Addis Ababa UniversityCollege of business and Economics School of commerce Graduate Studies Department of BAIS in MA of project Management Program

Title: An assessement of the project planning on project performance in SNNPR roads authority of Hossana district roads authority construction projects.

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Addis Ababa University College of Business and Economics School of commerce Graduate Studies Department of BAIS in MA of project Management Program

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Approved by Board of Examiners

Name	Signature	Date
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External Examiner		
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Chairman		

Declaration

I hereby declare that the study which is being presented in this thesis entitled "An assessement of the project planning on project performance in SNNPR roads authority of Hossana district roads authority construction projects.". It is demeanored by Andineh Aataro Erago for the partial fulfillment of the requirements for the award of master's degree (MA) in **Project Management program**. To the best of my knowledge it is original work carried by his, It had not been presented for a partial fulfillment for any educational qualification at this university or any other and in any projects by any means.

_____ _____

Advisor:- Abdurazak Mohammed (PhD) Date

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Abstract

Analysis of the completed projects illustrate that a significant number of projects exceed the planned time and costs and consequently reducing the benefits. Among many causes of project failure, it is clearly identified that poor planning has an impact on project performance. The main objective of the project work report presented in this paper was to assess the role of project planning on project performance in SNNPR of Hossana district roads authority roads and bridge construction projects. In order to achieve the objectives, information of past projects was collected from 20 employees from different departments the district.

A questionnaire survey conducted to collect datd from the respondents that consisted of project manager, regional supervisors, and other related respondents. The study used SPSS version 16 for descriptive statistics and correlation analysis, and hypotheses to test and to know the relationship of among planning processes, factors and planning knowledge areas.

The findings of this project work report indicate that the main planning input factors that affect the performance of planning processes are: - human, management, technical and organizational factors. And also the finding identifies the main problem areas in planning processes as risk, communication, and quality of human resource knowledge areas were inadequately performed in the studied project. The result of the finding also identifies 15 influential planning activities that affect the performance of project out come. This report recommends an organization that conducts any project should improve the poor planning performance of the identified planning knowledge areas. It should be also important for the organization to spend more efforts in the identified planning activities to improve the performance of their project outcome.

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ACRONYMS

HF	Human factors
MF	Management factors
MTS	Mahalanobis-Taguchi System
OS	Organization structure
PM	Project management
PMBOK	Project management body of knowledge
SNNPR)	Southern Nations Nationalitities and People Region
TF	Technical factors
PIF	planning input factors
PPKA	project planning knowledge area
PO	project outcomes
WBS	work breakdown structure
OBS	Organization Breakdown Structure
PERT	Program evaluation and review technique

Appendix

Appendix A: - Quetionnaire for Survey

Title of the project work:- "the Role of Project Planning on Project Performance in Hossana district roads authority of SNNPR"

Dear Participants;

With sincerity we would like to extend our deep appreciation to your company and the staff for the willingness and cooperation in undertaking this valuable project work. We ask your kind cooperation in answering the questions as truthfully as possible and your response will be highly confidential

Yours Sincerely

Thank you for your assistance

By: Andineh Ataro
Mobile: - 0913241186
Advisor: Dr. Abdurezak Mohammed

PART I Profile of the Organization

Name of the organization_____

Project type_____

Name of project_____

Project ownership

Local

Local private or joint- stock companies

PART II Personal Details of the Respondent

Your current position/ Job title/ in the organization _____

Your work experience/service year/ in this organization _____

Educational background:-_____

How many projects have you participated in as project managers/ leaders or as others _____

Part III

Instructions:

Please consider the recently completed project in your organization and answer the following question. For each of the questions, please tick[x] in the provided space the most suitable answer using the given scale. Please also answer all the questions to enhance the objectivity of the project work.

No	Description	Scale				
		strongly disagree	Disagree	Neutral	Agree	strongly agree
1	Project managers was well experienced in planning processes					
2	More effort was spent in planning stage compared to other stages					
3	Team members was well experienced in planning process					
4	Team members was well committed in planning stage					
5	Customers/users was involved in planning stage					

6	Functional departments of the parent organization was involved in planning stage					
7	Functional department of Client organization was involved in planning stage					
8	The project manager was given full authority from top management					
9	In the planning stage, delegates of the company functional Departments participated actively as project members					
10	In the planning stage there were no conflicting objectives between the project team and the customer to describe the process of goal definition					
11	The project scope was well defined in the planning phase					
12	All resources were allocated (qualified personnel and infrastructure)					

14	Work break down structure was used					
15	Gant chart was used					
16	Critical path method(CPM) was used					
17	Project Evaluation and Review Techniq (PERT) was used					
18	project monitoring and reporting mechanisms was included in planning stage					
19	Project management software was used					
20	Team members give more priorities to their usual duties than planning activitie					
21	Training was given for project team member					
22	Appropriate project managers was Assigned					
23	Project managers was involved in planning stage					
24	Project managers and organizations was well communicated during planning phase					
25	Schedules was well prepared					
26	Activities was well defined					
27	Activity duration was well estimated					
28	Project activities was well sequenced					
29	Project cost was well estimated					
30	Resource for project determined					
31	Budget for the project was well Determined (aggregating the estimated costs of Individual activities or work packages to establish an authorized cost baseline)					
32	Project Risk identified					
33	Quantitative risk analysis prepared					
34	Qualitative risk analysis prepared					
35	Risk response planning prepared					
36	Scope planning prepared					
37	project Scope well defined					
38	project outputs was well identified					
39	Quality planning performed					

40	Quality standard identified					
41	Human resource planned					
42	Project tem acquired					
43	Communication plan prepared					
44	Integrated project schedule prepared					
45	Procurement plan developed (identifying which project needs can be best met by procuring products or services outside the project organization)					
46	Solicitation planning prepared (preparing the documents needed to support solicitation/request)					
47	The project completed on the original(planned) schedule					
48	The project completed with the planned budget					
49	The delivered product met all specification in the planning stage					
50	The project result satisfies the customer needs					

51. Estimated/planned time of the project_____ month/year
52. Actual completion time of the project_____ month/year

Chapter One

1. Introduction

This study is concerned with the role of project planning on project performance with the focus of projects in Hossana district roads authority. Project planning defines project activities that will be performed; the products that was produced, and describes how these activities will be accomplished and managed. It defines each major task, estimates the time, resources and cost required, and provides a frame work for management review and control. It contains a set of plans which will help through execution and closure phases of the project. The plans which are done during this phase, will help the organization to manage time, cost, quality, risk and related issues. It will also help to manage projectteam to deliver project on time. For the effectiveness of project success these processes should be properly planned. The result of the project planning, the project plan, will be approved, comprehensivedocument that allows a project team to begin and completethe work necessary to achieve the project goals and objectives.The project plan will address how the project team will manage the project elements.It will provide a high level of confidence in the organization's ability to meet the scope, timing, cost, and quality requirements by addressing all aspects of the project. There are 39 processes belonging to the nine project management knowledge areas by planning rocess and other processes. Out of the 39 processes listed, 21 are identified by the PMBOK as related to planning.

For the planning processes to be properly planned,these 21 processes have to be properly executed. As described by Donnelly, Gibson, and Ivancevich (1998) Planning, organizing, controlling, and directing are the four primary funictions. But planning is often cited as the most critical of the management functions in determining the overall project performance. And it is also considered the most important and critical phase to the success of an organization in meeting its goal and objectives. Project performance is defined as the ability to complete the project according to desired specifications, within the specified budget, the promise time schedule, while keeping the customer and stakeholders happy.

Effective project planning processes gets better the performance problem of project out comes; Griffith, Gibson (1995) and Griffith et al. (1998) and the study by Hamilton and Gibson (1996) have shown the importance of project planning on projects and its influence on project success. Findings of their study have proven that higher levels of project planning effort can result in significant cost and schedule savings.Therefore planning was identified as awfully important project management function for the successes of project outcome.

This study was undertaking to examine the role of project planning on project performance.

1.1 Background of the Study

National economy has enjoyed a high rate of economic growth for the past more than two decades. Inorder to maintain the achievement for continual growth, each Ethiopian regions seek to provide more roads and expansion of infrastructure facilitiies as well as investment to expand its infrastructure. Thus, from SNNPR of Hossana district roads authority projects have a major role to play in the economic development of the region as well as at the district. They are the building blocks for generating additional income and for ensuring flow of goods and services to the region as well as projects encompassing areas. We have been investing large amount of money in projects related industries with a view to improve the socio-economic conditions of the people. These projects are designed with the aim of efficient management,earning adequate return to provide for future development with their own resources. Despite any types of project signficant contribution to the economically developing countries and the critical role it plays in the development of the countries, the performance of the project outcome in developing countries still remains generally low.

As Idoko (2008) noted, **"**many projects in developing countries encounter considerable time and cost overruns, fail to realize their intended benefit or even totally terminated and neglected before or after their completion "similar to the case with other developing regions , any types of projects in Hossana district roads authority shares many of the problems and challenges the project is facing in other developing areas. Given the critical role the project plays in Hossana district roads authority and other developing regions, improving the performance of the project have to be a priority action. Previous research works by [(Whittaker 1999), (Dvir, Raz and Shenhar 2003) and others] have indicated poor project planning to be one of the reason for project failure in developing countries.

Regarding tothe factors influencing the project outcomes, Whittaker(1999) revealed three common reasons for project failures the first reason is poor (lack of) project planning or the project plan was weak. In addition, identifying the main problem areas in project planning activities and taking appropriate action is required. As far as the research is concerns, little or no research has been done in the country in this regard. This thesis is undertaken to the gap, focusing more on the role of project planning on project performance.

To analyze and assess the effects of project planning on project performance and to identify the main project planning problem areas in the district data will be collected from the excuted projects. After analysis and identifying the problem areas of project planning in SNNPR roads authority of Hossana district this thesis will recommend the the essential information, activities, and procuders in a systematic way to improve the problem of project planning in the region as well as Hossana district.

1.2 Statement of the Problem

Projects are needed to be completed within the time frame, budgeted cost and required quality. However, unfortunately many projects take longer time to complete, cost more than necessary and some projects are cancelled because of various factors directly or indirectly related with it. Project failures have significant effect from economic as well as political points of view**.** If the project takes longer time it requires additional resources,and budgets and this increases labor, material, machinery and equipment cost.

This affects the budget of other projects and in general, it affects the economy of the country.

Similarly, due to delay in project implementation the people and the economy have to wait for the provision of public and services facility longer than necessary.

Thus failure of project limits the growth of the economy because the output provided by infrustracture, construction, manufacturing, IT projects serve as input for many other sectors of the economy. The performance problems of project cost overrun,time delay, quality deficiency are caused by either in selection, planning, execution or control phase of the project and other factors. However, according to Richard A. (2012) one of the main reasons of project failure in developing contries is lack of effective planning process. Similarly, some of the planning processes are neglected in SNNPR roads authority projects, and the execution of the project is often started without developing project planor poor planning. The planning processes are according to PMBOK, (2004), Antvik & Sjöholm(2007) Highly important, and project execution with out proper development of a project plan often causes delays, high cost and general execution problems in the project. The lack of an implemented project plan has caused problems in all project management areas and has made it impossible for the management team to have the required control of project activities. In this regard, different researchers show the effects of project planning on project performance. The studies by Wang and Gibson (2008), shows that time spent on project planning activities will reduce risk and increase project success.

The researcher believed that meaningful project success in SNNPR Roads authority of Hossana district roads authority requires careful study of the projects planning before the project is implemented. Therefore, this study will identify and assesses project planning problem areas and its role in project outcome in the district to take corrective action and prevent project failure**.**

1.3 Research Questions

The main research questions of this study will be as follows;-

1. What are the main input factors that affect the success of project planning performance?
2. What are the common problem areas of project planning activities in the district?
3. What is the role of project planning process on project outcome of the district?

1.4 Objective of the Research

This study sets the following general and specific objectives

1.4.1 General objective

The general objective of the thesis is to assess and analyze the effects of project planning on the performance of project in Hossana district roads authority.

1.4.2 Specific objective

1. To assess the existing project planning process in Hossana district roads authority.
2. To identify planning input factors that affects planning performance of the district.
3. To identify common problem areas in project planning in Hossana district roads authority.
4. To analyze the impact of project planning on project performance of the district.
5. To come up with a better recommendation on project planning so as to improve its performance in Hossana district roads authority construction projects.

1.5 Scope of the Study

As it is discussed in the statement of the problem, there are many causes that affects the performance of project outcome. This study mainly focuses on the effects of project planning on project out comes. Eventhough the research aims on the regional level, due to time and finanicial limitation, this research focuses on Hossana district roads authority.

1.6 Significance of the Study

The primary qualities of the study goes to the university academics. Since there are few studies in the area, it will give a comprehensive starting point for more studies in project management. Second public and governmental organization participating in any types of project will get important concepts on the role of planning processes on project outcome, this will develop wareness.

1.7 Limitation of the Study

In terms of location this study is covered only a single district, Southern Nations Nationalities People Regional Government of Hossana District Roads Authority. None of the questionnaires was conducted in other locations .Among the sectors this study focus on road construction sector particularly regional road Authority construction projects, Hossana Roads Authority District and it does not include all other types of construction related project sectors time constraints and others.

1.8 Organization of the Thesis

The thesis is subdivided in to five chapters. Each chapter of the thesis will illustrate different aspects of the research work. These are described as follows:chapter one: Introduction, it introduces background of the study, statement of the problem, objectives of the research, scope of the research,significant and beneficiaries of thestudy, chapter two: literature review, this chapter comprises of literature review, and quote the various related works done in this area of study and chapter three: research methodology chapter four: analysis and discussion gathered data and chapter five: findings, conclusions and recommendations of the study.

Chapter Two

2. Review of Related Litratures

2.1 Project planning and its overviews

Many authors and references have defined project in different ways emphasizing its different aspects. Summarizing those definitions given, this research defines a project as: A temporary endeavor that has definite beginning and time undertaken the following specific cycle of Initiation, Definition, Planning, Execution and Close to create a unique product, service, or result through novel organization and coordination of human,material and financial resources (PMI, 1996). Aproject has a defined scope, is constrained by limited resource in (time, budget), involves many people with different skill and, ussually progressively elaborated through out its life cycle [(Stanleigh, 2007), (Cleand & Ireland, 2002), (Wheatley), (Gray, C.F & Larson,2008)]. It is a sequence of unique, complex, and connected activities that have one goal or purpose and that must be completed by a specific time, with in budget, and according to specification (Robert.K,).

In general, a project is a unique, well-defined effort to produce specified results within a set time frame,at a given cost, in a multifunctional environment and under specific management (Berry, A.D and T.Duhig, 1987).

2.2 Project management

The application and integration of modern management and project management knowledge, skills, tools and techniques to the overall planning, directing, coordinating, monitoring and control of all dimensions of a project from its inception to completion, and the motivation of all those involved to produce the product, service or result of project on time, with in authorized cost, and to the required quality and requirement, and to the satisfaction of participants. [(Atkinson R, 1999), (Kerzner, 2003)] project management deals with mainly with coordinating resources and managing people and change. Generally "Managing a project includes: identifying requirements, establishing clear and achievable objectives, balancing the competing demands for quality, scope, time and cost; adapting specifications, plans, and approach to the different concerns and expectations of the various stakeholders" PMI, 2004).

2.3 Project Management Process

The functions of project management include defining the requirements, establishing the extent of work, allocating the resources required, planning the execution of the work, monitoring the progress and adjusting deviations from the plan (Munns & Bjeimi, 1996).

As described in Project Management Body of Knowledge Guide there are five types of management processes: initiating, planning, executing, controlling and closing(PMI, 2000).

i. ***Initiating processes***

include defining and authorizing a project or project phase.

To initiate a project or just the concept phase of a project, some one must define the business need for the project, must sponsor the project and take on the role of project manager.

ii. ***Planning processes***

include devising and maintaining a workable scheme to ensure that the project addresses the organization's needs. There normally is no single "project plan." There are several plans, such as the scope management plan, schedule management plan, cost management plan, procurement management plan, and so on defining each knowledge area as it relates to the project at that point.

iii. ***Executing processes*** include coordinating people and other resources to carry out the various plan and produce the products, services, or results of the project orphase.

iv. ***Monitoring and controlling processes*** include regularly measuring and monitoring progress to ensure that the project team meets the project objectives.

A common monitoring and controlling process is performance reporting, where project stakeholders can identify any necessary changes that may be required to keep the project on track.

V .***Closing processes*** include formalizing acceptance of the project or project phase and ending it efficiently. Administrative activities are often involved in this process group, such as archiving project files, closing out contracts.

2.4 Project Planning

Many erferences have defined project planning in different ways emphasizing its different aspects. Summarizing those definitions given, this research defines project planning as: The extent to which time tables, milestones, workforce, equipment, and budget are specified or estimating the effort, time, cost, and staff resources needed to execute the project (Slevin & Pinto, 1986, Chatzoglou & Macaulay 1996).

It is the systematic arrangement of project resources in the best way to achieve project objective (Hore et al.1977 and Faniran et al. 2000). It is described by Naoum et al.(2004) "as one of the key tools that stakeholders use to ensure that projects are successful". Faniran, Oluwoye and Lenard (1998) describe it as the process of determining the appropriate strategies for the achievement of predefined project objectives.It can also be described as the process of defining

project objectives, determining the framework, methods, strategies, tactics, targets and deadlines to achieve the objectives and communicating them to project stakeholders. PMI (2008) has a similar definition for the planning.

"The Planning Process consists of those processes performed to establish the total scope of the effort, define and refine the objectives, and develop the course of action required to attain those objectives."

Therefore, in this study project planning is defined as the systematic arrangement of resources and processes of defining project objective and determining the framework to achieve project objective.

2.5 Project Planning Knowledge Areas

In project management body of knowledge nine knowledge areas of project management are identified namely: - scope, time, cost, risk, quality, human resources, communications, procurement and integration knowledge areas (PMI, 2008).

Each knowledge area in PMBOK is composed of processes that are expected to be addressed to attainthe objective of the knowledge areas. For the nine knowledge areas a total of 39 processes are identified in PMBOK. Project Management is accomplished through the use of all the processes. However, all the 39 process are not meant to be performed uniformly in the management of all projects. The project manager and the project teams need to decide which processes to employ, and the degree of rigor that will be applied to the execution of those processes (PMI, 2004). Since the focus of this study is on the planning phase of the nine knowledge areas.

Table 2.1. Project Planning Knowledge Areas and its processes

No	Knowledge Area	Planning Processes
1	Integration	Project Plan Development
2	Scope	scope planning, scope definition
3	Time	Activity definition, Activity sequencing ,Activity duration estimating, Schedule development
4	Quality	Quality planning
5	Cost	Resource planning, Cost estimating, Cost budgeting
6	Human resource	Organizational planning, Staff Acquisition
7	Communication	Communication planning
8	Risk	Risk management planning, Risk identification ,Qualitative risk analysis, Quantitative risk analysis, Risk response planning
9	Procurement	Procurement Planning ,Solicitation Planning

2.4.1 Project Integration planning knowledge areas

Project integration planning knowledge areas coordinates the various elements of the project and it is an important part in planning processes. Prioritizing between competing objectives and alternatives are an important task in the integration management. The objectives of the development of the project plan is used to create a consistent, coherent document that can be used to guide project execution and control (Gupta, Aha, Nau, Munoz-Avila, 2008).

The plan should include general plans regarding all areas of the project such as; project objectives, time schedule, budget, etc (PMBOK, 2004). Since project plan is the main document developed in the planning process and it is very important to allocate sufficient amount of time and resources for this process. A project with a poor developed project plan is most likely to be poorly executed with high costs and delays as a result (Antvik & Sjöholm, 2007). The integration between the different elements of the plan is a complex process and is therefore often required to be iterated several times in order to reach a complete and integrated project plan (Antvik & Sjöholm, 2007).

2.4.2 Project Scope planning knowledge areas

Project scope management planning is a process to ensure that the project includes all the work required, and excludes the work that is not required, to complete the project successfully. This planning knowledge area consists of scope planning, scope definition,and creates WBS (PMBOK, 2004). The importance of a well formulated scope of workhas been shown several times in different projects. It is not unusual that a project is rushed into start without the proper

planning and preparation. This often leads to problems as extra costs and delays are likely to occur (Antvik & Sjöholm, 2007).

A clear project scope facilitates for the project organization to realize the actual magnitude of the work and creates an understanding for the achievements that are required in the project (Briner, Hastings, & Geddes, 1996).

Scope planning is the process of elaborating the work that is needed to deliver the product of the project. It should be based on the product/output description and requirements from the customer (PMBOK, 2004). The outcome from the scope planning is the scope management plan that mainly describes how the project scope will be managed and how scope changes will be integrated into the project (Gupta, Aha, Nau, &Munoz-Avila, 2008).

Defining the project scope significantly influences the project's overall success. The development of the project scope management plan and the detailing of the project scope begin with analysis of information contained in the project charter, the preliminary project scope statement, the latest approved version of the project management plan, historical information contained in organizational process assets, and any relevant enterprise environmental factor.

In the scope definition, the project's major deliverables and conditions documented in the scope statement are analyzed.

The analysis should be based on needs and expectations from stakeholders, and thereby generate requirements of the project Gupta, Aha, Nau, & Munoz-Avila, 2008). When more specified requirements are known, the deliverables are subdivided into smaller, more manageable groups, through the use of a Work Breakdown Structure. By dividing major tasks into smaller work packages, the accuracy of cost, time and resource estimates are improved.

A WBS also makes it easier to assign clear responsibilty to each group of tasks, which is necessary in order for the project organization to gain control of the project (Antvik & Sjoholm, 2007).

2.4.3 Project Time planning knowledge areas

Project time planning knowledge area includes all planning processes that are required to ensure a timely completion of the project.

The planning processes in time knowledge area are activity definition, activity resource estimating, activity duration estimating and scheduledevelopment (PMBOK, 2004). The time schedule is one of the most important plan in a project. The development of time schedules should be based on the previously developed WBS. According to (Antvik & Sjöholm, 2007) in order to develop realistic and achievable schedules, it is important that activities are sequenced accurately.

The activity sequencing involves identifying logical relationships and dependencies between the project activities (Guoli, 2010).

The process of activitiy resource estimation involves determining what resources and quantity of each resource that will be used in the project.

Required resources can be personnel, equipment and material. This process also includes determining when each resource will be available to the project (PMBOK, 2004). There are in general two methods of resource estimation; top-down and bottom up. If the project has limited detailed information, the top-down method is often used. It is carried out by the higher management of the project and is based on experience from similar projects.

The bottom-up method is also called qualitative based estmations and involves each specific work category in the process.

The bottom-up method is more time consuming to perform, but often generates a more accurate result (Guoli, 2010). The activity duration estimation should be based on the project scope, required types of resources, estimated resource quantities and the availability of resources. The result of the process is later used to develop schedules. To get an accurate estimation of duration it should be carried out by a person or group who is familiar with the specific activity (Antvik & Sjöholm, 2007). The development of schedules is often carried out through the use of project management software. If the previous estimations are made correctly the schedule development mostly consists of aggregating the information into one document (Antvik & Sjöholm, 2007). To develop an efficient schedule it is important that the critical chain is identified and that the lags in the schedule is used to allocate the projects resources effectively (PMBOK, 2004).

A time schedule without control is fairly useless to the project organization. The control must becarried out regularly and relatively often in order to detect deviations early. This makes it possible for the project team to take necessary actions to avoid longer delays (Antvik & Sjöholm, 2007). The schedule control and development must be an iterative process in order for the project team to have updated schedules throughout the project (Guo-li, 2010). Estimating schedule activity durations uses information on scope of work, required resource types, estimated resource quantities, and resource calendars with resource availabilities. Inputs originate from the person or group on the project team who is most familiar with the nature of the work content in the specific schedule activity.

Duration estimates are progressively elaborated, and the processes considers the quality and availablity of input data.

2.4.4 Project Cost planning knowledge areas

Project cost planning knowledge area includes the processes of cost estimating and cost budgeting.The main objective of cost planning knowledge area is to complete the project within the approved budget (PMBOK, 2004).

The project budget is very important and influences all areas in both planning and execution of a project. It is important to keep track of total costs as well as costs for different work packages in a project (Guoli, 2010).

A professional developed budget does not only control the project costs, but also creates good conditions for development of well functioning cash flow in the project. The consequence of insufficient cash flow in a project is often connected to large extra costs and delays, as there is a high risk for a temporary stop of the whole project (Antvik & Sjöholm, 2007). The cost estimation should be based on the project scope, the WBS and be connected to the project plan. To reach a correct estimation it is important that each activity is estimated based on the conditions of the execution of the specific activity. Since there often are several factors that are uncertain in a project, a reserve cost can be assigned to activities with a low level of detailed information or work packages with potential high financial risks (Adisa Olawale & Sun, 2010).

Cost budgeting involves aggregating the estimated costs of individual schedule activities or work packages to establish a total cost baseline for measuring project performance.

The project scope statement provides a summary budget. However, schedule activity or work package cost estimates are prepared prior to detailed budget rquests and work authorizations. Management contingency reserves are budgets reserved for un planned, but potentially required, changes to project scope and cost.

2.4.5 Project Quality planning knowledge areas

Project quality planning knowledge area involves all processes and activities in the project organization to determine quality policies and control that the performed work is of a satisfying quality. The major processes in quality management are quality planning, quality assurance and quality control (PMBOK, 2004).

The project team must identify which quality standards those are relevant in the project in order to perform qualitycontrol. The identified standards should be considered the baseline in the development of a quality plan.

It is important that the quality plan not only consist of required levels of quality in different activities, but also methods to achieve the requested quality (Wei & Yang, 2010).

2.4.6 Project Human Resources planning knowledge areas

Human resource planning knowledge areas is the processes used to ensure that the project organization is established in a way that provides the project with good conditions to succeed.

Major processes in human resource planning, acquire project team, develop and manage project team (PMBOK, 2004).

In the early phases of a project it is necessary for the project management to plan how the project team should be organized and determine what roles that is required (Al-Maghraby, 2008). Each role in the project team should be assigned with areas of responsibility, authority and required competence (Antvik & Sjöholm, 2007).

It is important that a role with a defined area of responsibility also has the authority to make decisions within that area. Responsibility without authority makes it very hard for middle management to influence the work, which most likely will affect the project negatively (Walker, 2007). Human resource planning determining project roles, responsibilities, and reporting relationships culminating in the staffing management plan Acquire project team Process of obtaining the human resources needed for completing the project.

2.4.7 Project Communication planning knowledge areas

Project communications management planning is the processes used to ensure that required information is distributed to the right person at the right time. The major planning processes in communications managements are communications planning (PMBOK, 2004). How communication in a project is handled must be planned in order to perform effective work and minimize the risks. A communication plan is necessary to ensure that both internal and external project communication is carried out effectively. The plan should contain details regarding what type of information that need to be distributed, who needs to receives the information, the purpose of the information, the frequency of the distribution and the responsible person to issue the information (Ramsing, 2009).

The communication plan should also include what meetings are required within the project and a specification of participants, purpose and frequency for each type of meeting (PMBOK, 2004).

It is important that the project management performs frequently progress reports, mainly to inform clients and other stakeholders of the status of the project but also for the management team to keep control of all areas of the project. A progress report should focus on deviations from the Project plan and contain current status of the project, executed and planned actions, uncertainties and forecasts regarding cost and time (Antvik& Sjöholm, 2007). When deviations from the baseline are identified in the progress report, the management team should include recommended corrective actions in order to bring the project in line with the project plan (Ramsing, 2009) As stated in the Project PMBOK from the Project management Institute, communication planning involves "Determining the information and communications needs of the stakeholders: who needs what information, when will they need it, and how will it be given to them.

2.4.8 Project Risk planning knowledge areas

The main objectives of project risk management is to increase the probability and impact of events that are positive to the project and decrease the probability and impact of events that are negative to the project.

Risk planning includes risk identification, qualitative and quantitative risk analysis, and risk response planning, (PMBOK, 2004).

All projects have uncertainties that can either turn out to be an opportunity or a risk.

Uncertainties often occur in areas where the management has little information of the current conditionss. By effective management many uncertainties can be evolved into an opportunity rather than a risk (Antvik & Sjöholm, 2007). Risk analysis is often carried out early in a project when the information is highly limited within several areas. To manage risks and opportunities effectively, the analysis must be iterated throughout the project as more and more information becomes clear to the management team (Kululanga & Kuotcha, 2010).

The purpose of a risk analysis is to gain control of the uncertainties in the project. When risks are identified it is therefore important that a strategy is developed in order to response to the risk (PMBOK, 2004). A response strategy can be to eliminate the probability or impact of a riskor to accept the risk and calculate with a potential extracost if the risk occurs (Kululanga & Kuotcha, 2010). A common and effective approach to analyze risks is to estimate the probability and impact of a risk. The risk response is then based on the combined value of each risk, which leads to a risk management where the response is in relation to the magnitude of the risk (Briner, Hastings, & Geddes, 1996).

Risk identification determines which risks might affect the project and documents their characteristics. All persons associated with a project should be encouraged to identify risks. It is important to have the project team involved in the identification process so that they can develop and maintain a sense of ownership and responsibility for the project risks and associated risk response actions.

Quantitative risk analysis is performed on risks that have been prioritized by the qualitative risk analysis process as potentially and substantially impacting the project's competing demands. Quantitative risk analysis assigns a numerical rating to risks and applies quantitative approaches to making decisions in the presence of uncertainty using such techniques as Monte Carlo simulation and decision tree analysis.

2.4.9 Project Procurement planning knowledge areas

Procurement management planning is the processes to control and administrate contracts and Purchase orders from sources external to the project organization.The major processes in procurement management planning are developing procurement (identifying which project needs can be best met by procuring products or services outside the project organization) and solicitation planning (preparing the documents needed to support request) (PMBOK, 2004). The planning of procurement management should be carried out early in the project and focus on analysis of which products or services that need to be purchased.

After the initial planning a procurement plan should be developed that includes all major procurements that are needed in the project (PMBOK, 2004). The procurement pllan is an important tool for efficient procurements throughout the project. It should be developed based on the project´s WBS and time schedule in order to include all procurements and to be timely integrated in the project. The procurement plan includes budgeted cost and required finish date for each procurement (Eriksson & Westerberg, 2011).

A poorly developed procurement plan is likely to cause high procurement costs and in worst case even force the production to be stopped (Antvik & Sjöholm, 2007).

In larger projects there are often a procurement manager assigned to control and handle procurement activities. The procurement manager is responsible to plan and execute purchases. An important part of the procurement manager's work is to evaluate quotes in order to achieve cost effective contractors (Eriksson & Westerberg, 2011). To keep control of the cost forecasts in the project the procurement manager must follow-up the actual cost in relation to budgeted cost for each purchase (Antvik & Sjöholm, 2007).

2.6 The Relationships among the Project Planning Processes

The project plan is actually a combination of numerous component plan that are developed during the project planning phase. The Project Planning Phase consists of two sets of interrelated processes, Core Processes and Facilitating Processes. Core Processes represent a set of critical activities that are dependent on each other and are executed in an explicit order. A brief description of the Core Processes cycle and the resulting plan deliverables is given below.

Execution of the Core Processes begins with the review and refinement of the project scope and objectives found in the project charter. From the refined project scope and objectives, the work breakdown structure (WBS) is built.

The WBS is a deliverable-oriented grouping of project components that organizes and defines the total scope of the project (PMBOK). The WBS becomes the foundation for development of the organizational breakdown structure (OBS), the sequencing of activities, and the development of the resource plan. Development of the resource plan also requires input from the OBS.

The OBS defines the organizational units responsible for a specific project component or task, and the resource plan identifies the specific resources, which will be allocated to the project component. Project schedule development is dependent on input from the resource plan and activity sequencing processes. The project schedule provides a representation of predicted tasks, milestones, dependencies, resource requirements, task durations, and deadlines.

The project schedule and resource plan provide input to the budget planning process. The budget plan identifies the available funding and costs associated with a defined set of activities during a specified time period.

Finally, the performance planning is developed with input from the refined scope and objectives and the budget plan. The performance plan defines how the project success or failure is measured. The project plan component documents that result from execution of the Core Processes are: The Facilitating Processes are performed intermittently during the Project Planning Phase on as needed basis. However, Facilitating Processes are not optional. These processes will frequently affect components of the plans developed from the Core Processes.

Generally the project plan that results from the execution of core and facilitating processes are:- work breakdown structure, resource plan, project schedule, project budget, performance plan, risk management plan, procurement plan, communications plan, change and configuration management plan and quality management plan.

2.7 Project Planning Major Outputs

Out of the 39 processes, 21 are identified by the PMBOK as related to planning. If a project is to be properly planned, these 21 processes have to be properly executed. This implies that a major part or 48% of a project manager's tasks revolves around planning (Zwikael & Globerson, 2004, Zwikael& Globerson, 2006).

In order to evaluate the quality of planning process implementation, the products of each single process need to be evaluated. Although each process may have multiple set of outputs, and each set may have multiple products as well, one major product can be identified for each planning process.

2.8 Progresse Monitoring and Control

In the project planning stage, a means of monitoring and controlling the progress of the projects must be established. Serious thought about how to track the projects evolution and keep the work flow on schedule is fundamental to this phase. Project monitoring is the gathering of information to determine the current state and progress of the project in relation to its expected state and progress (Shumate and Snyder, 1994; Al-Jibouri, 2003; Navon and Goldschmidt, 2003). We track a project to make sure that it's following our plan that it meeting its schedule, cost, and quality targets.

2.9 Project Planning Techniques

One of the most important phases of project management is the "Planning phase", in which all work to be done is determined and defined. Planning is the most time consuming set of activities but valuable if done properly. In this phase, many different techniques are used, such as tables, work breakdown structure (WBS), charts and networks. Tables are used to present the project activities and relevant information such as the duration,dependency, cost, starting, ending, and required resources. It is used during the planning and controlling phase and can be used for implementation and monitoring. Work Breakdown Structure is an organizational chart that breaks the project into subsystems, components and tasks that can be readily accomplished. It is used for scheduling, pricing and resource planning.

It simplifies summarizing and reporting progress and costs. Organization Breakdown Structure (OBS) is a model that organizes resources into groups for better management. It can be used to keep track of resource allocation and specific work assignments.

There is a strong interdependency between OBS and WBS (Badiru and Pulat, 1995).

The Gantt chart is one of the oldest and most useful techniques of planning. It is clear, easy to use and understand. The interdependency between activities is not easily represented, especially in large projects, hence networks are used.

Networks are a graphical display of the project activities showing their interdependency. Several network techniques have been introduced and used over the years. Mainly two types of networks can be used, depending on the type of project under consideration: deterministic and probabilistic methods.

The probabilistic method is known as the program evaluation and review technique (PERT).

All of the methods use what is known as the critical path method for determining the project duration, critical path(s), floats and other relevant data.

Table 1 The Relationships among the Project Planning Processes

No	**Knowledge Area**	**Planning Processes**	**Major product**
1	Integration	Project Plan Development	Project Plan
		Solicitation Planning	Procurement Documents
2	Scope	Scope planning	Project Deliverables
		Scope definition	Work Breakdown Structure
3	Time	Activity definition	Project Activities
		Activity sequencing	PERT or Gantt Chart
		Activity duration Estimating	Activity Duration Estimates
		Schedule development	Activity Start and End Dates
4	Quality	Quality planning	Quality Management Plan
5	Cost	Resource planning	Activity Required Resources
		Cost estimating	Resource Cost
		Cost budgeting	Time-phased Budget
6	Human resource	Organizational planning	Role and ResponsibilityAssignments
		Staff Acquisition	Project Staff Assignments
7	Communication	Communication planning	Communications Management Plan
8	Risk	Risk management planning	Risk Management Plan
		Risk identification	Risk List
		Qualitative risk analysis	Project Overall Risk Ranking
		Quantitative risk analysis	Prioritized List of Quantified Risks
		Risk response planning	Risk Response Plan
9	Procurement	Procurement Planning	Procurement Management Plan

2.10 Project Estimation Techniques

Project estimation implies to predict the effort required to successfully execute the project. Lack of project estimates makes the project boundaries quite vague.

Estimates serve as a compass, navigating the project team throughout the project lifecycle. Making estimations are not difficult, but to establish accurate and realistic estimates is one of the most important activities in project planning (Raymond M. Henry, 2007).Three estimating techniques (analogous estimating, parametric estimating, and definitive estimating) are described and discussed in more detail below.

The first method, analogous estimating, is a commonly used method of estimating early in the project life cycle when there is a limited amount of information about the project. Analogous estimating, also referred to as top-down estimating, is a technique ‘‘that uses the values of parameters such as scope, cost, budget and duration or measures of scale such as size, weight and complexity from a previous, similar activity as the basis for estimating the same parameter or measure for a future activity or entire project.

Further, analogous estimating is a form of expert judgment and should only be used by those project managers and professionals with requisite experience and knowledge. Project managers with experience on similar projects are anticipated to be able to use analogous estimating to improve predictability. It is therefore expected that experience on projects similar in cost, size and complexity is positively related to the predictability of project cost and duration.

The second method parametric estimating ‘‘uses a statistical relationship between historical data and other variables to calculate an estimate for activity parameters, such as scope, cost, budget, and duration. The other method is definitive estimating, often referred to as bottom-up estimating, is a technique in which elements of work are decomposed into smaller components and ‘‘an estimate is prepared of what is needed to meet the requirements of each of the lower, more detailed pieces of work and these estimates are then aggregated into a total quantity for the component of work. The accuracy of bottom up estimating is driven by the size and complexity of the work identified at the lower levels. The essence of this technique is to divide and take over; large deliverables are broken down into smaller sub -deliverables, followed by further division into the work tasks necessary to develop those deliverables. By aggregating these smaller, more accurate estimates, improved predictability is attained in project cost and duration for bundles of deliverables.

2.11 Criteria for Evaluating Successes or Failure of Project

There are different criteria for evaluating project performance. This section will summarize the results of different studies on the criteria's for project evaluation. Project success was measured on the bases of time, cost and quality (Navarre and Schaan, 1990).

(Atkinson, 1997) identified these three criteria as the 'Iron Triangle'. He further suggests that while some different definitions about project management have been made, the criteria for success, namely cost, time and quality remain and are included in the actual description. Apart from these three basic criteria (Pinto and Pinto, 1991) supported that measures for project success should also include project psychosocial outcomes, the satisfaction of interpersonal relations with project team members. The inclusion of satisfaction as a success measure can also be found earlier in the work of Wuellner (1990), Kumaraswamy and Thorpe, (1996) included a variety of criteria in their study. These include meeting budget, schedule, and quality of workmanship, client and project manager's satisfaction, transfer of technology, friendliness of environment, health and safety.

Different literature advises that different criteria were offered by different researchers. Therefore, this study chooses project time, cost, quality, and customer satisfaction as the criteria for project evaluation. This is principally due to that the cost, time, and quality etrics are objective in nature, allowing a direct comparison of projects with different types, scopes, and sizes across different industries.

2.12 Critical Planning Input Factors for Project Success or Failure

Reviewing previous studies on critical planning input factors for effective planning performance provides the theoretical foundation for this research. The summary of related studies is presented in this part. The critical planning input factors will be categorized as human factor,management factor, technical factors, and organizational structure. Human factors include the characteristics of individuals and groups that affect the performance of planning processes (including project managers, project team members, customers, related personnel in the parent company). Although there are many stakeholders related to a project, the analysis of different studies indicated that typically only the project team and customers influence the success or failure of a project. Regarding the project team, the role of the project manager and the knowledge and experience of the project team are critical.

Customers are evaluated based on their knowledge, experience and involvement in the project.

Management factors include management support, planning andthe definition of project goals.

2.12.1 Relationship between personnel and project success

Krishnan (1998) indicates that a higher capability of personnel in project team is significantly associated with planning. Aladwani (2002) supposed that a diversified member ship might badly affect the planning process. Chatzoglou & Macaulay (1996) indicated that Project team member's experience, commitment, knowledge and interpersonal commucation are ranked as very important factors related to planning performance.

Regarding the role of project manager, Verner, Overmyer and MacCain (1999) in his study found that the capability of project managers plays an important role for project performance, especially project failure. Regarding the role of customers, Procaccino *et al.* (2002) found that the higher the level of confidence that customers have in the project manager and project team, the more likely the project will be successful. The research by Dvir *et al.* (2003) concluded that user involvement should start at the first stage of the project and continue until its successful end.

Previous studies have indicated that the higher capability of project managers and team members, the better project planning performance and project results. The involvement of customers in the project also influences the project outcomes. Therefore in this study, the role of project manager, team members and customer in planning will be considered.

2.12.2 Relationship between applying techniques and project success

Verner, Overmyer and McCain (1999) indicated that applying appropriate and efficient techniques in the project planning process would increase the chance for project success. Chatzoglou *et al.*(1997) considered the methods and techniques used in projects planning influence the process. The application of project management methods was surveyed in the study of white and Fortune (2002).They investigated the current practice of project management in many kinds of projects.

2.12.3 Relationship between management factors and project success

Chatzoulog *et al.* (1996, 1997) identified management styles and available resources as important to planning and influencing project performance. Kasser and William (1998) identified a list of 34 risks as an indictor of project. In which, poor plans was ranked a high risk factor.

This was followed by "resources are not allocated well", "failure to communicate with the customer" and "lack of management support".

According to Whittaker (1999), two common reasons for project failure were poor project planning and the lack of management involvement and suppot in planning stages. Abdel-Hamid *et al.* (1999) found the positive relationship between different project goals, project planning and resource allocation.

The difference in project goals focused on the "cost and schedule" or "quality and schedule" influenced the project outcomes. With the given specific project goals, managers do planning and make resource allocation choices in such a way that they will meet those goals. Yeo (2002) identified the top five failure factors of a project. These include "lack of user involvement", "top - down management style", and "poor internal communication.

In recent research, Belout and Gauvreau (2003) found a significant link between project mission, and management support in planning with the success of the project. In brief, the management factors influencing project results include management support, the role of top management and involvement of different department. The availability or allocation of resources for the project is the second factor influencing project outcomes.

Other aspects include project objectives and scope, management styles and communication. The relationships between management factors in planning and project outcomes in projects will be examined in this study.

2.12.4 Relationship between planning and project success

Project planning, in this study, refers to the extent to which timetables, milestones, workforce, equipment, and budget are specified (Slevin and Pinto, 1986). Planning belongs to the group of management factors. According to Whittaker (1999) the most common reason for project failure is inadequate project planning or the project plan was weak.

The empirical study of Aladwani (2002) also confirmed that there is relationship between project planning and project success. Various studies demonstratethe important role of planning to project outcomes (Whittaker, 1999; Aladwani, 2002;Belout and Gauvreau, 2003; Nguyen M., 2003). This study considers the influence of planning processes on project successes.

2.13 Literature Review Findings

In the literature reviews above the main input factors for project planning were discssed in more detailed . so what we understand from the literature is that for better project planning performance, project managers and team member experience, effort spent in planning stage and participation of customers in planning plays a vital role. And also the literature indicates that applying appropriate project managers tool and techniques in planning processes increases the chance for project successes. For the planning processes to be effective top management support, involvement of different functional department, availability of resource, definition of requirement and project scope are the main input factors identified in the above literature.

The literature review has shown the relationship between planning processes and project successes. Poor planning could be the main cause for the large number of project cost overrun and time delay, customer dissatisfaction and quality deficiency.

There is no research conducted on the effects of planning processes on project successes in our country. The first contribution of this research is assessment of project planning on project performance in Hossana district's road authority. The common project planning problems were also identifie

2.14 Literature Gaps

Different study confirms the importance of project planning for project successes. For example the research works by [(Whittaker 1999), (Dvir, Raz and Shenhar 2003) and others] have indicateds project planning to be one of the reason for project failure in developing countries.

Regarding the factors influencing the project outcomes, Whittaker (1999) revealed three common reasons for project failures the first reason is poor project planning or the project plan was weak.

Aladwani (2002) also reporteda positive relationship between project planning and project performa nce. Dvir, Raz & Shenhar (2003) have also studied the relationship between project planning effortand project success. Their results indicated that there is a high correlation between the planning efforts and overall project success.

Although the previous studies have considered many factors that influence project outcomes, but planning was mentioned as an important factor for project success.

Based on this different study identifies the relative importance of project planning knowledge area in different countrirs. The study by [Ofer Zwikael] investigates the relative importance of the project management Knowledge areas used during the planning phase of a project and their impact on project success. Further, this article identifies the most important Knowledge Areas of the planning phase. And also the studyby (Quynh Mainguyen, 2006) identifies the relationship between project planning activities in project successes factors in software industries. This and other related projects were conducted in developed countries or the countries that are different in clture of developing once. Because of the cultural difference the results obtained in developed countries may not be applicable in developing countries. A project in the context of one country or culture is likely to experience different problems and have a different structure than projects in another on text.

The study by [Ndiritu Muriithi Lynn Crawford, 2002] confirms that power distance, or thew way inequality is weasured in a culture, differs inside African when compared to Western management.

African experiences high power distances while European are accustomed to low power distance work environments.

These differences cause major problems when, Americans and European operate under the impression that African managers have the same level of responsibility, obligation, and decision-making authority. The absence of these items leads to problem of project performance. This is a prescription for project failure. The study by (Pär Karlsson 2011) also indicated that financial status, education and culture are all contextual factors that highly affect approaches and methods in project management. For example many Ethiopian companies are top managed which is strongly connected to the culture and company traditions in the country. The lack of authority assigned to middle managers is a problem since most managers have responsibility of a certain area but not the authority to take decisions within that area. Swedish organizations are more flat and authority is assigned to middle managers in a large extent. This is also connected to the higher level of knowledge and skill amongst workers and middle managers, which makes it effective to allocate authority in the organization.

A project in the context of one country or culture is likely to experience different problems and have a different structure than projects in another context (Walker, 2007).

CHAPTER THREE

3. Research Methodology

To achieve the objective of the thesis, the researcher has used the following methodologies. Complete literature reviews will be conducted regarding the concept of project management ; project knowledge areas, planning activities and project planning input factors.

Following literature survey, in order to assess the role of project planning in project performance, data collection will be carried out; both primary and secondary will be collected with using a well- structructured questionnaire, project report document analysis, and review of previous research works.

The research will design the survey questionnaires for assessing the planning processes, the input factors that affects the planning processes, the relationship between planning processes and project successes factors of the selected Hossana district roads authority.

This questionnaire was distributed to project managerrs, project leaders, researches for comments and suggestions before finalizing it. The questionnaire was finalized taking in to account the above comments under the guidance of the advisor. Secondary data includes refering documented files of the selected organization and different research studies.

3.1 Survey questionnaire

The questionnaire is developed in order to gain information regarding the project planning processes in Hossana district roads authority projects.

In general, the objectives of conducting the questionnaires are to identify whether all the planning processes are performed in Hossana district roads authority projects and to assess the relationship between planning processes and project outcomes.

The survey questions contain 52 questions requiring types of answers including;

- Brief answer for organizational information,
- Nominal scale such as Yes or No, and
- Liker Scales including strongly disagree, disagree, normal, agree, and strongly Disagree 20 questionnaires were distributed. The composition of the persons who were participated in the response of the questionnaire includes project managers, project site manager, supervisors, project coordinator, budget and development planner and project team members.

3.2 Conceptual Framework

Based on the literature reviews, a conceptual framework for evaluating the impact of planning processes area and identifying the relationships between planning processes and different project outcomes is constructed. The first part of this framework considers the relationships between human, management, technical and organizational culture and planning processes.

These factors are developed based on the study osf Chatzoglou and Macaulay (1998) and builds on the synthesis of previous studies on critical factors for project success or failure.

The planning process is evaluated through the performance of 9 planning knowledge areas /21 project planning activities\. The second part of this framework examines the relationships between planning processes and project success factors. Project successes are evaluated by results in terms of completion time, completion cost, quality and customer satisfaction

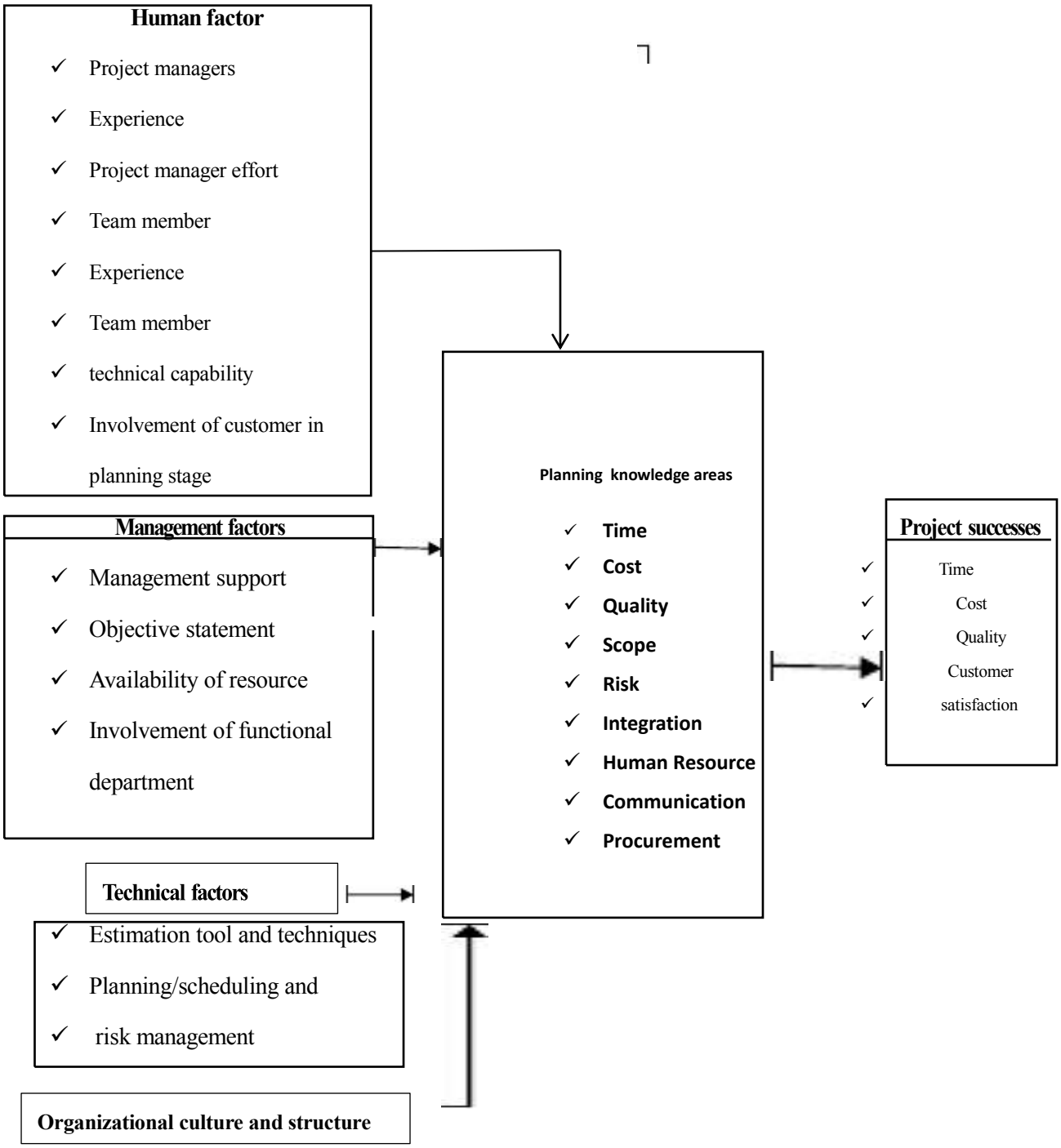

Figure 1 Conceptual frameworks of planning input fa ctors, planning knowledge areas and Project successes

The development of the hypotheses related to the relationship between planning factors, planning processes and project successes is described in the next sections.

3.3 Developments of the Hypotheses

The important role of planning to project successes is confirmed by many previous studies. This research look at in more details the role of different input factors in the planning process. The relationship between the planning process and project successes are examined. Based on the research objectives and the hypotheses of this study are stated.

3.3.1 The role of human factors on planning processes

The personnel factor includes team members and users (Chatzoglo, 1998). From the management view point, the project manager will control team members and satisfy the client.

In this model human factors will be classified as external and internal stakeholders.

Internal stakeholders mean the members in the project yeam. The important role of project manager has been confirmed in different researches. According to the finding of Verner et al. (1999) Over half of the unsuccessful projects encounter problems with the project manager, such as no experience, insufficient time spent on project planning and the lack of an integrated project plan.But in successful projects, the respondents did not often comment on the project manager. Callahan and Moretton (2001) have identified the relationship between the project leader's power and project planning time. The greater the power the shorter time. Nguyen M. (2003) also found the relationship between a capable project manager and potential project success.

In brief, previous studies have confirmed the influence of the project manager's effort and experience on project outcomes. Chatzoglou et al. (1997) considered the role of experience and knowledge of team members in the allocation of resources in planning.

This study focuses on planning, so the influence of project manager in terms of their effort and experience on planning performance is investigated. There are two variables to be examined the first is the effort that project managers spend for planning.

In this study, it is expected that if project managers spend more effort in the planning stage, they will achieve the better planning performance.

The second variable is the project manager's experience. Asmentioned by Verner et al. (1999) and Nguyen M. (2003), the project manager with more experience will reduce the possibility of the failure of the project.

Concerning the role of team members, Krishnan(1998) found that a project team with with more capable staff exhibits a significantly lower number of errors in the planning processes.

According to Chatzoglou and Macaulay (1996 –1998), the project team members can affect the resource allocation for project. The project team members are assessed by their experience in planning processes. Barry et al. (2002) also considered project team skills as a variable that can influence the project planning effort measured by time units to complete the project requirements. The skills of the project team and theeffort that the project team spends to complete project requirements could be considered as two different dimensions that influence project results.

In planning, team members have to capture and analyze the customer's requirements.Team member capability could influence the planning performance in terms of defining requirements and deliverable specifications. Accordingly the following hypothesis is proposed:

The external stakeholder is the customer. The study by Chatzoglou (1997), proposed different factors from the customer that could influence project planning performance.These factors are customer's knowledge, motivation, conflicts between the users, participation of customers in the planning process and communication with project team members is influential. Participation of the customers has been discussed in many previous studies. According to the study of Overmyer and McCain (1999) the problems with customers and users affected nearly 50% of the failed projects. One of these problems is the insufficient involvement of the user community in planning processes. According to Yeo (2002), the lack of user involvement and their inputs from the beginning are key factors related to project failure. Procaccino et al. (2002) indicated that the higher involvement of the customer or user, the higher the chance for project success. The study of Dvir, Raz and Shenhar (2003) also found that end-user representative's involvement is the most important factor in the planning. In this study, it is expected that customer involvement influences the planning performance.

3.3.2 The role of technical factors on planning performance

Technical factors refer to the quality of techniques and tools employed/used/ and their efficient use in the planning stage.

Verner, Overmyer and McCain (1999) concluded that applying appropriate and efficient techniques and tools in the planning process will increase the chance for project success. In this study applying the tools and techniques in the planning stage will be considered.

The application of project management techniques were surveyed in the study of White and Fortune (2002). They indicated that the Gantt chart and project management software were the most used techniques in project management. This study assumes that applying project management tool and techniques in project planning will improve performance.

3.3.3 The impact of management factors on planning performance

This study will examine the impact of management support, objective setting, the availability of resources and management style on planning performance.

3.3.3.1 Management support in planning stage

According to Whittaaker (1999) the lack of mangement involvement and support was a cause for project failures. Verner, Overmyer and McCain (1999) also indicated that almost all of the failed projects were affected by the lack of higher level of management support. A positive correlation between management supports, commited sponsor and and project success was identified and confirmed by Belout and Gauvreau (2003), Procaccino et al. (2002).

Additionally, project planning effort needs the top management success (Cooper & Kleinschmidt, 1987, Zwikael and Globerson, 2004, 2006,2007, Johns, 1999,Gupta and Wilemon,) 1990, Katzenback and Smith, 1993). Without the support from the organization, projects are bound to fail. In this study, management support in the planning stage will be considered as: top management support, committed sponsorship and early involvement of different departments.

3.3.3.2 Objectives setting

Clearly defining the project mission, goal and scope important to project success. This action should be undertaken at the very start of the planning process.

Abdel-Hamid et al. (1999) found that different in project goals affects planning and resource allocation. This significantly influences project performance. The results of Yeo (2002) also indicated that a weak definition of requirements and project scope is one of the biggest failure factors in a project. Belout and Gauvreau (2003) found the link between the project mission defined in the planning stage and project success. In the structure of this study, the definition of project goals influences planning performance.

3.3.3.3 Availability of resources

The availability of resources related to allocation in the project planning influences project results. Resources usually mean people, time and money.

Chatzoglou & Macaulay (1997) found that spending less than 15% of the total time and 15% of total cost in the planning process was insufficient for the successful completion of the process. White and Fortune (2002) ranked “adequate funds and resources” as the major factor that influenced project outcomes. The allocation of resources is determined in the project plan, and availability of sufficient resources is a constraint for planning.

Resources such as qualified personnel or infrastructure will be advantageous for planning.

In this study, availability of resource is considered as an important management factor that influences planning performance.

3.4 The Role of Planning Processes on Project Successes

Whittaker (1999) indicated that poor project planning, specially, inadequate risk management and a weak project plan are the common reasons for project failure.

Project planning has a facilitating effect on the link between project uncertainty and project success (Aladwani 2002). Poor planning in projects was the most important cause of project failure (Nguyen M., 2003). In this study, the relationship between project planning processes and different project successes factors are examined.

In this study planning processes is measured through the implementation of all the planning activities identified in project management body of knowledge (time, cost, quality, scope, risk, integration, communication, procurement, human resource).

The common criteria used for measuring project successes factors or the most frequent used evaluation criteria used are:

- Project results in terms of time, cost and quality (Wateridge, 1998; Abdel- Hamid et al., 1999: Dvir et al., 2003)
- Customer satisfaction (Wateridge, 1998; Seen et al., 2001; Dvir et al., 2003) A good project plan with accurate estimation, good scheduling and appropriate risk analysis could help the project to be completed on time and within budget.

Planning performance influences project outcome in terms of time,cost, quality and customer satisfaction are the most important criteria for the evaluation project results.

In planning, the customer requirements are defined as product specifications. Besides the criteria of product quality, the satisfaction of customers depends on how much the requirements are met. For that reason, the definition of product requirements and specifications in the planning will affect product quality and customer satisfaction.

This study expects that planning processes is related to the accomplishment of project outcomes and the possibility of project success. It is proposed that the better the planning processes the better project successes, the lower the project completion time and cost.

In related to the literature, the following research hypotheses are drawn:-

Hypothesis 1: There is a positive relationship between human factor and planning processes.

Hypothesis 2: There is a positive relationship between management factors and planning processes

Hypothesis 3: There is a positive relationship between technical factors and planning processes

Hypothesis 4: There is a positive relationship between organizational structure and planning processes

Hypothesis 5: There is a positive relationship between effective planning processes and project quality.

Hypothesis 6: There is a negative relationship between effective planning processes and project completion time

Hypothesis 7: There is a negative relationship between effective planning processes and project completion costs

Hypothesis 8: There is a positive relationship between effective planning processes and customer satisfactions

3.5 Identified Variables from Literature

From the literature reviewed and conceptual framework this study identified the following independent and dependent variable. For this variables a five point Likert scale is developed (used) to measure the identified variables.

3.5.1 Variables related to planning input factors and planning processes

i. Dependent variable

The dependent variable for Hypothesis 1 to 4 is planning processes. As described in the conceptual framework, planning processes is measured through the implementation of the project planning processes including time, cost, quality, human resource, procurement, integration, risk and communication.

Respondents were asked to indicate how they evaluate these tasks in planning.

ii. Independent variables

The independent variables for Hypothesis 1to 4 include: human factors, management factors, technical factors, and organizational structure

3.5.2 Variables related to planning processes and project successes

The dependent variables for Hypothesis 5 to 8 are project successes factors and it include: completion time, completion cost, required specification /quality, and customer satisfaction.

The independent variable for hypothesis 5 to 8 is planning knowledge areas that indicate the level to which the performance of the planning activities is accomplished and this variable includes: time, cost, quality, risk, scope, human resource, integration, communication, and procurement

Chapter Four

4. Data Analysis and Summary of Findings

This chapter contains analysis of the collected data and summary of findings of the project work. In particular, the results of descriptive and correlation analyses, and comment a lot of tests of hypotheses in order to verify the theoretical assumption made are discussed.

4.1 Data Analysis

Chapter three described to test the hypotheses to be tested that are analyzed in this chapter. The first hypotheses considered the relationships between human, technical and management factors, organizational culturen and planning processes. The second hypotheses presented the relationships between planning processes and project outcomes.

In this chapter, to confirm the correlation between dependent and independent variables . To test the hypothesis and to learn the impact of independent variables on the dependent variables and also to identify the importance of planning activities MTS analysis was conducted.

The reliability of the measures is assessed to ensure that the variables used in the hypotheses are empirically appropriate.

4.2 Descriptive Analysis of Planning Input Factors

This section presents the descriptive statistics of planning input factors, planning knowledge areas and project outcomes in the studied projects. It begins with the planning input factors through summarizing human, management, technical and organizational factors. This followed by an assessment of planning processes and project outcomes. The study identifies the main input factors that are poorly performed in the studied project according to the mean result of the analysis.

Human factors in project planning include the project manager’s experience and effort, team members experience and capablity, and customer's involvement.

The descriptive analysis of these factors is presented in table 4.1. Previous studies identify the importance of ***human factors*** for effective planning processes. The result of the analysis indicated that the mean value of customer involvement in planning stage is very low (mean=1.50,standard

deviation =1.147) which implies that customers are inadequately involved in planning processes. Only 20% of customers are involved in the processes. Team members commitment towards planning is the second poorly experienced human factors durinng planning process (mean= 2.65) standard deviation=0.875), half (50%) of team members were committed for participating in the planning stage.This was followed by project managers' effort spend in planning stage (mean = 2.45, standard deviation=0.887) and team members experience (mean=2.55, standard deviation =1.050).

As the respondents' response indicates only 40% of the managers were spend their time in planning stage and 55% of the team members are experiences in project planning.

According to the result the mean score for project managers experience is high (mean=3.10, standard deviation=0.852) compared to other factors this implies that most of the managers 80 % were experienced in project planning.

Table 4.1 descriptive statistics for human input factors

Human input factors of planning	***Strongly disagree***	***Disagree***	***Neutral***	***Agree***	***Strongly agree***	***Mean***	***Std.***	***variance***
Project managers experience	-	1(5%)	3(15%)	9(45%)	7(35%)	3.10	0.852	0.776
Team members experience	-	4(20%)	5(25%)	7(35%)	4(20%)	2.55	1.050	1.103
Project managers Effort	-	2(10%)	10(50%)	5(25%)	3(15%)	2.45	0.887	0.787
Team members commitment	-	1(5%)	9(45%)	6(30%)	4(20%)	2.65	0.875	0.766
Customers/users Involvement	4(%)	7(35%)	5(25%)	3(15%)	1(5%)	1.50	1.147	1.316

Concerning the ***management factors*** this analysis include management support/project managers authority/, involvement of parent and client functional department, availability of resources and defining project scope as management input factors. The general evaluation of these factors is presented in table 4.2. According to the finding of the analysis the mean value of involvement of functional department of client organization in planning stage is very low (mean=1.50, standard deviation=1.147) compared to other management factors. Only 35% of the client organizations are participated in planning processes. The third poorly performed management factors are project managers' authority (mean=2.65, standard deviation= 0.988). Eventhough this factor is identified as an important factors for planning performance, only 60% of the project managers have full authority in planning stage.

The avalability of resources such as infrastructure (offices, computers, and communication devices), qualified people and budget could affect the performance of planning processes.

This finding indicates that 65% of the project resources were available well, which have the highest mean value (mean=3.20 and standard deviation=0.616). From the finding it is possible to say that during planning stage functional department of owner organization did not participating during planning stage.

Table4.2 Descriptive statistics for Management input factors in planning

Management input factors in planning	***Strongly disagree***	***Disagree***	***Neutral***	***Agree***	***Strongly agree***	***Mean***	***Std.***	***Variance***
Allocation of resources	1(5%)	2(10%)	4(20%)	8(40%)	5(25%)	3.20	0.616	0.379
Involvement of functional departme of the parent organization	4(20%)	7(35%)	5(25%)	3(15%)	1(5%)	2.70	1.129	1.274
In the planning stage there were r conflicting objectives between the proje team and the customer		3(15%)	5(25%)	8(40%)	4(20%)	2.65	0.988	0.976
Defining project scope		2(10%)	5(25%)	10(50%)	3(15%)	2.70	0.865	0.747
project manager authority		2(10%)	6(30%)	8(40%)	4(20%)	2.70	0.923	0.853
Involvement of Functional department of client organization		1(5%)	12(60%)	4(20%)	3(15%)	1.50	1.147	1.316

Regarding to ***technical planning input factors*** the survey result were presented in table 4.3. The result indicates that CPM and PERT got the lowest mean score 2.40 and 2.00 respectively, only 45% of the project uses CPM, and

25% uses PERT for planning processes. The finding also shows that WBS, Gant chart and project management software scores the highest mean value.

This indicates that most of the project 90%, 85% and 80% of the project uses WBS, Gant chart and project management software respectively for their project planning processes.

Table 4.3 Descriptive statistics for technical input factor

Technical input factors in planning	***Strongly disagree***	***Disagree***	***Neutral***	***Agree***	***Strongly agree***	***mean***	***Std.***	***variance***
Availability of data warehous	1(5%)	2(10%)	5(5%)	8(40%)	4(%)	2.60	1.095	1.200
2. WBS	-	1(5%)	1(5%)	7(35%)	11(55%)	3.40	0.821	0.674
3. Gant chart	-	2(10%)	1(5%)	7(35%)	10(50%)	3.25	0.967	0.934
4. CPM	1(5%)	2(10%)	8(40%)	6(30%)	3(15%)	2.40	1.046	1.095
5. PERT	1(5%)	5(25%)	9(45%)	3(15%)	2(10%)	2.00	1.026	1.053
Monitoring and reportir mechanisms	-	2(10%)	6(30%)	9(45%)	3(15%)	2.65	0.875	0.766
Project management softwar	1(5%)	-	3(15%)	12(60%)	4(20%)	2.90	0.912	0.832

Concerning to ***organizational structure planning input factors*** the finding result presented in table 4.4. This input factors includes communication between project managers and organizations, involvement of project managers in planning stage and assigning appropriate project managers influences.

The finding of the result indicates that most of the factors score the highest mean value.This indicates that these factors were experienced in most of the projects.

Table 4.4 Descriptive statistics for organizational input factors

Organizational input factors in planning	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	mean	Std.	variance
1. Assigning project managers	-	2(10%)	4(20%)	7(35%)	7(35%)	2.95	0.999	0.997
2. Involvement of Project managers	-	-	3(15%)	12(60%)	5(25%)	3.10	0.641	0.411
3. Communication between Proje managers andorganizations	-	2(10%)	7(35%)	7(35%)	4(20%)	2.65	0.933	0.871

4.3 Descriptive Analysis of Planning Knowledge Areas

This section presents the descriptive statistics of planning knowledge areas.

The main problem areas in project planning were identified by comparing their mean and standard deviation of the processes. The lower the mean score indicates the inadequately performed knowledge areas in the processes. The mean value of knowledge areas are calculated by taking the average of the processes belonging to each knowledge areas.

The quality of each (9) knowledge area is calculated by the average quality of the processes belonging to it. The 9 Knowledge Areas was assessed as the average extent of use/importance of planning performance/ of the related planning processes. The result of the analysis is presented in table 4.5. The result in table 9 shows risk planning knowledge areas have the lowest mean value (mean= 1.50, standard deviation= 1.000), only 3(15%) of the project includes risk planning in their project plan. This indicates that risk were not properly identifies, quantified and their response did not planned at planning stage. The second lower mean score or poorly performed knowledge areas of the processes is quality planning knowledge area (mean=1.55, standard deviation= 1.050), in the studied project only 10(50%) projects includes quality standards in their planning processes.

The result also indicates that only 4(20%) of the project includes communication planning knowledge areas in their planning processes, which have the third lowest mean score (mean= 2.45, standard deviation=0.999).

This indicates that this knowledge areas were inadequately performed during planning stage.

scope planning knowledge (mean=2.40, standard deviation=0.995).only 12(60%) of the project includes scope planning knowledg areas in their planning processes. The next poorly performed processes were Integration knowledge areas were the fourth knowledge areas poorly performed in the process which has low mean value (mean=2.40, standard deviation=0.940), only 16(80%) of project develops integration planning.

Relatively procurement and human resource knowledge areas were performed well in the processes, which have a mean value of 2.55 and 2.70 respectively.

The research finding also indicates that time planning knowledge areas got the highest mean score (mean=3.00, standard deviation=0.858), 16(80%) of project performs this knowledge areas well, which indicates that this knowledge areas were performed well during planning processes.

The next knowledge areas which have the highest mean valueis cost planning knowledge areas,15 (75%) of the project performs cost planning processes well during planning processes.

Even though the 9 knowledge areas are identified as an important process for project success, this finding shows that most of the process did not practiced well at planning stage.

Accordingly the finding identifies the poorly performed knowledge areas as: - risk, quality, communication, scope and quality planning knowledge areas.

4.4 Correlation Analysis

Correlation analysis was carried out to consider the relationship between the variables constructs. Any correlation coefficient(*r)* that is positive indicates a direct or positive relationship between two measured variables. Negative r indicates indirect or inverse relationship.

The description of each variable is indicated in Table 4.6 and 4.7.

4.4.1 Correlation between planning input factor and planning knowledge Areas

Table 4.5Descriptive statistics for planning knowledge areas

Planning knowledge factors in planning	***Strongly isagree***	***Disagree***	***Neutral***	***Agree***	***Strongly agree***	***mean***	***Std.***	***variance***
Risk planning knowledge are	4(20%)	5(25%)	8(40%)	3(15%)	-	1.50	1.000	1.000
Quality planning knowledge area	1(5%)	2(10%)	7(35%)	8(40%)	2(10%)	1.55	1.050	1.103
3.Communication planning Knowledge area	2(10%)	10(50%)	4(20%)	3(15%)	1(5%)	2.45	0.999	0.997
4. Integration plannir knowledge area	-	2(10%)	4(20%)	12(60%)	-	2.40	0.940	0.884
5.Scope planning knowledge area	-	5(25%)	3(15%)	10(50%)	2(10%)	2.40	0.995	0.989
6. Procurement plannir knowledge area	-	4(20%)	6(30%)	8(40%)	2(10%)	2.55	1.050	1.103
7.Human resource plannir knowledge areas	1(%)	2(10%)	5(25%)	9(45%)	3(15%)	2.70	0.801	0.642
8.Cost planning knowledge areas	-	1(5%)	4(20%)	9(45%)	6(30%)	3.00	0.795	0.632
9.Time planning knowledge area	-	1(5%)	3(15%)	11(55%)	5(25%)	3.00	0.858	0.737

In this section correlation test was conducted to find the correlation between factors affecting planning performance (correlation between project planning input factors and project planning knowledge area), the analysis result were presented in table 4.6 .The variables' from 1 to 4 are planning input factors and variable from 5 to 13 are project planning knowledge area.

The correlation result is used to identify the planning input factor that affects the performance of each planning knowledge area. As per table 4.6 this study has interpreted the following facts: -

There is a positive and correlation between human input factors and cost, risk, communication, integration and procurement planning knowledge areas.

There is a positive and significant correlation between Technical input factors and time, cost, risk, human resource, communication, integration, procurement planning knowledge areas. There is a positive and significant correlation between Management input factors and time, cost, risk, quality, communication, integration, procurement planning knowledge areas.

There is a positive and significant correlation between organizational input factors and time, cost, risk, quality, communication, integrationand procurement planning knowledge areas.

From this result it is possible to conclude that performance/quality of cost, risk, integration, procurement and communication planning knowledge areas at planning stage is affected by the identified four planning input factors. And also the performance of time planning knowledge areas is affected by technical, management and organizational input factors.

Quality planning knowledge area is affected by management and organizational input factors; human resource planning knowledge areas is affected by technical input factors. The finding of this result implies that the important role of planning input factors for effective planning performance, therefore, the role of these factors should be recognized in planning projects.

Table 4.6 correlation between planning input factors and planning processes

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1												
2	** .647 0.000	1											
3	* .324 0.034	** .604 0.000	1										
4	** .579 0.000	** .646 0.000	** .476 0.001	1									
5	** 0.235 0.130	** .462 0.002	** .457 0.002	.394 0.009	1								
6	** .411 0.006	** .514 0.000	* .382 0.011	* .359 0.018	** .471 0.001	1							
7	** .499 0.001	** .739 0.000	** .591 0.000	** .588 0.000	** .653 0.000	* .388 0.01	1						
8	* 0.26 0.092	0.242 0.118	0.293 0.056	0.195 0.211	0.273 0.076	0.217 0.163	.302 0.049	1					
9	** 0.228 0.142	.490 0.001	* 0.179 0.249	** .368 0.015	.479 0.001	** 0.282 0.067	.502 0.001	0.079 0.617	1				
10	** 0.261 0.092	0.286 0.063	.391 0.01	0.237 0.126	* 0.259 0.093	0.241 0.119	.362 0.017	0.032 0.839	0.148 0.345	1			
11	* .305 0.047	** .438 0.003	* .355 0.02	* .367 0.016	0.176 0.258	0.214 0.168	.342 0.025	* -0.105 0.504	0.096 0.542	.435 0.004	** 1		
12	** .540 0.000	** .572 0.000	** .534 0.000	** .442 0.003	0.252 0.102	** .498 0.001	** .475 0.001	** .312 0.042	* 0.135 0.388	0.398 0.008	** .598 0	** 1	
13	** .438 0.003	* .348 0.022	* .335 0.028	* .307 0.045	0.25 0.105	** .437 0.003	** .483 0.001	* .375 0.013	0.097 0.537	0.113 0.469	0.16 0.306	.466 0.002	** 1

Note: ** significant at 0.001 level; * significant at 0.05 level, where 1= human factor, 2=management factors, 3=technical factors, 4= organizational structure, 5= time planning processes, 6= cost planning processes, 7= risk planning processes, 8= scope planning processes, 9= quality planning processes, 10= human resource planning process, 11=communication planning process, 12=integration planning processes, 13=procurement planning process

4.4.2 Correlation between planning knowledge areas and project outcome

This section describes the relationship/correlation between projects planning knowledge areas and project outcomes. The variables from 1 to 9 are planning knowledge areas and the variable from 10 to 13 is project successes factors. The result of the analysis in table 4.7 indicates that:-

There is a positive and significant correlation between completion cost of the project and cost planning knowledge areas.

There is a positive and significant correlation between Completion time of theproject and time, cost planning knowledge area.

Customer satisfaction is positively and significantly correlated with cost, human resource, communication and integration knowledge areas. The result also implies that all the 9 planning knowledge areas are not significantly related with quality of the project outcome.

According to this finding completion cost of the project is affected by cost planning knowledge area. And also Completion time of the project is affected by time and cost planning knowledge areas. For the project to be completed on time, cost and time of the project should be properly planned.

The result also shows that customers satisfaction is affected by cost, human, communication and integration planningknowledge areas. But all the 9 knowledge areas have no significant effect on the qualityof the project.

Table 4.7 Correlation between planning knowledge areas and project success factors

	1	2	3	4	5	6	7	8	9	10	11	12	13		
1	1														
2	**														
	.471	1													
3	0.00														
	**		*												
4	.653	.388	1												
	0.00	0.01													
5	*														
	0.27	0.22	.302	1											
6	0.08	0.16	0.049												
	**				**										
7	.479	0.28	.502	0.08	1										
	0.00	0.07	0.001	0.62											
8	*														
	0.26	0.24	.362	0.03	0.148	0.259									
9	0.09	0.12	0.017	0.84	0.345	0.093									
	*					**									
10	0.18	0.21	.342	-0.11	0.096	.435	1								
	0.26	0.17	0.025	0.5	0.542	0.004									
11	*	**		*					**		**				
	0.25	.498	.475	.312	0.135	.398	.598	1							
12	*														
	0.1	0.00	0.001	0.04	0.388	0.008	0.00								
13	*	**		*									**		
	0.25	.437	.483	.375	0.097	0.113	0.16	.466	1						
	*														
	0.11	0.00	0.001	0.01	0.537	0.469	0.306	0.00							
	*							*		*			**		
	0.23	.424	0.194	-0.01	0.088	.337	.338	.425	0.015	1					
	*														
	0.15	0.01	0.212	0.99	0.573	0.027	0.027	0.01	0.923						
	**														
	0.15	0.23	0.105	0.21	0.001	0.034	-0.03	0.17	-0.047	.475	1				
	0.35	0.14	0.501	0.17	0.994	0.831	0.867	0.27	0.764	0.001					
	-0.03	0.3	0.248	-0.12	0.271	0.007	0.082	0.12	0.110	0.103	0.242	1			
	0.86	0.04	0.108	0.45	0.079	0.965	0.602	0.45	0.481	0.511	0.118				
	*														
	0.78	0.28	0.18	-0.13	0.249	-0.05	0.018	0.07	0.003	0.038	0.169	.849	1		
	*														
	0.03	0.04	0.247	0.401	0.107	0.739	0.91	0.66	0.986	0.810	0.278	0.00			

Chapter Five

5. Conclusions And Recommendations

5.1 CONCLUSIONS

This study has been carried out in the assessement of project planning on the project performance in comprising construction, infrastructure, budget and development planning, human resource, project management, finance, and research and development projects in SNNPR of Hossana district roads authority road project.

In addition the main planning input factors that affect the performance of planning processes were identified. And also the existing project planning problem areas and the most influential planning activities were identified.

The results obtained provide a good understanding of an important planning input factor that affects the quality/performance of planning processes. And also it gives to identify the effects of planning knowledge areas on project outcome.

The result obtained from the analysis of collected raw data identifies the main planning input factors for effective planning performance as: - human, management, technical and organizational culture/structure factors.

If the organization implemented these factors they significantly improves the performance of planning processes. But according to the finding of the study most of the input factors are not experienced effectively. only 20% of project owners/customers/ were involved in planning processes, 50% of team members were committed for planning the project, 35% of the functional department of client organization were involved in planning stage , PERT and CPM were used by only 25% and 45% of the project respectively.

Therefore improving these poorly experienced input factors reveal effective performance of planning processes. The other work done in this study is assessing the role of planning knowledge areas on project outcome. These results provide supports for the important role of planning on project successes. Moreover the influence of each planning knowledge areas on each project outcome was identified using correlation and regression analysis from the gathered data. The finding indicate that

better estimation of cost, well identified risk and including quality planning during planning processes results to complete the project on time and budgeted cost. The result also indicated that better estimation of time planning processes results in lower completion cost. For completing the project according to the required quality the study suggested that Time, cost, risk, scope and integration planning knowledge areas play a significant role. Time, cost, risk human resource, communication and integration knowledge areas were identified as an important factors to fulfill customer satisfaction

The finding also identifies planning knowledge areas that were performed poorly in the studied project as: - risk, quality, communication, integration and scope planning knowledge areas are poorly performed. According to the result of risk planning knowledge areas were performed only in 15%, communication 20% and quality in 50%. Improving the poor performance/quality of this knowledge areas increases planning performance and results in better project outcome.

The study also identifies 15 influential/most significant planning processes that affects project successes. Identifying the influential/important planning activities help the project managers to invest more effort on the specific planning task to get the outcome they want. Therefore improving the poorly performed planning processes, expending more effort on the identified planning activities increases the chance for project success.

5.2 RECOMMENDATIONS

Based on the research finding/conclusion/ the following recommendations are proposed.

In order to improve the performance of planning processes it is recommended that:-

- Project managers should spend more effort at planning stage.
- In planning the team members should have good knowledge and experiences about the planning processes.
- The companies should increase customer involvement in planning stages and should increase their knowledge by providing different training.
- Companies should provide more support to the project managers especially in planning stage.
- the functional department should be involved in planning stage the required resources should be provided to team members during planning
- In planning processes appropriate project managers should be assigned
- There should be well communication between project managers and top management of the organization
- The relationship between planning activities and project outcome helps the project managers to focus on the specific planning activities to get better project performance for individual successes factors.
- To improve the performance of project outcomes, the following recommendation is proposed.
- Planning should be more emphasized by the companies and project managers.
- Team members should improve the quality /performance of risk, communication planning knowledge areas and quality human resource planning knowledge areas.
- According to the finding of the study the four project successes factors (time, cost, quality, and customer satisfaction) have to a direct relationships with planning activities.
- Accordingly the study recommends the following points.
- During planning phase the project team members should spends more time on
- The following planning activities:- schedule development, risk response planning Procurement planning, quantitative risk analysis, scope definition quality planning, risk identification, qualitative risk analysis, quality standard identification, communication planning, staff acquisition, human resource planning, resource planning, cost estimation, activity duration estimating

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