UNIVERSIDAD PARA LA COOPERACIÓN INTERNACIONAL (UCI)

DEVELOPMENT OF AN IMPLEMENTATION PLAN FOR A PODIO-BASED DATA MANAGEMENT SYSTEM AT ASOCIACIÓN 32 VOLCANES (A32V)

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FINAL GRADUATION PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER'S IN PROJECT MANAGEMENT (MPM) DEGREE

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This Final Graduation Project was approved by the University as partial fulfillment of the requirements to opt for the Master's in Project Management (MPM) Degree

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Cartago, 29 de julio de 2025

Los suscritos, Elena Redondo Camacho, mayor, casada, filóloga, incorporada a la Asociación Costarricense de Filólogos con el número de carné 0247, portadora de la cédula de identidad número 3-0447-0799 y, Daniel González Monge, mayor, casado, filólogo, incorporado a la Asociación Costarricense de Filólogos con el número de carné 0245, portador de la cédula de identidad número 1-1345-0416, ambos vecinos de Quebradilla de Cartago, revisamos el trabajo final de graduación que se titula: *DEVELOPMENT OF AN IMPLEMENTATION PLAN FOR A PODIO-BASED DATA MANAGEMENT SYSTEM AT ASOCIACIÓN 32 VOLCANES (A32V)*, sustentado por Luis Eduardo Mejicano Robles.

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Dedication

I thank God for always accompanying me through the darkest nights of the soul, for giving me the strength to be a channel of His light, and for guiding every event in my life to serve the greater good.

To Marcos Pérez, whose advice during his final days had a profound impact on me. Thank you, Marcos, for encouraging me to pursue this career path. Your words inspired me to enrich my knowledge and open doors to new opportunities. This achievement is also yours. Thank you, Marcos!

To my parents, Carlos Eduardo Mejicano Díaz, Verónica Robles, and my stepmother, Carmen María de Mejicano, for their unwavering support and encouragement throughout my studies: your constant belief in me has been a source of strength throughout this journey.

To my siblings, Luis Pedro, Ana Gabriela, and Natalia: thank you for being my unwavering source of love, motivation, and support.

Finally, to my unborn child, who at the time of writing this dedication measures just 13 centimeters and is steadily growing in their mother's womb. Thank you for filling our hearts with love and hope, and for inspiring us to keep fighting and embracing life.

With deep gratitude, Luis Eduardo Mejicano.

Abstract

This Final Graduation Project addresses the need for a structured implementation plan for an integrated data management system at Asociación 32 Volcanes (A32V). This Guatemalan non-profit organization promotes regenerative community development through agroecology, health, education, and cultural initiatives. Current data management practices rely on disconnected tools, which create inefficiencies, data redundancy, and difficulties in monitoring project performance and making informed decisions on time. These limitations affect multiple programs within the organization, including accounting, health services, community education, agroecology training, and the future management of a donated public library. The objective of this project is to design a tailored implementation plan for a Podio-based data management system that meets the organization's operational and strategic needs.

The project defines a detailed implementation plan based on the analysis of current processes and information flows at A32V. The methodology includes structured interviews with key staff, direct observation of workflows, and review of organizational documentation. It evaluates Podio's functionalities and alignment with institutional requirements, integrating stakeholder feedback throughout the design process. The plan encompasses key milestones, resource allocation, training strategies, and risk management elements, guided by the project management principles outlined in the PMBOK Guide (PMI, 2021). The project also examines the relevance of the system to sustainability practices by mapping the implementation's expected contributions to the Sustainable Development Goals and applying the P5 Standard for Sustainability in Project Management.

The findings demonstrate the feasibility of implementing a unified Podio system and its expected impact on improving data governance and operational effectiveness at A32V. The conclusions

outline the main steps for the successful adoption of the platform and its potential to strengthen the organization's capacity to manage its programs, monitor results, and report its contributions to regenerative development. The project offers a practical roadmap for transitioning from fragmented data practices to a centralized, user-friendly platform that facilitates informed decision-making and promotes long-term sustainability.

Keywords: Data management, Podio, Project implementation, Sustainable development, PMBOK, Risk management.

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Abbreviations and Acronyms

A32V: Asociación 32 Volcanes.

FGP: Final Graduation Project.

NGO: Non-Governmental Organization.

PMBOK: Project Management Body of Knowledge.

PMI: Project Management Institute.

SDGs: Sustainable Development Goals.

WBS: Work Breakdown Structure.

Executive summary

Asociación 32 Volcanes (A32V), a Guatemalan non-profit organization, has promoted regenerative community development through programs in agroecology, health, education, and culture. In recent years, the increasing complexity of its initiatives created a growing need for more effective data coordination and decision-making tools. While A32V had been using other data management systems around health, it lacked a cohesive and structured implementation to support all programs fully. This Final Graduation Project (FGP) responded to that gap by designing a practical and detailed implementation plan for a Podio-based data management system tailored to the organization's operational needs.

The core problem addressed in this project was the absence of an integrated data management system. Data was scattered across spreadsheets, messaging platforms, and isolated systems, resulting in inefficiencies, duplicated efforts, and difficulties in generating reliable reports. This fragmentation impeded the organization's ability to monitor progress, manage resources, and demonstrate impact to stakeholders. A structured implementation plan for a unified platform was thus justified to streamline processes, improve data quality, and enhance organizational effectiveness.

This FGP has produced four key deliverables aligned with the project's specific objectives. These include a detailed Project Scope Statement and Requirements Traceability Matrix to define the project's boundaries and deliverables; a Work Breakdown Structure (WBS) and WBS Dictionary to outline implementation tasks; a project schedule, Gantt chart, and budget plan to guide execution; and a Resource Management Plan with staffing, procurement, and technological requirements. These outputs provide a structured foundation for the successful implementation of a Podio-based data management system at A32V.

The conclusions of this Final Graduation Project demonstrate that all four specific objectives were effectively achieved. The initiative outlined a well-defined scope that responded directly to A32V's strategic priorities, broke down the implementation process into manageable tasks, and produced a realistic timeline and financial plan. Additionally, it incorporated thoughtful resource planning. These combined efforts lay the groundwork for the successful deployment of a Podio-based data management system, which aims to streamline operations, strengthen data oversight, and enhance organizational decision-making.

It is recommended that A32V formally adopt the proposed scope and planning tools as guiding documents for implementation. Forming a multidisciplinary team to lead the process and consistently tracking both progress and budget performance will be key to keeping the project on course. The recommendation also emphasizes the importance of ongoing investment in staff training and technical support to ensure the Podio system is effectively adopted and remains sustainable over time. By following these suggestions, the organization can help guarantee a smooth rollout and strengthen its role in advancing regenerative development and institutional capacity.

1. Introduction

Asociación 32 Volcanes (A32V) is a Guatemalan nonprofit advancing regenerative community development through agroecology, health, education, and cultural programs. To enhance operational efficiency, A32V plans to implement a unified data management system utilizing Podio (Citrix, 2021), a cloud-based platform for workflow automation and centralized data management. The proposed system will integrate critical functions, including financial management (accounting and budgeting), stakeholder directories (beneficiaries, suppliers, and partners), health system coordination, and agroecology program monitoring. This phased implementation aims to enhance data accuracy, cross-team collaboration, and long-term scalability in alignment with A32V's mission.

1.1. Background

Podio, a cloud-based project management and data organization tool, has been partially implemented at A32V to manage accounting, beneficiary, and supplier directories, as well as health system records. Additionally, an agroecology module is under development. However, a comprehensive implementation plan is required to ensure the system's full integration into all operational areas, including the management of a donated library. This Final Graduation Project (FGP) aims to develop a structured implementation plan for Podio at A32V, ensuring alignment with project management principles and organizational objectives.

Effective data management is essential for nonprofit organizations, as it enables data-driven decision-making, accountability, and transparency (Murray & Hand, 2020). However, A32V faces challenges such as data fragmentation, inefficient manual processes, and limited accessibility to critical information. These issues hinder their ability to track project outcomes, allocate resources efficiently, and report to stakeholders. Implementing Podio aims to

standardize workflows, centralize data, and improve decision-making across all operational areas.

The importance of robust data management systems in nonprofit organizations is well-documented. According to McKinsey & Company (2021), organizations leveraging data management tools can improve efficiency by up to 40%. Additionally, digital transformation aligns with the Sustainable Development Goals (SDGs), particularly Goal 9 (Industry, Innovation, and Infrastructure) and Goal 16 (Peace, Justice, and Strong Institutions) (United Nations, 2020). The proposed project aligns with A32V's mission to enhance operational efficiency while promoting sustainability.

1.2. Statement of the problem

A32V faces significant challenges in data management due to the lack of a standardized, integrated system. Current practices involve a mix of spreadsheets, paper records, and various digital tools, leading to inefficiencies, data redundancy, and difficulties in tracking project progress. Without a well-defined implementation plan, the full potential of Podio cannot be realized, and A32V will continue to experience operational inefficiencies. This FGP aims to address this gap by developing a comprehensive implementation plan that provides a roadmap for the effective deployment and utilization of Podio, thereby ensuring improved data accessibility, accuracy, and informed decision-making processes.

1.3. Purpose

The purpose of this FGP is to develop an implementation plan for integrating Podio into A32V's primary data management system. This plan outlines the key steps, resources, and methodologies required for a successful rollout, ensuring that Podio aligns with the organization's needs and best practices in project management. By doing so, the project will

contribute to improved operational efficiency, data-driven decision-making, and better tracking of project outcomes, ultimately enhancing A32V's impact on sustainable development.

1.4. General Objective

To develop an implementation plan for the integration of Podio as the primary data management system at A32V, improving data accessibility, efficiency, and project monitoring.

1.5. Specific Objectives

1. To define the project's boundaries, deliverables, acceptance criteria, and exclusions, ensuring the data management system aligns with organizational goals.
2. To decompose the implementation of the data management system into manageable work packages and define the tasks and activities required for successful execution.
3. To develop a detailed project schedule and budget for the data management system, including milestones, dependencies, and resource allocations.
4. To plan for the acquisition and effective management of all resources —human, physical, and technological— necessary for the system's implementation.

2. Theoretical framework

This section provides a foundational exploration of the key concepts that underpin the development and implementation of a digital project management strategy, with a specific focus on integrating low-code platforms, such as Podio, within non-governmental organizations (NGOs). It begins by establishing the critical role of project management principles in navigating the complexities of digital transformation, particularly within the context of NGOs and their contributions to sustainable development. Subsequently, the section explores the significance of information management systems, highlighting how data-driven decision-making can improve the efficiency and impact of social and environmental projects. Further, it examines the emergence of low-code platforms and their accessibility for resource-constrained organizations, highlighting Podio's unique capabilities in streamlining workflows and fostering collaboration. The discussion then transitions to the relevance of agile and adaptive project management approaches in facilitating the iterative nature of digital tool implementation. Finally, the section addresses the critical intersection of digitalization projects with sustainable and regenerative development, illustrating how tools like Podio can contribute to broader environmental and social goals by promoting efficiency, reducing resource consumption, and enabling robust impact measurement. Through this comprehensive overview, this section aims to provide a clear understanding of the theoretical and practical considerations essential for the successful deployment of digital solutions within the NGO sector.

2.1. Company/Enterprise framework

2.1.1. Company/Enterprise framework

Asociación 32 Volcanes (A32V) is a Guatemalan non-profit organization with three decades of experience working towards community sovereignty and autonomy. Established in

2019, A32V evolved from independent initiatives and collaborations with volunteers, collectives, and the Todos Juntos Foundation. The organization focuses on building community support networks and promoting innovative, sustainable solutions rooted in collective memory, knowledge, and sensitivity to revitalize all forms of life.

2.1.2. Mission and Vision Statements

Mission: Our mission is to build bridges between communities, uniting perspectives through collective memory. We cultivate innovative solutions for the well-being and dignity of the planet's biodiversity and all living beings.

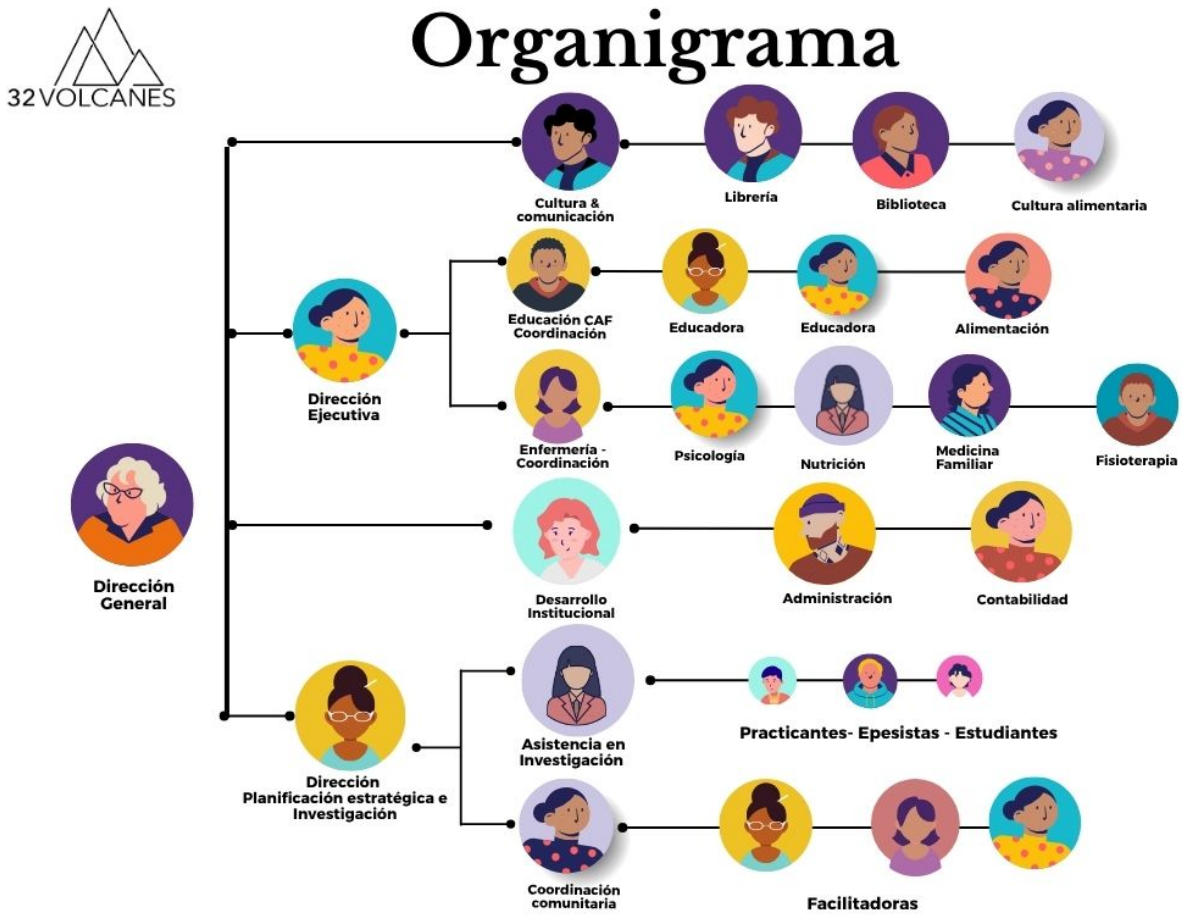
Vision: We work to attain human rights, social justice, and environmental justice. We seek the collective creation of a sustainable system where scarcity and inequality no longer exist.

Asociación 32 Volcanes. (n.d.). About us. https://www.32volcanes.org/about

2.1.3. Organizational Structure

A32V's organizational structure is hierarchical, with a transparent chain of command and defined roles. The Director General oversees the entire organization, with a Director and Coordinators managing specific areas such as finance, health, education, and research [Image 1]. This structure ensures clear lines of responsibility and facilitates communication within the organization. (Pending to update this chart and section with the new structure).

Figure 1
Organizational structure



Note: Adapted from Development Company (2022).

2.1.4. Products Offered

Main Products/Services of A32V:

- Health Brigades & Social Clinic: Monthly health brigades and a social clinic that provides medical services to communities.
- Agroecology & Sustainable Development Projects: Initiatives to promote sustainable agriculture, bio-digesters, and regenerative development.

- Educational and Community Training Programs: Training workshops for community members on environmental sustainability, healthcare, and agroecology.
- Volunteer and Community Engagement Programs: Opportunities for local and international volunteers to contribute to A32V's mission.

Relationship with the FGP Objectives:

- Since data collection and management are essential for tracking the impact of these projects, the FGP aims to develop a Podio implementation plan to improve efficiency.
- Improved data management will enhance monitoring, reporting, and decision-making, thereby supporting the achievement of Sustainable Development Goals (SDGs).
- Efficient data accessibility will enable better coordination of activities, resource allocation, and impact measurement across A32V's programs.

2.2. Project Management Concepts

Project administration, direction, or management refers to the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. It involves planning, organizing, staffing, directing, and controlling project resources to achieve project objectives.

2.2.1. Project Management Principles

The Project Management Institute (PMI) defines twelve principles that guide successful project management. These principles provide a framework for effective decision-making and action throughout the project lifecycle. For this FGP, focusing on developing a Podio-based data management system implementation plan, the following principles are particularly relevant:

- Stewardship: Be a diligent, respectful, and caring steward. This principle emphasizes the responsible use of A32V's resources in developing the plan, ensuring that ethical

considerations and sustainability are taken into account. It involves transparency, accountability, and making informed decisions that align with the organization's values.

- Team: Create a collaborative project team environment. Building a strong and collaborative team with A32V stakeholders is crucial for gathering input, ensuring buy-in, and fostering a sense of ownership in the implementation plan.
- Stakeholders: Engage with stakeholders to understand their interests and needs. Actively engaging with stakeholders, including A32V staff, management, and beneficiaries, will ensure that the implementation plan addresses their concerns and incorporates their perspectives.
- Value: Focus on value delivery. The implementation plan should prioritize the features and functionalities of the data management system that deliver the most value to A32V, aligning with their strategic goals and maximizing the return on investment.
- Risk: Recognize, evaluate, and respond to risk. Identifying and assessing potential risks associated with the implementation process will enable the development of proactive mitigation strategies and ensure a smoother deployment.
- Tailoring: Tailor project management based on context. Adapting the PMBOK® framework to A32V's specific organizational context, culture, and needs is crucial for developing a relevant and practical implementation plan.

2.2.2. Project Management Domains

The PMI identifies eight project performance domains that are crucial for successful project management. These domains represent areas of focus that require management throughout the project lifecycle. In the context of this FGP, the following performance domains are particularly relevant:

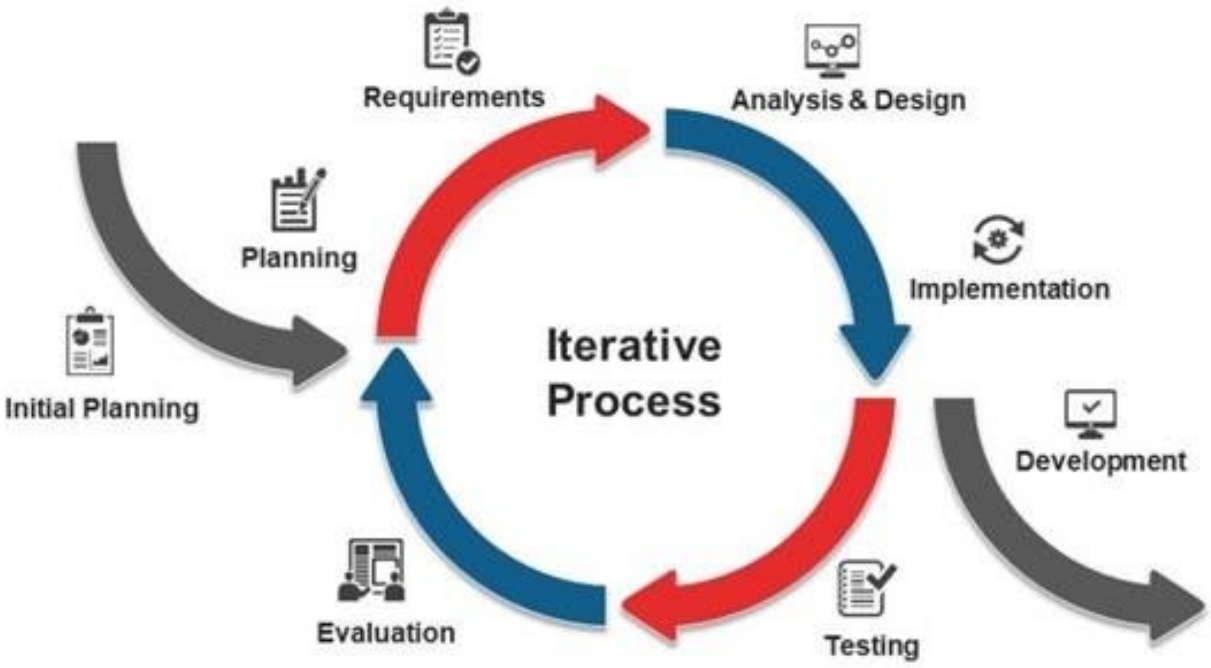
- Stakeholders: Engaging stakeholders effectively is crucial for understanding their needs and ensuring their support for the implementation plan.
- Team: Building a high-performing team with A32V staff and stakeholders will foster collaboration and ensure effective plan development.
- Development Approach and Life Cycle: Selecting an appropriate development approach (e.g., predictive, iterative) and life cycle will ensure that the implementation plan is structured effectively and aligns with A32V's needs.
- Planning: Thorough planning is crucial for defining the project scope, schedule, budget, and resources, thereby ensuring a structured and well-managed implementation process.
- Risk: Identifying and managing potential risks will minimize disruptions and ensure the successful deployment of the data management system.
- Performance Domains Relating to the FGP:
- Stakeholders: Conduct regular stakeholder meetings, incorporate feedback mechanisms, and ensure transparent communication.
- Team: Establish clear roles and responsibilities, foster open communication, and encourage collaboration within the project team.
- Development Approach and Life Cycle: Adopt an iterative approach to facilitate flexibility and adaptation in response to A32V's evolving needs.
- Planning: Develop a detailed project management plan that includes scope, schedule, budget, and resource allocation.
- Risk: Conduct risk assessments, develop mitigation strategies, and establish contingency plans.

2.2.3. Predictive, Adaptative, and Hybrid Projects

The PMI identifies two main development approaches: predictive and adaptive. Predictive approaches follow a more linear path, with detailed planning upfront and sequential execution. Adaptive approaches are more iterative and flexible, allowing for adjustments based on feedback and changing requirements.

For this FGP, an adaptive approach is more suitable due to the dynamic nature of implementing a data management system. An iterative life cycle, such as Agile, will allow for continuous feedback from A32V stakeholders, ensuring that the implementation plan remains relevant and responsive to their evolving needs.

Figure 2
Iterative Process



The iterative life cycle for this FGP will involve the following phases:

1. Initial Planning: Define the project scope, identify stakeholders, and establish initial assumptions.

2. Needs Assessment: Conduct a thorough analysis of A32V's data management requirements.
3. Plan Development: Create the implementation plan, including scope, schedule, budget, and risk management.
4. Review and Feedback: Gather feedback from A32V stakeholders on the draft plan.
5. Plan Refinement: Incorporate feedback and refine the implementation plan.
6. Finalization and Presentation: Finalize the plan and present it to A32V for approval.

This iterative process will ensure that the implementation plan is tailored to A32V's specific needs and remains adaptable to any changes or challenges that may arise during the project.

2.2.4. Development Approaches and Project Life Cycles

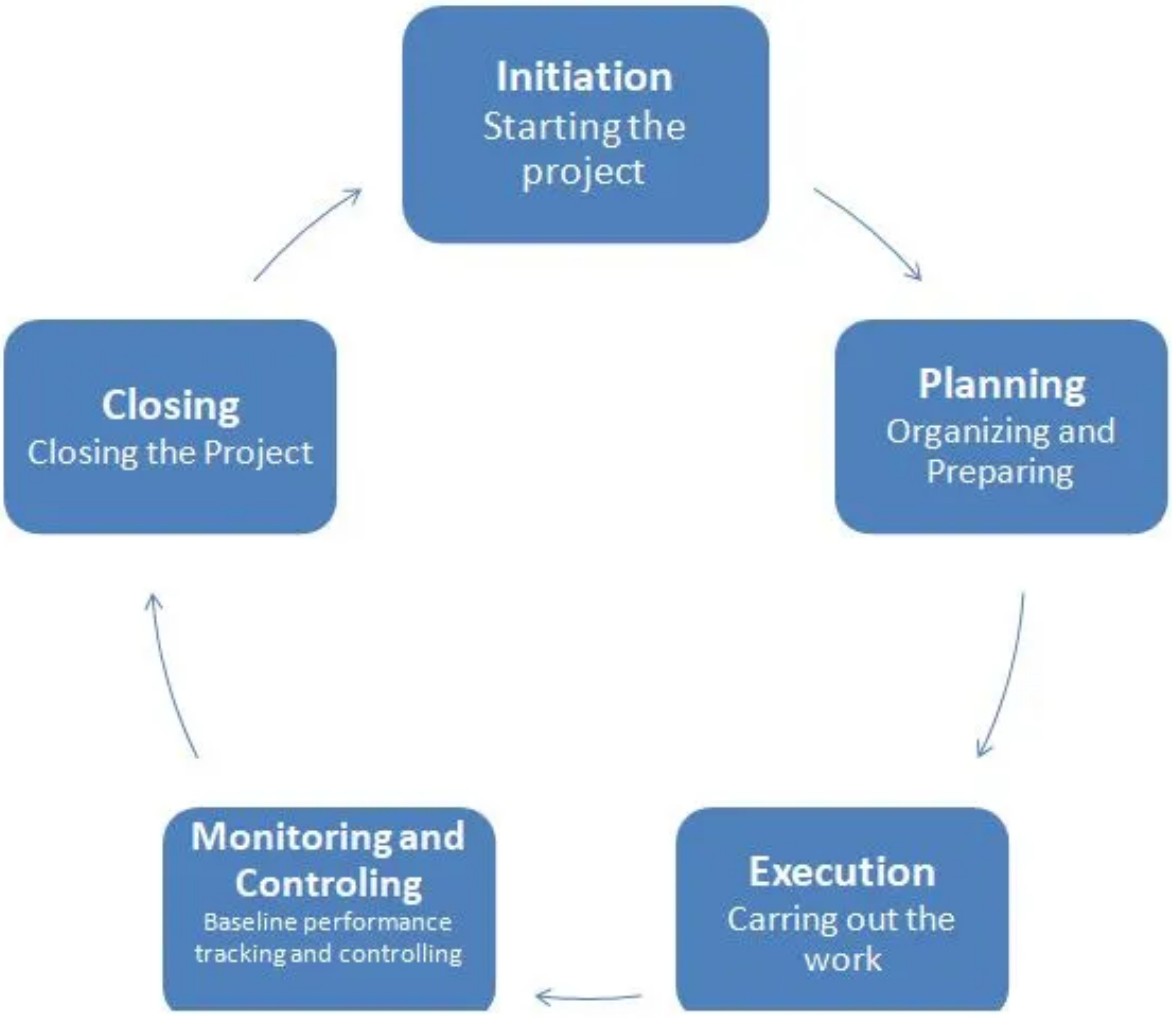
This section examines various development approaches and project life cycles within the field of project management. It outlines their core characteristics and presents a justification for selecting a specific approach to guide the Final Graduation Project (FGP) focused on the implementation plan of the Podio system for Asociación 32 Volcanes (A32V). In project management, a development approach refers to the overarching methodology used to create a project's deliverables. In contrast, a project life cycle describes the sequential phases a project undergoes from initiation through closure (PMI, 2021a). The choice of development approach directly influences the structure and progression of the life cycle.

The Project Management Institute (PMI) identifies two primary development approaches: the Predictive Approach —also known as the waterfall model— and the Adaptive Approach, commonly referred to as Agile. The Predictive Approach emphasizes comprehensive upfront planning. In this model, the scope, timeline, and cost are defined early, and the project unfolds in

a linear sequence, with changes strictly managed. In contrast, the Adaptive Approach is iterative and flexible, allowing the scope to evolve incrementally through continuous feedback from stakeholders.

Each development approach corresponds with a specific type of project life cycle. The Predictive Life Cycle aligns with the waterfall approach and follows a linear progression through phases, including Initiation, Planning, Execution, Monitoring and Controlling, and Closing. This structure is depicted in Figure 3.

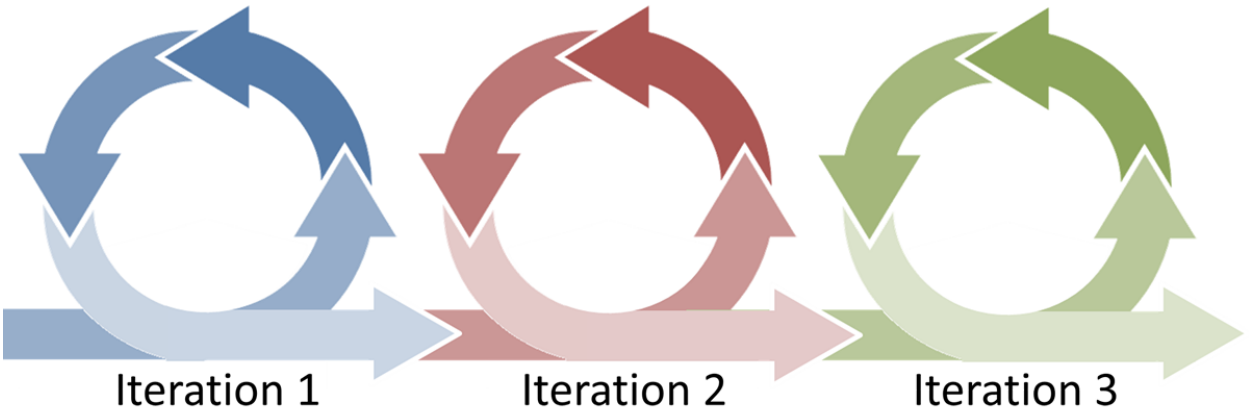
Figure 3
Process Groups



Note. Adapted from the PMBOK Guide (PMI, 2021).

The Iterative Life Cycle produces deliverables in repeated cycles or iterations, incorporating feedback after each round to refine the product. This process is represented in Figure 4:

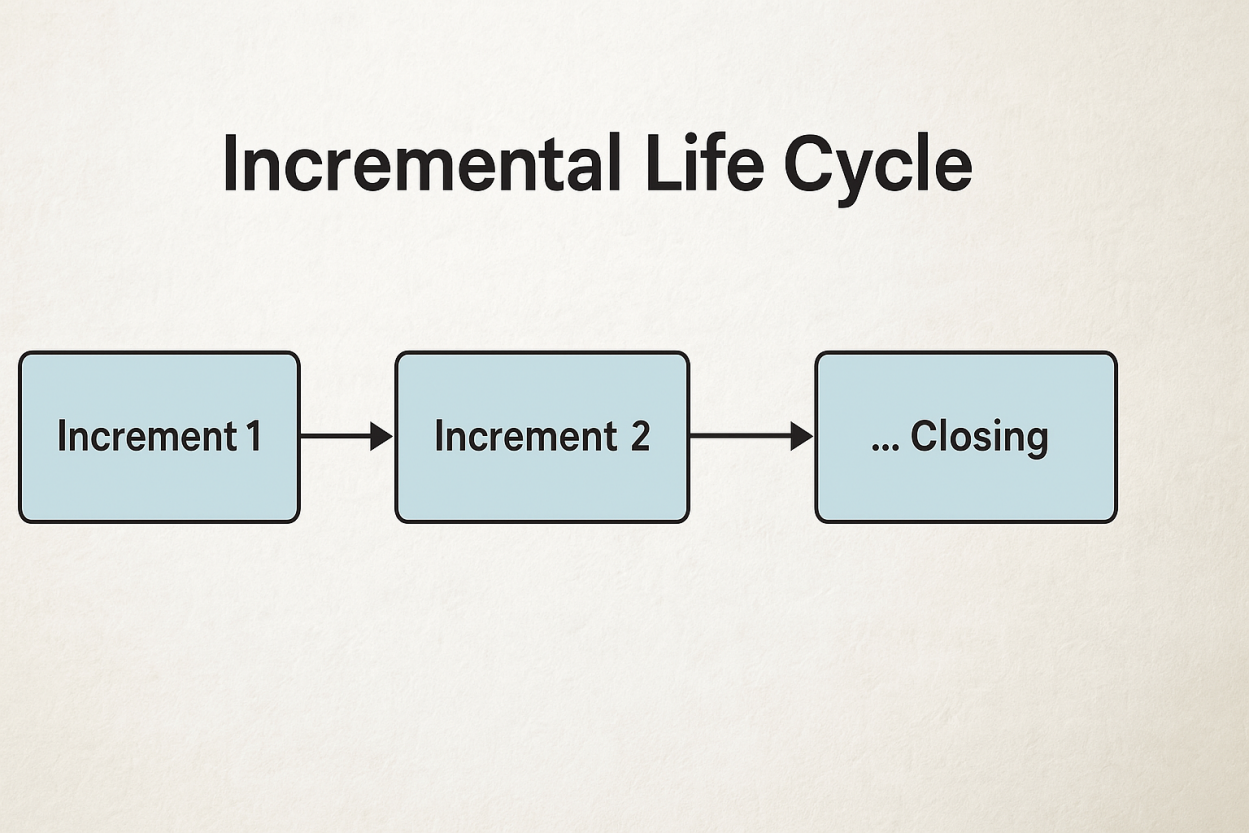
Figure 4
Iterative Life Cycle



Note. Adapted from the PMBOK Guide (PMI, 2021).

The Incremental Life Cycle builds a deliverable through successive additions of functionality. Unlike the iterative model, it focuses on delivering operational components at each increment (Figure 5):

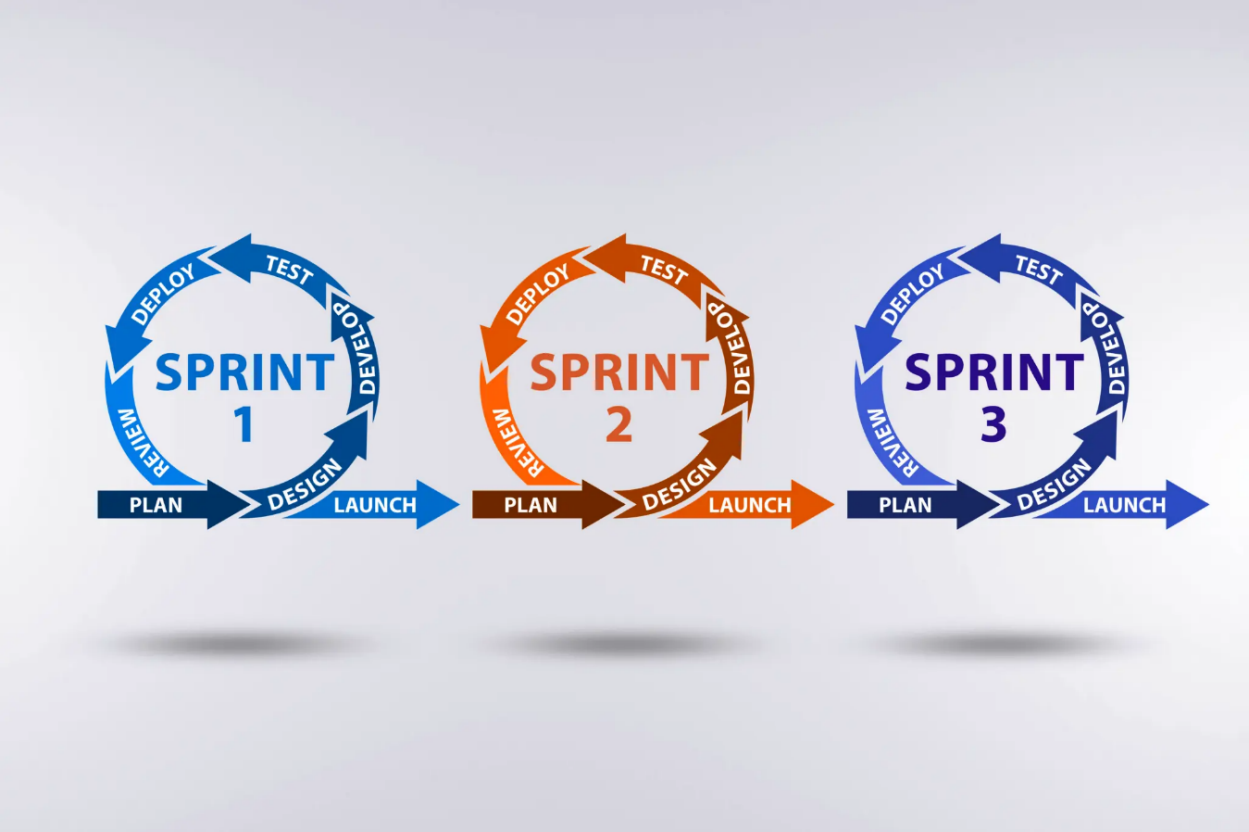
Figure 5
Incremental Life Cycle



Note. Adapted from the PMBOK Guide (PMI, 2021).

The Adaptive Life Cycle, commonly used in Agile environments, combines iterative and incremental principles. Work is carried out in short cycles or sprints, allowing for maximum flexibility and continuous stakeholder involvement. This is shown in Figure 6:

Figure 6
Adaptive Life Cycle



Note. Adapted from the PMBOK Guide (PMI, 2021).

Additionally, a Hybrid Life Cycle may be employed, blending predictive and adaptive approaches. In this model, some components are planned in detail from the start, while others evolve through iterative development.

An analysis of the literature reveals that PMI (2021a) emphasizes the importance of tailoring the project life cycle to the project's context, noting the increasing relevance of adaptive methods in uncertain and rapidly changing environments. Larson and Gray (2018) emphasize the profound influence of the selected life cycle on planning, execution, and control, urging project managers to consider complexity, uncertainty, and the importance of stakeholder engagement.

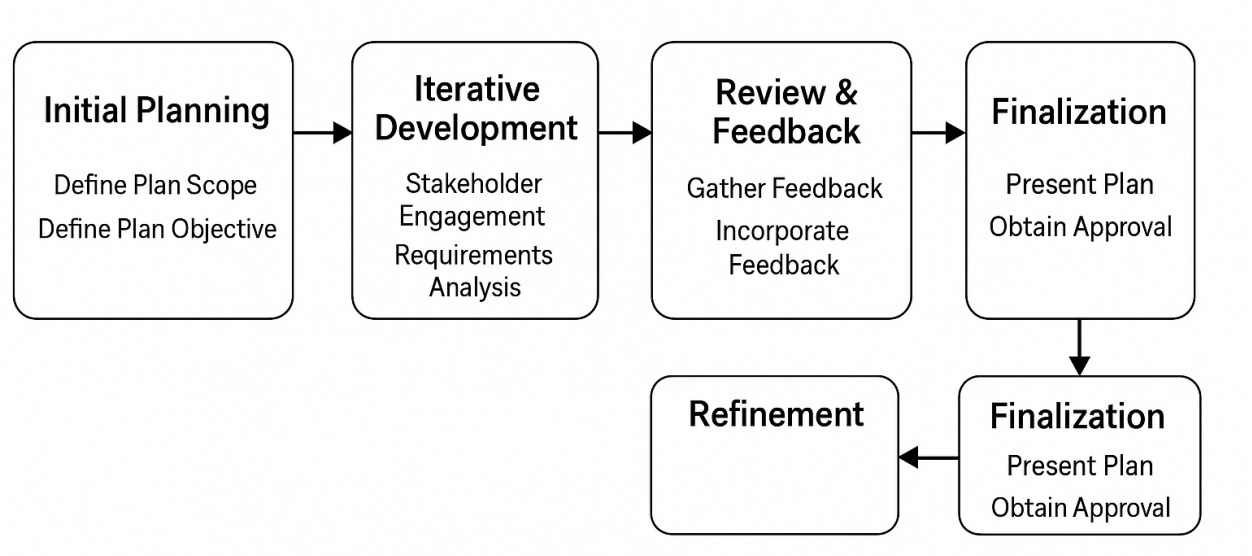
Similarly, Kerzner (2017) emphasizes the importance of adapting to stakeholder expectations, particularly in high-uncertainty environments where adaptive approaches are advantageous.

Given the characteristics of the Podio implementation plan at A32V, an Adaptive Life Cycle, specifically one that is Iterative and Incremental, guided by Agile principles, is most appropriate. This recommendation is grounded in the evolving nature of A32V's data management needs, which require flexibility to incorporate feedback and adjust functionalities as the system develops. Regular stakeholder engagement is essential to ensure the system aligns with user needs, and the iterative structure of Agile facilitates this ongoing collaboration.

Moreover, key implementation tasks —such as data migration, user training, and system customization— can be divided into manageable increments, allowing for continuous delivery of value and early identification of issues. Adaptive approaches also offer resilience in the face of uncertainties related to user adoption, data integrity, and system integration.

The life cycle selected for the FGP is tailored accordingly. It begins with an Initial Planning phase, where the scope and deliverables of the Podio plan are defined. This is followed by Iterative Development, during which each core component of the plan —stakeholder engagement, scope, schedule, risk— is developed in cycles. After each iteration, a Review and Feedback phase gathers input from both A32V stakeholders and the project tutor. The plan is then refined based on this feedback, leading to a finalization stage where the complete plan is presented for approval. This structure is outlined in Figure 7:

Figure 7
Tailored Life Cycle



Note. Adapted from the PMBOK Guide (PMI, 2021).

This tailored configuration provides a structured yet adaptable framework, ensuring that the Podio implementation plan aligns with A32V's organizational dynamics and maximizes stakeholder value through continuous iteration and collaboration.

2.2.5. Project Management Knowledge Areas and Processes

Project administration, direction, or management refers to the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. It involves planning, organizing, staffing, directing, and controlling project resources to achieve project objectives.

Analysis and Synthesis of Authors:

- The Project Management Institute (PMI) emphasizes the importance of a structured approach to project management, utilizing a defined framework and processes to guide project activities.

- Harold Kerzner: Highlights the importance of leadership and communication in project management, emphasizing the role of the project manager in motivating and guiding the project team.
- Meredith and Mantel: Focus on integrating various project management knowledge areas, emphasizing the interconnectedness of scope, time, cost, quality, and risk management.

The PMI defines five process groups that represent distinct phases of the project management lifecycle: initiating, planning, executing, monitoring and controlling, and closing. These process groups are not necessarily sequential and can overlap or be repeated throughout the project.

Chart 1
Project Management Process Groups

Process Group	Description
Initiating	Defining a new project or phase
Planning	Establishing the project scope, objectives, and course of action
Executing	Completing the work defined in the project management plan
Monitoring and controlling	Tracking, reviewing, and regulating the progress and performance of the project
Closing	Finalizing all activities to close the project or phase formally

- Business Strategy: Defines the organization’s overall direction and goals.

- Portfolio: A collection of projects, programs, and operations managed as a group to achieve strategic objectives.
- Program: A group of related projects managed in a coordinated way to obtain benefits not available from managing them individually.
- Project: A temporary endeavor undertaken to create a unique product, service, or result.

2.2.5.1. Importance for the Organization

- Alignment with Strategic Goals: Projects, programs, and portfolios should be aligned with the organization's business strategy to ensure that they contribute to its overall success.
- Resource Optimization: Effective management of projects, programs, and portfolios enables the organization to optimize its resources and maximize its return on investment.
- Improved Efficiency: A structured approach to project management can improve efficiency and reduce costs.
- Increased Success Rate: Applying project management principles and best practices can increase the likelihood of project success.

2.2.5.2. Relationship with the FGP. This FGP is a project as it is a temporary endeavor with a specific objective (developing an implementation plan) and a defined end date. It aligns with A32V's strategic goals of improving data management and operational efficiency. By developing a well-structured implementation plan, this project will contribute to the successful deployment of the data management system, ultimately benefiting the organization and its beneficiaries.

2.2.6. Project Life Cycle

In project management, the project life cycle refers to the series of phases that a project goes through from initiation to closure. These phases typically include Initiation, Planning, Execution, Monitoring and Controlling, and Closing (PMI, 2021). Each phase serves a specific purpose in managing the project's scope, time, cost, quality, and resources.

In the case of Asociación 32 Volcanes' digital transformation project using Podio, the project life cycle follows an adaptive approach, given the evolving nature of requirements and iterative development of the platform. The use of low-code tools, such as Podio, enables rapid prototyping, feedback gathering, and incremental delivery, which aligns with the characteristics of an adaptive life cycle (PMI, 2021).

2.2.7. Company Strategy, Portfolios, Programs, and Projects

Asociación 32 Volcanes integrates its organizational strategy with a series of interconnected programs and projects. At the strategic level, A32V aligns its activities with sustainable development and community regeneration, which guide the formulation of its project portfolio. This portfolio includes programs in health, agroecology, education, and research.

Each program comprises a set of related projects managed in a coordinated way to obtain benefits not available from managing them individually (PMI, 2021). For example, the Agroecology Program includes the biodigesters implementation project, volunteer coordination, and now, the Podio digitalization project.

The digitalization project supported by this Final Graduation Project serves as a foundational enabler across multiple programs, aiming to strengthen internal coordination, data accessibility, and evidence-based decision-making. This project exemplifies how digital tools can reinforce strategic alignment and programmatic coherence in NGOs.

2.3. Other Applicable Theory/Concepts Related to The Project Topic and Context

2.3.1. Digital Transformation in NGOs

Digital transformation involves the integration of digital technologies into all areas of an organization, fundamentally changing how it operates and delivers value (Westerman *et al.*, 2014). For NGOs, this transformation must be mission-aligned and context-sensitive, especially when resources and digital literacy are limited. Podio implementation supports this transformation by providing a customizable and user-friendly platform for managing operations.

2.3.2. Low-Code Platforms and Citizen Development

Low-code platforms such as Podio empower users without advanced technical knowledge to build workflows, forms, and databases (Gartner, 2021). This democratization of software development is crucial for NGOs like A32V, where technical resources are scarce, but innovation is essential.

2.3.3. Agile and Adaptive Project Management

Agile methodologies prioritize flexibility, collaboration, and iterative development (Beck *et al.*, 2001). In adaptive environments like community development, where requirements evolve, agile practices —such as sprints, reviews, and feedback— also enable faster learning and improvement. This is particularly applicable to the phased implementation of Podio.

2.3.4. Knowledge Management and Data-Driven Decision Making

Effective knowledge management allows organizations to capture, store, and apply information to improve decision-making (Nonaka & Takeuchi, 1995). By implementing a digital platform, A32V can centralize and structure knowledge, resulting in improved planning, more effective impact measurement, and enhanced accountability.

2.3.5. Sustainability and Regenerative Development

The project contributes to sustainability by reducing inefficiencies, optimizing resource use, and facilitating regenerative practices (Mang & Haggard, 2016). Digitalization enhances the organization's ability to track environmental and social indicators aligned with the Sustainable Development Goals (SDGs).

2.3.6. Current Situation of the Problem or Opportunity in Study

The current situation surrounding data management reveals a landscape characterized by both persistent challenges and evolving opportunities. Organizations, regardless of their specific sector, grapple with the increasing volume, velocity, and variety of data, which present significant hurdles to effective utilization (Manyika *et al.*, 2011). This "data deluge" necessitates robust systems and strategies to ensure that data can be transformed into actionable insights.

A core problem lies in the prevalence of fragmented data environments. Organizations often find their information dispersed across disparate systems and departments, creating data silos that hinder efficient access and analysis (Laudon & Laudon, 2020). This lack of integration not only impedes operational efficiency but also limits organizations' ability to derive a comprehensive understanding of their performance and environment. The absence of a unified data architecture can lead to inconsistencies, redundancies, and difficulties in generating accurate reports, ultimately affecting decision-making processes.

Inefficient workflows further exacerbate the challenges of data management. Many organizations still rely on manual processes for data entry, validation, and transfer, which are time-consuming, error-prone, and costly. Automation of data-related tasks is often lacking, resulting in wasted resources and delayed access to critical information. This inefficiency can be

particularly detrimental in dynamic environments where timely insights are essential for maintaining a competitive edge or, in the case of non-profits, for maximizing social impact.

The lack of effective data governance is another significant issue. Data governance encompasses policies, procedures, and organizational structures that ensure the quality, integrity, security, and compliance of data. Without a strong data governance framework, organizations struggle to maintain data accuracy, protect sensitive information, and comply with relevant regulations. This deficiency can expose organizations to a range of risks, including data breaches, legal penalties, and damage to their reputation.

Research has explored various approaches to address these challenges. The implementation of data management systems is a central focus, with organizations investing in technologies to streamline data collection, storage, and retrieval. Modern database management systems offer powerful tools for organizing and managing large datasets (Ramakrishnan & Gehrke, 2017). However, the successful implementation of these systems requires careful planning and consideration of organizational needs.

Agile methodologies have gained traction in data management projects, providing a flexible and iterative approach to system development and implementation (El-Mekawy & Riad, 2021). These methodologies emphasize collaboration, adaptability, and continuous improvement, allowing organizations to respond effectively to changing requirements and deliver value incrementally.

Stakeholder engagement is also recognized as a crucial factor in the success of data management initiatives. Bourne (2016) highlights the importance of identifying stakeholders, understanding their needs and expectations, and developing strategies for managing stakeholder

relationships. Effective stakeholder engagement ensures that data management systems are aligned with the needs of those who will use them and fosters buy-in and adoption.

Risk management plays a crucial role in mitigating potential challenges and ensuring the successful implementation of data management projects. Hubbard (2020) provides insights into identifying, assessing, and responding to risks, emphasizing the importance of proactive risk management in minimizing disruptions and achieving project objectives.

In the context of non-profit organizations, the challenges of data management are often compounded by limited resources and capacity. However, the need for effective data management is particularly acute in this sector, as data is essential for measuring impact, demonstrating accountability, and securing funding (Patton, 2008). The implementation of appropriate data management systems and practices can significantly enhance the ability of non-profits to achieve their missions and maximize their social impact.

The Podio-based data management system implementation plan for Asociación 32 Volcanes (A32V) seeks to address these challenges and capitalize on the opportunities presented by effective data management. By developing a well-structured and tailored implementation plan, this project aims to equip A32V with the necessary tools and strategies to enhance their data management capabilities, ultimately contributing to their organizational effectiveness and impact.

2.3.7. Previous Research Done on the Topic in the Study

Effective data management serves as a fundamental prerequisite for organizational success across diverse sectors. It underpins evidence-based decision-making, operational efficiency, and accurate reporting. However, many organizations encounter substantial obstacles in effectively managing their data, often arising from a confluence of factors, including legacy

systems, a deficiency in standardized protocols, and inadequate resource allocation for data management initiatives (Laudon & Laudon, 2020).

Several critical issues characterize the current state of data management in numerous organizations. Data fragmentation across disparate departments or systems impedes the development of a comprehensive organizational data perspective. This lack of integration inhibits collaborative efforts and prevents organizations from maximizing the inherent value of their data assets. Manual data entry, redundant processes, and limited automation contribute to operational inefficiencies and heightened costs, while also increasing the potential for data errors and inconsistencies. Furthermore, the absence of robust data management policies and procedures compromises data quality, security, and regulatory compliance, exposing organizations to risks such as data breaches, financial penalties, and reputational damage. Many organizations also lack the analytical capabilities to extract meaningful insights from their data, thereby limiting their capacity for data-driven strategic planning and identifying opportunities for improvement (Davenport & Harris, 2017).

These challenges are particularly pronounced for non-profit organizations like Asociación 32 Volcanes (A32V), which often operate within resource-constrained environments and may lack the necessary staffing or technological infrastructure for robust data management. Nevertheless, effective data management is crucial for these organizations to measure program impact accurately, track outcomes, demonstrate accountability to stakeholders, report on activities and resource utilization, secure funding through evidence-based proposals, and enhance operational efficiency to maximize impact.

To mitigate these challenges, organizations have adopted various solutions, including data management systems that facilitate data collection, storage, organization, and analysis,

ranging from basic databases to sophisticated enterprise solutions (Ramakrishnan & Gehrke, 2017). Data governance frameworks establish policies, procedures, and responsibilities for data management, encompassing data quality standards, security protocols, and compliance requirements (PMI, 2021a). Data analytics tools and techniques, such as data visualization, statistical analysis, and machine learning, are employed to extract actionable insights (Davenport & Harris, 2017). Cloud-based solutions offer scalability, cost-effectiveness, and enhanced accessibility for data storage and management (Al Nuaimi *et al.*, 2020).

The success of these solutions varies, contingent upon factors such as strong leadership commitment to data management, active stakeholder engagement to ensure alignment and buy-in (Bourne, 2016), comprehensive user training and support, and an iterative implementation approach that allows for continuous improvement (El-Mekawy & Riad, 2021).

Despite these solutions, persistent data management challenges remain, with specific issues and opportunities varying based on organizational context. However, the overarching objective remains consistent: to leverage data as a strategic asset for enhanced organizational performance and goal attainment.

For Asociación 32 Volcanes (A32V), the opportunity lies in developing and executing a tailored data management system implementation plan. A strategic plan will establish a foundation for improved data management practices, leading to enhanced operational efficiency, informed decision-making, and increased organizational impact.

2.3.8. Other Theories Related to the Topic in the Study

This section examines the relationship between other relevant theories and the subject matter of the Final Graduation Project (FGP). It presents summaries of theories that support the

development of a Podio-based data management system implementation plan for Asociación 32 Volcanes (A32V).

2.3.8.1. Organizational Learning Theory and Data Management.

Organizational learning theory provides a valuable lens through which to examine the importance of data management. This theory focuses on how organizations acquire, create, retain, and transfer knowledge within themselves to adapt to changing environments (Argyris & Schön, 1978). Effective data management plays a crucial role in facilitating organizational learning processes.

Data serves as the raw material for knowledge creation. When organizations effectively collect, store, and organize data, they create a foundation for generating insights and understanding. Data management systems provide the tools and infrastructure necessary to support these processes. For instance, a well-designed data management system can enable Asociación 32 Volcanes (A32V) to track the outcomes of its programs, analyze trends in community needs, and identify areas for improvement. This data-driven approach to understanding the impact of their work directly contributes to organizational learning.

Furthermore, data management supports the dissemination and sharing of knowledge within an organization. By making data accessible and readily available, organizations can foster collaboration and knowledge transfer among their members. This is particularly important for organizations like A32V, where knowledge sharing among staff, volunteers, and community members can enhance the effectiveness of their programs. Data management systems can facilitate this by providing platforms for data sharing, communication, and collaboration.

Organizational learning theory also emphasizes the importance of feedback and reflection in the learning process. Data management systems can provide valuable feedback to

organizations by tracking key performance indicators, measuring progress toward goals, and identifying areas where adjustments are needed. This feedback enables organizations to learn from their experiences, adapt to their strategies, and improve their overall performance. For example, A32V can utilize data collected through their data management system to assess the effectiveness of their community programs, identify best practices, and make informed decisions about resource allocation based on data.

The implementation of a Podio-based data management system can directly support organizational learning within A32V. Podio's collaborative features can facilitate knowledge sharing and communication among team members. The system can also be configured to track relevant data, generate reports, and provide feedback on organizational performance. By leveraging Podio in this way, A32V can enhance its capacity for organizational learning and continuous improvement.

In conclusion, organizational learning theory emphasizes the crucial role of data management in facilitating knowledge creation, dissemination, and utilization within organizations. Effective data management systems provide the infrastructure and tools necessary to facilitate these processes, enabling organizations to learn, adapt, and improve. The implementation of a Podio-based data management system at A32V can contribute to organizational learning by enhancing data accessibility, promoting collaboration, and providing valuable feedback on organizational performance.

2.3.8.2. Complexity Theory and Data Management in Nonprofits. Complexity theory offers a framework for understanding the dynamic and interconnected nature of social systems, which is highly relevant to the context of non-profit organizations and their data management needs. Nonprofits often operate in complex environments characterized

by multiple stakeholders, diverse needs, and unpredictable changes (Pfeffer, 2003). Data management plays a crucial role in helping these organizations navigate this complexity and achieve their goals.

Complexity theory emphasizes that social systems are composed of interconnected agents that interact in nonlinear ways, leading to emergent patterns and unpredictable outcomes. In the context of non-profits, this means that a multitude of factors often influence the impact of their programs and initiatives, and outcomes may not always be easily predicted. Data management systems can help non-profits to better understand these complex relationships by providing tools for data collection, analysis, and visualization. By tracking relevant data and identifying patterns, non-profits can gain insights into the dynamics of the systems in which they operate and make more informed decisions.

Furthermore, complexity theory highlights the importance of adaptation and learning in complex systems. Organizations need to be able to adapt to changing circumstances and learn from their experiences to remain effective. Data management systems can support this by providing feedback loops that allow organizations to monitor their performance, identify trends, and adjust their strategies accordingly. This is particularly important for non-profits, which often need to be responsive to the evolving needs of the communities they serve.

The implementation of a Podio-based data management system can help A32V to manage the complexity of its operating environment better. Podio’s flexibility allows the system to be adapted to the specific needs and context of the organization. Its collaborative features can facilitate communication and coordination among different stakeholders, which is essential for navigating complex social systems. By using Podio to collect and analyze data, A32V can gain a

better understanding of the factors influencing its programs and make more informed decisions about how to maximize its impact.

Complexity theory also underscores the importance of embracing diversity and fostering innovation in complex systems. Nonprofits often work with diverse populations and engage with a wide range of stakeholders. Data management systems can help these organizations capture and analyze data from diverse sources, providing a more holistic understanding of the issues they address. This can lead to the identification of innovative solutions and more effective approaches to achieving their goals.

In conclusion, complexity theory provides a valuable framework for understanding the challenges and opportunities associated with data management in non-profit organizations. By recognizing the dynamic and interconnected nature of social systems, non-profits can leverage data management systems to navigate complexity, promote adaptation, and foster innovation. The implementation of a Podio-based data management system at A32V can support these efforts by providing a flexible and collaborative platform for data collection, analysis, and decision-making.

2.3.8.3. Social Network Theory and Stakeholder Engagement in Data Management.

Social network theory provides valuable insights into the importance of stakeholder engagement in data management initiatives. This theory examines the structure and dynamics of relationships between individuals or organizations within a social system (Wasserman & Faust, 1994). Effective data management requires the involvement and collaboration of various stakeholders, and social network theory can inform strategies for engaging these stakeholders effectively.

Stakeholder engagement is crucial for ensuring that data management systems meet the needs of those who will use them and that they are implemented successfully. Social network theory emphasizes the importance of understanding the relationships and connections between stakeholders, as these relationships can influence their perceptions, behaviors, and willingness to support data management initiatives.

Data management systems often involve changes to organizational processes and workflows, which can impact different stakeholders in different ways. Some stakeholders may be directly involved in data collection, entry, or analysis, while others may use the data to inform their decision-making. Understanding the roles and responsibilities of different stakeholders and how they interact with the data management system is essential for designing effective engagement strategies.

Social network theory highlights the importance of communication and information flow within social systems. Effective communication is essential for keeping stakeholders informed about data management initiatives, addressing their concerns, and building trust. Data management systems can facilitate communication and information sharing by providing platforms for collaboration, discussion, and feedback.

The implementation of a Podio-based data management system at A32V requires the engagement of various stakeholders, including staff, volunteers, community members, and donors. Social network theory can inform effective strategies for engaging these stakeholders. For example, Podio’s collaborative features can be used to facilitate communication and information sharing among stakeholders. The system can also be configured to provide stakeholders with access to relevant data and reports, promoting transparency and accountability.

Social network theory also emphasizes the importance of building strong relationships and fostering collaboration within social systems. Data management initiatives can provide opportunities to strengthen relationships between stakeholders by creating shared platforms for accessing and analyzing data. This can lead to increased collaboration, knowledge sharing, and a greater sense of ownership over the data.

In conclusion, social network theory provides valuable insights into the importance of stakeholder engagement in data management initiatives. By understanding the relationships and connections between stakeholders, organizations can develop more effective strategies for engaging them, promoting communication, and fostering collaboration. The implementation of a Podio-based data management system at A32V can benefit from these insights by prioritizing stakeholder engagement and leveraging the system's collaborative features to build strong relationships and facilitate effective communication.

3. Methodological Framework

The structure and strategy employed to conduct this research, along with the methodological framework, form the backbone of this project. As a crucial element, it clearly outlines the specific methods and procedures used for data collection and analysis, ensuring the rigor and validity of the research findings, emphasized by Creswell & Creswell (2018). This section will elaborate on the specific methodological approach taken to develop a Podio-based data management system implementation plan for Asociación 32 Volcanes (A32V).

A strong methodological framework is not merely a formality; it is essential for guiding the research process effectively, aligning it with the project's objectives. It provides a clear rationale for the chosen methods, demonstrating their suitability for addressing the research problem or opportunity at hand. As Crotty (1998) suggests, this framework acts as a vital link between the underlying philosophical assumptions of the research and the practical methods used to gather and analyze data.

This chapter will detail the information sources, research methods, tools, assumptions, constraints, and deliverables that are central to this project. Each of these components contributes to the systematic and rigorous approach taken in developing the Podio implementation plan. By articulating these elements clearly, we enhance the transparency and replicability of the research process, enabling others to understand and evaluate the project's methodology.

To elaborate further, the following sections provide a detailed explanation of each of these key components. First, the Information Sources section will describe the various resources used to gather data and support the research, including both primary and secondary sources, as well as their relevance to the project. Next, the Research Methods section will detail the specific methods employed for data collection and analysis, explaining the rationale behind their

selection and justification for their application within the project's context. The Tools section outlines the specific tools used throughout the project, describing each tool, its purpose, and its function. Following that, the Assumptions and Constraints section will identify the assumptions made during the project and the constraints that may have influenced its execution or outcomes. Finally, the Deliverables section will describe the tangible outputs of the project, detailing each deliverable and its intended use.

3.1. Information Sources

Information sources are the origins from which researchers gather data or information to support their research. They play a crucial role in providing evidence, context, and diverse perspectives that contribute to the credibility and rigor of a study. According to Saunders, Lewis, and Thornhill (2015), information sources can range from published materials to direct observations and interactions with individuals. They emphasize that selecting appropriate information sources is crucial for ensuring the quality and relevance of the data collected. Similarly, Flick (2014) defines information sources as the various forms of data and evidence that researchers utilize to investigate their research questions, highlighting the importance of considering the nature, reliability, and validity of these sources.

3.1.1. Primary Sources

Primary sources of information are original, firsthand accounts or evidence that directly relate to a topic or event. They are created by individuals who directly experienced or witnessed the event or phenomenon being studied (Gay *et al.*, 2012). Primary sources provide direct and unfiltered information, offering researchers unique insights and perspectives. Examples of primary sources include original documents, such as letters, diaries, interviews, surveys, and firsthand accounts of events.

In the context of this FGP, the primary sources used include:

- Interviews with Asociación 32 Volcanes (A32V) staff: Interviews were conducted with key personnel within the organization to gather firsthand information about their current data management practices, challenges, needs, and expectations for a new system. These interviews provided valuable insights into the specific context of A32V and their unique requirements.
- Direct observation of current processes: Observations were made of the existing data management workflows and processes within A32V to gain a direct understanding of how data is currently collected, stored, and used. This direct observation provided contextual information that helped to identify areas for improvement.

3.1.2. Secondary Sources

Secondary sources of information, in contrast to primary sources, are interpretations, analyses, or evaluations of primary sources. They are created by individuals who did not directly experience the event or phenomenon being studied (Creswell & Creswell, 2014). Secondary sources provide a broader perspective and can help researchers synthesize and contextualize information gathered from primary sources. Examples of secondary sources include books, journal articles, literature reviews, and reports that analyze or interpret primary source information.

The secondary sources used in this FGP include:

- Academic literature: This includes peer-reviewed journal articles and academic books, which were utilized to gather theoretical knowledge and best practices related to data management systems, project management methodologies, and organizational change

management. These sources provided a theoretical foundation for the project and informed the development of the implementation plan.

- Industry reports and publications: Reports and publications from industry organizations and consulting firms were used to obtain information on current trends, technologies, and best practices in data management. These sources provided practical insights and helped to ensure that the implementation plan is aligned with industry standards.

Chart 2
Information Sources

Objectives	**Information sources**	
	Primary	**Secondary**
Define the project's boundaries, deliverables, acceptance criteria, and exclusions, ensuring alignment with organizational goals.	Strategic planning documents; records from board and staff planning sessions; A32V internal reports	PMI (2021); Kerzner (2022); Crotty (1998); Creswell & Creswell (2018)
To decompose the implementation for the data management system into manageable work packages	Internal work plans; collaborative WBS sessions with teams	PMI (2017); Schwalbe (2023); Kerzner (2022)

and define the tasks and activities required		
To develop a detailed project schedule and budget for the data management system, including milestones, dependencies, and resource allocations.	Project calendars, resource allocation charts, and budget documents from the finance team	PMI (2021); Kerzner (2022); Laudon & Laudon (2020); Groves *et al.* (2009)
To plan for the acquisition and effective management of all resources —human, physical, and technological— necessary for the system's implementation.	Recruitment plans; inventory records; procurement documents	Kerzner (2022); PMI (2021); Ramakrishnan & Gehrke (2017); Turban *et al.* (2021)

Note. Adapted from Creswell & Creswell (2018).

3.2. Research Methods

According to Creswell & Creswell (2018), research methods refer to the specific procedures and techniques used for data collection, analysis, and interpretation within a study. These methods determine how evidence is gathered and how it contributes to understanding the problem under investigation. The selection of appropriate research methods ensures methodological rigor and alignment with project objectives.

For this Final Graduation Project (FGP), a mixed-methods approach was adopted to gather qualitative insights and quantitative data related to the implementation of a Podio-based data management system at Asociación 32 Volcanes (A32V). The research methods were selected to match each of the four specific objectives and are summarized below.

Chart 3
Research Methods

Objectives	**Research methods**	
	Indicate research method 1	Indicate research method 2
To define the project's boundaries, deliverables, acceptance criteria, and exclusions, ensuring alignment with organizational goals.	Content Analysis of strategic and operational planning documents (Creswell & Creswell, 2018).	Workshops with A32V leadership to validate scope elements and ensure alignment (Brinkmann, 2014).
To decompose the implementation of the data management system into manageable work packages and define the tasks and activities required for successful execution.	Work Breakdown Structure (WBS) Development Sessions following PMBOK® guidelines (PMI, 2021).	Expert Consultation with experienced project managers and team leaders (Yin, 2018).

To develop a detailed project schedule and budget for the data management system, including milestones, dependencies, and resource allocations.	Schedule Modeling using Gantt Charts and Critical Path Method (Kerzner, 2022).	Delphi Technique for consensus on resource needs and cost estimates (Creswell & Creswell, 2018).
To plan for the acquisition and effective management of all resources —human, physical, and technological— necessary for the system's implementation.	Resource Planning Workshops with department leads (PMI, 2021).	Inventory and Procurement Document Review for past resource utilization (Ramakrishnan & Gehrke, 2017).

Note. Adapted from Brinkmann (2014).

3.3. Tools

Project management tools are essential techniques and instruments used to plan, organize, execute, and control project activities, thereby supporting the achievement of defined objectives (PMI, 2021). For this Final Graduation Project (FGP), specific tools have been selected to support the implementation of a Podio-based data management system at Asociación 32 Volcanes (A32V).

The selected tools respond directly to each of the four specific objectives. These include templates such as the Project Charter and Scope Statement to define the project's boundaries, Work Breakdown Structures (WBS) and Responsibility Assignment Matrices for task planning,

Gantt charts and budgeting templates for scheduling and cost estimation, as well as procurement and staffing tools to guide resource planning. Each tool has been chosen to ensure clarity, control, and traceability throughout the project lifecycle.

Chart 4
Tools

Objectives	**Tools**
To define the project's boundaries, deliverables, acceptance criteria, and exclusions to ensure the data management system aligns with organizational goals.	Project Charter Template, Scope Statement, Requirements Traceability Matrix (PMI, 2021; Kerzner, 2022).
To decompose the implementation of the data management system into manageable work packages and define the tasks and activities required for successful execution.	Work Breakdown Structure (WBS), Responsibility Assignment Matrix, Mind Mapping Tools (PMI, 2021).
To develop a detailed project schedule and budget for the data management system, including milestones, dependencies, and resource allocations.	Gantt Chart Software (e.g., Project Libre), Critical Path Method (CPM), Resource Histogram, Budgeting Templates (Kerzner, 2022; Schwalbe, 2023).

To plan for the acquisition and effective management of all resources —human, physical, and technological— necessary for the system ’s implementation.	Resource Management Plan, Procurement Planning Tools, Inventory Records, Staffing Matrix (PMI, 2021; Laudon & Laudon, 2020).

Note. Adapted from Project Management Institute (2021).

3.4. Assumptions and Constraints

In project management, assumptions are conditions that are believed to be accurate or certain to happen, even if not verified at the project ’s start (PMI, 2021). These serve as the basis for planning and can significantly affect project outcomes. Conversely, constraints are limiting factors that affect the project ’s execution, such as time, budget, scope, or available resources (Kerzner, 2022).

For this Final Graduation Project (FGP), identifying assumptions and constraints is key to developing a realistic and manageable implementation plan for the Podio-based data management system. Assumptions clarify the conditions that are expected to be held during execution, while constraints help anticipate the challenges that must be addressed to ensure success.

Chart 5
Assumptions and Constraints

Objectives	**Assumptions**	**Constraints**
To define the project’s boundaries, deliverables,	Organizational goals and priorities are clearly defined	Time limitations or changes in strategic direction may impact

acceptance criteria, and exclusions, ensuring alignment with organizational goals.	and accessible for alignment with project deliverables.	scope validation with executive leadership.
To decompose the project into manageable work packages, define the tasks and activities required for successful implementation.	Team members have a clear understanding of the technical scope and are available to participate in WBS creation sessions.	Variability in staff availability or gaps in technical knowledge may hinder the decomposition of tasks.
To develop a project schedule with defined milestones, dependencies, and resource allocations, and create a comprehensive budget aligned with the project scope.	Resource availability, task durations, and cost data are accurate and updated based on recent internal records.	Budget ceilings and stakeholder-defined timeframes may limit flexibility in scheduling and cost estimation.
To plan for the acquisition and effective management of all resources —human, physical, and technological— necessary	Procurement processes and local partnerships will support timely access to necessary human, physical, and technological resources.	Delays in procurement or hiring due to policy restrictions or external supply limitations may affect implementation timelines.

for the system's implementation.

Note. Adapted from Kerzner (2022).

3.5. Deliverables

In project management, deliverables are the tangible or intangible outputs produced during a project's execution that fulfill its objectives (Project Management Institute [PMI], 2021). These outputs may be internal —intended for use within the organization— or external, designed for stakeholders. Typically, deliverables include reports, systems, tools, or documentation necessary for achieving project success (Kerzner, 2022).

For this Final Graduation Project (FGP), deliverables represent critical outcomes that demonstrate project progress, validate findings, and guide the successful implementation of the Podio-based data management system at Asociación 32 Volcanes (A32V). These outputs are aligned with the project's specific objectives, supporting informed decision-making and effective stakeholder engagement (Schwalbe, 2023).

Chart 6
Deliverables

Objectives	**Deliverables**
To define the project's boundaries, deliverables, acceptance criteria, and	Project Scope Statement, Requirements Documentation, Scope Baseline

exclusions to ensure the data management system aligns with organizational goals.	
To decompose the implementation of the data management system into manageable work packages and define the tasks and activities required for successful execution.	Work Breakdown Structure (WBS), WBS Dictionary, Activity List
To develop a detailed project schedule and budget for the data management system, including milestones, dependencies, and resource allocations.	Gantt Chart, Milestone List, Budget Plan, Resource Histogram
To plan for the acquisition and effective management of all resources —human, physical, and technological— necessary for the system's implementation.	Resource Management Plan, Procurement Strategy, Staffing Plan

Note. Adapted from Schwalbe (2023).

4. Results

This chapter presents the outcomes derived from applying project management principles to the design of a Podio-based data management system implementation plan for Asociación 32 Volcanes. The chapter is structured according to each specific objective and includes tools, deliverables, and insights collected through research methods.

4.1. Definition of Project Boundaries, Deliverables, and Scope Alignment (Specific Objective 1)

To define the project's boundaries, deliverables, acceptance criteria, and exclusions to ensure the data management system aligns with organizational goals.

This section details the development of the Project Scope Statement and Scope Baseline. Interviews and planning sessions helped clarify the deliverables and non-included elements. A requirements traceability matrix was constructed to ensure alignment with organizational objectives.

4.1.1. Summary of the Objective

The first specific objective of this Final Graduation Project (FGP) was to define the project's boundaries, deliverables, acceptance criteria, and exclusions to ensure alignment with the strategic and operational goals of Asociación 32 Volcanes (A32V). Result one addresses this by establishing a clear and detailed project scope, which is essential for guiding the implementation of the Podio-based data management system, preventing scope creep, and ensuring stakeholder alignment.

To achieve this, two key deliverables were produced: a Project Scope Statement and a Requirements Traceability Matrix (RTM). These tools provide a formalized definition of what

the system includes and excludes, laying the groundwork for effective planning, communication, and scope control throughout the project lifecycle.

4.1.2. Scope Definition Process

The process of defining the scope for the Podio-based data management system implementation at Asociación 32 Volcanes (A32V) involved both analytical and participatory methods. This approach ensured that the defined boundaries, deliverables, acceptance criteria, and exclusions were not only technically sound but also contextually relevant and aligned with A32V's institutional vision.

Primary information was gathered through structured interviews with the Executive Director, program coordinators, and administrative staff to identify current data management practices, pain points, and desired improvements. Complementing this, internal planning documents —including the organization's strategic plan, health system reports, and agroecology tracking tools— were reviewed to understand institutional priorities and reporting needs.

A collaborative planning session was conducted with members of the Podio development team and A32V leadership to validate the scope elements and align expectations across departments. The output of this session was a jointly reviewed Project Scope Statement, which outlined the functionalities to be included in the implementation (such as financial tracking, beneficiary directories, health services integration, and agroecology monitoring), as well as what would be excluded in this phase (e.g., legacy system migration, advanced analytics, and library automation).

The validated scope was structured into three key deliverables:

- A Project Scope Statement that clearly defines the product scope, deliverables, acceptance criteria, and exclusions.

- A Requirements Traceability Matrix (RTM) that links stakeholder needs with functional requirements and deliverables.
- Furthermore, a Scope Baseline serves as a control reference for future changes to project scope.

These tools collectively ensure that project execution is strategically aligned and operationally focused, reducing risks associated with misalignment, ambiguity, or scope creep.

4.1.3. Project Scope Statement

This scope statement defines the boundaries, deliverables, exclusions, acceptance criteria, and constraints for the development of an implementation plan for a Podio-based data management system at Asociación 32 Volcanes (A32V). It provides the foundation for the project's planning and control processes and ensures alignment with A32V's strategic and operational goals. The information here forms part of the scope baseline and is complemented by the Requirements Traceability Matrix (RTM).

4.1.3.1. Project Title. Implementation Plan for a Podio-Based Data Management System at Asociación 32 Volcanes (A32V).

4.1.3.2. Project Manager. Luis Eduardo Mejicano Robles.

4.1.3.3. Date. June 2025.

4.1.3.4. Purpose and Justification. This project aims to implement a customized Podio-based data management system to improve data governance, monitoring, and decision-making across A32V's core programs. The platform will replace fragmented, manual systems currently in use, streamlining workflows and improving reporting capacity.

4.1.3.5. Product Scope Description. The Podio system will include workspaces for

finance, beneficiaries, health, and agroecology. The project includes configuring fields, automations, permission structures, and reporting dashboards tailored to A32V's needs. It does not include legacy data migration or advanced analytics at this stage.

4.1.3.6. Project Deliverables

- Scope Statement.
- Requirements Traceability Matrix.
- Customized Podio modules for:
  - Accounting and budgeting.
  - Beneficiary and supplier directories.
  - Health system tracking.
  - Agroecology monitoring (pilot phase).
- Project Schedule and Budget.
- WBS and WBS Dictionary.
- Resource Management Plan.
- Training materials and a basic user manual.

4.1.3.7. Acceptance Criteria

- All core modules must be functional, tested, and reviewed by relevant teams.
- End users must complete basic training and perform test data entry.
- Stakeholder feedback must be incorporated prior to final approval.
- All tools must align with A32V's operational processes and strategic goals.

4.1.3.8. Project Exclusions

- Digital library management system (future phase).
- Full integration with third-party accounting software.

- Automated donor report generation.
- Data migration from old tools.
- System maintenance beyond the implementation phase.

4.1.3.9. Constraints

- 7-week implementation timeframe.
- Limited IT support and in-house technical capacity.
- Must use only existing Podio license and free tools (e.g., ProjectLibre).

4.1.3.10. Assumptions

- Active participation from each program coordinator.
- Podio features meet all core requirements without custom code.

Strategic alignment remains unchanged during implementation baseline, ensuring consistency and traceability throughout the planning process.

4.1.4. Requirements Traceability Matrix (RTM)

The Requirements Traceability Matrix (RTM) provides a structured mapping between stakeholder requirements and the corresponding project deliverables. It ensures that each requirement identified during the stakeholder engagement process is addressed through a concrete outcome in the implementation plan. This tool is essential for maintaining alignment with user expectations, avoiding scope creep, and validating the completeness of the solution.

A summary version is presented below (Chart 7), and the complete matrix is included in Appendix 4.

Chart 7
Summary of Requirements Traceability Matrix (RTM)

Stakeholder Requirement	Mapped Deliverable

Ability to track beneficiary and supplier data	Stakeholder directory module
Centralized financial reporting across programs	Financial tracking module with budget-linked fields
Ability to log and review health visits and medical records	Health services module structure
Monitor agroecological field visits and fuel usage	Agroecology monitoring module (structure + mileage tracking)
Ability to assign, follow up, and document support tickets	Task app structure with status flows
Easy-to-use interface and internal training support	Training plan and onboarding guidelines

Note. Prepared by the author based on stakeholder interviews and project documentation.

Chart 8
Requirement Traceability Matrix (RTM)

Stakeholders	**Need/Expectation**	**Functional Requirement**	**Deliverable**	**Acceptance Criteria**

Board of Directors	Strategic data for decision-making	Dashboard views and export features	Podio workspace with project reports	Data must be exportable and usable for strategic planning meetings
Accountant	Track budgets and expenses per project	Financial module with category-based fields	Financial tracking workspace	All expenses data must be categorized and exportable in Excel
Health Program Coordinator	Maintain patient visit and nutrition program records	Custom field for medical data and patient histories	Health tracking module	Data must be secure, searchable, and allow tracking or follow-ups
Agroecology Coordinator	Track filed activities and production indicators	Information management for agroecological projects like bio-digesters, reforestation,	Agroecology monitoring module pilot	Must be usable by field staff on mobile devices and generate periodic reports

		family vegetable and medicinal plant gardens, and follow-up visits		
Administration	Maintain an updated directory of suppliers and contacts	Contact database with tagging and categories	Beneficiary & supplier directories	The directory must include basic info, role tags, and searchable
Implementation Team	Clear scope and alignment with project objectives	Documented scope, exclusions, deliverables	Project Scope Statement + Project Scope Baseline	Approved by leadership; used as reference during implementation
All Staff (end-users)	Easy-to-use interface and access to training resources	User-friendly layout, tutorials, and onboarding sessions	Training plan and manuals	Staff can complete tasks independently after one training session

Note. Prepared by the author based on stakeholder interviews and project documentation.

4.1.5. Scope Baseline

The scope baseline is a key component of the project management plan, serving as a reference point against which project performance can be measured and controlled. For this Final Graduation Project (FGP), the scope baseline includes three core elements: the Project Scope Statement, the Work Breakdown Structure (WBS), and the WBS Dictionary. Together, these artifacts formalize what is included in the project and provide a structured framework to avoid scope creep and ensure consistent alignment with the project's objectives.

The Project Scope Statement outlines the boundaries, deliverables, acceptance criteria, exclusions, constraints, and assumptions related to the development of the implementation plan for the Podio-based data management system at Asociación 32 Volcanes (A32V). It was validated through participatory sessions with A32V staff and is designed to ensure clarity of expectations among stakeholders.

The Work Breakdown Structure (WBS) provides a hierarchical decomposition of the work required to complete the project, breaking it into manageable components or work packages. This structure allows for improved task planning, resource assignment, and progress monitoring throughout the project lifecycle. The WBS was developed using a top-down approach and adheres to PMI standards for effective project scoping.

The WBS Dictionary complements the WBS by providing detailed descriptions of each work package, including the scope of work, responsible resources, estimated duration, and dependencies. This document ensures a shared understanding of each project component among all team members and stakeholders.

Together, these three components establish a formal scope baseline, which will be used throughout the project to control and validate scope-related changes. The complete versions of the WBS and WBS Dictionary are available in Appendix 5.

4.2. Development of the Work Breakdown Structure and Task Definition (Specific Objective 2)

To decompose the implementation of the data management system into manageable work packages and define the tasks and activities required for successful execution.

4.2.1. Summary of the Objective

The second specific objective of this project was to develop a feasible schedule and budget plan by structuring the project into manageable work components. This was achieved through the development of a hierarchical Work Breakdown Structure (WBS), followed by a time and cost estimation exercise aligned with project constraints and resource availability.

The objective also supports the overall project success by ensuring that time, resources, and financial inputs are allocated strategically across all phases of the Podio system implementation. The WBS, project schedule, and cost baseline provide an integrated planning approach to monitor progress and manage project execution efficiently.

4.2.2. Work Breakdown Structure (WBS)

The Work Breakdown Structure (WBS) was developed following the guidelines of the PMBOK® Guide (Project Management Institute, 2021), using a hierarchical decomposition approach. The WBS identifies five major process groups aligned with the lifecycle of the project: Initiation, Planning, Execution, Monitoring and Controlling, and Closing.

Each significant element was further decomposed into specific activities such as stakeholder analysis, scope definition, cost estimation, and final review. This structure supports the logical sequencing of tasks and clarity in deliverables.

The Work Breakdown Structure (WBS) for this project was developed using a hierarchical format consistent with PMI guidelines.

1.0 Development of a Podio-Based Data Management System Implementation Plan

1.1 Project Initiation Phase

1.1.1 Project Charter

1.1.2 Stakeholder Identification and Analysis

1.1.3 Kick-off Meeting and Approval

1.2 Planning Phase

1.2.1 Scope Definition

1.2.1.1 Project Scope Statement

1.2.1.2 Requirements Traceability Matrix (RTM)

1.2.1.3 Scope Baseline

1.2.2 Time and Cost Planning

1.2.2.1 Project Schedule (Gantt)

1.2.2.2 Resource Allocation Plan

1.2.2.3 Budget Estimation

1.2.3 Quality and Risk Planning

1.2.3.1 Quality Management Approach

1.2.3.2 Risk Register and Mitigation Strategies

1.2.4 Communication and Stakeholder Plan

Figure 8
Work Breakdown Structure in Tree Format

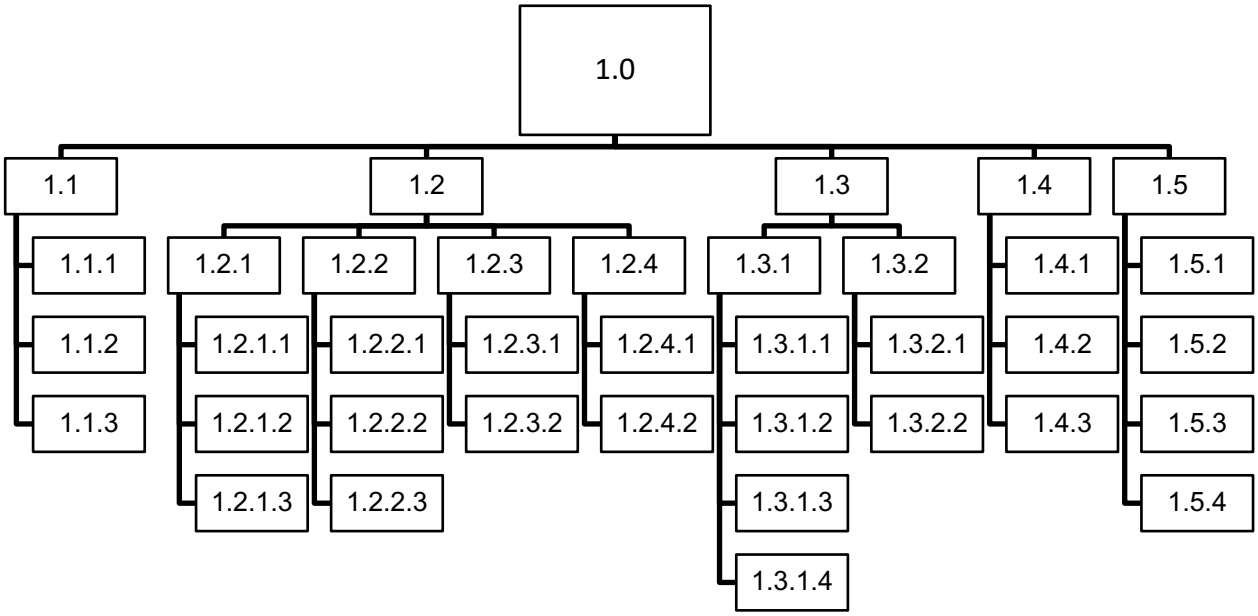


Figure 9
Work Breakdown Structure – Section 1.1

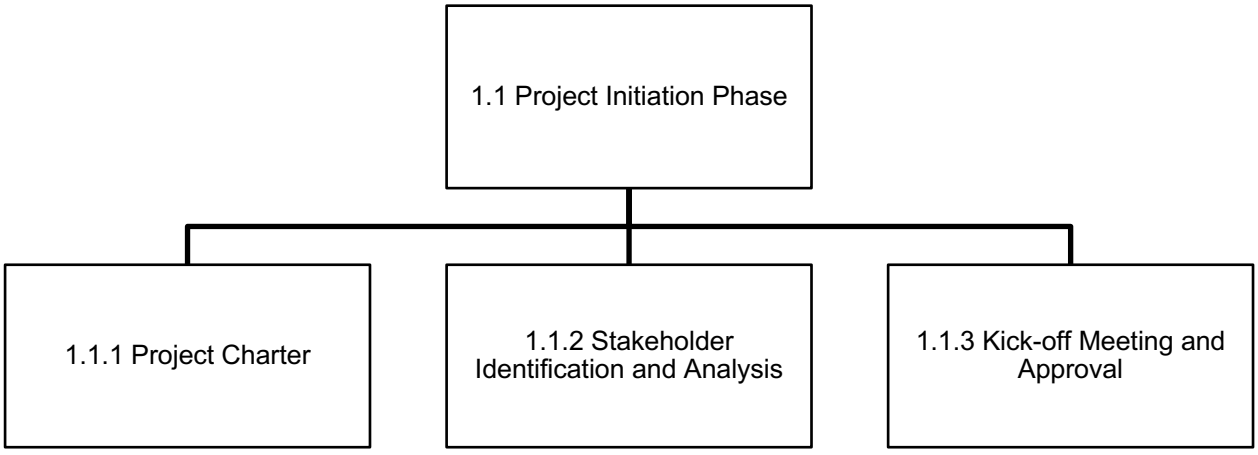


Figure *10*
Work Breakdown Structure – Section 1.2

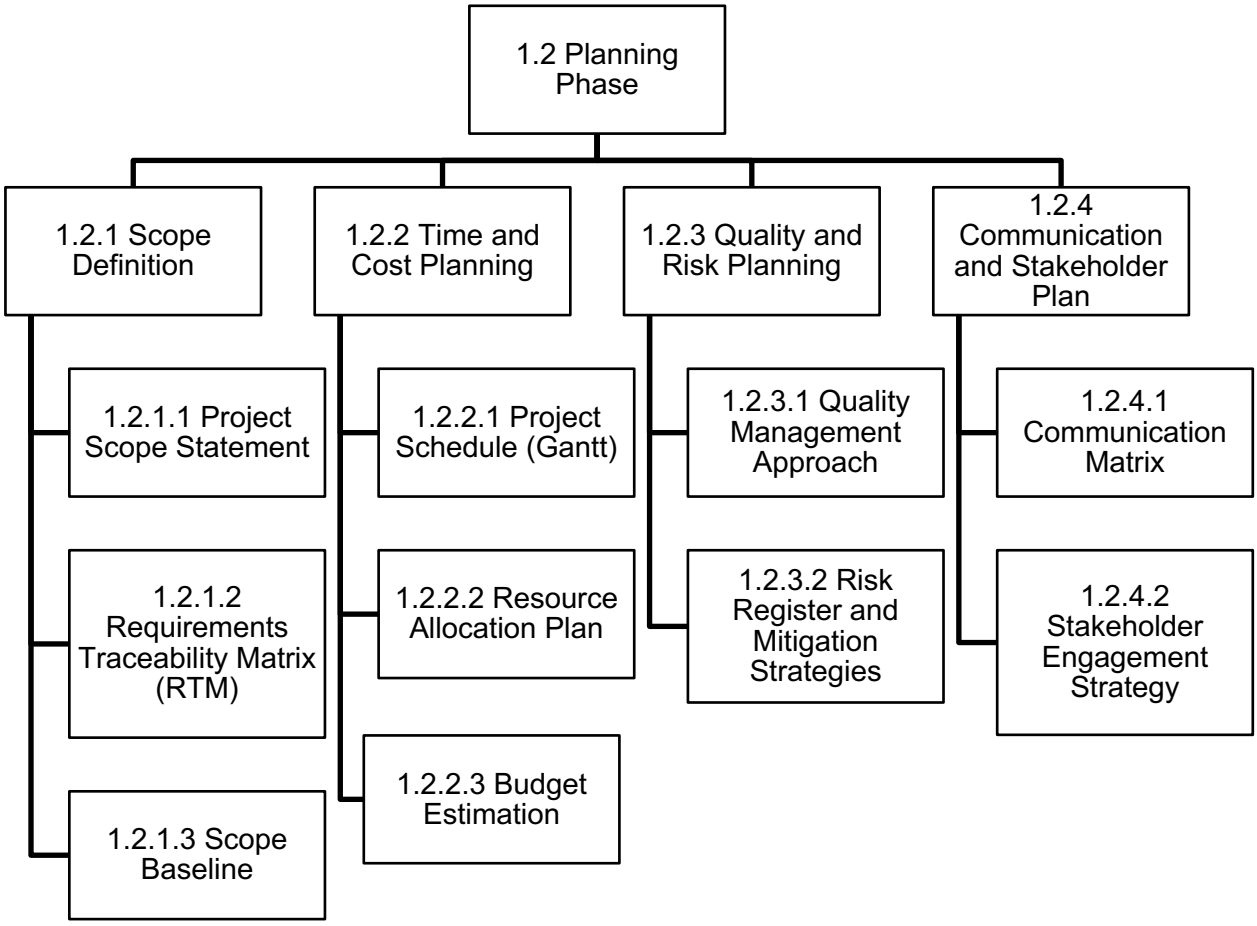


Figure 11

Work Breakdown Structure – Section 1.3

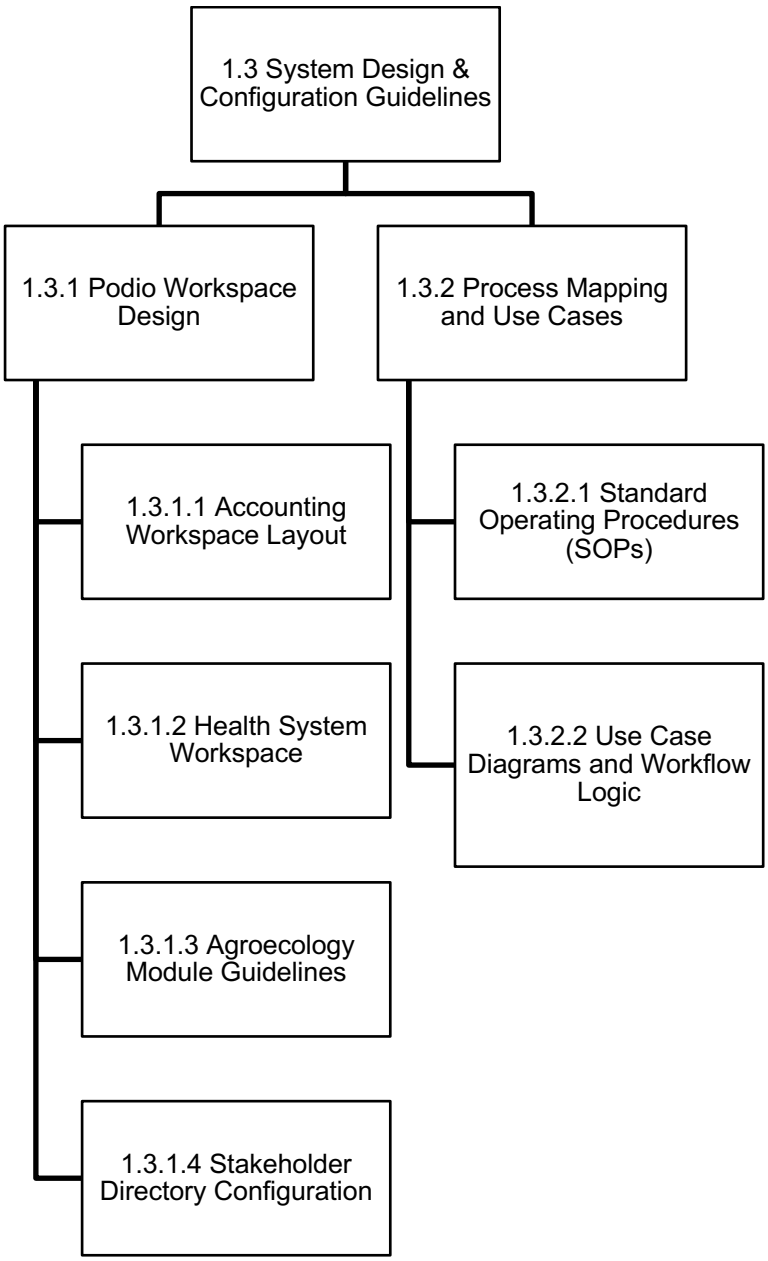


Figure 12
Work Breakdown Structure – Section 1.4

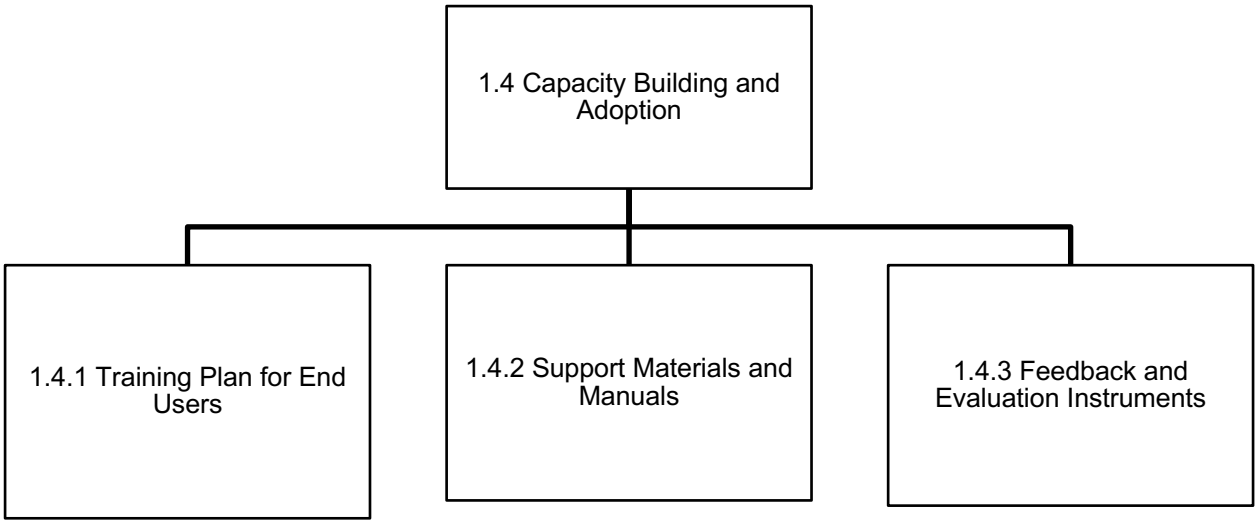
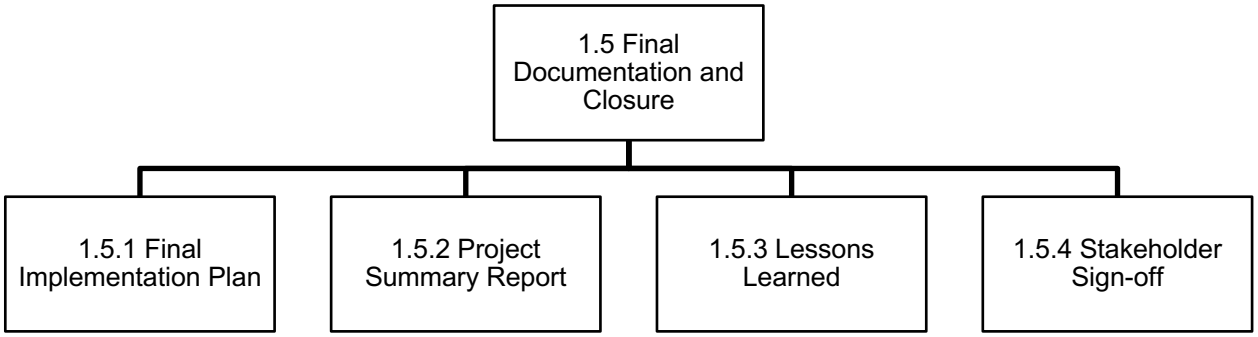


Figure 13
Work Breakdown Structure – Section 1.5



4.2.3. WBS Dictionary

In parallel to the WBS, a comprehensive WBS Dictionary was created to provide detailed descriptions of each work package and sub-component. This dictionary includes:

- Task name.

- WBS code.
- Description of the task.
- Key outputs and notes for implementation.

The WBS Dictionary ensures clarity in task scope, prevents overlaps, and supports effective delegation.

Chart 9
WBS Dictionary

WBS Code	**Task Name**	**Description**
1.1.1	Develop the Project Charter	Document project purpose, objectives, and authorization.
1.1.2	Identify and Analyze Stakeholders	List and analyze key stakeholders' interests, influence, and impact.
1.1.3	Conduct the Project Kick-off Meeting	Formally initiate the project and align team and stakeholder expectations.
1.2.1.1	Define the Scope Management Approach	Describe how the scope will be defined, validated, and controlled.
1.2.1.2	Define the Schedule Management Approach	Establish methods and tools for scheduling activities.

1.2.1.3	Define the Cost Management Approach	Specify budgeting, estimation, and cost control techniques.
1.2.1.4	Define the Quality Management Approach	Detail quality requirements and control processes.
1.2.1.5	Define the Resource Management Approach	Outline how resources will be identified, acquired, and managed.
1.2.1.6	Define the Communication Management Approach	Define how project information will be shared among stakeholders.
1.2.1.7	Define the Risk Management Approach	Specify how risks will be identified, assessed, and mitigated.
1.2.1.8	Define the Stakeholder Engagement Approach	Describe strategies for engaging stakeholders throughout the project.
1.2.2	Conduct Stakeholder Analysis	Develop a stakeholder register with influence, expectations, and impact.
1.2.3.1	Develop the Scope Statement	Document the detailed scope, including deliverables, constraints, and exclusions.
1.2.3.2	Develop the Work Breakdown Structure (WBS)	Create a hierarchical decomposition of the total project scope.

1.2.3.3	Develop the WBS Dictionary	Define scope, deliverables, activities, and responsibilities for each WBS component.
1.2.4.1	Define Project Activities	Break down work packages into discrete activities.
1.2.4.2	Sequence Project Activities	Determine logical relationships among activities.
1.2.4.3	Estimate Activity Resources	Identify the types and quantities of resources required.
1.2.4.4	Estimate Activity Durations	Approximate time needed to complete each activity.
1.2.4.5	Develop the Schedule Baseline	Finalize and approve the project timeline.
1.2.5.1	Estimate Costs	Determine financial resources needed for activities.
1.2.5.2	Determine the Budget	Aggregate costs and assign to work packages.
1.2.5.3	Develop the Cost Baseline	Create the approved version of the budget.
1.2.6.1	Identify Project Risk	List potential risks that may affect the project.
1.2.6.2	Perform Qualitative Risk Analysis	Prioritize risks based on probability and impact.

1.2.6.3	Perform Quantitative Risk Analysis	Numerically analyze the effect of risks (if applicable).
1.2.6.4	Plan Risk Responses	Develop options and actions to enhance opportunities and reduce threats.
1.3.1	Facilitate Plan Development Meetings	Coordinate working sessions with project stakeholders.
1.3.2	Document All Plan Components	Compile and formalize all planning deliverables.
1.3.3	Review and Refine the Complete Plan	Conduct a quality review and adjust as needed.
1.4.1	Monitor and Control the Project Schedule	Track project time performance.
1.4.2	Monitor and Control Project Costs	Track and control actual versus planned expenditures.
1.4.3	Monitor and Control Project Risks	Update the risk register and evaluate response effectiveness.
1.4.4	Monitor and Control Stakeholder Engagement	Ensure stakeholder concerns are addressed.

1.4.5	Perform Integrated Change Control	Manage and document changes to project scope, time, and cost.
1.5.1	Finalize All Project Documentation	Ensure all project documents are complete and archived.
1.5.2	Obtain Formal Stakeholder Acceptance	Secure official sign-off on project deliverables.
1.5.3	Document Lessons Learned	Compile key insights and improvement areas.
1.5.4	Present the Final Implementation Plan	Deliver and explain the complete implementation package to stakeholders.

4.2.4. Conclusion of the Result

The Work Breakdown Structure and its associated dictionary provide a foundational framework that supports subsequent planning processes. These include project scheduling, budgeting, and resource allocation, which are discussed in Result 3 under Specific Objective 3.

The WBS was designed to ensure a logical sequencing of work packages, which enabled the creation of a detailed Gantt chart and resource plan. Furthermore, task-level clarity facilitated the estimation of effort, duration, and costs, forming the basis for the cost baseline presented in the next chapter.

It is important to note that Result 2 focuses strictly on the decomposition of the project scope. Components related to time and cost planning —such as the project schedule, resource

histogram, and budget estimate— are developed in Result 3 to ensure clarity and thematic consistency.

This integration of scope with time and cost elements enhances the overall alignment of the project planning framework, as recommended by the PMBOK® Guide (Project Management Institute, 2021).

4.2.5. Conclusion of the Result

The development of the WBS and its dictionary provides a strong foundation for project scheduling, budgeting, and risk management. It ensures transparency in execution and enables team members to understand their roles in delivering a coherent, phased Podio implementation plan.

4.3. Development of the Project Schedule and Budget (Specific Objective 3)

To develop a detailed project schedule and budget for the data management system, including milestones, dependencies, and resource allocations.

4.3.1. Summary of the Objective

The third specific objective aimed to develop an integrated plan for time, cost, and resource management, following the PMBOK® Guide (2021). This includes defining a project schedule, estimating the resources required for each activity, and creating a project budget that supports the successful implementation of the Podio-based system.

4.3.2. Project Schedule and Activity Sequencing

The project schedule was developed using ProjectLibre, an open-source project management software that supports Gantt chart creation, dependency linking, and resource allocation. The Work Breakdown Structure (WBS) provided the structural basis for identifying and sequencing project activities.

Using the Precedence Diagramming Method (PDM), logical relationships between activities were defined to establish task dependencies, particularly finish-to-start (FS) links. Task durations were estimated through a combination of expert judgment, historical data, and consultation with A32V's implementation team. The resulting activity network ensures a realistic and actionable timeline for the implementation of the Podio-based data management system.

The Gantt chart integrates all key project phases —from initiation to closure— and highlights dependencies, milestones, and expected task durations. This visual tool supports schedule monitoring and facilitates communication among stakeholders.

Key project milestones include:

- Project Kickoff Meeting.
- Completion of the Planning Documents.
- Configuration of Podio Workspaces.
- Completion of Staff Training and Support Materials.
- Final Approval and Implementation Handover.

Chart 10

Gantt for Project Schedule

		Nombre	Duracion	Inicio	Terminado
1		**1.1 Project Initiation Phase**	**4 days**	**10/03/25 8:00**	**13/03/25 17:00**
2		1.1.1 Project Charter	1 day	10/03/25 8:00	10/03/25 17:00
3		1.1.2 Stakeholder Identification and Analysis	2 days	11/03/25 8:00	12/03/25 17:00
4		1.1.3 Kick-off Meeting and Approval	1 day	13/03/25 8:00	13/03/25 17:00
5		**1.2 Planning Phase**	**18 days**	**14/03/25 11:00**	**9/04/25 11:00**
6		**1.2.1 Scope Definition**	**4 days**	**14/03/25 11:00**	**20/03/25 11:00**
7		1.2.1.1 Project Scope Statement	2 days	14/03/25 11:00	18/03/25 11:00
8		1.2.1.2 Requirements Traceability Matrix (RTM)	1 day	18/03/25 11:00	19/03/25 11:00
9		1.2.1.3 Scope Baseline	1 day	19/03/25 11:00	20/03/25 11:00
10		**1.2.2 Time and Cost Planning**	**6 days**	**20/03/25 11:00**	**28/03/25 11:00**
11		1.2.2.1 Project Schedule (Gantt)	2 days	20/03/25 11:00	24/03/25 11:00
12		1.2.2.2 Resource Allocation Plan	2 days	24/03/25 11:00	26/03/25 11:00
13		1.2.2.3 Budget Estimation	2 days	26/03/25 11:00	28/03/25 11:00
14		**1.2.3 Quality and Risk Planning**	**4 days**	**28/03/25 11:00**	**3/04/25 11:00**
15		1.2.3.1 Quality Management Approach	2 days	28/03/25 11:00	1/04/25 11:00
16		1.2.3.2 Risk Register and Mitigation Strategies	2 days	1/04/25 11:00	3/04/25 11:00
17		**1.2.4 Communication and Stakeholder Plan**	**4 days**	**3/04/25 11:00**	**9/04/25 11:00**
18		1.2.4.1 Communication Matrix	2 days	3/04/25 11:00	7/04/25 11:00
19		1.2.4.2 Stakeholder Engagement Strategy	2 days	7/04/25 11:00	9/04/25 11:00
20		**1.3 System Design & Configuration Guidelines**	**12 days**	**9/04/25 11:00**	**25/04/25 11:00**
21		**1.3.1 Podio Workspace Design**	**8 days**	**9/04/25 11:00**	**21/04/25 11:00**
22		1.3.1.1 Accounting Workspace Layout	2 days	9/04/25 11:00	11/04/25 11:00
23		1.3.1.2 Health System Workspace	2 days	11/04/25 11:00	15/04/25 11:00
24		1.3.1.3 Agroecology Module Guidelines	2 days	15/04/25 11:00	17/04/25 11:00
25		1.3.1.4 Stakeholder Directory Configuration	2 days	17/04/25 11:00	21/04/25 11:00
26		**1.3.2 Process Mapping and Use Cases**	**4 days**	**21/04/25 11:00**	**25/04/25 11:00**
27		1.3.2.1 Standard Operating Procedures (SOPs)	2 days	21/04/25 11:00	23/04/25 11:00
28		1.3.2.2 Use Case Diagrams and Workflow Logic	2 days	23/04/25 11:00	25/04/25 11:00
29		**1.4 Capacity Building and Adoption**	**6 days**	**25/04/25 11:00**	**5/05/25 11:00**
30		1.4.1 Training Plan for End Users	2 days	25/04/25 11:00	29/04/25 11:00
31		1.4.2 Support Materials and Manuals	2 days	29/04/25 11:00	1/05/25 11:00
32		1.4.3 Feedback and Evaluation Instruments	2 days	1/05/25 11:00	5/05/25 11:00
33		**1.5 Final Documentation and Closure**	**8 days**	**5/05/25 11:00**	**15/05/25 11:00**
34		1.5.1 Final Implementation Plan	2 days	5/05/25 11:00	7/05/25 11:00
35		1.5.2 Project Summary Report	2 days	7/05/25 11:00	9/05/25 11:00

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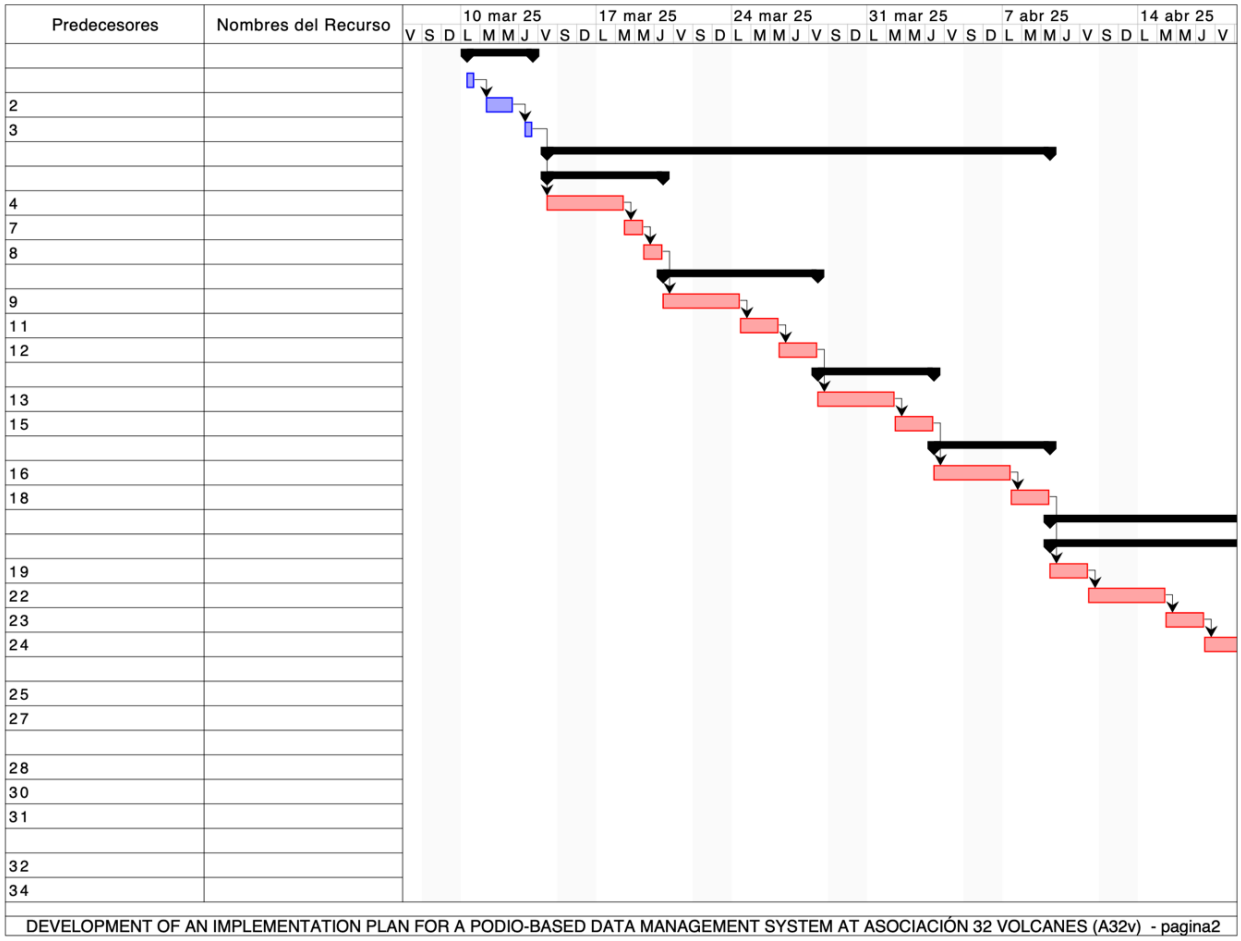
		Nombre	Duracion	Inicio	Terminado
36		1.5.3 Lessons Learned	2 days	9/05/25 11:00	13/05/25 11:00
37		1.5.4 Stakeholder Sign-off	2 days	13/05/25 11:00	15/05/25 11:00


Predecesores
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24 mar 25
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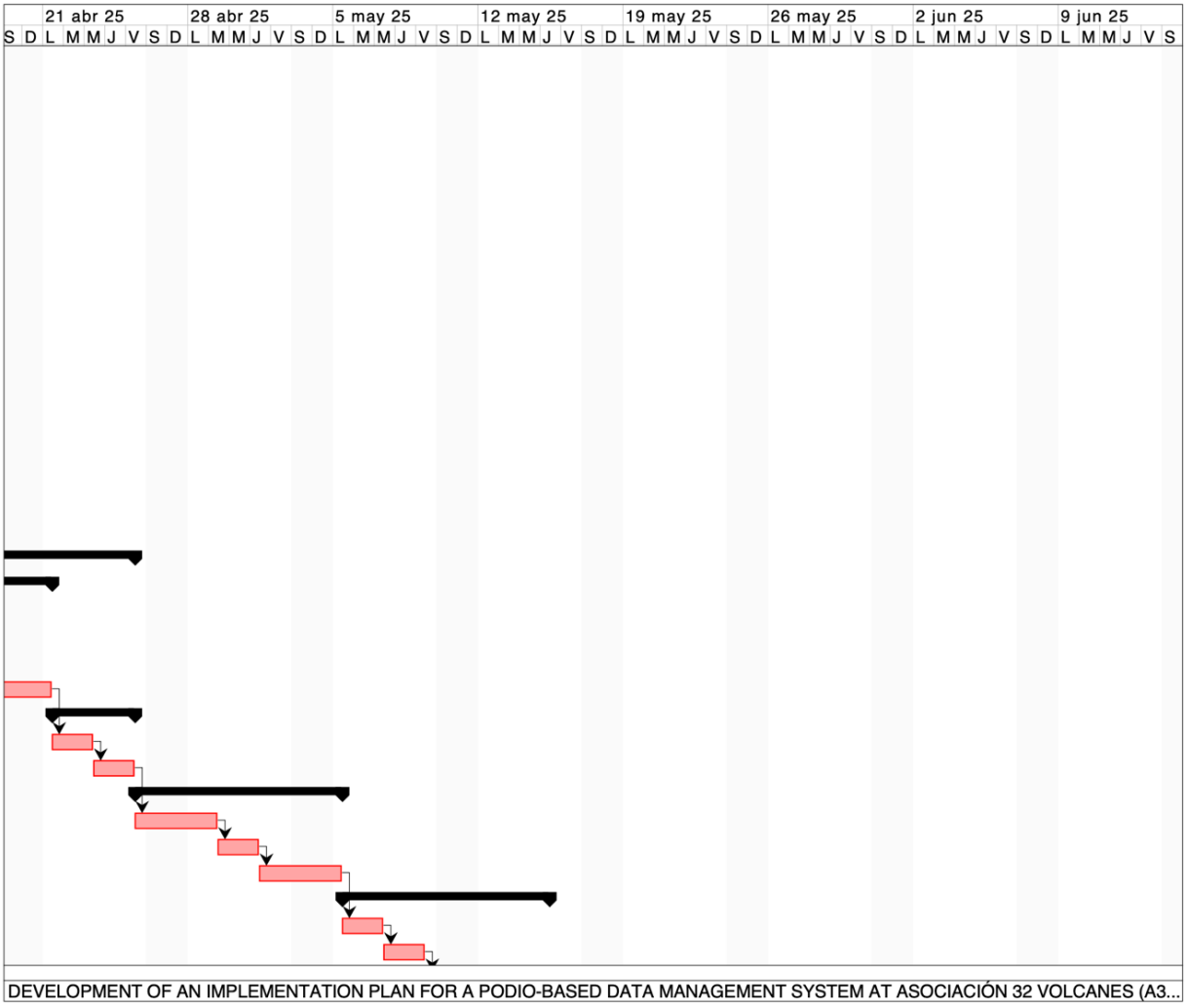
DEVELOPMENT OF AN IMPLEMENTATION PLAN FOR A PODIO-BASED DATA MANAGEMENT SYSTEM AT ASOCIACIÓN 32 VOLCANES (A32v) - pagina2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DEVELOPMENT OF AN IMPLEMENTATION PLAN FOR A PODIO-BASED DATA MANAGEMENT SYSTEM AT ASOCIACIÓN 32 VOLCANES (A3...

Predecesores	Nombres del Recurso	10 mar 25									17 mar 25								24 mar 25								31 mar 25								7 abr 25								14 abr 25				
		V	S	D	L	M	M	J	V	S	D	L	M	M	J	V	S	D	L	M	M	J	V	S	D	L	M	M	J	V	S	D	L	M	M	J	V	S	D	L	M	M	J	V
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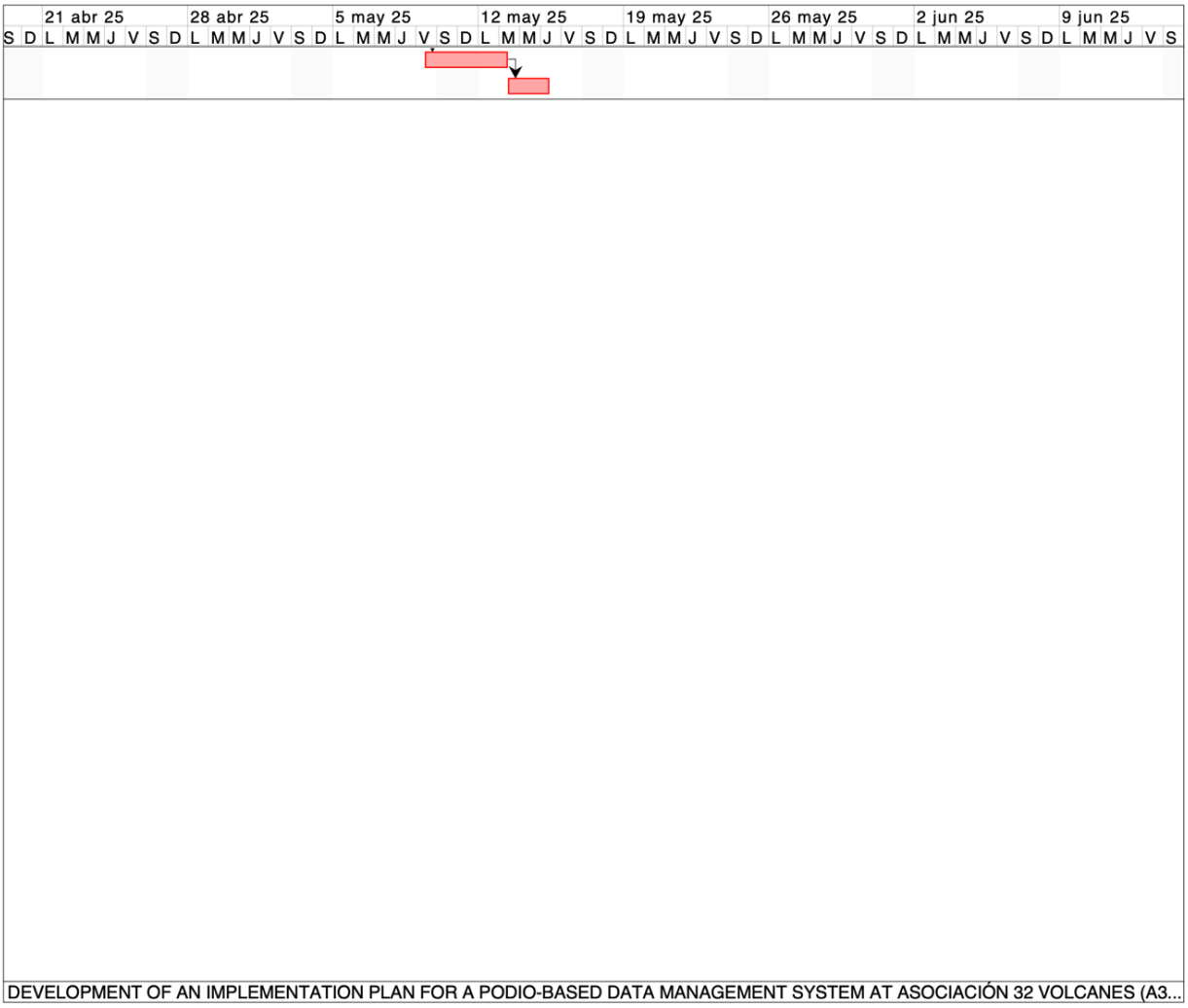


The Gantt chart, presented in Chart 10, defines the project's timeline, supports resource leveling, and provides a baseline against which schedule performance will be monitored throughout the execution phase.

4.3.3. Critical Path Method (CPM) Analysis and Schedule Control

Method Applied:

- The calculation of ES (Early Start) / EF (Early Finish) / LS (Late Start) / LF (Late Finish) follows the standard CPM algorithm (forward and backward pass).

- Total Float = 0 for 36 out of 37 activities: This aligns with the project's sequential structure.
- The only non-critical activity (Activity 1: "Project Initiation Phase") is a summary milestone, not an executable task. Its exclusion from the critical path is valid.

Temporal Consistency:

- Total calculated duration (122 working days) aligns with the project schedule (March 10, 2025 – May 15, 2025).
- Key milestone dates (e.g., end of planning: day 58) are consistent with the Work Breakdown Structure (WBS).

Control Mechanisms:

Given the high dependency between sequential tasks and the presence of minimal float, schedule slippage poses a significant risk. To monitor and control the execution of critical path tasks, the following mechanisms will be implemented:

- Weekly progress reviews to validate completion of activities on the critical path.
- Podio's timeline and task-tracking features to provide real-time status updates and flag potential delays.
- Milestone check-ins every two weeks to confirm alignment with baseline dates.
- Buffer identification for the single non-critical activity, though flexibility is minimal in this project.
- Earned Value Management (EVM) tools, such as the Schedule Performance Index (SPI), may be introduced in advanced phases to measure schedule efficiency and forecast project completion.

This integrated approach ensures continuous monitoring and proactive control of the schedule, supporting the realistic and timely delivery of the project by the planned completion date of May 15, 2025.

4.3.4. RACI Matrix

To support effective coordination and accountability, a RACI matrix was developed for the Podio-Based Data Management System Implementation Project. This matrix defines the roles of all key stakeholders across major project activities, clarifying who is Responsible, Accountable, Consulted, and Informed.

The matrix is structured around the five critical phases of the project. It includes roles such as the Project Sponsor, Project Manager, Podio Specialist, Area Leaders, Training Team, and Quality Committee. The use of a RACI framework ensures clear communication, timely decision-making, and efficient execution aligned with the project schedule and scope.

Chart 11
RACI Matrix for the Podio Implementation Project at 32V, Key Roles

Role	Description
Project Sponsor	Makes strategic decisions, approves budget and scope.
Project Manager (PM)	Coordinates execution, supervises schedule, and resources.
Podio Specialist	Designs/configures platform, resolves technical issues.

Area Leaders (Accounting, Health, Agroecology)	Validate requirements and adoption.
Training Team	Develops materials and trains end users.
Quality Committee	Verifies compliance with standards and documentation.

Note. Prepared by the author based on the Critical Path Analysis for the Implementation Plan of a Podio-Based Data Management System at Asociación 32 Volcanes (2025).

Chart 12
Matrix by Critical Phases

Activity (ID)	Responsible (R)	Accountable (A)	Consulted (C)	Informed (I)
1. INITIATION				
1.1.1 Project Charter (2)	PM	Sponsor	Area Leaders	Full Team
1.1.2 Stakeholder Analysis (3)	PM	Sponsor	Podio Specialist	Quality Committee
2. PLANNING				
1.2.1.1 Scope Statement (7)	PM	Sponsor	Podio Specialist	Area Leaders

1.2.2.1 Project Schedule (Gantt) (11)	PM	Sponsor	Podio Specialist	–
1.2.3.2 Risk Register (16)	PM	Quality Committee	Area Leaders	Sponsor
3. SYSTEM DESIGN				
1.3.1.1 Accounting Workspace (22)	Podio Specialist	PM	Accounting Leader	Training Team
1.3.1.3 Agroecology Module (24)	Podio Specialist	PM	Agroecology Leader	Quality Committee
1.3.2.2 Workflow Logic (28)	Podio Specialist	PM	All Area Leaders	–
4. TRAINING				
1.4.1 Training Plan (30)	Training Team	PM	Podio Specialist	Area Leaders
1.4.3 Feedback (32)	Training Team	Quality Committee	Pilot Users	Sponsor
5. CLOSURE				

1.5.3 Lessons Learned (36)	PM	Quality Committee	Full Team	Sponsor
1.5.4 Stakeholder Sign-off (37)	Sponsor	PM	Area Leaders	–

4.3.5. Project Budget

The project budget was developed through a bottom-up estimation process, aggregating projected costs from each work package. Inputs included internal expense reports from Asociación 32 Volcanes (A32V), supplier quotations, and estimates for volunteer contributions. Cost assumptions were validated in collaboration with the implementation team to ensure feasibility and alignment with organizational standards.

Cost categories include:

- Human resources: Staff time for planning, design, configuration, training, and review.
- Software and tools: Use of project management software, data platforms, and support applications.
- Training and dissemination: Materials for onboarding users, printing manuals, and facilitation logistics.
- Meetings and coordination: Travel and logistics for stakeholder workshops, especially in rural and urban areas.
- Contingency: Buffer for unforeseen costs related to rescheduling, support, or technical barriers.

The estimated budget, detailed in Chart 11, reflects a realistic projection of planning costs and time-based contributions. A modest contingency line (4% of the total budget) was included to manage uncertainty.

Chart 13
Budget Table & Resource Histogram

Item	Description	Details	Estimated Cost (USD)
1	Planning Software & Tools	Project management software (e.g., MS Project, Merlin) for schedule and resource planning, if not already available	0
2	Research Materials & Data Collection	Access to PMBOK guides, templates, and relevant online resources. Potential costs for data collection (e.g., stakeholder surveys, interviews).	25
3	Stakeholder Consultation & Meetings	Costs associated with organizing and conducting stakeholder meetings. Travel costs for in-person interviews and consultations within Quetzaltenango and Guatemala City.	100
4	Documentation & Report Preparation	Printing and binding of the final implementation plan document. Potential costs for professional editing or formatting services.	25

5	Contingency Reserve	Known risks identified during risk planning (5%)	25
6	Management Reserve	Unknown and unforeseen risks (2%)	10
7	Student Research Time	Project Manager Time (105 hours @ $3.14/hour)	330
	Total Estimated Budget		515

To support this budget, a resource histogram was created (see Figure 8), showing weekly workload distribution by project phase and role. This visualization reinforces schedule realism and helps in workload balancing and resource leveling.

Budget Justification (Chart 12). The following provides a detailed justification for each item included in the project budget:

4.3.5.1. Planning Software & Tools (USD $0). This item includes incidental expenses related to supporting materials used during the project planning process. These may include access to academic journals, reference documents, project management templates, or productivity tools required for structuring the implementation plan. Although no formal surveys were conducted, small costs were anticipated for digital tools or document printing that supported the analysis and design phases.

4.3.5.2. Research Materials & Data Collection (USD $25). This cost covers access to essential references such as the PMBOK® Guide, project management templates,

and other academic resources. It also includes small expenses associated with stakeholder surveys, online forms, and data collection tools used during the planning and scoping phases.

4.3.5.3. Stakeholder Consultation & Meetings (USD $100). This item includes logistical and transportation costs related to conducting in-person meetings and interviews with key stakeholders in Quetzaltenango and Guatemala City. These consultations were essential to ensure participatory validation and alignment of the implementation plan with A32V's operational needs.

4.3.5.4. Documentation & Report Preparation (USD $25). The allocated amount includes printing, binding, and potential editorial assistance (proofreading or formatting) for the final implementation plan. While most work is digital, a professional hard copy was planned for formal institutional submission and archival.

4.3.5.5. Contingency Reserve (USD $25). This amount represents a contingency reserve, which is allocated to address known risks identified during the planning process. These include minor but expected fluctuations in cost such as additional transportation, digital tool access, or printing services that may arise due to scheduling changes, stakeholder availability, or unforeseen logistical needs. The contingency reserve corresponds to approximately 5% of the total project budget, aligning with common project management practices for covering cost uncertainties associated with identified risks. It is under the control of the project manager and is planned to be used only when these pre-identified risks materialize.

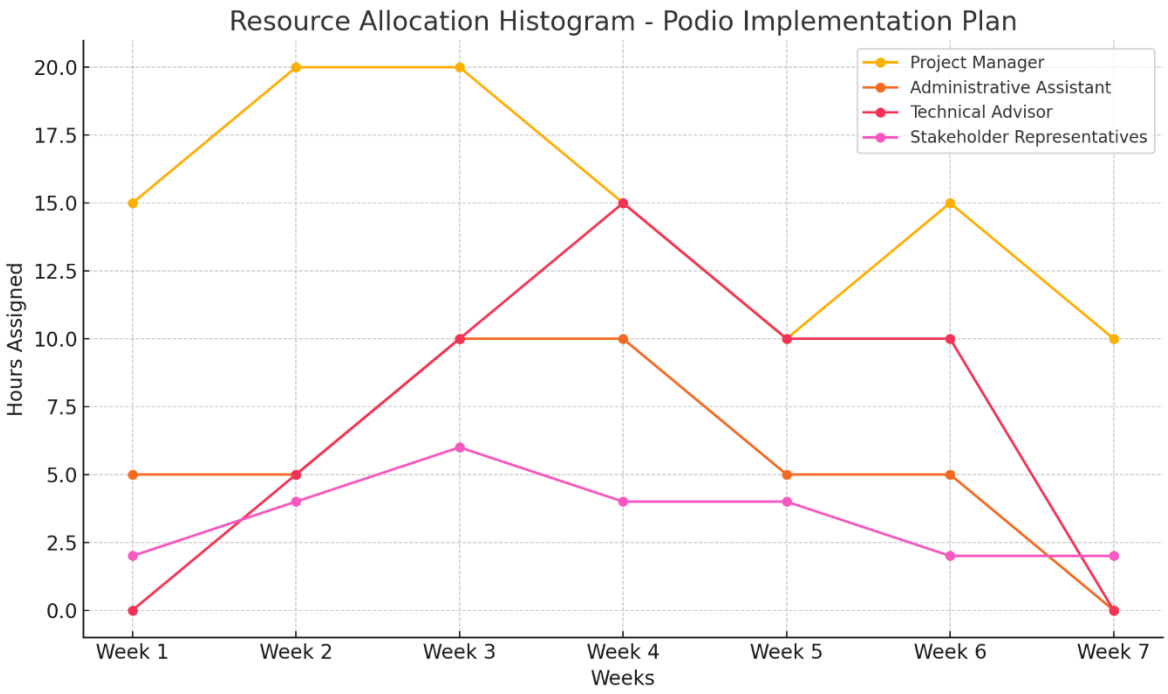
4.3.5.6. Management Reserve (USD $10). The management reserve, amounting to approximately 2% of the total budget, is intended to address unknown or unforeseen risks

that were not explicitly identified during planning. Unlike the contingency reserve, this amount is not included in the project's performance baseline and is typically controlled by higher-level management. It acts as a buffer for completely unexpected events, such as a sudden shift in institutional requirements or unforeseen external disruptions. While not expected to be used, its presence contributes to financial resilience and ensures project continuity under exceptional conditions.

4.3.5.7. Student Research Time (USD $330). This amount corresponds to the estimated project manager's time (the author) dedicated to the design and elaboration of the implementation plan. It is calculated at 105 hours at a symbolic rate of $3.14/hour. Although this is not an actual payment, it provides a realistic estimate of the human resource effort invested and could serve as a reference for future project replication where professional services are contracted.

Total Estimated Budget: $515.

Figure 14
Weekly Resource Allocation Histogram



This combined financial and effort planning enables A32V to anticipate resource needs and secure internal commitments, ensuring sustainable execution without overburdening key personnel.

4.3.5.8. Budget Distribution Over Time (S-Curve)

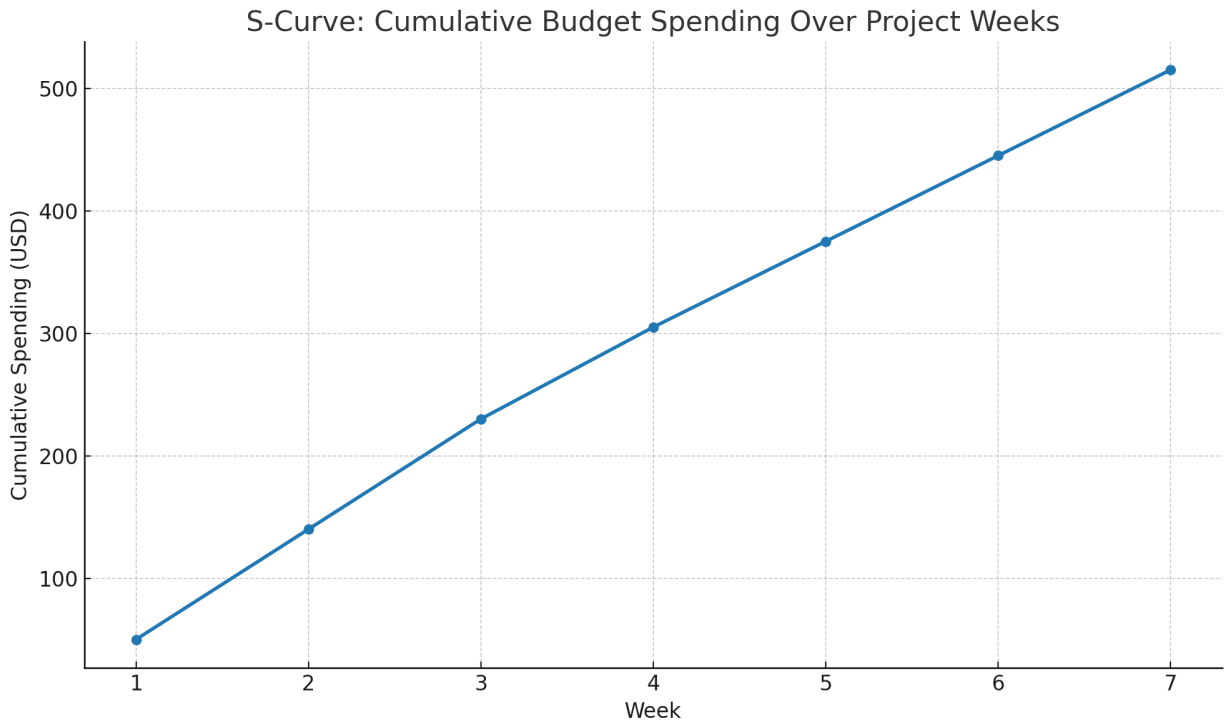
To visualize how the estimated project budget is distributed over the seven-week implementation timeline, an S-Curve has been developed. This curve provides a cumulative view of planned expenditures and supports cost tracking and performance evaluation.

The following table outlines the weekly cost accumulation, followed by a graphical representation (Figure X). The S-Curve allows stakeholders to monitor cost flow, anticipate funding needs, and align expenditures with deliverables.

Chart 14
S-Curve Table

Week	Activities	Budget Allocated (USD)	Cumulative Budget
1	Project Charter, Stakeholder Analysis	$40	$40
2	Kick-off, Scope Definition	$70	$110
3	WBS + Dictionary + Schedule	$85	$195
4	Budget Planning + Risk + Configuration	$80	$275
5	Testing & Revisions + Stakeholder Input	$60	$335
6	Final Version Writing + Editing	$80	$415
7	Review, Printing, Binding, Submission	$100	$515

Figure 15
S-Curve Graphic



4.3.6. Integrating EVM into the Implementation Plan

Earned Value Management (EVM) is a project performance measurement technique that integrates scope, schedule, and cost data to evaluate progress and forecast future performance. In this implementation plan, EVM will serve as a control mechanism to ensure that the project is delivered on time and within budget by comparing planned work with actual progress and expenditure.

Chart 15
EVM Baseline Metrics

Term	Description	Your Project
BAC (Budget at Completion)	Total project budget	$515

PV (Planned Value)	Budgeted cost of scheduled work	Calculated by week
EV (Earned Value)	Budgeted cost of completed work	Simulated for planning purposes
AC (Actual Cost)	Actual expenditure	Not available now (execution phase)

Chart 16
Planned Value Per Week

Week	Planned Work	% of Project	PV ($)
1	Initiation + Stakeholder Analysis	10%	51.5
2	Scope Definition + WBS + RAM	15%	77.25
3	Schedule + Budget Planning	10%	51.5
4	Podio Configuration	20%	103
5	Training Material Prep	10%	51.5
6	Training Sessions	15%	77.25
7	Final Review & Handover	20%	103
Total	100%	**$515.00**	

4.3.6.1. EVM Application During Implementation

During the seven-week execution phase, the Project Manager will lead weekly review meetings using data exported from Podio's task tracking system and manual budget records. In each session, the following performance evaluations will be performed:

- **Compare Earned Value (EV) with Planned Value (PV):** To determine whether progress aligns with the project schedule.
- **Compare EV with Actual Cost (AC):** To assess budget usage and cost efficiency.
- **Calculate EVM Indicators:**
  - **Schedule Performance Index (SPI = EV / PV):** Indicates time performance (SPI < 1 = delay).
  - **Cost Performance Index (CPI = EV / AC):** Indicates cost efficiency (CPI < 1 = over budget).
- **Trigger Corrective Actions:** When SPI or CPI fall below 1, responses may include adjusting timelines, reallocating resources, or revisiting scope with key stakeholders.

These performance metrics offer early warnings about project slippage and support continuous improvement throughout implementation.

4.3.6.2. Control Scenario: Mid-Project Simulation

To illustrate how EVM will function in practice, a mid-project simulation has been prepared using data from Week 4 of the schedule. This control scenario anticipates common project dynamics, such as partial delays or cost fluctuations.

Assumptions:

Planned Value (PV): $283.25 (reflecting planned work for the first 4 weeks)

Earned Value (EV): $257.50 (only 50% of configuration completed)

Actual Cost (AC): $270.00 (due to stakeholder rescheduling)

EVM Indicator Calculations:

Schedule Variance (SV): EV – PV = $257.50 – $283.25 = –$25.75 → Behind schedule

Cost Variance (CV): EV – AC = $257.50 – $270.00 = –$12.50 → Over budget

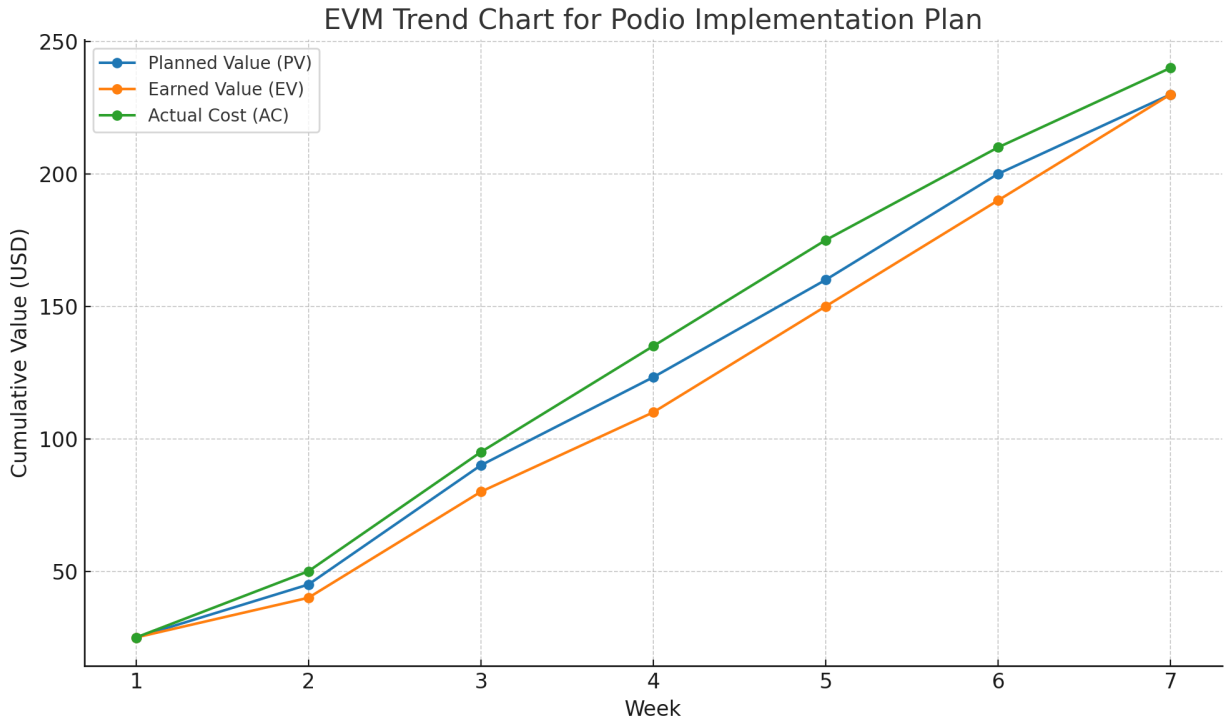
Schedule Performance Index (SPI): EV / PV = 0.91

Cost Performance Index (CPI): EV / AC = 0.95

These results suggest moderate underperformance in both time and cost. Based on this data, a project status review would be initiated to explore bottlenecks and implement adjustments before further slippage occurs.

To complement this analysis, an EVM Trend Chart is included to visualize project performance across the full timeline:

Figure 16
EVM Trend Chart for Podio-Based Implementation Plan



4.3.7. Conclusion of the Result

Effective risk management is essential to ensure the successful implementation of the Podio-based data management system at A32V. This section outlines the approach used to identify, analyze, and plan appropriate responses to potential project risks, aligned with the guidelines established in the PMBOK® Guide (Project Management Institute, 2021).

4.3.7.1. Risk Identification. Risks were identified through team brainstorming, expert consultation, and review of historical data from previous system implementations within A32V. Key areas considered included technical feasibility, user adoption, timeline constraints, and data security.

A preliminary Risk Register was developed, including:

- Risk description.

- Cause.
- Potential impact.
- Risk owner.
- Category (e.g., technical, organizational, external).

4.3.7.2. Qualitative Risk Identification. Each identified risk was assessed based on the probability of occurrence and impact on project objectives using a qualitative scale (Low, Medium, High). A Probability-Impact Matrix was used to prioritize risks and determine which required active response planning.

Chart 17
Risk Assessment Matrix

Risk ID	Risk Description	Risk Category	Probability	Impact	Response Strategy	Planned Response Action
R1	Stakeholder availability delays planning activities	Schedule	High	High	Mitigation	Schedule interviews early, provide virtual meeting options, and secure written input if needed
R2	Technical issues with Podio configuration	Technical	Medium	High	Mitigation	Engage the technical advisor early and conduct configuration

						testing in a sandbox environment
R3	Low digital literacy among end-users	Human Resources	Medium	Medium	Mitigation	Include hands-on training sessions and simple user guides with visuals
R4	Budget underestimation for logistics and printing	Cost	Low	Medium	Contingency	Use the allocated contingency budget and monitor minor expenses weekly
R5	Data entry errors during the testing phase	Quality	Medium	Medium	Mitigation	Implement review steps and create input validation rules in Podio
R6	Implementation delays due to	Human Resources	Low	High	Acceptance	Build slack into the schedule and allow

	illness or personal emergencies					asynchronous contributions
R7	Lack of leadership approval for final deliverables	Stakeholder	Low	High	Avoidance	Ensure regular updates and preview reviews with directors to align expectations early

4.3.7.3. Risk Response Planning. Risk responses were planned based on the nature and priority of each risk. Strategies included:

- Mitigation (e.g., providing early training and user engagement to reduce resistance).
- Avoidance (e.g., aligning the schedule with the known availability of key personnel).
- Acceptance (e.g., for low-priority risks).
- Contingency planning (e.g., ensuring internet backup solutions).

Each response was assigned to a responsible stakeholder, and corresponding monitoring actions were integrated into the project schedule.

4.3.7.4. Monitoring and Updates. The risk register will be updated throughout the project lifecycle during regular status meetings. Changes in probability or impact will trigger reassessment and potential adjustments in the project plan.

4.3.8. Conclusion of the Result

The development of the integrated project schedule, budget, and resource plan establishes a comprehensive framework to guide the implementation of the Podio-based data management

system at Asociación 32 Volcanes (A32V). By building on the Work Breakdown Structure (WBS), the project schedule provides a precise sequence of activities, identifies key milestones, and outlines critical dependencies for monitoring progress and maintaining accountability.

The budget, developed through a bottom-up estimation approach, ensures that necessary financial resources are allocated to each major component, including human capital, tools, and logistics. Additionally, the resource histogram allows for visualization of workload distribution, supporting informed decision-making and preventing staff overburdening.

Together, these elements support the successful execution and sustainability of the project. They provide A32V with the tools to manage time, cost, and resources effectively, while enabling proactive adjustments based on evolving operational needs. This planning phase forms the backbone of the implementation process and will directly influence the quality, efficiency, and impact of the system once deployed.

4.4. Resource Planning for Implementation (Specific Objective 4)

To plan for the acquisition and effective management of all resources —human, physical, and technological— necessary for the system's implementation.

4.4.1. Summary of the Objective

The fourth specific objective was to develop a comprehensive resource plan that ensures the availability, allocation, and coordination of the human, technological, and physical resources necessary for the successful implementation of the Podio-based system at Asociación 32 Volcanes (A32V). Aligned with the PMBOK® Guide (2021), this process was critical to synchronize project scope, schedule, and cost, while proactively addressing potential resource bottlenecks and capacity limitations.

4.4.2. Human Resource Planning

Human resource planning for the Podio-based implementation was aligned with the project's Work Breakdown Structure (WBS) and guided by the PMBOK® Guide (Project Management Institute, 2021). A clear definition of roles and responsibilities enabled structured task allocation, reduced ambiguity, and ensured accountability throughout the seven-week timeline.

The key project roles include:

- Project Manager (PM): Responsible for overall planning, coordination, scheduling, and delivery of the implementation plan.
- Technical Advisor: Leads the configuration of the Podio platform, development of custom modules, and testing procedures.
- Administrative Assistant: Provides support in documentation, logistics coordination, and preparation of training materials.
- Stakeholder Representatives: Participate in consultation, user testing, and validation of the final system to ensure alignment with operational needs.

To systematically assign responsibilities, a Resource Assignment Matrix (RAM) was created, associating each significant activity in the WBS with the individuals accountable for its execution. This matrix follows a Responsible-Accountable format for simplicity and clarity.

Chart 18
Resource Assignment Matrix (RAM)

Activity	**Assigned Resources**
Develop Project Charter	Project Manager (PM)

Stakeholder Analysis	PM, Stakeholder Reps
Project Kick-off	PM, Admin Assistant
Define Scope	PM, Technical Advisor
Create WBS	PM
Develop WBS Dictionary	PM, Admin Assistant
Schedule Planning	PM
Budget Planning	PM
Configure Podio Modules	Technical Advisor
Training Material Prep	Admin Assistant
Conduct Stakeholder Training	PM, Technical Advisor
Final Review and Handover	PM, Stakeholder Reps

This structured planning of human resources not only aligns with best practices in project management but also strengthens A32V's capacity for effective system implementation and team engagement.

4.4.3. Technological Resource Planning

The successful implementation of the Podio-based data management system depends not only on human capital but also on appropriate technological tools and resource availability over

time. This section outlines the technological infrastructure and resource utilization patterns necessary for project execution.

- Technological Tools: The project leveraged a combination of licensed and open-source platforms:
- Podio: The central platform for system configuration, data management, and end-user workflows. Podio is already licensed and partially implemented within A32V.
- ProjectLibre: An open-source project management tool used for activity sequencing, timeline development, and effort estimation.
- Google Workspace (or equivalent): Enabled collaborative documentation, version control, and communication between team members and stakeholders.
- Hardware and Connectivity: Computers and stable internet connections at the A32V central office and rural sites facilitated both in-person and remote coordination. No additional hardware procurement was required, as the existing equipment met the project's technological needs.

4.4.3.1. Weekly Resource Allocation. To ensure workload balance and project feasibility, a weekly resource allocation plan was developed, detailing the estimated number of hours per role per week. This facilitated internal time budgeting and ensured the availability of key personnel during peak activities.

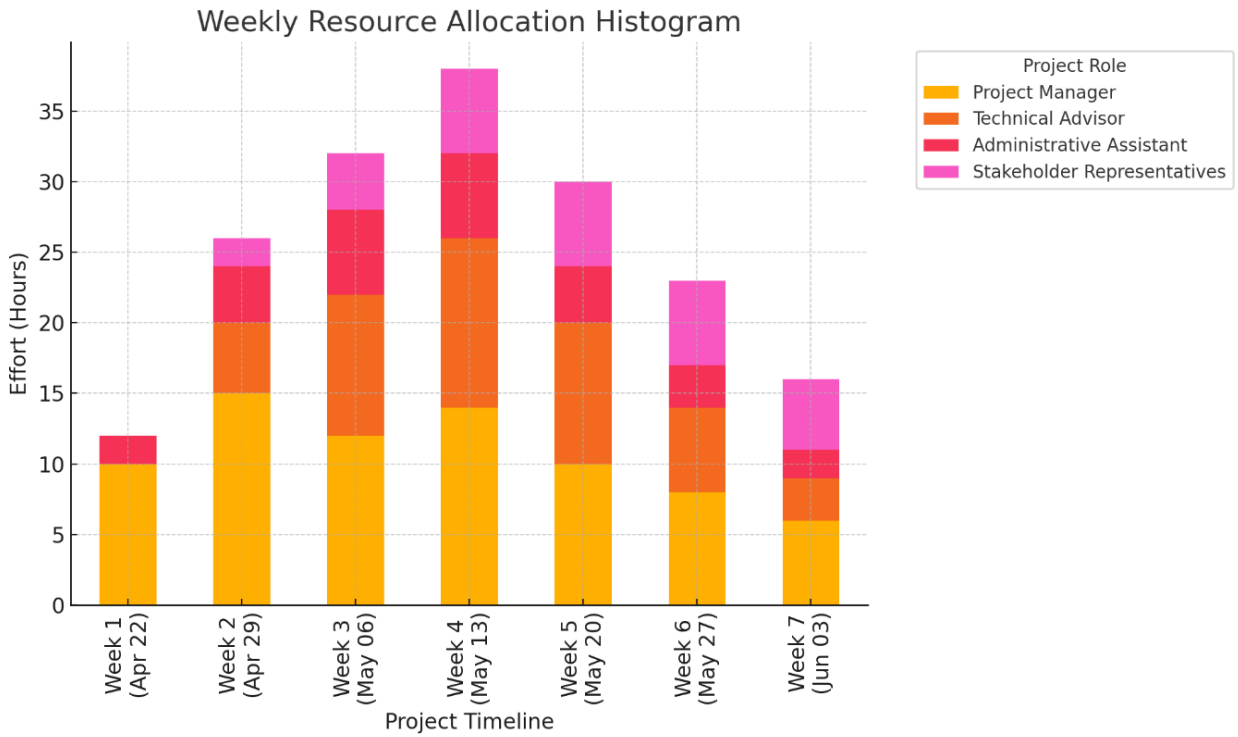
Chart 19
Weekly Resource Allocation Table

Week	Project Manager	Technical Advisor	Admin Assistant	Stakeholder Reps

1	15	4	4	0
2	20	6	6	4
3	18	8	5	5
4	17	10	5	5
5	13	10	6	6
6	10	8	5	7
7	12	4	3	8
Total	**105**	**50**	**34**	**35**

4.4.3.2. Resource Utilization Visualization. To complement the table, Figure 16 illustrates the same data in the form of a Resource Allocation Histogram, highlighting weekly peaks and role-specific distribution effort.

Figure 17
Resource Allocation Histogram



This integrated view of technological and human resource availability enables A32V to maintain operational stability while executing the implementation plan. It also supports contingency preparation and proactive communication with involved personnel.

4.4.4. Physical & Logistical Resources

Physical resources included:

- Access to A32V's offices and meeting rooms.
- Use of printed materials and notebooks for training sessions.
- Transportation arrangements for field consultations.

A basic inventory check confirmed the availability of these items. Travel and meeting-related costs were included in the project budget (see Appendix 6, Budget Table).

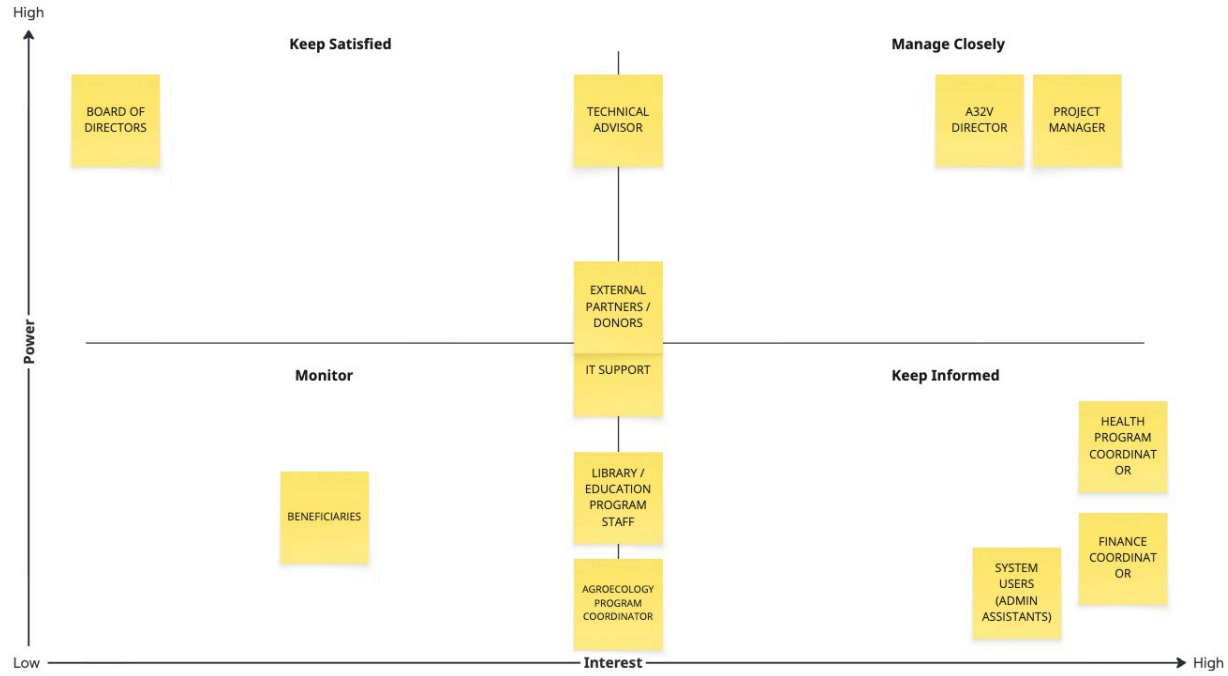
4.4.5. Sakeholder Management

Chart 20
Stakeholder Identification Table

Week	Stakeholder	Role in the Project	Power	Interest
1	A32V Director	Final decision-maker approves implementation	High	High
2	Project Manager	Plans, designs, and supervises system implementation	High	High
3	Technical Advisor	Provides technical support and customization	High	Medium
4	Finance Coordinator	Main user of the financial module	Low	High
5	Health Program Coordinator	End-user for health-related data managent	Low	High
6	Agroecology Program Coordinator	End-users of education data module (future phase)	Low	Medium
7	Library / Education Program Staff	End-users of education data module (future phase)	Low	Medium

8	System Users (Admin Assistants)	Input and update data into Podio	Low	High
9	External Partners / Donors	May use reports from the system for monitoring/accountability	Medium	Medium
10	Board of Directors	Strategic oversight and policy alignment	High	Low
11	IT Support	Helps maintain system infrastructure post-implementation	Medium	Medium
12	Beneficiaries	Not directly involved but benefit from improved data management	Low	Low

Figure 18
Stakeholder Analysis Diagram



4.4.6. Conclusion of the Result

The development of an implementation plan for a Podio-based data management system at Asociación 32 Volcanes (A32V) has allowed for a structured and evidence-based approach to strengthening the organization's information management, planning, and decision-making processes. The project followed the guidelines of the PMBOK® Guide and applied a comprehensive project management methodology to address organizational needs through the design, planning, and validation of a tailored solution.

5. Conclusions

The development of an implementation plan for a Podio-based data management system at Asociación 32 Volcanes (A32V) has allowed for a structured and evidence-based approach to strengthening the organization's information management, planning, and decision-making processes. The project followed the guidelines of the PMBOK® Guide and applied a comprehensive project management methodology to address organizational needs through the design, planning, and validation of a tailored solution.

Among the main conclusions derived from the process are the following:

1. The need for centralized information systems is critical for multi-program organizations like A32V. The current fragmented use of spreadsheets and disconnected tools hinders operational efficiency, transparency, and scalability.
2. Stakeholder engagement proved to be essential throughout the planning phase. Early involvement of internal users and decision-makers contributed to a realistic scope, feasible timeline, and greater institutional ownership of the future system.
3. The structured application of PMBOK® processes —particularly scope, schedule, cost, and risk management— enabled a clear roadmap for implementation that reflects A32V's operational and resource realities.
4. The tailored Podio structure, defined through modular workspaces, aligns with the diverse functions of A32V, from accounting and agroecology to health services and beneficiary tracking. This modular approach increases flexibility and relevance for different teams.

5. Risk management emerged as a decisive factor in ensuring project feasibility. The identification of potential delays, technical issues, and resource limitations led to mitigation strategies that strengthened project resilience.
6. The implementation plan represents not only a technical proposal but also a change management tool, as it prepares the organization to transition toward a more digital and process-oriented way of working.

6. Recommendations

Based on the conclusions above and the lessons learned throughout the planning process; the following recommendations are proposed to A32V's leadership and implementation team:

1. Allocate dedicated time and support for system adoption, including hands-on training, coaching, and gradual integration into staff routines, to reduce resistance and foster digital confidence.
2. Ensure ongoing leadership engagement, especially from the executive team, to monitor implementation progress, remove obstacles, and reinforce accountability across departments.
3. Establish a Podio oversight or support committee, ideally including the Project Manager, a technical advisor, and representatives from key program areas, to supervise implementation, address configuration needs, and maintain data quality.
4. Secure a modest operational budget for digital tools and IT support, even beyond the initial implementation phase, to ensure continuity, software updates, and technical sustainability.
5. Integrate regular feedback mechanisms into the system, such as biannual user surveys and support channels, to refine and evolve the platform according to organizational learning and growth.
6. Use this implementation as a model for future digital transformation efforts, especially in areas such as monitoring and evaluation, community feedback, or donor reporting, using the lessons learned from this structured planning process.

7. Monitor the effectiveness of the system through KPIs such as data accuracy, task completion rates, and user satisfaction to ensure the system remains functional, user-friendly, and mission-aligned.

7. Validation of the FGP in the Field of Regenerative and Sustainable Development

Sustainable development and regenerative development are two fundamental approaches to ensuring long-term environmental, social, and economic well-being. The Brundtland Report defines sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development [WCED], 1987). It focuses on balancing economic growth, environmental stewardship, and social equity. On the other hand, regenerative development goes beyond sustainability by seeking to restore and enhance ecosystems and communities rather than merely reducing harm (Mang & Reed, 2012). It involves systems thinking, holistic design, and active regeneration of natural and social environments.

In project management, both approaches influence decision-making, risk assessment, and stakeholder engagement. The United Nations' Sustainable Development Goals (SDGs) provide a framework for aligning projects with global sustainability priorities (United Nations, 2015). Additionally, frameworks such as the P5 Standard for Sustainability in Project Management by GPM Global provide structured methods for assessing project impact on social, environmental, and economic factors (GPM Global, 2021).

Applying these principles to the implementation plan for Podio at A32V ensures that the project contributes positively to sustainable and regenerative development while minimizing negative impacts. This chapter explores the project's alignment with SDGs, evaluates its impact using the P5 standard, and assesses its role in regenerative development.

7.1. Relationship of the Project to the Sustainable Development Goals

The United Nations Sustainable Development Goals (SDGs) are a set of 17 global objectives established in 2015 to address critical global challenges such as poverty, inequality,

climate change, and environmental degradation. These goals aim to create a more equitable and sustainable world by 2030. Each SDG targets specific areas of development, with interconnections that allow for holistic improvements in various sectors.

7.1.1. Alignment of the Project with the SDGs.

The implementation plan for Podio at A32V aligns with multiple SDGs by improving data management, operational efficiency, and decision-making processes. Below is a summary of its relationship with key SDGs:

a. SDG 4: Quality Education – Enhances data management for training and educational initiatives.
b. SDG 8: Decent Work and Economic Growth – Improves project efficiency, supporting better working conditions.
c. SDG 9: Industry, Innovation, and Infrastructure – Implements digital solutions to optimize data accessibility.
d. SDG 12: Responsible Consumption and Production – Enhances reporting mechanisms for sustainability initiatives.
e. SDG 13: Climate Action – Supports data-driven decision-making for environmental projects.

7.2. Analysis of the Project According to Standard P5

GPM Global's P5 Standard provides a comprehensive framework for evaluating project sustainability, examining the project's effects across five key dimensions: People, Planet, Prosperity, Process, and Products. This structured analysis empowers project managers to pinpoint sustainability risks and opportunities, quantify the project's impact, and formulate effective mitigation strategies. The P5 assessment employs a scoring system that compares the

project's sustainability impact before and after implementation, considering the baseline conditions, the potential impacts of the project, and the mitigation strategies implemented to minimize adverse effects and maximize positive outcomes. The significance of the P5 analysis lies in its ability to integrate sustainability considerations into the project planning phase from the very beginning. This proactive approach facilitates the identification of potential risks and benefits, the development of robust mitigation strategies, and ensures alignment with Sustainable Development Goals and regenerative development objectives. A comprehensive P5 evaluation template, detailing the project's impact on diverse sustainability aspects both pre- and post-implementation, is included to provide a clear and thorough assessment.

7.3. Relationship of the Project to the Dimensions of Regenerative Development

Regenerative development represents a paradigm shift from merely lessening negative impacts to actively revitalizing and enhancing both ecological and social systems. This approach is multifaceted, encompassing ecological regeneration, which centers on the restoration of natural resources; social equity, which emphasizes inclusivity and fairness; economic viability, which strives for long-term financial stability; and systems thinking, which addresses the intricate interconnections between various project impacts.

To effectively validate the project's contribution within the realm of regenerative development, a series of critical questions must be addressed. These inquiries seek to elucidate how the project fosters environmental regeneration, what social benefits it generates for its stakeholders, how it ensures enduring economic sustainability, and what mitigation strategies are implemented to counteract potential negative impacts. By rigorously answering these questions, the project's role and efficacy in advancing regenerative development principles are brought into clear focus.

The implementation plan for Podio at A32V is designed with sustainability and regenerative development in mind. By aligning with SDGs, conducting a P5 impact analysis, and validating its contributions to regenerative development, the project ensures a responsible and future-oriented approach to data management. The assessment presented in this chapter provides a clear understanding of the project's impact and areas for improvement, reinforcing its role in sustainable and regenerative project management.

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