UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

PROJECT MANAGEMENT PLAN FOR THE IMPLEMENTATION OF AN ELECTRONIC DOCUMENT MANAGEMENT SYSTEM (EDMS) AT ST. VINCENT ELECTRICITY SERVICES LIMITED (VINLEC)

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DEDICATION

To my husband Marlon Nanton and our two wonderful children, Leah and Laina and to my mother Leona Morris and sister Latoya Morris.

ACKNOWLEDGMENTS

I would like to thank the Almighty God for giving me strength to arrive at the culmination of this work. Without his guidance and strength, nothing could have been achieved. Gratitude goes to my tutors, Carlos Brenes and Carlos Ramírez for their patience and their mentorship, which contributed to the success of this project. Also to all my course lecturers during the 2015-2017 MPM course for helping me gain knowledge and understanding of the discipline. To the company I work for VINLEC, for giving the permission to use their resources and the information to do this work. To my husband, Marlon Nanton and my sister, Latoya Morris who stayed up numerous nights with me. Latoya, your encouragement and support are deeply appreciated. Finally, I would like to say thank you to my friends who contributed remarkably in one way or another to the completion of this work.

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ABBREVIATIONS AND ACRONYMS

BOD	Board of Directors
DMS	Document Management System
ECM	Enterprise Content Management
EDMS	Electronic Document Management System
ERMS	Electronic Records Management System
FGP	Final Graduation Project
HOD	Head of Department
HR&A	Human Resource and Administration
ISD	Information Systems Department
PMBOK	Project Management Body of Knowledge
PMI	Project Management Institute
PMP	Project Management Plan
RFP	Request for Proposal
SVG	St. Vincent and the Grenadines
T&D	Transmission and Distribution
UCI	University for International Cooperation
VINLEC	St. Vincent Electricity Company Limited
WBS	Work Breakdown Structure

EXECUTIVE SUMMARY (ABSTRACT)

Managing all the documents in VINLEC is challenging. An efficient information/document management system is a primary mechanism that any utility company should have to increase its productivity. Documents can easily be retrieved and shared with employees in the workplace while protecting confidential information and can easily be backed up and stored for disaster recovery. The company in study, VINLEC, is the sole state-owned electricity company in St. Vincent and the Grenadines (SVG) which serves about 42,000 customers and provides electricity to 98% of the populace.

VINLEC is known in St. Vincent and the Grenadines as a large company having 312 employees with offices spread across nine locations and eight departments. Implementing an Electronic Document Management System (EDMS), as a result of this project, has the potential to enhance the information management in the day-to-day activities of the company, without radical changes to current activities.

Currently, the company does not have a proper Project Management Plan in place to implement such a system. Although VINLEC has had experienced in projects, the company recognizes the need to apply formal project management practices to successfully implement the project. Additionally, it is vital for the company to engage in Project Management and plan to implement strategies, utilizing appropriate tools and techniques of Project Management to achieve more efficient and effective services.

Lack of Project Management planning can lead to unorganized implementation. Nevertheless, the purpose for developing the Project Management Plan in the company is to be able to get the company to adapt a project management philosophy and understand its tremendous, attainable benefits and profits. The culture of the company has to have the appropriate mindset of engaging in and developing proper management processes, tools and techniques to be used in any future project as a template.

The general objective of this Final Graduation Project (FGP) was to create a project management plan to implement an Electronic Document Management System (EDMS) within VINLEC. The specific objectives were 1. to create a Project Scope Management structure to ensure that all required work is covered to successfully complete the project, 2. to create a Project Time Management structure to ensure that the project is timely managed and completed within the time constraints, 3. to create a Project Cost Management structure with all defined processes to ensure that the project can be completed within the approved budget, 4. to develop a Project Quality Management structure to determine quality policies, objectives and responsibilities so that the project will meet expected needs and standards, 5. to create a Project Human Resource Management structure to ensure that the processes involved that organize, manage, and lead the project staff are included in the project, 6. to create a Project Communications

Management structure to collect, store, organize and distribute project information to all stakeholders of the project, 7. to create a Project Risk Management structure to identify and control risks to ensure the successful completion of the project, 8. to construct a Project Procurement Management structure to ensure products and services are efficiently acquired for project success, 9. to develop a Project Stakeholder Management structure to analyze the people, groups or organizations that could impact or be impacted by the project and to develop required strategies for effectively engaging them in decisions throughout the project lifecycle.

The methodology used for this research was analytical and observational. Interviews were held with members of the project team and were used in data collection and the data was analyzed for the development of a methodological solution through in-depth analysis and identification of appropriate strategies, tools and techniques. Other information sources included reference books, literature reviews and articles. However, the main source of information was gathered from A Guide to the Project Management Body of Knowledge (PMBOK Guide) which was used to develop the Project Management Plan for the EDMS project.

The available information was applied in sequence to the input, tools & techniques and the outputs of the applicable project management processes. The main objective was achieved with the creation of the project management plan for the implementation of an electronic document management system.

In conclusion, having a project management plan and a Project Manager or person with a background in PMI standards to properly execute the project significantly increases the chances of project success. This is especially true if all project management plans (Scope, time, cost, quality, human resources, communication, risk, procurement, and stakeholder) are documented and are carried out as detailed and followed up by taking necessary action when required.

It is recommended that the company under study train its staff members in project management to facilitate the application of suggested techniques and tools for more effective project planning. Further recommendations included maintaining control and follow-up of staff workloads to enable project culmination within the required time frame and greater participation of staff through more effective communication about improving the quality of planned tasks. The final recommendation included the retention of documentation of finished projects and lessons learnt for future project improvement.

1 INTRODUCTION

1.1. Background

St. Vincent Electricity Services Limited (VINLEC) is a large company which is the sole state-owned electricity company in St. Vincent and the Grenadines (SVG). VINLEC provides electricity to over 40,000 customers. The company occupies several office buildings in nine (9) locations throughout SVG (Bequia, Canouan, Union Island and Mayreau). Its Corporate Headquarters is located at Paul's Avenue, Kingstown (VINLEC, n.d.).

VINLEC deals with thousands of documents annually, but lacks an efficient document/records management system to aid in the management and control of its documents. It is therefore necessary that a Project management team drive the implementation of an electronic document management system that will better manage the company's documents thereby improving efficiency to both internal and external customers.

Research has demonstrated that implementing an Enterprise Content Management (ECM) solution is the best way forward to improve the information management of essential business functions in a company. In addition, by implementing document and records management software, a company can realize positive benefits and savings that can improve organizational efficiency. Therefore, this study aims to examine how the implementation of an Electronic Document Management System (EDMS) can impact the efficiency of VINLEC's operations.

Within VINLEC, there are currently many different types of paper and electronic documents that are used for day-to-day operations. These exist in a variety of physical or electronic sizes and formats. The documentation system includes manuals, reports, letters, invoices, purchase orders, application forms, medical

records, CAD drawings, photographs and the like in both electronic and paper forms. The paper documents range in size from small passport-sized documents to large blueprints. The electronic documents are also in a variety of formats including PDF, MS Office Suite, AutoCAD and other proprietary formats.

Current Document Management Practices

At present, paper documents are generated internally and externally and typically move through the company in their original form. These documents are generally stored in folders and filing cabinets or in central areas where documents are filed at Departmental or Corporate levels. Occasionally, paper documents are scanned then forwarded and/or stored in electronic form, but the hardcopy is also retained.

Electronic documents are also generated internally and externally. These documents enter the system via email and are routed throughout the system through the electronic mail platform. Typically, they are stored on the company's email servers, on networked, shared drives or on individual user machines. Most users know where to retrieve certain information or who to refer to for the right information or documents while others do not have direct access to the documents they may need.

As a result, these documents need to be processed and be easily accessible for the creation of reports. They should be archived in such a way that they can be easily found, edited, printed and removed by authorized users after retention period.

The existing infrastructural setup at VINLEC includes the following different types of computer specifications for the range of computer hardware and software:

The User Desktop

Chart 1 Hardware Components per computer

Item	*Description*			
	Computer 1	*Computer 2*	*Computer 3*	*Computer 4*
Processor	i5 3.2 GHz	Intel Core 2 Duo 3 GHz	i3 3.20 GHz	Intel P4 3.2 GHz
Memory	4GB	2GB	2GB	2GB
Disk	500GB	250GB	160GB	40GB/80GB
OS	Windows 7 64 bit	Windows 7 32 bit	Windows XP	Windows XP

(Source: VINLEC)

Chart 2 Software Components

Client Software	*Function*	*Operating System*
Internet Explorer 8.0/9.0/10/11	Http	Windows XP /Windows 7
Microsoft Outlook 2007	Email Client	Windows XP /Windows 7
MS Office 2007	Office Automation	Windows XP /Windows 7
Avira Professional Security	Virus Protection	Windows XP /Windows 7
Adobe Acrobat 9 upwards	Required by Specific Applications	Windows XP /Windows 7
Flash Player	Display of Web Content	Windows XP /Windows 7
Java 1.6.0_18	Required by Specific Applications	Windows XP /Windows 7

(Source: VINLEC)

1.2. Statement of the problem

The problems with managing documents are not restricted solely to the Human Resources & Administrative (HR&A) Department. These problems can also be found in the Customer Services (CS), Engineering, Internal Audit (IA), Finance and Information Systems Departments. All of these afore-mentioned departments are

consequently seeking solutions designed to improve the overall management of their documentary portfolio.

The problems currently faced by these departments can be subsumed under the following rubric.

Inefficiency:

The identified inefficiencies include the length of time taken to routinely locate documents. This problem is particularly acute for novice employees but also negatively impacts more experienced staff. In many instances, the documents are not retrieved and at other times, they are misfiled. In summary, keeping track of documents represents a significant issue for the company's employees.

Information Sharing:

Inefficient document sharing protocols remain a major obstacle to the development of the company's information-sharing capabilities. There is no proper system in place to capture the creation and storage of new documents. Consequently, new documents are constantly and unnecessarily being created. This situation leads to duplication in the creation of documents and increased wastage of the company's resources.

Accessibility:

Inaccessibility to information represents another challenge confronting middle management at VINLEC. For example, Senior Staff, including Section Heads and Heads of Department do not have the privilege of seamlessly accessing needed information anytime and anywhere.

Dual Filing Structure:

VINLEC is one company yet there are two different filing systems set up at the two main locations of the company. Documents are filed differently and there is no common structure or streamlined method of filing the documents.

Additionally, lack of Project Management processes can lead to unorganized implementation. This drawback results in:

- Inability to meet objectives.
- Improper overall control of the project budget, schedule, and resources.
- Scope not clearly defined and understood.
- Ineffective time management leading to increase work hours.
- Lack of a clear process to do change management control over variations of the scope.
- Meaningless and unworkable project schedules leading to the inability to determine proposed changes.
- The project organization does not reflect the requirements of the work to be done.
- Underuse of some resources and overburdening of others.
- Project documentation and closeout deficiencies.
- Difficulties in tracking material and equipment purchased, among other issues.

Therefore, based on the problems outlined above, the recommended solution for this Final Graduation project is to develop a proper Project Management Plan for the implementation of a properly calibrated EDM system.

1.3. Purpose

The purpose for developing a project management plan in the company is to be able to get the company first to adapt to a project management philosophy, understand the tremendous benefits and profits that can be derived from it.

Consequently, the company would no longer be doing its projects in a haphazard way, but rather, its focus will be on the development of proper Project management processes, tools and techniques that can be adapted to any of its project. Therefore, a project management plan will be formulated to successfully implement the EDMS.

An additional goal is to manage the company's documents by implementing an EDM solution, which can help to improve the company's internal, and external communication systems, its level of efficiency and productivity, its customer service and decision-making processes as well as other spin-off benefits.

1.4. General objective

To create a project management plan to implement an Electronic Document Management System (EDMS) within VINLEC.

1.5. Specific objectives

1. To create a Project Scope Management structure to ensure that all required work is covered to successfully complete the project.
2. To create a Project Time Management structure to ensure that the project is timely managed and completed within the time constraints.
3. To create a Project Cost Management structure with all defined processes to ensure that the project can be completed within the approved budget.
4. To develop a Project Quality Management structure to determine quality policies, objectives and responsibilities so that the project will meet expected needs and standards.
5. To create a Project Human Resource Management structure to ensure that the processes involved that organize, manage, and lead the project staff are included in the Project.
6. To create a Project Communications Management structure to collect, store, organize and distribute project information to all stakeholders of the project.

7. To create a Project Risk Management structure to identify and control risks to ensure the successful completion of the project.
8. To construct a Project Procurement Management structure to ensure products and services are efficiently acquired for project success.
9. To develop a Project Stakeholder Management structure to analyze the people, groups or organizations that could impact or be impacted by the project and to develop required strategies for effectively engaging them in decisions throughout the project lifecycle.

2 THEORETICAL FRAMEWORK

2.1 Company/Enterprise framework

St. Vincent Electricity Services Limited (VINLEC) has a Chief Executive Officer (CEO) who manages the company that has about three hundred and twelve (312) staff members spread across nine (9) locations across St. Vincent and the Grenadines (SVG) (VINLEC, n.d). The Engineering Manager is the Head of the Engineering Department, which includes the departments: Generation, Transmission and Distribution and Planning. An explanation of the functions of each department is given as follows:

GENERATION - Electricity generation is the process of producing electrical power from other sources of primary energy. For electric utilities, it is the first process in the delivery of electricity to consumers. VINLEC's Generation Department has a mandate to produce a continuous supply of electricity that would satisfy the consumers' energy needs in the most cost effective and efficient manner. The main functions carried out in the department are Operations, Maintenance and Protection and Automation. The Generation Department has the largest number of employees in the Company. They are based at the six diesel stations and three hydro stations located across the multi-island state (VINLEC, n.d).

TRANSMISSION AND DISTRIBUTION DEPARTMENT - VINLEC's Transmission and Distribution (T&D) system moves electrical power from the power station to the customers. The Transmission and Distribution Department, has responsibility for the construction and maintenance of this transmission and distribution system. This network consists of Poles, overhead Lines, Underground Cables, Insulators, streetlights, Switches, Breakers, Substations, Transformers and Protection Equipment. The Department also maintains the fleet of Company vehicles at the in-house garage located at the Cane Hall Engineering Complex. There are various

sections within the department namely, Transformer and Street Lighting, Metering, Line Construction, Vehicle Maintenance and Line Maintenance. The employees within this department work to ensure that customers receive quality supply service from VINLEC.

PLANNING – The role of the planning department is to project the requirements for sufficient Generation and Transmission & Distribution capacity and implement appropriate capital projects to enable VINLEC to meet the future needs of its customers. An additional role of this department entails the dispatch of generation capacity and the operation of VINLEC's Transmission & Distribution network in a safe and efficient manner and the maintenance of VINLEC's buildings.

FINANCE - It is imperative that the VINLEC's finances are properly managed so that the Company will remain financially viable. VINLEC's Finance Department manages the Financial and Cost Accounting, and Stores Keeping aspects of the Company. The Department ensures that there are adequate funds available to acquire the resources needed to help the organization achieve its objectives. It also ensures that costs are controlled, adequate cash flow and the establishment of attainable and realistic profitability levels. One of the major roles of the Finance department in VINLEC is stores keeping. This Unit is responsible for the procurement and storage of supplies.

HUMAN RESOURCES AND ADMINISTRATIVE DEPARTMENT -The existence of a Human Resources and Administrative Department (HR&A) is vital to overall productivity and efficiency at VINLEC. Our Human Resources Department is responsible for recruitment, training and development, compensation, counseling and Staff Welfare, Environmental Health and Safety and Corporate Communications.

The HRA Department also has responsibility for ensuring employees operate in Healthy and Safe environment. As such, VINLEC's safety programs and procedures seek to promote and maintain the highest degree of physical, mental and social well-being.

CUSTOMER SERVICE DEPARTMENT - Customers and potential customers of VINLEC usually conduct business with staff at the Customer Service Department. This Department has the responsibility for processing applications for electricity connection, billing, cash collection, and meter reading while ensuring that all aspects of customer accounts are kept current. The public can also contact the Customer Service Department to lodge complaints and to have queries addressed. Persons who require technical advice regarding connection, meter placing, required loads etc. could also contact the Customer Services Engineer who can provide guidance in these areas. VINLEC's Customer Services Department is committed to delivering quality service with courtesy, sensitivity and the minimal delay, thereby fostering a climate of mutual respect.

INFORMATION SYSTEMS DEPARTMENT - In the modern workplace, it is imperative that technology works both effectively and reliably. VINLEC's Information Systems Department manages the technology and computer infrastructure that drives the business. This Department is responsible for management and support of the technology architecture, hardware, software, and the respective resources in the Company.

INTERNAL AUDIT - VINLEC's Internal Audit Department was established for providing reasonable assurance that management control systems throughout the Company are adequate and are operating effectively. The Internal Audit department provides an independent and objective appraisal of activity for management. This Department is relatively new and has a staff compliment of three.

In this type of organization with these various types of departments and given the way information flows, a project to implement an Electronic Document Management System (EDMS) will prove worthwhile as it can realize many benefits that will noticeably contribute to and improve organizational efficiency.

2.1.1 Company/Enterprise background

The history of electricity in St. Vincent and the Grenadines dates back to 1931, when the Crown Colony Government began providing electricity to 32 customers. The company's forerunner, the Commonwealth Development Corporation (CDC), a British-based Company, took over the operations of the electricity business in 1953.

The formation of St. Vincent Electricity Services Limited (VINLEC) in 1961 set the pace for the development of the electricity sector in the country. During the early 1970's the government acquired 49% shares, while 51% remained with the CDC. The operations were further streamlined with the enactment of the Electricity Supply Act of 1973. On July 1 1985, VINLEC became a state-owned entity, when the government acquired the remaining 51% shares of the Company (VINLEC, n.d).

VINLEC now serves 42,000 customers and provides electricity to 98% of the populace. Electricity is generated at the Company's diesel Power Stations that are located at Cane Hall, Lowmans Bay, Bequia, Union Island, Canouan and Mayreau. Approximately 20% of electricity is produced annually at the Hydro Plants that are located at Cumberland, Richmond and South Rivers.

VINLEC supplies electricity to its customers through a network spanning over 350 miles of 33kV, 11kV, 400V and 230V lines.

VINLEC has a staff of 316 spread across various locations and eight departments. They are Generation, Transmission and Distribution, Planning, Finance, Human Resources and Administration, Customer Services, Information Systems and Internal Audit.

VINLEC's mission is to provide service of the best quality and value to its customers, satisfy the interest of the shareholder and employees and contribute to a high quality of life for the nation.

2.1.2 Mission and vision statements

VINLEC's Mission and Vision Statements are as follows:

Mission

"To deliver an electricity supply service of the best quality and value to our customers; to satisfy the interest of the shareholders and employees; to support sustainable development and contribute towards a high quality of life for our people". (VINLEC, n.d).

Vision

"To be the best service provider in the state and among the leading utilities in the world". (VINLEC, n.d).

2.1.3 Organizational structure

According to the company's Website (VINLEC, n.d), VINLEC has a Board of Directors which is generally nominated by the Government but is elected at the annual general meeting of the Company. This body appoints the CEO, Establishment Committee and Audit Committee. The Establishment Committee deals with the personnel-related matters and conducts interviews for any managerial positions that report to the CEO. The Audit Committee deals with the financial related matters of the company.

The CEO in consultation with the Board appoints his Management Staff (See Figure 1). The company has eight (8) departments, each of which has different functions. When combined, they work together to ensure the provision of a quality electricity supply service.

As seen in Figure 1, although there are six (6) managers reporting to the CEO they are not equally weighted. At the top is the Manager of Engineering, who heads the engineering division. He has with him three Senior Engineers who manage three different departments in Engineering. The departments under the manager of Engineering are T&D, Generation and Planning Departments. These three are at the same level as the managers who manage the Customer Services, Human Resources and Information System departments.

Just below the Manager of Engineering is the Manager of Finance who heads this division. As its name implies this division is responsible for handling the finances of the company, along with responsibility for insurance, maintenance contracts for non-power station buildings and secretarial services.

Below the Manager of Finance are the Managers of Human Resources, Information Systems and Customer Services. These managers are responsible for the areas of the company as their titles imply. The sections are further broken down into Supervisory positions. The company’s entire organizational chart is outlined below:

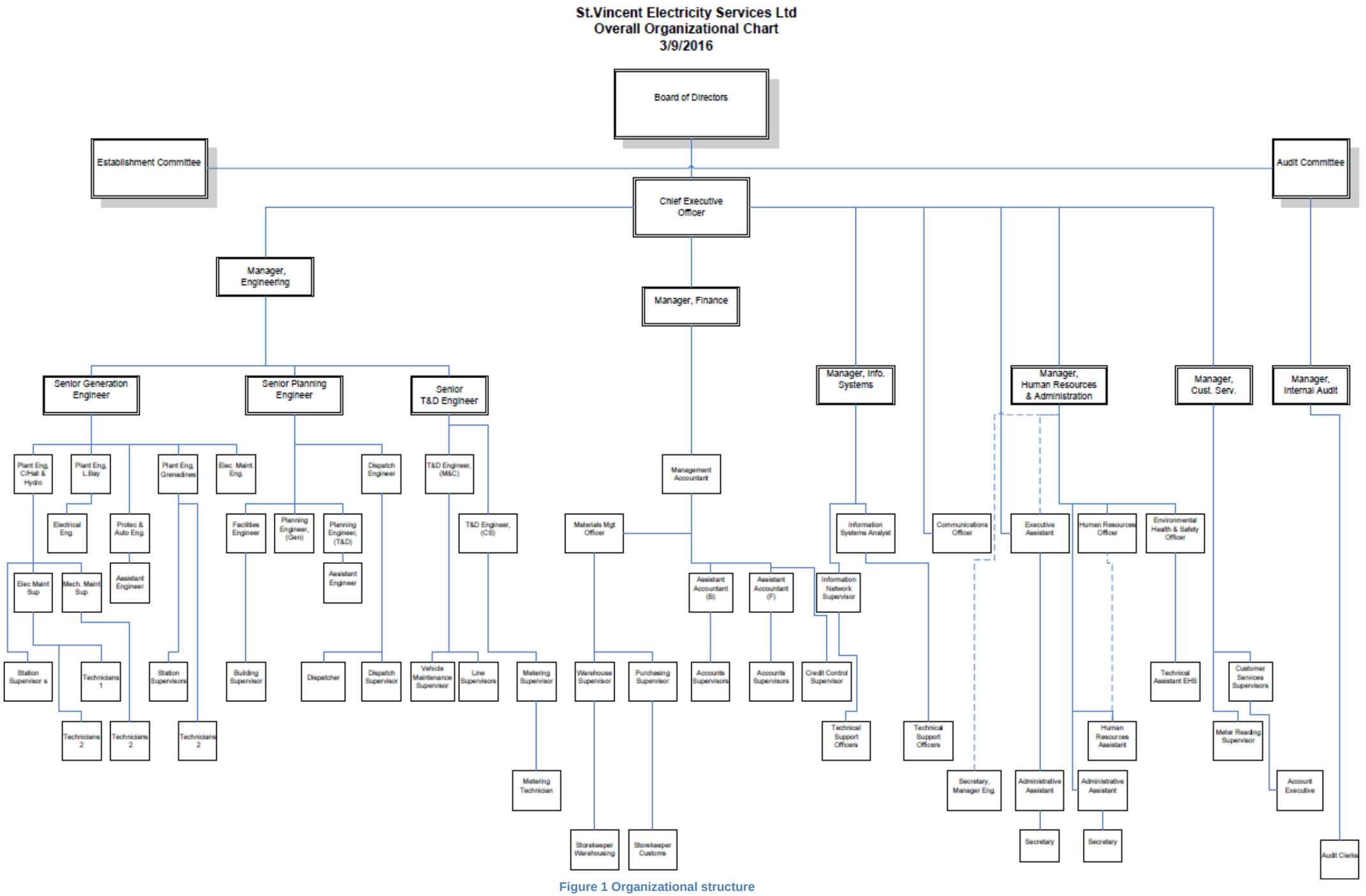


Figure 1 Organizational structure (Source: VINLEC, n.d)

2.1.4 Products offered

VINLEC is involved in the generation, transmission, distribution and sale of electricity in the state of St. Vincent and the Grenadines. As the sole electric power utility, VINLEC's role in economic development is extremely important. VINLEC offers a service to the people of St. Vincent and the Grenadines by providing electricity to about 42,000 customers and is responsible for the installation and maintenance of streetlights throughout the country. VINLEC recognizes that one of its prime resource is its human resource and that the company's continued prosperity and growth depends on this resource. Over the years, VINLEC has built up a reputation for being a well-run utility, with wise forward planning ensuring that there will be enough capacity to meet anticipated consumer demand.

Document Management Concept

Document Management is the use of a computer system and software to store, manage and track electronic documents and electronic images of paper based information captured through the use of a scanner. Document Management is about how VINLEC stores, manages and tracks its electronic documents. Moreover, an Electronic Document Management (EDM) is the management of different kinds of documents in a company that uses computer programs and storage. An EDM system allows an enterprise and its users to create a document or capture a hard copy in electronic form, store, edit, print, process and manage documents in image, video, and audio, as well as text form.

2.2 Project Management concepts

2.2.1 Project

A project is defined in different ways by many authors and references emphasizing its different aspects. The following definitions describe projects as:

“A temporary endeavor undertaken to create a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning and end. The end is reached when the project’s objectives have been achieved or when the project is terminated because its objectives will not or cannot be met, or when the need for the project no longer exists. A project may also be terminated if the client (customer, sponsor, or champion) wishes to terminate the project.” (PMI, 2013, p. 3).

Another definition by Cleland (2004), states that “the building blocks in the design and execution of strategies for an organization. Projects provide an organizational focus for conceptualizing, designing, and creating new or improved products, services, and organizational processes” (p. 3).
One should not confuse a project with ongoing work activities or a process such as, cleaning an office space daily or running a retail business. A project is only done once, whereas most work activities (jobs) are ongoing or repetitive.

The project in this study refers to the planning and implementation of an Electronic Document Management System (EDMS) in a company called VINLEC. It captures the features of a general project, as it contains the following properties:

1. Transient - the project has to be completed within a particular time frame. With clearly defined start and end dates, which in turn may have implications for the project team.
2. Unique - it will be the first time the project will be implemented in the company.
3. Complex - it requires a series of tasks and work packages that involves proper sequencing.
4. Output - it will deliver an output that will be beneficial to the company and stakeholders as a whole.
5. Risky - some level of uncertainty may be encountered as the combination of uniqueness and complexity means that there is invariably some degree of risk that will be associated with the project.

6. Stages - the project will be broken down into stages, with each defining a series of tasks or work packages. The end of each milestone will provide opportunity to observe progress and to reassess the detailed plans for the next stage based on experience.

2.2.2 Project management

Several definitions also exist for project management. Summarizing those definitions, The Project Management Institute defines Project management as:

“The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.” (PMI, 2013, p.5)

According to Heerkens (2002), “Project management has two major aspects: (a) the art—leading the people on the project; (b) the science—defining and coordinating the work to be done”. (p. 6). The art as explained by Heerkens (2002) is really about getting things done through people and requires relevant knowledge of human behavior and the ability to apply appropriate interpersonal skills. While the science is mainly about the processes and techniques.

Project management is being embraced, to some extent, by most organizations as the best way to develop and deliver new or improved products, services, and organizational process changes (Cleland & Ireland, 2002).

In the company, there are Project Management practices established to some degree. Hence, this is the reason why this project would use all the required tools and techniques to meet the project objectives.

2.2.3 Project life cycle

Project Lifecycle refers to “the series of phases that a project passes through from its initiation to its closure.” (PMI, 2013, p.554). Through research, it was observed that all projects have identifiable phases of which each has a unique set of

challenges for the project manager and project team. Both need to decide which processes to employ and apply throughout the project.

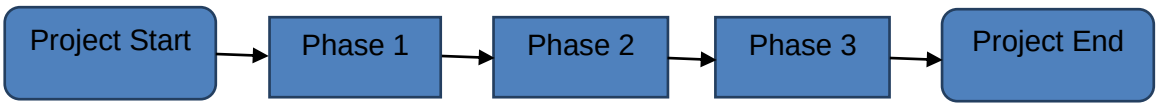


Figure 2 Project Life Cycle
(Source: Project Management Institute, 2013)

In the company, there is a Project Life Cycle established for the projects but most times, they do not reach as far as the execution phase.

In this study project, there is a Project Life Cycle that is set up. The phases for the life cycle are Initiation, Planning, Execution and Closure. Each phase will be further explained at a later stage in the project.

2.2.4 Project management processes

Project Management processes are defined as "A logical grouping of project management inputs, tools and techniques, and outputs." (PMI, 2013, p.554). These groups act as guides that are designed to assist the Project Manager to focus on what needs to be done at particular points in a project. It is important to note that project management processes do not need to happen in sequence through the life of the project. A total of 47 project management processes are identified in PMBOK for the ten knowledge areas. The Project Management Process Groups include:

- Initiating (2 processes) – the need for the project is identified and justified and it is where the project begins.
- Planning (24 processes) – the project is further developed and detailed.
- Executing (8 processes) – work is performed under the supervision of the Project Manager.

- Monitoring and Controlling (11 processes) – the project is continuously monitored and appropriate adjustments are made.
- Closing (2 processes) - verification that the project has satisfied the specified needs. The customer accepts and uses the deliverable.

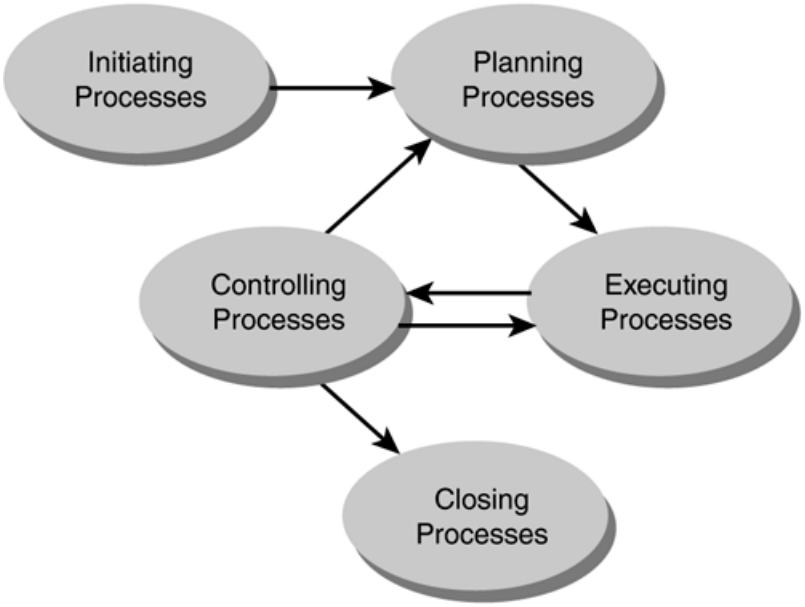


Figure 3 Project Management process groups (Source: Francis D., 2008-2013)

In the company under study, there is an established Project Management Process, but sometimes only three (3) groups of the processes are fully utilized. These are initiating, planning and executing. However, there are exceptions, as all processes are not utilized on every project. For example, small projects may not require an extensive amount of planning or control management. By contract, this study aims to use all processes of the Project Management Processes in the EDM project and possibly in all other complex projects of the company.

2.2.5 Project management knowledge areas

PMI (2013) speaks of ten (10) knowledge areas of project management. These include:

- Project Integration Management
- Project Scope Management

- Project Time Management,
- Project Cost Management,
- Project Quality Management
- Project Human Resources Management
- Project Communications Management
- Project Risk Management
- Project Procurement Management
- Project Stakeholder Management

Each knowledge area in PMBOK is composed of processes that are addressed to attain the objective of the knowledge areas. Forty-seven (47) project management processes are identified in PMBOK for the ten knowledge areas. The management of all projects are accomplished by using these processes.

Although not all 47 processes are performed uniformly in the management of all projects, the project manager and the project team need to decide which processes to utilize, and the degree of rigor that will be applied to the execution of those processes. (Project Management Institute (PMI), 2004).

Project Integration Management

Project Integration Management is defined in PMI (2013) as “the processes and activities to identify, define, combine, unify, and coordinate the various processes and project management activities within the Project Management Process Groups.” (p. 63).

In this stage, the creation of a project charter is necessary that will initiate the project along with the documented business needs, assumptions, and constraints. All aspects of the project management plan are highly interactive. A project charter is considered as 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. (PMBOB, 2013, p. 66). However, detailed planning is not likely until after the charter is signed.

Project Scope Management

The Project Scope Management includes “the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully” (PMI, 2013, p. 555).

The scope of the EDMS Project is the planning and implementation of a document management (DM) system and an Electronic Records Management (ERM) system for the Human Resources & Administration Department.

Project Time Management

Project Time Management according to the PMI (2013, p. 556) is “the processes required to manage the timely completion of the project.” At this planning stage of the project, all the fundamentals having been identified, a project schedule is developed. The project schedule is the guiding light of every project, and as such, is the cornerstone of any project management effort. (Project Management Professional Certification, 2008, p.89).

To allow for timely completion of the project. The following elements will be taken into consideration:

- Define Deliverables and Work Breakdown Structure.
- Sequence Activities
- Estimate hours to produce deliverables.
- Develop Project Schedule
- Manage Project Schedule

Project Cost Management

Project Cost Management “includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project

can be completed within the approved budget." (PMI, 2013, p. 193). Here, according to Team FME (2013, p. 25), "the expertise of your project manager will have a significant impact on their accuracy and attention to detail."

The following is the sequence this particular project will follow:

- Plan resources (people, material, equipment)
- Estimate cost of planned resources
- Allocate cost estimates to individual activities
- Manage costs

Project Quality Management

The PMI explained Project Quality Management as "the processes and activities of the performing organization that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken." (2013, p. 227).

In this light, the project will entail the following:

- Identify relevant quality standards and how to satisfy them (plan quality).
- Evaluate overall project performance to ensure that the project will satisfy quality standards (perform quality assurance).
- Monitor project results for compliance with quality standards (control quality).
- Identify ways to eliminate causes of unsatisfactory performance (control quality).

Project Human Resources Management

"Project Human Resource Management includes the processes that organize, manage, and lead the project team. The project team is comprised of the people with assigned roles and responsibilities for completing the project. Project team members may have varied skill sets, may be assigned full or part-time, and may be added or removed from the team as the project progresses." (PMI, 2013, p. 255).

To ensure the effective use of people who are involved in the project. The following approach will be taken:

- Identify, document and assign project roles, responsibilities and reporting relationships to the project.
- Acquire human resources (job announcement, etc.) and assign to project.
- Develop individual and group skills to enhance project performance through appraisals.
- Manage the project team.

Project Communications Management

Project Communication management includes the processes that are required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information. (PMI, 2013, p. 287).

Circulating information and knowledge sharing about the project is vital to any project's success. The project team members look forward to updates or any information on the status of the project. This is important as it brings about a feeling of belonging and adds to team motivation.

The following plan will provide a framework for informing, involving, and obtaining the buy-in from all participants throughout the duration of the project and will keep the whole population informed on Project objectives and current status.

Depending on the level of stakeholders and the amount of information required, a specific method, frequency and type of communication will be developed and managed.

Project Risk Management

Project Risk Management is defined in the PMBOK as “the processes of conducting risk management planning, identification, analysis, response planning, and controlling risk on a project. The objectives of project risk management are to increase the likelihood and impact of positive events, and decrease the likelihood and impact of negative events in the project.” (PMI, 2013, p. 309).

In Project Risk Management, there will always be some kind of uncertainty that is associated with any project. The uncertainties or drawbacks and benefits of risk as it relates to this project will be discussed in the development of the project.

Project Procurement Management

As defined in the PMI (2013, p. 355), Project Procurement Management includes the “processes necessary to purchase or acquire products, services, or results needed from outside the project team.”

This process occurs at the planning, executing, monitoring and control and closing stages of a project and at that point, this project under study would:

1. Determine what to procure and when to procure it.
2. Document product requirements and Identify potential sources of the Product.
3. Obtain Quotation or Proposals as needed.
4. Award the contract to the particular vendor for selected goods and services.
5. Manage relationship with sellers (possibly to conduct training for the use of new products).
6. Resolve any issues or change orders.

Project Stakeholder Management

This refers to the processes required to identify people, groups or organizations that could impact or be impacted by the project and to analyze stakeholder expectations and their impact on the project. (PMI, 2013, p. 390).

For the project to be successful, all project stakeholders must know and understand their role in the project. It will be the project manager's responsibility to communicate the various roles to the project stakeholders in the particular project being executed.

3 METHODOLOGICAL FRAMEWORK

3.1 Information sources

According to Karibou Connections, n.d., “An information source is where you get your information from: this can be a book or a Website. Information sources are the various means by which information is recorded for use by individual or an organization. It is the means by which a person is informed about something or knowledge is availed to someone, group of people or an organization. Information sources can be observations, people, speeches, documents, pictures, organizations. Information sources can be print, non-print and electronic media or format.”

The Great Soviet Encyclopedia (1979) states that (Farlex (2003-2016), “Information sources are distinguished by the form of representation: textual (books, journals, manuscripts), graphic (graphs, diagrams, plans, charts), and audiovisual (sound recordings, motion pictures, slides).”

Taken together, information is data gathered to provide knowledge to persons/individuals on a particular topic. The types of questions determine the type of information given and the source of the information. The three types of information sources are primary, secondary and tertiary.

The research method selected for this project is based on a combination of both primary and secondary data. Primary research involves the use of interviews and questionnaires while secondary refers to document research.

3.1.1 Primary sources

Primary sources are “first-hand accounts or individual representations and creative works. They are created by those who have directly witnessed what they are describing, and bring us as close to the original event or thought as possible without being filtered, influenced or analyzed through interpretation. They tend to be original documents that don't usually describe or analyze work by others. Primary sources may be published or unpublished works.” (Willamette University, 2015, para. 3).

The primary source of information that is used in this project are:

- Interviews
- Research data (statistics)

3.1.2 Secondary sources

Santiago Canyon College, (n.d., para. 2) states that, “Secondary sources describe, discuss, interpret, comment upon, analyze, evaluate, summarize and process primary sources. A secondary source is generally one or more steps removed from the event or time period and is written or produced after the fact with the benefit of hindsight. On occasion, secondary sources will collect, organize, and repackage primary source information to increase usability and speed of delivery, such as an online encyclopedia. Like primary sources, secondary materials can be written or non-written (sound, pictures, movies, etc.)”.

The secondary information sources used on the FGP includes:

- Reference books, including dictionaries, encyclopedias
- Literature reviews and review articles (e.g. book reviews)
- Textbooks (PMI, 2013)

Chart 3 Information sources

Objectives	Information sources	
	Primary	**Secondary**
To create a Scope Management structure to ensure that all required work is covered to successfully complete the project.	Interviews will be conducted with members of staff at VINLEC. Research data (statistics).	Reference books, including dictionaries, encyclopedias Literature reviews and review articles (e.g. book reviews) Textbook (PMI, 2013)
To create a Time Management structure to ensure that the project is timley managed and completed within the time constraints.	Interviews will be conducted with members of staff at VINLEC. Research data (statistics).	Reference books, including dictionaries, encyclopedias Literature reviews and review articles (e.g. book reviews) Textbook (PMI, 2013)
To create a Cost Management Plan with all defined processes to ensure that the project can be completed within the approved budget.	Interviews will be conducted with members of staff at VINLEC. Research data (statistics).	Reference books, including dictionaries, encyclopedias Literature reviews and review articles (e.g. book reviews) Textbook (PMI, 2013)
To develop a Quality Management structure to determine quality policies, objectives and responsibilities so that	Interviews will be conducted with members of staff at VINLEC. Research data	Reference books, including dictionaries, encyclopedias Literature reviews and review articles (e.g. book reviews) Textbook (PMI, 2013)

the project will meet expected needs and standards.	(statistics).	
To create a Human Resource Management structure to ensure that the processes involved that organize, manage, and lead the project staff are included in the Project.	Interviews will be conducted with members of staff at VINLEC. Research data (statistics).	Reference books, including dictionaries, encyclopedias Literature reviews and review articles (e.g. book reviews) Textbook (PMI, 2013)
To create a Communications Management structure to collect, store, organize and distribute project information to all stakeholders of the project.	Interviews will be conducted with members of staff at VINLEC. Research data (statistics).	Reference books, including dictionaries, encyclopedias Literature reviews and review articles (e.g. book reviews) Textbook (PMI 2013)
To create a Risk Management structure to identify and control risks to ensure the successful completion of the project.	Interviews will be conducted with members of staff at VINLEC. Research data (statistics).	Reference books, including dictionaries, encyclopedias Literature reviews and review articles (e.g. book reviews) Textbook (PMI, 2013)
To construct a Procurement	Interviews will be conducted	Reference books, including dictionaries, encyclopedias

Management structure to ensure products and services are efficiently acquired for project success.	with members of staff at VINLEC. Research data (statistics).	Literature reviews and review articles (e.g. book reviews) Textbook (PMI, 2013)
To develop a Stakeholder Management structure to analyze the people, groups or organizatons that could impact or be impacted by the project and to develop required strategies for effectively engaging them in decisions throughout the project lifecycle.	Interviews will be conducted with members of staff at VINLEC. Research data (statistics).	Reference books, including dictionaries, encyclopedias Literature reviews and review articles (e.g. book reviews) Textbook (PMI, 2013)

Source: (Santiago Canyon College, n.d)

3.2 Research methods

Research methods as indicated by Rajasekar, Philominathan, and Chinnathambi (2013) “are the various procedures, schemes and algorithms used in research. All the methods used by a researcher during a research study are termed as research methods. They are essentially planned, scientific and value-neutral. They include theoretical procedures, experimental studies, numerical schemes, statistical approaches, etc. Research methods help us collect samples, data and find a solution to a problem. Particularly, scientific research methods call for explanations

based on collected facts, measurements and observations and not on reasoning alone. They accept only those explanations which can be verified by experiments." (p. 5)

Moreover, this FGP will adopt two Research methods. They are The Analytical and Observational methods.

3.2.1 Analytical method

The Reference dictionary explains analytical research as "a specific type of research that involves critical thinking skills and the evaluation of facts and information relative to the research being conducted. A variety of people including students, doctors and psychologists use analytical research during studies to find the most relevant information. From analytical research, a person finds out critical details to add new ideas to the material being produced" (Reference, n.d).

3.2.2 Observation method

On the other hand, the Scientific Software Development GmbH, defines Observational research (or field research) as "a type of correlational (i.e., non-experimental) research in which a researcher observes ongoing behavior. There are a variety of types of observational research, each of which has both strengths and weaknesses. These types are organized below by the extent to which the researcher intrudes upon or controls the environment. It is typically divided into naturalistic (or "nonparticipant") observation, and participant observation. Case studies and archival research are special types of observational research." (Atlas.ti, 2016).

Chart 4 Research methods

Objectives		
	Analytical	Observation
To create a Scope Management structure to ensure that all required work is covered to successfully complete the project.	This method will be used in scope planning as it entails critical thinking to be applied undertaking all the work required and only the work required to complete the project.	This research applies to scope management as it ensures that all processes are included in the project.
To create a Time Management structure to ensure that the project is timley managed and completed within the time constraints.	This method will be used as it entails critical thinking to be applied when scheduling a project.	This research applies to project Time management since at a particular point in time the observer intervenes in the environment that he would have observed.
To create a Cost Management Plan with all defined processes to ensure that the project can be completed within the approved budget.	This method will be used as it entails critical thinking and factual information to be applied when applying cost to a project.	This research applies to project cost management as observation and monitoring of cost is applied.
To develop a Quality Management structure to determine quality policies, objectives and responsibilities so that the project will meet expected needs and standards.	This method will be used as it entails critical thinking to be applied when adding quality processed to the project.	This research applies to Quality management since at a particular point in time the observer intervenes in the environment that he would have observed to

		correct any processed that are not applied.
To create a Project Human Resource Management structure to ensure that the processes involved that organized, manage, and lead the project staff are included in the project.	This method will be used as it entails critical thinking for acquiring additional staff.	This research applies to Human Resource and tracks the ongoing behavior of project team members.
To create a Communications Management structure to collect, store, organize and distribute project information to all stakeholders of the project.	This method will be used as it entails critical thinking to be applied when adding quality processed to the project.	This research applies to communication management observing and tracking the communication flow throughout the project.
To create a Risk Management structure to identify and control risks to ensure the successful completion of the project.	This method will be used in Risk management as it entails critical thinking to be applied when avoiding, transfer, mitigate or accept risk.	This research applies to Risk management as it observes and tracks the probability and impact of risk on the project.
To construct a Procurement Management structure to ensure products and services are efficiently acquired for project success.	This method will be used as it entails critical thinking to be applied when procuring products or services for the project.	This research applies to procurement to observe and track the purchase of items for the project.

To develop a Stakeholder Management structure analyze the people, groups or organizatons that could impact or be impacted by the project and to develop required strategies for effectively engaging them in decisions throughout the project lifecycle.	This method will be used as it entails critical thinking and factual information when communicating to stakeholders.	This research applies to Stakeholder management to tracks the ongoing behavior of the project stakeholders.

(Source: Kothari, C.R. (2004) and website: Atlasti (2002-2016)

3.3 Tools

There are many tools available to assist with accomplishing the task and executing the responsibilities related to Project management. Project managers normally choose a project management tool that best suits their management style and because a single tool does not address all project management needs.

The ten Knowledge areas consist of processes, tools and techniques that are produced and applied to some level during the course of the project.

Chart 5 Tools used per management plan

Objectives	Tools
To create a Scope Management structure to ensure that all required work is covered to successfully complete the project.	Expert Judgment; Meetings Interviews; Focus Groups; Facilitated workshops; Observations;, Questionnaires and surveys; Group decision-making techniques; Group creativity techniques; Benchmarking; Document analysis; Alternatives generation; Decomposition; Inspection; Variance analysis.
To create a Time Management structure to ensure that the project is timley managed and completed within the time constraints.	Expert Judgment; Analytical techniques; Meetings; Rolling wave planning; Precedence Diagramming Method (PDM); Dependency determination; Leads and lags, Group decision-making techniques; Schedule Network Analysis; Critical path method; Resource optimization techniques; Performance reviews; Schedule Compression.
To create a Cost Management structure with all defined processes to ensure that the project can be completed within the approved budget.	Expert judgment; Meetings; Bottom-up estimating; Reserve analysis; Funding limit reconciliation; Earned value management; Performance reviews.
To develop a Quality Management structure to determine quality policies,	Cost of quality; Benchmarking; Meetings; Quality management and

objectives and responsibilities so that the project will meet expected needs and standards.	control tools; Quality Audits; Process analysis; Seven basic quality tools; Statistical sampling; Inspection.
To create a Human Resource Management structure to ensure that the processes involved that organize, manage, and lead the project staff are included in the Project.	Organizational charts and position description; Expert judgment; Meetings; Negotiation; Virtual teams; Multi-criteria decision analysis; Interpersonal skills; Training; Team-building activities; Team-building activities; Ground rules; Colocation; Recognition and rewards; Personnel assessment tools; Observation and conversation; Project performance appraisals; Conflict management.
To create a Communications Management structure to collect, store, organize and distribute project information to all stakeholders of the project.	Communication requirements analysis; Communication technology; Communication models; Communication methods; Meetings; Information management systems; Performance reporting; Expert judgment.
To create a Risk Management structure to identify and control risks to ensure the successful completion of the project.	Expert Judgment; Meetings; Document reviews; Information gathering techniques; SWOT analysis; Risk probability and impact assessment; Probability and impact matrix; Risk categorization; Quantitative risk analysis and modeling techniques; Strategies for negative risk or threats; Strategies for positive risks or opportunities; Contingent response

	strategies; Risk assessment; Risk audits; Variance and trend analysis; Reserve analysis.
To construct a Procurement Management structure to ensure products and services are efficiently acquired for project success.	Make-or-buy analysis; Expert judgment; Market research; Meetings; Proposal evaluation techniques; Procurement negotiations; Contract change control system; Procurement performance reviews; Inspections and audits; Performance reporting; Payment systems; Records management systems; Procurement audits.
To develop a Stakeholder Management structure to analyze the people, groups or organizatons that could impact or be impacted by the project and to develop required strategies for effectively engaging them in decisions throughout the project lifecycle.	Stakeholder analysis; Expert judgment; Meetings; Analytical techniques; Communication methods; Interpersonal skills; Management skills; Information management systems.

(Source: PMI, 2013)

3.4 Assumptions and constraints

Usmani (2009) simply refers to an assumption as “a belief of what you assume to be true in the future. You make assumptions based on your knowledge, experience or the information available on hand. These are anticipated events or circumstances that are expected to happen during your project’s life cycle”.

Although assumptions do not always end up to be true, they can have an impact on the project. This in turn can add risk to the project because of the uncertainty that these assumptions may or may not be true.

On the other hand, constraints refer to “a limiting factor that affects the execution of a project, program, portfolio, or process.” (PMI, 2013, p. 533). Managing the project will include balancing the project constraints. Once one factor changes, at least one other factor is likely to be affected. Chart 6 shows the Assumptions and Constraints as it relates to this project.

Chart 6 Assumptions and constraints

Objectives	Assumptions	Constraints
To create a Scope Management structure to ensure that all required work is covered to successfully complete the project.	The company will provide all the required information to perform the analysis of the project.	The scope may change at some point in the project.
To create a Time Management structure to ensure that the project is timley managed and completed within the time constraints.	The project will be completed by the specified time given by UCI.	Any delay in the project may hinder project progress and timely start of the EDMS pilot project.
To create a Cost Management Plan with all defined processes to ensure that the project can be completed within the approved budget.	The company can cover the amount of finance for the project.	Not enough money is budgeted for the project.
To develop a Quality Management structure to determine quality policies, objectives and responsibilities so that the project will meet expected needs and standards.	All quality standards will be met for the project to be successful.	Requirements not specified.
To create a Human Resource Management structure to ensure that the processes involved that organize, manage, and lead the project staff are included in the Project.	Excellent people skills will be demonstrated in the project.	Unavailability of resources.
To create a Communications	The appropriate disposition of	No planned

Objectives	Assumptions	Constraints
Management structure to collect, store, organize and distribute project information to all stakeholders of the project.	project information will be disseminated to the project team, stakeholders and sponsors.	communication events and structured communication format.
To create a Risk Management structure to identify and control risks to ensure the successful completion of the project.	There would be no major risk(s) in the project.	Not all risks were identified at the beginning of project.
To construct a Procurement Management structure to ensure products and services are efficiently acquired for project success.	The product(s) that are required for the project will be delivered on time.	Product(s) needed for the project is not available locally and have to be sort from abroad.
To develop a Stakeholder Management structure to analyze the people, groups or organizatons that could impact or be impacted by the project and to develop required strategies for effectively engaging them in decisions throughout the project lifecycle.	Teams will collaborate and offer ideas and be a part in all aspects of the Project.	Not all Stakeholders were identified at the start of the project.

(Source: Usmani, Fahad, 2016)

3.5 Deliverables

According to the PMI (2013, p. 536), a deliverable refers to “Any unique and verifiable product, result, or capability to perform a service that is required to be produced to complete a process, phase, or project.” Chart 7 shows the deliverables of the project in the study.

Chart 7 Deliverables

Objectives	Deliverables
To create a Scope Management structure to ensure that all required work is covered to successfully complete the project.	Document with a Scope Management plan Based on PMBOK guidelines.
To create a Time Management structure to ensure that the project is timley managed and completed within the time constraints.	Document with Time Management plan Based on PMBOK guidelines.
To create a Cost Management structure with all defined processes to ensure that the project can be completed within the approved budget.	Document with Cost Management plan Based on PMBOK guidelines.
To develop a Quality Management structure to determine quality policies, objectives and responsibilities so that the project will meet expected needs and standards.	Document with Quality Management plan Based on PMBOK guidelines.
To create a Human Resource Management structure to ensure that the processes involved that organize, manage, and lead the project staff are included in the Project.	Document with Human Resource Management plan Based on PMBOK guidelines.
To create a Communications Management structue to collect, store, organize and distribute project information to all stakeholders of the project.	Document with a Communication Management plan Based on PMBOK guidelines.
To create a Risk Management structure	Document with a Risk Management

to identify and control risks to ensure the successful completion of the project.	plan Based on PMBOK guidelines.
To construct a Project Procurement Management structure to enusre products and services are efficiently acquired for project success.	Document with Procurement Management plan Based on PMBOK guidelines.
To develop a Stakeholder Management structure to analyze the people, groups or organizatons that could impact or be impacted by the project and to develop required strategies for effectively engaging them in decisions throughout the project lifecycle.	Document with Stakeholder Management plan Based on PMBOK guidelines.

(Scope: PMI, 2013)

4 RESULTS

Project Management Plan

This section of the project covers nine (9) knowledge areas that consist of the Project Management plan. It contains the basic outline of the processes for each Knowledge area of the plan. Project Integration Management, which makes up the tenth knowledge area, was not included as a specific objective of this project as it is already integrated in all nine knowledge areas of the project. The Project Charter, that authorizes the start of the project; the develop project management plan; direct and manage project work, the monitoring and controlling of project work, the perform integrated change control; and close project are the six (6) processes that make up the project management plan. The main purpose of the Project Integration Management is to ensure that:

- the project meets the need for which it was created
- it is delivered on time, on budget and within the approved scope
- the project is monitored, controlled and delivered in accordance with VINLEC's best practices for the EDMS project.

The initiation of this project stemmed from an inefficient system of document management in VINLEC. However, the strategic decision is to select and implement an EDMS that fits or is better suited using a commercial off-the-shelf software product that has demonstrated its effectiveness in today's marketplace. It will involve personnel of VINLEC and include a consultant and vendor.

The Project Management Plan, the Project Charter, the Enterprise Environment Factors (company's culture, availability of human resources and tools, infrastructure) and the Organizational Process Assets (policies and procedures and historical information) were utilized during meetings between and interviews with the Project Manager and ECM clients, the ECM Consultant, the Steering Committee and the Project Team members to build the Scope Management Plan in this project.

4.1. Project Scope Management

According to the PMI, “Project Scope Management includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully” (2013, p. 105). The primary concern is defining and controlling what is and is not included in the project. The processes include:

- Plan Scope Management (Planning process group)
- Collect Requirements (Planning process group)
- Define Scope (Planning process group)
- Create WBS (Planning process group)
- Validate Scope (Monitoring and controlling process group)
- Control Scope (Monitoring and controlling process group)

Plan Scope Management

Plan Scope Management refers to the process of creating a scope management plan that determines the definition, validation and control of the Project Scope. (PMI, 2013). The scope of this project is the implementation of an electronic document management system for the Human Research and Administration (HR&A) department within VINLEC. The scope utilizes the knowledge areas with their accompanying processes, outlined in the PMI (2013) that will be used to guide the implementation of the EDMS project. The EDMS will be used to improve and efficiently manage the paper documents within the company. This include the planning, coordinating, and management activities (through interviews, meetings and reports) such as developing policies and procedures, organizing site visits to various vendors, prepare technical requirements, procure hardware and software, hire staff and testing and evaluation of the software that will ensure the product scope is achieved. The Project team will include the CEO, Steering Committee, ECM Consultant, Project Manager, Team Members, HR&A Department, Stores Section, ISD and vendor. The project’s start date is August 22, 2016 and should

be completed by August 21, 2017. No network infrastructure will be replaced for this project.

Scope Management Plan

The scope management plan is a component of the project management plan that describes how the scope will be defined, developed, monitored, controlled and verified. (PMI, 2013, p. 108). The Steering Committee, which comprises of all the Heads of Departments and the CEO of the company along with the ECM Consultant will provide their expertise on information and strategic direction relating to the project. The project team reports the status and progress of the project to the Steering Committee on a regular basis. The Steering Committee will give the project manager and the team feedback after each status presentation. The project manager will actively manage the scope; tracking. Additionally, the ECM Consultant who will advise the project manager and the team members will also monitor the scope of the project. Any deliverable that is not accepted or that has a change request will be documented and the necessary changes applied for its effect on time, cost, risk, quality, resources, and customer satisfaction. Once the deliverable is accepted by the Steering Committee, the verified project documents will be updated, approved and signed off. Scope progress will be communicated to the rest of the stakeholders using sign-off meetings throughout the project. This ensures that the project work remains within the scope of the project on a consistent basis throughout the life of the project. All information discussed in meetings and gained from expert judgment will be managed using Microsoft Project software to create Gantt charts during the project.

Requirements Management Plan

The requirements management plan is a component of the project management plan that analyzes documents and manages project requirements. The project will be divided into six (6) phases. Each phase will be completed in a sequential order. This will include Governance Structure, Site Visits, Requirements definition, RFP Process, Hiring of Staff and Implementation. Even though each will have different

durations, they will be executed sequentially. This relationship is depicted in the Figure 4 below:

Figure 4 Project Phase Relationship
(Source: PMI, 2013, p. 41)

The Project Manager, Stakeholders or any member of the project team, may initiate proposed scope changes. Project requirements of major stakeholders would be prioritized over other indirect stakeholders. Product changes will occur through logging of change requests, which must be approved by the project Steering Committee for measuring project scope that includes deliverable quality checklists and work performance measurements, before any changes can occur. Change requests will be traced, tracked and reported through the perform integrated change control process. Although this process is part of Project Integration Management and not included as a knowledge area in this FGP, it will apply to the Scope management plan because it is the process to control how requests for changes to the project scope will be processed. The following is the process flow that explains how changes are going to be managed, approved, rejected in this project. The following is the process flow that explains how changes are going to be managed, approved, rejected in this project.

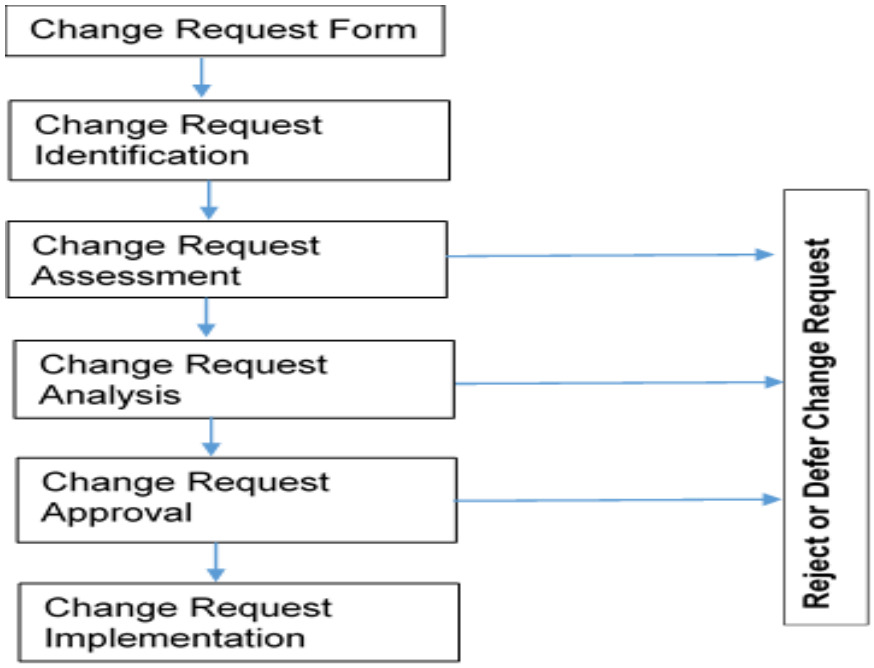


Figure 5 Integrated Change Control Process Flow
(Source: Compiled by The author)

Collect Requirements

The main requirements are defined by the Steering Committee, the ECM Consultant and Project Manager, while the project team determines the collection of requirements by collectively discussing details associated with meeting each requirement. This was done by conducting interviews with the Project Manager, facilitated workshops and focus groups that met monthly and conducted by the ECM Consultant. In addition, other tools and techniques include observations, questionnaires and surveys, group decision-making techniques, group creativity techniques of which will include group follow-up discussions to clarify requirements and to document them in sufficient detail to measure them once the project begins the execution phase. A general framework of similar organizations will be used as a benchmark. In addition, a document analysis will be completed on VINLEC's EDMS policies and procedures of the HR&A Department. The requirements needed for the project scope include:

A Document Policy and Procedure Manual – A document policy and procedure manual will need to be defined. This will be done to ensure that there is a structure and consistency for how the work is to be performed. A draft would be prepared by the project team and be previewed by the Steering Committee. This process can be done as a focus group with the trained ECM consultant guiding the group and advising the project team through interactive discussions. Alternatively, it can be done as a facilitated workshop bringing stakeholders together with different perspectives to talk about the product and define the requirements. This approach ultimately builds trust, fosters relationship, and improves communication among participants, developing user stories. (PMI, 2013. p. 114).

Site Visits – Site visits would be needed to at least two similar regional companies that have deployed EDMS to gain first-hand knowledge on how these systems work in a corporate environment and learn from their experiences. These site visits would be attended by the ECM consultant, Project Manager and if possible a team member. Additionally, these companies will be used as benchmarks to compare actual practices and to measure performance. As Stroud (2017) expressed in an article, it is “a way of discovering what is the best performance being achieved” (para. 1).

In addition to these site visits, questionnaires will be administered to other similar companies to gain ideas and information on the use of their EDMS that are already in place and functioning.

Requirements Definition – The requirements will be defined and documented. A requirements’ definition document will include goals, business process, critical factors, current environment, technical requirements, number of users, work processing requirements, among others.

RFP - Procuring the ECM solution and implementation services (the RFP process) The Project Manager and the project Team will do the preparation of the RFP

document. After the RFP is written, it must be approved by the Steering Committee. Subsequently, the relevant process that follows will proceed.

Hire Staff – The Project Manager will be responsible for hiring a Records Manager for this project. Expert knowledge sought from the ECM consultant on the selection will include price agreement. After which, the Project Manager will have to provide justification on such position which will then be approved by the Steering Committee. Following this, the job function and qualification requirements will be sent to the HR&A department to advertise the position.

Training – Once the EDM software is selected and installed, basic user and administrator training is required. The training document or plan has to be developed and approved. The approved training plan or document will include user manuals or quick references; the use of Microsoft PowerPoint presentations will be provided by the Vendor who will be conducting the training onsite.

Requirements Documentation

The requirements documentation will be created which will include the business requirements, stakeholder requirements, solutions requirements, project requirements, and transition requirements along with requirements assumptions, dependencies and constraints (quality requirements). These requirements will be prioritized so that they will not conflict with each other. See sample Requirements Documentation table (Chart 8):

Chart 8 Requirements Documentation

Req. ID	Requirement Name	Requirement Objective	Required by (stakeholder)	Category	Priority	Acceptance Criteria	Validation Method

Source: Project Management Docs

Requirements Traceability Matrix

Additionally, a requirements traceability matrix will be generated so that all the requirements are linked to the objectives and/or other requirements to ensure that the strategic goal is accomplished, confirming that all items are covered so that no functionality should be missed while testing.

Chart 9 Requirements Traceability Matrix

Project Name	***EDMS***					**Requirement Traceability Matrix**				
Project No.	***1***									
Client	***St. Vincent Electricity Services***							**Date**	***2nd August***	
Contractor										
Subcontractor								**Checked**	***Project***	
Req. ID	**Requirement Name**	**Priority**	**Category**	**Required by**	**Owner**	**WBS ID**	**Techn. Documentation Reference**	**...**	**Validation Document. Reference**	**Sign-off**

Source: Project Management Docs

Define Scope

Define Scope is a process that primarily details what is and is not included in the project and product. This process will use the requirements documentation created in the Collect Requirements process, the Project Charter and any other information regarding project risk, assumptions, and constraints to define the project and product scope. Expert judgment, alternative generation and facilitated workshops will be the key tools for defining scope in this planning stage.

The Scope of this project includes:

- Planning an EDMS for the HR&A department
- Development of EDM and ERM policies and procedures for HR&A department
- Training of Staff in the use of the system
- Test and deploy EDMS

The activities and deliverables that are not included in the project:

- Planning of EDMS for other Departments in the Company
- Development of EDM and ERM policies and procedures for other departments
- User Desktop Hardware upgrade or replacement.
- EDM system in other companies in SVG
- Email Archiving: The capability to capture, manage, store and retrieve email.
- Enterprise IT Security Management Program: Although identity management and security, through the use of auditing will be built into the implementation of the ECM solution (EDMS), Identity Management and Directory Access Services will not be included in this project.
- Web Content Management.

The areas that are included in the project will be used as the basis to create the project scope statement and provide updates for the project documents and management plans.

Create WBS

The work required for the creation of the WBS include the project team, the ECM consultant and Project Manager through meetings to subdivide project deliverables and project work into smaller, more manageable components. This will be done using decomposition and expert judgment techniques. The implementation plan provides an overview of the project by providing a description of the project in

terms of the major categories of work, primary activities and responsibilities, deliverables and overall project timeline. Each of the activities and tasks required to implement the EDMS strategy has a specific associated deliverable. The WBS highlights the major work packages to carry out the work of the project phases. At a high level, the work is organized into seven separate work categories:

- Governance
- Requirements Definition
- Site Visits
- RFP Process
- Hire Staff
- Implementation

These categories are represented in detail in the WBS Chart 10 and Figure 6 below:

Chart 10 WBS- EDMS VINLEC

1. Governance
1.1 Research
1.2 Policy and Procedure Development
1.3 Review/Feedback
1.4 Amendment
2. Requirements Definition
2.1 Hold requirements definition workshop
2.2 Prepare requirements definition proposal
2.3 Review requirements definition proposal
2.4 Revise requirements definitions
3. Site Visits
3.1 Arrange site visits
3.2 Arrange travel and accommodations
3.3 Visit sites
3.4 Prepare report/presentation on site visits
3.5 Give presentation on site visits
4. RFP Process
4.1 Prepare RFP
4.2 Review RFP
4.3 Issue RFP to vendors
4.4 Evaluate proposals and select winner
4.5 Prepare contract
4.6 Finalize Contract
5. Hiring Staff
5.1 Records Manager
5.2 Administrative Staff
6. Implementation
6.1 Training
6.2 Equipment
6.3 Installation
6.4 Test EDM system
6.5 Deploy EDM system
6.6 Performance Evaluation

(Source: Compiled by Author)

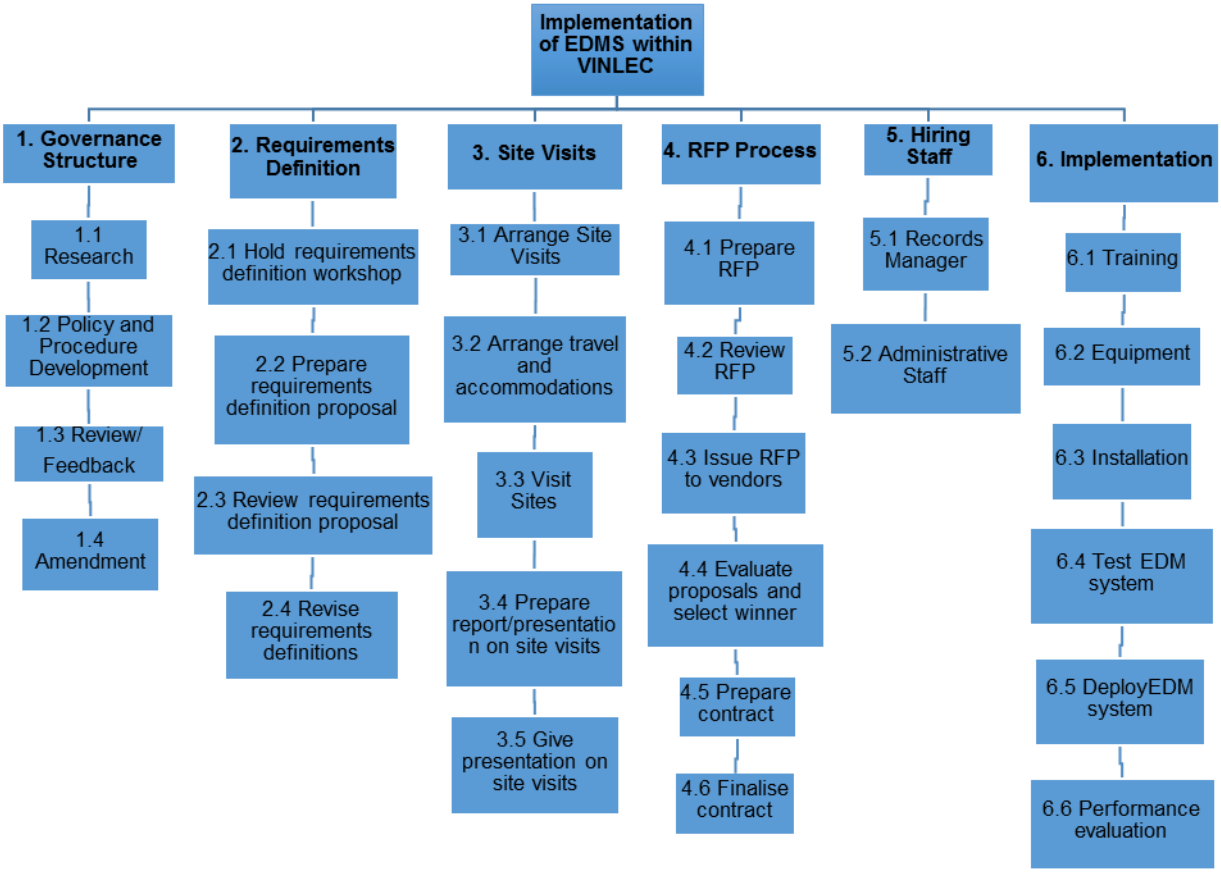


Figure 6 WBS - EDMS VINLEC
(Source: Compiled by Author)

In order to provide further information on work packages for the EDMS project completion, the WBS Dictionary is created. It details the deliverables, activities and scheduling information of each component in the WBS. The WBS also details the resources and materials required to perform the specific activity. It can also be used as a tracking tool for work package completion. The following figure 7 depicts a sample WBS Dictionary that contains information about the work package Requirements Definition in this project:

The WBS		WBS Dictionary			
Project Name	***EDMS Project***				
Client				**Date**	
Contractor	***ECM Client***				
Sub-Contractor		**WBS ID**	*23*	**Checked by**	
		WP Name	*Requirements Definition*		
WP Description	*This entails a requirement definition workshop on general and technical requirements needed for the project*			**Assumptions & Constraints:**	

Level	**Name**	**Human Resource**			**Non-human Resource**			**Material**				**Line Total**
		Hours	Rate	Total	Hours	Rate	Total	QTY	Rate	Total		
2	**Requirements Definition**											
2.1	**Hold Requirements Definition Workshop**											
2.1.1	Discuss Project General requirements											
2.1.2	Discuss Project Technical requirements											
2.1.3	Identify existing IS infrastructure											
2.2	**Prepare requirements definition**											
2.2.1	Outline decision made in req. def.											
2.3	**Review requirements definition proposal**											
2.3.1	Ensure requirements are met											
2.4	**Revise Requirements Definition**											
2.4.1	Implement changes											
2.4.2	Submit requirements for approval											
2.4.3	Approval of requirements definition proposal											

Quality Requirements	**Acceptance Criteria**
Technical Reference	**Contractual Info**

Figure 7 Sample WBS Dictionary
(Source: Project Management Docs)

Validate Scope

The scope validation will happen at the end of each phase of the project. During the project life cycle additional requirements may occur, requirements may change or requirements that may have been improperly collected, will need adjustment. This discovery occurs through the inspection technique. However, once the deliverable is accepted by the Steering Committee, the verified project documents will be updated, approved and signed off. This ensures that the project work remains within the scope of the project on a consistent basis throughout the life of the project.

Control Scope

Monitoring the status of the project and managing changes will allow the scope baseline to be maintained throughout the project. The project must be done with a view to ensuring that the scope defined is only what is included in this project and that any changes done are handled and processed. The Project Manager and the project Team must work together to control the scope of the project by ensuring that all requested changes and recommended corrective and preventive actions are processed through the Performed Integrated Change process. A variance analysis must be conducted to determine the cause and difference between the scope baseline and the actual performance.

Additionally, the Project Manager, along with the project team, must develop and implement a change control system. The project team will ensure that they perform only the work described in the WBS Dictionary and generate the defined deliverable for each WBS element. The Project Manager will oversee the project team and the progression of the project to ensure that this scope control process is followed. He will conduct a variance analysis, identify the reason for the variance and decide whether corrective and preventive action is required.

4.2. Project Time Management

Mulcahy (2013) explains time Management as “documenting how you will plan, manage, and control the project schedule”. (p. 199).

According to the PMI (2013), “Project Time Management includes the processes required to manage the timely completion of the project”. (p. 141). Its processes are as follows:

- Plan Schedule Management (Planning process group)
- Define Activities (Planning process group)
- Sequence Activities (Planning process group)
- Estimate Activity Resources (Planning process group)
- Estimate Activity Durations (Planning process group)
- Develop Schedule (Planning process group)
- Control Schedule (Monitoring and controlling process group)

The EDMS Project’s schedule, based on expert judgment by the Project Manager and the ECM Consultant, along with selected skilled and experienced project team, has a scheduled duration of approximately 261 days, beginning August 22, 2016 and ending August 21, 2017. The six (6) phases of the project including, the Governance Structure is scheduled to last for 53 days, Requirements Definition 22 days, Site Visits 49 days, the RFP process 93 days, the Hiring of Staff 193 days while Implementation of the project will be 74 days resulting in the culmination of the project.

<u>Plan Schedule Management</u>

The Enterprise Environmental factors of VINLEC, including its culture and structure in terms of hiring, purchasing software and training will affect the schedule management. The availability of resources such as vendor software and skilled personnel, both internal and external to VINLEC may also influence the schedule planning. The schedule will be documented to complete the timing of the project

using Gantt Charts built into Microsoft Project. Microsoft Excel 2016 and Microsoft Word 2016 are additional tools that will be used to document the plan. The schedule will be measured in days starting with the deliverables and work packages identified in the WBS.

The organizational process assets that will influence the Plan Schedule Management include the developed policy and procedure document that will be used as well as the monitoring and reporting tools and historical information used by VINLEC.

The schedule is established using expert judgment based on experience, skill, specialized education and expertise from the ECM consultant, other companies who may have implemented EDMS or any other in the team and the Steering Committee for the policy and procedure document aspects of the project. The scheduling technique includes the rolling wave planning, leads and lags, alternatives analysis and methods for reviewing the schedule performance of the project. The Project Team may also hold meetings to discuss, plan and develop the schedule management plan. These meetings may include the project steering committee, ECM Consultant, Project manager, team members and other selected stakeholders.

The unit of measure that is considered to be used in the schedule management plan in this project includes days for the activities while the Project Team is managed on an hourly rate. Resources that are utilized by this project comprise the company’s personnel. The selection and hiring of each project team member are considered based on their specific skills to carry out activities in their field of expertise. A written and formal report will be provided to the Steering Committee at the end of each task/activity. However, informal reports such as simple updates on how the project is going (on schedule and on budget) at least once a week between Project Manager, ECM consultant and the project team members are

necessary. This Schedule Management Plan sets the format and establishes criteria for developing and controlling the project schedule.

Define Activities

The activity list would be defined using expert judgment with ECM consultant and other major stakeholders of the project to divide the project scope and project deliverables into smaller, manageable parts. For this project, it involves taking the work packages created in the WBS (Figure 6) and decompose them into activities that are required to produce the work package deliverables. The activities will be broken up small enough to estimate for the attributes of resources, time and cost and can be assigned to a single person or group depending on their skills and experience in their field of work. The activities would be identified by an ID number, which would allow for tracking of resources / personnel allotment to each activity and for differentiation between the type of outcomes and schedule for each activity. The following Chart 11 depicts the activity list and shows part of the work that has already been completed:

Chart 11 Activity List

	Activity List		
	Project: Document Management in VINLEC		
ID	Activity Name	Description of Works	Responsibility
1	**1. Governance Structure**	This include activities where the focus is on acquiring all first hand information on ECM solutions, Research, Development, Review/Revise, Approve and Amendment of index, policy and procedure of documents.	Project Team,Project Manager
2	**1.1 Research**	This activity is the begining stages, finding out about ECM solutions and practices and to determine which one best suits the company.	
3	1.1.1 Research present information management practices		Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant, Records Manager
4	1.1.2 Research policy options		Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant, Records Manager
5	1.1.3 Research indexing standards		Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant, Records Manager
6	1.1.4 Research procedures options		Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant, Records Manager
7	1.1.5 Research functionalities of Content Manager software		Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant
8	1.1.6 Research vendors		Project Manager,Project Team 1,Project Team 2,Project Team 3, Records Manager
9	**1.2 Policy and Procedure Development**	Team will start work on policy, index standards and procedure documents	
10	1.2.1 Develop policy document		Project Team 1,Records Manager
11	1.2.2 Define index standards for HR&A		Project Team 2,Records Manager
12	1.2.3 Define procedures for HR&A		Project Team 3,Records Manager
13	**1.3 Review/Feedback**	The development of the index, policy and procedure documents will be reviewed	
14	1.3.1 Review governance approach proposal and give feedback		Steering Committee,Project Manager, ECM Consultant
15	1.3.2 Review policy, procedures and indexing proposals and give feedback		Steering Committee,Project Manager, ECM Consultant
16	1.3.3 Report on findings of Content Manager software research		Project Manager
17	**1.4 Amendment**	This includes changes that will be made to the document after review, pending approval	
18	1.4.1 Amend policy document		Project Team 1
19	1.4.2 Amend procedures document		Project Team 3
20	1.4.3 Amend indexing document		Project Team 2
21	1.4.4 Submit proposal for approval		Project Manager
22	1.4.5 Approval of Governance Proposal		CEO,Steering Committee

23	**2. Requirements Definition**	This entails a requirements definiton workshop on general and technical requirments needed from ECM vendors	
24	**2.1 Hold requirements definition workshop**	This activity discusses indept general and technical requirements	
25	2.1.1 Discuss project general requirements		Steering Committee,Poject Manager,Project Team 1,Project Team 2,Project Team 3,ISD
26	2.1.2 Discuss project technical requirements		Steering Committee,Poject Manager,Project Team 1,Project Team 2,Project Team 3,ISD
27	2.1.3 Identify existing IS architecture and infrastructure for EDMS integration		ISD
28	**2.2 Prepare requirements definition proposal**	This activity starts the actual work outlining on paper the decisions made in workshop	ECM Consultant
29	2.2.1 Outline decision made in requirements definition workshop		Project Manager
30	**2.3 Review requirements definition proposal**	This activity reviews the document and ensures that all requirments are included	
31	2.3.1 Ensure that all requirements are met		Project Manager
32	2.3.2 Identify any changes to be made		Steering Committee
33	**2.4 Revise requirements definitions**	This activity includes making changes to the document, if any and send for approval.	ECM Consultant
34	2.4.1 Implement changes identified in review requirements definition proposal		Project Manager
35	2.4.2 Submit requirements for approval		Project Manager
36	2.4.3 Approval of requirements Definition Proposal		Steering Committee,CEO
37	**3. Site Visits**	This includes the arrangement of the site visits, travel and accomodations, the actual site vists, prepare and present report on site visit stating the findings.	
38	**3.1 Arrange site visits**	This activity will specify the site locations for visits from project team to acquire knowledge of how EDMS is used at the specified sites.	
39	3.1.1 Identify location of site visit		Project Manager,ECM Consultant
40	3.1.2 Identify who will attend site visit		Project Manager,Steering Committee
41	**3.2 Arrange travel and accomodations**	This activity includes stating the selected number of attendees that will be travelling and calculating the travel expenses for each.	
42	3.2.1 Identify number of attendees		Project Manager,Steering Committee
43	3.2.2 Calculate Travel Expenses		HR&A Department
44	**3.3 Visit sites**	This activity will specify the site locations for visits from project team to acquire knowledge of how EDMS is used at the specified sites.	
45	3.3.1 View Demonstration of how application is operated		Project Manager,Project Team 1
46	3.3.2 Identify processes and procedures		Project Manager,Project Team 1
47	**3.4 Prepare report/presentation on site visits**	This activity includes summarizing in aa report all that would have observed and discussed during the site visits.	
48	3.4.1 Review responses from host company and meeting minutes		Project Manager,Project Team 1
49	**3.5 Give presentation on site visits**	This activity includes updating the rest of the stakeholders of the Visit through a presentation.	
50	3.5.1 Arrange meeting with Steering Committee & other stakeholders		Project Manager
51	3.5.2 Give presentation on Site Visits		Project Manager
52	**4. RFP Process**	This involves the RFP process, preparing and reviewing contracts to send to vendors. Selected Vendor will be notifed and contracts signed.	
53	**4.1 Prepare RFP**	This activity includes the preparation of the RFP document.	
54	4.1.1 Outline details of proposal		Project Team 2,Project Team 3
55	4.1.2 Submit draft proposal to Steering Committee		Project Manager

56	**4.2 Review RFP**	This activity includes the adjustments to the document, if any.	
57	4.2.1 Review RFP draft proposal		Steering Committee
58	4.2.2 Finalise RFP changes		Project Manager, Project Team 1,Project team2, Project Team 3
59	4.2.3 Finalise selection criteria		Records Manager
60	4.2.4 Submit RFP for Approval		Project Manager
61	4.2.5 Approve RFP		Steering Committee
62	**4.3 Issue RFP to vendors**	This activity includes sending the RFP to vendors	
63	4.3.1 Prepare shortlist of vendors		Records Manager,Project Team 1,Project Team 2,Project Teamc3
64	4.3.2 Send RFP to vendors		Project Manager
65	**4.4 Evaluate Proposal and select winner**	This includes the selction of the best fit/appropriate ECM vendor for VINLEC	
66	4.4.1 Receive proposal from vendors		Project Manager
67	4.4.2 Evaluate proposals based on selection criteria		Project Manager
68	4.4.3 Send evaluated proposals to Steering Committee for review		Project Manager
69	4.4.4Approve proposal		Steering Committee
70	**4.5 Prepare Contract**	This include the preparation of a contract agreement between VINLEC and vendor, and sent for aaproval.	
71	4.5.1 Prepare draft contract		Project Manager, Project Team 1,Project Team 2,Project Team 3
72	4.5.2 Submit to Steering Committee for review		Project Manager
73	4.5.3 Review contract and make changes		Steering Committee
74	4.5.4 Finalise contract and submit to Steering Committee		Project Manager
75	4.5.5 Approve contract		Steering Committee
76	**4.6 Finalise Contract**	This activity includes the final stages of the contract. Document is sent for signature and keep as record on file.	
77	4.6.1 Send contract to vendor for review		Project Manager
78	4.6.2 Finalise contract		Project Manager,Vendor
79	4.6.3 Sign contract		Project Manager,Vendor
80	4.6.4 Keep copy on file		HR&A Department

81	**5. Hiring Staff**	This includes hiring a Records Manager position to oversee the EDM process in the company. Hiring other administrative Staff to assist in scanning of all company wide documents.	
82	**5.1 Records Manager**	This activity includes researching the job functions of a Records manager, preparing job functions, prepare justification for new position, advertise position, hold interviews,select and hire individual.	
83	5.1.1 Research Records Manager job function and qualification requirements		Project Manager
84	5.1.2 Prepare job description		Project Manager
85	5.1.3 Prepare justification for new position		Project Manager
86	5.1.4 Advertise position		HR&A Department
87	5.1.5 Hold interviews		HR&A Department
88	5.1.6 Evaluate candidates and select winner		HR&A Department
89	5.1.7 Hire individual		HR&A Department
90	**5.2 Administrative Staff**	This activity includes preparing job functions for the administrative staff, prepare justification for new position, advertise position, hold interviews,select and hire candidate..	
91	5.2.1 Prepare document management administrative staff job description		Project Manager,Records Manager
92	5.2.2 Prepare justification for new position		Project Manager,Records Manager
93	5.2.3 Advertise positions		HR&A Department
94	5.2.4 Hold interviews		HR&A Department
95	5.2.5 Evaluate candidates and select winners		HR&A Department
96	5.2.6 Hire individuals		HR&A Department
97	**6. Implementation**	This where the plan comes together. It includes Training, Equipment sourcing, installation and testing of hardware and software, deploy and evaluation of system	
98	**6.1 Training**	This activity involves both admin and end user training in the use of EDMS application and policy and procedure of the processes. Training manuals and other relevant material for training will be obtained.	
99	6.1.1 Conduct onsite administrator training for up to 5 persons		Vendor
100	6.1.2 Conduct onsite user training for up to 20 persons		Vendor
101	6.1.3 Obtain training manuals		Project Manager

102	**6.2 Equipment**	This activity includes selecting and sourcing the equipment from specified vendor bearing in mind the existing network architecture and specified requirements.	
103	6.2.1 Create Purchase Order and purchase equipment		Project Manager
104	6.2.2 Prepare and ship equipment to St. Vincent		Vendor
105	6.2.3 Receive equipment from vendor		Stores Section
106	**6.3 Installation**	This activity includes the installation of the hardware and software.	
107	6.3.1 Install and configure hardware		Vendor,ISD
108	6.3.2 Install and configure software		Vendor,ISD
109	**6.4 Test EDM system**	This activity involves testing and ensuring that the installed hardware and software are functioning correctly. If any isues, they must be rectified before GO LIVE.	ISD,Project Team
110	6.4.1 Initiate pilot period		Project Manager,ISD,Records Manager
111	6.4.2 Report on issues and have them rectified (if any)		Project Manager,ISD,Records Manager
112	**6.5 Deploy EDMS systems**	This involves GO LIVE stages, pilot period has ended.	
113	6.5.1 Roll out to HR&A department and other users		ISD,Records Manager
114	**6.6. Performance evaluation**	This includes post implementation process where an evaluation will be done to check on the performance and efficieny aspects.	
115	6.6.1 Conduct performance evaluation		Project Manager,ECM Consultant
116	6.6.2 Prepare and Issue performance evaluation report		Project Manager,ECM Consultant

(Source: Compiled by Author)

A milestone, as stated by fifth edition PMBOK, is a significant point or event in a project (PMI, 2013, p. 153). The Milestone as demonstrated in Chart 12 shows the events within this project schedule. They are considered as intermediate stages that the project team has to fulfill before reaching the final goal of the project, which is implementing EDMS in VINLEC. There may be smaller milestones, which are not included on the chart but are included in the project schedule and WBS. Milestone are not work activities, and they have zero duration since they are just representations of the period in time. Subject matter Experts and other skilled and trained team members along with the Project Manager and to some extent the Steering Committee who are involved in developing the schedule are responsible for setting points on the project as milestones. This can be done so that the Project Manager and the project team will use it as a checkpoint to help control the project and to stay on track. It is also useful to the Project Manager and team to accurately determine whether or not the project is on schedule. If any of the work in the project is not completed and the checkpoint is reached, this can indicate that the project is not progressing as planned.

In addition, not every deadline met or task completed in this project will represent a milestone. However, the milestones in this project will be used as proof in status meetings for explaining and reporting the status of the project, maintain accountability and to motivate the team. High priority tasks or decisions that are crucial to project completion, for example, change requests and documentation, will need to be approved and signed off by the Steering Committee in order to achieve certain milestones. The below Chart 12 displays each start and finish dates for each milestone of the various project deliverables.

Chart 12 Milestone List

ID #	Activity	Milestone	Due date
	Electronic Document Management Project	Prepare and Issue Performance Evaluation Report	August 21st 2017
1	Governance Structure	Approval of Governance Approval	November 24th 2016
23	Requirements Definition	Approval of Requirements Definition Proposal	October 26th 2016
37	Site Visits	Give presentation on Site Visits	December 26th 2016
52	RFP Process	Sign Contract	May 9th 2017
81	Hiring Staff	Hire Individuals	September 12th 2016
97	Implementation	Roll out to HR&A department and otehr users	August 7th 2017

(Source: Compile by author)

Sequence Activities

The sequence activities process is important for identifying and documenting relationships among the project activities, milestones and phases of a project. The Activity sequencing will be used in this Project to determine the order of work packages and assign relationships between project activities. This project is intended to be done in house and will be performed by the employees of the company who has their other individual duties. Most activities are done simultaneously and sequentially while others are performed consecutively. The proper sequencing of the project's activities will be done so that the project manager will be able to monitor and control the project effectively. The project scope statement, activity list and milestone list, which are explained, in the previous process (Define Activities) and organizational process assets contribute to the sequence. The Precedence Diagramming Method, the Dependency Determination, and Leads and Lags are used to draw the network diagram.

The Precedence Diagramming Method is a technique used for constructing a schedule model in which nodes (boxes) are used to represent activities and are graphically linked by one or more logical relationships to show the sequence in which the activities are to be performed. (PMI, 2013, p. 156). There are four types of logical relationships between activities:

Finish-to-Start (FS) – A successor activity cannot start until a predecessor activity has finished. For example, Activity 2.2.2 and 2.2.1 in EDMS project, calculate travel expenses (successor) cannot start until identifying the number of attendees.

Finish-to-Finish (FF) – A successor activity cannot finish until a predecessor activity has finished. For example, Activity 5.1.4 and 5.1.5 in EDMS project, advertising a job position is required to finish before holding job interviews.

Start-to-Start (SS) – A successor activity cannot start until a predecessor activity has started. For example, Activity 6.2.2 and 6.2.1 in EDMS project, obtain vendor quotes (successor) cannot begin until select equipment begins.

Start-to-Finish (SF) – A successor activity cannot finish until a predecessor activity has started. For example, Activity 6.4.2 and 6.4.1 in EDMS project, report on issues and have them rectified (successor) cannot finish until the initiate pilot period has started.

The dependencies, leads and lags would be estimated using the Microsoft Project Platform. A graphical representation of all four types of logical relationships is shown in Figure 8 (Precedence Diagramming Method (PDM) Relationship Types for EDMS project) for this project.

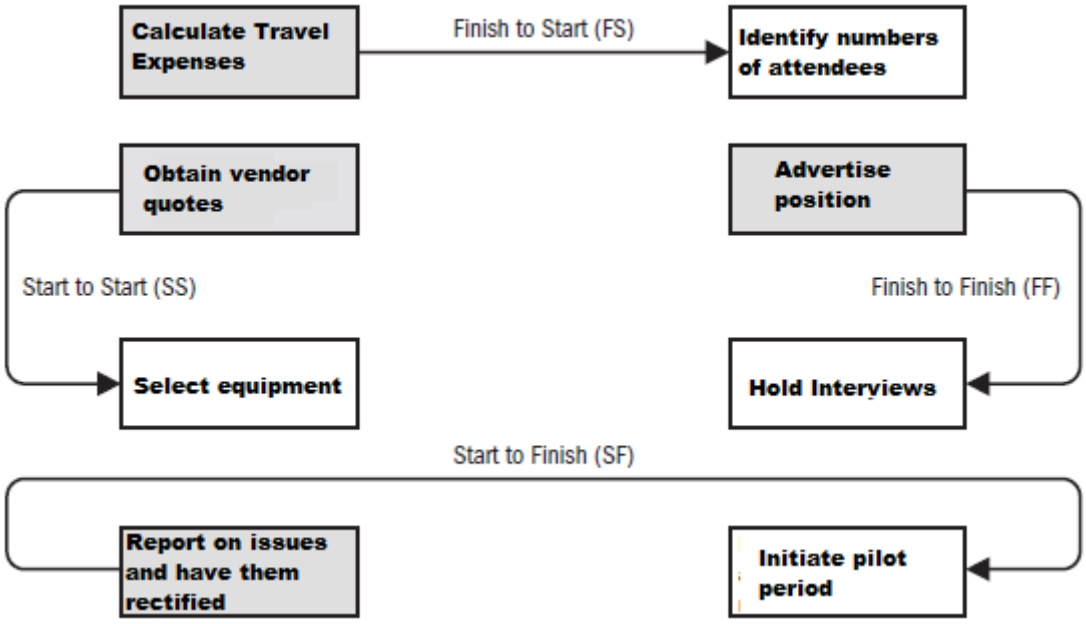


Figure 8 Precedence Diagramming Method (PDM) Relationship Types for EDMS Project (Source: Compile by Author)

Estimate Activity Resources and Durations

The Estimate Activity Resources refers to the estimation of the types and quantities of material, human resources, equipment, or supplies that are required to perform each of the activities of the project while the Estimate Activity Durations estimates the number of work periods needed to complete the individual activities with estimated resources. The activity list, resources calendars and the network diagram will be utilized for resource and duration estimation of each activity. The Project manager and the ECM Consultant will perform this process during meetings using expert judgment and group decision-making techniques along with other team member with specific expertise in VINLEC. The chart 13 shows the activity list, resources and duration:

Chart 13 Activity Resources and Duration

ID	Name	Duration	Start	Finish	Predecess(	Resource Names
1	**Document Management Project**	**261 days**	**Aug 22 '16**	**Aug 21 '17**		
2	**1. Governance Structure**	**53 days**	**Sep 13 '16**	**Nov 24 '16**		
3	**1.1 Research**	**10 days**	**Sep 13 '16**	**Sep 26 '16**		
4	1.1.1 Research present information management practices	10 days	Sep 13 '16	Sep 26 '16	94	Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant,Records Manager
5	1.1.2 Research policy options	10 days	Sep 13 '16	Sep 26 '16	94	Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant,Records Manager
6	1.1.3 Research indexing standards	10 days	Sep 13 '16	Sep 26 '16	94	Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant,Records Manager
7	1.1.4 Research procedures options	10 days	Sep 13 '16	Sep 26 '16	94	Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant,Records Manager
8	1.1.5 Research functionalities of Content Manager software	10 days	Sep 13 '16	Sep 26 '16	94	Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant
9	1.1.6 Research Vendors	5 days	Sep 13 '16	Sep 19 '16	94	Project Manager,Project Team 1,Project Team 2,Project Team 3,Records Manager
10	**1.2 Policy and Procedure Development**	**10 days**	**Oct 27 '16**	**Nov 9 '16**		
11	1.2.1 Develop policy document	10 days	Oct 27 '16	Nov 9 '16	38	Project Team 1,Records Manager
12	1.2.2 Define index standards for HR&A	10 days	Oct 27 '16	Nov 9 '16	38	Project Team 2,Records Manager
13	1.2.3 Define procedures for HR&A	10 days	Oct 27 '16	Nov 9 '16	38	Project Team 3,Records Manager
14	**1.3 Review/Feedback**	**42 days**	**Sep 27 '16**	**Nov 23 '16**		
15	1.3.1 Review governance approach proposal and give feedback	10 days	Nov 10 '16	Nov 23 '16	10	Steering Committee,Project Manager,ECM Consultant
16	1.3.2 Review policy, procedures and indexing proposals and give feedback	10 days	Nov 10 '16	Nov 23 '16	10	Steering Committee,Project Manager,ECM Consultant
17	1.3.3 Report on findings of Content Manager software research	1 day	Sep 27 '16	Sep 27 '16	8	Project Manager
18	**1.4 Amendment**	**11 days**	**Nov 10 '16**	**Nov 24 '16**		
19	1.4.1 Amend policy document	5 days	Nov 10 '16	Nov 16 '16	11	Project Team 1
20	1.4.2 Amend procedures document	5 days	Nov 10 '16	Nov 16 '16	13	Project Team 3
21	1.4.3 Amend indexing document	5 days	Nov 10 '16	Nov 16 '16	12	Project Team 2
22	1.4.4 Submit proposal for approval	1 day	Nov 17 '16	Nov 17 '16	19,20,21	Project Manager
23	1.4.5 Approval of Governance Proposal	5 days	Nov 18 '16	Nov 24 '16	22	CEO,Steering Committee
24						
25	**2. Requirements Definition**	**22 days**	**Sep 27 '16**	**Oct 26 '16**		
26	**2.1 Hold requirements definition workshop**	**5 days**	**Sep 27 '16**	**Oct 3 '16**		
27	2.1.1 Discuss project general requirements	5 days	Sep 27 '16	Oct 3 '16	3	Steering Committee,Project Manager,Project Team 1,Project Team 2,Project Team 3,ISD
28	2.1.2 Discuss project technical requirements	5 days	Sep 27 '16	Oct 3 '16	3	Steering Committee,Project Manager,ISD,Project Team 1,Project Team 2,Project Team 3
29	2.1.3 Identify existing IS architecture and infrastructure for EDMS integration	5 days	Sep 27 '16	Oct 3 '16	3	ISD
30	**2.2 Prepare requirements definition proposal**	**2 days**	**Oct 4 '16**	**Oct 5 '16**		
31	2.2.1 Outline decision made in requiremnets definition workshop	2 days	Oct 4 '16	Oct 5 '16	26	Project Manager
32	**2.3 Review requirements definition proposal**	**4 days**	**Oct 6 '16**	**Oct 11 '16**		
33	2.3.1 Ensure that all requirements are met	2 days	Oct 6 '16	Oct 7 '16	31	Project Manager
34	2.3.2 Identify any changes to be made	2 days	Oct 10 '16	Oct 11 '16	33	Steering Committee
35	**2.4 Revise requirements definitions**	**11 days**	**Oct 12 '16**	**Oct 26 '16**		
36	2.4.1 Implement changes identified in review requirements definition proposal	5 days	Oct 12 '16	Oct 18 '16	34	Project Manager
37	2.4.2 Submit requirements for approval	1 day	Oct 19 '16	Oct 19 '16	36	Project Manager
38	2.4.3 Approval of Requirements Definition Proposal	5 days	Oct 20 '16	Oct 26 '16	37	Steering Committee,CEO

ID	Name	Duration	Predecessors	Resource Names
40	**3. Site Visits**	**33 days**		
41	**3.1 Arrange Site Visits**	**5 days**		
42	3.1.1 Identify location of site visit	3 days	10	Project Manager[167%],ECM Consultant[167%]
43	3.1.2 Identify who will attend site visit	2 days	42	Project Manager,Steering Committee
44	**3.2 Arrange travel and accomodations**	**4 days**		
45	3.2.1 Identify number of attendees	2 days	43	Project Manager
46	3.2.2 Calculate Travel Expenses for attendees	2 days	45	HR&A Dept
47	**3.3 Visit sites**	**5 days**		
48	3.3.1 View Demonstration of how application is operated	5 days		Project Manager,Project Team 1
49	3.3.2 Identify processes and procedures	5 days		Project Manager,Project Team 1
50	**3.4 Prepare report/presentation on site visits**	**5 days**		
51	3.4.1 Review responses from host company and meeting minutes	5 days		Project Manager,Project Team 1
52	**3.5 Give presentation on site visits**	**14 days**		
53	3.5.1 Arrange meeting with Steering Committee & other stakeholders	1 day	51	Project Manager
54	3.5.2 Give Presentation on Site Visits	1 day	53	Project Manager
55				
56	**4. RFP Process**	**93 days**		
57	**4.1 Prepare RFP**	**6 days**		
58	4.1.1 Outline details of proposal	5 days	23	Project Manager,Project Team 1,Project Team 2,Project Team 3
59	4.1.2 Submit draft proposal to Steering Committee	1 day	58	Project Manager
60	**4.2 Review RFP**	**17 days**		
61	4.2.1 Review RFP draft proposal	5 days	59	Steering Committee
62	4.2.2 Fiinalise RFP changes	5 days	61	Project Manager,Project Team 2,Project Team 1,Project Team 3
63	4.2.3 Finalise selection criteria	1 day	62	Records Manager
64	4.2.4 Submit RFP for Approval	1 day	63	Project Manager
65	4.2.5 Approve RFP	5 days	64	Steering Committee
66	**4.3 Issue RFP to vendors**	**3 days**		
67	4.3.1 Prepare short list of vendors	2 days	65	Records Manager,Project Team 1,Project Team 2,Project Team 3
68	4.3.2 Send RFP to vendors	1 day	67	Project Manager
69	**4.4 Evaluate Proposal and select winner**	**12 days**		
70	4.5.1 Receive proposals from vendors	1 day	68	Project Manager
71	4.5.2 Evaluate proposals based on selection criteria	5 days	70	Project Manager
72	4.5.3 Send evaluated proposals to Steering Committee for review	1 day	71	Project Manager
73	4.5.4 Approve proposal	5 days	72	Steering Committee
74	**4.5 Prepare Contract**	**18 days**		
75	4.5.1 Prepare draft Contract	2 days	73	Project Manager,Project Team 1,Project Team 2,Project Team 3
76	4.5.2 Submit to Steering Committee for Review	1 day	75	Project Manager
77	4.5.3 Review contract and make changes	5 days	76	Steering Committee
78	4.5.4 Finalise contract and submitt to Steering Committee	5 days	77	Project Manager
79	4.5.5 Approve contract	5 days	78	Steering Committee
80	**4.6 Finalize contract**	**18 days**		
81	4.7.1.Send Contract to Vendor for review	5 days	79	Project Manager
82	4.7.2 Finalise Contract	10 days	81	Project Manager,Vendor
83	4.7.2 Sign contract	2 days	82	Project Manager,Vendor
84	4.7.3 Keep copy on file	1 day	83	HR&A Dept

ID	Name	Duration	Predecessors	Resource Names
86	**5. Hiring Staff**	**193 days**		
87	**Records Manager**	**16 days**		
88	5.1.1 Research Records Manager job function and qualification requirements	2 days		
89	5.1.2 Prepare job description	1 day	88	Project Manager
90	5.1.3 Prepare justification for new position	1 day	89	Project Manager
91	5.1.4 Advertise position	5 days	90	Project Manager
92	5.1.5 Hold interviews	1 day	91	HR&A Dept
93	5.1.6 Evaluate candidates and select winner	5 days	92	HR&A Dept
94	5.1.7 Hire individual	1 day	93	HR&A Dept
95	**Administrative Staff**	**6 days**		
96	5.2.1 Prepare document management administrative staff job description	1 day	83	Project Manager,Records Manager
97	5.2.2 Prepare justification for new position	1 day	96	Project Manager,Records Manager
98	5.2.3 Advertise positions	1 day	97	HR&A Dept
99	5.2.4 Hold interviews	1 day	98	HR&A Dept
100	5.2.5 Evaluate candidates and select winners	1 day	99	HR&A Dept
101	5.2.6 Hire individuals	1 day	100	HR&A Dept
102				
103	**6. Implementation**	**74 days**		
104	**6.1 Training**	**74 days**		
105	6.1.1 Conduct onsite administrator training for up to 5 persons	3 days	114	Vendor
106	6.1.2 Conduct onsite user training for up to 20 persons	2 days	114	Vendor
107	6.1.3 Obtain training manuals	1 day	111	Project Manager
108	**6.2 Equipment**	**43 days**		
109	6.2.1 Create Purchase Order and Purchase Equipment	1 day	83	Project Manager
110	6.2.2 Prepare and Ship equipment to St. Vincent	5 days	109	Vendor
111	6.2.3 Receive equipment from vendor	1 day	110	Stores Section
112	**6.3 Installation**	**3 days**		
113	6.3.1 Install and configure hardware	2 days	111	Vendor,ISD
114	6.3.2 Install and configure software	1 day	113	Vendor,ISD
115	**6.4 Test EDM system**	**15 days**		
116	6.4.1 Initiate pilot period	10 days	106	Project Manager,ISD,Records Manager
117	6.4.2 Report on issues and have them rectified (if any)	5 days	116	Project Manager,ISD,Vendor,Records Manager
118	**6.5 Deploy EDMS system**	**1 day**		
119	6.5.1 Roll out to HR&A department and other users	1 day	117	ISD,Records Manager
120	**6.6. Performance evaluation**	**10 days**		
121	6.6.1 Conduct performance evaluation	5 days	119	Project Manager,ECM Consultant
122	6.6.2 Prepare and Issue performance evaluation report	5 days	121	Project Manager,ECM Consultant

(Source: Compiled by Author)

Develop Schedule

The Project schedule was developed by the use of historical information of previous or similar projects; the scope statement; activity list and attributes; the network diagram, among others. The work involved that would be needed to actually develop the schedule includes meeting with the other managers to negotiate for resources, applying leads and lags to the schedule, conducting meetings and conversations to gain stakeholder buy-in and formal management approval and looking for alternative ways to complete the work. Instead of assigning one team member to a project task, more than one individual can be assigned to speed up the process.

The applicable tools and techniques that will apply in this project include:

Schedule Network Analysis – which will show a graphical representation of a schedule with each sequenced activity and the time it takes to finish each activity. It identifies early and late start dates and early and late finish dates for the uncompleted portions of project activities.

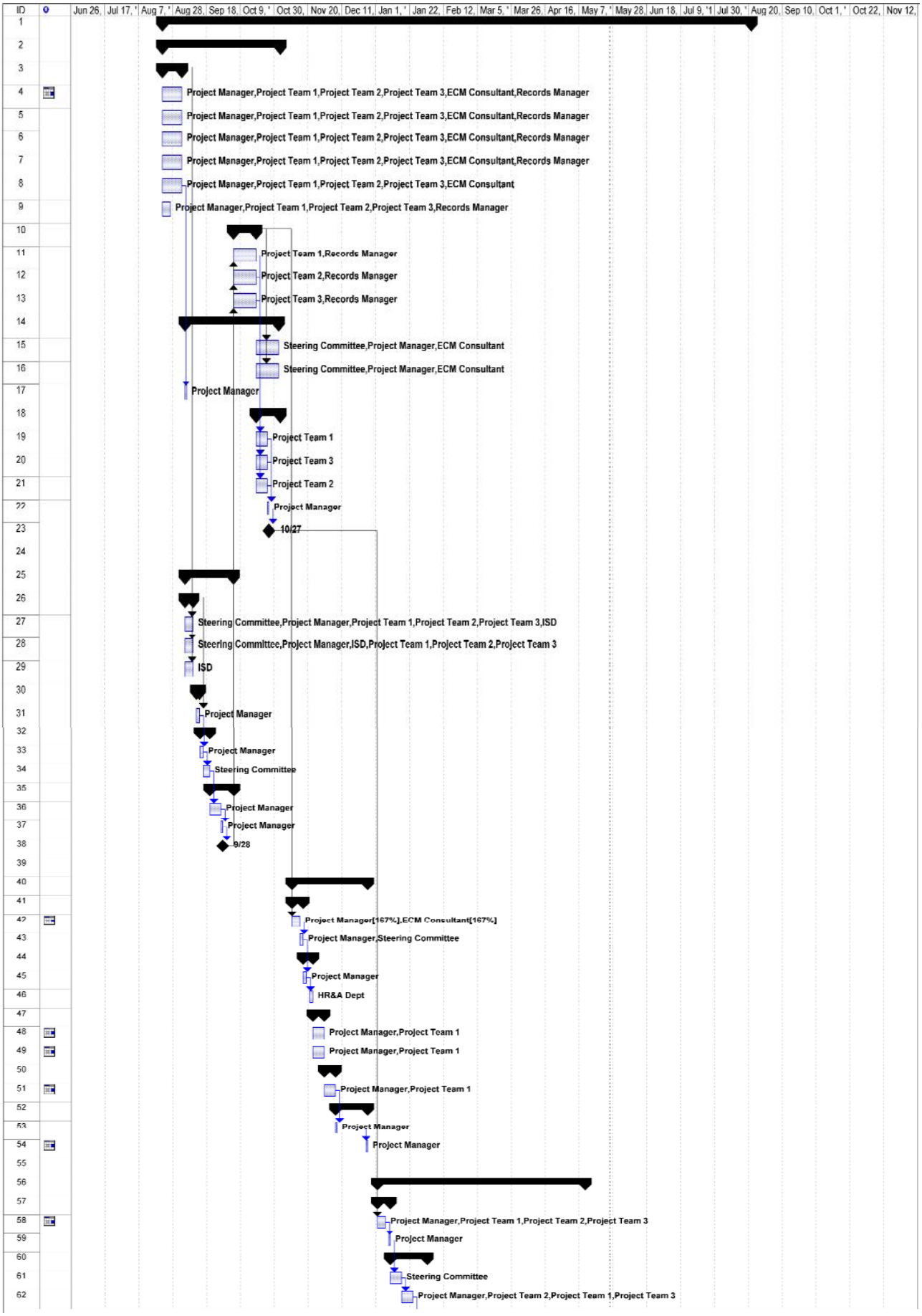
Critical Path Method – will be a step-by-step method used to estimate the minimum project duration to determine the amount of scheduling flexibility on the logical network paths within the schedule model with the goal of preventing time-frame problems and bottlenecks.

Leads and Lags – both will be used in the development of the project schedule. Lead will be used to advance a successor activity with respect to the predecessor activity. For example, in the finish-to-start activity relationships of the project. On the other hand, lags will be used where there is a delay in the successor activity or where a set time period elapses between predecessor and successor without work or resource impact.

Resource Optimization Techniques – resources will be allocated in such a way that the maximum output will be achieved. In this case, Resource levelling is applicable since tasks will be done simultaneously with daily work at VINLEC. Therefore, start and finish dates will have to be adjusted due to resource constraints. Certain

activities may have to be fast track because of balancing the demand of resources with supply.

The schedule baseline, which will be approved by the Steering Committee, is a schedule model that will be used as a basis for comparison to actual results. Additionally, a project schedule will be done using Gantt charts, milestone charts, and project schedule network diagrams to present the information. See figure 9 below:


ID
Jun 26, '
Jul 17, '
Aug 7, '
Aug 28, '
Sep 18, '
Oct 9, '
Oct 30, '
Nov 20, '
Dec 11, '
Jan 1, '
Jan 22, '
Feb 12, '
Mar 5, '
Mar 26, '
Apr 16, '
May 7, '
May 28, '
Jun 18, '
Jul 9, '11
Jul 30, '
Aug 20, '
Sep 10, '
Oct 1, '
Oct 22, '
Nov 12, '
Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant,Records Manager
Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant,Records Manager
Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant,Records Manager
Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant,Records Manager
Project Manager,Project Team 1,Project Team 2,Project Team 3,ECM Consultant
Project Manager,Project Team 1,Project Team 2,Project Team 3,Records Manager
Project Team 1,Records Manager
Project Team 2,Records Manager
Project Team 3,Records Manager
Steering Committee,Project Manager,ECM Consultant
Steering Committee,Project Manager,ECM Consultant
Project Manager
Project Team 1
Project Team 3
Project Team 2
Project Manager
10/27
Steering Committee,Project Manager,Project Team 1,Project Team 2,Project Team 3,ISD
Steering Committee,Project Manager,ISD,Project Team 1,Project Team 2,Project Team 3
ISD
Project Manager
Project Manager
Steering Committee
Project Manager
Project Manager
9/28
Project Manager[167%],ECM Consultant[167%]
Project Manager,Steering Committee
Project Manager
HR&A Dept
Project Manager,Project Team 1
Project Manager,Project Team 1
Project Manager,Project Team 1
Project Manager
Project Manager
Project Manager,Project Team 1,Project Team 2,Project Team 3
Project Manager
Steering Committee
Project Manager,Project Team 2,Project Team 1,Project Team 3

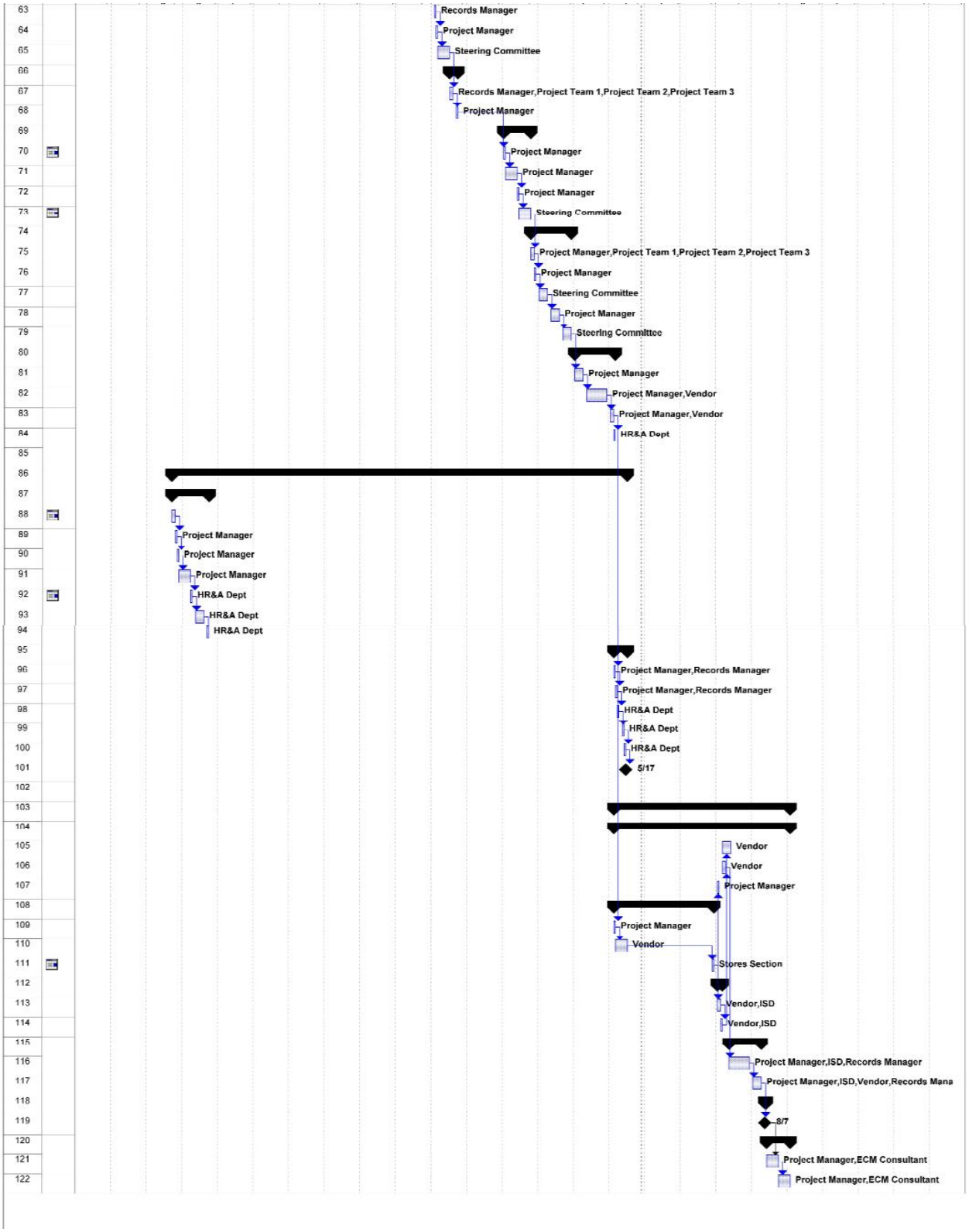


Figure 9 Gantt chart
(Source: Compile by Author)

Control Schedule

Control schedule is the monitoring process of the status of project activities, to update progress and manage changes to the schedule baseline to achieve the plan. Monitoring and control will be carried out in this project. The Project Manager and the Project Team are responsible for establishing and maintaining the project schedule. The Project Team will assess the current project schedule status and report variances as they are identified. The Project Manager along with the Project Team will continue to take corrective and preventive actions repeatedly during the life of the project to keep it in line with the plan and to eliminate or minimize schedule variances. This can be done by applying two tools and techniques:

Performance reviews – reviewing the project's progress in terms of percent complete and remaining durations on the project will be discussed through bi-weekly meetings with both Project Manager, ECM Consultant, the Steering Committee members and Project Team Members.

Schedule compression – finding ways to bring project activities that are behind in alignment by adjusting future parts of the project to deal with delays, rather than asking for a time extension.

The elements that will be updated and which will be included in the Project Management plan are the schedule baseline, schedule management plan and cost baseline. The project document that may need to be updated will also include schedule data, project schedule and risk register.

4.3. Project Cost Management

Project Cost Management includes “the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so that the project can be completed within the approved budget.” (PMI, 2013, p. 193). The following are its processes:

- Plan Cost Management (Planning process group)
- Estimate Costs (Planning process group)
- Determine Budget (Planning process group)
- Control Costs (Monitoring and controlling process group)

The Project Manager will be the one responsible for managing and reporting on the project’s cost throughout the project life cycle. This will be discussed during monthly status meetings. The Project Manager will meet with the Steering Committee to present and review the project’s cost performance for the rest of the months. Performance will be measured using earned value. The Project Manager is responsible for accounting for cost deviations and presenting the Steering Committee with options for getting the project back on budget. He has the authority to make changes to the project to bring it back within budget.

Plan Cost Management

Plan Cost Management involves the identification of how to plan, manage and control project costs. The cost management plan of the EDMS project is defined using the techniques of expert judgment and meetings between the Project Manager, ECM Consultant and the Steering Committee. These meetings will utilize the Enterprise Environmental Factors and Organizational Process Assets of the company to create the cost management plan and cost baseline. The project is budgeted at $160,467.13 EC dollars in total and will be self-funded by VINLEC. This funding amount supports hardware, software and ECM implementation services.

The Project's costs will be directly tracked in the WBS using rules of performance measurement such as Earned Value Management. Earned value is tracked using Schedule variance (SV), Cost variance (CV), Schedule Performance Index (SPI) and Cost Performance Index (CPI). It was defined by the Project Manager and project team with expert judgment and based on the sponsor's (Steering Committee) positive feedback, that a variance of SPI or CPI between 0.1 and 0.2 must be reported to the Project Manager with a reason and a detailed corrective plan to manage change control procedures. The range was selected because variances of 10% or +/-0.1 in the cost and schedule performance indexes will change the status of the cost to yellow or cautionary. Also, cost variances of 20% or +/-0.2 in the cost and schedule performance indexes will change the status of the cost to red or critical. Likewise, if the SPI or CPI has a variance greater than 0.2, the Project Manager must report this to the Steering Committee and provide reasons for this exception. Project Cost Management is to be done using the project management software Microsoft Project for creating Gantt Charts among others.

Cost reporting will be carried out during the project status report in the cost management section of the report. This section will detail all performance metrics, variances and corrective action plans. Changed requests would be made by the use of the change request form which is sent for approval and then documented and tracked in the report.

Estimate Cost

Estimate Cost is the process of developing cost estimates for each activity. Estimate Cost process would be carried out using Bottom-up estimating by the Project Manager, the ECM Consultant and expert judgment provided by a few members of the project team who have knowledge and experience in similar projects. The Activity Cost Estimates for all of the activities related to the EDMS project is Eastern Caribbean Dollars (EC) $160,467.13 equivalent to US$59,062.58

($1.00 EC dollar = $2.7169 US dollar). This amount was calculated after analyzing each level that describes a task that will be performed as well as their relationship to the deliverables from the WBS. However, currency fluctuations will be taken into consideration as resources such as the hardware and software are bought from abroad.

The costs are estimated from the labor resources allocated to each activity. Other estimated costs include the cost of the equipment (hardware and software) which will amount to $39,625.34 EC dollars under the activity “Create purchase order and purchase”. The cost estimated for performing such tasks is also identified. These estimates were approved by the Steering Committee. Any changes that need to be made will be done through the EDMS project’s change control procedure. The Enterprise Environmental Factors and the Organizational process assets will be considered when managing the overall costs of the project. Chart 14 below shows the Activity Cost Estimates of the EDMS project:

Chart 14 Activity Cost Estimate

	Project: Document Management in VINLEC	
ID	Activity Name	Cost Baseline
1	**1. Governance Structure**	**$24,920.00**
2	**1.1 Research**	**$14,840.00**
3	1.1.1 Research present information management practices	$2,880.00
4	1.1.2 Research policy options	$2,880.00
5	1.1.3 Research indexing standards	$2,880.00
6	1.1.4 Research procedures options	$2,880.00
7	1.1.5 Research functionalities of Content Manager software	$2,480.00
8	1.1.6 Research vendors	$840.00
9	**1.2 Policy and Procedure Development**	**$1,680.00**
10	1.2.1 Develop policy document	$560.00
11	1.2.2 Define index standards for HR&A	$560.00
12	1.2.3 Define procedures for HR&A	$560.00
13	**1.3 Review/Feedback**	**$7,280.00**
14	1.3.1 Review governance approach proposal and give feedback	$3,600.00
15	1.3.2 Review policy, procedures and indexing proposals and give feedback	$3,600.00
16	1.3.3 Report on findings of Content Manager software research	$80.00
17	**1.4 Amendment**	**$1,120.00**
18	1.4.1 Amend policy document	$80.00
19	1.4.2 Amend procedures document	$80.00
20	1.4.3 Amend indexing document	$80.00
21	1.4.4 Submit proposal for approval	$80.00
22	1.4.5 Approval of Governance Proposal	$800.00
23	**2. Requirements Definition**	**$6,320.00**
24	**2.1 Hold requirements definition workshop**	**$4,400.00**
25	2.1.1 Discuss project general requirements	$2,040.00
26	2.1.2 Discuss project technical requirements	$2,040.00
27	2.1.3 Identify existing IS architecture and infrastructure for EDMS integration	$320.00
28	**2.2 Prepare requirements definition proposal**	**$160.00**
29	2.2.1 Outline decision made in requirements definition workshop	$160.00
30	**2.3 Review requirements definition proposal**	**$480.00**
31	2.3.1 Ensure that all requirements are met	$160.00
32	2.3.2 Identify any changes to be made	$320.00
33	**2.4 Revise requirements definitions**	**$1,280.00**
34	2.4.1 Implement changes identified in review requirements definition proposal	$400.00
35	2.4.2 Submit requirements for approval	$80.00
36	2.4.3 Approval of requirements Definition Proposal	$800.00
37	**3. Site Visits**	**$3,240.00**
38	**3.1 Arrange site visits**	**$1,080.00**
39	3.1.1 Identify location of site visit	$600.00
40	3.1.2 Identify who will attend site visit	$480.00
41	**3.2 Arrange travel and accomodations**	**$560.00**
42	3.2.1 Identify number of attendees	$160.00
43	3.2.2 Calculate Travel Expenses	$400.00
44	**3.3 Visit sites**	**$960.00**
45	3.3.1 View Demonstration of how application is operated	$480.00
46	3.3.2 Identify processes and procedures	$480.00
47	**3.4 Prepare report/presentation on site visits**	**$480.00**
48	3.4.1 Review responses from host company and meeting minutes	$480.00
49	**3.5 Give presentation on site visits**	**$160.00**
50	3.5.1 Arrange meeting with Steering Committee & other stakeholders	$80.00
51	3.5.2 Give presentation on Site Visits	$80.00

52	**4. RFP Process**	**$7,920.00**
53	**4.1 Prepare RFP**	**$720.00**
54	4.1.1 Outline details of proposal	$640.00
55	4.1.2 Submit draft proposal to Steering Committee	$80.00
56	**4.2 Review RFP**	**$2,360.00**
57	4.2.1 Review RFP draft proposal	$800.00
58	4.2.2 Finalise RFP changes	$640.00
59	4.2.3 Finalise selection criteria	$40.00
60	4.2.4 Submit RFP for Approval	$80.00
61	4.2.5 Approve RFP	$800.00
62	**4.3 Issue RFP to vendors**	$256.00
63	4.3.1 Prepare shortlist of vendors	$176.00
64	4.3.2 Send RFP to vendors	$80.00
65	**4.4 Evaluate Proposal and select winner**	**$1,360.00**
66	4.4.1 Receive proposal from vendors	$80.00
67	4.4.2 Evaluate proposals based on selection criteria	$400.00
68	4.4.3 Send evaluated proposals to Steering Committee for review	$80.00
69	4.4.4 Approve proposal	$800.00
70	**4.5 Prepare Contract**	$2,336.00
71	4.5.1 Prepare draft contract	$256.00
72	4.5.2 Submit to Steering Committee for review	$80.00
73	4.5.3 Review contract and make changes	$800.00
74	4.5.4 Finalise contract and submit to Steering Committee	$400.00
75	4.5.5 Approve contract	$800.00
76	**4.6 Finalise Contract**	**$3,480.00**
77	4.6.1 Send contract to vendor for review	$400.00
78	4.6.2 Finalise contract	$2,400.00
79	4.6.3 Sign contract	$480.00
80	4.6.4 Keep copy on file	$200.00
81	**5. Hiring Staff**	**$59,947.00**
82	**5.1 Records Manager**	***$40,460.00***
83	5.1.1 Research Records Manager job function and qualification requirements	$160.00
84	5.1.2 Prepare job description	$80.00
85	5.1.3 Prepare justification for new position	$80.00
86	5.1.4 Advertise position	$900.00
87	5.1.5 Hold interviews	$120.00
88	5.1.6 Evaluate candidates and select winner	$600.00
89	5.1.7 Hire individual	$38,520.00
90	**5.2 Administrative Staff**	***$19,487.00***
91	5.2.1 Prepare document management administrative staff job description	$120.00
92	5.2.2 Prepare justification for new position	$120.00
93	5.2.3 Advertise positions	$887.00
94	5.2.4 Hold interviews	$120.00
95	5.2.5 Evaluate candidates and select winners	$120.00
96	5.2.6 Hire individuals	$18,120.00
97	**6. Implementation**	
98	**6.1 Training**	***$8,944.80***
99	6.1.1 Conduct onsite administrator training for up to 5 persons	$4,153.80
100	6.1.2 Conduct onsite user training for up to 20 persons	$4,711.00
101	6.1.3 Obtain training manuals	$80.00
102	**6.2 Equipment**	***$41,236.81***
103	6.2.1 Create Purchase Order and purchase equipment	$39,625.34
104	6.2.2 Prepare and ship equipment to St. Vincent	$800.00
105	6.2.3 Receive equipment from vendor	$811.47
106	**6.3 Installation**	***$4,780.00***
107	6.3.1 Install and configure hardware	$1,500.00
108	6.3.2 Install and configure software	$3,280.00
109	**6.4 Test EDM system**	**$4,400.00**
110	6.4.1 Initiate pilot period	$2,400.00
111	6.4.2 Report on issues and have them rectified (if any)	$2,000.00
112	**6.5 Deploy EDMS systems**	**$160.00**
113	6.5.1 Roll out to HR&A department and other users	$160.00
114	**6.6. Performance evaluation**	**$1,600.00**
115	6.6.1 Conduct performance evaluation	$600.00
116	6.6.2 Prepare and Issue performance evaluation report	$1,000.00
	Contingency (10%)	$11,129.18

(Source: Compiled by Author)

Determine Budget

The Project Manager will calculate the total cost of the project in order to determine the amount of money that the company needs to have available for the project. The project budget includes the funds that have been authorized for the project's execution. In this project the activity cost estimates, aggregated with other costs will establish the cost baseline. Reserve analysis which includes the contingency and management reserves are included in the cost estimates for this project. Contingencies are defined by VINLEC as 10% of the overall cost of the project. Contingencies may increase with the higher risk a project poses and the limitations of resource levelling. The project schedule and resource calendars that incorporate start and finish dates to which resources are assigned and when they contribute to the cost estimates are important for determining the budget. The risk register must be reviewed in order to determine how the risk response costs will be combined while the agreement information and cost will also be included when determining the budget. The organizational process assets may influence the process of determining the budget and may include existing formal and informal cost budgeting-related policies, procedures and guidelines.

The Expert Judgment of few project team members from Finance, ISD and the ECM Consultant will aid, through their knowledge and experience, and guidance when determining the project budget. Funds will be reconciled with any funding limits on the commitment of funds for the project. This will determine any possible variance between the funding limits and the planned expenditure. Chart 15 below introduces the Cost baseline and project budget, the approved version of time-phased project, which excludes management reserves:

Chart 15 Activity Resources Cost/Cost Baseline

WBS 1.1.1	**Research present Information Mgnt practices**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	10	8	$10.00	$100.00	$800.00
	ECM Consultant	1	10	8	$15.00	$150.00	$1,200.00
	Records Manager	1	10	8	$5.00	$50.00	$400.00
	Project Team 1	2	10	8	$2.00	$20.00	$160.00
	Project Team 2	2	10	8	$2.00	$20.00	$160.00
	Project Team 3	2	10	8	$2.00	$20.00	$160.00
	Total					$360.00	**$2,880.00**
WBS 1.1.2,1.1.3, 1.1.4	**Research policy, indexing standards and procedures options**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	10	8	$10.00	$100.00	$800.00
	ECM Consultant	1	10	8	$15.00	$150.00	$1,200.00
	Records Manager	1	10	8	$5.00	$50.00	$400.00
	Project Team 1	2	10	8	$2.00	$20.00	$160.00
	Project Team 2	2	10	8	$2.00	$20.00	$160.00
	Project Team 3	2	10	8	$2.00	$20.00	$160.00
	Total					$360.00	**$2,880.00**
WBS 1.1.5	**Research functionalities of Content Manager software**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	10	8	$10.00	$100.00	$800.00
	ECM Consultant	1	10	8	$15.00	$150.00	$1,200.00
	Project Team 1	2	10	8	$2.00	$20.00	$160.00
	Project Team 2	2	10	8	$2.00	$20.00	$160.00
	Project Team 3	2	10	8	$2.00	$20.00	$160.00
	Total					$310.00	**$2,480.00**
WBS 1.1.6	**Research Vendors**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	Records Manager	1	5	8	$5.00	$25.00	$200.00
	Project Team 1	2	5	8	$2.00	$10.00	$80.00
	Project Team 2	2	5	8	$2.00	$10.00	$80.00
	Project Team 3	2	5	8	$2.00	$10.00	$80.00
	Total					$105.00	**$840.00**
WBS 1.2	**Policy and Procedure Development**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Records Manager	1	10	8	$5.00	$50.00	$400.00
	Project Team 1,2,3	6	10	8	$2.00	$20.00	$160.00
	Total					$70.00	**$560.00**

WBS 1.3.1,1.3.2	**w governance approach, policy & procedure proposal and give fee**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Steering Committee		10	8	**$20.00**	**$200.00**	$1,600.00
	Project Manager		10	8	**$10.00**	**$100.00**	$800.00
	ECM Consultant		10	8	**$15.00**	**$150.00**	$1,200.00
	Total					$450.00	**$3,600.00**
WBS 1.3.3	**Report on Findings of Content Manager**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	1	8	**$10.00**	**$10.00**	**$80.00**
	Total					$10.00	**$80.00**
WBS 1.4.1,1.4.2, 1.4.3	**Amen policy, index and procedure document**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	
	Project Team 1	2	5	8	$2.00	$10.00	$80.00
	Project Team 2	2	5	8	$2.00	$10.00	$80.00
	Project Team 3	2	5	8	$2.00	$10.00	$80.00
	Total					$30.00	**$240.00**
WBS 1.4.4	**Submit proposal for Approval**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	1	8	$10.00	$10.00	$80.00
	Total					$10.00	**$80.00**
WBS 1.4.5	**Approval of Governance Proposal**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	CEO	1	5	8	$0.00	$0.00	$0.00
	Steering Committee	9	5	8	$20.00	$100.00	$800.00
	Total					$10.00	**$800.00**
WBS 2.1.3	**Discuss project general & technical requirements**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	ISD	1	5	8	8	40	$320.00
WBS 2.2.1	**Outline decision made in requirements definition workshop**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	2	8	**$10.00**	**$20.00**	**$160.00**
	Total					$20.00	**$160.00**
WBS 2.3.1	**Ensure that all requirements are met**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	9	2	8	$10.00	$20.00	$160.00
	Total					$20.00	**$160.00**

WBS 2.3.2	**Identify any changes to be made**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Steering Committee	9	2	8	$20.00	$40.00	$320.00
	Total					$40.00	**$320.00**

WBS 2.4.1,2.42	**Implement changes identified in review requirements definition proposal & submit for Proposal**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	6	8	$10.00	$60.00	$480.00
	Total					$60.00	**$480.00**

WBS 2.4.3	**Approval of Requirements Definition Proposal**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	CEO	1	5	8	$0.00	$0.00	$0.00
	Steering Committee	9	5	8	$20.00	$100.00	$800.00
	Total					$100.00	**$800.00**

WBS 3.1.1	**Identify location of site visit**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	3	8	$10.00	$30.00	$240.00
	ECM Consultant	1	3	8	$15.00	$45.00	$360.00
	Total					$75.00	**$600.00**

WBS 3.1.2	**Identify who will attend site visit**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Steering Committee	9	2	8	$20.00	$40.00	$320.00
	Project Manager	1	2	8	$10.00	$20.00	$160.00
	Total					$60.00	**$480.00**

WBS 3.2.1	**Identify number of attendees**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	2	8	$10.00	$20.00	$160.00
	Total					$20.00	**$160.00**

WBS 3.2.2	**Calculate Travel Expenses for attendees**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	HR&A Dept	2	2	8	$15.00	$30.00	$240.00
	Total					$30.00	**$240.00**

WBS 3.3.1,	**View Demonstration of how application is operated and Identify processes & procedures**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	Project Team 1	2	5	8	$2.00	$10.00	$80.00
	Total					$60.00	**$480.00**

WBS 3.4.1	**Review responses from host company and meeting minutes**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	Project Team 1	2	5	8	$2.00	$10.00	$80.00
	Total					$60.00	**$480.00**

WBS 3.5.1,	**Arrange meeting with Steering Committee & other stakeholders and give Presntation on Site Visits**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	2	8	$10.00	$20.00	$160.00
	Total					$20.00	**$160.00**

WBS 4.1.1	**Outline details of proposal**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	Project Team 1	2	5	8	$2.00	$10.00	$80.00
	Project Team 2	2	5	8	$2.00	$10.00	$80.00
	Project Team 3	2	5	8	$2.00	$10.00	$80.00
	Total					$80.00	**$640.00**

WBS 4.1.2	**Submit draft proposal to Steering Committee**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	1	8	$10.00	$10.00	$80.00
	Total					$10.00	**$80.00**

WBS 4.2.1	**Review RFP draft proposal**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Steering Committee	1	5	8	$20.00	$100.00	$800.00
	Total					$100.00	**$800.00**

WBS 4.2.2	**Fiinalise RFP changes**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	Project Team 1	2	5	8	$2.00	$10.00	$80.00
	Project Team 2	2	5	8	$2.00	$10.00	$80.00
	Project Team 3	2	5	8	$2.00	$10.00	$80.00
	Total					$80.00	**$640.00**

WBS 4.2.3	**Finalise selection criteria**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Records Manager	1	1	8	$5.00	$5.00	$40.00
	Total					$5.00	**$40.00**

WBS 4.2.4	**Submit RFP for Approval**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	1	8	$10.00	$10.00	$80.00
	Total					$10.00	**$80.00**

WBS 4.2.5	**Approve RFP**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Steering Committee	1	5	8	$20.00	$100.00	$800.00
	Total					$100.00	**$800.00**

WBS 4.3.1	**Fiinalise RFP changes**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Records Manager	1	2	8	$5.00	$10.00	$80.00
	Project Team 1	2	2	8	$2.00	$4.00	$32.00
	Project Team 2	2	2	8	$2.00	$4.00	$32.00
	Project Team 3	2	2	8	$2.00	$4.00	$32.00
	Total					$22.00	**$176.00**

WBS 4.3.2	**Send RFP to vendors**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	1	8	$10.00	$10.00	$80.00
	Total					$10.00	**$80.00**

WBS 4.4.1,	**Receive and evaluate proposals from vendors and send evaluated proposals to Steering Committee for Review**								
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**		
	Project Manager	1	7	8	$10.00	$70.00	$560.00		
	Total					$70.00	**$560.00**		

WBS 4.4.4	**Approve Proposal**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Steering Committee	1	5	8	$20.00	$100.00	$800.00
	Total					$100.00	**$800.00**

WBS 4.5.1	**Prepare draft Contract**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	2	8	$10.00	$20.00	$160.00
	Project Team 1	2	2	8	$2.00	$4.00	$32.00
	Project Team 2	2	2	8	$2.00	$4.00	$32.00
	Project Team 3	2	2	8	$2.00	$4.00	$32.00
	Total					$32.00	**$256.00**

WBS 4.5.2	**Submit to Steering Committee for Review**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	1	8	$10.00	$10.00	$80.00
	Total					$10.00	**$80.00**

WBS 4.5.3	**Review contract and make changes**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Steering Committee	1	5	8	$20.00	$100.00	$800.00
	Total					$100.00	**$800.00**

WBS 4.5.4	**Finalise contract and submitt to Steering Committee**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	Total					$50.00	**$400.00**

WBS 4.5.5	**Approve contract**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Steering Committee	1	5	8	$20.00	$100.00	$800.00
	Total					$100.00	**$800.00**

WBS 4.6.1	**Send Contract to Vendor for review**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	Total					$50.00	**$400.00**

WBS 4.6.2,	**Finalise and sign Contract**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	12	8	$10.00	$120.00	$960.00
	Vendor	1	12	8	$20.00	$240.00	$1,920.00
	Total					$360.00	**$2,880.00**

WBS 4.6.3	**Keep copy on file**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	HR&A Dept	1	1	8	$15.00	$15.00	$120.00
	Total					$15.00	**$120.00**

WBS 5.1.1,5.1.2, 5.1.3	**Research Records Manager job function & qualification requirements, prepare justification**							
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**	
	Project Manager	1	4	8	$10.00	$40.00	$320.00	
	Total					$40.00	**$320.00**	

WBS 5.1.4	**Advertise position**							
	Item	**Qty**	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**	
	HR&A Dept	2	5	8	$15.00	$75.00	$600.00	
	Publish in Newspaper	1	1		$300.00	$300.00	$300.00	
	Total					$375.00	**$900.00**	

WBS 5.1.5,	**Hold interviews, Evaluate candidates and select winner and hire individual**							
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**	
	HR&A Dept	2	6	8	$15.00	$90.00	$720.00	
	Total					$90.00	**$720.00**	

WBS 5.1.7	**Hire individual**								
		Qty	**Days**	Months	**Hour**	**Rate**	**Day*Rate**	**Annually**	**Total**
	HR&A Dept	2	1		8	$15.00	$15.00		$120.00
	Records Mgnr Salary	1		12	8	$3,200.00		$38,400.00	$38,400.00
	Total						$15.00		**$38,520.00**

WBS 5.2.1,	**Prepare document management administrative staff job description and justification for new position**							
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**	
	Project Manager	1	2	8	$10.00	$20.00	$160.00	
	Records Manager	1	2	8	$5.00	$10.00	$80.00	
	Total					$20.00	**$240.00**	

WBS 5.2.3	**Advertise position**							
	Item	**Qty**	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**	
	HR&A Dept	2	5	8	$15.00	$75.00	$600.00	
	Publish in Newspaper	1	1		$287.00	$287.00	$287.00	
	Total					$362.00	**$887.00**	

WBS 5.2.4,	**Hold interviews, Evaluate candidates and select winner and hire individual**							
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**	
	HR&A Dept	2	2	8	$15.00	$30.00	$240.00	
	Total					$30.00	**$240.00**	

WBS 5.2.6	**Hire individual**								
		Qty	**Days**	Months	**Hour**	**Rate**	**Day*Rate**	**Annually**	**Total**
	HR&A Dept	2	1		8	$15.00	$15.00		$120.00
	Admin Staff Salary	1		12	8	$1,500.00		$18,000.00	$18,000.00
	Total						$15.00		**$18,120.00**

WBS 6.1.1	**Conduct onsite administrator training for up to 5 persons and user training up for up to 20 persons**								
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**		
	Vendor Admin Training	1	3	8	$20.00	$60.00	$480.00		
	Snacks & Lunch	1	5	8	$350.00	$1,750.00	$1,750.00		
	Trainer Transportation	1	5	8	$64.00	$320.00	$320.00		
	Trainer Accomodation	1	5	8	$320.76	$1,603.80	$1,603.80		
	Total					$3,733.80	**$4,153.80**		

WBS 6.1.2	**Conduct onsite user training for up to 5 persons and user training up for up to 20 persons**								
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**		
	Vendor User Training	1	2	8	$20.00	$40.00	$320.00		
	Snacks & Lunch	1	2	8	$350.00	$700.00	$700.00		
	Trainer Transportation	1	2	8	$64.00	$128.00	$128.00		
	Trainer Accomodation	1	2	8	$320.76	$641.52	$641.52		
	Total					$1,509.52	**$1,789.52**		

WBS 6.1.3	**Obtain training manuals**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	1	8	$10.00	$10.00	$80.00
	Total					$10.00	**$80.00**

WBS 6.2.1	**Create Purchase Order & Purchase Equipment**						
	Item	**Qty**	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	1	**8**	$10.00	$10.00	$80.00
	Scanner	2			$17,164.13		$34,328.26
	Software	1			$5,217.08		$5,217.08
	Total						**$39,625.34**

WBS 6.2.2	**Prepare and Ship equipment to St. Vincent**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Vendor	5	5	8	$20.00	$100.00	$800.00
	Total					$100.00	**$800.00**

WBS 6.2.3	**Receive equipment from vendor**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Vendor	1	1	8	$15.00	$15.00	$120.00
	Stores Section	1	1	8	$10.00	$10.00	$80.00
	Freight, Local & Foreign	1			$385.27		$385.27
	The Accountant General	1			$306.20		$306.20
	Total					$15.00	**$891.47**

WBS 6.3.1	**Install and configure hardware**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Vendor	1	2	8	$20.00	$40.00	$320.00
	ISD	1	2	8	$15.00	$30.00	$240.00
	Total					$70.00	**$560.00**

WBS 6.3.2	**Install and configure software**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Vendor	1	1	8	$20.00	$20.00	$160.00
	ISD	1	1	8	$15.00	$15.00	$120.00
	Defining/Installing/Testin	1	1	8	$3,000.00		$3,000.00
	Total					$35.00	**$3,280.00**

WBS 6.4.1	**Initiate pilot period**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	10	8	$10.00	$100.00	$800.00
	ISD	1	10	8	$15.00	$150.00	$1,200.00
	Records Manager	1	10	8	$5.00	$50.00	$400.00
	Total					$300.00	**$2,400.00**

WBS 6.4.2	**Report on issues and have them rectified (if any)**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	ISD	1	5	8	$15.00	$75.00	$600.00
	Records Manager	1	5	8	$5.00	$25.00	$200.00
	Vendor	1	5	8	$20.00	$100.00	$800.00
	Total					$150.00	**$2,000.00**

WBS 6.5.1	**Roll out to HR&A department and other users**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	ISD	1	1	8	$15.00	$15.00	$120.00
	Records Manager	1	1	8	$5.00	$5.00	$40.00
	Total					$20.00	**$160.00**

WBS 6.6.1	**Conduct performance evaluation**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	ECM Consultant	1	5	8	$15.00	$75.00	$600.00
	Total					$75.00	**$600.00**

WBS 6.6.2	**Prepare and Issue performance evaluation report**						
		Qty	**Days**	**Hour**	**Rate**	**Day*Rate**	**Total**
	ECM Consultant	1	5	8	$15.00	$75.00	$600.00
	Project Manager	1	5	8	$10.00	$50.00	$400.00
	Total					$125.00	**$1,000.00**

(Source: Compiled by Author)

Control Cost

Control cost is important in Project Cost Management for monitoring the status of the project, to update the project cost and for managing any changes to the cost baseline. Control cost is similar to the control process of any knowledge area, but with a focus on cost. Control cost will be managed through meetings on costs, reports, available Organizational Process Assets, which may include policies, procedures, guidelines and cost control tools that are required.

Several tools that can be used in Cost Management Plan to control cost include Earned value management and Performance reviews. Project performance and progress can only be achieved when scope, schedule, and resources are combined. The Project Manager may conduct variance analysis by comparing planned activity cost against actual activity cost to identify variances between the cost baseline and actual performance. The Project Manager maintains a copy of the current budget and must notify the Steering Committee of budget variances as they are identified. The Project Manager must provide a budget update at each Steering Committee meeting, identify past expenditure, encumbrances, future encumbrances, personnel cost and any other expense associated with the project budget.

The Project Manager and the project Team must work together to control project costs by ensuring that all requested changes and recommended corrective and preventive actions are processed through the Performed Integrated Change process. The elements that will be updated and which will be included in the Project Management plan are the cost management plan and the cost baseline. The project document that may need to be updated will also include the activity cost estimates and the basis of estimates.

Meeting the cost baseline will be a measure of project success, so the budget should be in a form that the project manager could use while the work is being done to control costs and therefore control the overall project.

4.4. Project Quality Management

Project Quality Management includes “the processes of the performing organization that determine quality policies, objectives and responsibilities so that the project will satisfy the needs for which it was undertaken.” (PMI, 2013, p. 227). The processes include:

- Plan Quality Management (Planning process group)
- Perform Quality Assurance (Executing process group)
- Control Quality (Monitoring and controlling process group)

The objectives of this Plan Quality Management process are to identify all relevant company practices, standards, and requirements for the quality of the project and the project management efforts, and then to plan how to meet those quality standards and requirements. The result of this process is a quality management plan.

Quality Management includes all these processes to ensure that the EDMS project will satisfy the needs for which it was undertaken. It includes all activities of the overall management function that determine the quality policy, objectives, quality

assurance, quality control, and quality improvement, within the quality system. Quality will be achieved once the scope statement and requirements documentation that are defined for this project are met.

A lack of attention to quality means more rework or defects. The more rework the project has to do, the more time and money will be wasted, and the less likely the project will meet the project schedule and cost baseline. For this EDMS project, quality will be the focus so that time can be spent preventing rather than dealing with problems and increased productivity. VINLEC does not have a quality policy in place, therefore, this project will serve as a pilot for future quality procedures and practices in the company.

Moreover, the approach to this project quality management plan will be done in accordance with International Organization for Standardization (ISO) quality standards. The project team shall follow the plan and shall have information to demonstrate compliance with the plan.

Plan Quality Management

In reference to the PMBOK, Plan Quality Management identifies quality requirements and/or standards for the project and its deliverables and documents how the project will comply with such. (PMI, 2013, p. 231). Project deliverables should be defined in order to provide a foundation and understanding of the tasks at hand and what work must be planned. Any changes to the deliverables to meet identified quality standards may require cost or schedule adjustments and a detailed risk analysis of the impact to the plan.

To perform Plan Quality Management process, the Project Manager needs stakeholder register, risk register, requirements documentation, enterprise environmental factors and the organizational process assets. The project management plan is also an important input, particularly the scope baseline

(including WBS and WBS dictionary), schedule baseline and cost baseline. Other management plans within this project management plan will also be factored into planning quality. All this serve as a guide to planning the project's quality efforts because they include stakeholder information, the major deliverables, thresholds and acceptable criteria.

The various tools and techniques that will be used for plan quality management will aid in determining requirements, procedures and standards for the project. Cost of Quality (COQ) ensures that the project is not spending too much to achieve a particular level of quality. This includes investing in preventing nonconformance and looking at what the cost of conformance to quality will be on the project and creating an appropriate balance. The cost of quality is an important technique to be used in this project as it will ensure that meeting the quality requirements of the project does not have a negative impact on the project, for example overworked team members who are exhausted may not guarantee or ensure quality work. The below Chart 16 shows what the cost of conformance and nonconformance will be like in the project:

Chart 16 Cost of Quality

Cost of Conformance (*money spent during the project to avoid failure*)
Quality EDMS training
Document process
Testing
Inspection

Cost of NonConformance (*money spent during and after the project because of failure*)
Rework
Scrap
Warranty costs

(Source: Compiled by Author)

To minimize the COQ, this process includes stakeholder meetings as a form of quality control and assurance measures. As applied to all team members of other projects, this entire project team must be involved and responsible to ensure the high quality of the project and to develop the quality management plan. However,

the Project Manager is ultimately responsible to ensure that the project team and stakeholders work to achieve maximum quality of the EDMS project.

The project utilizes benchmarking to compare with other similar companies that have already implemented EDMS in their company. These trend-setters would be visited to identify best practices, generate ideas for improvement and provide a basis for measuring performance.

Perform Quality Assurance

Perform Quality Assurance, indicated by the PMI (2013), is the “process of auditing the quality requirements and the results from quality control measurements to ensure that appropriate quality standards and operational definitions are used.” (p. 242). Perform Quality Assurance, which is an execution process, will be performed while the project work is being done. The Project Manager along with another team member with quality assurance knowledge will have to carry out the assessment on the project since no outside group or quality assurance department do not form part of the project team or make-up of this project management team.

According to the PMI (2013), “the quality assurance process implements a set of planned and systematic acts and processes that are defined within the project’s quality management plan, which seeks to build confidence that a future output or an unfinished output, will be completed in a manner that meets the specified requirements and expectations.” (p. 243). These quality acts will be used to assess whether the quality objectives would be achieved. For example, as seen in Chart 17 below, such acts related to this project would include the following standards and measures:

Chart 17 Quality Standard for EDMS

No.	Quality Standard	Tracking Tool or Measure
1	Project phase is completed by the established finish date	• Project Schedule • Project Status
2	Project is completed within budget	• Project Charter • Project Status
3	Quarterly project reviews show Project team deliver requirements specified in the contract by due dates	• Vendor Contract • Final Customer Acceptance
4	Project issues are resolved and documented within 10 calendar days of identification are justified.	• Issues Tracking
5	Project will be completed based on the original project scope and approved scope changes.	• Project Charter • Project Plan • Control Change Request
6	Project phase of Interviewing Records Manager and Administrative Staff established finish dates	• Project Schedule • Project Status
7	Project pase of properly trained Staff	• Vendor Contract • Final Customer Acceptance
8	Project phase of thorough testing of EDMS software	• Project Schedule • Vendor Contract
10	Project performance evaluation	• Issues Tracking

Source: (Complied by Author)

Additionally, the Project Manager can assess the on-going perspective of the company, the client how they feel the project is going, and how team members are acting on the project. This feedback would be helpful to the success of the project and the professional growth of the project team members.

Chart 18 Company (VINLEC) Satisfaction

Areas of feedback	When	Frequency
Company Awareness	Company wide meetings	Annually
Manages Project Task	Project Steering Committee meetings	Bi-weekly
Quality of Communications	Project Steering Committee meetings	Quarterly
Status Meetings	Steering Committee Meetings	Weekly
Productive meetings	Project Team meetings	Weekly

Source: (Complied by Author)

Perform Quality Assurance process tools are used in this project to help assess whether the practices and procedures are being followed as planned, to improve

processes, and to determine whether the quality requirements, processes, standards planned are the correct ones for effective project delivery. The Perform Quality Assurance process with its quality management and control tools applicable to this project will include the Affinity Diagrams, process decision program charts (PDPC) and tree diagrams. Quality audits will be conducted by a knowledgeable project team member who will check up on the project. This includes identifying all good and best practices being implemented; offer assistance to improve implementation of processes to help the team raise productivity and to highlight contributions of each audit in the lessons learned repository of the company for use in future projects. Process analysis will especially be applied where the root cause of an issue has to be identified, to discover the underlying cause that lead to it and develop preventive actions like in the “roll out phase of the project” (activity 6.5.1) where EDMS has to be installed on all the computers in the HR&A and on other users’ PC’s.

Performing good quality assurance practices will eventually lead to the outputs of change request, including recommended corrective and preventive actions and defect repair. Additionally, an updated project management plan and project documents and organizational project assets (updated standards, processes, and quality systems).

Control Quality

Control quality is a process of the Project Quality Management that monitors and records results of executing the quality activities to assess performance and recommend the necessary changes. It measures products, services, or results to determine whether they meet the quality standards. Control quality will be managed through meetings on quality, reviewing the project management plan, quality metrics, quality checklists, work performance data, any approved change requests, deliverables, project documents (if any) and the Organizational Process

Assets that are available. These may include the company's quality standards and policies, guidelines and issue and required defect reporting procedures.

In this project, the Project Manager must be involved and concerned about quality control as there is no quality control department in VINLEC to do much of this work. Control Quality results in change requests, including recommended corrective and preventive actions and defect repair. The Project Manager has to act on these change requests to help improve quality. Any information regarding quality issues must be reported to the Project Manager through the change requests, accompanied by any necessary documentation and reports that detail the quality issues. Importantly, the Project Manager must be able to read and understand quality measurement reports.

Several tools that can be used in Quality Management Plan to monitor and control quality include the seven basic quality tools (Cause & Effect Diagram, Flowcharts, Check sheets, Pareto Diagrams, Histograms, Control Charts and Scatter Diagrams). Altogether, the Plan Quality Management process involves the use of these seven tools to define quality and selecting and setting them up for use in the control process. Control Quality means using these tools to ensure that standards have been met and/or evaluate how to resolve a quality problem. In addition to the seven basic tools, other tools can also include statistical sampling and inspection (reviews, audits and walk-throughs). All of these will ensure that the quality standards have been met.

On completion of the control quality process by the Project Manager and the project team, several outputs would have been achieved:
Quality Control measurements - documented results of control quality activities, captured in the specified format of the Plan Quality Management Process.

Validated Changes – changed or repaired items would be inspected; accepted or rejected before notification of any decisions. A lack of attention to quality means more rework or defects.

Verified Deliverables – will assess the correctness of deliverables.

Work performance Information – include information of the fulfillment of the project's requirements.

Change Requests – includes recommended corrective and preventive actions and defect repair that requires a change to the project management plan. Change requests must be initiated according to the Integrated Change Control process.

Project Management Plan Updates – include updates to the quality management and process improvement plans and project documents.

Project Documents Updates – updates include quality standards, agreements, quality audit reports and change logs, training plans, among others.

Organizational Process Assets Updates – include lessons learned and completed checklists, which all form part of the Organizational Process Assets and will be incorporated into the next phase of the project and/or become part of the project library that will be available for the use in future projects.

4.5. Project Human Resource Management

VINLEC has an established human resource policy and therefore this means that the Human Resource Management plan should work in accordance with this policy. This will make the project more cost-effective by utilizing all the internal tools and mechanism to manage the human resource part of the project. For example, this project requires personnel to travel to other countries for training or for site visits. In addition, it requires bringing in a trainer from overseas to conduct training. These will only be done within the cost constraint required for the project and the limit to who should attend. Creating recognition and reward system is an important Human Resource function, and such systems are a required part of the project.

According to the PMI (2013), Project Human Resource Management includes “the processes that organize, manage, and lead the project team. The project team is comprised of the people with assigned roles and responsibilities for completing the project.” (p. 255). The processes include:

- Plan Human Resource Management (Planning process group)
- Acquire Project Team (Executing process group)
- Develop Project Team (Executing process group)
- Manage Project Team (Executing process group)

Human Resource responsibilities may increase or decrease as the size of the project team increases or decreases. Team members may have varied skill sets; they may be assigned full or part time and maybe added or removed from the team as the project progresses. This process takes time and effort to plan. It includes deciding how to involve people; to identify the team’s members needed; define roles; create reward systems, how to improve team’s members performance individually as well as a team; and track performance. Therefore, the Project Manger must continually confirm resource availability.

The project management team or project management staff, which is referred to as the core, executive, or leadership team; is a subset of the project team and is responsible for the project management and leadership activities of the various project phases. Although the entire team in some instances may share project management responsibilities, the Project Manager solely administers this big project most of the time. Managing and leading the project team includes factors such as influencing the project team and professional and ethical behavior. The Project Manager must be aware of all human resource activities that may affect the progress of the project. These human resource activities must be formal and require documentation. Additionally, the Project Manager should formally plan team-building activities in advance, which are integral to project management.

Plan Human Resource Management

Plan Human Resource Management is “the process of identifying and documenting project roles, responsibilities, required skills, reporting relationships and creating a staffing management plan.” (PMI, 2013, p. 258). In this project, team members’ roles and responsibilities are clearly defined so that all project members know their roles. Other than completing work packages, the responsibilities of the project members may include assisting with risk, quality and project management activities. They should know the work packages and activities to which they are assigned, their requisite skills, reporting expectations, meeting attendance expectations and any other required project tasks or activities.

In this project, Plan Human Resource Management process involves using the project management plan. Also, the enterprise environmental factors including the company culture and existing systems the project will have to come in contact with like factors such as training from an outside trainer and the geographical dispersion of team members. In addition, the organizational process assets include but are not limited to processes, procedures and historical information required for this project.

The Responsibility Assignment Matrix (RAM) chart shows the assignment of each team member to activities in the EDMS project. Chart 18 below represents the RAM of the EDMS project:

Chart 19 Relationship Assignment Matrix

Project: Document Management in VINLEC

		Responsibilities											
ID	**Activity Name**	**SC**	**ECMC**	**PM**	**PT1**	**PT2**	**PT3**	**HR&A**	**SS**	**ISD**	**ECMV**	**RM**	
1	**1. Governance Structure**												D = Does Work
2	**1.1 Research**												R = Reviews Work
3	1.1.1 Research present information management practices		R	D	D	D	D					D	A = Approves Work
4	1.1.2 Research policy options		R	D	D	D	D					D	
5	1.1.3 Research indexing standards		R	D	D	D	D					D	
6	1.1.4 Research procedures options		R	D	D	D	D						
7	1.1.5 Research functionalities of Content Manager software		R	D	D	D	D						SC - Steering Committee
8	1.1.6 Research vendors			D	D	D						D	ECMC - ECM Consultant
9	**1.2 Policy and Procedure Development**												PM - Project Manager
10	1.2.1 Develop policy document				D							D	PT1 - Project Team 1
11	1.2.2 Define index standards for HR&A					D						D	PT2 - Project Team 2
12	1.2.3 Define procedures for HR&A						D					D	PT3 - Project Team 3
13	**1.3 Review/Feedback**												HR&A
14	1.3.1 Review governance approach proposal and give feedback	D	D	D									SS - Stores Section
15	1.3.2 Review policy, procedures and indexing proposals and give feedback	D	D	D									ISD
16	1.3.3 Report on findings of Content Manager software research			D									ECMC - Vendor
17	**1.4 Amendment**												RM - Records Manager
18	1.4.1 Amend policy document				D								
19	1.4.2 Amend procedures document						D						
20	1.4.3 Amend indexing document					D							
21	1.4.4 Submit proposal for approval			D									
22	1.4.5 Approval of Governance Proposal	A											
23	**2. Requirements Definition**												
24	**2.1 Hold requirements definition workshop**												
25	2.1.1 Discuss project general requirements	D		D	D	D	D			D			
26	2.1.2 Discuss project technical requirements	D		D	D	D	D			D			
27	2.1.3 Identify existing IS architecture and infrastructure for EDMS integration									D			
28	**2.2 Prepare requirements definition proposal**												
29	2.2.1 Outline decision made in requirements definition workshop			D									
30	**2.3 Review requirements definition proposal**												
31	2.3.1 Ensure that all requirements are met			D									
32	2.3.2 Identify any changes to be made	D											
33	**2.4 Revise requirements definitions**												
34	2.4.1 Implement changes identified in review requirements definition proposal			D									
35	2.4.2 Submit requirements for approval			D									
36	2.4.3 Approval of requirements Definition Proposal	A											
37	**3. Site Visits**												
38	**3.1 Arrange site visits**												
39	3.1.1 Identify location of site visit		D	D									
40	3.1.2 Identify who will attend site visit	R		D									
41	**3.2 Arrange travel and accomodations**												
42	3.2.1 Identify number of attendees	R		D									
43	3.2.2 Calculate Travel Expenses							D					
44	**3.3 Visit sites**												
45	3.3.1 View Demonstration of how application is operated			D	D								
46	3.3.2 Identify processes and procedures			D	D								
47	**3.4 Prepare report/presentation on site visits**												
48	3.4.1 Review responses from host company and meeting minutes			D	D								
49	**3.5 Give presentation on site visits**												
50	3.5.1 Arrange meeting with Steering Committee & other stakeholders			D									
51	3.5.2 Give presentation on Site Visits			D									

52	**4. RFP Process**											
53	**4.1 Prepare RFP**											
54	4.1.1 Outline details of proposal					D	D					
55	4.1.2 Submit draft proposal to Steering Committee			D								
56	**4.2 Review RFP**											
57	4.2.1 Review RFP draft proposal	R										
58	4.2.2 Finalise RFP changes			D	D	D	D					
59	4.2.3 Finalise selection criteria											D
60	4.2.4 Submit RFP for Approval			D								
61	4.2.5 Approve RFP	A										
62	**4.3 Issue RFP to vendors**											
63	4.3.1 Prepare shortlist of vendors				D	D	D					D
64	4.3.2 Send RFP to vendors			D								
65	**4.4 Evaluate Proposal and select winner**											
66	4.4.1 Receive proposal from vendors			D								
67	4.4.2 Evaluate proposals based on selection criteria			D								
68	4.4.3 Send evaluated proposals to Steering Committee for review			D								
69	4.4.4 Approve proposal	A										
70	**4.5 Prepare Contract**											
71	4.5.1 Prepare draft contract			D	D	D	D					
72	4.5.2 Submit to Steering Committee for review			D								
73	4.5.3 Review contract and make changes	R										
74	4.5.4 Finalise contract and submit to Steering Committee			D								
75	4.5.5 Approve contract	A										
76	**4.6 Finalise Contract**											
77	4.6.1 Send contract to vendor for review			D								
78	4.6.2 Finalise contract			D							D	
79	4.6.3 Sign contract			D							D	
80	4.6.4 Keep copy on file							D				
81	**5. Hiring Staff**											
82	**5.1 Records Manager**											
83	5.1.1 Research Records Manager job function and qualification requirements			D								
84	5.1.2 Prepare job description			D								
85	5.1.3 Prepare justification for new position			D								
86	5.1.4 Advertise position							D				
87	5.1.5 Hold interviews							D				
88	5.1.6 Evaluate candidates and select winner							D				
89	5.1.7 Hire individual							D				
90	**5.2 Administrative Staff**											
91	5.2.1 Prepare document management administrative staff job description			D								D
92	5.2.2 Prepare justification for new position			D								D
93	5.2.3 Advertise positions							D				
94	5.2.4 Hold interviews							D				
95	5.2.5 Evaluate candidates and select winners							D				
96	5.2.6 Hire individuals							D				
97	**6. Implementation**											
98	**6.1 Training**											
99	6.1.1 Conduct onsite administrator training for up to 5 persons										D	
100	6.1.2 Conduct onsite user training for up to 20 persons										D	
101	6.1.3 Obtain training manuals			D								
102	**6.2 Equipment**											
103	6.2.1 Create Purchase Order and purchase equipment			D								
104	6.2.2 Prepare and ship equipment to St. Vincent										D	
105	6.2.3 Receive equipment from vendor								D			
106	**6.3 Installation**											
107	6.3.1 Install and configure hardware									D	D	
108	6.3.2 Install and configure software									D	D	
109	**6.4 Test EDM system**											
110	6.4.1 Initiate pilot period			D						D		D
111	6.4.2 Report on issues and have them rectified (if any)			D						D		D
112	**6.5 Deploy EDMS systems**											
113	6.5.1 Roll out to HR&A department and other users									D		D
114	**6.6. Performance evaluation**											
115	6.6.1 Conduct performance evaluation		D	D								
116	6.6.2 Prepare and Issue performance evaluation report		D	D								

Source: (Complied by Author)

Expert judgment of the ECM consultant and HR&A department will be utilized in order to develop the human resource management plan. Their combined working experience in ECM and in the utility company will be valuable in setting out the framework for the requirements and required skills, the roles required along with their description and the resources needed to meet the project objectives, just to name a few. Planning meetings will be held in order for the team to reach consensus and establish the human resource management plan.

The result of the Plan Human Resource Management process is the human resource management plan. This plan provides guidance for when and how team member should be defined, assigned, managed, added and released from the project. Some of the components include roles and responsibilities, project organization charts and staffing management plan.

Acquire Project Team

According to PMI (2013), Acquire Project Team is “the process of confirming human resource availability and obtaining the team necessary to complete project activities.” (p. 267). Like any other project, some project team members may be required to start work just before the project begins while others may be required to work further stages in the project. For example, the staff in Stores Section may not be needed to do any work until the equipment has arrived in the country. The project management team will have direct control over the selection of team members. This is mainly to ensure that the make-up of the team is successful and consists of persons with different skill sets from different departments. Most of the project team will be VINLEC’s key staff who have the priority to leave their daily operations and functional duties in their departments to work on the project whenever this is required. However, if an exception exists and they are required to take up their daily operations the project team management may not have direct control over the selection, resulting in assigning, persons of lesser competence.

Therefore, it is important that while acquiring the project team the Project Manager should effectively negotiate and influence others who are in a position to provide the required human resources for this project. Failure to acquire necessary human resources for this project may affect project schedules, budgets, quality and risks, just to name a few.

Staffing assignments will be negotiated in the EDMS project. The Project Manager, who is cognizant of the needs of the project and its priority within the company, will negotiate with the various departmental managers so that the project can receive competent staff to ensure timely and successful project completion.

Virtual teams will be engaged to work on the project. For instance, the EDMS vendor will work remotely on the project. This virtual collaboration strategy will result in significant cost savings in terms of travel and accommodation expenses.

The Multi-criteria decision analysis tool and technique will also be applied to this project. In acquiring the project team, a set of criteria is established to help evaluate prospective team members. Desired criteria including availability, cost, experience, ability, knowledge, skills, attitude and international factors will be applied in the selection of the project's human resources. Potential team members will be scored based on how they meet the selected criteria. Criteria can be weighted by importance. In the case of this project, the Project Manager should be aware of the "halo effect". This is a tendency where a team member is rated high or low on all factors on account of a high or low rating on some other specific factor. (Mulcahy, 2013, p. 353). For example, being a great analyst or programmer does not necessarily result in the individual being a competent project manager. Acquiring members that are not qualified for the position in the project, can have a negative impact on the project's schedule, cost and quality and therefore, should be avoided.

The outputs of the Acquire Project Team process include project staff assignments, as well as the resource calendars that show the resources available to work on the project and the updates to the human resource management plan and other components of the project management plan.

Develop Project Team

As part of project execution, this process entails the improvement of competencies, team member interaction, and overall team environment to enhance the performance of the project. In this project, the benefits that should be derived from this process are improved teamwork, enhanced people skills and competencies, motivated employees, reduced staff turnover rates and an improved overall project performance.

One of the major roles of the Project Manager is to ensure that the project team is working together in an efficient and effective manner. In this EDMS project, it is expected that the Project Manager will use soft skills such as mentoring, leadership, negotiation, emotional intelligence, empathy and communication, just to name a few. Establishing and maintaining trust between the Project Manager, each team member and stakeholders can raise morale, lower conflict and increase teamwork. These goals are fundamental to the project performance. The Project Manager should continually motivate the EDMS team by providing challenges and opportunities, providing timely feedback and support as needed and by recognizing and rewarding good performance.

Project staff assignment must be involved in listing the project team members who are on the team. The project team members for this project include:

- The CEO
- The Steering Committee
- The ECM Consultant
- The Project Manager

- Project Team members from different departments
- HR&A Department
- Stores Section
- ISD
- Records Manager

The figure 11, shows the organizational chart to show the relations between the different members of the project team.

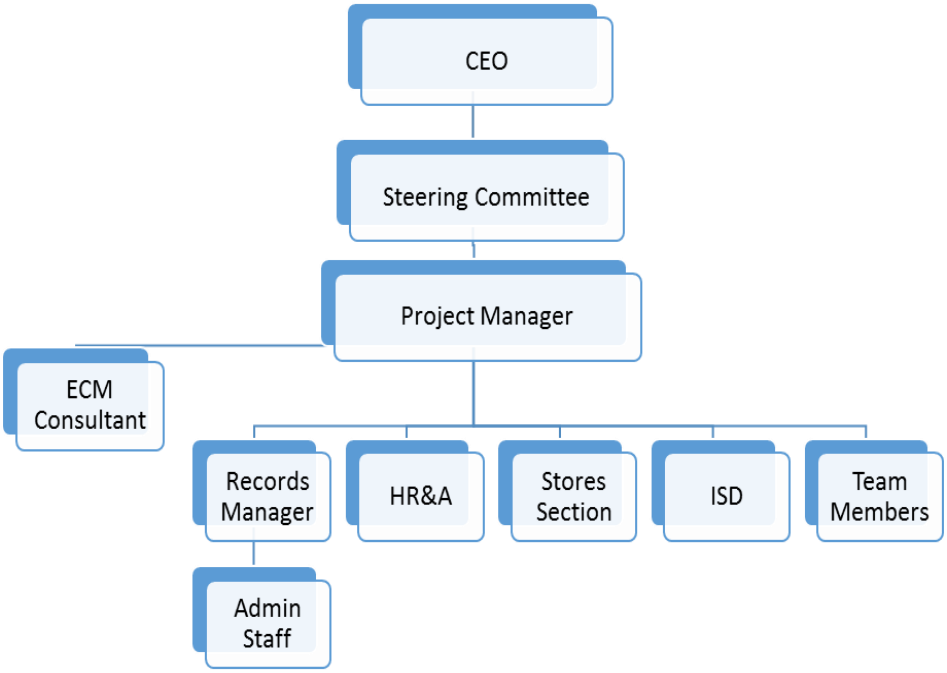


Figure 10 Organizational chart of Project Team
(Source: Compiled by Author)

Interpersonal skills or “soft skills” can be used in the project, as they are known to be valuable assets when developing the project team. For example, the Project Manager can use emotional intelligence or conflict resolution on individuals in the team to reduce tension and increase cooperation by identifying, assessing and

controlling the project team sentiments, anticipating their actions, acknowledge their concerns, and following up on their issues. (PMI, 2013, p. 275).

Training activities can be provided in order to perform on the project or to enhance the capabilities of the project team members. Such training, formal or informal, can help team members and can also decrease the overall project cost and schedule by increasing efficiency. The training costs will be included in the project budget, or may be covered as an organizational cost if the added skills are deemed useful or beneficial to the company in future projects. Training for this project will be performed in-house and by the external trainer.

It is the objective of team-building activities to improve interpersonal relationships. This can help individual team members to work effectively together. Team building is usually an ongoing process essential to the success of the project. Observation and conversation between the project manager and project team members are helpful, as the project manager should constantly be monitoring the team's function and performance. This would result in actions that may be required to prevent or correct various team problems.

Additionally, the Project Manager for this project can try team-building activities, which play a key role in team development. Through this, the project team will form into a cohesive group working for the best interest of the project, to enhance project performance. Although team building should start early in the life of the project, it is an on-going process. The WBS that was created in Project Scope Management is a team-building tool that can result in improved interpersonal relationships among team members. It is the duty of the Project Manager to constantly monitor the team's functionality and performance. This is done to determine if any actions are required to prevent or correct various team problems.

Ground rules will help establish standards and clear expectations regarding acceptable behavior by project team members. Early in the project, it is expected that the Project Manager will set clear guidelines. This will decrease any misunderstandings and increase productivity. Some rules should include, when a team member should notify the Project Manager that he or she is having difficulty with an activity or knowing the acceptable ways to interrupt someone talking during meetings.

Colocation will work best for this project when the team members need to be in one location or area to work together on the WBS, the network diagram, the schedule, or other collaborative elements of the project. This helps improve communication, decrease the impact of conflict and improves project identity for the project team and management.

Another technique that will be used by the Project Manager to motivate the team is recognition and rewards. The team will be appraised for good performance by receiving a recognition and/or rewards that are appropriate for each team member throughout the project life cycle.

As part of developing the project team, the Project Manager learns his project team. By knowing his team, it will be easier to build trust, improve team communication, and encourage familiarity and the ability to work together among team members. This may be done by using tools such as surveys, specific assessment, structured interviews, ability test and focus groups.

As a result of the Develop Project Team process, the Project Manager completes a formal and informal team performance assessment. This assessment may include an analysis of how much team members' skills have improved; how well the team is performing, how well team members interact and deal with conflict and the turnover rate. These assessments will evaluate and enhance the effectiveness of

the team as a whole. Additionally, the enterprise environmental factors, which will be updated, include personnel administration, employee training records and skill assessments.

Manage Project Team

Managing the project team is different from developing the project team. It involves the day-to-day management of people, which includes tracking their performance, providing feedback, resolving issues, and managing team changes to optimize project performance. The Project Manager must ensure that managing the team involves actions to help challenge team members to be part of a successful team. These include encouraging good communication, using negotiation skills, using leadership skills, keeping in touch, completing project performance appraisals, making good decisions, among others. The project team should feel a sense of belonging and feel involved because they helped to create this project management plan.

Managing the project team can be influenced by several factors such as team performance assessments, using an issue log, work performance reports and through the Organizational Process Assets, including newsletters, certificates of appreciation, etc. Observation and conversation, project performance appraisals, conflict management and interpersonal skills are effective tools and techniques that are required and can be applied to managing the project team. As an integral part of the Manage Project Team, factors that may require updates include change requests; the human resource management plan; project documents including roles description, project staff assignments and issue logs as seen below in Chart 20. Additionally, the enterprise environmental factors including input provided for performance appraisals and personnel skill and the organizational process assets such as lessons learned, will be added to the company's database.

Chart 20 Issue Log

Issue No.	Issue	Date Added	Raised By	Person Assigned	Status	Resolution Due Date	Resolution	Date resolved

(Source: Compiled by Author)

4.6. Project Communications Management

The Communications Management plan of this EDMS project is defined during meetings by the Project Manager, ECM Consultant and members of the project team. This is done utilizing the stakeholder register, enterprise environmental factors and the organizational process assets. Communication is an important part of managing this project; therefore, all messages should be planned, structured and controlled. It is important that Project Managers ask stakeholders what they need communicated to them, identify what communications they need from stakeholders, and frequently revisit communications at team meetings to avoid any communication problems.

Circulating information and knowledge sharing about the project is vital to any project's success. The project team members look forward to updates or any knowledge of the status of the project. This is important because it brings a feeling of belonging and adds to team motivation. The following plan will provide a structure for informing, involving, and obtaining the buy-in from all participants throughout the duration of the project.

Project Communications Management includes "the processes that are required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information." (PMI, 2013, p. 287). The processes include:

- Plan Communications Management (Planning process group)
- Manage Communications (Executing process group)

- Control Communications (Monitoring and Controlling process group)

These three processes interact with each other as well as with processes in other knowledge areas. The communication activities involved in these processes that need to be considered and may be applicable to this project are internal and external, formal and informal, vertical and horizontal, official and unofficial, written and oral, verbal and nonverbal.

Plan Communications Management

The Plan Communications Management process develops an appropriate approach and plan to project communications based on stakeholder's requirements and organizational assets that are available. It focuses on how to maximize the effectiveness and efficiency of communications on the project with stakeholders.

It is important to note in this project that inadequate planning of the project's communication can greatly affect the success of the project. Hence, the reason why communication should start in the early stages of the project. In this case, during the project management planning of the project, allowing for suitable resources to be allocated to communications activities such as time and budget is necessary. Communication activities will be required with the ECM vendor and Project Manager, the Steering Committee and the Project Manager, and with every stakeholder of the project.

In order to create an effective communications management plan, consideration must be placed on the enterprise environmental factors, including the company's culture and expectations. In addition, the organizational process assets such as its historical information and lessons learned from previous projects and other stored information, if any. It is imperative to take into account the stakeholder register and

the project management plan that provides information on other knowledge areas and management plans.

A structured approach, discussed in meetings, must be taken using the various tools and techniques such as communications requirements analysis, communication technology, methods, models and meetings. The communication analysis will be conducted based on the information needs of the project stakeholders. Online communication includes emails, teleconference and webinars, just to name a few. These media would prove efficient in dealing with stakeholders such as the EDMS software vendors. This process ensures that the information distributed to stakeholders included the correct medium, style, interaction models, facilitation and presentation methods.

Communication will occur internally and externally to the core project team, vertically among the various levels of the organization, and horizontally. Communication that flows down from executive leadership of the company about the project should be harmonious and uniformed. This will be an example of ‘practice what you preach’ change management, and will contribute to overall project success. Executive will speak directly to all levels of the company. In turn, they will be receptive of the views of all and sundry in the organization.

Communication that flows up the chain of command gives management valuable information about the company. To ensure the buy-in and confidence of persons involved in bringing proposed changes to reality, it will be important to communicate throughout the company. If the perception in the company is that only the Steering Committee gets to create the proposed changes, resistance is likely to occur. It works best if it is understood that all participants are consulted. In this way, the probability of acceptance is infinitely higher.

Lateral communication entails full support at all levels. People of the same level communicate among themselves. At this level, there must be an effort to find and communicate the specific benefits of changes. This is important since people need a personal stake in the success of the project management practices. As a result. The communication plan will include the following team members:

- Company CEO
- Company Steering Committee
- Company Project Manager
- ECM Consultant
- Company Project Team Members 1, 2 & 3
- HR&A
- Stores Section
- ISD
- Vendor

Communication should be done in all the following directions shown in figure 10 below:

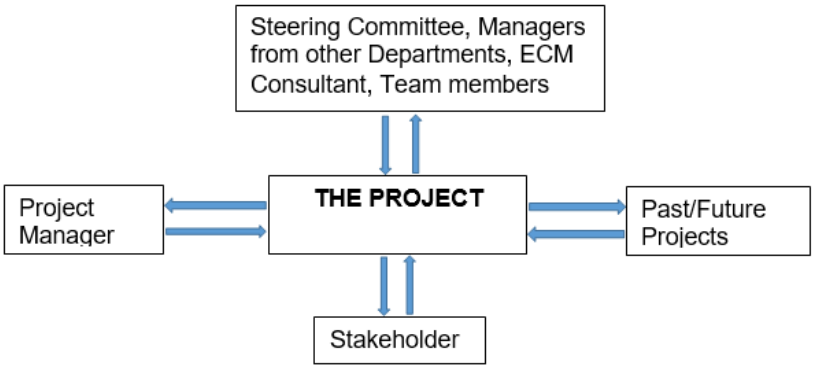


Figure 11 Flow of communications on the EDMS project (Source: Compiled by Author)

The communications requirements are documented in the Communications Matrix below of Chart 21. The Communications Matrix will be used as the guide for what information to communicate, who is to do the communicating, when to communicate it, and to whom to communicate. Established Communication Events for the project include:

Chart 21 Communication Matrix

Communication Event	Receiver / Participant	Content	Owner	Frequency	Communication Format
Weekly Status Reports	Steering Committee, Team and Stakeholders	• Summary of tasks completed in previous month (project status report) • Summary of task scheduled for completion in the next month • Summary of Issue status and resolutions	Project Manager	Weekly	Microsoft Power Point, Email
Steering Committee Meeting	Steering Committee	• Documents of approval or disproval	CEO	Monthly	Email, MS Word document
Bi-Weekly Project Team Status Meeting	Project Team	• Agenda of current meeting. • Status report. • Minutes of last meeting.	Project Manager	Bi-Weekly	In Person, Email, MS Word document

(Source: Compiled by Author)

The major output of this process is the communication management plan, which documents the expectations of communicating and will guide Project Manager and stakeholders in creating project communications to make sure information gets to the people who need it, that it is clear and understandable, and allows stakeholders to take action as necessary.

Manage Communications

PMI (2013) states, Manage Communications is “the process of creating, collecting, distributing, storing, retrieving, and the ultimate disposition of project information in accordance to the communications management plan.” (p. 297). The key benefit is to ensure that efficient and effective communication is flowing back and forth between stakeholders on the project as planned.

Work Performance Reports, including project performance and status information may influence manage communication process. Likewise, the Enterprise Environmental factors such as the organizational culture and structure and the government or industry standards and regulations. In addition, the Organizational

Process Assets that may influence this process include company policies, procedures, processes and guidelines regarding communications management; templates and historical information and lessons learned.

Some tools that may be utilized to manage project information include communication technology. This can take place in many ways and can vary significantly throughout the project life cycle. For example, face-to-face interactions, telephone, fax, email, mail, among others. The focus is to ensure that the choice is appropriate for the information that is being communicated. Communication models and methods, information management systems and performance reporting are all tools and techniques that can be applied in this project.

Control Communications

Control communications is important for the monitoring and controlling of communications throughout the entire project life cycle to ensure that information needs of the project stakeholders are met. This is where information has to flow as planned, in the right way, to the right people and at the right time. The Project Manager will take the lead role in ensuring effective communications on this project.

The Project Manager should spend about 90-95% communicating and should try to control communications to avoid major changes, miscommunications, unclear directions and scope creep from occurring. The project management plan, project communications, issue log, work performance data and the organizational process assets are all inputs to and should be considered when planning the control communications aspects of the management plan.

Information Management Systems is used to assist in the effectiveness and efficiency of communications. This will capture, store and distribute information to

stakeholders about the project's cost, schedule progress and performance. For example, Microsoft Office Project or Excel software can be used to do reports and graphical presentations to distribute to the Steering committee and/or other stakeholders to show project performance information. Expert judgment by the ECM consultant or other members of the project team will be needed to assess the impact of the project communications. Meetings, whether by discussions and dialogue conducted face to face or online with the Project manager, project team or ECM vendor will be required to communicate on project performance and respond to requests. The Project Manager is likely to use meetings to bring the team together to determine how information will be communicated on the project.

As a result of this Control Communications process, factors that may require updates include work performance information, change requests through the Perform Integrated Change Control process; project management plan updates, project documents updates and organizational process assets such as lessons learned documentation which will be added to the company's database.

4.7. Project Risk Management

Project Risk Management is priority on any project. However, in the past, project risks and related solutions were not effectively addressed at VIINLEC. In fact, they were only addressed on an ad-hoc basis.

The Project Manager in this project must stay in control of the project and not be controlled by it. The project should be an integral part of the Project Manager's daily work and should not focus on dealing with problems, but prevent them from happening. Performing risk management helps prevent many problems on projects and helps make other problems less likely or less impactful. Risk management can greatly influence the efficiency and effectiveness of this project and reduce stress for the Project Manager and project team.

Project Risk Management is identified as “the processes of conducting risk management planning, identification, analysis, response planning and controlling risk on a project.” (PMI, 2013, p. 309). The objective of project risk management is to increase the probability and/or impact of positive risks or events, and decrease the likelihood and impact of negative risks or events in the project. By eliminating threats and increasing opportunities, the estimates for work can decrease. The processes are:

- Plan Risk Management (Planning process group)
- Identify Risk (Planning process group)
- Perform Qualitative Risk Analysis (Planning process group)
- Perform Quantitative Risk Analysis (Planning process group)
- Plan Risk Responses (Planning process group)
- Control Risks (Monitoring and Controlling process group)

These processes may be repeated even in the initial stages of the project and through to the project’s end. It is important to note that risk can be identified at any time along with possible solutions.

VINLEC perceives risk as the effect of uncertainty on projects and company objectives. Therefore, its stakeholders are willing to accept varying degrees of risk depending on their risk attitudes. These risk attitudes may be influenced by the following, classified into three themes:

- Risk appetite – acceptable level of risk
- Risk tolerance – measurable amount of acceptable risk
- Risk threshold – specific point at which risk becomes unacceptable

Plan Risk Management

Plan Risk Management defines how to conduct risk management activities for a project with the benefit of ensuring that the degree, type, and visibility of risk management are proportionate with both the risks and the importance of the project to the organization. (PMI, 2013, p. 313). The Project Manager, Steering Committee, ECM Consultant, project team, other stakeholders and experts may need to be involved in the Risk Management planning process to define how risk management will be structured and performed effectively over the project life cycle.

The project management plan, project charter, stakeholder register, enterprise environmental factors, which include risk attitudes, thresholds and tolerances that describe the extent of risk that VINLEC will withstand, can all influence the Plan Risk Management in this project. Due to the nature of this project, a risk of lack of confidentially of the company's information is important and should be determined how to approach this before access to any information is granted. Organizational process assets that may also influence the plan risk management include the roles, responsibilities, and authority levels for decision-making. Within this project, on the Steering Committee (Manager, Internal Audit) and on the project team (Audit Clerk) two members work in the Internal Audit department and will aid the Project Manager in managing risk.

Expert Judgment in this project may include the members of the Steering Committee (which include the CEO and Manager, Internal Audit along with other HODs), the ECM consultant, Project Manager and member of the project team (from the Internal Audit department) who have over ten years of knowledge and experience in accounting, auditing and ECM expertise, among others. All will work to ensure a comprehensive establishment of the risk management plan.

The project team will perform risk management by identifying them initially in meetings. These meetings will be betweeen the Project Manager, members of the

Steering Committee, ECM Consultant and selected members of the project team. The project team will be involved in sending any information and data through reports to improve tracking of project risks. The risk management and cost elements and schedule activities should be developed and be included in the budget and schedule of the project. It is at this stage of the project that the risk contingency reserve application approaches may be established or reviewed.

After the risk management planning is completed, a risk management plan should be created which encompasses the activities including methodology, roles and responsibilities, budgeting, timing and risk categories, just to name a few.

Risk Categories are broad, common grouped areas or sources of risk that the EDMS may experience. These are:

1. Technical
2. Internal
3. External

Risk probabilities and impacts - risk analysis requires different levels of risk probability and impact. It is therefore important that they are clearly defined for this particular EDMS project. The risk probabilities classification is:

1. Low
2. Medium
3. Medium-High
4. High
5. Very High

Risk impacts with their threshold values are utilized to monitor the level of risks throughout the project. These risk impacts are classified as:

1. No real impact
2. Minor
3. Moderate
4. Significant
5. Severe

The risk categories are utilized to create a risk breakdown structure (RBS) of possible risks, which may occur. Figure 11 illustrates the Risk Breakdown Structure:

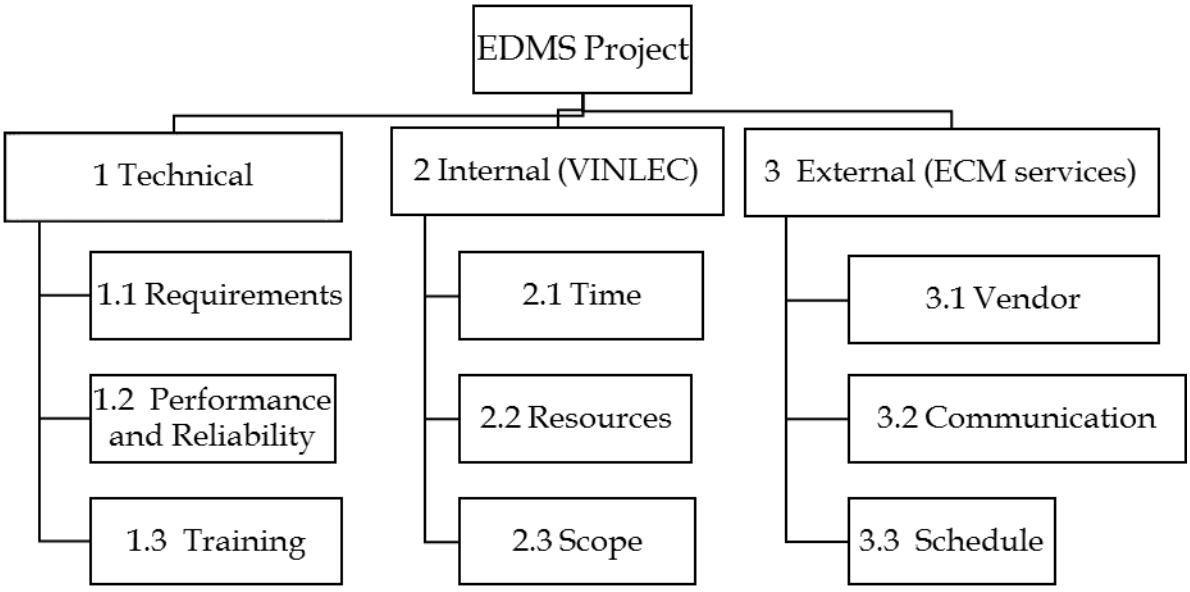


Figure 12 Risk Breakdown Structure
(Source: Compiled by Author)

Identify Risks

Risks for the project are identified and the factors that lead to these risks are documented. The effort should involve the Project Manager, the project team and all stakeholders, and might even include literature reviews and research. Everyone should be involved in risk identification because everyone has a different perspective of the project and can provide thoughts on opportunities and threats. Risk in this project, should be continually reassessed and should be done during

activities such as integrated change control, working with resources and dealing with project issues.

In order to identify risk, consideration must be placed on the enterprise environmental factors, including benchmarking, published database information and risk attitudes. In addition, the organizational process assets such as risk statement templates and lessons learned from previous project and other stored information, if any. Reference should be paid to the scope baseline, activity cost and duration estimates, stakeholder register and the project management plan, which provides information on other knowledge areas, and management plans.

To ensure that the EDMS project captures and analyze as many risks as possible and realistic to the project, the following tools and technique will be utilized by the project team to identify risks:

- *Documentation reviews* - anything in the documentation that relates to plan, assumptions, previous project files, agreement, project charter, contracts and planning documents can help to identify risks.
- *Information gathering techniques* used in identifying risks that may be applicable to this project include:

  Brainstorming – usually done in meetings by the project team under the leadership and guidance of the ECM Consultant. Risks may be categorized such as in the RBS that can be used as the framework. Risks are then categorized by type and then their definitions.

  Interviewing – the Project Manager or project team may interview participants, experts or stakeholders to identify risks on the project or a specific part of work.

  Root cause analysis – used to pinpoint a problem, discover the underlying causes that lead to it and develop preventive action. For example, purchasing the hardware and software for the EDMS without knowing that the vendor has increased the price. The

prevention method could be a signed quotation with the price, which can be obtain by the vendor.

- *SWOT analysis* – this technique examines the project to identify its strengths, weaknesses and thus identify opportunities and threats.
- *Expert judgment* – risks are also identified by experts on the project with relevant knowledge and experience in similar projects or areas of expertise and are all invited by the Project Manager.

The more risk-averse the team is, the more likely they will discuss risks regularly and identify new risk factors or causes, which will then be reviewed by the Project Manager. The Project Manager and project team then consider risk response/ mitigation and contingencies for these identified risks. The primary output of the identify risk creates the risk register, which is updated throughout the project pending changes to risk factors. The risk register is a document in which the results of risk analysis and risk response planning are kept. The initial data and information accumulated by the project planning team and the Project Manager are utilized to create the risk register. The information included in the risk register is a list of identified risks and the list of potential responses. The risk register later becomes part of the project documents and is included in historical records, used for future projects.

Chart 22 Risk Register

Code	Risks	Consequences	Trigger
2.2	Lack of VINLEC resources to complete project activities.	Delays in Project Schedule.	Delays in project activities.
2.1	Delays in the procurement process.	Extended project schedule	Delayed procurement events.
1.1	Integration failure with EDMS and VINLEC's network infrastructure. Connecting and configuring the EDMS with VINLEC architecture will require extensive coordination and effective management.	Rework of Integration and possible system downtime.	EDMS architecture no longer complies with VINLEC architecture design
1.2	Poor security controls. Greater access to documents lead to greater access to private/secure content.	Security breach leading to identity theft, noncompliance with HR&A.	Breach of security.
3.1	No application Maintenance. Inadequate trained resources to effectively support EDMS after deployment.	Ineffective operations and maintenance of the EDMS after deployment.	Poor transition phase.
2.1	Extended timeline cause by Steering Committee approval process.	Higher prices.	Procurement delays.
3.2	Communication issues between ECM vendor and VINLEC.	Inability to finalize contract.	Terminate Contract.
2.2	No training.	Lack of EDMS knowledge in use of software and in policy and procedures approach.	Increase Errors.
2.3	Stakeholder dissatisfaction.	Conflict	Unsatisfactory performance report.
3.3	Work packages start 10 days later than plan due to late arrival of hardware.	Increase cost. Variance in productivity, schedule	Work package delay.

(Source: Compiled by Author)

Perform Qualitative Risk Analysis

As reference by the PMBOK Guide, Perform Qualitative Risk Analysis is “the process of prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and impact.” (PMI, 2013, p. 328). Risks must be analyzed including their probability and potential impact on the project to determine the ones that warrant a response. Meetings or interviews with the Project Manager, and Expert judgment of the ECM Consultant along with other members of the project team are held to assess and discussed the level of probability for each risk and its impact on each objectives. This will allow the Project Manager to reduce the level of uncertainty and focus on the high-priority risks. The Perform Risk Analysis process involves doing this analysis and creating a short list of the previously identified risks. The short list risk is then further analyzed in either the Quantitative Risk Analysis process or move into the Plan Risk Response process.

This analysis is performed by determining:

- The probability of each risk occurring, using a standard scale as Low, Medium, Medium-High, High, Very High or 1 to 10.
- The impact (amount at stake, or consequences, positive or negative) of each risk occurring, using a standard scale as No real Impact, Minor, Moderate, Significant, Severe or 1 to 10.

Identified risks are prioritized using their relative probability or possibility of it occurring, its corresponding impact on the objectives of the project if the risks were to occur, in addition to other factors such as the time frame for responses and the risk tolerance of the company that is associated with the project constraints of cost, schedule, scope and quality. These are effectively assessed by key project members in the performing qualitative risk analysis process. (PMI, 2013).

Qualitative risk analysis is a subjective analysis of all the risk identified in the risk register. Therefore, the rating of any one risk can vary depending on the bias of a risk averse person. For example, one person's score of a 7 might be another person's 3. Established definitions of probability and impact levels can reduce the influence of bias. In this EDMS project, a standard rating system to promote a common understanding of the probability and impact rating will be defined as follows:

Chart 23 Probability Rating Scale

Rating	Interpretation
1 2	Low (Highly unlikely to occur. May occur in exceptional situations)
3 4	Medium (Most likely will not occur. Infrequent occurrence in past years)
5 6	Medium-High (Possible to occur)
7 8	High (Likely to occur. Has occurred in past projects)
9 10	Very High (Highly likely to occur. Has occurred in past projects and conditions exist for it to occur on this project)

(Source: Compiled by Author)

Chart 24 Impact Rating Scale

Rating	Interpretation
1 2	No real Impact (insignificant)
3 4	Minor (Not expected to occur. Not considered impactful)
5 6	Moderate (risk is moderate, impact is not so severe)
7 8	Significant (Moderate potential to address an important problem or critical Barrier)
9 10	Severe (Project Failure or shutdown)

(Source: Compiled by Author)

The risk ratings are assigned based on their assessed probability and impact. The importance of each risk is evaluated and priority for attention is usually conducted using a look-up table or a probability and impact matrix. The matrix specifies

combinations of probability and impact resulting in rating the risk as Insignificant and Minor, Moderate, or Severe and Significant as shown in chart 24, relating to this project. Chart 25 shows the Probability and Impact Matrix table demonstrating which codes relating to the risks identified in the Risk register (Chart 22) needs attention.

Chart 25 Probability and impact matrix

Code	Probability	Impact	PxI
2.2	9	9	81
2.1	8	8	64
1.1	8	8	64
1.2	8	8	64
3.1	8	6	48
2.1	9	9	81
3.2	8	7	56
2.2	10	9	90
2.3	9	9	81
3.3	9	8	72

	PXI	
1-50	Green	Insignificant and Minor
51-80	Yellow	Moderate
81-100	Red	Severe and Significant

(Source: Compiled by Author)

Perform Quantitative Risk Analysis

As stated in the PMI (2013), Perform Quantitative Risk Analysis is the process of "numerically analyzing the effect of identified risk on overall project objectives. The known benefit is that it produces quantitative risk information to support decision making in order to reduce project uncertainty." (p. 333)

As the Project Manager of this project, qualitative risk analysis should always be performed, but it is really up to the Project Manager to decide whether to apply Quantitative Risk Analysis on some projects as it can be skipped and move onto the risk response planning. In some cases, it might not be possible to proceed with executing Perform Quantitative Risk Analysis process due to lack of sufficient data to develop appropriate models. In addition, the Project Manager may proceed once it is worth the time and money on the project. However, Perform Quantitative Risk Analysis should be repeated, as needed, as part of the Control Risk process to determine if the overall project risk has been satisfactorily decreased. (PMI, 2013).

Quantitative risk analysis and modeling techniques applicable to this project include sensitivity analysis and modeling and simulation. Sensitivity analysis should be performed to determine which risks have the most impact on the project. A tornado diagram may be used to graphically depict the results of that analysis. It can also be helpful in analyzing risk-taking scenarios enabled on specific risk whose quantitative analysis highlights possible benefits greater than corresponding identified negative impacts. Risks are represented by horizontal with the longest and uppermost bars depicting the greatest risk. As the horizontal bars become progressively shorter, this trend represents lower-ranked risks. The diagram below depicts a tornado diagram representing the impact of the threats and opportunities surrounding various milestones of the EDMS are implemented.

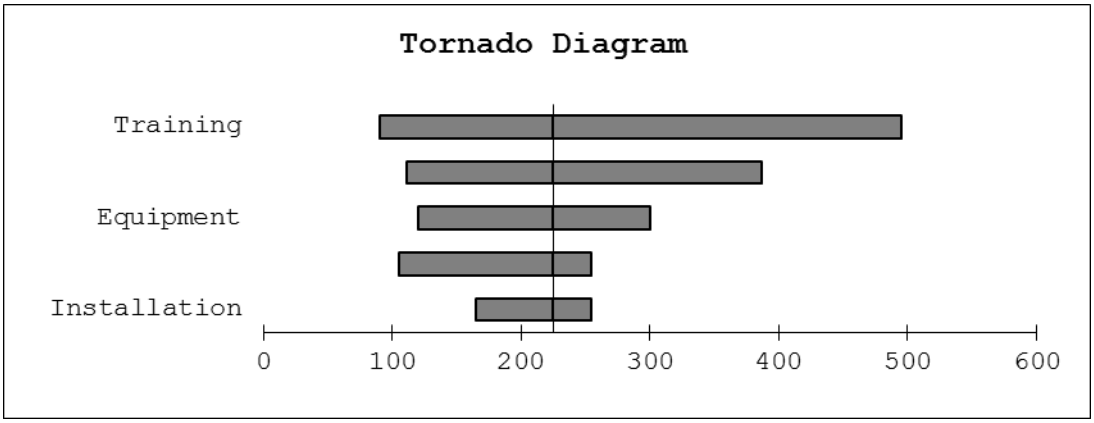


Figure 13 Example Tornado Diagram
(Source: Compiled by Author)

Modelling and simulation technique is a model that translates the specified detailed uncertainties of the project into their potential impact on project objective. It evaluates the overall risk in the project and determines the probability of completing the project on any specific day, or for any specific cost. It can be used to assess cost and schedule impacts. Other ways in which quantitative probability and impact can be determined for this project are by interviews and expert judgment of stakeholders working along with the Project Manager to identify potential cost and schedule impacts to evaluate probability.

The Perform Quantitative Risk Analysis process results in updates to the risk register and other project documents. These include a prioritized list of quantified risks, initial amount of contingency time and cost reserves needed, probabilistic analysis of the project, probability of achieving cost and time objectives and trends in quantitative risk analysis results.

Plan Risk Responses

Plan Risk Response, according to PMBOK is “the process of developing options and actions to enhance opportunities and to reduce threats to project objectives.” (2013, p. 342). It involves planning what to do about each top risk. Some responses to risk include:

- Doing something to eliminate the threats before they happen
- Doing something to make sure the opportunities happen
- Decreasing the probability and/or impact of threats
- Increasing the probability and/or impact of opportunities

The advantage of this process is that it addresses the risks by their priority, inserting resources and activities into the budget, schedule and project management plan as needs be. (PMI, 2013). For example, if a work package is causing a large amount of risk on the project, the Project Manager may change the work or remove it from the project. In this project, there are some residual

undetermined risks that could not be eliminated or exploited through the use of the risk response strategies. In this scenario, the Project Manager and team may have to accept these residual risks, or plan additional risk responses to deal with them. Risk owners will have to be assigned to do the work which include keeping an eye out for and implement preplanned responses.

Planning risk responses requires a thorough analysis of the potential responses for each risk. The Project Manager along with his project team may uncover many strategies for dealing with risks. Strategies can involve changes to the planned approach to complete the project. Coming up with a plan to be implemented when and if a risk occurs is a strategy. It is essential to make sure that all options are investigated.

Risk analysis tools, such as decision tree can be used to choose the most appropriate responses. However, in the event a strategy that was chosen turns out not to be as effective as anticipated, a fallback plan may be applied. Secondary risk usually refers to risk that arise as a direct result of implementing a risk response. Contingency reserve must be allocated for time and cost when a risk occurs. For example, in this project, the unavailability of the Records Manager to conduct training for the staff on the procedure and policy documents of the EDMS project. A fall back plan would have to be apply to determine whether to outsource the task to an external consultant or to another staff external to the project that may qualify to take up the task.

The choices of response strategies for risks or threats that may have negative impacts on project objectives include the following: avoid, transfer or mitigate. Accept is the fourth strategy and can be applied to both negative risks or threats as well as positive risks or opportunities. Avoidance and mitigation are usually good strategies applicable for critical risks with high impact. Transference and

acceptance are usually good strategies applied in situations where threats are less critical and with low overall impact.

The choices of response strategies for opportunities with positive impacts include:
Exploit – Add work or change project to ensure opportunities occur.
Enhance – Increase the likelihood and/or positive impacts of the risk event.
Share – Allocate part or ownership of the opportunity to a third party that is best able to achieve that opportunity.

The outputs of the Plan Risk Responses process are the updates to the project management plan, risk register and other project documents. Planned risk responses, after careful consideration and evaluation, may require changes to management plans such as schedule, cost, quality, procurement, communications, human resource management plans, including scope, time, and cost baselines for the project. The Project Manager may also update the project documents to help manage the project. The risk register is also updated to add the results of risk response including residual risks, which are the risks that remain after response planning; contingency plans; fallback plans, risk owners; just to name a few.

Chart 26 Plan Risk Response

Code	Owner	Trigger	Strategy	Contingency
2.2	Project Manager	Delays in project activities	Mitigate: Get Senior Management Stakeholders involvement and support the project. Ensure implementation is a priority among team members.	$6,500 (creative ways in getting stakeholder involvement over the duration of project)
2.1	Project Manager; Stores Section; Vendor	Delayed procurement events.	Mitigate: Designate a dedicated procurement Manager to manage the procurement timeline	$4,000 (cost of managing procurement timeline, maybe through a quicker method)
1.1	IS, Vendor	EDMS architecture no longer complies with VINLEC architecture design	Transfer: Evaluate possibility of contracting with a vendor to configure requirements.	$10,500 (cost of downtime and rework in use of EDMS)
1.2	Records Manager, IS, Vendor	Breach of security	Avoid: Ensure the security component within the EDMS are implemented effectively. Regularly audit the security system implementation during and after deployment.	$5,000 (training in security and administration for up to 5 administrators)
3.1	Vendor	Poor transition phase	Avoid: The implementation service contract must require detailed system documentation, training for all company resources and a comprehensive transition plan.	$4,500 (maintenance fee for 3 months)
2.1	Steering Committee	Procurement delays	Mitigate: Plan for extended time.	$4,000 (payment of late fees)
3.2	Project Manager, ECM vendor	Terminate Contract	Mitigate: Change approach to dealing with vendor/customer relations.	$7,000 (Hire new vendor and rework in research and procurement process)
2.2	Project Manager; Records Manager, Vendor	Increase errors	Avoid: Eliminate ignorance at the workplace that can lead to inefficiency.	$7,000 (Training in proper use and requirements of EDMS up to 20 employees for 4 days in total).
2.3	Project Manager, Project Team	Unsatisfactory performance report	Mitigate: Try to gain stakeholders buy in by communicating more with them, asking questions and gain their trust.	$6,000 (cost of changes in project)
3.3	Vendor	Work package delay	Mitigate: Change approach to dealing with vendor/customers relations	$5,000 (cost of extra work or overtime)

(Source: Compiled by Author)

Control Risks

Control risks implements risk response plans, tracks identified risks, monitor residual risks, identify new risks, and evaluate risk process effectiveness throughout the project. This process is beneficial to the project because it improves efficiency of the risk approach throughout the project life cycle to continuously optimize risk responses. (PMI, 2013, p. 349).

The Project Manager has to perform proper project management, which includes assigning risk owners who can be any member of the project team, executing a contingency plan or fallback plan, taking corrective action, and modifying the project management plan. The risk owner will report periodically to the Project Manager, any unanticipated effects, and any correction needed to handle the risk appropriately.

Control risks can be influenced by several factors such as the project management plan that provides guidance for risk monitoring and controlling, the risk register, work performance data that relates to various performance results and work performance reports. Effective tools and techniques that are required in control risk process include risk reassessment, risk audits that are included in project meetings, variance and trend analysis used to compare planned results to actual results, reserve analysis which compare the amount of contingency reserve remaining to the amount of risk remaining at any time in the project and meetings.

Similar to previous management processes, updates to the risk register, project management plan, organizational process assets, including project lessons learned databases and risk management templates to benefit future projects and other project documents are a result of control risks. Along with these outputs, work performance information, change request submitted to the Perform Integrated Change Control process can include recommended corrective and preventive actions.

4.8. Project Procurement Management

As stated in the PMBOK, Project Procurement Management includes “the processes necessary to purchase or acquire products, services, or results needed from outside the project team. The organization can be either the buyer or seller of the products, services, or results of a project.” (PMI, 2013, p. 355).

The sequential processes are:

- Plan Procurement Management (Planning process group)
- Conduct Procurements (Executing process group)
- Control Procurements (Monitoring and controlling process group)
- Close Procurements (Closing process group)

As aforementioned, procurement is a formal process to acquire goods and services. In this project, equipment that will be required by the team would be software and hardware items needed to perform the tasks required for the project. These would be procured from the available funds provided by the company (VINLEC). All equipment (scanner and document software) that are needed for the project will be sought by the same selected Vendor. The Project Manager will provide oversight and management for all procurement activities under this project. The Project Manager will also facilitate a project management plan and create a statement of work to the vendor. Since this process involves obtaining the best seller at the most reasonable price, the waiting time may be long for the vendor to assess the need and respond. The Project Manager must plan for this time in the project schedule.

Additionally, the project manager will work with the project team, stores section and other key members of the project team to manage the procurement activities. The Project Manager has the authorization to approve all procurement actions up to a set amount ($30,000). Any procurement actions exceeding this amount must be approved by the Project Sponsor who is the CEO sitting on the Steering Committee team and the Manager Finance.

List of persons who are authorized to approve purchases for the Project team:

Names:	**Role**
Thornley Myers	CEO
Juliette Wilson	Manager Finance
Lisa Morris Nanton	Project manager

In the early stages of the EDMS, project procurement should be done. For example, the RFP process is slated to take 93 days before the creation of the purchase order and to purchase the needed equipment from vendor. Nevertheless, the procurement process will be reviewed by the Steering Committee and will be presented to the Stores section. The Stores section will review the procurement actions; determine whether it is advantageous to buy the items from a list of vendors, begin the selection and do the purchase order and purchase the items. The Project Manager will determine the type of contract and procurement documents, but a request for quotation (RFQ) will be most appropriate for this project.

Plan Procurement Management

Plan Procurement refers to the “process of documenting project procurement decisions, specify the approach, and identifying potential sellers.” (PMI 2013, p. 358). It determines what goods and/or services are needed to be acquired for the project, how they will be acquired, how much is needed, when to acquire them, and whether to acquire outside support. In addition to creating the procurement management plan, the process involves putting together the procurement documents that will be sent to the prospective vendors describing the needs of the project, how to respond to vendors’ questions, and the criteria VINLEC will use to select a seller. They may submit questions to VINLEC in writing relating to the procurement documents and will need to do so before the submission deadline for the proposals. This is to ensure that the vendor has a clear understanding of what

VINLEC wants and to assess the risks involved in the project. Therefore, the scope has to be clear and complete.

The following chart shows the procurement items and services that have been determined to be essential for project completion. These items will be reviewed by the steering committee in order to start purchase.

The Plan Procurement Management process requires the following inputs before the procurement process begins. The project management plan, requirements documentation, risk register, activity resource requirements, the project schedule, activity cost estimates, stakeholder register, enterprise environment factors and the organizational process assets which all influence the plan procurement management process.

Tools and techniques that will be applicable to the plan procurement management process in this project include the Make-or-Buy Analysis, Expert Judgment, Market Research and frequent meetings. Make-or-Buy Analysis is a technique used to determine whether the project team can best do a particular project work or acquire externally some or all of the work. Most of the team members of the project are the company's employees and therefore do not have the time or resources to build the software or hardware needed. Therefore, the company's decision will be to procure the work outside and bear the cost, decreasing risk to the project's constraints.

Expert Judgment will be sourced from the ECM Consultant and other managers on the Steering Committee to ascertain the needs of the project (software, hardware and vendor, training) from the requirements documentation, WBS and WBS dictionary. Market Research should be conducted to determine the estimated cost for both software and hardware equipment and vendor reviews. All meetings may be conducted with the Project Manager, the ECM Consultant and key members of the project team who can all come to a common consensus on choosing the

potential software and hardware suppliers including their price quote and software capabilities, which will thereafter be presented to the Steering Committee for selection and ultimate approval. The two tables below depict the company's procurement needs, the schedule for procuring the equipment and the resource names assigned to do task, respectively:

Chart 27 Procurement Needs

Item	Justification	Needed By
Fujitsu Document Scanners	The equipment for document scaning	7/10/2017
Capture Server License	Software version installed on Server	7/10/2017
Installation & configuration	Install on client PCs	7/11/2017
Maintanance & Support	Subscription	8/21/2018

(Source: Compiled by Author)

Chart 28 Procurement schedule

108		**6.2 Equipment**	**43 days**	**May 10 '17**	**Jul 7 '17**	
109		6.2.1 Create Purchase Order and Purchase Equipment	1 day	May 10 '17	May 10 '17	Project Manager
110		6.2.2 Prepare and Ship equipment to St. Vincent	5 days	May 11 '17	May 17 '17	Vendor
111		6.2.3 Receive equipment from vendor	1 day	Jul 7 '17	Jul 7 '17	Stores Section

(Source: Compiled by Author)

Outputs of the plan procurement management will include the procurement management plan, procurement statement of work (SOW), procurement documents, source selection criteria, change requests and project documents updates. The procurement management plan is a component of the project management plan and documents how procurement for the project will be planned, executed, controlled and closed. This plan can be formal or informal, detailed or broadly framed. The Enterprise Environmental factors and the Organizational process assets would influence this plan significantly, which includes the governing approach to procurements for the project, information about how to perform the make-or-buy analysis process and the policies and procedures that will be used in the procurement processes.

The Project Manager will need to determine the scope of work to be completed on the procurement. The Procurement Statement of Work is developed from the scope baseline and defines only the portion of the project scope that is to be included in the related contract. It must be clear, complete, and concise as possible, and it must describe all the work and activities the seller is required to complete. For example, in the purchasing of the software and related training services for this project, the procurement statement of work must include the functional and/or performance requirements. Sufficient information may vary based on the nature of the item and the needs of the buyer. This level of detail will influence the selection of the contract type and the creation of the procurement documents. The procurement statement of work can always be revised and refined as necessary through the procurement process until incorporated into a signed agreement.

The Procurement documents will now be used to solicit proposals from prospective sellers. Once the contract type is selected and the procurement statement of work has been created, VINLEC can create the procurement document, which describes VINLEC's needs to sellers. In this project, the type of procurement document will be a Request for Proposal (RFP) which is a detailed proposal on how the work will be accomplished, who will do it, résumés, company experience, price, among others. The table below shows the RFP Process along with the duration and resources names to accomplish task:

Chart 29 RFP Schedule

ID	Name	Duration	Start	Finish	Resource Names
56	**4. RFP Process**	**93 days**	**Jan 2 '17**	**May 10 '17**	
57	**4.1 Prepare RFP**	**6 days**	**Jan 2 '17**	**Jan 9 '17**	
58	4.1.1 Outline details of proposal	5 days	Jan 2 '17	Jan 6 '17	Project Manager,Project Team 1,Project Team 2,Project Team 3
59	4.1.2 Submit draft proposal to Steering Co	1 day	Jan 9 '17	Jan 9 '17	Project Manager
60	**4.2 ReviewRFP**	**17 days**	**Jan 10 '17**	**Feb 1 '17**	
61	4.2.1 Review RFP draft proposal	5 days	Jan 10 '17	Jan 16 '17	Steering Committee
62	4.2.2 Fiinalise RFP changes	5 days	Jan 17 '17	Jan 23 '17	Project Manager,Project Team 2,Project Team 1,Project Team 3
63	4.2.3 Finalise selection criteria	1 day	Jan 24 '17	Jan 24 '17	Records Manager
64	4.2.4 Submit RFP for Approval	1 day	Jan 25 '17	Jan 25 '17	Project Manager
65	4.2.5 Approve RFP	5 days	Jan 26 '17	Feb 1 '17	Steering Committee
66	**4.3 Issue RFP to vendors**	**3 days**	**Feb 2 '17**	**Feb 6 '17**	
67	4.3.1 Prepare short list of vendors	2 days	Feb 2 '17	Feb 3 '17	Records Manager,Project Team 1,Project Team 2,Project Team 3
68	4.3.2 Send RFP to vendors	1 day	Feb 6 '17	Feb 6 '17	Project Manager
69	**4.4 Evaluate Proposal and select winner**	**12 days**	**Mar 6 '17**	**Mar 21 '17**	
74	**4.5 Prepare Contract**	**18 days**	**Mar 22 '17**	**Apr 14 '17**	
75	4.5.1 Prepare draft Contract	2 days	Mar 22 '17	Mar 23 '17	Project Manager,Project Team 1,Project Team 2,Project Team 3
76	4.5.2 Submit to Steering Committee for Re	1 day	Mar 24 '17	Mar 24 '17	Project Manager
77	4.5.3 Review contract and make changes	5 days	Mar 27 '17	Mar 31 '17	Steering Committee
78	4.5.4 Finalise contract and submitt to Steer	5 days	Apr 3 '17	Apr 7 '17	Project Manager
79	4.5.5 Approve contract	5 days	Apr 10 '17	Apr 14 '17	Steering Committee
80	**4.6 Finalize contract**	**18 days**	**Apr 17 '17**	**May 10 '17**	
81	4.6.1.Send Contract to Vendor for review	5 days	Apr 17 '17	Apr 21 '17	Project Manager
82	4.6.2 Finalise Contract	10 days	Apr 24 '17	May 5 '17	Project Manager,Vendor
83	4.6.3 Sign contract	2 days	May 8 '17	May 9 '17	Project Manager,Vendor
84	4.6.4 Keep copy on file	1 day	May 10 '17	May 10 '17	HR&A Dept

(Source: Compiled by Author)

Source Selection Criteria are included as part of the procurement documents to give the seller an understanding of the buyer's needs and to help the seller decide whether to bid or make a proposal on the work. When the buyer receives the sellers' responses during the Conduct Procurement process, source selection criteria become the basis for the buyer to use in evaluating the bids or proposals. These criteria are used to objectively or subjectively rate or score seller proposals. The source selection criteria may include number of years in business, financial stability, understanding of need, quality of past performance of sellers, management approach, risk, technical approach, just to name a few. In the case of this project the criteria for the selection and award of procurement contracts under the EDMS project will be based on the following criteria:

1. General information
2. Conformity with Technical Requirements
3. After-sales Support
4. Price
5. Propose Implementation Plan
6. Relevant Project Experience

These criteria will be measured by the Project Manager and the ECM Consultant and Records Manager. The ultimate decision will be made based on these criteria as well as available resources. The figure below depicts a sample of the table use to evaluate a vendor and used as selection criteria:

Chart 30 Vendor Evaluation

Evaluation Criteria	Response	Comments	Maximum Score	Score Given
General				
Is the proposal substantially responsive to the requirements of the RFP? (at least 75% compliant with requirements)				
Does the proposal conform with the format requested?				
Is the proposal presented professionally and clearly?				
Conformity with Technical Requirements				
Does the proposed EDMS meet the technical requirements?				
After-sales Support				
Is the after-sales support offered adequate for our anticipated needs?				
Price				
maintenance				
Proposed Implementation Plan				
Is the implementation plan acceptable?				
Proposed duration for the implementation				
Relevant Project Experience				
Has the vendor provided evidence of experience in implementing their software with VINLEC's corporate financial package?				
Has the vendor provided evidence of experience in implementing their software with other similar MIS products?				
Vendor's years of relevant experience (eg. Experience with utilities)				
Total			**0**	**0**

(Source: Compiled by Author)

The following table with the same criteria will be used to compare two or more vendor performance for the EDMS project's procurement activities. This type of rating can be use in selecting vendors for future procurement activities.

A metric will be applied and is rated on a 2-5 scale as indicated below:

2 – Unsatisfactory

3 – Acceptable

5 - Exceptional

Chart 31 Performance Metrics Evaluation for Procurement Activities

	SCORE	
Evaluation Criteria	**Vendor 1**	**Vendor 2**
General		
Is the proposal substantially responsive to the requirements of the RFP? (at least 75% compliant with requirements)		
Does the proposal conform with the format requested?		
Is the proposal presented professionally and clearly?		
Conformity with Technical Requirements		
Does the proposed EDMS meet the technical requirements?		
After-sales Support		
Is the after-sales support offered adequate for our anticipated needs?		
Price		
Price offered for EDMS software, installation, integration, training, and maintenance		
Proposed Implementation Plan		
Is the implementation plan acceptable?		
Proposed duration for the implementation		
Relevant Project Experience		
Has the vendor provided evidence of experience in implementing their software with VINLEC's corporate financial package?		
Has the vendor provided evidence of experience in implementing their software with other similar MIS products?		
Vendor's years of relevant experience (eg. Experience with utilities)		
Total	**0**	**0**

(Source: Compiled by Author)

A Change Request is required sometimes during project execution that involves procuring goods, service, or resources. Such eventualities may stem from a seller not performing or in relation to risk, quality, time or scope. This may require reevaluation of the procurement management plan and make-or-buy-analysis decisions. These changes would need to be submitted to the integrated change

control, where they would be evaluated against the entire project and then ultimately be approved or rejected. Certain project documents may be updated such as the requirements documentation, requirements traceability matrix and the risk register.

Conduct Procurement

Conduct Procurement involves sending the procurement statement of work and other procurement documents created in the Plan Procurement Management process to the prospective sellers, answering seller questions, obtaining seller responses, selecting a seller and awarding a contract. The advantage of this process is that it provides alignment of internal and external stakeholder expectations through established agreements. Lessons learned from any previous projects may assist in providing insight into the company's past experiences with potential sellers.

Once the prospective sellers have received the procurement documents, the team will receive proposals and apply the chosen criteria to select the seller or sellers qualified to perform the work. Subsequent receipt of a preliminary proposal, a short list of adequate potential sellers can be created. In this project, it may be wise to attend a meeting in which a tour of the sellers' facilities can be arranged (for example, site visits as mentioned in the WBS). This is normally an opportunity for the buyer to discover anything missing in the procurement documents. A further assessment may be conducted with one or two sellers and will be based on the one that best suits the selection criteria. This is done to assess the potential sellers' ability and willingness to provide the requested products and services of the Electronic Document Management system that is best suited for the company. In addition, sellers' proposals, prepared in response to a procurement document package, form the basic information that will be used to select one or more successful sellers.

Expert judgment is necessary in the evaluation of seller proposals. These evaluators include the Project Manager, Steering Committee, ECM Consultant and key members of the project team with their specific expertise in each area covered by the procurement documents and the proposed contract.

The Project Manager must be involved in any procurement negotiations of this project. Procurement negotiations clarify the requirements and the terms and conditions of potential purchases resulting in mutual agreement prior to signing the contract. The final contract represents all agreements reached.

The procurement agreement award goes to the selected seller, once negotiation is complete. This agreement is finalized when both VINLEC and the seller signs off. The main items to address while negotiating a contract include scope, schedule, price, responsibilities, authority applicable laws (if seller from different state, whose laws will apply to the contract), technical solutions, among others. The Project Manager and the team should ensure that all agreements meet the specific needs of the project while adhering to organizational procurement policies.

Other key outputs of Conduct Procurements process are resource calendars for contracted resources, change requests, which will be processed for reviewing through the Perform Integrated Change Control process, updates to the project management plan and project documents.

Control Procurement

This process involves managing the procurement relationships between the buyer and seller, monitoring contract performance and making changes and corrections to contracts as appropriate. It ensures that both VINLEC and seller perform as required by the legal agreement.

Contracts are legally binding agreements between parties to the contract. Therefore, both buyer and seller will work to ensure that their contractual obligations and legal rights are protected. Due to the fact that the company under study has its own procurement section, it may treat procurement or contract administration as an administrative function separate from the project. Therefore, the procurement administrator will be the Stores Section team member on the project team and may report to the supervisor from his section in the Finance department.

In order to control procurement effectively, consideration must be given to the project management plan, procurement documents which entail supporting records for the administration of the procurement processes, agreements, approved changed requests, and work performance reports. Reference should be made to the extent to which quality standards are being satisfied, the costs that have been incurred and the identification of the seller invoices that have been paid.

Contract change control system is one technique that can be used in this project in the event of any changes in procurements. They can be modified through the established contract change control system. This includes change procedures, the paperwork, dispute resolution procedures, tracking systems and approval levels necessary for authorizing changes. It is important that these procedures be followed, and all changes should be made formally. Requested changes made throughout the procurement process should be managed as part of the project integrated change control system. It is important to note that other changes that are not in relation to contracts or purchase orders will still need to be analyzed for their impacts on the rest of the project.

A Procurement Performance Review can be carried out by the Project Manager that includes a review of the seller’s progress to deliver project scope and quality, within the cost and on schedule, as compared to the contract. This review objective

is to identify performance successes or failures, work progress and contract compliance, and to determine if changes are needed.

Other tools and techniques that may be applicable to the project include but are not limited to inspections and audits, performance reporting, payment systems and records management system. A payment system was arranged between buyer (VINLEC) and seller (ECM vendor) to issue payments made after satisfactory work and based on the terms of contract which is broken down by quarters as 1st, 2nd, 3rd, and 4th payment but can also be done as a percentage based on the amount of work completed or stages of the work completed.

Chart 32 Sample detailed cost table: Software Item and payment system

COST TABLE A: SOFTWARE

No.	Item Description	Qty	Units	Unit Cost	Server
1	Capture Server License	1	Each	$9,999.00	$9,500.00
2	Spool Files Adaptor Software	1	Each	$4,000.00	$4,000.00
	Software Discount				($2,700.00)
	Total Application Software			**$13,999.00**	**$10,800.00**
3	Questys Maintenance & Support GOLDLEVEL at SILVER Level Pricing				$2,015.86
	Cumulative Maintenace & Support				**$2,015.86**
	Total Software Maintenance & Support				**$12,815.86**

COSTS TABLE B: PROFESSIONAL SERVICES

No.	Item Description	Qty	Units	Unit Cost	
1	Install Software	1	Each	$1,000.00	$1,250.00
2	Defining/Installing/Testing of Capture Script	1	Each	$2,400.00	$3,000.00
	Professional Services				**$4,250.00**
	Total Investment				**$17,065.86**

Payments are broken down by (4) Quarters

1st Payment and maintenance due upon signing	$5,778.37
2nd Payment	$3,762.51
3rd Payment	$3,762.51
4th Payment	$3,762.51
Total	**$17,065.90**

Maintenace period March 20, 2015 to Janurary 20, 2016

Definition of Quarter: Janurary 1 = Q1, April 1 = Q2, July 1 = Q3 and October 1 = Q4 2015

(Source: Compiled by Author)

As a result of the Control procurement process, there are factors that may require updates including work performance information; change requests; updates to the project management plan, project documents and organizational process assets. The organizational process asset updates include correspondence, payment schedules and request and seller performance evaluation documentation.

Close Procurement

Close procurement is all about tying up the loose ends. It is the process of completing each procurement, verifying that all work and deliverable are accepted, finalizing open claims, and updating records to reflect results, while archiving such information for future use. The project management plan and the procurement documents would both influence the close procurement process. In this project, the procurement must be closed before the final project closes.

Upon completion of the procurement contract, the Project Manager must perform a procurement audit with help from the audit member from the project team and then close out the procurement. Procurements are closed through negotiation between buyer and seller. After the project is closed altogether, the Project Manager will complete the administrative and financial closure and other processes required to close out the project. The Project Manager will use some form of the existing records management system to manage contract and procurement documentation and records.

The resulting output of Close procurements include closed procurements which require record keeping, done formally to protect the legal interest of both parties and updates to the organizational process assets such as the procurement files, deliverable acceptance and lessons-learned documentation.

4.9. Project Stakeholder Management

Project Stakeholder Management includes “the processes required to identify the people, groups, or organizations that could impact or be impacted by the project, to analyze stakeholder expectations and their impact on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution.” (PMI, 2013, p. 391). One key objective to project success is to focus on constant communication with the stakeholders of this project.

The Project Stakeholder Management process includes the following:

- Identify Stakeholders (Initiation process group)
- Plan Stakeholder Management (Planning process group)
- Manage Stakeholder Engagement (Executing process group)
- Control Stakeholder Engagement (Monitoring and Controlling process group)

The Project Manager in this project needs to be the expert in project management, while the stakeholders, depending on their position, may serve as the technical experts in what needs to be done and how it needs to be done. Others who understand the business drivers would ensure they commit the necessary resources to ensure project success by making the project fit with the strategy for their area of the business. The stakeholders are known to be individuals and organizations that are actively involved in the project, or whose interests may be positively or negatively affected because of project execution or project completion. Some may exert significant influence over the project and its results while others may have limited ability to influence the project. Work cannot be well done without the stakeholders’ involvement. On the other hand, the Project Manager is the group’s leader and should have the capability to identify and manage these stakeholders in an appropriate manner. Stakeholder management should always take place throughout the life of this project.

Identify Stakeholders

The PMI (2013) defines Identify Stakeholders as “the process of identifying the people, groups, or organizations that could impact or be impacted by a decision, activity, or outcome of the project, analyzing and documenting relevant information regarding their interests, involvement, interdependencies, influence, and potential impact on project success” (p. 393).

It is essential to identify all stakeholders on this project or on any project, which will assist in creating a better-organized project that considers all the stakeholders’ interests. Therefore, stakeholders (direct and indirect) should first be identified as part of the project initiation and must be revisited or reassessed throughout the project since their impact on the project may occur in the latter stages. This will prevent delays in the project due to request changes if any stakeholders are missed.

This diverse group of people can include the sponsor, team members, senior management, subject matter experts, end users of the product or service, other departments or groups within the organization, functional or operational managers, vendors, consultants, regulatory agencies, customers, and financial institutions, among others.

The internal and external stakeholders may be listed in the project charter of this project and include members of the project team, project sponsors, steering committee (which include all of the HODs and CEO), consultant, vendors, departments that will take part in the project as well as other employees or individuals impacted by the project. For this project, the stakeholders include:

- The Project Manager
- The Board of Directors
- The CEO

- The Manager of Engineering
- The Manager of Finance
- The Manager of Transmission & Distribution
- The Manager of Generation
- The Manager of Planning
- The Manager of HR&A
- The Manager of Internal Audit
- The Manager of Customer Services
- The Manager of Information Systems
- The ECM Consultant
- Records Manager
- Administrative staff
- Stores Section
- Project Team members
- ECM Vendors
- Employees

The Project Charter, which includes information about internal and external parties, may influence stakeholder management process. Likewise, procurement documents, enterprise environmental factors such as: organizational culture and structure and government or industry standards and regulations. Organizational process assets that may influence this process include stakeholder register templates, lessons learned and stakeholder registers from previous projects.

Stakeholder Analysis, as mentioned in the PMI (2013), is “a technique of systematically gathering and analyzing quantitative and qualitative information to determine whose interest should be taken into account throughout the project” (p. 395). The identification of the potential stakeholders along with important information such as their roles, interests, expectations and level of interest to the purpose of the project are all stages included in the stakeholder analysis. Records from past projects and data-gathering

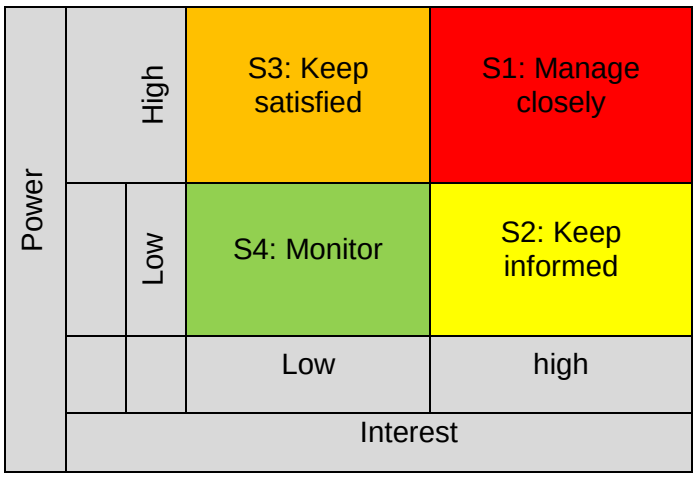
techniques such as interviews and brainstorming can also assist in determining and analyzing stakeholders.

Ways to manage stakeholders' potential impact or influence effectively on the project are classified as follows:

- Power/interest grid – group stakeholders by authority level and concern
- Power/influence grid - group stakeholders by authority level and active involvement
- Influence/impact grid - group stakeholders base on active involvement
- Salience model - group stakeholders based on power

An example of a power/interest grid with major stakeholders identified as S1, S2 and minor stakeholders identified as S3, S4 is shown on the power/interest grid in chart 33:

Chart 33 Example of Power/Interest Grid with Stakeholders



(Source: Compiled by Author)

The Project Manager alone does not need to do the work of identifying stakeholders; expert judgment can be sought from other individuals or the project team members with specialized training or past experiences, to ensure accurate and comprehensive identification and listing of stakeholders. These include:

- Senior Management - such as all managers of departments or HODs.
- Other units within the organization – such as other departments within VINLEC who form part of the project team like Finance, IS, Audit, HR&A, Engineering and Customer Services.
- Identified key stakeholders – such as the ECM vendors and of the software and hardware equipment.
- Industry groups and consultants – such as the ECM Consultant.

All of these individuals can all meet with the Project Manager through either one-to-one meetings, interviews or focus groups.

All information about the stakeholders will be documented and compiled in the stakeholder register, which is an output of the Identify Stakeholder process. This example is depicted below in Chart 31:

Chart 34 Stakeholder Register

Full name	Position	Role	Contact Information	Expectations	Power	Interest	Type of Stakeholder
Thornley Myers	CEO	Steering Committee	tmyers@vinlec.com	The completion of the EDMS in VINLEC; provides strategic direction; approvals	High	High	Internal
Vaughn Lewis	ME	Steering Committee	vlewis@vinlec.com	The completion of the EDMS in VINLEC, review	High	High	Internal
Juliette Wilson	Mgnr. Finance	Steering Committee	jwilson@vinlec.com	Improvements to Document Management; review	High	High	Internal
Augustus Ambrose	Mgnr Generation	Steering Committee	aambrose@vinlec.com	Improvements to Document Management	High	Low	Internal
Elrias Williams	Mgnr T&D	Steering Committee	ewilliams@vinlec.com	Improvements to Document Management	High	Low	Internal
Ricky Wright	Mgnr. Planning	Steering Committee	rwright@vinlec.com	Improvements to Document Management	High	Low	Internal
Joan Millington	Mgnr. Internal Audit	Steering Committee	jmillington@vinlec.com	Assess project performance; conformance	High	High	Internal
Jillian Williams	Mgnr. HR&A	Steering Committee	jcwilliams@vinlec.com	A sound EDMS to manange the unstructured data in the HR&A department in VINLEC; streamline application process	High	High	Internal
Willis Williams	Mgnr. Inf. Systems	Steering Committee	wwill@vinlec.com	Seemless Integration of the EDMS on the VINLEC network	High	High	Internal
Dexter Rose	Mgnr. Cutosmer Services		drose@vinlec.com	Improvements to Document Management	Low	High	Internal
ECM Consultant	Consultant			Advise Project Implementation	High	High	External
Records Manager			joanne.richards@vinlec.com	Management of documents/records	High	High	Internal
Administrative Staff				Carry out Activites	Low	Low	External
Gary Delpleche	Stores Assistant, Customs	Stores Section	gdelpleche@vinlec.com	Carry out Custom duties	Low	High	Internal
ECM Vendor		Supplier		Maintain effective relationship with VINLEC to ensure satisfaction of product and services; contract compliance	Low	High	External
Employees				Carry out Activites	Low	Low	Internal
Jean Dublin	Secretary	Project Team1	jdublin@vinlec.com	Carry out Activites	Low	High	Internal
Therese Fraser	Supervisor	Project team 2	tfraser@vinlec.com	Carry out Activites	Low	High	Internal
Stanley Harris	Supervisor	Project team 3	sharris@vinlec.com	Carry out Activites	Low	High	Internal
Lisa Morris Nanton	Inf. Systems Analyst	Project Manager	lmorris@vinlec.com	Successful completion of the EDMS project in VINLEC	High	High	Internal

(Source: Compiled by Author)

Plan Stakeholder Management

Plan Stakeholder Management is the process of developing appropriate management strategies to engage stakeholders effectively throughout the project life cycle, based on the analysis of their needs, interests, and potential impact on project success. A clear, actionable plan to interact with project stakeholders to support the project's interest is beneficial. (PMI, 2013).

Depending on how well the project is planned, stakeholders can be an asset or a problem on the project. Therefore, to effectively manage the relationship with them, the Project Manager needs to think ahead about:

- how the project will impact stakeholders;
- how the project team will interact with them;
- how to involve them in any decision making;
- how to manage their expectations and;
- how to keep them satisfied, ensuring that they are an asset, rather than a problem on this project.

Additionally, the Project Manager will need to consider how much time is needed to spend with stakeholders and which ones will require the most time. The purpose will be to think about the role of each stakeholder, the environment in which they will operate and the specific needs of the project. The project management plan, stakeholder register, enterprise environmental factors and organizational process assets are all inputs to plan stakeholder management process and will affect or influence the process.

In order to create the stakeholder management plan, expert judgment should be applied and be sought from groups or individuals with specialized training, in this case, the ECM consultant, Steering Committee, some key team members with experience whether by working directly on past similar project or through lessons learned and have acquired training in the field. Meetings must always be held to

define the required engagement levels of all the stakeholders and to hear valuable insight on working with various stakeholders.

Some stakeholder may not be as engaged in the project as desired while the engagement of others might be more than anticipated. For a project completion, Analytical Techniques can be applied, it is required that the current engagement level of all stakeholders be compared to the planned engagement levels. If these levels are different, it is the duty of the Project Manager to bring the current stakeholders engagement to the planned stakeholder engagement. These stakeholder engagement levels can be classified as follows, as stated in the PMI (2013):

Unaware – Unaware of project and potential impacts

Resistant – Aware of project and potential impacts and resistant to change

Neutral – Aware of project yet neither supportive nor resistant

Supportive – Aware of project and potential impacts and supportive of change

Leading – Aware of project and potential impacts and actively engaged in ensuring the project is a success.

The chart below depicts an example of the Stakeholder Engagement Assessment Matrix and shows the current engagement (C) and desired engagement (D) levels of the stakeholders of this project:

Chart 35 Stakeholder Engagement Matrix

Stakeholder	Unaware	Resistant	Neutral	Supportive	Leading
BOD					D C
CEO				D C	
Project Manager					D C
Mgnr. Engineering				D C	
Mgnr. Finance			C	D	
Mgnr. T&D				D C	
Mgnr. Generation				D C	
Mgnr. Planning				D C	
Mgnr. HR&A				D C	
Mgnr. Internal Audit			D C		
Mgnr. CS				D C	
Mgnr. IS				D C	
ECM Consultant					D C
Records Manager					D C
Admin. Staff				D C	
Stores Assistant			C	D	
Team Members 1,2,3				D C	
ECM Vendors				D C	
Employees		C	D		

(Source: Compiled by Author)

The results of planning stakeholder management work will be the stakeholder management plan, which is a component of the larger project management plan. This plan identifies the management strategies required to engage stakeholders effectively. It may be formal or informal, detailed or broad as required by the project.

Chart 36 Stakeholder Management Strategies

Full name	Position	Role	Contact Information	Expectations	Power	Interest	Stakeholder Classification	Types of Stakeholder and Engagement	Strategies
Thornley Myers	CEO	Steering Committee	tmyers@vinlec.com	The completion of the EDMS in VINLEC; provides strategic direction; approvals	High	High	S1:Manage Closely	Internal, Leading	Sign all Contracts, Regular communication with Project Manager; Address Concerns
Vaughn Lewis	ME	Steering Committee	vlewis@vinlec.com	The completion of the EDMS in VINLEC, review	High	High	S1:Manage Closely	Internal, Supporter	Regular communication with Project Manager; Address Concerns
Juliette Wilson	Mgnr. Finance	Steering Committee	jwilson@vinlec.com	Improvements to Document Management; review	High	High	S1:Manage Closely	Internal, Supporter	Regular communication with Project Manager; Address Concerns
Augustus Ambrose	Mgnr Generation	Steering Committee	aambrose@vinlec.com	Improvements to Document Management	High	Low	S3: Keep Satisfied	Internal, Supporter	Communicates and address outcomes regularly, records and address matters of concern
Elrias Williams	Mgnr T&D	Steering Committee	ewilliams@vinlec.com	Improvements to Document Management	High	Low	S3: Keep Satisfied	Internal, Supporter	Communicates and address outcomes regularly, records and address matters of concern
Ricky Wright	Mgnr. Planning	Steering Committee	rwright@vinlec.com	Improvements to Document Management	High	Low	S3: Keep Satisfied	Internal, Supporter	Communicates and address outcomes regularly, records and address matters of concern
Joan Millington	Mgnr. Internal Audit	Steering Committee	jmillington@vinlec.com	Assess project performance; conformance	High	High	S1:Manage Closely	Internal, Supporter	Regular communication with Project Manager; Address Concerns, Inform project success and limitations
Jillian Williams	Mgnr. HR&	Steering Committee	jcwilliams@vinlec.com	A sound EDMS to manange the unstructured data in the HR&A department in VINLEC; streamline application process	High	High	S1:Manage Closely	Internal, Supporter	Regular communication with Project Manager; Address Concerns, Inform project success and limitations
Willis Williams	Mgnr. Inf. Systems	Steering Committee	wwill@vinlec.com	Seemless Integration of the EDMS on the VINLEC network	High	High	S1:Manage Closely		Regular phone calls with Project Manager; Address Concerns
Dexter Rose	Mgnr. Cutosmer Services	Steering Committee	drose@vinlec.com	Improvements to Document Management	Low	High	S2: Keep Informed	Internal, Supporter	Records project successes and activitise, suggest recommendations and plans for the project
ECM Consultant	Consultant			Advise Project Implementation	High	High	S1:Manage Closely	External, Leading	Regular phone calls with Project Manager; Address Concerns
Records Manager			joanne.richards@vinlec.com	Management of documents/records	High	High	S1:Manage Closely	Internal, Leading	Regular phone calls with Project Manager; Address Concerns
Administrative Staff				Carry out Activites	Low	Low	S4: Monitor	External, Neutral	Communicate periodic project updates and schedule details, engage in discussions, facilitate easy contact
Gary Delpleche	Stores Assistant, Customs	Stores Section	gdelpleche@vinlec.com	Carry out Custom duties	Low	High	S2: Keep Informed	Internal, Neutral	Inform of activities

ECM Vendor		Supplier		Maintain effective relationship with VINLEC to ensure satisfaction of product and services; contract compliance	High	High	S3: Keep Satisfied	External, Neutral	Regular phone calls with Project Manager; Address Concerns, Records and considers general observations, recommendations and plans for the project
Employees				Carry out Activites	Low	Low	S4: Monitor	Internal, Resistor, Unaware	Communicate periodic project updates and schedule details, engage in discussions, facilitate easy contact
Jean Dublin	Secretary	Project Team1	idublin@vinlec.com	Carry out Activites	Low	High	S2: Keep Informed	Internal, Supporter	Records project successes and activitise
Therese Fraser	Supervisor	Project team 2	tfraser@vinlec.com	Carry out Activites	Low	High	S2: Keep Informed	Internal, Supporter	Records project successes and activitise
Stanley Harris	Supervisor	Project team 3	sharris@vinlec.com	Carry out Activites	Low	High	S2: Keep Informed	Internal, Supporter	Records project successes and activitise
Lisa Morris Nanton	Inf. Systems Analyst	Project Manager	lmorris@vinlec.com	Successful completion of the EDMS project in VINLEC	High	High	S1:Manage Closely	Internal, Leading	Address Concerns raised and incorporate ideas, regular contact with project team and stakeholders

(Source: Compiled by Author)

The plan may document existing and desired levels of engagement for stakeholders, details about how stakeholders will be involved in the project, scope and impact of change to stakeholder, specifics about how and why various project information will be distributed to stakeholders, and guidelines for evaluating how well the plan is meeting the needs of stakeholders and the project.

The Project Manager for this project should be aware of the sensitive nature of the stakeholder management plan, and take appropriate precaution in the event of sharing the plan. Documentation of stakeholder's attitudes and personalities, or obstacles or challenges related to working with a stakeholder, given how important it is to maintain good relationships with the stakeholder, can be damaging to the project if someone or the stakeholder themselves encounter a list of stakeholders' names with negative comments. It is important, as Project Manager, to maintain a positive attitude towards the stakeholders whether difficult or not. Any challenges associated with a stakeholder, a good leader (Project Manager) should decide not

to share it with others and not to write it down, it is better that those portions stay only in the mind of the Project Manager.

Other outputs to plan stakeholder management include updates to project documents like the project schedule and stakeholder register.

Management Stakeholder Engagement

In order to communicate and work to meet stakeholder needs/expectations, resolve their issues, and ensure they remain interested and active in the project, it is essential to manage stakeholder engagement and expectations throughout the life of the project. The key benefit of this is that it allows the Project Manager to increase support and minimize resistance from stakeholders. This approach can significantly increase the chances to achieve project success.

There are several activities that are related to this process and include engaging stakeholders at appropriate project stages. These are managing stakeholder expectations; addressing potential concerns that have not yet become issues and clarifying and resolving issues that have been identified. Project success is important in this process once all stakeholders clearly understand the project goals, objectives, benefits and risks. Once stakeholders have complete buy-in and support of the project's milestones and objectives, this can help minimize any negative impacts on the project. In the early stages of the project, the stakeholders' influence is at its highest and lowers as the project progresses. As aforementioned, the Project Manager with some assistance from the Steering Committee is responsible for the active engagement and management of the project's stakeholders.

The Project Manager must find the time to review the stakeholder management plan; the communications management plan; the change log, and the

organizational process assets. These inputs will help the Project Manager to determine what to do to maintain stakeholder engagement during this project.

The tools and techniques that will be involved under the manage stakeholder engagement process include communication methods, interpersonal skills and management skills. Attention should be paid to stakeholders needs while the work is being carried out. The Project Manager must maintain trust, help resolve conflicts, engage in active listening, and help to overcome resistance to change. Moreover, use managerial skills to prevent problems, foster agreement among stakeholders to meet the needs of the project, and generally encourage stakeholder support of the project and the outcome of the project.

The Manage Stakeholder Engagement process can result in the development of an issue log used to document and resolve stakeholders' concerns. It can also result in documentation of lessons learned and change requests. As well as updates to the project management plan including the stakeholder management plan (for example, acquiring another vendor) and communications management plan; project documents and organizational process assets including project records and reports.

Control Stakeholder Engagement

It is essential to note that maintaining stakeholder relationships and controlling stakeholder engagement are on-going responsibilities of the Project Manager. PMI (2013) claimed that Control Stakeholder Engagement is the "process of monitoring overall project stakeholder relationships and adjusting strategies and plans for engaging stakeholders" (p. 409). It is by monitoring stakeholder engagement in this project that it can help in understanding stakeholder perceptions of project progress. This method will then allow only minor adjustments to ensure continuing stakeholder engagement and support. Lack of stakeholder involvement requires the Project Manager to determine and analyze the problem and work to correct or

improve the circumstance or to revise different strategies for managing this stakeholder. Communication also plays a big part in aiding in discovering and correct relationship problems. Time must be spent talking with stakeholders, listening to them, asking questions and gathering information on their feelings about the project and/or other stakeholders.

In addition to evaluating stakeholder engagement and improving and refining strategies for engagement, the process involves reassessing the stakeholder register, adding or moving around stakeholders as appropriate, and most importantly noting when a particular stakeholder's involvement is no longer necessary. Controlling stakeholder engagement requires the Project Manager to compare actual work against the project management plan to look for any variances. The project management plan, the issue log which tracks concerns, disagreements, confusion or unresolved questions that arise during the project; work performance data which reports on the percentage of work completed or the start and finish dates of schedule activities and project documents are all inputs to and should be considered when controlling stakeholder engagement aspect of the management plan.

A good tool that the Project Manager can use in order to capture, store and distribute information to stakeholders regarding the performance of the project in relation to the project cost and schedule progress is an Information Management System. Such information may include table reporting, spreadsheet analysis, presentations and the use of graphical capabilities for visual representations. Expert Judgment can be obtained from the ECM Consultant, the Steering Committee such as the senior management staff with years of experience and training in the field and other key team members who would have worked on similar projects. This may be done through meetings or interviews to ensure comprehensive identification and listing of new stakeholders and reassessment of existing ones.

The Control Stakeholder Engagement process results in a collection of work performance information for project decisions and change requests processed through the Perform Integrated Change Control procedure for recommended corrective or preventive actions. In addition, updates to project management plan, project documents such as the stakeholder register and issue log, and organizational process assets including project reports and lessons learned documentation, among others.

5 CONCLUSIONS

As a result of the development of the research objectives of this project, the following conclusions were achieved:

1. Having this compendium of information helps to properly execute this project and facilitates its successful implementation. Additionally, this will benefit VINLEC in improving its project management methodology demonstrating that the application of the project management processes, tools and techniques, as proposed by the PMI (2013) is feasible.

2. Of the ten knowledge areas listed in PMI(2013), only nine (Scope, Time, Cost, Quality, Human Resources, Communications, Risk, Procurement & Stakeholder) knowledge areas were applied to this project because Project Integration which makes up the tenth knowledge area is already integrated in all nine knowledge areas of the project. The individual processes were reviewed and specific aspects of their inputs, tools and techniques and outputs were applied along with the analytical and observational methods to create the project management plan to implement the EDMS within VINLEC.

3. The consolidation of all knowledge areas put together to form the project management plan developed, can be used as a hallmark to provide good planning for future projects throughout the company regardless of type, size, location or structure. It is indicated that the application of the project management processes including inputs, tools, techniques and outputs will vary, and as such will have conformed to the actual organization including the environmental factors that surround it and the nature of the organization.

4. Having developed this EDMS Project Management Plan, it can be safe to conclude that a methodology for improved efficiency in cost planning, productivity, business continuity and resource allocation and stakeholder engagement can be derived through strategic planning of VINLEC's scope, time, cost, quality, human resource, communication, risks, procurement, and stakeholder components.

5. It was possible to detect how the PMI (2013) is a useful guide and applicable to different types of industries and nature of the project because although this project is small compared to other projects developed in the company, the value added to the EDMS project in VINLEC is considered huge, as it will provide a detailed documented guide to develop this project and other projects in the future. The application of project management practices in the planning stages have been of great value since it was able to achieve the best outcome to develop the project.

6. Noticeably, one can foresee that time can be a serious factor in this project because the observations made show that many of the employees, besides working in the development of the project have to maintain administrative tasks as well. If not properly managed, this situation generates unstable workloads with the consequent exhaustion of the team members and this has a negative impact on motivation and the time completion of tasks relating to the project.

7. Due to the fact that the project team members on the EDMS project were limited in human resources capability, the Project Manager developed all the project subsidiary plans for the project. Templates, tables, spreadsheets and about 33 charts were developed, utilized and applied specifically to the EDMS project by aligning these with current activities, but can also be applicable to other future projects. Meetings were conducted with key

members of the project, reviewing meeting minutes, policy documents, just to name a few.

8. Without the implementation of the practices of project management, the project can suffer in terms of resource, time and money because of unrealistic expectations, poor methodology, poor requirements, inadequate resources, poor communication and unrealistic budgets, just to name a few. The Project Manager has to carefully balance the elements of the project. The necessary and suitable Project Management knowledge areas and their tools and techniques will ensure that the Project Manager executes this project effectively.

6 RECOMMENDATIONS

The recommendations of this project are directly related to the implementation of the EDMS project in VINLEC:

1. It is recommended that the Project Manager and project team clearly define the scope of the project to prevent rework, cost overrun and project failure. The team should control what is and what is not included in the project. The scope management techniques in this project, allow the Project Manager, Supervisor and Management to allocate just the right amount of work necessary to complete the project successfully.

2. The Project Manager should establish means for the control and follow-up of workloads of the team members who are also employees of VINLEC and are involved in the project. The project team should use performance reviews and schedule compression techniques to minimize schedule variances. Time is of essence to the project and once managed properly can prevent rework and project failure.

3. It is suggested to management to hire an experienced Project Manager to calculate the total project cost in order to determine the amount of money that would be needed for the project. Expert Judgment that includes a knowledgeable team member from the Finance department can assist the Project Manager in the guidance of the project budget and in controlling cost and cost variances through the various tools mentioned in project.

4. It is important that the Project Manager establishes a quality document or plan to identify all relevant company practices, standards and requirements for the quality of the project and the project management efforts. With the understanding of what quality is the team members should assist in

collecting problems, recording errors, and complaints and review what can be done to prevent them from reoccurring on the project. They must remember to decide what to do to ensure the processes are followed and the standards are met. The Project Manager needs to follow up on, and must ensure that any changes to the project must be initiated through the Integrated Change Control process. If there is a trigger relating to breach of security, it is recommended that the Records Manager, I.S and ECM Vendor ensure the security component within the EDMS are implemented effectively. Regularly audit the security system implementation during and after deployment. For future reference, the Project Manager needs to update the organizational process assets with the information and data learned from process improvement and control efforts.

5. The Project Manager with the involvement of team members from HR can create a recognition and reward system for the project team, this can aid in improving the team members' competencies. Project Managers can continuously encourage their active participation in the development of the tasks that are planned for the project. The Project Manager must formally plan team-building activities and track team member performance in this project.

6. It is recommended that the Project Manager communicate frequently with the stakeholders of this project. Although communication planning is not so much a limitation in VINLEC due to the nature of the company (electric), there are occurrences whereby important information is not received by employees. For projects large or small, it is important that a good communication plan is always recommended and should be efficient and effective, adding value to the project, using multiple methods of communication by the Project Manager.

7. Project Risk Management is a priority on this project as it is in any other project. The Project Manager must have risk tolerance traits because the project can rarely go exactly as planned. Risk owners, for example any member of the project team or any other who assist the Project Manager can offer Risk management training to supervisory and management staff in the company to know the types and nature of project risks and also learn various techniques used to deal with these risks. Risks in this project should be well defined and used as historical information so that it can be implemented on other projects within the company.

8. The Stores Section along with the Project Manager's assistance should ensure that the procurement process be known and understood to ascertain what will happen when and be able to plan for it. This also means that the Project Manager must include the time required to complete the procurement process into the schedule for the project so that the project schedule is realistic.

9. The skilled Project Manager should be able to establish a Stakeholder Management plan. An understanding of Stakeholders' requirements and involvement builds and maintains positive relationships with stakeholders of the project and VINLEC on a whole. This contributes to project success, once continued throughout the life of the project.

10. The company, VINLEC should arrange to facilitate training processes for staff members and professionals in charge of the management of projects in VINLEC to develop technical and professional knowledge in the subject of project management. This is expected for staff to be more effective in project planning and overall management.

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8 APPENDICES

Appendix 1: FGP Charter

PROJECT CHARTER Formalizes the project start and confers the project manager with the authority to assign company resources to the project activities. Benefits: it provides a clear start and well defined project boundaries.	
Date	**Project Name:**
August 22nd, 2016	Project Management Plan for the implementation of an Electronic Document Management System (EDMS) at St. Vincent Electricity Services Limited (VINLEC)
Knowledge Areas / Processes	**Applicacion Area (Sector / Activity)**
Knowledge areas: Project Integration Management, Project Scope Management, Project Time Management, Project Cost Management, Project Quality Management, Project Human Resource Management, Project Communications Management, Project Risk Management, Project Procurement Management, Project Stakeholder Management **Process groups:** Initiating, Planning, Executing, Monitoring and Control, Closing	Information Systems
Start date	**Finish date**
August 22nd, 2016	January 26th, 2017
Project Objectives (general and specific)	
General objective: To create a project management plan to implement an Electronic Document Management System (EDMS) within VINLEC. Specific objectives: 1 .To create a Scope Management structure to ensure that all required work is covered to successfully complete the project. 2. To create a Time Management structure to ensure that the project is timley managed and completed within the time constraints. 3. To create a Cost Management structure with all defined processes to ensure that project can be completed within the approved budget. 4. To develop a Quality Management structure to determine quality policies, objectives and responsibilities so that the project will meet expected needs and standards. 5. To create a Human Resource Management structure to ensure that the processes involved that organize, manage, and lead the project staff are included in the Project. 6. To create a Communications Management structure to collect, store, organize and distribute project information to all stakeholders of the project. 7. To create a Risk Management structure to identify and control risks to ensure the successful completion of the project. 8. To construct a Procurement Management structure to ensure products and services are efficiently acquired for project success.	

9. To develop a Stakeholder Management structure to analyze the people, groups or organizatons that could impact or be impacted by the project and to develop required strategies for effectively engaging them in decisions throughout the project lifecycle.

Project purpose or justification (merit and expected results)

The Degree and Graduation Seminar requires from students of the Masters in Project Management (MPM) programme to create topics for and develop the Final Graduation Project. Hence there was a need to chose and explain the purpose of the project:
On a daily basis an employee spends about twenty percent (20%) of their time performing document management in non-automated environments. Any loss of records means enormous losses in revenues (time and money).

Employees especially the administrative staff often find that their workflow and productivity is being hampered by the existing records system. This includes the gathering, storing and retrieving volumes of paper stored inside a filing cabinet or in boxes in remote locations.

The role as an Information Systems Analyst within the organisation is strategic to the implementation of an Enterprise Content Management (ECM) solution and would be in a position not only to influence the type of system to be procured but also to assess the application of theory to a real life situation.

Description of Product or Service to be generated by the Project – Project final deliverables

Project Charter and supporting documentation, including the Business Case.
Stakeholder Register.
The Project Initiation Plan (PIP).
Documents with the following base on PMBOK guidelines:
Proposed process Implementation
Scope Management Plan.
Time Management Plan
Cost Management Plan
Quality Management Plan
Human Resource Management Plan
Communications Plan
Risk Management Plan.
Procurement Management Plan
Project Stakeholder Management Plan

Assumptions

Scope: The company will provide all the required information to perform the analysis of the project.
Time: The project will be completed by the specified time given by UCI.
Cost: The company can cover the amount of finance for the project.
Quality:All quality standards will be met for the project to be successful.
Human Resource: Excellent people skills will be desmonstrated in the project.
Communication: The appropriate disposition of project information will be disseminated to the project team, stakeholders and sponsors.
Risk:There would be no major risk(s) in the project.
Procurement: The product(s) that are required for the project will be delivered on time.
Stakeholder: Teams will collaborate and offer ideas and be a part in all aspects of the Project.

Constraints

Scope: A wide knowledge of information is available from both company and outsidee to do this project. Care must be taken not to become too overwhelm with the quantity and availability of information, thus straying from the project but must achieve the project deliverable.

Time: The project must comply with the timelines given by UCI to complete the project.

Cost: Once adequate amount of money is budgetted for the project, it should be able to complete the project

It is estimated that the amount of money budgeted for the project should be required to complete the project.

Quality: The statement of the project should be clear and specific as to what has been agreed to be performed in the project.

Human Resource: If there are issues in the recruiting process, it would be difficult in finding and selecting a suitable applicant for the job.

Communication:
Confidentiality will be respected. Assurance will have to be given to management that any information in their opinion that may compromise the operations of the company will not be disclosed. Also, atttention must be paid to miscommunication.

Risk
Precautuion should be taken that all risk will be identified and control throughout the project.

Procurement:
If the products that are required for the Project are not available and are not accessible by a certain time, this may cause untimely Project completion.

Stakeholder:
To establish the fact that stakeholders role play a vital part in the Project and cannot be taken for granted.

Preliminary risks

If there are any unforeseen factors in relation to events beyond control of the organisation, might change the direction of the research. SVG is in the hurricane belt and if there is a major hurricane that affects the country the entire focus will be on restoration of electricity.

Budget

The general cost estimated is USD $53,000.00

Milestones and dates

Milestone	Start date	End date
Degree and Graduation Seminar	August 22nd 2016	September 23rd 2016
Final Graduation Project	August 22nd 2016	February 17th 2017
Project Charter	August 22nd 2016	August 26, 2016
WBS	August 22nd 2016	August 26, 2016
Graduation Seminar Approval	September 19th 2016	September 23rd 2016

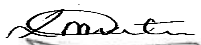
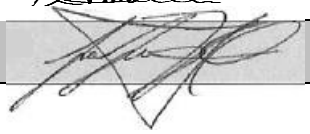
Relevant historical information

St. Vincent Electricity Services Limited (VINLEC) is a large electricity company which operates in nine (9) locations on mainland St. Vincent, Bequia, Canouan, Union Island and Mayreau. VINLEC is the sole utility company in St. Vincent and the Grenadines (SVG) and provides electricity to over 40,000 customers. The company deals with thousands of documents annually and therefore lacks an efficient document/records management system. There is a need for a committee to properly implement an electronic document management system within the company so as to better manage the company's documents thus improving efficiency to customers (internal and external).

Research has demonstrated that implementing an Enterprise Content Management (ECM) solution is the best way forward to improve the information management of essential business functions in a company. In addition, by implementing document and records management software, a company can realize positive benefits and savings that can improve organisational efficiency. Therefore, this study aims to examine how implementing an Electronic Document Management System (EDMS) impact upon the efficiency of VINLEC's operations.

Implementing an ECM solution is one way to ensure that VINLEC's content is totally managed and organized. The study proposes the benefits that ECM will contribute to the static, unorganized and unstructured data within VINLEC, contributing to efficiency.

Stakeholders

Direct stakeholders: BOD Company CEO Company Steering Committee ECM Consultant Indirect stakeholders: Company Project Manager Company Project Team Members HR&A Department Stores Section ISD Company Employees Vendors	
Project Manager: Lisa Morris Nanton	**Signature:** 
Authorized by:	**Signature:** 

Appendix 2: FGP WBS

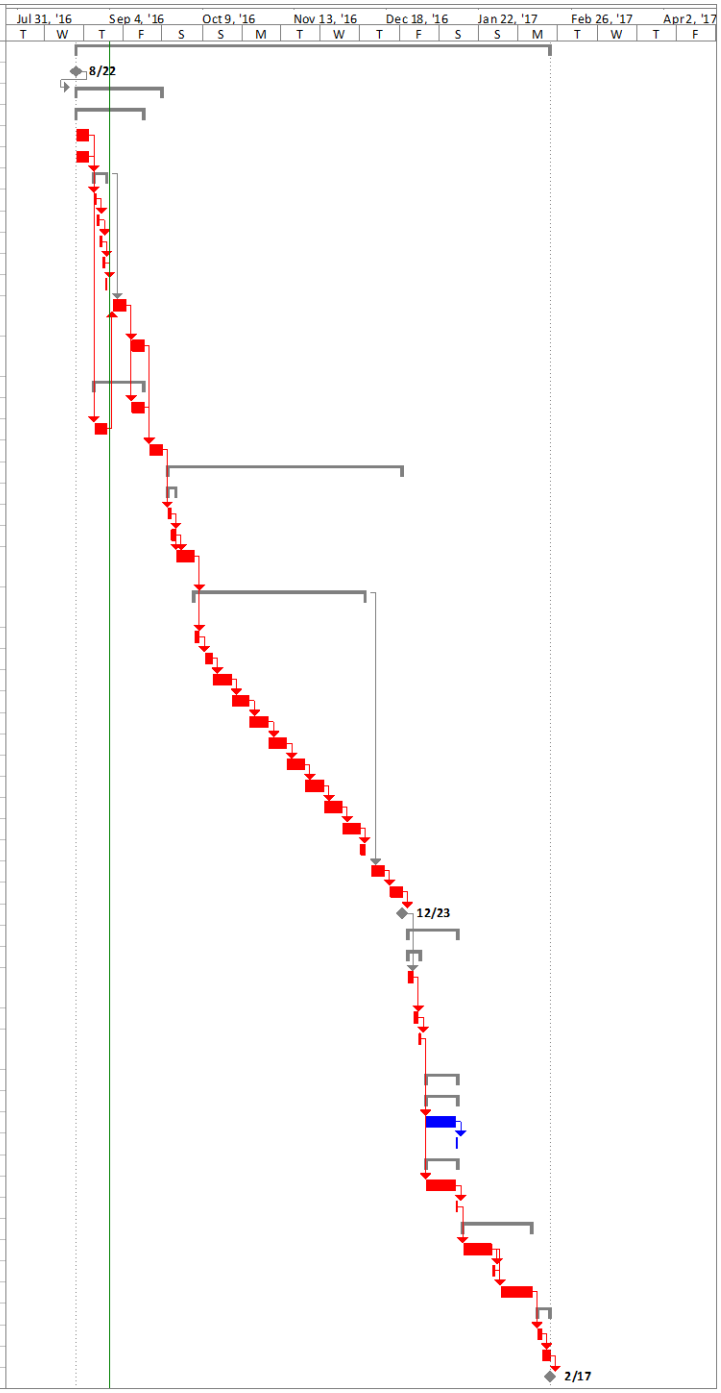
Final Graduation Project - Work Breakdown Structure

1. Graduation Seminar
1.1 FGP Deliverables
1.1.1 Develop Project Charter
1.1.2 Create WBS
1.1.3 Chapter I. Introduction
1.1.4 Chapter II. Theoretical Framework
1.1.5 Chapter III. Methodological Framework
1.1.6 Annexes
1.1.6.1 Bibliography
1.1.6.2 Schedule
1.2 Graduation Seminar Approval
2. Tutoring process
2.1 Tutor
2.1.1 Tutor Assignment
2.1.2 Communication
2.2 Adjustments of previous chapters
2.3 Chapter IV. Development (Results)
2.4 Chapter V. Conclusions
2.5 Chapter VI. Recommendations
3. Reading by reviewers
3.1 Reviewers assignment request
3.1.1 Assignment of two reviewers
3.1.2 Communication
3.1.3 Final Graduation Project submission to reviewers
3.2 Reviewers work
3.2.1 Reviewer 1
3.2.1.1 FGP reading
3.2.1.2 Reader 1 Report
3.2.2 Reviewer 2
3.2.2.1 FGP reading
3.2.2.2 Reader 2 Report
4. Adjustments
4.1 Report for reviewers
4.2 FGP update
4.3 Second review by reviewers
5. Presentation to Board of Examiners
5.1 Final review by board
5.2 FGP grade report

Appendix 3: FGP Schedule

Appendix 3: FGP Schedule

ID	Task Name	Duration	Start	Finish
1	**Final Graduation Project**	**130 days**	**Aug 22 '16**	**Feb 17 '17**
2	FGP Start	0 days	Aug 22 '16	Aug 22 '16
3	**1,Graduation Seminar**	**25 days**	**Aug 22 '16**	**Sep 23 '16**
4	**1.1,FGP Deliverables**	**20 days**	**Aug 22 '16**	**Sep 16 '16**
5	1.1.1,Charter	5 days	Aug 22 '16	Aug 26 '16
6	1.1.2,WBS	5 days	Aug 22 '16	Aug 26 '16
7	**1.1.3,Chapter I. Introduction**	**5 days**	**Aug 29 '16**	**Sep 2 '16**
8	1.1.3.1,Background	1 day	Aug 29 '16	Aug 29 '16
9	1.1.3.2,Statement of the prob	1 day	Aug 30 '16	Aug 30 '16
10	1.1.3.3,Purpose	1 day	Aug 31 '16	Aug 31 '16
11	1.1.3.4,General objectives	1 day	Sep 1 '16	Sep 1 '16
12	1.1.3.5,Specific objectives	1 day	Sep 2 '16	Sep 2 '16
13	1.1.4,Chapter II. Theoretical framework	5 days	Sep 5 '16	Sep 9 '16
14	1.1.5,Chapter III. Methodological framework	5 days	Sep 12 '16	Sep 16 '16
15	**1.1.6,Annexes**	**15 days**	**Aug 29 '16**	**Sep 16 '16**
16	1.1.6.1,Bibliography	5 days	Sep 12 '16	Sep 16 '16
17	1.1.6.2,Schedule	5 days	Aug 29 '16	Sep 2 '16
18	1.2,Graduation Seminar approval	5 days	Sep 19 '16	Sep 23 '16
19	**2,Tutoring process**	**65 days**	**Sep 26 '16**	**Dec 23 '16**
20	**2.1,Tutor**	**3 days**	**Sep 26 '16**	**Sep 28 '16**
21	2.1.1,Tutor assigment	1 day	Sep 26 '16	Sep 26 '16
22	2.1.2,Communication	2 days	Sep 27 '16	Sep 28 '16
23	2.2,Adjustments of previous chapter: (If needed)	5 days	Sep 29 '16	Oct 5 '16
24	**2.3,Charter IV. Development (Results)**	**47 days**	**Oct 6 '16**	**Dec 9 '16**
25	2.3.1,Charter (revision)	2 days	Oct 6 '16	Oct 7 '16
26	2.3.2,Project Management Plan	3 days	Oct 10 '16	Oct 12 '16
27	2.3.3,Scope Management Plan	5 days	Oct 13 '16	Oct 19 '16
28	2.3.4,Time Management Plan	5 days	Oct 20 '16	Oct 26 '16
29	2.3.5,Cost Management Plan	5 days	Oct 27 '16	Nov 2 '16
30	2.3.6,Quality Management Plan	5 days	Nov 3 '16	Nov 9 '16
31	2.3.7,Human Resource Managem	5 days	Nov 10 '16	Nov 16 '16
32	2.3.8, Communication Managem	5 days	Nov 17 '16	Nov 23 '16
33	2.3.9,Risk Management Plan	5 days	Nov 24 '16	Nov 30 '16
34	2.3.10,Procurement Managemen	5 days	Dec 1 '16	Dec 7 '16
35	2.3.11,Stakeholder Management	2 days	Dec 8 '16	Dec 9 '16
36	2.4,Chapter V. Conclusions	5 days	Dec 12 '16	Dec 16 '16
37	2.5,Chapter VI. Recommendations	5 days	Dec 19 '16	Dec 23 '16
38	Tutor approval	0 days	Dec 23 '16	Dec 23 '16
39	**3,Reading by reviewers**	**15 days**	**Dec 26 '16**	**Jan 13 '17**
40	**3.1,Reviewers assigment request**	**5 days**	**Dec 26 '16**	**Dec 30 '16**
41	3.1.1,Assigment of two reviewers	2 days	Dec 26 '16	Dec 27 '16
42	3.1.2,Communication	2 days	Dec 28 '16	Dec 29 '16
43	3.1.3,FGP submission to reviewers	1 day	Dec 30 '16	Dec 30 '16
44	**3.2,Reviewers work**	**10 days**	**Jan 2 '17**	**Jan 13 '17**
45	**3.2.1,Reviewer**	**10 days**	**Jan 2 '17**	**Jan 13 '17**
46	3.2.1.1,FGP reading	9 days	Jan 2 '17	Jan 12 '17
47	3.2.1.2,Reader 1 report	1 day	Jan 13 '17	Jan 13 '17
48	**3.2.2,Reviewer**	**10 days**	**Jan 2 '17**	**Jan 13 '17**
49	3.2.2.1,FGP reading	9 days	Jan 2 '17	Jan 12 '17
50	3.2.2.2,Reader 2 report	1 day	Jan 13 '17	Jan 13 '17
51	**4,Adjustments**	**20 days**	**Jan 16 '17**	**Feb 10 '17**
52	4.1,Report for reviewers	9 days	Jan 16 '17	Jan 26 '17
53	4.2,FGP update	1 day	Jan 27 '17	Jan 27 '17
54	4.3,Second review by reviewers	10 days	Jan 30 '17	Feb 10 '17
55	**5,Presentation to Board of Examiners**	**5 days**	**Feb 13 '17**	**Feb 17 '17**
56	5.1,Final review by board	2 days	Feb 13 '17	Feb 14 '17
57	5.2,FGP grade report	3 days	Feb 15 '17	Feb 17 '17
58	FGP End	0 days	Feb 17 '17	Feb 17 '17



Appendix 4: Sample Interview Questions

Matters to Discuss with Electronic Document Management System (EDMS) Users

General Questions

1. How long has your organization been using this particular EDMS solution?
2. How many EDMS users are there within your organization?
3. How many departments use the EDMS?
4. How has the EDMS improved the management of documents within your organization?

EDMS Setup

1. How much work was involved in the initial setup of your EDMS?
2. What aspects of the EDMS setup were handled by you and what aspects were handled by the vendor?
3. How much time did the initial setup take?
4. How many persons were involved in the implementation of the system?

After-sales Service/Support

1. How quickly does the vendor respond to requests for support? Does the support provided usually solve the problem in a timely manner?
2. How frequently are software upgrades done? Are upgrades carried out fairly easily?
3. Typically, how much interaction takes place between you the client and the vendor regarding the EDMS?

Management of Physical Documents

1. Do you use the vendor's software to manage your physical documents? How well does this work?
2. What was your approach in transitioning from managing physical documents prior to having an EDMS to using the EDMS to mange physical and electronic documents after it was deployed?
3. Was additional help brought for the capturing of old documents?
4. How much time do your staff generally spend scanning documents into the EDMS?

Hardware Requirements

1. What types of scanners do you use (Isis or Twain)? If both are used, for what purposes is one better than the other?
2. What are the features of the EDMS servers that you use? What type of storage is used?
3. Are there any other types of hardware that your use with the EDMS (barcode scanners, etc.)?

EDMS Functionalities

1. How are Microsoft documents imported into the EDMS?
2. How are PDF documents and image documents (for example .gif, .bmp, and .tiff) imported into the EDMS?
3. How are incoming/outgoing faxes captured and stored in the EDMS?
4. Can IBM ISeries spool files be tracked and captured automatically by the EDMS? How can these spool files then be accessed?

Backup

How are backups of the EDMS data done? Where is the data backed up to?

Remote Access to the EDMS

1. Can the EDMS be accessed remotely via an internet browser?
2. Can remote access to the EDMS via VPN be restricted, i.e. a user that has access to the EDMS from within your network may not be allowed to access to the EDMS via VPN?

Integration with Naviline

1. How is Naviline integrated with the EDMS - direct integration using an API or otherwise?
2. What benefits does this integration provide to your organization?
3. Does the Naviline integration allow your organization to do customer bill presentment?
4. Do you use Sungard's HRIS software? Has this been integrated into the EDMS?

Appendix 5: FGP Revision Dictum

Dr. Keith Glasgow

Ministry of Education, Kingstown, St. Vincent
1(784)457-5964
glasgowkeith@gmail.com

August 6, 2017

Dictum for the Thesis Review of candidate Lisa Morris Nanton

Dear Professor Eng. Carlos Ramírez Montero,

Through the medium of this dictum, I hereby indicate the work I have undertaken in carrying out my review of the final project dissertation to be submitted by the candidate Lisa Morris Nanton as the capstone project for the Master's degree in Project Management at La Universidad para La Cooperación Internacional.

As part of our contract for the review of the Project, I undertook the following activities.

1. I thoroughly reviewed the document for accuracy of the grammar, spelling and punctuation. I meticulously checked each page for subject-verb agreement, correct verb usage and semantic usage. My review unearthed errors of grammar and verb usage. In some instances, the plural subject was not matched with a plural verb and the singular subject did not correspond to the singular verb. In these instances, I made a note of these inconsistencies in the mark-up area for correction by the candidate. In other instances, I simply inserted the correct verb.

2. I checked thoroughly for the use of the correct tenses throughout the document. Throughout the document there were some instances of incorrect application of the precise verb tense. Specific examples of this disharmony in tense usage included the use of the present, past, future and conditional tenses in the same paragraph without obvious justification. I indicated with reasons why it was necessary to ensure consistency in the harmonious use of the tenses. To this end, I asked the candidate to revise certain paragraphs where the improper use of tense detracted from the smooth flow of the

narrative. I therefore made a number of annotations in the mark-up area indicating alternatives that would function better in particular contexts.

3. I carefully reviewed the document for writing style and for its overall readability. To reduce the degree of repetition observed in my review, I requested that the candidate summarize some parts of the thesis. I also asked the candidate to re-phrase or to rewrite certain sections to improve the smoothness of flow of the narrative. Additionally, I requested a reduction in the length of some paragraphs as well as certain run on sentences. I recommended the use of short, compact sentences with active verbs to improve the general readability.

4. I also indicated typographical errors, incorrect use and application of punctuation marks and other areas of mechanics to ensure accurate presentation of the document. Overall, I provided comprehensive guidance to the candidate in terms of overall academic writing. I provided concrete examples of how improvements could be made in the actual presentation of the paper.

5. Finally, I did a thorough examination of the references and works cited. Many of these references did not conform to the APA Style Manual (6th edition). I provided the candidate with a sample of how the references were to be done using the APA Style Manual. Hence, with the guidance provided, the candidate should be in a position to display correctly the sources used for the dissertation.

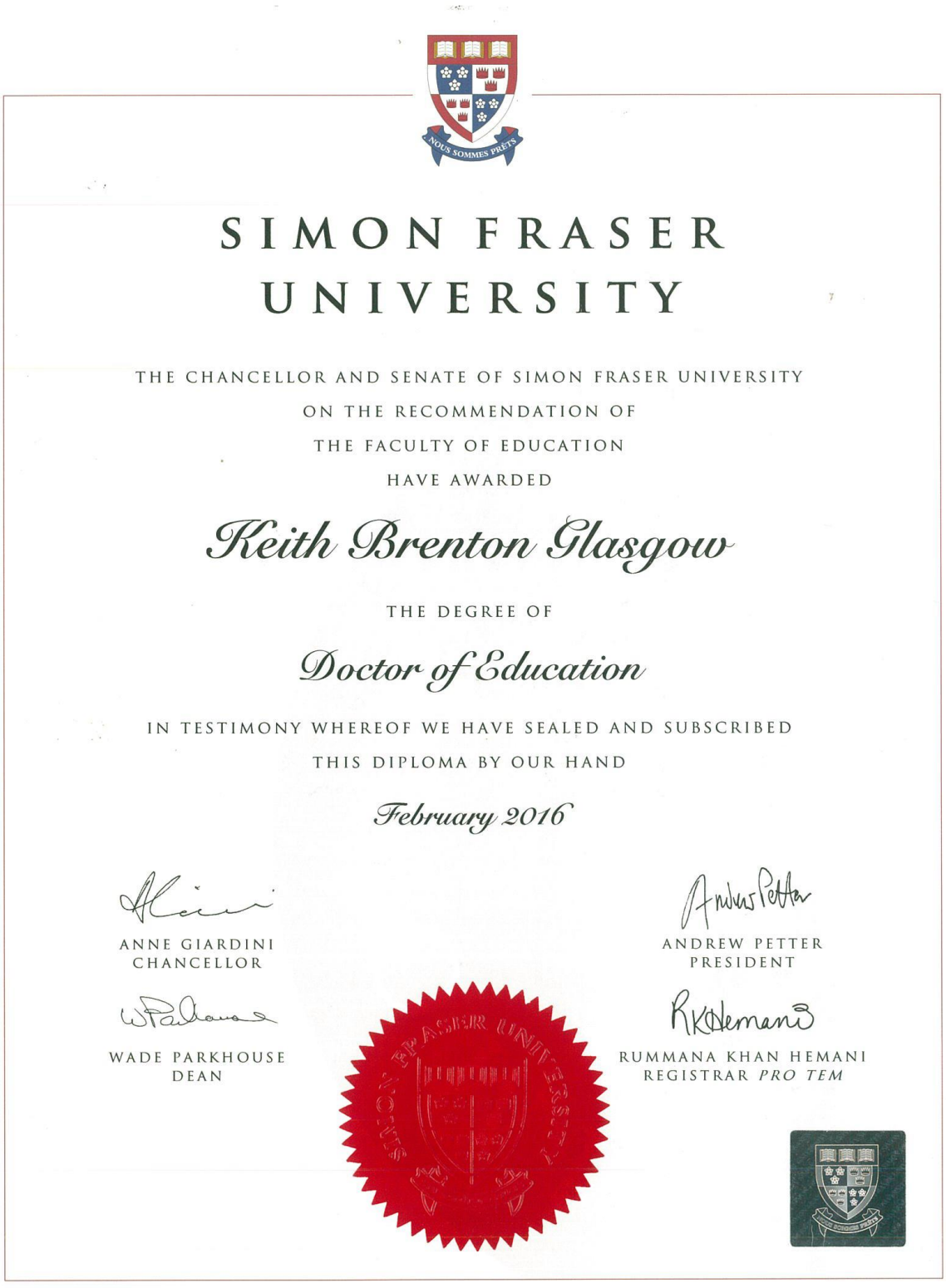
In conclusion, I am pleased to say that the candidate displayed a high level of professionalism and accepted my suggestions and recommendations with a high level of enthusiasm and graciousness. I hereby certify that the work meets the standard of readability and academic acceptability.

Yours sincerely

....

Dr. Keith Glasgow

Appendix 6: Linguist Certificate



NOUS SOMMES PRÊTS

SIMON FRASER UNIVERSITY

THE CHANCELLOR AND SENATE OF SIMON FRASER UNIVERSITY
ON THE RECOMMENDATION OF
THE FACULTY OF EDUCATION
HAVE AWARDED

Keith Brenton Glasgow

THE DEGREE OF

Doctor of Education

IN TESTIMONY WHEREOF WE HAVE SEALED AND SUBSCRIBED
THIS DIPLOMA BY OUR HAND

February 2016

ANNE GIARDINI
CHANCELLOR

ANDREW PETTER
PRESIDENT

WADE PARKHOUSE
DEAN

RUMMANA KHAN HEMANI
REGISTRAR *PRO TEM*

SIMON FRASER UNIVERSITY