

**PROJECT WORKS ON PROJECT INTEGRATION  
MANGEMENT**

**CASE STUDY: - ETHIOPIAN ROADS AUTHORITY**

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**CONSTRUCTION PROJECT MANGEMENT (COTM 6101)**

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## CHAPTER 1

### 1. INTRODUCTION

#### 1.1. GENERAL

Ever since the dawn of civilization, man has indulged in some form of construction activities which can be generally be classified under four major categories. These are building construction, infrastructure construction, industrial construction and special-purpose construction. The construction industry as a whole is one of the important sectors in developing countries like Ethiopia which plays a leading role in social and economic development.

Hence, in construction industry managing a project can be complicated, especially when different departments have to work together. As each department works on a project, each one likely uses a methodology that they're most comfortable with to provide them with the results they want. This can make [project collaboration between departments](#) difficult, due to differences in process and methodology.

Project complications also occur when working on a larger project with many moving parts that must eventually align. Without proper alignment of these parts, the project can slow down, become less productive and possibly grind to a halt. To create harmony between the various departments and parts of a project, project integration management is implemented.

Project integration management is a way of making various processes work together. Meaning, it takes the numerous processes that are being used in a project and makes sure that they're coordinated.

Project integration management accomplishes this by making trade-offs. That means that you can't have everything if you want to get the project completed on time and within budget. This is normal operational procedure

for any project manager. If there are competing objectives, then alternatives are needed to [meet stakeholder's expectations](#). To achieve this means identifying, defining, combining, unifying and coordinating the many processes and activities within the project management process groups.

Therefore, project integration management involves making choices about resource allocation and trade-offs, while managing those interdependencies that are in the [project management knowledge areas](#).

In this research we believe that we will clearly able to show the local process project integration management in ERA and also indicates finding on way to improve the previous and commonly applied management approaches to a modern and better after investigating the problems stated in the research difficulty parts.

## **1.2. RESEARCH OBJECTIVE**

### **I. GENERAL OBJECTIVE**

The main objective of this paper is to examine how implemented project integration management in construction with specific sector.

### **II. SPECIFIC OBJECTIVE**

The specific objective of the project is:

- i. To investigate the project integration management practices in construction projects.
- ii. To identify problems in project integration management practices in construction projects.
- iii. Recommend approval on the project integration management approach for construction projects.

### 1.3. SCOPE OF THE RESEARCH

The scope of this research is to assess the existing project integration management in road construction project especially in ERA and it forward better management of the construction projects. The study is also concentrated to assess the administration, controlling & overall construction implementation process to meet project cost, quality& time schedule.

### 1.4. STRUCTURE OF THE STUDY

The Research covers five Chapters

Chapter 1 Introduction

Chapter 2 Literature Review

Chapter 3 Research Methodology & Procedure

Chapter 4 Analysis of Finding & Discussion

Chapter 5 Conclusion and Recommendation

**Chapter 1:-** This chapter constitutes the introduction describing the research background, the research objective and problem, scope and limitation and the structure of the research are clearly identified on this chapter.

**Chapter 2:-** This chapter discussed the back ground concept that builds knowledge around topics of projects consisting of ideas leading to the discussion of project integration management.

**Chapter 3:-** This chapter justifies the research methodology, the data collection approaches, the sampling techniques and the data analysis techniques employed.

**Chapter 4:-** This chapter constitutes two parts which are analysis and desk study. Both of them help us to discuss the major causes and to evaluate different systems applied in ERA concerning the integration managements.

**Chapter 5:-** Conclusion and Recommendation

## CHAPTER 2

### 2. LITERATURE REVIEW

#### 2.1. GENERAL

The literature review section focuses & discuss on the back ground concept that builds knowledge and ideas leading to achieving the project goals. Hence, a number of books and different web site were reviewed. The following important points are included in this section:-

- Project Definition
- Project Management
- Project Integration Management

#### 2.2. PROJECT

A project is a temporary endeavor undertaken to create a unique product, service, or result [1]. A project is a finite endeavor having a specific start and completion date undertaken to create a unique product of service which brings about beneficial change or add value [3]. A project is a series of activities (Group of tasks) aimed at bringing about clearly specified objectives within a defined Time-period and Project budget [4]. [4] It has the following specific set of objectives and characteristics.

- It is likely to be a one-time program.

- It has a life cycle, with a specific start and end.
- It has a work scope that can be categorized into define tasks.
- It has a start and end period with specific budget

### 2.3. PROJECT MANGEMNT

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements [1]. Project management is the art or science of mobilizing managing people, materials, equipment and money to complete the assigned project work on time with in budgeted cost and specific technical performance standards. [1]Project Management processes are grouped into the following five Project Management Process Groups:

- i. **Initiating Process Group:** - Those processes performed to define a new project or a new phase of an existing project by obtaining authorization to start the project or phase.
- ii. **Planning Process Group:-** Those processes required to establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve.
- iii. **Executing Process Group:-** Those processes performed to complete the work defined in the project management plan to satisfy the project requirements.
- iv. **Monitoring and Controlling Process Group:-** Those processes required to track, review, and regulate the progress and performance of the project; identify any areas in which changes to the plan are required; and initiate the corresponding changes.

- v. **Closing Process Group.** Those processes performed to formally complete or close the project, phase, or contract.

Project management faces many challenges. The primary challenge of project management is to achieve the project goals & objectives associated with project constraints such as scope, quality, time and budget. The second challenge is to optimize the allocation and integration of inputs necessary to meet predefines objectives.

[1] Accordingly project management knowledge areas includes project integration management, project cost management, project communication management, project quality management, project risk management project time management, project human resource management and project procurement management.

## 2.4. PROJECT INTEGRATION MANGEMNT

Project integration management is one of the ten key knowledge areas in [the PMBOK \(Project Management Book of Knowledge\)](#). [5]Project integration management is the coordination of all elements of a project. This includes coordinating tasks, resources, stakeholders, and any other project elements, in addition to managing conflicts between different aspects of a project, making trade-offs between competing requests and evaluating resources. One example would be if a project is not on track, you may need to decide between going over budget and finishing the project late in order to complete it. Integrated project management helps ensure projects are not managed in isolation. It takes into account not only how aspects of your project relate to each other but also how other parts of the organization relate to your project. It's considered a critical success factors for project managers and their projects. Projects are complex, with a lot of different parts that need to be managed. For example, a project manager needs to oversee all of the following:

|            |                |
|------------|----------------|
| ✓ Schedule | ✓ Resources    |
| ✓ Cost     | ✓ Risks        |
| ✓ Scope    | ✓ Changes      |
| ✓ Quality  | ✓ Stakeholders |

Keeping track of everything and knowing how one impact the others can be very challenging. However, if it is not done properly, it can lead to project failure. In other word without integration management, it's difficult to identify conflicts in advance and know how to resolve them. Figure 2-1 provides an overview of the Project Integration Management processes.

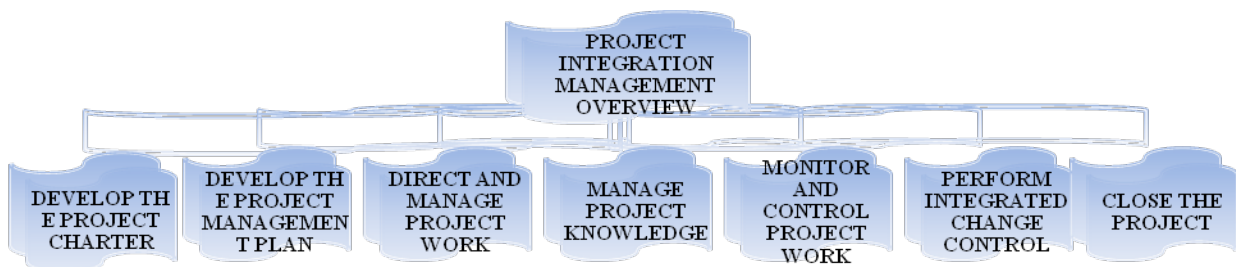


**Figure 2-1** Project Integration Management Overview

## 2.5. PROJECT INTEGRATION MANAGEMENT PROCESSES

Seven processes should be followed for successful project integration management. These processes are:

1. **Develop the project charter:** - The process of developing a document that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.

2. **Develop the project management plan**:-The process of defining, preparing, and coordinating all subsidiary plans and integrating them into a comprehensive project management plan. The project's integrated baselines and subsidiary plans may be included within the project management plan.
3. **Direct and manage project work**:-The process of leading and performing the work defined in the project management plan and implementing approved changes to achieve the project's objectives.
4. **Manage project knowledge**: - The process of using existing knowledge and creating new knowledge to achieve the project's objectives and contribute to organizational learning.
5. **Monitor and control project work**:-The process of tracking, reviewing, and reporting project progress against the performance objectives defined in the project management plan.
6. **Perform integrated change control**:-The process of reviewing all change requests; approving changes and managing changes to deliverables, organizational process assets, project documents, and the project management plan; and communicating their disposition.
7. **Close the project (or project phase) :-**The process of finalizing all activities across all of the Project Management process Groups to formally complete the phase or project

These integration management processes occur throughout the entire project lifecycle. In other words, at least one of these seven processes falls within each of the five standard phases of a project. This is because managing project integration is an ongoing task that needs to continually happen throughout a project.

Integration management requires the ability to evaluate resources, making trade-offs and dealing with competing activities, project managers need to have a combination of soft skills and hard skills. These include the following:

- |                             |                      |
|-----------------------------|----------------------|
| ✓ Planning                  | ✓ Data analysis      |
| ✓ Organization              | ✓ Impact assessments |
| ✓ Communication             | ✓ Scheduling         |
| ✓ Leadership                | ✓ Budgeting          |
| ✓ Relationship management   | ✓ Change management  |
| ✓ Critical thinking ability | ✓ Risk management    |

It's important to build open communication channels with the project team and stakeholders to help ensure information is shared, and proper impact assessments are done to identify points of integration or dependencies. The ability to use integration management software or tools can also increase your project's chances of success. This is because you can use systems to help you identify integration points and conflicts.

#### **2.5.1.1. DEVELOP PROJECT CHARTER**

The project charter is what gives the authority to initiate the project. A project charter contains the preliminary roles and responsibilities of the project, including the goals and objectives, and the appointing of a project manager. It is used as a reference document as the project moves forward.

The project charter is generic enough that it won't have to be changed much throughout the project life cycle. It is usually written by a manager who works directly above the project manager, though a project manager can be the one who creates it.

The inputs, tools and techniques, and outputs of the process are depicted in Figure below.

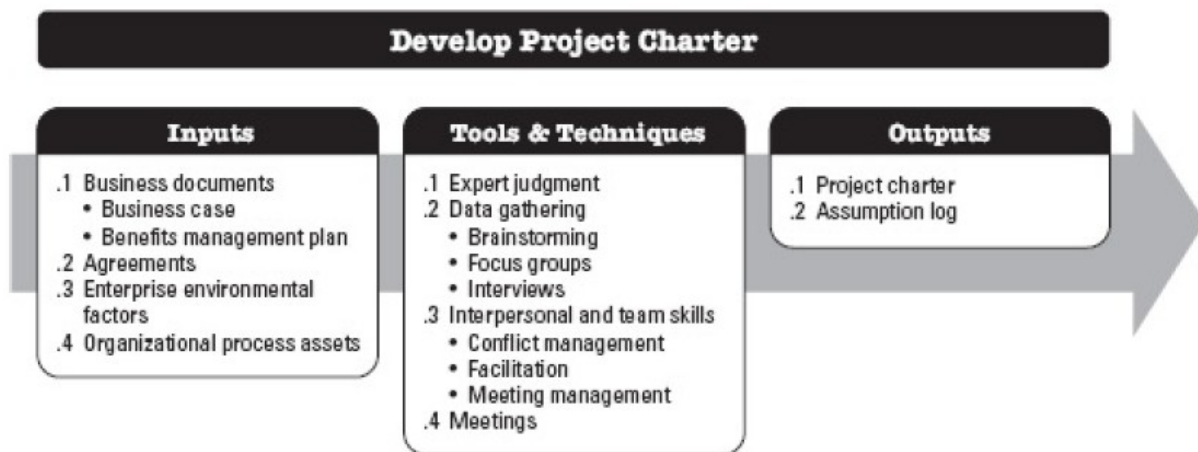


**Figure 2-2** Develop Project Charter: Inputs, Tools and Techniques, and Outputs

#### 2.5.1.2. DEVELOP [PROJECT MANAGEMENT PLAN](#)

The creation of a management plan defines how the various processes in the project can work together for greater efficiency and productivity. The project charter is included in the project plan, but the definition of the project is described, as well as its objectives, budget, schedule, resources, what approach you plan to take to get the project done, risk assessment, etc. This is a formal document to help guide, control and execute the project.

The project manager creates the [project management plan](#), which will consolidate other management plans, such as the scope management plan, cost management plan, quality management plan, process improvement plan, human resource plan, communication management plan, procurement management plan, etc. It will include baselines, such as the schedule, cost performance and scope baselines. The baseline will only change through a formal change request.

It is at this point that there will be a [kickoff meetings](#) after the planning phase but before the project is executed. This forum is used to communicate the project responsibilities of its key stakeholders.

The inputs, tools and techniques, and outputs of the process are depicted in Figure below.



**Figure 2-3** Develop Project Management Plan: Inputs, Tools and Techniques, and Outputs

#### 2.5.1.3. [DIRECT AND MANAGE PROJECT WORK](#)

Then comes the time to direct and manage the project execution. The project has started, and deliverables are being produced. This is the process to manage the technical and organizational parts of the project. It serves to foster a smooth execution of project work. The execution of the project is divided into three parts: implement, manage and reporting on status.

This is how project goals are achieved. The project management plan creates the deliverables. Change requests are applied to boost work performance. Environmental factors are considered. The organizational process assets are assessed, and the project management plan is updated accordingly.

The inputs, tools and techniques, and outputs of the process are depicted in Figure below.

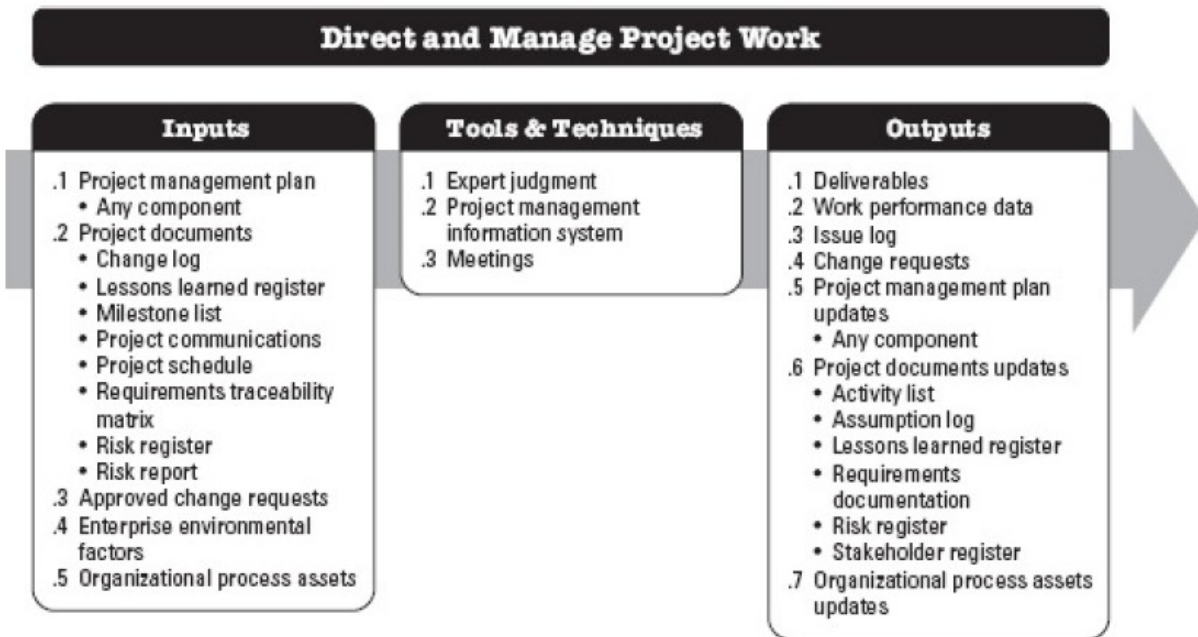


**Figure 2-4** Direct and Manage Project work: Inputs, Tools and Techniques, and Outputs

#### 2.5.1.4. MANAGE PROJECT KNOWLEDGE

All projects utilize a knowledge subset to produce the required deliverables. The project inherits a knowledge bank from its project team or organizational unit. Any further knowledge must be acquired throughout the project. And finally, the project must transfer the new knowledge back into the organization for use in future endeavors.

The inputs, tools and techniques, and outputs of the process are depicted in Figure below.

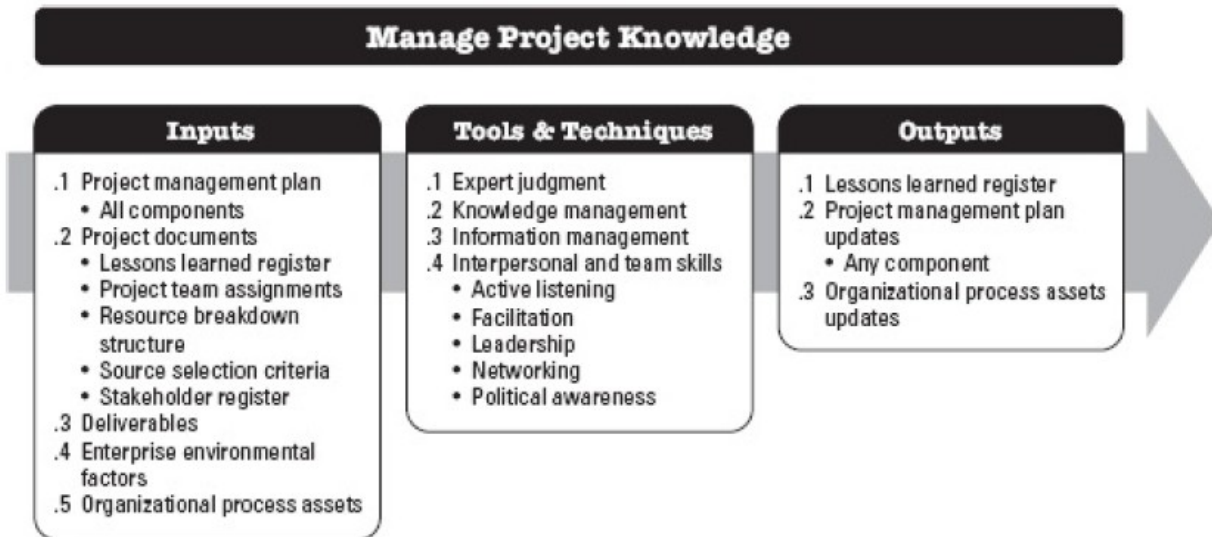


**Figure 2-5** Manage Project Knowledge: Inputs, Tools and Techniques, and Outputs

#### 2.5.1.5. MONITOR AND CONTROL PROJECT WORK

The work of the project needs more than directing and managing; it requires that the project work be monitored and controlled. This includes change management, along with the process, tools and techniques used to manage the change and development in a project.

Change can be requested during the project life cycle, but these requests must be monitored and controlled to make sure that the quality of the project is not negatively impacted. Therefore, someone or some team needs to be tasked to oversee change and its implementation to control the change.

Change requests that come up during this phase are evaluated, managed and documented. A change control board is created to review these requests and approve them or not. The project manager is diligent in looking for where the project might be moving away from the project plan, and if so, they will take corrective action.

The inputs, tools and techniques, and outputs of the process are depicted in Figure below.

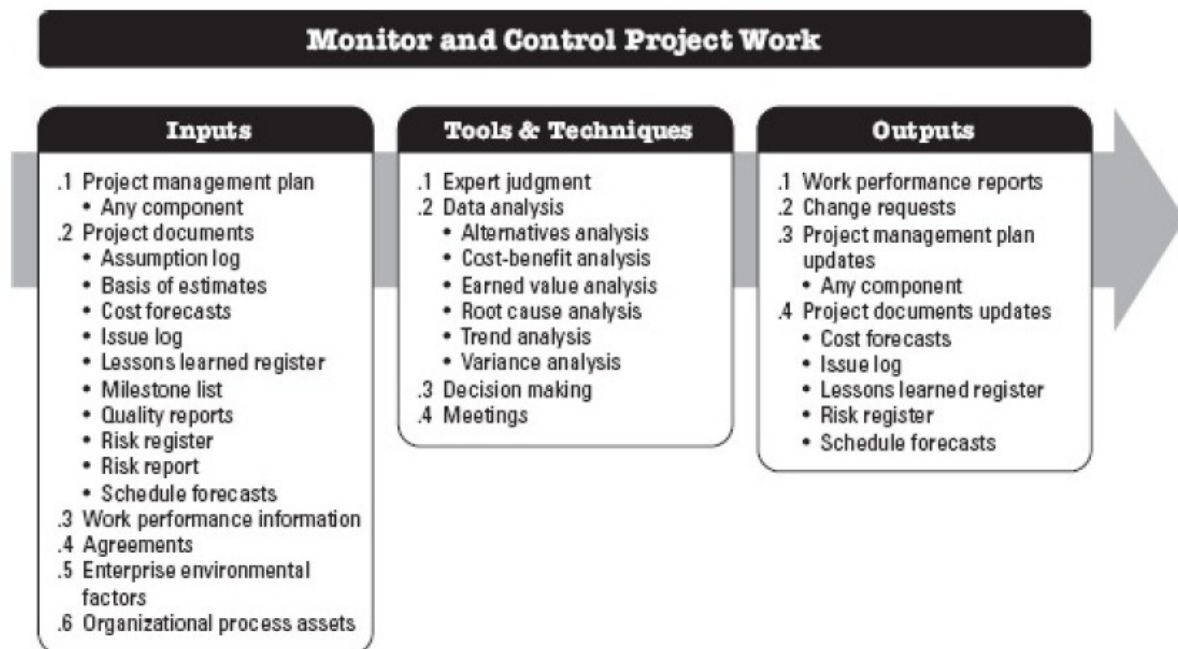


**Figure 2-6** Monitor and Control Project Work: Inputs, Tools and Techniques, and Outputs

#### 2.5.1.6. **PERFORM INTEGRATED CHANGE CONTROL**

There's nothing that creates more stress than project changes. If the project needs more money, more time, more people, or more of anything to accomplish the same end result, there is certain to be ramifications. Project changes need to be meticulously processed, or the dreaded "scope creep" bug might crawl in and make itself at home. Any project change needs to be identified and the changes to the project's cost, schedule, quality, or any other factor must be documented and communicated with the appropriate stakeholders.

The inputs, tools and techniques, and outputs of the process are depicted in Figure below.

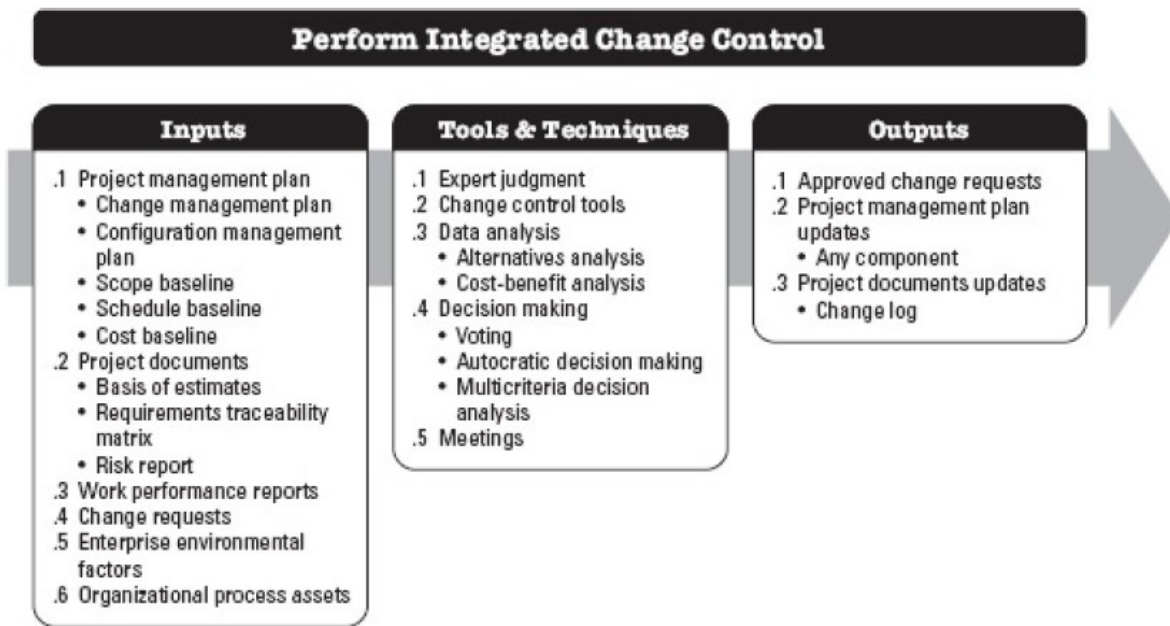


**Figure 2-7** Perform Integrated Change Control: Inputs, Tools and Techniques, and Outputs

### 2.5.1.7. CLOSE THE PROJECT

Lastly, the project must be closed when it is done. This process includes reviewing the various processes used and rating them on whether they were successful or not. Everything must be well-documented to create an archive that future projects can reference for decisions on how to implement their plans and processes.

Therefore, at the end of each project phase, it's important to create a document that outlines what lessons were learned over this period.

When processes are interacting on a project, project integration management is crucial. It creates consistency throughout the project from planning to documentation and can dovetail with long-term strategic planning to reveal opportunities.

The inputs, tools and techniques, and outputs of the process are depicted in Figure below.

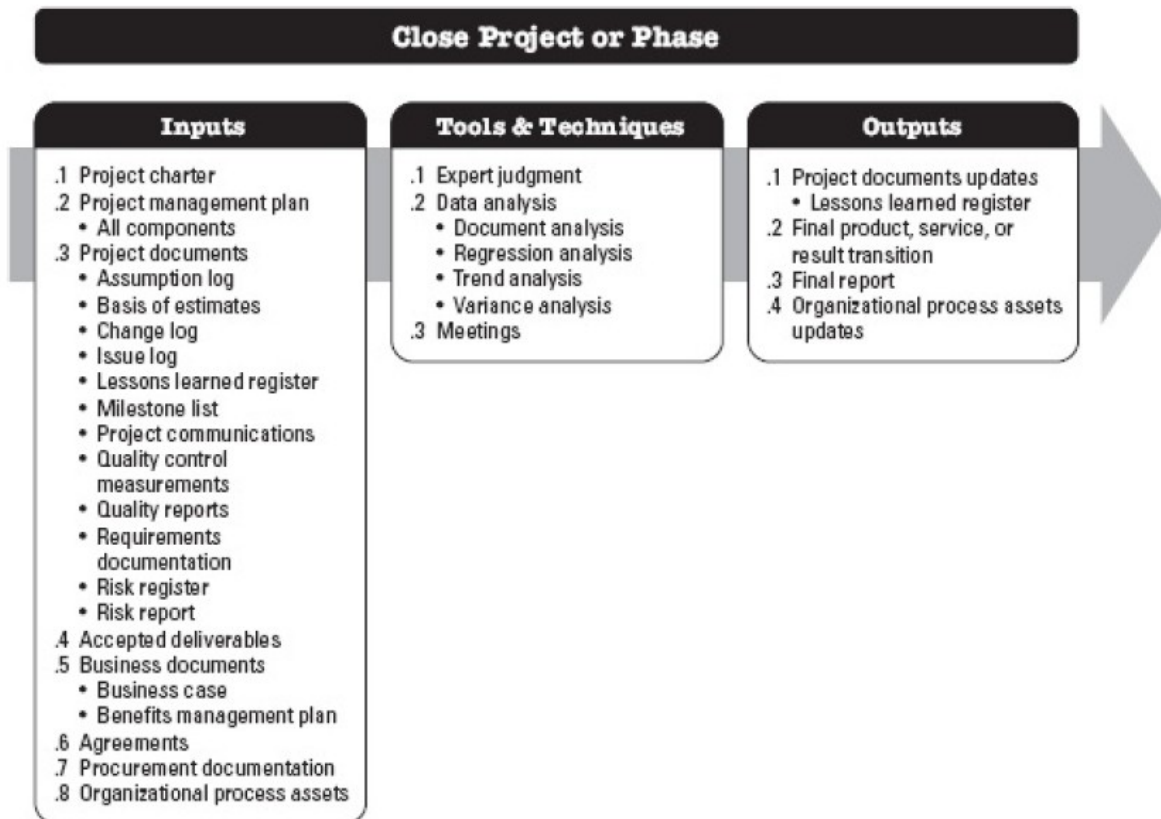


**Figure 2-8** Close the Project: Inputs, Tools and Techniques, and Outputs

## CHAPTER 3

### 3. RESEARCH METHODOLOGY AND PROCEDURE

#### 3.1. GENERAL

The research design is based on “case study research methodology” using both primary and secondary data collection. Primary data is obtained from interviews. The secondary data is obtained by studying & investigating documents obtained from ERA.

The research procedure steps can be better elaborated with the following figure.

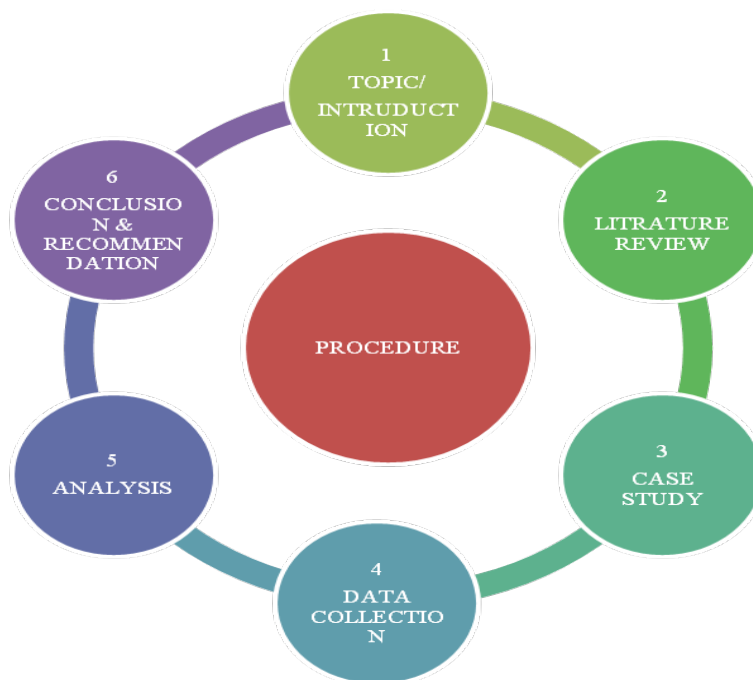


**Figure 3-9** Research Procedure

### **3.2. CASE STUDY AND STUDY ANALYSIS**

#### **3.2.1 CASE STUDY**

##### **3.2.1.1. DOCUMENT REVIEW**

This case study is intended to review different forms, reports & manuals focusing on related aspects of the project and identify the major problems and their causes in line with the issues raised in the literature review.

##### **3.2.1.2. INTERVIEW AND DISCUSSIONS**

Different interview questions were prepared and forwarded to the concerned bodies. The interview mainly focuses on the previous and commonly applied management approaches to a modern and better after investigating the problems stated in the research difficulty parts. Discussions were also conducted to know causes for the main problems, which helps us to recommend the solutions.

#### **3.2.2 STUDY ANALYSIS**

Following project document study, and interview with key professionals, the entire situation has been synthesized within the perspectives of the examine how implemented project integration management, operational techniques and reviewing management

#### **3.2.3 CONCLUSIONS AND RECCOMENDATIONS**

After the analysis syntheses, conclusions and recommendations have been formulated.

## CHAPTER 4

### 4. REVIEW FINDING & DISCUSSION

This section deal with the review and discussion of the integration management practice & challenge on ERA from the document collected from the project development department.

#### 4.1. PROJECT INTEGRATION MANAGEMENT PRACTICE & CHALLENG IN ERA

For this specific semester project to cover the subjective titles review according to:-

- I. Project - Parent Relationships Management:-** which is cover the management of Organizational relationships and authorities; and Resources Allocations among Programs and Projects and also Develop Organizational Breakdown Structures (OBS)
- II. Project Communication Management:-** which is also cover the management of Project Management Information System (PMIS) and Plan communication requirements, Develop communication mechanisms, Implement and Control Communications
- III. Project Risk Management**
- IV. Project Claim And Dispute Management**
- V. Project Change Management**

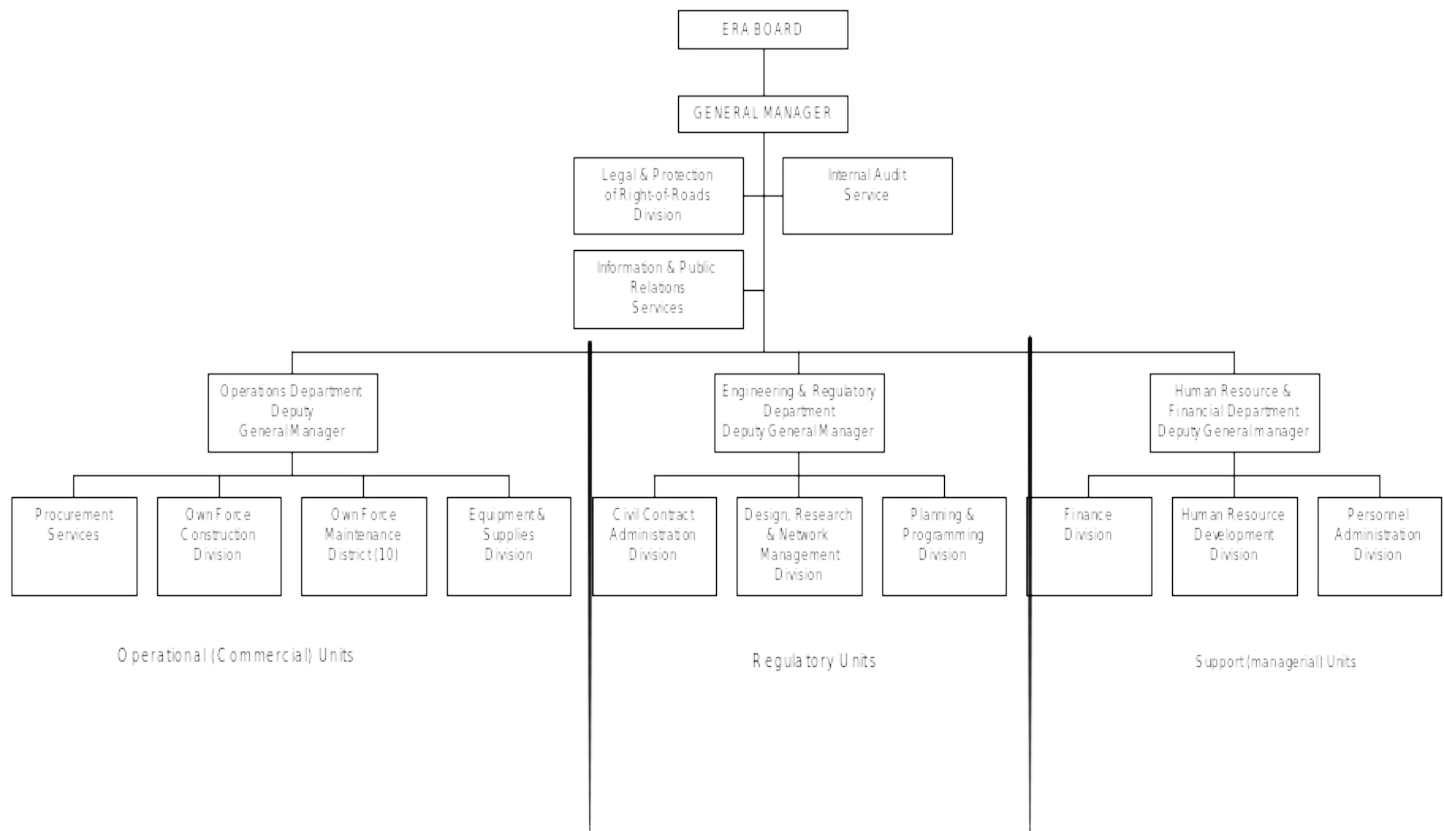
## **4.2. PROJECT INTEGRATION MANAGEMENT PRACTICE**

ERA tend to let one or more contracts for every project which they wish to implement and, because of this they tend to refer to the administration of contracts rather than the administration of projects. ERA's road works projects normally have at least two contracts for each project i.e. the Supervision Services Contract and the Works Contract. There may also be separate feasibility study, environmental impact study and design contracts. For this reason, it is better to refer to Project Management (including all its associated contracts) than Contract Management or Administration. Given the multiplicity of contracts associated with any one project a structured management process is needed

For the purposes of this document, Contract Administration, Contract Management and Project Administration are synonymous.

The Authority organizes themselves according to the following descriptions and as shown on the attached chart. The proposed organization chart is prepared taking into consideration the functional needs of the services in order to utilize.

**ETHIOPIAN ROADS AUTHORITY  
ORGANIZATIONAL CHART**



Project plans are not prepared in an organized fashion, and generally, a project schedule constitutes a plan. A formal change control process or system does not exist in the organization. Project integration management is to guarantee a successful adjustment of all elements project in to one consistent method

➤ **ERA's Dispute management**

The ERA's Standard Specification treats the settlement of disputes mainly for road construction projects. This has five sections in successive steps in settling disputes, commencing with the Engineer, who shall respond within 120 days, his recommendation shall be final and binding. If the Engineer fails to make a recommendation within the prescribed period of 120 days or

if either party is dissatisfied with his recommendation, either party may, within 150 days of the original request to the Engineer, refer the dispute to the General Manager of Highways. The General Manager shall decide the matter within 30 days, furnishing each party a copy of his decision. The decision of the General Manager of Highways shall be final and conclusive and binding on both parties unless within 30 days of receipt of such decision the Contractor presents notice to the General Manager of Highways of his intention to submit the dispute to arbitration.

In the event the Contractor receives notice of his intention to submit the dispute to arbitration as previously mentioned, the General Manager of Highways shall refer the matter to the IHA Board of Commissioners who shall hear the parties, review the record, if need be hear witness, and attempt to bring the parties to agreement. Failing such agreement the IHA Board of commissioners shall within a reasonable time render a written decision. Such decision shall be final and conclusive unless within 30 days by notice to the General Manager of Highways the Contractor appeals to arbitration. Arbitration shall be in Addis Ababa under the Rules of Arbitral Submission (Articles 3325 - 3346) of the Civil Code of the Empire of Ethiopia. Both parties shall have the right of appeal to the High court of Ethiopia against such award. This standard condition of contract has arbitration option

➤ **Project time management**

Standardized templates for project schedules are not used. Project management software is just beginning to be introduced in the organization and may only be used to list specific tasks to be performed without consideration of network logic or resource requirements. Schedule development may not be realistic as projects are unlikely to be completed when planned. Hence Project time management guarantees the successful completion of project on schedule.

➤ **Project quality management**

Quality control and quality assurance generally are performed only by external organizations to the performing organization or after the fact by auditors as required by a specific contract. Inspection is the tool used for quality control with a narrow and specific meaning. Project overruns and rework are common and expected. Hence Project quality management is to make sure that the need for customers is met by the project as well as the quality requirements.

➤ **Project risk management**

There are times where project risk policies are not enacted and a risk management plan is not prepared and Risks are identified after the fact hence project risk management is used to identify, analyze risk and to take alternative course of actions. At this level risk expertise is left to individual experts. Risk identification, risk analysis, response technique and strategies are well understood at expert level but not institutionalized. This implies that risk managements of road projects under Ethiopian road authority are limited to individual experts. In the authority project risks are planned but no standardized in to same methods to identify, analyses, and control risks

➤ **Project cost management**

Among the activities under project cost management at Ethiopian road authority process cost estimating is relatively at better position. Cost estimating is an analytical process using factors, relationships, and expert knowledge to develop the cost of road design process

Project cost management is characterized by; alternative cost analyzes are integrated to the cost estimations, established historical database, Projects are developing and documenting project baselines at the lowest reasonable level, The capability exists to calculate the budgeted cost of work scheduled and performed, the actual cost of work performed, budget at completion and estimate at completion. The full process is documented and repeatable; Project department team uses the cost change control process, cost reporting process and Performance reports.

### ➤ **Project completion time management**

Project time management is described by processing activities, defining activities duration, sequencing activities, estimating resource duration, estimating which activity is accomplished when, scheduling development and controlling schedules.

The result showed that all activities under project time management are leveled to similar project management level. Project activities are documented and project completion with schedule is predicted, processes and standard for all projects are repeatable. But activities are limited to organizational specific standards, process and standards are not open to external factors for further improvement and learning. Project process against plan is not monitored, reported and controlled.

### ➤ **Project communication management**

There are cases where Project performance reports are prepared only as needed or requested by senior managers, the contract, or the customer. Performance reporting is limited to status reporting and descriptions of accomplishments. Analysis of variance is not performed. No regular project reviews are held. Performance reviews are only held if requested by a customer or as a condition of a contract. Project closeout is not separately planned or managed and is not considered until deliverables have been presented to the customer. Some projects are never closed out. Hence project communication management Insure that flowing process of information of the project, generation, gathering, distribution, storage and allocation. Project communication management as component of project management knowledge area, it is about process communication planning, disseminating information, and performance reporting and managing stakeholders as indicated table above.

The analysis revealed that Ethiopian road authority project communication management components characterized by accepted communication plan for all projects, formal information retrieval system, formal information

distribution system including project meetings, hard copy documentation, and fax, electronic mail and project department team confirms stakeholder satisfaction with information dissemination on a regular basis, and Issues are consistently addressed during regular, team meetings. The client area is part of determining issues and coming up with proposed resolutions and actions

#### **4.3. ADD VALUE OF IMPLEMENTING IPM METHOD FOR THE AUTHORITY**

Every project based organization is naturally a demand and supply organization which needs to control the projects towards the method of integration management to create uniformity. The Ethiopian Roads Authority, IPM has proven to have benefits both for the organization as well as for individual projects. Which means Benefit for the organization can express in terms of efficiency and standardization which result into cost reduction. Similarly, benefit for project is that all domains are taken into account and the equality of roles stimulate the different roles to be committed to their discipline and the project team which can result eventually to better project outcome and manageable projects. The main reason to organize according to IPM is to create uniformity, in this sense means standardization in project organization including a uniform way in allocation of tasks and roles which eventually leads to cost reduction in terms of process, project organization, resource allocation and miscommunication. In addition, applying IPM is that within the whole organization, know what is expected from them in their role regarding; competence, skills, knowledge, and responsibilities. Through this way, opportunity is created for public organizations to outsource temporary IPM roles. Another improvement is the overall control of the human resource within the organization. From the perspective of IPM line managers get into control over the different roles. For example, managers can choose for a

specific field within IPM. By creating clubs within each discipline, the knowledge and information can circulate between these specialists. All together care for the development of this discipline. Through this way, it is easier for the organization to create and motivate their people within a specific discipline to follow a certain course or workshop to develop them instead of opening a course and waiting for the responses. In addition, it is important to mention that the organization culture helps to implement the IPM method.

In short, choosing a project manager must not only depend on the scope and complexity of the projects but also on the significant focus area of the project. For instance, one project needs more attention on the stakeholder because of the complexity of stakeholders than the complexity of the technical solution. All interviewees agree to the fact that IPM does not only improve project organization through universal language, uniformity, control, efficient capacity management, improvement of knowledge management, but it also has many benefits for the project team.

## CHAPTER 5

### 5. CONCLUSION & RECOMMENDATION

Integration Project management of ERA is determined

- Project success is more predictable
- Cost and schedule performance is improved
- Most of road projects are executed in professional manner by applying the organizational standards and processes

But sometimes the goals were not achieved within the planned time and cost, because in many cases unforeseen events lead to additional cost and time.

Project risk management indicates that

- basic processes of risk management are well defined and applied to all projects
- Project risk management processes and systems are established to track cost, schedule, and performance.
- Underlying disciplines, however, are not well understood or consistently followed.
- Project success is largely unpredictable and cost and schedule problems are the norm.
- Project management processes and systems are institutionalized, documented, standardized, and integrated into an end-to-end process for the company.
- project scope management plan template exists and is consistently used for all projects, standard format both for technical specifications and Process are in place
- standardized and repeatable time schedule

- Alternative cost analyzes are integrated to the cost estimations, established historical database.
- The quality process includes templates and guidelines for review of documents
- Formal analysis is conducted to define the organizational, technical and interpersonal interfaces that exist within the organization
- accepted communication plan for all projects
- the organization stake holder identification and influence is based on trends of the project organization, project organization has set standard to guide

## 5.1. CONCLUSION

As mentioned in the literature part of this paper, project management and project success are strongly positively related. If project management is not affected by project management knowledge areas the problem is assigned to organizational structure of the project driven organization (Price Water House Coopers (2004).

integration management have benefits which allow looking into the organization's strength and weakness, Identify the links between needs and real education requirements, Set realistic targets for improvement, provide a roadmap for strategic improvement, Measure progress towards enhanced capability and Assess organization's project management against agreed criteria.

This paper assessed the integration project management of Ethiopian road authority road project. Based on analysis result on the selected project management knowledge areas of Ethiopian road authority the paper concluded the following points

Most organizational standards and processes were achieved by most of project management knowledge areas and applied to all projects. However, in some cases, like project risk management elements are not completely standardized and thus processes are not applied properly and effectively.

Project risk management of Ethiopian road authority is relatively lower than the rest of knowledge areas. Some project management processes and systems are established to track cost, schedule, and performance. Underlying disciplines, however, are not well understood or consistently followed. Project success is largely unpredictable and cost and schedule problems are the norm.

## **5.2. RECOMMENDATION**

The limitations and imperfection in this tool are attached to details of knowledge areas and process groups of project management. The methodology developed in this study is expected to assess the practice of integrated project management of Ethiopian road authority. In order to provide necessary information to make improvement in their project management processes and activities. It should be stressed that the development of this model is the most important issue. Most of the knowledge areas in the authority is institutionalized and standardized based on major project methods and activities. As a result, based on findings the paper recommended that;-

- Project integration management, Implies management is based on the designed method and procedure taken from some projects that is all methods of project management to all project in the authority are the same. It is known that project is unique in nature the method applied to one project might not be effective to apply for other projects. So a variety of methods should be organized as

much as possible to have a proper and efficient integrated management.

- ERA should introduce computerized system with improved internal networking to track activities as planned and should work on human resource development through continuous training on activities of knowledge areas and applications of computerized system. therefore ERA by benchmarking successful project organizations should focus on change management and continuous improvement by preparing effective trainings and sharing experiences with other successful project driven organizations .
- Project risk management in the authority are established to track cost, schedule, and performance. Underlying disciplines, however, are not well understood or consistently followed. Project success is largely unpredictable and cost and schedule problems are the norm. At this level risk expertise is left to individual experts. Risk identification, risk analysis, response technique and strategies are well understood at expert level but not institutionalized. This implies that risk managements of road projects under Ethiopian road authority are limited to individual experts. In the authority project risks are planned but no standardized in to same methods to identify, analyses, and control risks. Ethiopian road authority concerned officials should focus on the standardization-  
of risk handling techniques and tools to improve current risk handling in their road projects. Cost and schedule performance improved. Preparing independent risk management department for planning, identifying, analyzing and controlling activities related risk would enhance the current risk handling culture in the authority's project risk management. Hence, there should be separate risk management department and risk should be managed independently with accountability.

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