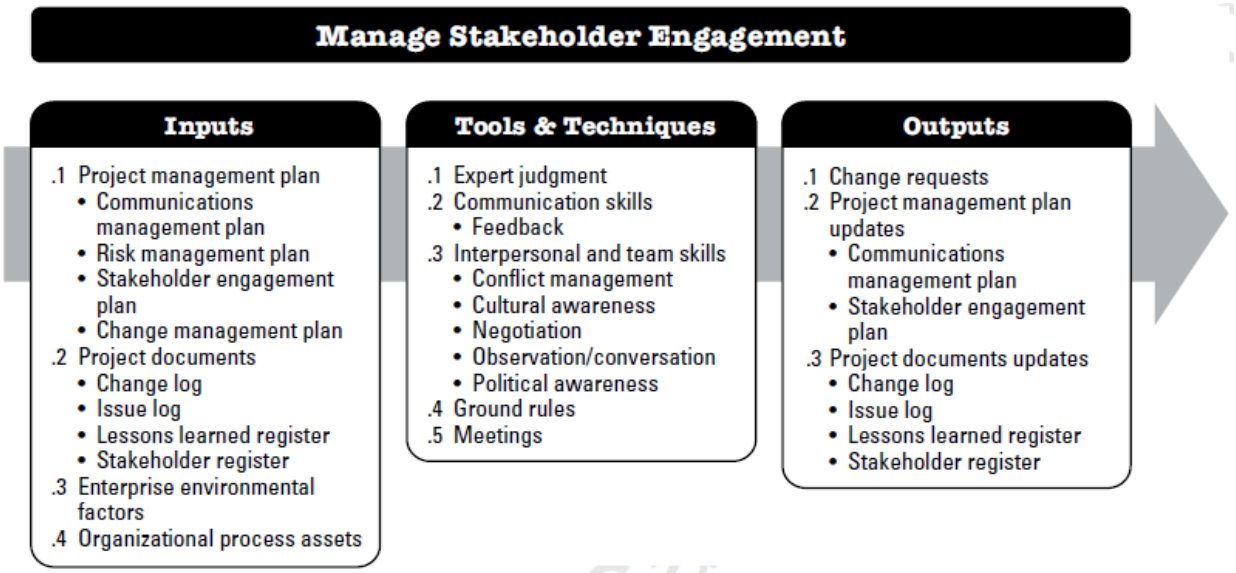

Figure 3: Manage stakeholder engagement (PMI, 2017).

2.2.1.4 Monitor Stakeholder Management

Monitor Stakeholder Engagement is the process of monitoring project stakeholder relationships and tailoring strategies for engaging stakeholders through modification of engagement strategies and plans (Project Management Institute, 2017). The guide explains the key benefit of monitor stakeholder engagement process is that it maintains or increases the efficiency and effectiveness of stakeholder engagement activities as the project evolves and its environment changes.

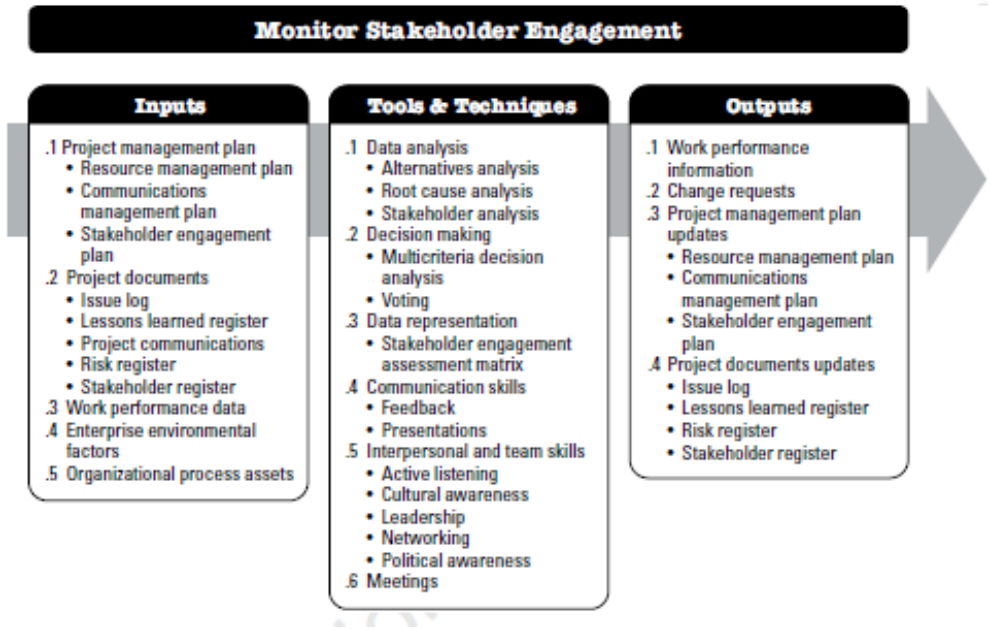

Figure 4: Monitor stakeholder engagement (PMI, 2017).

2.3. Stakeholder Theory

Salma & Yvon (2005) suggest, stakeholder theory is part of a comprehensive project that views the organization-group relationship as both a foundation and a norm. Similarly, Marcoux (2000) view depicts stakeholder theory as primarily about who receives the resources of the organization, and poses a stark and inherent conflict between shareholders and other stakeholders in terms of who gets what. In addition, Marcoux (2000) illustrates all stakeholders must be treated equally.

The impressive research on stakeholder theory has proceeded along three, often confused, lines: the descriptive, the normative and the instrumental points of view (Donaldson and Dunfee, 1994; Donaldson and Preston, 1995; Friedman and Miles, 2006). To these three interpretations, Freeman has added ‘‘a fourth dimension, the metaphorical use of ‘stakeholder’’’ (Freeman, 1994). Shortly the lines/dimensions are briefed as:

- Descriptive: considering stakeholder interest.
- Instrumental: concerned with the stakeholders impact on corporate effectiveness.
- Normative: corporations’ perception on stakeholders even at no stake.
- Metaphorical: depicts about corporate life.

2.4. Stakeholder Impact Analysis

Stakeholder analysis is crucial for radical technology development because it may have widespread social and environmental implications that are often controversial (Freeman and Soete, 1997). Stakeholders in project can be classified as internal-external (Skitmore, 2008); direct-indirect (Smith and Love, 2004); primary-secondary (Carroll and Buchholtz, 2006); social versus non-social, and core, strategic or environmental stakeholders (Carroll and Buchholtz, 2006). Jones and Wicks (1999) further explained there is widespread agreement that an important distinction exists between legitimate and non-legitimate stakeholders. Tipping, Zeffren, and Fusfeld (1995) have explicitly recognized the importance of stakeholder analysis in technology development by noting that there is a variance in interests and perspectives among project stakeholders.

According to Bourne (2009) cited in Samuel (2018), depending on the way they react to conflict situations the relationships among stakeholders can be classified as unitary, pluralist, or coercive: a unitary relationship refers to conflicts where a (probably small) number of stakeholders have similar values, and the parties to the conflict are likely to agree on objectives, but may still have conflicts of interest; In a pluralist situation stakeholders do not agree or do not share each other's value systems, neither one of the stakeholders dominates, even though parties ought to reach compromises on objectives and values; a coercive relationship among stakeholders describes a situation in which parties do not share a common value system, but one of the stakeholders is powerful enough to make its own value system dominant (and coerce the other stakeholders to accept it).

Olander (2007) developed a conceptual stakeholder impact analysis which comprises three different parts. The first part is about evaluating the type of stakeholders in the project and their attributes. The model developed by Mitchell et al. (1997) where the attributes are divided into power, legitimacy and urgency. The second part of stakeholder impact analysis is based on Bourne and Walker (2005) who presented the vested interest Impact Index (VI^3).

Olander (2007) reveals the difference that power/interest matrix doesn't scale the levels of power and interest while the VI^3 have the option to excel it. The third part of the stakeholder impact analysis is the five different levels of stakeholder position towards the project leveled to opposition (both positive and negative), neutral and support (both passive and active).

A number of literatures in different fields have identified critical success factors for project success in its respective study. Yang et al. (2009) studied a literature on IT projects identified the factors related to the success of IT project such as: committed and motivated team, internal communication, goals and objectives, use of tools and infrastructures, risk analysis, good estimation, skilled teams, and, lastly, project monitoring. To rank these factors, an online survey was carried out. According to the ranking list; committed and motivated team is the first and project monitoring is the last. The second research question of this research was carried out to analyze the stakeholders' impact influencing projects success.

The researcher evaluated types of stakeholders as developed by Olander (2007) based on Mitchell et al. (1997). From the stakeholder typology the authors Mitchell et al. (1997) introduce managers' perceptions to develop a theory of stakeholder salience. They define 'salience' as 'the degree to which managers give priority to competing stakeholder claims' (Mitchell et. al, 1997). All types of stakeholders are combined in the below diagram.

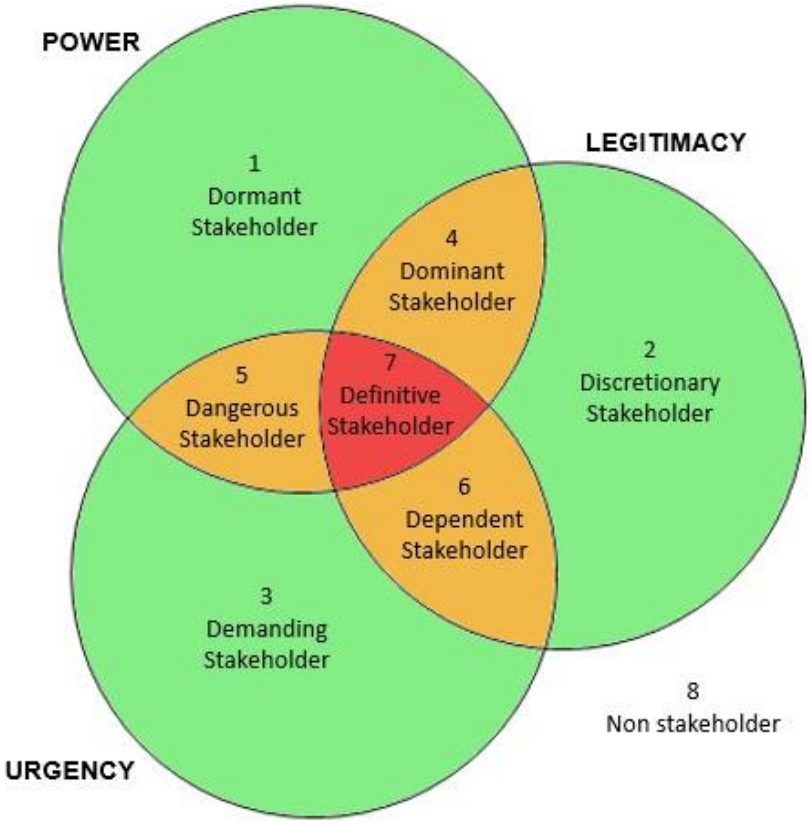

Figure 5: Stakeholder Salience theory framework

Source: (Mitchell, R., Agle, B. and Wood, D., 1997)

2.5. Empirical review

In this section the study tried to look at some empirical studies related to stakeholder's role and their impact in IT projects. Stakeholders in information systems projects can be a variety of different individuals and groups. A clear understanding of who the stakeholders are for a project enables the project manager to work toward ways that will benefit the majority of the project's stakeholders (Flak & Rose, 2005). Stakeholder management has become an important tool to transfer ethics to management practice and strategy and moral value for practitioners (Kevin, 2000).

Research and writing on the subject has both contributed to the rise in the use of the term and to knowledge about what it might mean in practice (John, 2004). Researches from various journals were searched in Google, Google Scholar, Emerald Insight and IEEE using the keywords of "stakeholder", "project stakeholder management", "IT project stake holders" or "IT outsourcing". These different sources were tried with the aim of finding the publications about stakeholder management in IT projects as complete as possible, and make a comprehensive review on the captioned topic. In total, 45 publications with respect to stakeholder issues remained for analysis at last. Another 22 articles on IT stakeholder management caught the researcher's thinking. The publications (articles) consist of journals papers, international conference papers, theses, booklets, reports and some chapters in 4 books. These publications were reviewed to examine an existing theory if project stakeholder management processes influence the outcomes of IT projects, to derive method of analyzing stakeholders' impact in IT projects and to level knowledge areas based on their importance in respondents' perspective.

In an article named "The stakeholder model redefined", Fassin (2009) made an attempt to clarify the categorizations and classifications by introducing new terminology with a distinction between stakeholders, stakewatchers and stakekeepers. Fassin (2009) made analysis which will finally lead to a proposed upgraded and refined version of the stakeholder model, with incremental ameliorations close to Freeman's original model and a return of focus to its essence, the managerial implications in a strategic approach.

Kaleb (2019) in his study named "Assessment of Project Stakeholder Management Practice; The Case of Addis Ababa Housing Development Project Office (AAHDPO) At 'Bole-Arrabesa'." asked three questions to achieve research objective. The findings of the research questions were operationalized from survey questionnaire. The first research question assessment of Kaleb

(2019) study was on the effective approaches to analyze stakeholders' concern and need. Kaleb (2019) found that personal past experience, professional service and workshops topped up the first three ranks. Moreover, Kaleb (2019) assessed all approaches had strengths and limitations, and as a result, the usage of combination of different approaches was dictated. The second question answered by Kaleb (2019) was effective approaches to engage with stakeholders. Workshops, meetings and interviews are marked 4.04, 3.87, and 3.80 average mean out of five. Interview is rated third in the way it effectively engage stakeholders' while it was ranked last (fifth) in the way it addresses stakeholders' concern and need. The third research question that emphasizes on effective response strategy in stakeholders claim are indicated in hierarchical level from high to low: compromising, influence, adaption, avoidance, and dismissal strategy.

Aklile (2018) has also made a similar research on Akaki housing project stakeholder management. The catching finding of Aklile (2018) found the main factors affecting the stakeholder management process were hiring a project management team with high competency, transparent evaluation of the alternative solution, ensuring effective communication between the project and its stakeholder, setting common goal and objective of the project, and exploring the stakeholder need and expectation.

In the other hand, empirical studies associated to stakeholder impact analysis the researcher posed as a second research question of the study are more specific to the organization under consideration. In relation to this, the findings of the study on "Assessesment of Project Stakeholder Management Practice in the Case of Ethio-Telecom" reveals the company failed to organize separate functional unit for managing stakeholder relationship, conflict of interest, change of requirement, and there was lack of clear understanding on stakeholder management processes (Yodit, 2019). The same practice in different organization can't be generalized by Yodit (2019) project work, but the relevance of the topic may be in place inciting similar question.

The relative importance of the PMBOK® Guide's nine Knowledge Areas during project planning analyzes the relative importance of Knowledge Areas by calculating the impact of their related planning processes on project success (Zwikael, 2009). Zwikael (2009) depicts the importance of Knowledge Areas to project success when the higher extent of use of its related processes significantly improves project success. Firstly Zwikael, (2009) clarifies, the extent of use of each Knowledge Area was calculated as an average of its related planning processes. Zwikael, (2009)

study on the relative importance of the PMBOK® Guide's nine Knowledge Areas was carried out before stakeholder management evolve to be the project management's tenth knowledge area. Hence, it poses a question under which body of knowledge stakeholder management was part of and was quantified per se. so, this topic is a research topic and the author will not go further on that kind of analysis under this study's scope. But, the nine Knowledge Areas are ranked in fields like construction and engineering, software, production, communications, service and government. The ranking of relative importance of nine Knowledge Areas during project planning as set by Zwikael (2009) is illustrated in the below figure.

Knowledge Areas	Construction and Engineering	Software	Production	Communications	Services	Government
Integration	1	6	3	3	7	8
Scope	9	9	8	8	8	9
Time	7	1	6	1	1	2
Cost	2	5	9	4	2	5
Quality	6	2	2	2	6	3
Human resources	3	3	7	9	5	6
Communications	5	7	1	6	9	4
Risk	4	4	5	7	4	1
Procurement	8	8	4	5	3	7

Figure 6: PM nine Knowledge Areas in project planning (source: (Zwikael, 2009))

An upgraded study of Zwikael, (2009) on relative significance of Knowledge Areas were required and a study by Saad, Sara & Ali, (2015) examined the project managers' perception of the comparative importance of the ten PM knowledge areas, as identified by the fifth edition of the PMBOK® Guide, for project success in Pakistan. The study on 'Assessing the Managerial Perception of Relative Significance of Ten Knowledge Areas on Project Success – A Case from Pakistan' reveals that Project Quality Management, Time Management, Communication Management, Cost Management and Scope Management are most important for project managers, in general (Saad, Sara & Ali, 2015). However, for project managers operating in services sector, cost time and stakeholder were of primary concern and for project managers operating in manufacturing sector, quality, time, communication and scope sought most of their attention. Quite surprisingly, it was observed that management of stakeholders was mostly overlooked by the project management practitioners in Pakistan.

2.6 Conceptual Framework

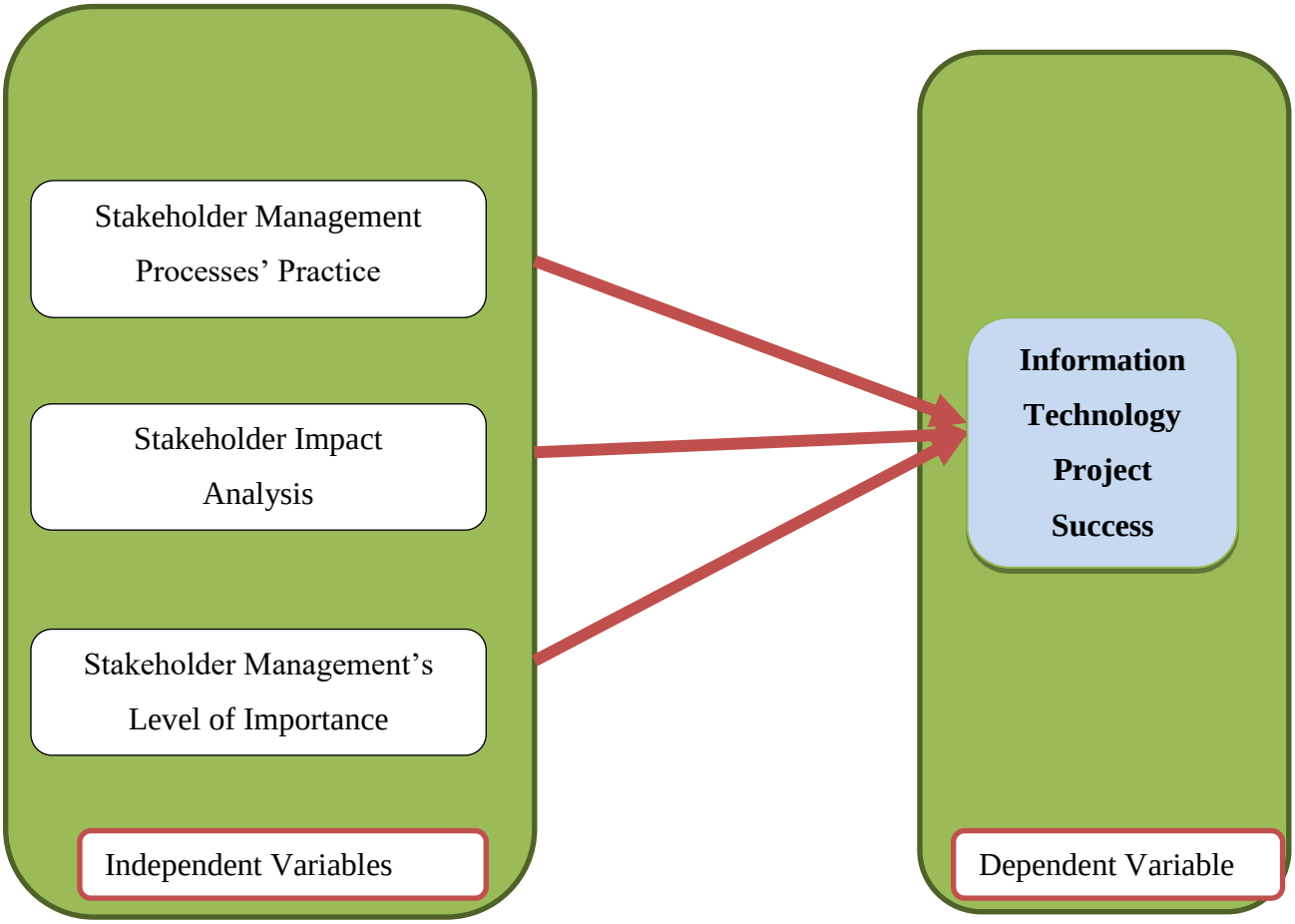

Figure 7: Conceptual Framework (Source: author from literature review assessment)

Chapter Three:

3. Research Methodology

3.1. Introduction

This chapter is mainly comprised of research approach, research design, procedures used in conducting the study, population and sampling technique, research instruments, and data collection, analysis procedures, validity and reliability, and ethical consideration.

3.2. Research Approach

Creswell (2012) defines research approaches as plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation. The selection of a research approach is based on the research problem or issue being addressed, the researchers' personal experiences, and the audiences for the study. Creswell (2012) again noted that three research paradigms/approaches are advanced: (a) quantitative, (b) qualitative, and (c) mixed methods.

The researcher applied a mixed methods research approach. Hence, the success of this study is based on both qualitative and quantitative data. Mixed methods research is an approach to inquiry involving collecting both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. The core assumption of mixed methods is that the combination of qualitative and quantitative approaches provides a more complete understanding of a research problem than either approach alone.

In this study, the researcher used both quantitative and qualitative data. At the time it is required to investigate why certain data are random then qualitative research approach is applied (Goundar, 2012). And, according to Creswell (2012) quantitative research is an approach for testing objective theories by examining the relationship among variables. Variables from quantitative research can be measured on instruments so that can be analyzed and be ready as statistical conclusions for actionable insights. Numerical data came from survey, interviews and secondary data from office documents were analyzed according to statistical procedures. And also, the textual information from working manual, standard operating procedures and detailed

discussions with selected individuals helped the researcher gather enough qualitative data for analysis of the research results.

3.2. Research Design

A research design enables a research to be well-structured, objective plan of study to efficiently assess causes and effect relationships between various dependent and independent variables. Creswell (2012) describes research design as set of distinguishing features that you can use to collect, analyze, and interpret data using quantitative and qualitative research methodologies. Research design includes an outline of what the investigator will do from writing the hypotheses and their operational implications to the final analysis of data (Kerlinger, 1986).

The research design applied for this research project was descriptive. Descriptive research design is aimed at describing phenomena and is very useful for setting out baselines or 'templates' of how we think the world is (Adams et al., 2007). In a descriptive design, a researcher is solely interested in describing the situation or case under their research study (Khaldi, 2017). Khaldi (2017) further noted, descriptive research design allows a researcher to provide insights into the why and how of research and helps others better understand the need for the research. The survey strategy employed in the study allows collecting quantitative data which can be analyzed quantitatively using descriptive survey and semi-structured interview questions for the follow-up questions in making the in-depth analysis and clarifying the survey for respondents based on the feedback they give.

3.3. Population of the Study

The focuses in this study were IT projects managed by Information Technology Project Management Office. Out of the Google form survey distributed to 45 respondents 40 of them respond on time. The entire population was included in the survey.

No	Position	Number of Respondents
1	Managers	2
2	Project Managers	6
3	Staffs (Expert/support)	32
Total		40

Table 2.1: Number of respondents source (survey by researcher)

3.4. Data Collection Methods, Sources and Data Types

Data collection was conducted using both types of data sources, primary and secondary data sources. Secondary data sources are collected from the project documents of IT PMO of the airline like PMO working manual, project performance reports, project charter, and other similar documents. Primary source of data are collected using questionnaires and interviews with the managers, team leaders, staff members of the IT PMO.

The survey results were collected from respondents using a Google form. Then the exported data were fed to the data analysis tool SPSS for interpretation.

The second type of primary source of data, interview, was conducted with managers, team leaders, and staff members (experts). This type of data collection method has been done by intentionally selecting respondents that are selected by their contribution on the question of the interview. That means respondents are selected by the intention of the researcher based who can justify the demands.

Based on internal document, the researcher identified a lot of IT related projects handled by Ethiopian Airlines Group (ETG). PMO under Head of Application design and delivery has 8 completed, 54 in execution stage, 28 in planning stage, 3 on hold, 3 in pending review, and 3 in post implementation follow-up to meet the organization strategic plan. The projects under the PMO conducted internally (in house development team) and outsourced for external international vendors. These aforementioned projects totaled to 99 projects.

3.5. Validity

Validity is the development of sound evidence to demonstrate that the test interpretation measure matches its proposed use. Validity is a single unitary concept where the degree to which all of the evidence points to indicate that the researcher used to compare results of the survey, interviews and secondary data resources. For this purpose, the research questions were taken from literature by Olander (2007) on stakeholder impact analysis and Zwikael (2009) on relative importance of the project management knowledge areas. The research questions were modified by the researcher for this work.

3.6. Reliability

Qualitative data's reliability was checked by cross-checking data from similar questions and sample questions shared a head with selected interviewees. On the other hand, Cornbach's alpha

reliability test in Statistical Package for the Social Sciences (SPSS) was used to check the reliability of the survey result. The survey questions were categorized into three sections. The Cornbach's alpha value for the survey ranged from the minimum 0.798 to the maximum one 0.897. In Taber (2017) study, alpha values were described as excellent (0.93–0.94), strong (0.91–0.93), reliable (0.84–0.90), robust (0.81), fairly high (0.76–0.95, and not satisfactory below 0.55. According to Taber (2017) categorization the reliability statistics of this study has earned the Cronbach's Alpha result from fairly-high to reliable as shown in the table below.

Reliability Statistics			
	Cronbach's Alpha	N of Items	Taber (2017) classification
Section 1: Stakeholder Management Practice	.798	12	Fairly-high
Section 2: SH Impact Analysis	.835	15	Robust
Section 3: KA's relative importance	.897	10	Reliable

Table 3: Cronbach's Alpha result (source: SPSS v. 23, 2020)

3.7. Data Analysis Method

Data analysis is a process of serious connected activities like coding, classifying and tabulating data required to obtain meaningful information. The author worked to detect errors and found no discrepancies from the survey. For the purpose of achieving the objectives of the study, the collected data was processed and analyzed with descriptive statistics using Statistical Package for Social Studies (SPSS). This technique was selected because it helps to summarize the sample, provides and allows describing the characteristics of the data collected and it helps to thoroughly analyze and interpret the questions one by one in order to reach meaningful results.

3.8. Ethical Issue

According to Saunders et al. 2009, Ethics refers to the appropriateness of the researcher's behavior in relation to the rights of those who become the subject of the research work, or are affected by it. The interview is conducted and questionnaires are distributed with full knowledge

of the management. Ethical issues in this research concerned with maintaining confidentiality about the information that the researcher gather from respondents, using secured data for academic purpose only and ensuring that the respondents personality will not be exploited. To avoid, biases the respondents were not asked at personal information,

CHAPTER FOUR:

4. Data Presentation, Analysis and Discussion

4.1 Introduction

This chapter focuses on the presentation of results and analysis of the data from questionnaire collected via Google form and semi-structured interview. The analysis of the discussion has four sections. Firstly, the demographic data of respondents have been presented. In this section sex, age, qualification (education) level, work experience and specific role are presented. Secondly, the research question with regard to IT Project Management office's practice of employing project stakeholder management on IT projects was addressed. Thirdly, the stakeholder impact analysis of five selected stakeholders was analyzed based on the stakeholder salience model/framework. The fourth section presented the respondents' perspective on the relative importance of project management knowledge areas.

4.2. Response Rate

The researcher distributed 45 online surveys to project management office employees, business analysts, project team leaders, senior experts, and client departments. Only 5 of them failed to respond on time. Hence a total of 40 from 45 responded which is a response rate of 88.89%. Saldivar (2012) stated more than three-fourth response rate of a survey is acceptable in measuring trends of a research. All these respondents answered four sections. The first part was about respondents' information, and the second part of the survey incorporated questions related to project stakeholder management processes, tools and techniques, and project performance. The third part of the survey asked on impact analysis of selected stakeholders, and the fourth one contained questions that evaluated the relative importance of project management knowledge areas in ETG IT projects.

4.3. Demographic Profile of the Respondents

Respondents' personal profile is vital for outcome of the research; respondents have been requested to fill their personal information. Accordingly, the respondents' demographic data including gender, age range, educational qualification, work experience have been included.

No	Description		Respondents Total	
			N	%
1	Gender	Male	26	65.0
		Female	14	35.0
2	Age range	18-25	6	15.0
		25-35	24	60.0
		35-44	4	10.0
		45-55	4	10.0
		>56	2	5.0
3	Education level	Diploma	2	5.0
		Bachelor	33	82.5
		Masters	5	12.5
4	Work Experience (in years)	<2	5	12.5
		2-5	17	42.5
		6-10	12	30
		>10	6	15

Table 4: Demographic information

As per the above general demographic profile of the respondents' four characteristics; gender, age, educational status, and work experience have been identified. Describing the demographic characteristics of the respondents helped for analysis to be more meaningful for readers. As illustrated in the above table 6, 65% (26) of the respondent are male. The rest 35% (14) are female and the gender distribution reveals the survey was dominated by male. The sample subject of this study is at a young age structure. 6 out of 10 are between the age of 25 and 34. Around one-sixth of the total population are below 25 which totals three fourth of the population to be under the age of 34. Luckily enough, the project work has 5% of respondents to be near to their retiring age (56+). It left the rest 20% number between 35-55 years. As depicted on table 4.2, to understand the project's outcome from the population, more number of seniors would have realized better quantified survey.

More than 95% of the respondents have a B.A/B.Sc. degree or above. This shows respondents are fairly educated and capable to answer the questionnaire without a difficulty. Among those,

82.5% of the respondents were undergraduates while the rest 12.5% were graduate and above. Only 5% of the sample subjects were at their diploma educational level.

The work experience of employees who answered the questionnaire was registered to be 10 years or less for 85% of them. The majority of respondents (42.5%) served 2-5 years. The other 30% were employees who celebrated 5`-10 service years. 12.5% were employees who joined ETG in the last two years.

The challenges of some aspects of project management are related to the personality traits and appropriate experience of engaged individual. From an interview, project management office provided the training to enable project managers and other practitioners about the project management practice applied in Project IN Controlled Environment (PRINCE 2).

No	Description		Total (N)	Per cent (%)
1	Stakeholder Management implementation phase(s)	Conceptual	24	60
		Planning	35	95
		Implementation	16	40
		Monitor/control	14	35
		Closure	5	12.5
2	Specific role	Project Manager	15	37.5
		Project Team Leader	9	22.5
		Client Developers /End User	10	25
		Business Analysts	2	5
		IT Audit/Security	1	2.5
		System Admin	2	5
		IT HR Admin	1	2.5

Table 5: project phases and specific roles (source: survey by author)

Table 7 was depicted to explain the project phases stakeholder management in IT projects were practiced and the specific role that were helpful in gauging stakeholders' outcome to the projects covered under this study.

According to the survey result portrayed about project phases on table 7, regardless of respondents' quantity stakeholder management was practiced during all phases of project management. More than 90% realized stakeholder management was held at least at planning phase followed by conceptual phase reaching near two third (60%) of the respondents. The practice of stakeholder management at the Implementation, and monitor & control phases was supported by 47.5% and 35% of respondents respectively. Table 7 show the influence of stakeholder management was not limited to any phase of project management. 12.5% of the response rate proved stakeholder management was applied during closure phase of project management.

Table 7 also rendered information related to the specific roles of respondents within the project they participated. 37.5% of employees who responded to the survey had the experience of serving as a project manager in IT project management office. 25% of local developers who represented client department and 22.5% of team leaders of different projects have participated in the survey. Other 10% representatives of 2 business analysts and other 2 System Admin have had filled the survey. The survey distributed targeted to IT crew with various roles as seen from table 7.

4.4. Stakeholder Management Practice in ETG IT Projects

This section was presented in two sections. The first section investigated level of project stakeholder management processes employed. And the following section examined general implementation practices of stakeholder management tools and techniques, stakeholder management plan realization, preparation of stakeholder register, smoothness of stakeholder communications, and conflict level. And at the end of the second section project performance was rated against the stakeholder management practice.

4.4.1 Stakeholder Management Practices in ETG - IT PMO

With a general questions on identification, analysis, plan, manage, and monitor stakeholder, employees were asked about the practice of these processes on ETG IT projects. According to PMI (2017) there are four processes in project stakeholder management. However, to describe

the process well, the first process was split to two questions namely identifying stakeholders and stakeholder analysis. With all the processes respondents agreed Ethiopian Airlines IT projects were implemented with a mean of greater than 4.2 in 5 points Likert scale questions asked.

Descriptive Item Statistics							
Survey questions on stakeholder management processes practice		N	Total	Mean		Std. Deviation	Variance
		Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
1	Identify Stakeholders	40	173	4.33	.090	.572	.328
2	Stakeholder Analysis	40	173	4.33	.075	.474	.225
3	Stakeholder management plan	40	169	4.23	.076	.480	.230
4	Managing Stakeholders Engagement	40	173	4.33	.083	.526	.276
5	Monitor & control stakeholder engagement	40	168	4.20	.096	.608	.369
	Grand Mean			**4.28**			

Table 6: SM practice questions result (Source: author from SPSS V. 23, 2020)

Table 8 illustrated the stakeholder management processes implementation practices in IT project management office. The first question that asked if there was a process that consists of identifying the persons, groups or organizations that may affect a decision, or be affected by a project activity, or its final outcomes has achieved top result alongside stakeholder analysis and managing stakeholder engagement. The mean of identify stakeholders, stakeholder analysis and managing stakeholders engagement were rated 4.33 each.

In addition to the survey, according to the manager of project management office, vendor selection was not a challenge they faced in relation to outsourcing IT projects. As PMO manager mentioned ETG is approached by competent service/product provider (IT companies) in the market. And even while outsourcing IT projects, ETG had the practice of a sequence of meetings, product demonstrations and focus group on decision making.

With regard to stakeholder management plan, a process of developing approaches to involve project stakeholders based on their interaction and impact on the project, it has collected 169 points which is 4 points less than identifying stakeholders, stakeholder analysis and or managing stakeholder engagement. The mean of stakeholder management plan practice respondents is 4.23 where among the stakeholder management processes only monitor stakeholder engagement earned a lesser respondents' mean.

Exercise of managing stakeholder engagement was rated to a mean of 4.33. The process of communicating and working with stakeholders and foster appropriate stakeholder engagement involvement were practiced to satisfactory level. Head of application and delivery stated, stakeholders were not only the means for project success but also source of innovative ideas that helped in solving critical problems the client has an issue with. An interview with project manager about stakeholder engagement practice stated that different stakeholder interests have been considered for achieving the project outcomes and all these different stakeholders are collected. On the other hand, the traditional perception of stakeholders with power from within the organization were negatively

Monitoring project stakeholder relationships and tailoring strategies for engaging stakeholders through the modification of engagement strategies and plans was the least marked stakeholder management process with a mean of 4.20.

4.5 Stakeholder Impact Analysis

In stakeholder impact analysis, the research went through three parts. First, respondents were asked to rate the stakeholder attributes (power, legitimacy and urgency) qualitatively in 5 point Likert scale with 5 very high down to 1 very low. Second, the researcher interviewed the project managers, PMO manager and head of Application design and delivery. In the interview the vested interest matrix for the selected stakeholders were filled by the interviewees. The interview included the relative strength of the stakeholder attributes for the specific outsourced IT projects. Olander (2007) dictates the distribution of weights vary from project to project. However, interviewees considered ETG outsourced IT projects had roughly equal importance. The weights of attributes of outsourced IT project stakeholders' power (p), legitimacy (l), and urgency (u) were valued 0.5, 02, and 0.3 respectively.

In the third part, Interviewees responded the position and influence of selected stakeholders. The stakeholders influence and their position in relation to the projects were towards proponents. Extracted from Olander (2007), the values of proponents were interpreted to passive support (0.5) and active support (1).

In the salience model of stakeholder impact analysis on stakeholder attributes rating the 40 respondents graded the 5 point Likert scale on the relative power, legitimacy and urgency of the five stakeholders.

Stakeholders	Power (p)		Legitimacy (l)		Urgency (u)		Attribute (A)
	Weighted Mean (W_p=0.5)	Mean	Weighted Mean (W_l=0.2)	Mean	Weighted Mean (W_u=0.3)	Mean	($W_p + W_l + W_u$)/5
Project board (sponsor)	2.075	4.15	0.84	4.2	1.23	4.1	.829
Project Client	1.69	3.38	0.79	3.95	1.23	4.1	0.742
Business Transformation	1.875	3.75	0.8	4	1.275	4.25	0.79
Project Manager	2.125	4.25	0.84	4.2	1.305	4.35	0.854
Vendor	1.925	3.85	0.8	4	1.155	3.85	0.716

Table 7: Stakeholders power, legitimacy and urgency

(Source: author survey from SPSS V23, 2020)

Table 9, depicts the mean of each stakeholder corresponding to power, legitimacy and urgency rating. The lowest mean was for Client Department (End User) power rating marking a mean of 3.38. In contrary, the highest mean is recorded on Project Manager's urgency rating registered a mean of 4.35. The other means in between were 4.25 for Business Transformation urgency rating & Project Manager power rating, 4.20 for Project Board's & Project Manager's legitimacy. The impact of stakeholder is measured by the combination rate that is measured using the framework. The stakeholder theory salience framework depicts better results only if it has earned a better value in three of the attributes namely: power, legitimacy and urgency. These three key

stakeholder attributes (i.e. power, legitimacy and urgency) were weighted by fractions where their sum totals to 1. From the interview the comparative weight for power was 0.5, for legitimacy 0.2 and for urgency 0.3. Further, the project stakeholder Attribute (A) was calculated as the sum of the weighted mean of the stakeholders $A= (W_p + W_l + W_u)/5$.

Stakeholders	Vested Interest(v)	Influence(i)	Vested Interest Impact Index ($\mathbf{vI^3}$)= $\sqrt{(v*i/25)}$	Position of influence (pos)
Project board (sponsor)	4	3	0.693	+1
Project Client	3	5	0.775	+0.5
Business Transformation	2	3	0.490	+0.5
Project Manager	5	4	0.894	+1
Vendor	4	4	0.800	+1

Table 8: interview output from PMO manager and project managers

(Source: author, from interview with IT PMO manager and project managers)

Table 10 portrayed probably of impact (vested interest) and level of impact (degree of influence) are qualitatively assessed as 5 = very high impact, 4 = high impact, 3 = moderate impact, 2 = low impact and 1 = very low impact. From these two parameters in the matrix Vested Interest Impact Index **($\mathbf{vI^3}$)** was calculated by a formula derived by Bourne and Walker (2005): **$\mathbf{vI^3}$= $\sqrt{}$(v*i/25).** The interviewees agreed all stated stakeholders were proponents and the type of support they provide varied from active to passive support. Intensively discussing on the support type, interviewees came to agree that project sponsor, project manager and vendors' active support was thoroughly needed for better project performance. Interviewees further contemplated, while end users and developers from project client and business analysts from Business transformation team support could be categorized as passive.

Stakeholders	Attribute (A)	Position of influence (pos)	Vested Interest Impact Index ($\mathbf{vI^3}$)= $\sqrt{(v^*i/25)}$	Stakeholder Impact Index (SII)=A*pos* $\mathbf{vI^3}$
Project board (sponsor)	0.829	+1	0.693	0.574
Project Client	0.742	+0.5	0.775	0.288
Business Transformation	0.79	+0.5	0.490	0.194
Project Manager	0.854	+1	0.894	0.763
Vendor	0.716	+1	0.800	0.573

Table 9: stakeholder impact index

(Source: author, calculated from table 9 &10 based on formulas from literatures)

Table 11 shows the stakeholder impact index (SII) is derived as the product of stakeholders attribute, the position of influence, and vested impact index ($vI^{3)}$ for each and every stakeholder. The stakeholder impact index (SII) for the whole project is the summation of individual stakeholder impact index calculated.

$$SII_{proj} = \sum SII_j \text{ where j is 1 to n numbers of stakeholders}$$

$$=0.574+0.288+0.194+0.763+0.573$$

Stakeholder Impact Index of ETG IT projects =2.392

The overall, stakeholder impact index for the aforementioned stakeholders is calculated based on different literatures on Olander (2007) and Bourne and Walker (2005).

4.6. Relative importance of PM Knowledge Areas in IT Projects

Each of the ten project management body of knowledge are well defined in the 5th edition (PMI, 2013) and refined in the light of 6th edition (PMI, 2017). In the survey questionnaire five point Likert scale was used ranging from: Least important (1) to Most important (5). The question was put in 10 rows of project management knowledge areas with a corresponding 5 point Likert scale. Respondents were able to evaluate the comparative advantages they received from project management body of knowledge on their tasks related to IT projects.

Accordingly, for Ethiopian Airlines IT projects, project procurement management was the least important. The next less important knowledge area was project human resource management. It

was followed by project communication management. Both project stakeholder management and project cost management weighted above average mean. Being at the center of the chart it shows their importance is moderately critical. Project quality management and project integration management were chosen among the important knowledge areas. The importance of project quality and integration management to software development in general IT projects is inescapable. The knowledge areas in the forefront of Ethiopian Airlines Group IT projects were project scope management, project time management, and project risk management.

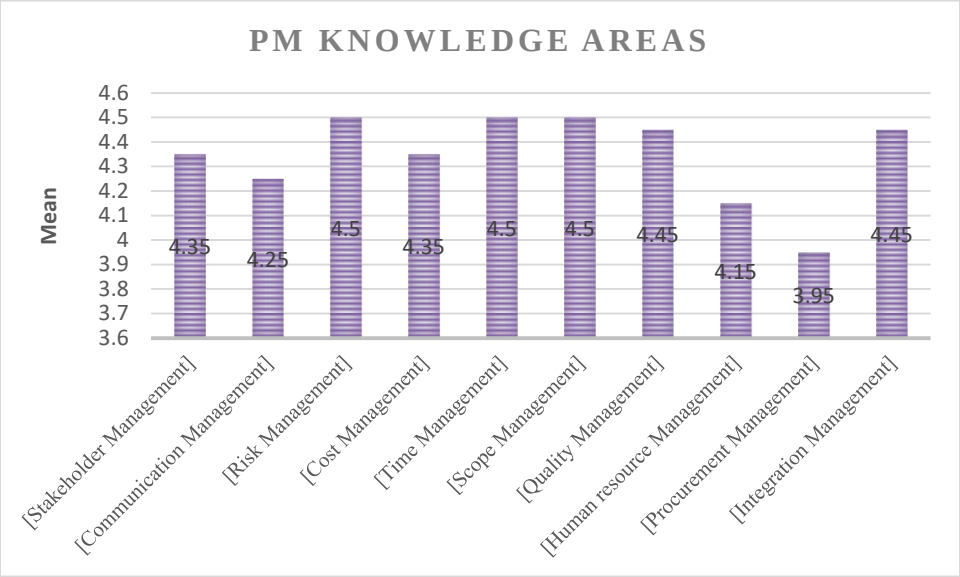

Figure 8: Illustration of PM KA's Importance in mean and rank

4.6.1 Stakeholder Management with respect to the rest knowledge areas

The third research question's focus was finding out the relative importance of Project Management Knowledge Areas and identifying the attention given by the study organization to stakeholder management. For this purpose, the survey question requested respondents to rate for each knowledge management area from 5 points Likert scale. Then the comparative significance of Project Management Knowledge Areas score of Ethiopian Airlines Group IT projects were compared.

Based on the respondents reply the following table shows the overall statistics in terms of total respondents, minimum, maximum, range, sum, mean, variance and standard deviation of all the ten knowledge areas of project management.

	[Comnca tion Manage ment]	[Risk Manage ment]	[Cost Manage ment]	[Time Manage ment]	[Scope Manage ment]	[Quality Manage ment]	[Humanres ource Manageme nt]	[Procure ment Manage ment]	[Integrati on Managem ent]	
N	40	40	40	40	40	40	40	40	40	40
Range	3	3	2	2	2	2	2	3	2	2
Min	2	2	3	3	3	3	3	2	3	3
Max	5	5	5	5	5	5	5	5	5	5
Sum	174	170	180	174	180	180	178	166	158	178
Mean	4.35	4.25	4.5	4.35	4.5	4.5	4.45	4.15	3.9 5	4.4 5
Std. Devia tion	0.802	0.84	0.599	0.864	0.751	0.751	0.677	0.864	0.8 15	0.6 77
Varia nce	0.644	0.705	0.359	0.746	0.564	0.564	0.459	0.746	0.6 64	0.4 59

Table 10: PM Knowledge areas statistics

(Source: SPSS V. 23 2020)

The below table 13 showed how the author manipulate the data depending on their frequencies from the qualitative assessment of ‘very important’, ‘important’, ‘fairly important’, ‘less important’ and ‘least important’. Accordingly, time and scope management have been rated as very important by 26 of the 40 respondents. Other knowledge areas which are rated as ‘very important’ are organized as the following.

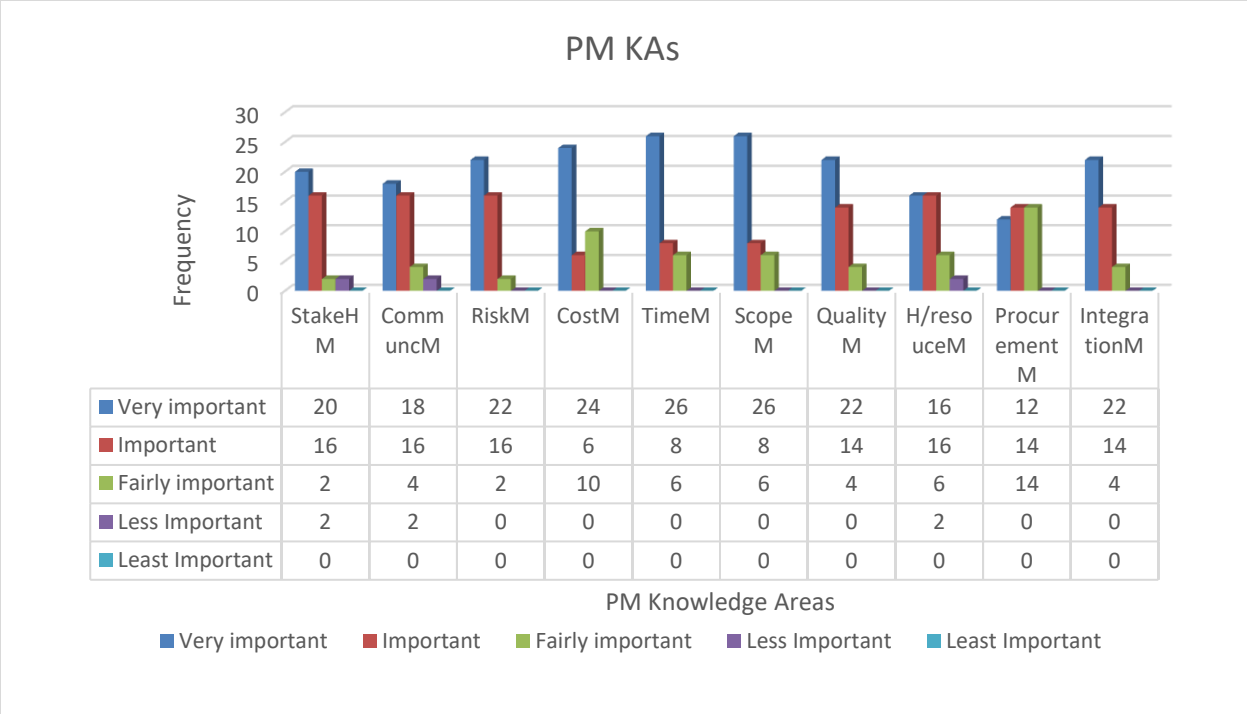

Table 11 : relative importance of PM knowledge areas

(Source: SPSS V. 23, 2020)

For each stakeholder, communication, Risk and Human Resource management 16 of respondents have chosen 'important' level of prominence. Quality, procurement and integration management won the heart of 14 respondents each. Time and scope managements' 'important' level have been chosen by 8 respondents each while cost management 6 respondents selected the 'important' level. More or less, all knowledge areas had 'fair important' leveling from respondents while 'low important' values were only given to by two respondents to stakeholder & communication management. None were given least important to the project management knowledge areas in this web survey.

You stated nothing about the research approach in the Research approach of the Research Methodology. However, you stated in the abstract that you used mixed approach. Where is the qualitative data in the data analysis chapter?

Chapter Five:

5. Summary, Conclusions and Recommendations

5.1. Introduction

This chapter deals with summary of major findings of the study, conclusions of the results and discussions and recommendations for future work.

5.2 Summary of major findings

There were a total of 30 questions which were sufficient to reach any type of decision. These questions were two types: interview questions and completed questionnaires. Out of the 23 questions of the survey, 15 were Likert questions and the rest 8 questions were non-Likert scale type. The other 7 questions were interview questions. The web survey was distributed to 45 employees and 40 responded correctly and on time.

In this study, firstly descriptive statistics were employed to examine the influence of project stakeholder management processes in Ethiopian airlines IT projects. In order to investigate how far project stakeholder management was operationalized the author examined the practice via the lens of project management processes explained in Project Management Body of Knowledge Guide (Project Management Institute, 2017).

Secondly, in the project stakeholder impact analysis part, five distinguished stakeholders were extracted from an internal project management office working manual. Full assessment practice for stakeholder impact was done.

Therefore, the essential verdicts of the project work ‘examining the influence of stakeholder management on outsourced IT projects: the case of Ethiopian Airlines Group’ were analyzed based on their grand mean. According to Scott (1999) Mean Values have been interpreted that for Likert type scale ranging from 5 points scale interpretation should be like; mean up to 2.8 is considered as distress (Disagree), from 2.9 to 3.2 means not committed (Neutral) and mean above 3.2 is considered as an approve (Agree).

The summaries of findings presented hereafter are discussed based on relative values of their respective mean.

- Most of the respondents have indicated that the stakeholder management implementation was facilitated on planning and conceptual phases of project management. But, PMBOK Guide recommends stakeholder management should be practiced in all phases of PM.
- The current practice of stakeholder project management processes on IT projects is satisfactory with a grand mean of 4.23.
- The general implementation practices including continuous use of tools and techniques, stakeholder register, smooth stakeholder communication and conflict management are on their average mean of 3.98 which indicates it is moderate. The practice of producing stakeholder register, defined measure of stakeholders' analysis, and level of stakeholders' conflict with a mean of 3.90, 3.75 and 3.60 respectively was below average but still in the 'agree' space according to Scott (1999) categorization.
- When projects performance was examined against stakeholder management of IT PMO, respondents rated it to an average mean of 3.40 which is low compared to the other mean collected.
- The outcomes of the selected stakeholders were assessed in the three key attributes of salience stakeholder theory. Their power, legitimacy and urgency were rated based on the respondents' opinion. Hence, these stakeholders were categorized in the class of dominant stakeholders. Next, their stakeholder attribute were calculated from the sum of the key attributes weighted mean. Further, the vested interest, influence and position were filled by interviewees. From the interviewees' response vested interest impact index were calculated. In return, stakeholder impact index were calculated from it by multiplying the stakeholder attribute A *vested interest index VI^3 * position of influence (pos).
- After calculating the stakeholder attributes, vested interest impact index were calculated from the vested interest (probability impact) and influence towards the project (level of impact). The stakeholder impact index (SII) for the project is 2.392.
- The relative importance of project management knowledge areas was ranked based on mean calculated to each knowledge area. Project scope management, project time management and project risk management were at the front based on the respondents' opinion. Project quality management and project cost management were also at second row in their relative importance to IT projects. Project stakeholder management comes at mid of knowledge areas.

Knowledge Area	Rank	Knowledge Area	Rank
Time management	1st	Stakeholder management	3rd
Risk management		Cost management	
Scope management		Human/resource management	4th
Quality management	2nd	Communication management	5th
Integration management		Procurement management	6th

Table 12: rank of PM knowledge areas

5.3 Conclusion

In conclusion, Ethiopian Airlines Group IT project management office's practice in project stakeholder management was more or less aligned to PMBOK Guide processes. There are positive and negative remarks registered while undertaking this research. The positive remarks were the points addressed as good practice by respondents while the negative remark are arguments that scored relatively low marks in the Likert scale, analyzed from interview and observed from documents.

- Majority of the participants responded the influence of existing stakeholder project management was mainly facilitated on planning and conceptual phases of project management.
- Monitoring stakeholder engagement was practiced less, compared to processes of identifying stakeholders and managing stakeholder engagement. Other than, monitoring stakeholder management, stakeholder management plan was also a process group, IT project management office has showed gap in implementing it. This conclusion was supported by survey regarding stakeholder register response, an input of stakeholder management plan, and the mean of facilitating stakeholder is found to be relatively low.
- One-fourth of the respondents practice stakeholder analysis partially. Moreover, a quite number of respondents thought the level of conflict among stakeholders were not hold at its lowest level. Ethiopian Aviation group IT projects stakeholders management strategy considered power and interest of the stakeholders among the many attributes that should be analyzed.

- Low response rate was recorded when projects performance was examined against stakeholder management of IT PMO. In relation, relative importance of ten Knowledge Areas was compared in different section. Both results show the weight of stakeholder management in Ethiopian Airlines Group IT projects was lower than half of the other knowledge areas.
- In the salience model of stakeholder impact analysis five stakeholders of IT projects were analyzed. Based on the facilitation of this study, the theory went through three parts. The first part was analysis of the three attributes of salience model based on Mitchell (1997). Further to this, a second part on vested interest impact index were developed according to Bourne and Walker (2005) study. The third analysis part was on the five different levels of stakeholder position towards the project: opposition (active & passive), neutral (not committed), and support (active & passive).
- Project stakeholder management was ranked at the mid of rest knowledge areas. This indicated the prime focus of IT PMO from ten knowledge areas in project management didn't include project stakeholder management. The top priorities of the comparative importance were project scope management, project time management and project risk management. The stakeholder management along cost management were ranked 6th out of the ten 'Knowledge Areas'.

5.4 Recommendations

On the basis of the major findings summarized and conclusions reached, the following recommendations are forwarded in order to improve the influence of stakeholders in IT projects:

- Ethiopian IT project management office was challenged applying project stakeholder management on project management phases except conceptual and planning phases. However, the researcher recommends project stakeholder management shall be practiced in all phases of project management at all times.
- The study indicated stakeholder management plan and monitoring stakeholders' engagement weren't implemented well. The weakness in correctly implementing project stakeholder management plan of IT projects and monitoring them overtime shall be closely followed by project managers and IT PMO manager.

- Despite to the existing ‘power’ vis-à-vis ‘interest’ stakeholder management strategy (stakeholder analysis), the researcher recommends a stakeholder analysis method developed by Olander (2007). Constructed on this theory, IT project stakeholders had a positive outcome towards the project stakeholder management and in general project success. The researcher implied a stakeholder impact analysis applied in this research, initially developed to construction project stakeholder management, can be derived to IT projects with minor adjustment by PMO.
- To global organizations like Ethiopian Aviation Group the top priority in IT PMO should be examination of the influence of project stakeholders. This recommendation was supported by the survey result where project performance against stakeholders’ management was found to be low.

Overall, the proper practice of project stakeholder management on IT projects helps stakeholders’ interest grow, enables sound relationship, and boost overall business performance.

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Appendix

Appendix A: Questionnaire

ADDIS ABABA UNIVERSITY
COLLEGE OF BUSSINESS AND ECONOMICS
SCHOOL OF COMMERCE

Dear Participants,

Dear sir/Madam My name is Yemane Yohanns. I am currently doing my MA Degree in Project Management at Addis Ababa University School of Commerce. I have finished my course work and now I am doing my MA Project work entitled: The influence of Project Stakeholder Management in IT outsourcing: the case of Ethiopian Airlines Group I believe that your response will greatly contribute to the success of my project work. So it's with great respect that I ask you to fill this questionnaire. I guarantee that your identity will be kept confidential and the information you provide only be used for academic purposes. Thank you in advance for taking your precious time to fill this questionnaire. Please try to answer all the questions openly, as your answers will have an influence on the outcome of the research. Your 20 minutes or less will greatly contribute to the growth and advancement of knowledge in the project stakeholder management. If you have any questions or comments, please don't hesitate to contact me.

You can reach me at; Mobile: +25191399239 or E-mail: yemaneyohanns18@gmail.com

With all due respect,

Yemane Yohanns

Personal Information of Respondents

1. **Gender**: Male ☐ Female ☐

2. **Age**: 18-25 25-34 ☐ 35-44 ☐ 45-55 ☐ >56 ☐

3. **What is your level of education**: Diploma ☐ Bachelor Degree ☐ Masters or above ☐

   Experience in the Airlines: < 2 ☐ 2 - 5 ☐ 5- 10 ☐ >10 ☐

4. **Your current position**: Expert ☐ Team leader ☐ Manager ☐ Director ☐

5. **Specific role**

   ☐ Project manager

   ☐ Business Analyst

   ☐ Developer/Client

   ☐ Project Team Leader

   ☐ Vendor

   ☐ IT Security/Audit/Governance

   ☐ HR/Administrator

Section I: communication forms in project management phase & success rate

1.

Stakeholders Identification	← value→				
	1	2	3	4	5
There is a process consists of identifying the persons, groups or organizations that may affect a decision, or be affected by a project activity, or its final outcome					

2.

Stakeholders Analysis	← value→				
	1	2	3	4	5
There is a step involves the analysis of stakeholders' responsibilities, contribution and commitment to the project by specifying the interests, needs and concerns of the various parties involved in decision-making.					

3.

Plan Stakeholder Engagement	← value→				
	1	2	3	4	5
The process of developing approaches to involve project stakeholders based on their needs, expectation, interests, and potential impact on the project.					

4.

Manage Stakeholder Engagement	← value→				
	1	2	3	4	5
The process of communicating and working with stakeholders to meet their needs and expectations, address issues, and foster appropriate stakeholder engagement involvement.					

5.

Monitor Stakeholder Engagement	← value→				
	1	2	3	4	5
The process of monitoring project stakeholder relationships and tailoring strategies for engaging stakeholders through the modification of engagement strategies and plans.					

6.

	← value→				
	1	2	3	4	5
The stakeholder management plan is incorporated with the project plan.					

7.

	← value→				
	1	2	3	4	5
Tools like expert judgment, meetings, or others are considered for stakeholder management planning.					

8.

	← value→				
	1	2	3	4	5
Stakeholder register is produced as an output in the stakeholder identification process.					

9.

	← value→				
	1	2	3	4	5
There is a measurement system to analyze the stakeholder.					

10.

	← value→				
	1	2	3	4	5
Project managers and team leaders communication skill within the project and other stakeholders is satisfactory.					

11.

	← value→				
	1	2	3	4	5
Level of conflict (disagreement) between client (Ethiopian Airlines) and other stakeholders (Vendor, consultant, customers, and others) in projects is kept at its lowest level.					

12. Stakeholder management is implemented at which stage of the project? *

☐ Conceptual

☐ Planning

☐ Implementation

☐ Monitor and control

☐ Closure

13. The following method is primarily used to identify risks within the project: *

☐ Expert Judgment

☐ Checklists

☐ Data gathering (questionnaires and surveys)

☐ Data analysis (stakeholder and document) analysis

☐ Stakeholder mapping /representation

☐ Meetings

Other: _____

14. Is there a standard stakeholder management plan? *

☐ Yes

☐ No

☐ No information

Section II: Stakeholder Impact Analysis

1. Stakeholder impact analysis
    a. stakeholder's power rating

Power of stakeholders	← value→				
	1	2	3	4	5

Business Transformation					
Client Department/End User					
Project Board (Sponsor)					
Vendor					
Project Manager					

b. stakeholder's legitimacy rating

Legitimacy of stakeholders	← value→				
	1	2	3	4	5
Business Transformation					
Client Department/End User					
Project Board (Sponsor)					
Vendor					
Project Manager					

c. stakeholder's urgency rating

Urgency of stakeholders	← value→				
	1	2	3	4	5
Business Transformation					
Client Department/End User					
Project Board (Sponsor)					
Vendor					
Project Manager					

Section III: Importance of project management knowledge areas for success of project

Evaluate the importance of the following knowledge areas of project management to success of your project.

1=Least Important, 2=Low Important, 3=Fairly important, 4=Important, 5=Most Important

No	**knowledge areas**	**Importance for project success** **Least ← importance →Most**				
		1	**2**	**3**	**4**	**5**
1	Integration Management					
2	Scope Management					
3	Time Management					
4	Cost Management					
5	Quality Management					
6	Resource Management					
7	Communications Management					
8	Risk Management					
9	Procurement Management					
10	Stakeholder Management					

Appendix B: Interview

Interview Questions

1. Give an explanation how stakeholder identification, analysis, planning, managing and control are applied in current context.
2. Can you explain the standardized company-wide implementation of stakeholder management process?
3. What are the challenges or barriers to effective stakeholder management?
4. How do you analyze the stakeholder's impact on outsourced IT projects?
   (The rate of each stakeholders vested interest, influence, and position of impact)
5. How does the stakeholder management practice of outsourced IT projects looks like?
6. How do you evaluate the stakeholder management practices in your organization?
7. What is the relative importance of project stakeholder management compared to the rest knowledge areas?

8.