UNIVERSIDAD PARA LA COOPERACIÓN INTERNACIONAL
(UCI)

FINAL GRADUATION PROJECT

Proposal of a Methodology for ACME Software,
a nearshore outsourcing company based in Bolivia

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FINAL GRADUATION PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE
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This Final Graduation Project was approved by the University as partial fulfillment of the requirements to opt for the Master in Project Management (MPM) Degree

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DEDICATION

To Quere, Becca & Titi – the people who made this journey possible.

ACKNOWLEDGMENTS

First and foremost to, ACME Software, in providing the information, the time, and the support in making this project deliverable on schedule.

To all the excellent professors, tutors, academic assistants, and UCI staff for always going the extra mile.

To the, Project Management Institute, for leading the path in the world of projects and making the profession advance.

To the, OAS, who diligently continue to support and help create equal opportunities for people in their mentoring region.

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ABBREVIATIONS AND ACRONYMS

ACME: Name of the Software Company

ASAP: As soon as possible

CEO: Chief Executive Officer

EOD: End of Day

EOW: End of Week

FGP: Final Graduation Project

PM: Project Manager

PMI: Project Management Institute

QA: Quality Assurance

ROI: Return on Investment

ROM: Rough Order of Magnitude Estimate

R&D: Research and Development

SDLC: Software Development Lifecycle

SOW: Statement of Work

TBD: To be determined

UCI: University for International Cooperation

WBS: Work Breakdown structure

EXECUTIVE SUMMARY

ACME Software aims to become the leading provider of nearshore software engineering services; by providing high quality software, outsourcing development, and quality assurance. Currently, it has informal and/or non-standard processes for project management that is withholding its full potential. Hence the need of a structured and standardized methodology for project management, in order to, achieve its business goals of accessing a higher paying market of clients and obtaining quality certificates on the organization processes like ISO 9001.

The Final Graduation Project general objective was to establish a Project Management Methodology to be applied in all projects at: Acme Software Company. The specific objectives were to propose a framework to manage projects in a standardized manner; utilizing best practices in developing customized project, templates, and tools to support the framework and methodology. Moreover, to apply the methodology to a typical project case, and finally to have an implementation plan to implement the proposed methodology throughout the company.

The methodology for this research was based mainly on surveys and observations. The templates and the overall framework were tailored from the knowledge acquired during the Master's academic modules, the PMBOK® 6th Edition, additional documentation, resources, and the acumen from years of project management experience by the author.

The development of the FGP was divided in four specific objectives: Objective 1: was to propose an enhanced Project Management Framework based on best practices, the PMBOK®, and expert judgment, which would be the foundation and basis for the following objectives. Objective 2: was to Develop Customized Templates to allow for the operational tools to execute the proposed framework. Objective 3: was the Application of the Methodology to a case study in order to confirm, refine or refute the application of the proposed templates and tools. Objective 4: was the Proposal of the Company-wide Roll-out Plan.

The conclusions arrived by the author confirmed that all four objectives were achieved, including the pilot implementation of the methodology, and the templates and tools which were beneficial for the pilot project and, ACME Software, Management.

There are still more benefits from implementing additional best practices besides what was in the scope of this FGP and, ACME Software, executive management needs to be in constant awareness to take advantage of those opportunities.

In the end, recommendations were made to the three main parties: Executive Management needs to provide the support in the change management process to have a higher success factor for a company roll-out of the proposed methodology. The project managers need to buy-in and be aligned with the engineering management, and finally the Human Resources Department need to account and encourage project management training, certification, and other academic studies to existing and potential project managers at, ACME Software.

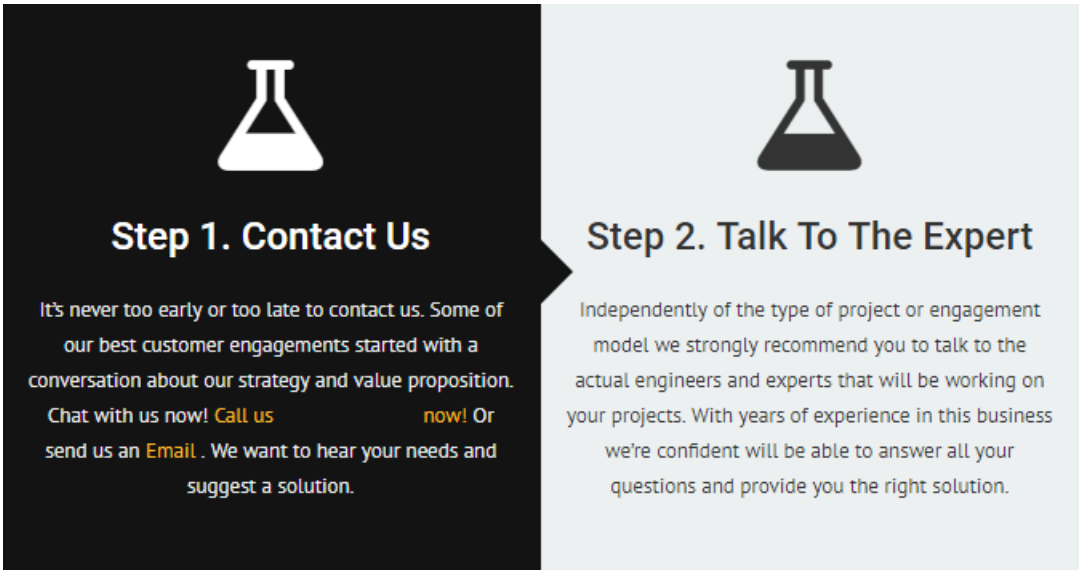
1. INTRODUCTION

1.1. Background

Headquartered in Silicon Valley, ACME Software, is a California-based company specializing in extending the engineering capabilities of any business throughout the United States and around the world. The company aims to increase the intellectual production of their clients by providing human resources through a nearshore model. Nearshoring is outsourcing of services and results within a four hour difference window.

ACME Software aims to become the leader provider of nearshore Software Engineering and Professional Services that runs Research & Development Centers in Latin America by providing high quality software outsourcing development and quality assurance.

The Steps to get new Projects are summarized in the following chart:



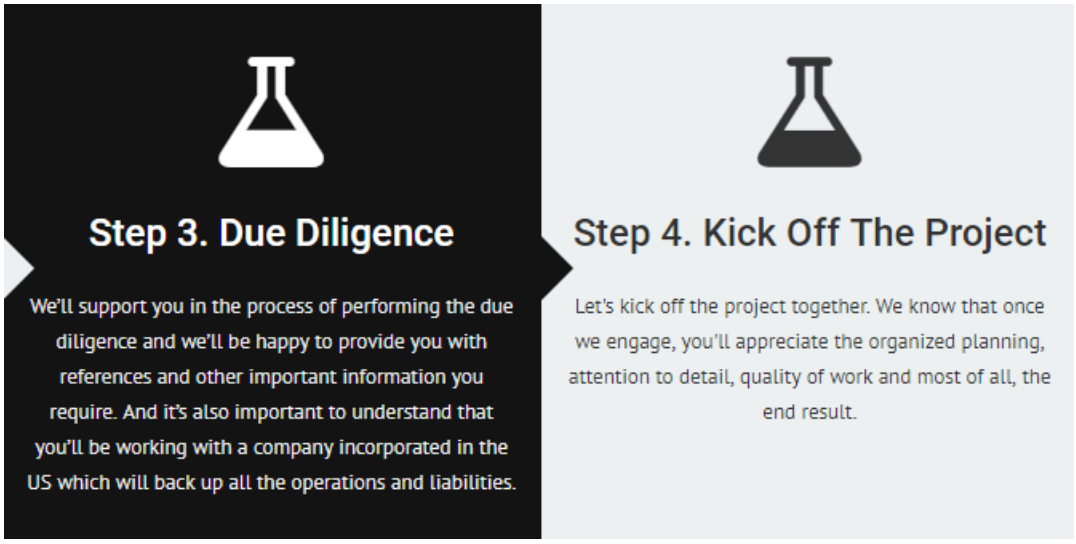


Figure 1: Business Flow to Start a New Project. Source: Acme Software

The last step, number four is currently managed and directed mainly by the client, whereas the local knowledge and potential is not fully used and in some cases it is of lower quality than needed.

ACME software aims and needs to leverage its game and have processes to manage people, skills, projects, and impact positively throughout the organization, in a better manner.

1.2. Statement of the Problem

Currently, ACME Software, has informal and/or non-standard processes for project management that is withholding its full potential to perform more efficiently in its current projects, reduce the overhead when starting new projects, and also limiting its capabilities for execution, control, monitoring, and proper resource rewarding.

ACME Software needs a structured and standardized methodology for project management in order to achieve its business goals of:

- Accessing a higher paying market of clients that require higher specialization and complexity which brings more ROI.
- Obtaining quality certificates on the organization processes such as ISO 9001.

1.3. Purpose

Acme Software has seen rapid growth in the past three to four years in terms of personnel: from 50 to 120 full-time resources. In number of active projects: from 10 to 20+ active at the same time. In project complexity - more diverse knowledge and more complex solutions needs to be created.

The company is looking to continue its growth at a sustainable pace by investing less time in starting projects or the quality being dependent on the skills and knowledge of the assigned lead or project manager. The biggest part of these projects are staff-augmentation and assigning engineers to existing or new software teams in the United States and around the world. However there is still a necessity of a Project Management Methodology.

The purpose of this Final Graduation Project is to provide the framework and methodology in order for:

- **Projects to Start Effectively** -initiating and planning- by understanding the needs, requirements, milestones, deliverables, cost, stakeholders, communication, resources, and most, if not all, of the knowledge areas considered by the PMI and the PMBOK.
    - Project scope, objectives, deliverables, milestones, requirements, schedule, development methodology, cost, quality plans, resources, communication plans, stakeholders. Initially important information will be recorded, and accessible to internal stakeholders; including management.

    - Resources moving from additional project will have the same context and added resources will have a similar on-boarding experience no matter which project they will begin.

- **Projects Execution, Control and Monitoring to Be Standardized** and only chosen inputs, tools, techniques, and outputs should be customized. However, the core of a project needs to be similar to additional project, where it will be used.
    - Projects will share common templates for project status, control, and monitoring
    - Projects will share common logs; issues, assumptions, and risks.

- **Projects to Be Closed In a Standard Manner**, ensuring lessons learned and that the entire project documentation is archived for later use, and access to be re-assigned later.
    - Currently there is ambiguity regarding resource performance therefore key people are not re-assigned in the best possible way.
    - Ensuring that the knowledge is documented and used for cross team, cross project and/or cross department for continuous improvement.

1.4. General Objective

To establish a Project Management Methodology to be applied in both active and new projects at: Acme Software Company.

1.5. Specific Objectives

Once achieved these specific objectives, the above general objective will be completed.

1. Proposing a framework to manage projects in a standardized and structured manner, according to best practices, in order to improve the quality of project management processes.

2. Developing customized project templates and tools to support the framework and methodology, as well as, presenting the information of different projects in a standardized way.

3. Applying the methodology to a typical project case in order to demonstrate practical use of the methodology.

4. Creating an implementation plan to roll-out the proposed methodology in waves throughout the company.

2. THEORETICAL FRAMEWORK

2.1. Company/Enterprise Framework

ACME Software started 5 years ago as an opportunity in the growing niche of software outsourcing in Cochabamba, Bolivia. The business model is nearshore, which is a specialization of outsourcing where the time difference is equal or less than four hours between the provider and the service recipient. Bolivia is currently within that time range across the United States and Canada.

Software has seen an expansion in the past decade, attracting talents from across the country, and providing an important foundation for engineers to get started in the more than 200 registered software companies in Cochabamba, Bolivia.

2.1.1. Company/Enterprise Background

Acme Software has seen rapid growth in the past three to four years in terms of personnel: from 50 to 120 full-time resources. In number of active projects: from 10 to 20+ active at the same time. In project complexity - more diverse knowledge and more complex solutions needs to be created.

The company is looking to continues its growth at a sustainable pace by investing less time in starting projects from zero, or depending on skills and knowledge of the project manager. Most of these projects are staff augmentation and assigning engineers to existing or new software teams in the United States and around the world.

2.1.2. Mission and Vision Statements

Mission of ACME

“Provide quality software services, exceeding customer's expectations and promoting specialization and continuous improvement”. (Source: Acme Software, Company Policy, 2017)

By implementing a project management methodology, ACME Software, will be better positioned to *provide streamlined quality services*. ACME Software will be able to foresee gaps in quality, processes, personnel, risks, and proactively resolve and/or minimize these gaps. These actions should translate into an *increased customer satisfaction*, exceeding their initial expectations as the mission, states by the company.

The project management methodology should also allow internal personnel and resources to increase their performance, hence, specializing in their areas and/or allowing the ability to make informed decisions based on project and staff current performance and status to flow in the positive circle of continuous *improvement.*

Vision of ACME

“Become Bolivia's best software company promoting local talent and making the country a recognized as a quality software niche in the world map of software delivery”. (Source: Acme Software, Company Policy, 2017)

By implementing a project management methodology, ACME Software, should manage projects in a standardized and structured manner. Changes will allow, ACME Software, to focus on the core business which is software development, rather than investing efforts each time a project is approved with administrative and regular processes. Additional benefits will be, projects performed in a standard basis, such as, the resources assigned to the project manager or the technical lead, rather than being assigned on random factors, relying less on individual performances, and having more probabilities of success for the projects.

ACME Software Company Values

- Trust, Honesty, Integrity
- Proactivity
- Cultural Affinity & Understanding
- Continuous Improvement
- Continuous Education

(Source: Acme Software, Company Policy)

Implementing a project management methodology is linked directly to ACME Software values.

2.1.3. Organizational structure

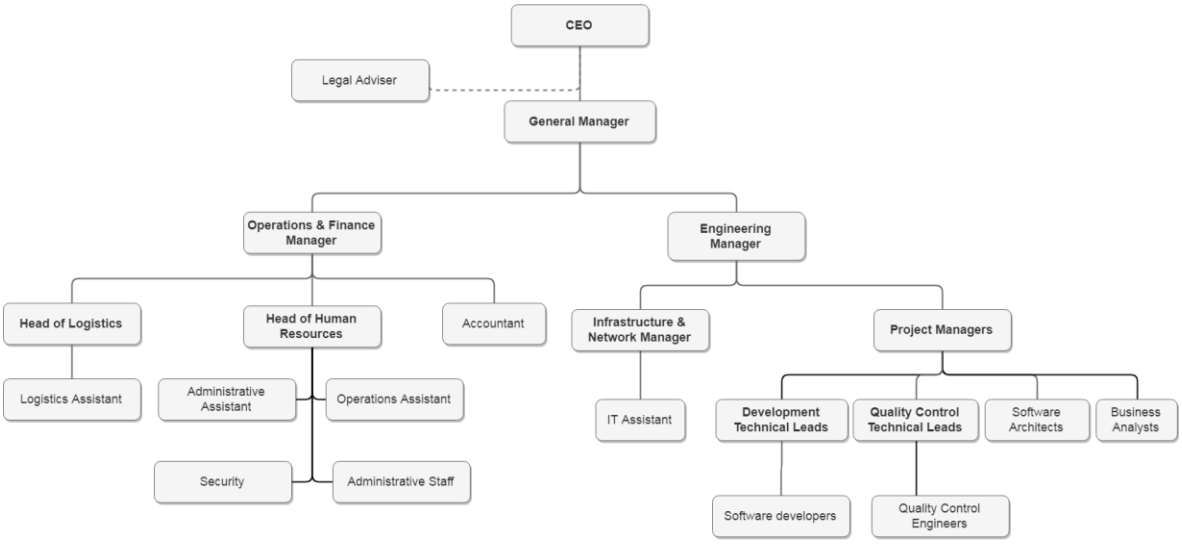


Figure 2: Organizational Structure. Source: ACME Software

The two departments that report to General Management will be impacted: Engineering Management and Operations & Finance Department.

The main impacted area will be the Engineering Department which will use the methodology, such as, processes, templates, and other documents on a daily reoccurrence.

Human Resources Department will be impacted, which will receive and process staff requests. Furthermore Logistics and IT will be impacted who will receive and process the purchases of the supplies needed, per person and project on a recurrent but less often basis.

2.1.4. Products, Services or Results Offered

The main service provided is staff augmentation in the following software development lifecycle areas:
Major areas; taking up to 90% of resources.

- Software Development
- Software Testing

Minor areas; approximately 10% of resources.

- Software Business Analysis
- Software Architecture
- Project Management

The proposed methodology will affect and impact the above staff and organization. There are additional services provided by, ACME software, such as, prototyping and designing, on very irregular basis, and are managed ad-hoc. These are currently out of scope of this FGP.

2.2. Project Management Concepts

2.2.1. Project

Projects allow for companies and organizations to create value. Projects that are properly linked to the strategic objectives of the business are allowing organizations to reach those set objectives. Projects implemented using best practices- such as those described in detail in the PMBOK practice standards- and external specific resources which helps satisfying stakeholder’s expectations;

become more predictable, respond to risks in a better way, and in general, increase the rates of success of the projects.
Projects drive change, they allow organizations to move from a current state to another desirable one (Project Management Institute, 2017, p. 6).

2.2.1.1. Progressive Elaboration

Progressive elaboration means that there is a continuous iterative process of refining and improving the project as more details become available. A project is subject to change (Project Management Institute, 2017), therefore the development of a project management plan is an iterative activity and is progressively elaborated within the life cycle of a project.

Operations on the other hand is when the work is ongoing and produces repetitive outputs, with resources assigned to do basically the same set of tasks according to the standards institutionalized in a product life cycle (Project Management Institute, 2013).

2.2.2. Project Management

Project Management, and the use of best practices tailored to the need of ACME Software, is key to the success of the company and achieving its mission and vision.

2.2.2.1 Project Management Methodologies

A Methodology is a system of practices, techniques, procedures, and rules used by professionals who work in a discipline. The PMBOK Guide is a foundation upon which organizations can build methodologies, policies, procedures, rules, tools, techniques, and life-cycle phases needed to practice project management (Project Management Institute, 2017, p.2).

In their standard Organizational Project Management Maturity Model, Project Management Institute (2013) defines project management methodology as a collection of methods and rules followed when applying project management.

Artifacts generated by a methodology include: project charter, schedule, templates, procedures, training materials, etc. (Project Management Institute, 2014). Agile, Waterfall, Projects In Controlled Environments, Version 2 (Prince2), Organizational Project Management Methodology (OPM Methodology) and Earned Value Project Management (EVM) are all examples of methodologies.

Sound Project Management Methodologies take into account the unique nature of projects and allows tailoring, to some extent, by the project manager. However, the tailoring that is included in the methodology may still require additional **changes** for a given project **(Project Management Institute, 2017, p.28).**

According to Kerzner (2013), maturity in project management is the implementation of a standard methodology and accompanying processes such that there exists a high likelihood of repeated successes (Harold R. Kerzner, 2013, p. 68).

Kerzner also identified the following benefits of a methodology:

- Decreased cycle time and lower costs
- Realistic plans with greater chances of meeting deadlines
- Better communication
- Feedback: lessons learned
- Greater customer satisfaction

2.2.2.2. Project Tailoring

Tailoring is necessary because each project is unique (Project Management Institute, 2017, p. 28). Following is an extensive list although not final – more areas of tailoring can be defined:

- **Project Life Cycle.** What is an appropriate project life cycle? What phases should comprise the project life cycle?
- **Development Life Cycle.** What development life cycle and approach are appropriate for the product, service, or result? Is a predictive or adaptive approach appropriate? If adaptive, should the product be developed incrementally or iteratively? Is a hybrid approach best?
- **Management Approaches.** Based on the organizational culture and the complexity of the project, which management processes are most effective?
- **Knowledge Management.** To foster a collaborative working environment, how will knowledge be managed in the project?
- **Change.** How will change be managed in the project?
- **Governance.** Which control boards, committees, and additional stakeholders are part of the project? What are the status-reporting requirements for the project?
- **Lessons Learned.** What information should be collected throughout and at the end of the project? How will historical information and lessons learned be made available to future projects?
- **Benefits.** When and how should benefits be reported: at the end of the project, or at the end of each iteration or phase?

2.2.3. Project life cycle

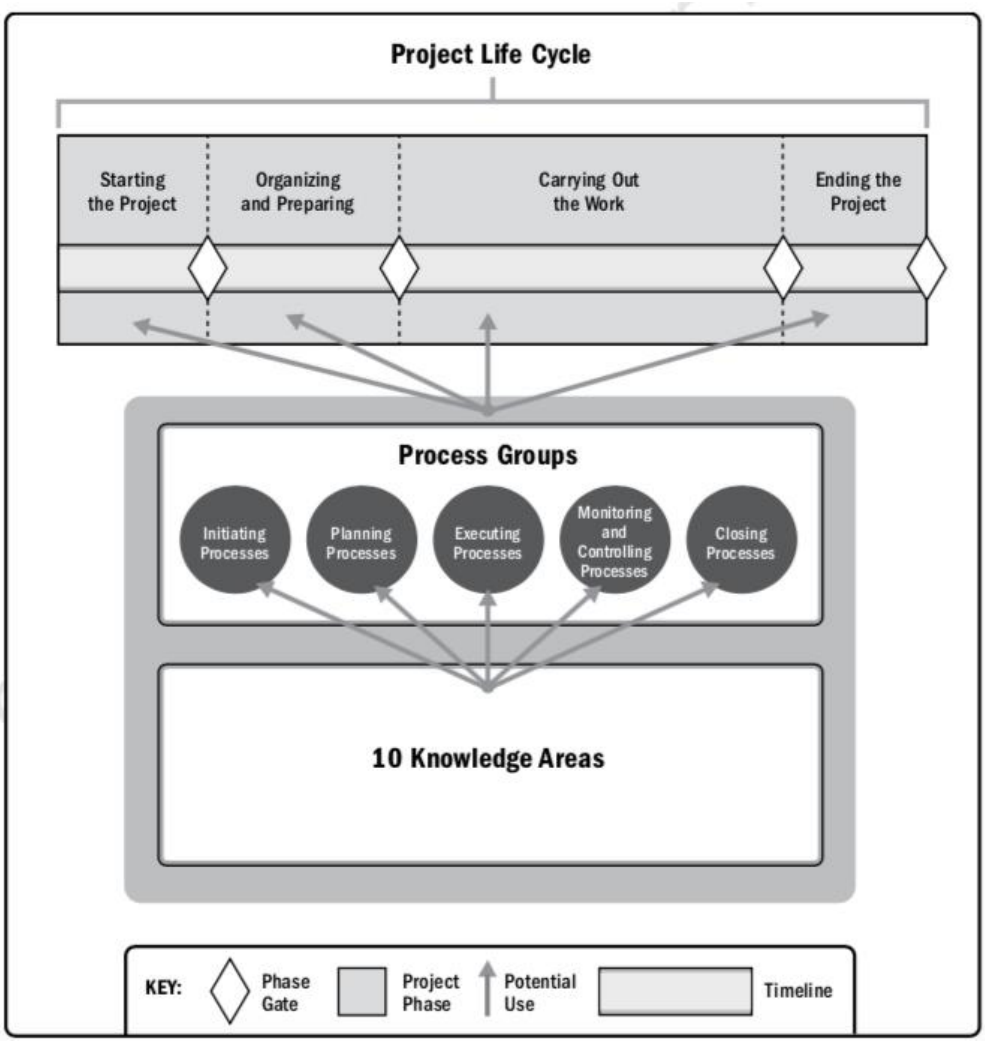


Figure 3: Interrelationship of PMBOK® Guide Key Components in Projects. Source: PMBOK®, 2017

All projects can be mapped to the generic life cycle shown in Figure 3, whether they are predictive, iterative, incremental or adaptive. Due to, ACME Software, organization maturity level and complexity area, it currently uses an informal hybrid project life cycle development, this FGP will channel the formalization of this methodology where the known elements of the project will use a predictive lifecycle and the more unknown, more complex situations which will require constant and regular feedback from the client will be part of an iterative lifecycle.

The PMBOK® provides the following definition for these lifecycles:

- “In a predictive life cycle, the project scope, time, and cost are determined in the early phases of the life cycle. Any changes to the scope are carefully managed. Predictive life cycles may also be referred to as waterfall life cycles.“ (Project Management Institute, 2017).
- “In an incremental life cycle, the deliverable is produced through a series of iterations that successively add functionality within a predetermined time frame. The deliverable contains the necessary and sufficient capability to be considered complete only after the final iteration.“ (Project Management Institute, 2017).

Also, in agile environments, controlled of the detail product planning, and delivery is delegated to the team. This leaves the project manager focusing on building a collaborative decision-making environment and ensuring that the team has the ability to respond to changes.

2.2.4. Project Management Processes

Every Project has five distinctive process groups with several process in each one of them. Depending of the nature of the projects and process groups their processes can overlap, hence, the importance of the continuous integration of each of the parts performed and lead by the project manager to ensure activities are kept on the objectives and goals of the project.

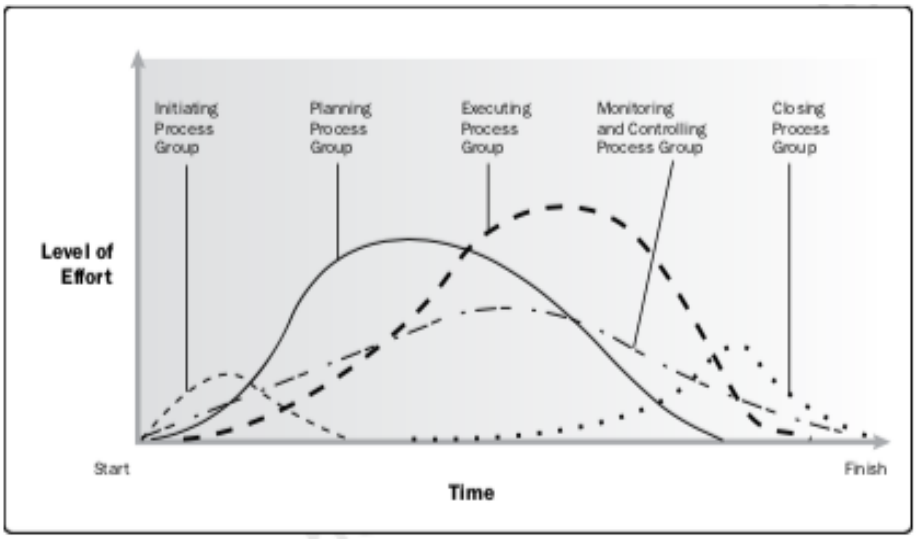


Figure 4: Example of Group Interactions Within a Project or Phase. Source: PMBOK®, 2017

Most processes will be performed periodically as needed or continuously throughout the project.

The five process groups are identified in the following figure:

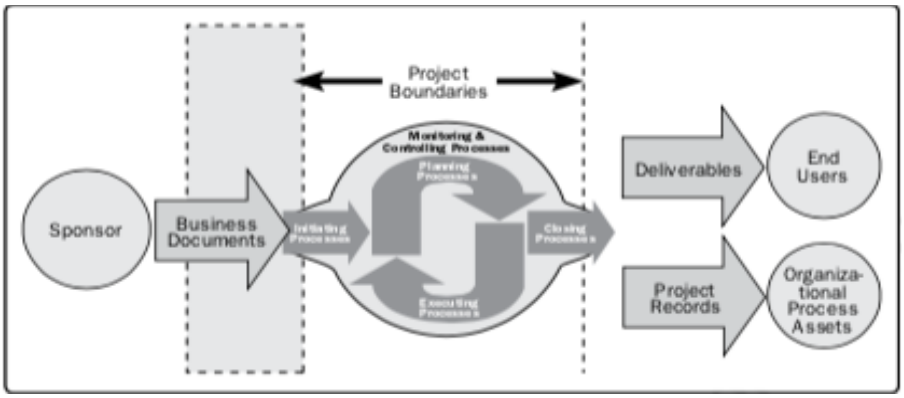


Figure 5: Project Boundaries. Source: PMBOK®, 2017

I. Initiating Process Group: Performed at the beginning of the project or phase.

II. Planning Process Group: Performed initially and usually overlaps with the initiating process in the sense of understanding and gathering initial requirements and identifying risks at still a high level stance.

III. Executing Process Group: The processes to complete the work previously defined and, once completed, the project main objective would be reached.

IV. Controlling and Monitoring: Processes that allow matching the project performance with the baselines defined during the planning phase. Is your execution following the plan? If not, why and what is needed? Proactive, reactive or emergency changes are need to keep the project on track?

The difference between control and monitoring is that you control what is within your circle of influence and you monitor what is outside your influence. Hence the processes within the areas of scope, schedule, cost, quality, resources and acquisitions are controlled - they are inside the project and the project team should have control over them.

In contrast, process groups such as communications and engagement of stakeholders are monitored.

Being the integration-management process group the only one sharing partially controlling and monitoring since it reaches the other nine process groups.

V. Closure: The processes performed to close a project or a phase.

2.2.5. Project Management Knowledge Areas

2.2.5.1. Integration Management

Project Integration Management allows to identify, define, combine, and coordinate the various processes and project management activities within the five Project management Groups (Project Management Institute, 2017).

Chart 1: Integration Group Processes. Compiled by the Author: Based on PMBOK®, 2017 and Mulcahy , 2017

Integration Group Processes	Done During	What It Involves	Benefits
1. Develop Project Charter	I. Initiating	Developing a document that formally authorizes the project and provides the Project manager the corresponding authority.	Providing a direct link between the project and the strategic objectives of the organization. Creates a formal record of the project.
2. Develop Project Management Plan	II. Planning	Defining, preparing, and coordinating all plan components and consolidating in an integrated plan.	Defining the basis of all project work and how the work will be performed.
3. Direct & Manage Project Work	III. Executing	Leading and performing the work defined initially and any approved changes.	Providing overall management of the project work and deliverables. Improving the probability of project success.
4. Manage Project Knowledge	III. Executing	Using existing knowledge and creating new knowledge to be used by the organization.	Prior organizational knowledge is leveraged to produce or improve project outcomes. Knowledge created by the project is available to

			support other operations and for future projects.
5. Monitor & Control Project Work	IV. Monitoring and Controlling	Tracking, reviewing, and reporting overall progress to meet objectives.	Allowing stakeholders to understand the current state of the project. Understanding the actions to address any performance issues. Visibility into project forecasts on scope,when not predictive, schedule and cost.
6. Perform Integrated Change Control	IV. Monitoring and Controlling	Reviewing, approving, and managing change requests to deliverables, to organizational assets, project documents and plans and communicating the decisions.	Allowing changes to be documented and understood in an integrated manner for addressing. Reducing overall project risk
7. Close Project or Phase	V. Closure	Finalizing all the activities for the project, phase, or contract.	Project/Phase archive Completion of planned work. Resources are available for new endeavors.

2.2.5.2. Scope Management

Project Scope Management includes the processes required to ensure that all the work required, and only the work required, is included to complete the project successfully. This is also known as the 100% rule. Scope management main concern is to determine what is included in the project scope and what is considered out of scope. (Project Management Institute, 2017).

Chart 2: Scope Group Processes. Compiled by the Author: Based on PMBOK®, 2017 and Mulcahy , 2017

Scope Group Processes	Done During	What It Involves	Benefits
1. Plan Scope Management	II. Planning	Creating a plan that documents how the project and product scope will be defined, validated and controlled.	Providing guidance and direction on how the scope will be managed throughout the project.
2. Collect Requirements	II. Planning	Determining, documenting, and managing stakeholder needs and requirements to meet the project objectives.	Providing the basis for defining the product and project scope.
3. Define Scope	II. Planning	Detailing the project and the product.	Describing the product, service, result boundaries and acceptance criteria.
4. Create WBS	II. Planning	Subdividing deliverables and project work into	Providing a framework of what has to be delivered.

		smaller, manageable components.	
5.Validate Scope	IV. Monitoring and Controlling	Formalizing acceptance by the client of the project deliverables.	Bringing objectivity to the acceptance process and increases the probability of the final product/service/result acceptance by validating each deliverable.
6. Control Scope	IV. Monitoring and Controlling	Reviewing the status of the project and product scope and managing changes to the scope baseline.	Maintaining the scope baseline throughout the project.

The processes for **Collect Requirements (2), Defining Scope** (3) and **Creating the WBS** (4) are combined together, delegated to the team and performed iteratively, throughout the project usually at the beginning of the iteration as in most software businesses – as opposed of predictive methodologies where more time is investing in breaking out scope at the very beginning of the project, and does not allow for agile changes throughout the implementation (Project Management Institute, 2017, p.131).

- **Collect Requirements** translates into the **product backlog** usually performed and prioritized by the client or product owner.
- **Define Scope** translates to the agreements between **the team and the client/ or product owner** and registered as high level epics and features down to user stories and their acceptance criteria.
- **Create WBS** translates to closing the previous processes (2 and 3 above) by mapping the epics or features down to the story breakdown into tasks.

Scope Validation and Controlling are done separately. The difference between one and another is that:

- **Scope Controlling:** comparing what is the current delivery progress with the planned scope. The project manager is responsible for this.
- **Scope Validation:** formal approval and reception of the work by the client. The work is always performed by the team. The formal approval is always performed by the client. This can be delegated, but, in that case, it needs to be properly documented and clearly done.

2.2.5.3. Schedule Management

Project Schedule Management includes the processes required to manage the timely completion of the project (Project Management Institute, 2017, p.173).

Chart 3: Schedule Group Processes. Compiled by the Author: Based on PMBOK®, 2017 and Mulcahy , 2017

Schedule Group Processes	Done During	What It Involves	Benefits
1. Plan Schedule Management	II. Planning	Establishing the policies, procedures, and documentation for developing, managing, executing and controlling the project schedule.	Providing guidance and direction on how the schedule will be managed throughout the project.
2. Define	II. Planning	Identifying and	Decomposing work

Activities		documenting the actions to produce the project deliverables.	packages into schedule activities. These activities provide a basis for estimating, scheduling, executing, monitoring, and controlling the project.
3. Sequence Activities	II. Planning	Identifying and documenting relationships among the project activities.	Defining the logical sequence of work to obtain the greatest efficiency given all project constraints.
4. Estimate Activity Durations	II. Planning	Estimating the duration needed to complete the activities with the estimated resources.	Providing the amount of time each activity will take to complete.
5.Develop Schedule	II. Planning	Analyzing activity sequences, durations, resource requirements and schedule constraints to create the schedule model for project execution and controlling and monitoring.	Generating a schedule model with planned dates for completing project activities.
6. Control Schedule	IV. Control & Monitoring	Reviewing the status of the project schedule and managing changes to the schedule baseline.	Maintaining the schedule baseline throughout the project.

2.2.5.4. Cost Management

Project Cost Management includes the processes involved in planning, estimating, budgeting, financing, funding, managing, and controlling costs so the project can be completed within the approved budget (Project Management Institute, 2017, p. 231).

Chart 4: Cost Group Processes. Compiled by: the Author Based on PMBOK®, 2017 and Mulcahy , 2017

Cost Management Processes	Done During	What It Involves	Benefits
1. Plan Cost Management	II. Planning	Defining how the project costs will be estimated, budgeted, managed and controlled.	Providing guidance and direction on how the costs will be managed throughout the project.
2. Estimate Costs	II. Planning	Developing an approximation of the monetary resources needed to complete the project work.	Determining the monetary resources required for the project.
3. Define Budget	II. Planning	Aggregating the estimated costs of individual activities to establish an authorized cost baseline.	Determining the cost baseline against which project performance can be controlled.
4. Control Costs	IV. Control & Monitoring	Reviewing the status of the project costs and managing changes to	Maintaining the cost baseline throughout the project.

		the cost baseline.	

2.2.5.5. Quality Management

Planning, Executing, Controlling. Templates, Process, Who, When, Info in, Info out Project Quality Management includes the processes for incorporating the organization's quality policy regarding planning, managing, and controlling project and product quality requirements in order to meet the objectives from the stakeholders. (Project Management Institute, 2017, p. 271).

Quality Management supports the continuous improvement model which is based on: Plan → Do → Check → Act.

Chart 5: Quality Group Processes. Compiled by: the Author, Based on PMBOK®, 2017 and Mulcahy , 2017

Quality Management Processes	Done During	What It Involves	Benefits
1. Plan Quality Management	II. Planning	Identifying quality requirements and standards for the project and its deliverables. Documenting how the project will demonstrate such compliance.	Providing guidance and direction on how the quality will be managed and verified throughout the project.
2. Manage Quality	III. Executing	Translating the quality plan into executable	Increasing the probability of meeting the quality

		activities which incorporate the quality policies of the organization into the project.	objectives. Identifying ineffective processes and causes of poor quality.
3. Control Costs	IV. Control & Monitoring	Reviewing and recording the results of executing the quality activities to assess performance and to ensure the outputs are complete, correct, and meet the customer expectations.	Verifying that projects deliverables and work meet the requirements specified by stakeholders for final acceptance.

2.2.5.6. Resource Management

Project Resource Management includes the processes in identify, acquire and manage the resources needed for the successful completion of the project. Ensuring the right resources will be available to the project management team at the right time and place (Project Management Institute, 2017, p. 307).

Chart 6: Resources Group Processes. Compiled by: the Author Based on PMBOK®, 2017 and Mulcahy , 2017

Resource Management Processes	**Done During**	**What It Involves**	**Benefits**
1. Plan Resource	II. Planning	Defining how to estimate, acquire,	Providing guidance and direction on the approach

Management		manage, and utilize physical and team resources.	and level of management effort needed for managing project resources.
2. Estimate Activity Resources	II. Planning	Estimating team resources and the type and quantities of material, equipment, and supplies necessary to perform the project work.	Identifying the type, quantity and characteristics of resources required to complete the project.
3. Acquire Resources	III. Executing	Obtaining team members, facilities, equipment, materials, supplies, and other resources necessary to complete the project work.	Defying the selection and assignment of resources.
4. Develop Team	III. Executing	Improving competencies, team member interaction, and the overall team environment to enhance project performance.	Improving teamwork, enhanced interpersonal skills, and competencies, motivated employees, reduced attrition, and improved overall project performance.
5. Manage Team	III. Executing	Tracking team performance, providing feedback, resolving issues, and managing team changes to	Influencing the team behavior, manages conflict and to resolves issues.

		optimize project performance.	
6. Control Resources	IV. Control & Monitoring	Reviewing that physical resources are assigned and allocated as planned. Reviewing the planned versus actual use of resources moreover performing necessary corrective action.	Ensuring the assigned resources are available at the proper time and place and that the resources are released when no longer needed.

2.2.5.7. Communications Management

Project Communications Management includes the processes to ensure that the information need, to the project and its stakeholders, are achieved (Project Management Institute, 2017, p. 359). It compromises the communications strategy, whether if it will be internal, external, or a combination; the when, the how and particularly the what type of information is sent.

Chart 7: Communication Group Processes. Compiled by: the Author Based on PMBOK®, 2017 and Mulcahy , 2017

Communications Management Processes	**Done During**	**What It Involves**	**Benefits**
1. Plan Communication	II. Planning	Developing the plan for communication activities based on the	Providing guidance and direction on the communications approach.

Management		information needs of each stakeholder.	
2. Manage Communications	III. Executing	Ensuring timely and appropriate collection, creation, distribution, storage, retrieval, management, monitoring, and the disposal of project information.	Allowing efficient and effective information flow between the project team and the stakeholders.
3. Control Communications	IV. Control & Monitoring	Reviewing and ensuring that the information needs are met.	Maintaining optimal information flow between the project team and the stakeholders.

2.2.5.8. Risk Management

Project Risk Management includes the processes of conducting risk management; planning, identification, analysis, response planning, response implementation, and monitoring risk on a project (Project Management Institute, 2017, p. 395).

Chart 8: Risk Group Processes. Compiled by: the Author Based on PMBOK®, 2017 and Mulcahy , 2017

Risk Management Processes	**Done During**	**What It Involves**	**Benefits**
1. Plan Risk Management	II. Planning	Defining how to conduct risk management activities.	Ensuring that the degree, type, and risk management are proportionate to both

			risks and the importance of the project, and that it remains visible to the organization and other stakeholders.
2. Identify Risks	II. Planning	Identifying individual risks and sources of overall project risk.	Identifying individual project risks; threats and opportunities, and the sources of the overall project risk.
3. Perform Qualitative Risk Analysis	II. Planning	Prioritizing individual project risks by assessing their probability of occurrence and impact.	Focusing efforts on high-priority risks.
4. Perform Quantitative Risk Analysis	II. Planning	Analyzing numerically the the individual project risks and other sources of uncertainty on overall project objectives.	Quantifying overall risk exposure. Moreover providing additional qualitative risk information. As well as, supporting risk response planning.
5. Plan Risk Responses	II. Planning	Developing options, selecting strategies, and agreeing on actions to address overall and individual project risks.	Identifying appropriate ways to address overall and individual project risks.
6. Implement Risk Responses	III. Executing	Implementing agreed-upon risk response plans.	Ensuring the agreed-upon risk responses are executed as planned.

			Addressing overall project risks exposure in addition to minimizing project threats. Maximizing individual project opportunities.
7. Monitor Risks	IV. Control & Monitoring	Reviewing the implementation of agreed-upon risk response plans, tracking identified risks, identifying and analyzing new risks, evaluating risk process effectiveness.	Allowing project decisions to be based on current information about the overall and individual risks of the project.

2.2.5.9. Procurement Management

Project Procurement Management includes the processes of obtaining seller responses, selecting a seller, and awarding a contract (Project Management Institute, 2017, p. 459). This is the most formal of all Project Groups.

Chart 9: Procurement Group Processes. Compiled by the Author Based on PMBOK®, 2017 and Mulcahy , 2017

Procurement Management Processes	Done During	What It Involves	Benefits
1. Plan Procurement Management	II. Planning	Documenting project procurement decisions, specifying the approach, and identifying potential sellers.	Determining whether to acquire goods or services form outside the project team. Determining what to acquire, how and when.
2. Conduct Procurement	III. Executing	Obtaining seller responses, selecting a seller, and awarding a contract.	Selecting a qualified seller. Implementing the legal agreement for delivery.
3. Control Procurement	IV. Control & Monitoring	Reviewing and ensuring that the information needs are met.	Ensuring that s performance of both the seller and the buyer are meet and that the requirements of the project are according to the terms of the legal agreement.

2.2.5.10. Stakeholder Management

Project Stakeholder Management includes the processes to identify the people groups, or organizations that could impact or be impacted by the project; to analyze stakeholder expectations and to develop appropriate management strategies for effectively engaging stakeholders in project decision and execution (Project Management Institute, 2017, p. 503).

Chart 10: Stakeholders Group Processes. Compiled by the Author Based on PMBOK®, 2017 and Mulcahy , 2017

Stakeholder Management Processes	Done During	What It Involves	Benefits
1. Identify Stakeholders	I. Initiating	Identifying project stakeholders. Analyzing and documenting relevant information regarding their interests, involvement, influence and potential impact on the project.	Allowing the project team to identify the appropriate focus for engagement of each stakeholder.
2. Plan Stakeholder Management	II. Planning	Developing approaches to involve stakeholders based on their needs, expectation, interests and potential impact on the project.	Providing an actionable plan how to effectively interact with stakeholders.
3. Manage Stakeholder Engagement	III. Executing	Communicating and working with stakeholders to meet their needs and expectations, address issues, and foster appropriate stakeholder engagement.	Allowing the project manager to increase support and minimize resistance from stakeholders.
4. Monitor Stakeholder	IV. Control &	Reviewing stakeholder relationships and	Maintaining or increasing the efficiency and effective

Engagement	Monitoring	tailoring strategies for engaging through updates to the initial plan.	engagement activity by the stakeholder.

3. METHODOLOGICAL FRAMEWORK

3.1. Information Sources

3.1.1. Primary Sources

Primary sources “provide direct or first-hand evidence or eyewitness account of an event, object, person or any subject under investigation”. (Ithaca College Library, 2016)

Primary sources include:

- Surveys
- Interviews
- Observations
- Eyewitnesses accounts
- Results of experiments
- Audio and video recordings
- Speeches
- Fieldwork

Primary sources to be used are:

- Interviews to, Heads of Departments, which primarily identified as: Head of Engineering, Financial, Human Resources, and Logistics.
- Observation of current development and processes.
- Fieldwork such as attending current meetings, different team planning, gatherings and additional team interactions.

3.1.2. Secondary Sources

Secondary source materials are sources of information that “describe, discuss, interpret, comment upon, analyze, evaluate, summarize, and process primary sources” (Ithaca College Library, 2016), examples include:

- Books
- Research and journal articles
- Criticism of works
- Websites

Secondary Sources to be used are:

- A Guide to Project Management Body of Knowledge
- Mulcahy, Rita PMP 9th edition
- Related literature studies on project management methodology

Chart 11: Information Sources. Source: the Author

Objectives	Information sources	
	Primary	Secondary
1. To propose a framework in order to improve the quality of project management processes and manage projects in a standardized and structured manner according to best practices.	Interviews, observation and fieldwork.	Project Management Institute and related literature studies on project management methodology.
2. To develop customized project templates and tools to support the framework and methodology, as well as, presenting the information of different	Interviews, observation and fieldwork.	Project Management Institute and related literature studies on project management methodology.

projects in a standardized way.		
3. To apply the methodology to a typical project case in order to demonstrate practical use of the methodology.	Interviews, observation, and fieldwork.	Project Management Institute and related literature studies on project management methodology.
4. To create an implementation plan to roll-out the proposed methodology, in cycles throughout the company.	Interviews, observation and fieldwork.	Project Management Institute and related literature studies on project management methodology.

3.2. Research Methods

Research methods are the various procedures, schemes, and algorithms used in research. 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 (Rajasekar, Philominathan & Chinnathambi, 2013).

3.2.1 Observational Research Method

Observational research, or field research, is a type of correlational, i.e., non-experimental research in which a researcher observes ongoing behavior.

This method will be used to understand the current way of performing activities.

3.2.2 Content Analysis Research Method

Content analysis is a technique for systematically describing written, spoken or visual communication which provides a quantitative, numerical, and qualitative, descriptive, of the subject. Many content analyses involve media – newspapers, magazines, television, video, movies as well as the Internet. It is also used to analyze new material recorded by the researchers, and to classify open-ended responses to interview or survey questions.

This method will not be used for this project.

3.2.3 Questionnaire Survey Analysis

A questionnaire is a mean for collecting and recording information about particular issues of interest. It usually consists of a list of questions, with clear instructions and space for answers or administrative details. Questionnaires should always have a definite purpose that relates to the objectives of the research.

This method will be used to collect information from the project managers at ACME Software.

3.2.4 Interview Method

The interview method is a widely used method in research, as it allows for the collection of data, by inquiring people and following up or probing their answers to explore their perspectives on a particular idea, program, or situation (www.qualres.org/).

This method will be used for this project.

The research methods used for this project are detailed in the chart below:

Chart 12: Research Methods. Source: the Author

Objectives	Research methods	
	Primary	**Secondary**
1. To propose a framework to manage projects in a standardized and structured manner, in order to improve the quality of project management processes, according to best practices.	Interview research method.	Observation research method.
2. To develop customized project templates and tools to support the framework and methodology as well as presenting the information of various projects in a standardized way.	Interview research method.	Observation research method.
3. To apply the methodology to a typical project case in order to demonstrate practical use of the methodology.	Interview research method.	Observation research method.
4. To create an implementation plan to	Interview research method.	Observation research method.

roll-out the proposed methodology in cycles throughout the company.		

3.3. Tools

A tool is something tangible, such as a template or software program, used in performing an activity to produce a product or result (Project Management Institute, 2017, p. 725)

Data Gathering Tools and Techniques

- Focal Groups
- Interviews

Data Analysis Tools

- Influence Diagrams
- Iteration Burndown Charts
- Process Analysis

Data Representation Tools

- Control Charts
- Flow Charts
- Matrix Diagrams
- Stakeholder Engagement Matrix; Stakeholder Mapping

Interpersonal and Team Skills

- Conflict Management

Uncategorized Tools

- Agile Release Planning
- Communication Models; Methods

- Decomposition
- Expert Judgment
- Meetings
- Organizational theory
- Rolling wave planning

The tools used for this project are detailed in the chart below.

Chart 13: Tools. Source: the Author Based on PMBOK®, 2017

Objectives	Tools
1. To propose a framework to manage projects in a standardized and structured manner, in order to improve the quality of project management processes, according to best practices	**Data gathering Tools and Techniques** ◦ Interviews **Data Analysis Tools** ◦ Iteration Burndown Charts ◦ Process Analysis **Data Representation Tools** ◦ Control Charts ◦ Flow Charts ◦ Matrix Diagrams ◦ Stakeholder Engagement Matrix; Stakeholder Mapping **Interpersonal and Team Skills** ◦ Conflict Management **Uncategorized Tools** ◦ Agile Release Planning ◦ Communication Models ; Methods ◦ Decomposition ◦ Expert Judgment ◦ Meetings

	◦ Organizational Theory ◦ Rolling wave planning
2. To develop customized project templates and tools to support the framework and methodology, as well as, presenting the information of different projects in a standardized way.	**Data Representation Tools** ◦ Flow Charts ◦ Matrix Diagrams ◦ Stakeholder Engagement Matrix; Stakeholder Mapping **Uncategorized Tools** ◦ Agile Release Planning ◦ Communication Models / Methods ◦ Decomposition ◦ Expert Judgment ◦ Meetings ◦ Rolling Wave Planning
3. To apply the methodology to a typical project case in order to demonstrate practical use of the methodology.	**Data Analysis Tools** ◦ Iteration Burndown Charts **Data Representation Tools** ◦ Flow Charts ◦ Matrix Diagrams ◦ Stakeholder Engagement Matrix; Stakeholder Mapping **Uncategorized Tools** ◦ Agile Release Planning ◦ Meetings
4. To create an implementation plan to implement the proposed methodology in waves throughout the company.	**Interpersonal and Team Skills** ◦ Conflict Management **Uncategorized Tools** ◦ Communication Models ; Methods

	◦ Meetings

3.4. Assumptions and Constraints

An assumption is a factor in the planning process that is considered to be true, real, or certain, without proof or demonstration (Project Management Institute, p. 699)

A constraint is a limiting factor that affects the execution of a project, program, portfolio, or process (Project Management Institute, p. 701).

The assumptions and constraints of this project are detailed in the chart below.

Chart 14: Assumptions and Constraints. Source: the Author

Objectives	Assumptions	Constraints
1. To propose a framework to manage projects in a standardized and structured manner, in order to improve the quality of project management processes, according to best practices.	Access to the necessary information Stakeholders understand the importance and benefit of utilizing project management. Best practices like the proposed with the PMBOK.	Staff understands the importance and benefit of using a common methodology for project management.
2. To develop customized project templates and tools to support the framework and methodology as well as presenting the information of different projects in a standardized way.	Access to the necessary information Stakeholders understand the importance and benefit of utilizing project management. Best practices like the proposed with the PMBOK.	Staff understands the importance and benefit of using a common methodology for project management.

3. To apply the methodology, to a typical project case, in order to demonstrate practical use of the methodology.	Access to the necessary information. Stakeholders understand the importance and benefit of utilizing project management. Best practices like the proposed with the PMBOK.	Staff understands the importance and benefit of using a common methodology for project management.
4. To create an implementation plan to implement the proposed methodology in cycles throughout the company.	Access to the necessary information Stakeholders understand the importance and benefit of utilizing project management. Best practices such as the proposed with the PMBOK.	Staff understands the importance and benefit of using a common methodology for project management.

3.5. Deliverables

A deliverable is any unique and verifiable product, result, or capability to perform a service that is required to be produced and complete: a process, phase, or project. (Project Management Institute, p. 704).

The deliverables of this project are detailed in the chart below.

Chart 15: Deliverables. Source: the Author

Objectives	Deliverables
1. To propose a framework to manage projects in a standardized and structured manner, in order to improve the quality of project management processes, according to best practices.	1) A Project Management Methodology that will serve as a formal guide for initiating, planning, executing, monitoring, controlling, and closing of projects at Acme Software.

2. To develop customized project templates and tools to support the framework and methodology, as well as, presenting the information of different projects in a standardized way.	2) Project Templates and Tools Templates and tools that will be used as an input for deliverable number 3.
3. To apply the methodology to a typical project case in order to demonstrate practical use of the methodology.	3) Project Pilot – Implementation of the proposed methodology in one active project.
4. To create an implementation plan to implement the proposed methodology in cycles throughout the company.	4) Implementation Plan and Calendar- to implement the methodology to the rest of the company.

4. RESULTS

Due to the nature of, ACME Software, outsourcing business there are two important phases for the staff-augmentation project development:

1. The initial business start; related with costs and benefits analysis, which can be considered the project initiation phase. This is **out of scope** for the purpose of this FGP.
2. The next phases are part of the research scope and starts with: the project planning, handed over to the project manager and commence immediately after. This is the core of the FGP and satisfies the objectives identified to complete the research. The breakdown of each objective will be detailed in the following segment.

At ACME Software, staff-augmentation projects have boundaries starting at Initiating > Executing > Control & Monitoring > Closure.

4.1. Objective 1: Project Management Framework

4.1.1. ACME Software Current Project Workflow

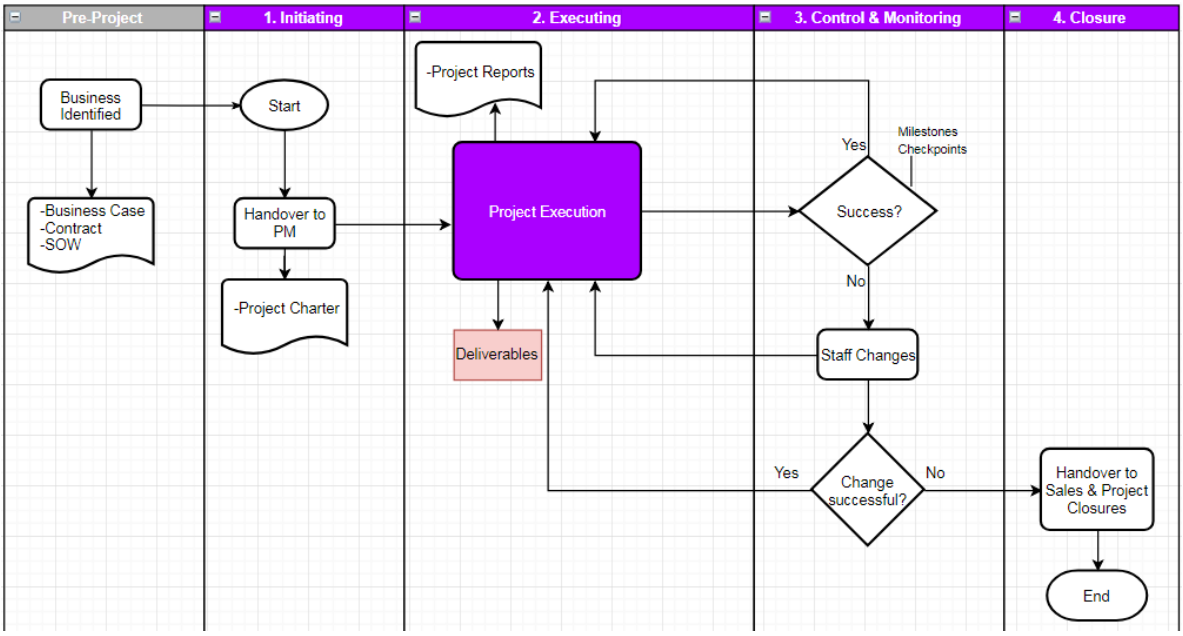


Figure 6: ACME Software Current Project Workflow. Compiled by the Author Based on Surveys and Observations

The current project workflow at ACME Software is essentially a 4-step process.

4.1.1.1 Pre-Project

This phase is out of scope of the FGP. Before the project starts, Sales and Legal Team, develops several documents including:

- The Business Case
- The Statement of Work
- The Business Contract
- The Initial 'Project Charter'; which Becomes an Input For the Start of the Project

4.1.1.2. Project Initiating

Start; Handover to PM

The project starts with a handover to the assigned PM. The PM will receive the 'Project Charter' containing initial information like the project scope, pre-assigned team, main stakeholders, and any other available information at the time of elaboration and should complete the 'Project Charter'.

Inputs

- Initial Project Charter

Outputs

- Project Charter (informal)

4.1.1.3. Project Executing

Direct & Manage Project Work

The project manager requests access to the repositories and systems of the client and the project execution starts. ACME staff begins working with the software-lifecycle approach according to the client – which varies from predictive, progressive, iterative as an alternative most of the projects have a hybrid combination.

Inputs

- Completed Project Charter

Outputs

- Project Deliverables

4.1.1.4. Project Control & Monitoring

During project execution there are milestones and checkpoints which vary from client to client, and from project manager to project manager.

If the project team achieves success project-execution continues through iteration.

If the project team does not achieve success, adjustments are made, usually personnel changes are made from one of the following alternatives:

- Client is dissatisfied with the technical or personal competencies of the resource (s)

- ACME Resources Evaluation Process determines the staffs underperformance, performance or potential areas, and decides if it is best to change that resource(s)
- ACME Management decides to re-allocate the resource(s) to different projects for various valid reasons.
- Personnel decides voluntarily to leave the company.

Again, if the team works fine with the staff changes, project execution continues and iterates, over and over.

If the team changes does not create a positive impact in the software development life-cycle of the client, the client will potentially close the project due to one or a combination of factors like: project completion, change of strategy, change of outsourcing provider, among others. If this happens, flow goes to the final stage 4.

Inputs

- Project Deliverables

Outputs

- Project Reports

4.1.1.5. Project Closure

The final stage of a project at ACME Software is the termination of the contract between parties and indicate the following actions which will be taken:

- IT will store available non-confidential information for safekeeping.
- Resources will be re-assigned by management.

- Administrative and contractual closure to be performed by Sales/Account Management.

4.1.2. ACME Software Proposed Project Workflow

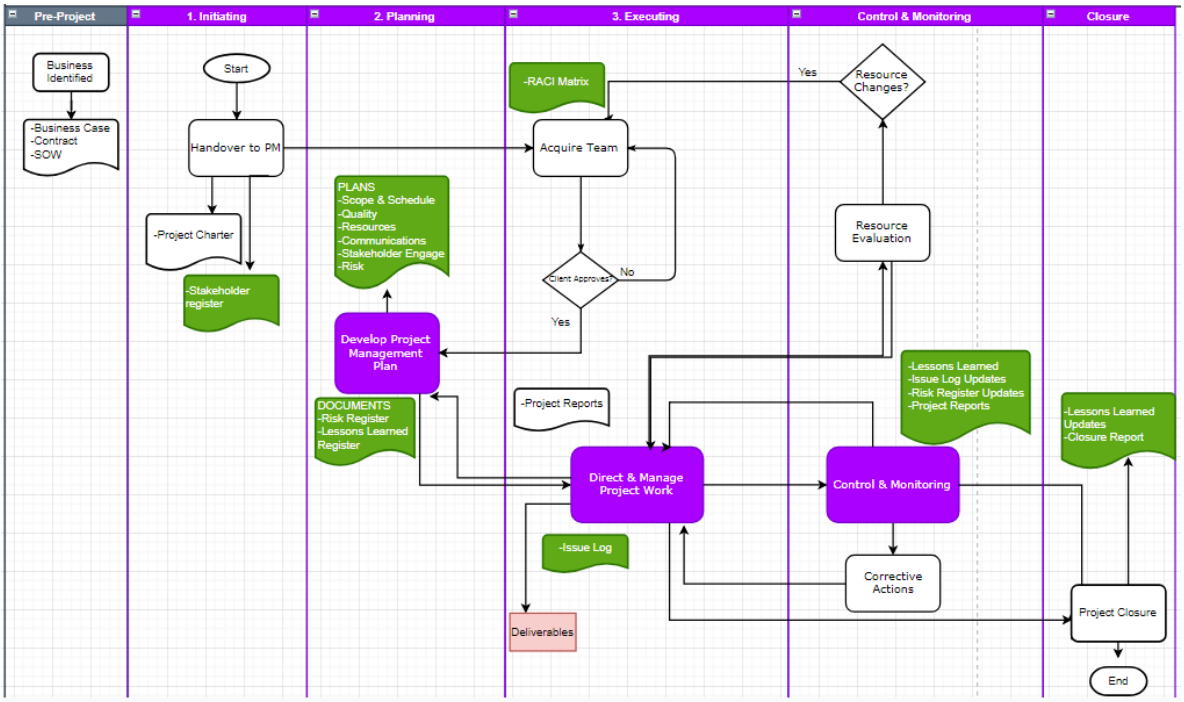


Figure 7: ACME Software Proposed Project Workflow. Source: the Author

The proposed project workflow enhances the current process, aligns it with the best practices from the PMBOK and will benefit, ACME Software, in managing projects in a standardized and structured manner. Moreover it will allow focus on the core business -software development through staff augmentation- rather than investing efforts every time, in administrative and regular processes ones a project is approved.

4.1.2.1. Pre-Project

This phase is out of scope of the FGP and remains as it is.

Before the project starts, Sales process several documents including:

- The Business Case
- The Statement of Work
- The Business Contract
- The Initial Project Charter; which becomes an input for the start of the Project.

4.1.2.2. Project Initiating

a) Handover to PM

The project starts with the handover to the assigned PM. The PM will receive the 'Project Charter' containing initial information such as the project scope, pre-assigned team, main stakeholders, and any other available information at the time of elaboration.

Inputs

- Initial Project Charter
- Stakeholder Register (New Template)

Outputs

- Project Charter (Formal)

4.1.2.3. Project Planning

a) Develop the Project Management Plan

Developing the 'Project Management Plan' is a new process in the proposed flow. The purpose is to help the team and stakeholders alignment, serve as a reference and a guide. It is comprised of all the other 'Project Plans' and additional project documents.

Inputs

- Stakeholder Register
- Completed Project Charter

Outputs

- Project Management Plan (New Template)
  - Scope & Schedule Management Plan
  - Quality Management Plan
  - Resources Management Plan
  - Communication Management Plan
  - Stakeholder Engagement Plan
  - Risk Management Plan

- Project Documents
  - Risk Register
  - Issue Log
  - Lessons Learned Register
  - RACI Matrix

4.1.2.4. Project Executing

a) Acquire Team

The PM is responsible for finalizing the acquisition of the team, which includes:

- **Pre-assigned Team:** ensure that any pre-assigned team member has the tools and space for the work to be performed.

- **To-Be-Assigned Members:** includes the coordination between, ACME Software, Human Resources, and Engineering Management Departments, and the client for interviews and approvals. Once accepted, the PM as well needs to ensure that the new team member has the tools and space for the work to be performed

If the client approves, team is consolidated and starts execution.

If the client does not approve particular team members, the staffing process continues until all open positions are fulfilled.

Inputs

- Project Management Plan (New Template)

Outputs

- Team members
- RACI Matrix (New Template)

b) Direct & Manage Project Work

In this stage is where the work is performed by the team, based on the ‘Project and Client Release Calendar’ and ‘Software Development Lifecycle’.

This process interacts with:

- Planning when there are ‘Project Management Plan’ updates.
- Control & Monitoring of the work and resources.
- Closure when the project is terminated.

Outputs

- Deliverables
- Progress Report
- Issue Log (New Template)

4.1.2.5. Project Control & Monitoring

a) Resource Evaluations

Based on, ACME Software, Resource Evaluation Calendar and performed as usual.

Feedback is provided to the team-members and if there are resource changes it needs to go through the acquire team process and client approval.

b) Control & Monitor Project Work

This is performed as usual and consists in tracking, reviewing and reporting the overall project progress.

Inputs

- Project Management Plan (New Template)
- Project Documents
    - Issue Log
    - Risk Register
    - Other Organizational Process Assets

Outputs

- Lessons Learned
- Issue Log Updates
- Risk Register Updates
- Project Reports
- Corrective Actions

4.1.2.6. Project Closure

Once the project manager knows that the project will come to a conclusion the PM needs to ensure that all the information is captured, safeguarded as well that resources are reallocated.

Inputs

- Project Management Plan (New Template)
- Deliverables
- Other Organizational Process Assets

Outputs

- Lessons Learned Updates
- Closure Report

4.2. Objective 2: Develop Customized Templates

Several templates and tools have been created. The following table lists the templates created, the knowledge area of created templates, tailored to suit the project cycle of ACME Software.

Chart 16: Proposed Methodology Templates. Source: the Author Based on PMBOK®, 2017

Project Phase	#	Template Name	Inputs	Knowledge Area	Responsible
1. Initiating	1.1	Project Charter (Formal)	• Business Documents. • Agreements and Contracts. • Statement of Work.	Integration	Business Development > Project Manager
	1.2	Stakeholder Engagement	• Project Charter.	Stakeholder	Business Development > Project Manager

2. Planning	2.1	Project Management Plan 2.1.1 Software Development Lifecycle (SDLC) 2.1.2 Scope & Schedule 2.1.3 Quality 2.1.4 Resources 2.1.5 Stakeholder Engagement 2.1.6 Communication 2.1.7 Risk 2.1.8 Reports	• Business Documents. • Existing and Newly Created Templates.	All	Project Manager
	2.2	Risk Register	• Project Management Plan • Stakeholder Register		Project Manager
	2.3	Lessons Learned	• Project Data • Project Reports • Team Retrospectives • Historical Information	Integration	Project Manager
3. Executing	3.1	Issue Log		Integration	Project Manager

	3.2	RACI Matrix	● Project Management Plan ● Stakeholder Register	Resources	Project Manager
	3.3	Communication Management	● Stakeholder Register ● RACI Matrix ● Project Management Plan		Project Manager
4. Control & Monitoring	4.1	Project Reports	● Project Data	All	Project Manager
5. Closure	5.1	Project or Phase Closure	● Project Management Plan ● Project Reports ● Deliverables ● Other Organizational Process Assets	Integration	Project Manager

4.2.1. Initiating

4.2.1.1. Project Charter (Formal)

Chart 17: Project Charter. Source: the Author

	1.1 Project Charter	**Code:**
		Version:
PROJECT		
1. Project Purpose		
The reason this project is pursued, alignment with the corporate goals, the benefit for ACME		
2. High Level Scope		
List the project scope, high level requirements, functionality and any additional needed information		
3. Assumptions		
List the known assumptions of the project.		
4. Constraints		
List the known constraints of the project.		

5. Milestones		
List the identified milestones and dates		
	Milestone	**Date**
6. Success Criteria		
List the client's expectation: what does success look like?		
7. List of Stakeholders		
List the identified stakeholders		
	Name	**Role**
8. Project Manager Assigned		
Register the assigned Project Manager		

4.2.1.2. Stakeholder Engagement

Chart 18: Stakeholder Engagement. Source: the Author

	1.2. Stakeholder Engagement				**Code:**
					Version:
PROJECT					
1. Stakeholder Register					
#	**Name**	**Role**	**Power**	**Interest**	**Quadrant**

			Level	Level	
1					
2					
3					

2. Stakeholder Power/Interest Matrix			
Power	High	**Keep Satisfied**	**Manage Closely**
	Low	**Monitor**	**Keep Informed**
		Low	High
		Interest	

3. Manage Stakeholder Engagement	
Manage Closely	**Keep Informed**
Keep Satisfied	**Monitor**

4.2.2. Planning

4.2.2.1. Project Management Plan

Chart 19: Project Management Plan. Source: the Author

	2.1 Project Management Plan	**Code:**
		Version:
PROJECT		
2.1.1. Project SDLC		
The reason this project is pursued, alignment with the Corporate goals, the benefit for ACME		
2.1.2. Scope and Schedule Management Plans		
-How will you manage the backlog? *-How will you manage functionality approvals, stories creation, estimation, workload assignation?* *-How will you plan the release cycles, recurrence? Add any additional and relevant information* *-List the tools and location of the project documents*.		
	Document	**Location**
	Product Backlog	
	Release Plan / Calendar	
	…	
2.1.3. Quality Management Plan		
-How will you manage the project and product quality cycles? *-Which of quality metrics; release gate metrics, frequency, responsible,*		

functionality sign-off process, etc. will be used?

-How will the project be within the quality acceptance threshold?

-List the tools and location of the project documents.

	Document	**Location**
	Quality Assurance and Control	
	…	

2.1.4. Resource Management Plan

-How will you evaluate the team, frequency, responsible?

-List the tools and location of the project documents.

	Document	**Location**
	Resource Breakdown Structure (RBS)	
	RACI Matrix	
	Resource Evaluation Calendar	
	…	

2.1.5. Stakeholder Engagement Plan

-How will you identify, manage, and monitor the project stakeholders, who is responsible, frequency, etc.?

-List the tools and locations of the project documents.

	Document	**Location**
	Stakeholder Register	
	Stakeholder Power / Interest Matrix	
	…	

2.1.6 Communications Management Plan

-How will you manage and monitor Communications- what will trigger responses, who is responsible?

-List the tools and locations of the project documents.

	Document	**Location**
	Communication Management	
	…	

2.1.7. Risk Management Plan

-How will you plan, identify, prioritize, manage and monitor the risk of the project?

-What will trigger responses, who is responsible?

-List the tools and locations of the project documents.

	Document	**Location**
	Risk Register	
	…	

2.1.8. Project Reports		
-How will you manage the individual, team and project performances? *-How will you know you are on or off track- who will create the reports, the frequency, the responsible?* *- All answers should be matched with the communication plan.* *-List the tools and locations of the project Documents.*		
	Document	**Location**
	Project Status Report	
	Project Report	
	…	

4.2.2.2. Risk Register

Chart 20: Risk Register. Source: the Author

	2.2 Risk Register	**Code:**
		Version:
PROJECT		

#	Risk / Opportunity Description	Probability*	Impact*	Overall Risk*	Risk Owner	Response Strategy**	Response to Risk/Opportunity
1							
2							
3							
4							
5							

**Risks	Response	**Opportunities	Response	*Risk Levels

Strategies (Negative)	Strategies (Positive)	(For Probability, Impact and Overall Risk rating)
1. Accept 2. Escalate 3. Transfer 4. Avoid 5. Mitigate	1. Accept 2. Escalate 3. Share 4. Exploit 5. Enhance	1. High 2. Medium 3. Low

4.2.2.3. Lessons Learned

Chart 21: Lessons Learned. Source: the Author

	2.3 Lessons Learned					Code: Version:
PROJECT						
#	**Management Category**	**Technical Category**	**Project Phase**	**Situation**	**Lesson**	**Responsible**
1						
2						
3						
4						
5						

Management Category	Technical Category	Project Phases
1. Integration 2. Scope 3. Schedule 4. Quality 5. Resources 6. Communications 7. Risks 8. Stakeholders 9. Unknown/Not Applicable	1. Requirements, Specifications 2. Business Analysis 3. Development, Implementation 4. Test Plan, Testing 5. Automated Testing 6. Roll-out, Release 7. Documentation 8. Unknown/Not Applicable	1. Initiating 2. Planning 3. Executing 4. Control & Monitoring 5. Closure

4.2.3. Executing

4.2.3.1. Issue Log

Chart 22: Issue Log. Source: the Author

	3.1 Issue Log					Code:	
						Version:	
PROJECT							
#	Date	Type	Description	Status	Owner	Next Actions	Due Date
1							
2							
3							
4							
5							

4.2.3.2. RACI Matrix

Chart 23: RACI Matrix. Source: the Author

	3.2 RACI Matrix					Code:	
						Version:	
PROJECT							
#	Activity Type	Project Manager	Dev Lead	QA Lead	Engineering Manager	Human Resources	Role / Person (add as needed)
1							
2							
3							
4							
5							

R	**R**esponsible: the person who actually owns the project, task or work. An example would be the PM. There should only be one “R” for each activity, but no activity should be missing an “R”. Adding additional Responsible results in an overlap. Missing R is lack of ownership.
A	**A**ccountable: the person who will sign-off the work and judging completion and how it meets quality standards. This can be the project sponsor or whomever has final sign-off authority
C	**C**onsulted: the person who has the ability of knowledge needed to complete the work. Can

	be stakeholders, SME, or anyone else who is key to completing the work
I	**I**nformed: people who must be kept informed of the work, but not necessarily consulted.

4.2.3.3. Communications Management

Chart 24: Communications Management. Source: the Author

	3.3 Communications Management				Code:	
					Version:	
PROJECT						
#	**Stakeholder / Role**	**Strategy**	**Owner**	**Information**	**Comm Method**	**Frequency**
1						
2						
3						
4						
5						

4.2.4. Control & Monitoring

4.2.4.1. Project Reports

Chart 25: Project Reports. Source: the Author

	4.1 Project Report				Code:
					Version:
PROJECT					
#	**Area**	**Upcoming Milestones**	**Status**	**Percentage to Completion**	**Risks To Monitor**
1					
2					
3					
4					
5					
Team Achievement of the (Week/ Month/ Trimester)					

Individual Achievement of the (Week/ Month/ Trimester)
Missed Deadlines
Upcoming Activities to Focus On

4.2.5. Closure

4.2.5.1. Project or Phase Closure

Chart 26: Project or Phase Closure. Source: the Author

	5.1 Project or Phase Closure		**Code:**	
			Version:	
Project				
Closure - Individuals				
#	**Description**	**Yes / No**	**Notes**	**Date Performed**

1	Assets returned?			
2	Credentials revoked?			
3	…			
4				
5				
Closure - Individuals				
#	**Description**	**Yes / No**	**Notes**	**Date Performed**
1				
2				
3				
4				
5				

4.3. Objective 3: Apply the Methodology to a Case Study

The proposed flow with the newly created templates were applied to an existing personnel-augmentation project that had the following characteristics:

- Project started 15 months ago.
- 16 team members from, ACME Software.
- Team complexity is medium, includes outsourcing activities of software developing, testing, deployment, and maintenance.
- Standard project which reflects the majority of the existing projects.

4.3.1. Initiating

4.3.1.1. Project Charter (Formal)

Chart 27: Project Charter (Pilot Implementation). Source: the Author

	1.1. Project Charter	**Code:**
		Version:
PROJECT	BLIZZARD	

1. Project Purpose

The Blizzard team has been created to leverage the front and back end expertise from the client with the goal to increase the effectiveness of functionality delivered by every release.

It is aligned with the strategic goal of, ACME, in providing quality staff-augmentation nearshore services.

2. High Level Scope

Clearing up the backlog of 300+ items for the next release cycle.
Adding a new credit card functionality to allow increased e-commerce purchases.

3. Assumptions

- The, ACME, team has the sufficient expertise to handle the codebase and architectural complexity of the client.
- The, ACME, team will be steady and complete during the release cycle.
- The client will be able to prioritize new reported bugs and enhancements.

4. Constraints

- The Release date is 21st September 2019
- The Team limit for resources is 8 full time resources
- The codebase bust be maintainable and any technical debt created must be informed to the client.

5. Milestones

	Milestone	**Date**
	Staging; Hardening Period	August 2019
	UAT	9/1/2019
	Production Release	9/21/2019

6. Success Criteria

- Reaching staging with all stories and functionality completed

- Completing regression testing during the staging phase
- Releasing all the defined scope defined in the upcoming September Release
- Informing any road blocker, delay, setback and proposing alternatives to reduce and mitigate risks to the project release date.

7. List of Stakeholders

	Name	**Role**
	Brian Ferry	Dev Director
	Steven Stevens	Dev Manager
	Andrew Liu	Senior Dev
	Anthony Perez	Lead QA
	Networking Team	Networking / IT
	Adan Evans	Business Analyst
	Fidel Boyle	Lead Dev
	Development Team	Dev Team

8. Project Manager Assigned

Sergio Guevara

4.3.1.2. Stakeholder Engagement

Chart 28: Stakeholder Engagement (Pilot Implementation). Source: the Author

	1.2. Stakeholder Engagement	**Code:**
		Version:
PROJECT	BLIZZARD	
1. Stakeholder Register		

#	Name	Role	Power Level	Interest Level	Quadrant
1	Brian Ferry	Dev Director	H	H	Manage Closely
2	Steven Stevens	Dev Manager	H	H	Manage Closely
3	Andrew Liu	Senior Dev	L	H	Keep Informed
4	Anthony Perez	Lead QA	H	L	Keep Satisfied
5	Networking Team	Networking / IT	L	L	Monitor
6	Adan Evans	Business Analyst	L	H	Keep Informed
7	Fidel Boyle	Lead Dev	H	H	Manage Closely
8	Development Team	Dev Team	L	H	Keep Informed
9	Sergio Guevara	PM	H	H	Manage Closely
10	Engineering Management	ACME Management	H	L	Keep Satisfied

2. Stakeholder Power Interest Matrix			
Power	High	**Keep Satisfied** -Anthony QA Lead -Engineering Management	**Manage Closely** -Brian (Dev Director) -Steven (Dev Manager) - Fidel (Dev Lead) -Sergio (PM)
	Low	**Monitor** -Networking Team	**Keep Informed** -Andrew (Senior Dev) -Adan (BA) -Dev Team
		Low	High

	Interest

3. Manage Stakeholder Engagement	
Manage Closely	**Keep Informed**
Proactive communication, being alert to any request, question, doubt and additional suggestion. Quickly responding to emails. If not with the final answer but at least it will have an action and timeline : E.g. “I will review and circle back”, “I will let you know by EOD/EOW”, Immediate slack / IM acknowledgement.	After decisions are made on Releases, include these stakeholders in communication. To the target groups where information that will benefit them: release plan, release dates, functionality included.
Keep Satisfied	**Monitor**
Proactive communication, requesting feedback E.g. Are you receiving the needed information? How do you feel about the progress? Provide more information than the “Keep informed” group, such relevant as reason behind specific decisions, why a functionality has been added and or removed, scope changes, to mention few.	Reactive communication. Review in adequate time manner to confirm they are in the correct quadrant.

4.3.2. Planning

4.3.2.1. Project Management Plan

Chart 29: Project Management Plan (Pilot Implementation). Source: the Author

<table>
<tr><td></td><td>2.1 Project Management Plan</td><td>Code:
Version:</td></tr>
<tr><td>PROJECT</td><td colspan="2">BLIZZARD</td></tr>
<tr><td colspan="3">2.1.1. Project SDLC</td></tr>
<tr><td colspan="3">The Blizzard team has been created to leverage the front and back end expertise from the client with the goal to increase the effectiveness of functionality delivered by every Release.

It is aligned with the strategic goal of, ACME, in providing quality staff-augmentation nearshore services.</td></tr>
<tr><td colspan="3">2.1.2. Scope and Schedule Management Plans</td></tr>
<tr><td colspan="3">The Release Plan is developed and approved every 6 months.
The backlog includes epics or features, which are assigned to a release and broken down into stories.
High level estimation of the epics is done by expert judgment, usually the senior developers.
Stories are created by the team. There is no designed product owner.
Stories can be broken into tasks and subtasks to be worked on by the development team.
Work is controlled by a kanban board and work is assigned, if not by the team, by the lead developer.
Refinement meetings are performed twice a week.
Demos are performed ad-hoc
Feedback by the client is converted into change request stories or epics depending on the size and impact</td></tr>
<tr><td></td><td>Document</td><td>Location</td></tr>
</table>

	Product Backlog	JIRA
	Release Plan or Calendar	Confluence > Blizzard > Releases

2.1.3. Quality Management Plan

Regarding the Project:

- Need to audit randomly and recurrently that processes are followed according to the new methodology of, ACME, and ensure process groups and flows are being followed
- Ensure that templates are updated on a weekly basis at a minimum
- Ensure there is business continuity and that the project continues even though the project manager is out for 1 week.

Regarding the Product and Service:

- Develop and align gate metrics for each release such as include staging, UAT, and production.
- Use and improve testing suits to guarantee quality is above clients expected threshold.
- Create automatic reports for: re-opened stories by developer, number of bugs per feature, number of bugs per release, team velocity, percentage of commitment done.
- Do Escape Analysis for every bug found in production.

	Document	**Location**
	Quality Assurance and Control	Confluence > Blizzard > QA
	…	

2.1.4. Resource Management Plan

-Evaluate the team according the Resource Evaluation Calendar.

-Evaluate performance ad-hoc, randomly and reward accordingly.

-Perform bi-weekly one-on-ones.

	Document	**Location**
	Resource Breakdown Structure (RBS)	Confluence > Blizzard > Team
	RACI Matrix	Confluence > Blizzard > Releases
	Resource Evaluation Calendar	Confluence > Blizzard > Resources
	…	

2.1.5. Stakeholder Engagement Plan

- Identifying and updating the stakeholder register and the power and interest matrix throughout the project.
- The Project Manager is responsible.
- Manage in collaboration with the stakeholders on the communications plan.

	Document	**Location**
	Stakeholder Register	Confluence > Blizzard > Stakeholders
	Stakeholder Power and Interest Matrix	Confluence > Blizzard > Stakeholders
	…	

2.1.6 Communications Management Plan

- Identifying and updating the stakeholders and the following communications throughout the project.
- The PM is responsible for the communications.

- Each area-owner is responsible for its accuracy, transparency and ensuring the reporting information is accurate.

- Manage in coordination with the Stakeholders the engagement plan.

	Document	**Location**
	Communication Management	Confluence > Blizzard > Stakeholders
	…	

2.1.7. Risk Management Plan

-Risks need to be part of each meeting-agenda.

-Risks need to be identified and prioritized regularly. There always has to be a risk owner. The PM is the responsible of creating visibility of the risk register, and owner assignation.

-

	Document	**Location**
	Risk Register	Confluence > Blizzard
	…	

2.1.8. Project Reports

-Individual performance need to be assessed on a weekly basis. The PM needs to create and automate these reports.

-Team members need to be recognized and rewarded according to their performance. Individual performing at the expected and higher level will be rewarded. Individual underperforming will be included in a performance plan and monitored.

-Team performance need to be asses on a weekly basis. The PM needs to create and automate these reports and submit to engineering management. -Newly added personnel need to be mentored during their first trimester. The project manager will assign a “team buddy” for the mentorship.

	Document	**Location**
	Project Status Report	Confluence > Blizzard > Reports
	Project Report	Confluence > Blizzard > Reports
	…	

4.3.2.2. Risk Register

Chart 30: Risk Register (Pilot Implementation). Source: the Author

	2.2 Risk Register					**Code:**	
						Version:	
PROJECT	BLIZZARD						
#	**Risk / Opportunity Description**	**Probability**	**Impact**	**Overall Risk**	**Risk Owner**	**Response Strategy**	**Response to Risk/Opportunity**
1	Engineer being sick more than 3 consecutive days	M	M	M	PM	Accept	Coordinate stand-ins with the engineering manager
2	Quality of the code under the clients expected level	L	H	M	QA Lead	Mitigate	Review root cause and fix on short term and longer maintainable term.
3	Engineers leaving the project or having other assignments	L	M	L	PM	Accept	Coordinate replacements with the engineering manager
4	Understaffing during holiday season	M	L	M	PM	Avoid	Engineers need to comply with ACME's internal policy on vacation.

5	Not achieving delivery dates previously agreed on with the team.	M	H	H	PM	Mitigate	Review impact to schedule and communicate to client ASAP to find alternatives.

Risks Response Strategies (Negative)	**Opportunities Response Strategies (Positive)**	**Risk Levels** (For Probability, Impact and Overall Risk rating)
1. Accept 2. Escalate 3. Transfer 4. Avoid 5. Mitigate	1. Accept 2. Escalate 3. Share 4. Exploit 5. Enhance	1. High 2. Medium 3. Low

4.3.2.3. Lessons Learned

Chart 31: Lessons Learned (Pilot Implementation). Source: the Author

	2.3 Lessons Learned				**Code:**	
					Version:	
PROJECT	BLIZZARD					
#	**Management Category**	**Technical Category**	**Project Phase**	**Situation**	**Lesson**	**Responsible**
1	Scope	Requirements	Executing	More than 20% of bugs are related to poor acceptance criteria and ambiguous story definitions	Need to have a definition done review of each story to ensure they are created within best practices.	Business Analyst
2	Quality	Test Plan	Control & Monitoring	Bugs escaped and test did not cover all the possible scenarios.	The BA needs to ensure stories are created with best practices. The Team needs to confirm they understand all the criteria and that it can be both implemented and tested accordingly.	PM
3						
4						
5						

Management Category	**Technical Category**	**Project Phases**
1. Integration 2. Scope	1. Requirements, Specifications	1. Initiating 2. Planning

3. Schedule 4. Quality 5. Resources 6. Communications 7. Risks 8. Stakeholders 9. Unknown/Not Applicable	2. Business Analysis 3. Development, Implementation 4. Test Plan, Testing 5. Automated Testing 6. Roll-out, Release 7. Documentation 8. Unknown/Not Applicable	3. Executing 4. Control & Monitoring 5. Closure

4.3.3. Executing

4.3.3.1. Issue Log

Chart 32: Issue Log (Pilot Implementation). Source: the Author

	3.1 Issue Log	Code:
		Version:
PROJECT	BLIZZARD	

#	Date	Type	Description	Status	Owner	Next Actions	Due Date
1	3/1/19	Decision	Include functionality AB into the next 3.1 release.	Closed	Brian	Implement the functionality and include it in the upcoming iterations.	3/3/19
2	3/7/19	Action	Deploy Hotfix due to important bug found in production.	Open	QA Lead	Do a bug escape analysis to find reason and root cause.	3/15/19
3	3/10/19	Action	Need users in UAT to perform end-to-end testing.	Open	PM	Request users with specific configurations to the client.	3/17/19
4	3/15/19	Action	Could not access server 1234 from remote machine 4567.	Open	PM	Create a request to the network team.	3/15/19
5							

4.3.3.2. RACI Matrix

Chart 33: RACI Matrix (Pilot Implementation). Source: the Author

	3.2 RACI Matrix	Code:
		Version:

PROJECT	BLIZZARD						
#	**Activity Type**	**Project Manager**	**Dev Lead**	**QA Lead**	**Engineering Manager**	**Human Resources**	**Role / Person** (add as needed)
1	Test Cycle for 3.1	**R**	**C**	**A**	**I**		
2	Development of all 3.1 stories within accepted code quality range	**R**	**A**	**C**	**I**		
3	Release Management for 3.1	**C**	**A**	**I**	**R**		
4	3.2 Planning	**R**	**C**	**C**	**I**		
5							

R	**R**esponsible: The actual owner of the project, task or work. An example would be the PM. There should only be one "R" for each activity, but no activity should be missing an "R". Adding additional responsible results in an overlap. A missing R is lack of ownership.
A	**A**ccountable: The assigned personnel who will sign-off the work and judging completion and how it meets quality standards. This can be the project sponsor or whomever has final sign-off authority
C	**C**onsulted: The assigned personnel who has the ability of knowledge needed to complete the work. Can be stakeholders, SME, or anyone else who is key to completing the work
I	**I**nformed: personnel who must be kept informed of the work, but not necessarily consulted.

4.3.3.3. Communications Management

Chart 34: Communications Management (Pilot Implementation). Source: the Author

	3.3 Communications Management	**Code:**	
		Version:	
PROJECT	BLIZZARD		

#	**Stakeholder / Role**	**Strategy**	**Owner**	**Information**	**Comm Method**	**Frequency**
1	Brian (Dev Dir)	Manage closely	PM	High level status of the project, % of progress, on/off-track, major blockers	Email	Weekly CC Steven
2	Steven (Dev Mgr)	Manage closely	PM	Daily updates on individual and team performance	Phone conference	Daily
3	Andrew (Senior Dev)	Keep informed	Fidel	Technical updates and coordination on specific items	Slack	As needed
4	Networking Team	Monitor	PM	Operational requests as needed	Slack or Email	As needed
5	Engineering Management	Keep satisfied	PM	Project report	Email	Weekly

4.3.4. Control & Monitoring

4.3.4.1. Project Reports

Chart 35: Project Reports (Pilot Implementation). Source: the Author

		4.1 Project Report			Code:
					Version:
PROJECT		BLIZZARD			
#	**Area**	**Upcoming Milestones**	**Status**	**Percentage to Completion**	**Risks To Monitor**
1	Development	Release 3.1 Code Freeze	Yellow / To Monitor	85%	Functionality AB has an added critical scope which needs to be implemented. Need sign-off from architect from the client, to get started.
2	Testing	Regression 3.1	Not Started / On Track	0%	
3	Planning	3.2 Release Calendar Completed	Off Track	40%	Only 2 upcoming features have been refined and need to confirm the rest of the work by May 31st.
4					
5					

Team Achievement of the Week

The QA team completed the creation of all test cases from the existing, identified work. They worked along the developers in order to confirm gaps, missing scenarios, and to have a robust testing suite.

Individual Achievement of the Week

Fidel, lead developer, had to adjust his daily schedule to synch up with the client architect and worked through some initial misunderstandings until the new discovered work for feature AB was understood and all areas impacted were identified. Fidel went the extra mile by showing proactivity and flexibility.

Missed Deadlines
The May 1st Deadline for having the draft Release Calendar for 3.2 was missed. Only 40% of the work has been identified and assigned to the release. Need to work and stick to planning sessions. The main reason for not completing this was having the senior developers fixing bug XY in production which they had to prioritize over the planning sessions.
Upcoming Activities to Focus On
1. Planning sessions for 3.2 and Implementation of the remaining work of release 3.1 2. Team evaluations for May

4.3.5. Closure

This phase of the methodology was not part of the pilot implementation since the project was ongoing and did not terminate a phase nor the project in the duration of the FGP.

4.4. Objective 4: Propose an Implementation Plan

Once we have a Project Management Methodology and the corresponding templates & tools and we are able to confirm that it can be used for the benefit of, ACME Software, with the pilot implementation, the next step is to plan and execute the company wide implementation plan.

The planning phase is part of the Objective 4 of the FGP. The implementation is out of scope.

4.4.1. Company Roll-Out Plan

The Company implementation plan consists of the following four phases:

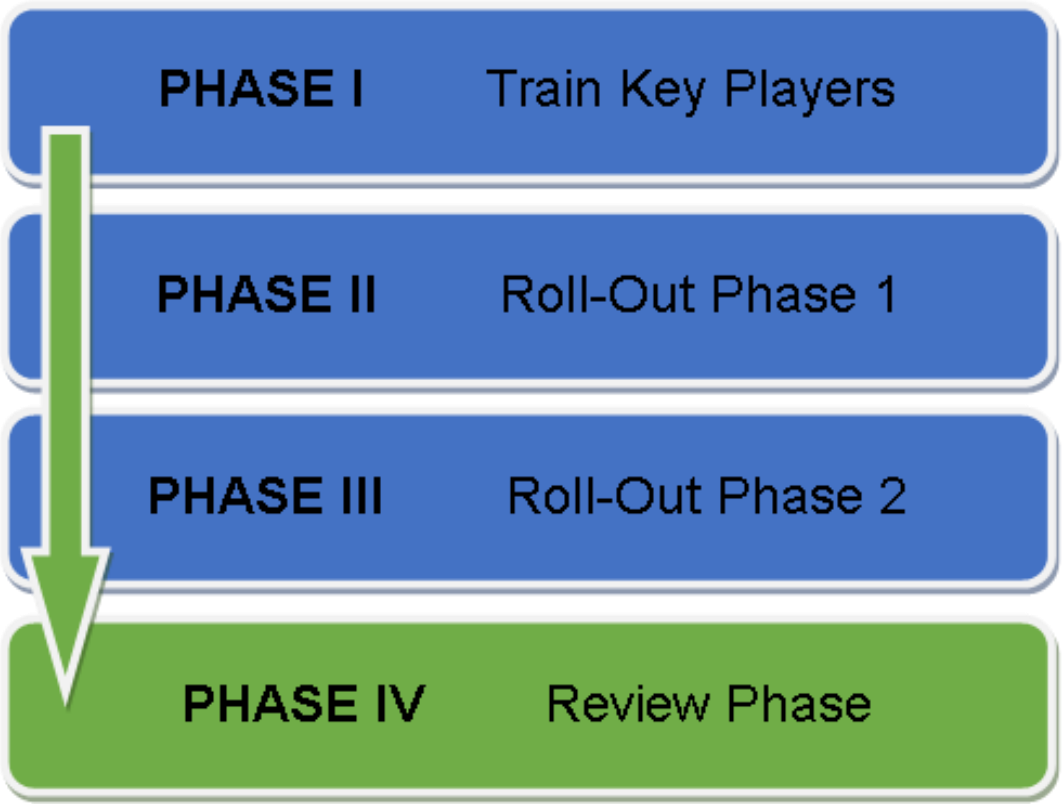


Figure 8: Company Roll-Out Plan. Source: the Author

4.4.1.1. Phase I: Training Key Players

Phase 1 Purpose is to get buy-in from key players and have them understand the benefits and the usage of the methodology, templates and tools.

Chart 36: Phase I: Training Key Players. Source: the Author

Area	**Phase I: Training Key Players**
Purpose	Have key players buy-in, by training and induction into the purpose, benefits and usage of the methodology, templates and

	tools
Responsible	Engineering Management
Agenda / Steps	Meeting in a conference room with the following agenda: 1. Purpose and benefits of the New Methodology 2. Success Case Presentation 3. Detailed review of each methodology flow stage and template
Schedule	4 hours
Resource Requirements	• Conference room for ~15 attendees • TV- screen or monitor to project • Whiteboard and markers
Budget	• 4 hours each staff member, during regular office hours • Refreshments such as soda, coffee and snack for 15 attendees: $5 per person ○ Estimated Cost: 15 x $5 = $75

4.4.1.2. Phase II: Roll-Out Phase 1

Phase II purpose is to implement the methodology, templates and tools, to projects similar to the pilot project in range, size and complexity.

Chart 37: Phase II: Roll-Out Phase 1. Source: the Author

Area	**Phase II: Roll-Out Phase 1**
Purpose	Implement the methodology, templates and tools to projects similar to the pilot project ‘Blizzard’.
Responsible	Engineering Management. Can be delegated to senior project manager
Agenda / Steps	1. Emailing plan to key players detailing timelines 2. Location of Templates & Tools 3. Mentoring process description; Availability, assigned mentor, as well as additional applicable information. 4. Feedback session if needed. 5. Confirmation of each project implementation, document repository location and usage of templates & tools.
Schedule	3 weeks in total
Resource Requirements	● 1 Responsible assigned with 1 Back-up person ● Templates and Tools available both digital and physical
Budget	○ The approximately expected time of the mentor: 5-10 hours/week. ○ Key Players should allocate this time used in applying the methodology already as Project Management time and budget for their projects.

4.4.1.3. Phase III: Roll-Out Phase 2

Phase III purpose is to implement the methodology, templates and tools to projects, similar to the pilot project in range, size, and complexity.

Chart 38: Phase III: Roll-Out Phase 2. Source: the Author

Area	**Phase II: Roll-Out Phase 2**
Purpose	Implement the methodology, templates & tools to remaining projects.
Responsible	Engineering Management. Can be delegated to senior PM
Agenda / Steps	● Emailing Plan to Key Players detailing timelines ● Location of Templates & Tools ● Mentoring process description; Availability, assigned mentor, as well as additional applicable information. ● Feedback session if needed. ● Confirmation of each project implementation, document repository location and usage of templates & tools.
Schedule	2 weeks in total
Resource Requirements	● 1 Responsible assigned with 1 Back-up person ● Templates & Tools available both digital and physical.
Budget	● The approximately expected time of the mentor: 5-10 hours/week.

	• Key Players should allocate this time used in applying the methodology already as project management time/ and budget for their projects.

4.4.1.4. Phase IV: Review Phase

Final phase IV purpose is to review the implementation of the methodology, templates and tools throughout the company, report deviations, collect feedback, and refine the processes as needed.

Chart 39: Phase IV: Review Phase. Source: the Author

Area	**Phase IV: Review Phase**
Purpose	Review the implementation percentage of the methodology, templates & tools, report deviations, collect feedback and refine as needed.
Responsible	Engineering Management
Agenda / Steps	• Performed as a regular process audit
Schedule	1 week in total
Resource Requirements	• 1 Auditor • Access to Templates & Tools • Audit Checklist • Staff availability to respond to Auditor's requirements

Budget	• Auditor's work for 1 week time. ROM based on $50 / hour = $50 x 40 hours = $2.000. Internal Auditor would be with lower cost. • Key Players should allocate the time required as project quality management for their projects.

4.4.2 Company roll-out Schedule

The Company implementation schedule can be represented in the following Gantt figure:

PHASE	Start Date	End Date	Duration
I. Training Key Players	03-jun-19	03-jun-19	1
II. Roll-Out Phase 1	04-jun-19	25-jun-19	21
III. Roll-Out Phase 2	26-jun-19	10-jul-19	14
IV. Review Milestone	21-nov-19	28-nov-19	5

Figure 9: Company Roll-Out Schedule. Source: the Author.

5. CONCLUSIONS

1. **Propose a Framework:** A Project Management Methodology was proposed based on best practices acquired during the extension of the Master's academic modules, the PMBOK Guide study and additional documentation used as reference along with the project management years of experience of the author.

   At ACME Software, staff-augmentation projects go through the following four phases: Initiating > Executing > Control & Monitoring > Closure. The proposed framework includes the Planning phase which will make the projects at the company not only match best practices but emphasize the formality of planning. This was completed in order to achieve the objective number 1 of the FGP.

   - The major impact is to the Engineering Department and partially to the Operations & Finance Department
   - Major changes are done to the current processes by formalizing most of them and consolidating the planning phase, which was previously informal to almost non-existing.
   - The benefit translates in having a better understanding of the projects performance and having clearer control and monitoring on all steps of a project flow.

2. **Develop Customized Templates and Tools:** Following the methodology proposal, new Project Templates and Tools were created, defined, and explained as part of objective number 2 of the FGP. These new documents were incorporated and explained within the proposed methodology workflow.
   - A total of 10 templates were created, including instructions and explanations for most fields.
   - Templates have direct relation to each stage of the proposed methodology workflow.

- Templates are interconnected, logical correlation exists between them and they support the proposed methodology whether as inputs or outputs.
- Templates are to be used and updated throughout the lifecycle of the project. Update frequency of the templates will be differ, but all must be reviewed and adjusted when needed. The templates will be more effective as adoption increases and when the purpose of each template is fully understood.

3. **Pilot Implementation:** The proposed Project Management workflow was incorporated to an existing project, the new templates were applied and they are currently being used and benefitting a project at, ACME Software, as part of objective number three of the FGP. The goal of this was to confirm or refute that the proposed methodology and templates can be applied to a typical project of the organization.
    - The methodology and templates were applied to a typical mid-size project with medium to high level of complexity.
    - Some fields had to be refined due to this process, templates were then re-tested and successfully passed the pilot implementation. These final templates are the ones exposed in Chapter 4.2 and 4.2 of this FGP.

4. **Company Roll-out:** Finally, as part of objective number four a calendar has been developed in order to implement the methodology throughout the rest of ACME Software.
    - The success rate of the company implementation will depend in great degree to the level of continuous improvement, engagement, and maturity of change management of the executive level at ACME Software.
    - The Calendar is a proposal and can be adjusted to further align with ACME′s executive management.

5. **There Are Still Areas of Enhancements and Potential Opportunities** at ACME Software. Adopting this new and proved methodology is already an important step forward, however in a continuous improvement and dynamic environment, ACME, needs to be in constant awareness to take advantage of those opportunities.

6. RECOMMENDATIONS

1. Executive Management at, ACME Software, understands that the proposed methodology brings several benefits to the company, however they need to be aware, that to take full advantage of the benefits the following parties need to be aligned:

   a) Executive Management should provide the support and the assistance during this change management process, backing-up the benefits of complying with the methodology.

   b) The existing project managers, as operational drivers and ultimate responsible for the projects, need to buy-in and fully understand the methodology and the templates and tools provided.

   c) Since there is no Project Management Office (PMO) at, ACME Software, project managers need to be aligned and work with engineering management to ensure one voice is spoken and that the quality of the project process, and compliance will not depend on the project manager assigned, rather on the strength of the methodology.

2. The project managers are welcomed to provide feedback to the templates since they can always be improved and refined. However, these updates need to be done few and far between. Changes to the templates should not be done for a specific project or use case, moreover the opposite should happen: the projects first need to adjust their current processes to match the new methodology with some limited tailoring to specific template fields. Otherwise, it would easily become as the current status: planning is not part of the formal flow of the project, no formal templates nor tools are being used, no standardizing reporting is used.

3. The Human Resources Department need to account and encourage Project Management training, certification, and other academic studies to the

existing and potential project managers at, ACME Software. This is part of the technical project management side of the talent triangle (Project Management Institute, 2017) and allows for common vocabulary and language when it comes to project management.

7. BIBLIOGRAPHY

Cohen D, Crabtree B. "Qualitative Research Guidelines Project." July 2016. http://qualres.org/

Kerzner, H. (2013). Project Management Best Practices Achieving Global Excellence. John Wiley & Sons Inc.

Mulcahy, R. (2018). Rita Mulcahy's PMP Exam Prep. RMC Publications Inc.

Nicholas, J. M., & Herman, S. (2012). Project Management for Business, Engineering, and Technology Principles and Pratice 4th Edition. Oxon: Routledge.

Project Management Institute. (2013). Organizational Project Management Maturity Model (OPM3®) - Third Edition. Newton Square: Project Management Institute, Inc.

Project Management Institute. (2017). A Guide to the Project Management Body of Knowledge, (*PMBOK® Guide*) - Sixth Edition, Project Management Institute, Inc., 2017.

Rajasekar, S., Philominathan, P., & Chinnathambi, V. (2016). Research Methodology. Cornell University Library.

Rose, K. (2005) Project Quality Management Why, What and How. Ross Publishing, Inc.

Sokovic, Jovanovic, Krivokapic, Vujovic. (2008). Basic Quality Tools in Continuous Improvement Process. University of Ljublana, University of Montenegro.

UCI Publication. (2017, January 11). Why And How To Use PM Methodology. Retrieved from https://www.youtube.com/watch?v=uXUUKsf-Dgw

Wanner, R. (2013). Project Risk Management The Most Important Methods and Tools for Successfl Projects. Proconis

APPENDICES

Appendix 1: FGP Project Charter

<table>
<tr><th colspan="2">PROJECT CHARTER</th></tr>
<tr><th>Date</th><th>Project Name</th></tr>
<tr><td>11/10/2018</td><td>Proposal of a Project Management Project Methodology for ACME Software, a nearshore outsourcing company based in Bolivia</td></tr>
<tr><th>Knowledge Areas / Processes</th><th>Application Area (Sector / Activity)</th></tr>
<tr><td>Knowledge areas:
1. Integration
2. Scope
3. Schedule
4. Cost
5. Quality
6. Resources
7. Communication
8. Risks
9. Acquisitions
10. Stakeholders

Process groups:
1. Initiating
2. Planning
3. Executing
4. Control & Monitoring
5. Closure</td><td>Information Technology > Outsourcing Services > Staff augmentation
> Software development that can include one or more of the following: design, architecture, programming, testing, deployment, maintenance.</td></tr>
<tr><th>Start Date</th><th>Finish Date</th></tr>
</table>

11/10/2018	5/24/19

Project Objectives

General objective:

- To establish a Project Management Methodology to be applied in all projects, active and new, at ACME Software Company

Specific objectives:

1. To propose a framework to manage projects in a standardized and structured manner according to best practices in order to improve the quality of project management processes
2. To develop customized project templates and tools to support the framework and methodology as well as presenting the information of different projects in a standardized way.
3. To apply the methodology to a typical project case in order to demonstrate practical use of the methodology
4. To create an implementation plan to roll-out the proposed methodology in waves throughout the company

Project Purpose or Justification

ACME Software has seen a rapid growth in the past three to four years in terms of staff; from 50 to 120 full-time resources. In number of active projects; from 10 to 20+ active at the same time. In project complexity; more diverse knowledge and more complex solutions needs to be created.

The company is looking to continue growth at a sustainable pace by investing less time in starting projects from zero or depending on the skills and knowledge of the project manager. Most of these projects are staff augmentation, assigning engineers to existing or new software teams in the United States and around the world.

The purpose of this Final Graduation Project is to provide the foundation and a framework in order for:

- **Projects to Start More Efficiently**, initiating and planning, by understanding the needs, requirements, milestones, deliverables, cost, stakeholders, communication, resources, and most, if not all, of the knowledge areas considered by the PMI and the PMBOK.
- **Project Execution and Control & Monitoring to Be Standardized** and only some inputs, tools and techniques and outputs should be customized, but the core of a project needs to be similar to another project.
- **Projects to Be Closed in a Standard and Smooth Manner,** ensuring lessons learned and all project documentation is archived for later use and access, re-assigning the best resources and securing the resources who provide more ROI first.

And finally, all the knowledge can be documented and used for cross-team, cross-project and/or cross-department for continuous improvement.

Description of Product or Service to Be Generated by the Project – Project Final Deliverables

1. A Project Management Methodology that will serve as a formal guide for initiating, planning, executing, monitoring and controlling and closing of Projects at ACME Software.
2. Project Templates & Tools
3. Project Pilot – Implementation of the proposed methodology in one active project
4. Implementation Plan and Calendar to wave roll-out the methodology to the rest of the company.

Assumptions

- Review and feedback of the project deliverables will be done on a timely

manner.

- Access to the necessary information.
- Stakeholders understand the importance and benefit of utilizing Project Management Best Practices like the proposed with the PMBOK.

Constraints

- Supervisory support is mandatory for reviewing the project deliverables.
- Staff understands the importance and benefit of using a common methodology for project management.

Preliminary Risks

- If documentation is not readily available, it might cause delays impacting the time.
- If feedback is not provided on time, it might cause delays impacting schedule
- If stakeholders do not understand the importance and benefits of the proposed methodology, it will require additional efforts to engage them

Budget

The initial budget has been defined and broken-down as follows;

1. Project Manager = An average of 3 hours/workday for the duration of the project
    - (3h*120d) = 360 hours | 1 PM hour = 15$, 360 * 15 = 5.400$
2. Printed Material = 100$
3. Misc = 500$

Total = 5400 + 100 + 500= 6000$

ROM based on project changes and more detail available as project progresses

Low: $4500 - $5500

Medium = $5500 - $6500

High = $6500 - $7500

We will use existing materials like software repositories, folders, and digital material. Zero material cost

Milestones and dates	**Start Date**	**End date**
Theoretical Framework	11/19/18	11/23/18
Methodological Framework	11/26/18	11/30/18
Conclusions / Recommendations	3/18/19	3/29/19
Tutor Approval	3/29/19	3/29/19
Reviewers Approval	5/6/19	5/17/19
Presentation to Board	5/20/19	5/24/19

Relevant Historical Information

About Acme Software: A fast growing software outsourcing company specialized in extending the engineering capabilities of business, specialized in using a nearshore model with the United States and providing mostly staff augmentation to new or existing projects for external clients. The company is based in Bolivia with ˜120 employees.

In the past 3 years, the company as experienced rapid growth; in size from 50 to ˜120 employees , as well as on complexity, from mainly testing projects to complete software development life cycles.

Bolivia, and Cochabamba in particular, has become a niche for outsourcing software companies with over 200 registered companies. However, there is only a handful of companies that go over 100 employees and there is still an ever urgent need of having and implementing best practices in order to maintain current levels of project staffing and satisfaction as well the possibility to access to higher ROI clients and projects that require to have quality standards of organization process in place.

The company aims to maintain focus on quality and needs a methodologies to support that strategic objective

Documentation: Organizational structure, Literature on Project Management Methodology.

Stakeholders

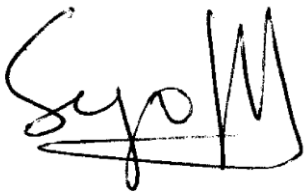
Direct stakeholders:

- UCI:
  - Carlos Brenes, FGP professor
  - FGP Tutor (to be assigned)

- Acme Software:
  - Javier Light CEO
  - Marcelo White VP of Resources
  - Carlos Bright VP of R&D
  - Company Project Managers
  - Ariel Swipe Quality and Standards Consultant

Indirect Stakeholders:

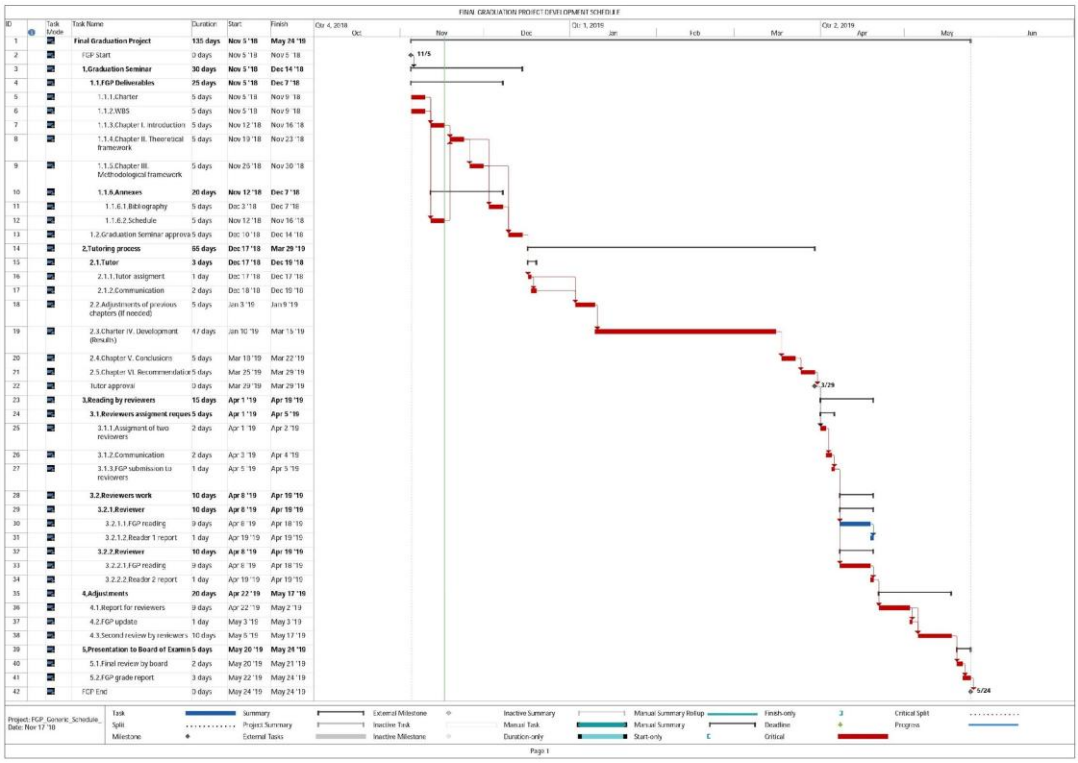
- UCI
  - Academic assistant
  - Acme Software
  - Future/Potential Project Managers
  - All Acme Software employees working or linked to a Project

Project Manager: Sergio Guevara Senior Project Manager	**Signature:** 
Authorized by:	**Signature:**

UCI Carlos Brenes	

Appendix 2: FGP WBS

Appendix 3: FGP Schedule



ID	Task Mode	Task Name	Duration	Start	Finish
1		**Final Graduation Project**	**135 days**	**Nov 5 '18**	**May 24 '19**
2		FGP Start	0 days	Nov 5 '18	Nov 5 '18
3		**1.Graduation Seminar**	**30 days**	**Nov 5 '18**	**Dec 14 '18**
4		**1.1.FGP Deliverables**	**25 days**	**Nov 5 '18**	**Dec 7 '18**
5		1.1.1.Charter	5 days	Nov 5 '18	Nov 9 '18
6		1.1.2.WBS	5 days	Nov 5 '18	Nov 9 '18
7		1.1.3.Chapter I. Introduction	5 days	Nov 12 '18	Nov 16 '18
8		1.1.4.Chapter II. Theoretical framework	5 days	Nov 19 '18	Nov 23 '18
9		1.1.5.Chapter III. Methodological framework	5 days	Nov 26 '18	Nov 30 '18
10		**1.1.6.Annexes**	**20 days**	**Nov 12 '18**	**Dec 7 '18**
11		1.1.6.1.Bibliography	5 days	Dec 3 '18	Dec 7 '18
12		1.1.6.2.Schedule	5 days	Nov 12 '18	Nov 16 '18
13		1.2.Graduation Seminar approva	5 days	Dec 10 '18	Dec 14 '18
14		**2.Tutoring process**	**65 days**	**Dec 17 '18**	**Mar 29 '19**
15		**2.1.Tutor**	**3 days**	**Dec 17 '18**	**Dec 19 '18**
16		2.1.1.tutor assigment	1 day	Dec 17 '18	Dec 17 '18
17		2.1.2.Communication	2 days	Dec 18 '18	Dec 19 '18
18		2.2.Adjustments of previous chapters (if needed)	5 days	Jan 3 '19	Jan 9 '19
19		2.3.Charter IV. Development (Results)	47 days	Jan 10 '19	Mar 15 '19
20		2.4.Chapter V. Conclusions	5 days	Mar 18 '19	Mar 22 '19
21		2.5.Chapter VI. Recommendatio	5 days	Mar 25 '19	Mar 29 '19
22		tutor approval	0 days	Mar 29 '19	Mar 29 '19
23		**3.Reading by reviewers**	**15 days**	**Apr 1 '19**	**Apr 19 '19**
24		**3.1.Reviewers assigment reques**	**5 days**	**Apr 1 '19**	**Apr 5 '19**
25		3.1.1.Assigment of two reviewers	2 days	Apr 1 '19	Apr 2 '19
26		3.1.2.Communication	2 days	Apr 3 '19	Apr 4 '19
27		3.1.3.FGP submission to reviewers	1 day	Apr 5 '19	Apr 5 '19
28		**3.2.Reviewers work**	**10 days**	**Apr 8 '19**	**Apr 19 '19**
29		**3.2.1.Reviewer**	**10 days**	**Apr 8 '19**	**Apr 19 '19**
30		3.2.1.1.FGP reading	9 days	Apr 8 '19	Apr 18 '19
31		3.2.1.2.Reader 1 report	1 day	Apr 19 '19	Apr 19 '19
32		**3.2.2.Reviewer**	**10 days**	**Apr 8 '19**	**Apr 19 '19**
33		3.2.2.1.FGP reading	9 days	Apr 8 '19	Apr 18 '19
34		3.2.2.2.Reader 2 report	1 day	Apr 19 '19	Apr 19 '19
35		**4.Adjustments**	**20 days**	**Apr 22 '19**	**May 17 '19**
36		4.1.Report for reviewers	9 days	Apr 22 '19	May 2 '19
37		4.2.FGP update	1 day	May 3 '19	May 3 '19
38		4.3.Second review by reviewers	10 days	May 6 '19	May 17 '19
39		**5.Presentation to Board of Examin**	**5 days**	**May 20 '19**	**May 24 '19**
40		5.1.Final review by board	2 days	May 20 '19	May 21 '19
41		5.2.FGP grade report	3 days	May 22 '19	May 24 '19
42		FGP End	0 days	May 24 '19	May 24 '19

Appendix 4: Data Gathering Survey

Interviewee:		**Date of interview**	
Role		**# of active projects**	
		# of years at ACME	
Q1: What does your role involve			
Q2: What activities do you perform when planning the project? How often do you do them?			
Q3: What activities do you perform when controlling / monitoring the project? The team? The client?			
Q4: Does the team have clear responsibility on their assignments? Why do you say that?			
Q5: Does the team keep historical information (non-confidential), new knowledge and/or some kind of knowledge repository? Where? How often does it get updated? By whom?			
Q6: What would make your work easier on an everyday basis? What processes have the most impact in your work?			
Q7: Do you have recommendations, suggestions to improve processes, quality and effectiveness?			

Appendix 5: Philologist Review

To who this may concern,

I MA Djali Vesela along, with the team of my project Linguistic Expert Services (www.linguistic-expert.eu) having been assisted by Communication and Agile Technologies specialist Maria Repa, **have proofread the final work of graduation project**

Proposal of a Methodology for ACME Software a Nearshore Outsourcing Company Based in Bolivia

Written for Universidad Para Cooperacion Internacional

by Sergio Guevara

2nd May, 2019

UNISA university of south africa

1359

DJALI VESELA MISS
NECHVILOVA 24
PRAGUE 4
CZECH REP.
148 00

DEAR MISS DJALI VESELA

I WISH TO CONFIRM THAT YOU HAVE COMPLIED WITH ALL THE REQUIREMENTS PRESCRIBED FOR YOUR DEGREE
M.A. IN SOCIOLINGUISTICS.

UNIVERSITY OF SOUTH AFRICA

SIGNATURE OF STUDENT

University of Brighton

2118

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16/12/2011

Djali Vesela

has been awarded the

Degree of Bachelor of Arts

with Second Class Honours (First Division)
in English Studies and Linguistics,
Translating and Interpreting
8 July 2009

YOURS FAITHFULLY

M. H. STOCKHOFF
REGISTRAR (ACADEMIC)

Chairman of the Board of Governors

Vice-Chancellor