


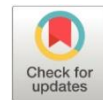


# Herramienta Project: optimización de la gestión de proyectos en el Gobierno Autónomo Descentralizado de Nangaritza

*Project Tool: optimization of project management in the Decentralized Autonomous Government of Nangaritza*

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**Palabras clave:**

Gestión,  
monitoreo,  
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**Resumen**

**Introducción:** La gestión de proyectos es fundamental en cualquier organización, ya que permite planificar, organizar, dirigir y controlar los recursos disponibles para alcanzar los objetivos establecidos de manera eficiente y efectiva. A través de la gestión de proyectos, se logra una mejor coordinación entre los equipos de trabajo, se optimiza el uso de los recursos, se minimizan los riesgos y se asegura la calidad en la ejecución de las tareas. Actualmente, llegar a cumplir con los plazos de los proyectos es esencial para garantizar la eficiencia económica y social. No obstante, los retrasos son comunes debido a la falta de planificación y no haber tenido una buena estrategia de seguimiento y control en la fase de ejecución. **Objetivo:** En este estudio, se realiza el análisis para la viabilidad de la implementación del uso de un software de gestión de proyectos – Ms Project para mejorar la gestión de los proyectos del Gobierno Autónomo Descentralizado del Cantón Nangaritza. **Metodología:** El desarrollo de la investigación se llevó a cabo mediante una metodología de investigación no experimental con una finalidad transversal, ya que la información se recopiló en un solo punto en el tiempo. **Resultados:** En los resultados los encuestados identificaron que las causantes de la falta de cumplimiento en los proyectos con un 32.43% son causa de fallos en el PAC (Plan Anual de Contratación), por otro lado, con un 45.94% es la mala estructuración en la estrategia de seguimiento a los proyectos. Estos resultados concluyen que la mayor deficiencia está en la planificación y monitoreo de los proyectos dentro del equipo técnico. **Conclusión:** Por último, llegando a concluir que el uso de un software de gestión de proyectos como el Ms Project, mejoraría el seguimiento de las actividades de los proyectos, aunque esto implique inversión para la institución y el compromiso de adaptación de los empleados a la nueva metodología. **Área de estudio general:** Administración de Empresas. **Área de estudio específica:** Dirección y Gestión de Proyectos. **Tipo de estudio:** Artículos originales.

**Keywords:**

Management,  
monitoring,

**Abstract**

**Introduction:** Project management is essential in any organization, since it allows you to plan, organize, direct, and

planning, process,  
Ms Project

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control the available resources to achieve the established objectives efficiently and effectively. Through project management, better coordination is achieved between work teams, the use of resources is optimized, risks are minimized, and quality is assured in the execution of tasks. Currently, meeting project deadlines is essential to guarantee economic and social efficiency. However, delays are common due to lack of planning and not having a good monitoring and control strategy in the execution phase. Objective: In this study, the study is conducted for the feasibility of the implementation of the use of project management software (Microsoft Project) to improve the management of projects of the Decentralized Autonomous Government of the Nangaritza Canton. Methodology: The development of the research was carried out using a non-experimental research methodology with a transversal purpose, since the information was collected at a single point in time. Results: In the results, the respondents identified that the causes of the lack of compliance in the projects with 32.43% are the cause of failures in the PAC (Annual Contracting Plan), on the other hand, with 45.94% in the poor structuring in the strategy monitoring projects. These results conclude that the greatest deficiency is in the planning and monitoring of projects within the technical team. Conclusion: Finally, concluding that the use of project management software such as Ms Project would improve the monitoring of project activities although this implies investment for the institution and commitment of employees to adapt to the new methodology.

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## Introduction

Project management is a complex task that can present numerous challenges, especially in the governmental sphere. In the GAD, the Decentralized Autonomous Government of Nangaritza, this reality is not foreign and they have faced various difficulties in project management, from delays in deadlines, the use of resources to unsatisfactory results. As an alternative to improve this challenge, Microsoft Project is presented, which is one of the tools that exist to manage tasks, times and resources as key aspects when optimizing and managing projects, which seeks to optimize project management (Pasache, 2022).

Institutions and organizations commonly manage projects or programs in which there are technicians who are in charge of administration and control, to carry out this work they rely on tools that allow them to successfully complete it. The computer software that exists for project management is a tool that allows you to manage and schedule tasks over time, controlling and monitoring the use of resources, with the objective of generating information on the evolution of the project.

There are also free software alternatives on the market, such as Project Libre, which, like Microsoft software, optimizes project scheduling in terms of time-cost in its assignment. This mainly requires data such as: general project information, task information, resource information, project calendar, and information related to requirements during the allocation of resources to tasks (Braulio & Ibáñez, 2021). On the other hand, Ms Project is also a tool that supports collaborative project management processes by generating Gantt charts, which allow the needs of projects to be graphically and sequentially known in a scheduled manner with the preparation of progress reports. For licensing in Ms Project, the needs of the project and its members must be previously taken into account. It is also important to take into account the roles, responsibilities, and times of all those involved in the project to facilitate the use of the tool; since the licensing scheme will depend on this.

It is understood that the GAD Nangaritza is a government entity located in the province of Zamora Chinchipe, in southern Ecuador. This entity is responsible for the administration and management of public resources to meet the needs of the population of 5,196 inhabitants (INEC, 2010). Project management is a fundamental task in the institution, as it allows planning and executing initiatives that seek to improve the quality of life of the population. However, project management can be a complex process that involves multiple stages, from planning and design to implementation and monitoring. In this context, the institution has faced various challenges in project management. One of the main challenges has been the lack of an adequate tool to manage projects. In the past, the local government used tools such as Microsoft Excel spreadsheets to carry out project management, resulting in a lack of efficiency and difficulties in properly tracking project progress.

To address these challenges, the Nangaritza GAD presents the Ms Project tool, a solution that seeks to optimize project management in this local government. Project is a tool that has the characteristic of adapting to project management that adapts to governmental and non-governmental projects, since it allows planning, monitoring and controlling projects in real time, facilitating more informed and timely decision-making. Consequently, it is to identify opportunities to improve the project management process and take proactive measures to address problems before they become insurmountable obstacles (Hussien, 2021).

Therefore, in the present research the following problem has been raised: What are the key characteristics of the Project tool that must be considered to implement it effectively to adapt to the specific needs of the Decentralized Autonomous Government (GAD) of Nangaritza-Zamora Chinchipe-Ecuador?

To answer this question, objectives have been developed to guide this research. First, as a general objective, the Project tool must be analyzed as a strategy to efficiently and effectively manage project activities in the Decentralized Autonomous Government (GAD) of Nangaritza-Zamora Chinchipe in Ecuador. Second, as specific objectives, the state of the art or advances in studies on the implementation of MS Project in public institutions will be analyzed and its importance and success will be justified; and the most important characteristics of Project in project management will be identified.

*State of the art in project management: a scientific review*

In the literature there are various tools for project management, such as Microsoft Project. This tool has been implemented without reservation in different productive sectors and has proven to be effective in planning and monitoring projects in a timely manner to achieve the objectives of organizations within the guidelines (Meneses, 2018).

Project management is a field of study and practice that has developed over several decades. The origin of project management dates back to the 1950s, when the construction industry began using planning and control techniques to manage complex projects. In this context, tools such as the Gantt chart and the critical path technique were developed, which allowed project managers to plan and control the activities necessary to complete a project (Acosta Moya, 2022). However, each tool has its own strengths and weaknesses and may not be adapted to the specific needs of each organization. In this sense, the GAD Nangaritza has the need to include a tool, which is designed to meet the specific project management needs of the local government, as project management spread to other sectors, new tools and techniques were developed to manage projects in different contexts. In the 1960s, the concept of project management was introduced as a separate discipline, and organizations such as the Project Management Institute (PMI) were created to promote best practices in project management (Meneses, 2018). In the following decades, project management was consolidated as a key discipline in business management, and new methodologies and tools were developed to manage projects in different contexts. In the 1980s, the PRINCE2 project management methodology was introduced, which established a framework for managing projects in different sectors (Llamazares Redondo & Romero Roldán, 2018).

However, each tool has its own strengths and weaknesses and may not be adapted to the specific needs of each organization. In this sense, GAD Nangaritza needs to include a tool, which is designed to meet the specific project management needs of the GAD.

### *Project life cycle: as a guide for planning*

The project life cycle refers to the stages or phases that a project goes through from conception to completion. These stages are designed to help project teams organize, plan, execute, and control the activities necessary to achieve established objectives. Although there are different approaches and models of project life cycles, the stages include:

**Initiation:** In this stage, the need or opportunity for a project is identified and an initial assessment of its viability is carried out. Preliminary project objectives and scope are defined, a project team is established, and initial planning is carried out. **Planning:** In this stage, a detailed plan is drawn up that includes a clear definition of objectives, deliverables, deadlines, necessary resources, budget, and specific activities to be carried out. **Control and monitoring mechanisms** are also established, and potential risks associated with the project are identified and assessed.

**Execution** – During this stage, planned activities are put into action. The project team carries out the defined tasks, coordinates resources, monitors progress, and manages possible changes or deviations from the plan.

**Control and monitoring** – At this stage, the progress of the project is closely monitored against the established plan. Data is collected, analyzed, and corrective action is taken if significant deviations are identified. Regular monitoring meetings are also held and status reports are generated to keep all stakeholders informed about the progress of the project.

**Closure**, in the final stage of the project life cycle, the delivery of the project products or services is completed (Gutiérrez, 2021).

### *Project management: relevant aspects and characteristics for its efficiency*

Microsoft Project's planning feature is based on a collaborative approach and allows users to work together in real time. It also has an intuitive and easy-to-use interface that allows for quick adoption by users.

The Microsoft Project tool for project management of GAD Nangaritza is presented as an innovative solution adapted to the specific project management needs of the local government. Its collaborative approach and intuitive interface are some of the features that make it stand out in the market of tools for project management (Hoang & Shrestha, 2014).

On the theoretical basis of project management, it can be said that a project is a set of procedures and activities that occur to achieve set objectives. In addition to being a prediction that involves solving a problem or generating a new idea and its possible results. The project also includes the planning of the various processes to be executed and the personnel trained for the development of the project. In this way, it can also be defined

as a series of actions executed by a group of people with certain knowledge in a certain period of time to achieve a common objective (Gutiérrez, 2021).

Project management is seen as a disciplined approach, which benefits any organization; it is too important for the sustainable and constant growth of societies because it helps to visualize a horizon of possibilities in a given scenario, which allows knowing a result that gives the interested party the necessary tools to make the best decision. The essence of project management is to manage all the necessary resources to carry out planning that manages a specific result, this in order to achieve the main objective of the project (Mazurkiewicz, 2018).

One of the most relevant contributions of project management to business management lies in its ability to address various fundamental aspects, such as motivation, leadership, planning, resource control, and organization. These elements combine to achieve the objectives set by the company (Acosta Moya, 2022). In the business context, projects act as strategic plans designed to achieve specific goals through the execution of crucial stages. These projects establish a specific objective to follow, orienting themselves towards a desired situation that can be influenced by internal and external factors (Cabana, 2021). To ensure success, it is essential to carry out a thorough control of these factors, complying with the fundamental principles of project management: costs and time (Montero et al., 2020).

Microsoft Project is a project management tool developed by Microsoft that allows you to plan, schedule, assign resources, track and control projects efficiently. This tool offers a graphical interface that allows users to create Gantt charts, network diagrams and other views to represent the tasks and resources involved in a project (Llamazares Redondo & Romero Roldán, 2018).

There are different types of Microsoft Project tools, among which the following can be highlighted: Microsoft Project Standard, which is a basic version of the tool that allows users to generate project plans, assign resources, and track project progress. Microsoft Project Professional is an advanced version of the tool that includes additional features, such as the ability to collaborate with other users in real time, integration with other Microsoft tools, and the possibility of producing customized reports (Llamazares Redondo & Romero Roldán, 2018).

There are a few advantages to this tool: it allows you to plan and manage projects effectively, helping users meet project objectives and deadlines; it offers a variety of tools and functions for project management, such as creating Gantt charts, allocating resources, and generating customized reports; and it allows you to track project progress in real time, helping users identify and correct deviations or problems in the project.

However, there are also some drawbacks to using the Project tool. For example, it can be costly for some users, especially those who only need to use its basic functions. Furthermore, its effective use requires a level of knowledge and skill that can be a barrier for some users. Furthermore, for small or simple projects, its wide range of functions can be overwhelming and impractical (Álvarez Peña et al., 2021).

There are several factors that can influence the success of using project management tools such as Microsoft Project, some of them are: clear definition of project objectives and scope: it is essential that the project objectives and scope are defined in order to plan and manage the project in a timely manner, active participation of team members: it is important that team members actively participate in the planning and management of the project, providing accurate and up-to-date information on the progress of the project, effective communication: effective communication between team members and with project stakeholders is essential to ensure the success of the project, flexibility: it is important to be flexible and willing to make adjustments to the project plan when necessary to adapt to changes in the environment or project requirements (Llamazares Redondo & Romero Roldán, 2018).

Regarding the evaluation methods for the use of project management tools such as Microsoft Project, (Shrestha & Shrestha, 2016) the following stands out:

Project performance evaluation: this method involves comparing the actual performance of the project with the original project plan, which can allow to identify deviations and areas for improvement in project management, Cost-benefit evaluation: this method involves comparing the costs of the tool with the benefits obtained by using it in project management, which can allow to identify whether the use of the tool is profitable and justifies its investment, Efficiency and effectiveness evaluation: this method involves measuring the efficiency and effectiveness of the tool in project management, which can allow to identify areas for improvement and optimization in the use of the tool and Business impact evaluation: this method involves evaluating the impact that the use of the tool has had on the business

Critical success factors in project management according to Cartolin et al. (2018) include effective leadership and management, proper communication, management of project scope, time, cost and quality, as well as risk and contingency management, and change management and conflict resolution:

Effective project team leadership and management play a critical role in the success of any project, as an effective project leader is able to inspire, motivate and guide the team towards achieving the project objectives. He or she must also have strong communication skills, be able to make strategic decisions, foster collaboration and resolve conflicts.



On the other hand, team selection and management: it is essential to have a competent and cohesive project team; this involves selecting the right members with the necessary skills and experience, assigning clear roles and responsibilities, fostering a collaborative work environment and providing adequate support and resources.

As a second factor, there is effective communication and proper stakeholder management, these factors are crucial to ensure a clear understanding of the project objectives and keep all those involved informed and engaged. Something that can be implemented are communication plans that identify the information needs of stakeholders, appropriate communication channels and update frequencies; this will help ensure timely and relevant communication. In addition to maintaining clear and effective communication, different communication methods should be used, such as meetings, written reports, presentations and collaborative tools, to ensure that information is transmitted effectively (Cartolin Padilla et al., 2018).

Scope, time, cost, and quality management focuses on defining and controlling the scope of the project, that is, determining what work will be included and what work will be excluded. This involves developing a project scope statement, breaking down the work into smaller tasks, and creating a work breakdown structure, as well as the time spent planning, scheduling, and controlling project activities to ensure they are completed within the established timeframes. It also includes estimating the duration of activities, creating a schedule, monitoring the process, and adjusting the plan if necessary. On the other hand, cost involves estimating, budgeting, and controlling the financial resources needed to complete the project. Likewise, quality management focuses on ensuring that what is obtained in the project meets the established requirements and expectations (Son et al., 2017).

Risk and contingency management: Risk management involves identifying, assessing, and managing risks that may affect the success of the project. This includes early identification of potential risks, evaluation of their impact and likelihood, response planning, and implementation of mitigation strategies. Risk management also involves monitoring and controlling risks. On the other hand, contingencies are response measures or alternative plans that are established to deal with identified risks. These plans allow for handling unforeseen situations or adverse events that could affect the project. Contingencies may include additional time or budget reserves, alternative action plans, or specific mitigation arrangements (Shrestha & Shrestha, 2016).

Change management refers to the management and control of changes that occur during the project. This involves evaluating and approving proposed changes, analyzing their impact on the scope, time, cost, and quality of the project, and managing them.

### Methodology

The research was carried out using a non-experimental research methodology, where the study variables were not manipulated. A mixed approach was used that combined qualitative and quantitative data collection techniques and methods (Álvarez, 2020). The study had a transversal purpose, since the information was collected at a single point in time. The scope of the study was explanatory, focusing on understanding the causes and mechanisms underlying the problem investigated. The relationships between the study variables were explored and more detailed analyses were carried out to identify the factors that contribute to the occurrence of the problem (Quezada, 2021).

The research had the GAD Nangaritza as its unit of analysis, and a study universe was established consisting of 37 employees from the planning, financial, legal and general administration units. To collect the data, a survey technique was used through the use of the Google Forms tool where questionnaires were applied as data collection instruments. Once the information was obtained, it was processed by tabulating statistical data using Microsoft Excel and JASP, with prior establishment of the variables as: independent variable: resources and tools and dependent variable: project management.

In the development of this research, three fundamental methods were used: the analytical-synthetic method, the statistical method and the inductive-deductive method.

The analytical-synthetic method was used to break down the main objective into smaller parts and analyze each component in detail. Using an analytical approach, the characteristics, properties, and functions of the Microsoft Project tool in project management were examined. Then, through a synthetic approach, the results obtained were integrated to obtain a global and coherent vision of its use.

The statistical method was applied to analyze the data collected through surveys conducted with employees of the GAD Nangaritza. Through tabulation and statistical analysis of the data, quantitative and qualitative results were obtained that allowed identifying patterns, trends and relationships between the variables studied.

On the other hand, the inductive-deductive method was used to construct the theoretical framework. Based on the review of existing literature and the observation of the results obtained, inductive inferences were made to generate theories and conclusions.

## Results

The successful management of the projects included in the POA (Annual Operating Plan) for each responsible technician has been affected by failure to meet deadlines and resource allocation in the Decentralized Autonomous Government of Nangaritza.

Table 1 below shows the number of employees who selected each option in terms of the percentage of projects that were completed on time. According to the data obtained, 10.81% of technicians achieved 76%-90% on-time POA compliance in 2022.

**Table 1**

*Compliance with the GAD Nangaritza POA for the year 2022*

Completed Projects	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Less than 25%	0	0.00%	0.00%	0.00%
25% - 50%	11	29.73%	29.73%	29.73%
51% - 75%	22	59.46%	59.46%	89.19%
76% - 90%	4	10.81%	10.81%	100.00%
More than 90%	0	0.00%	0.00%	
Absent	0	0.00%		
<b>Total</b>	<b>37</b>	<b>100.00%</b>		

**Note:** Elaboration using JASP- 2023

Table 2 below shows the factors that are present in the phase of assignment of POA projects to technicians and the phase of execution of the projects. In this analysis, the technicians chose the main factor that has affected them in the correct fulfillment of the projects. In the results obtained, we have that, within the assignment phase, from the technicians' assessment, 32.43% were affected by failures in the PAC (Annual Contracting Plan), on the other hand, in the execution phase, 45.94% believe that there were failures in the follow-up.

**Table 2**

*Factors that occur in the project life cycle*

Assignment phase	Frequency	Percentage
Public procurement management is not considered	4	10.81%
Failures in the PAC	12	32.43%
Monitoring methodology	9	24.32%
Insufficient activity time	10	27.03%
Accident events are not taken into account	2	5.40%
Execution phase	Frequency	Percentage
Lack of timely follow-up	17	45.94%
Lack of resource adjustment	7	18.92%
Lack of commitment to teamwork	10	27.03%
Accident event	3	8.11%

**Note:** elaboration using JASP-2023.

Table 3 shows the results obtained based on the experience of technicians on the background of project execution on whether the resources assigned in the planning have been adjusted to the needs of the projects through execution. In the table we can see that the adjustment sometimes has 72.97% and is handled as the mode, since it is the value that is mostly reflected in frequency, on the other hand, it rarely has 13.51% and very frequently 13.51% of the frequency.

**Table 3**

*Analysis of projects with respect to allocated resources*

Tight Projects	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Never	0	0.00%	0.00%	0.00%
Seldom	5	13.51%	13.51%	13.51%
Sometimes	27	72.97%	32.97%	86.48%
Very frequently	5	13.51%	13.51%	13.51%
Always	0	0.00%		
Total	37	100.00%		

**Note:**elaboration using JASP-2023.

Table 4 shows the tools used by the institution's technicians to control their projects, in terms of progress times and the use of assigned resources. The results obtained through the survey were: 48.65% of the total population uses Microsoft Excel, which is the format used by the GAD Nangaritza to manage the POA; on the other hand, 21.62% use a manual planner to control activities with progress dates; finally, we can see that 29.73% do not use any tool to control project management.

**Table 4**

*Tools used by technicians to control projects*

Tool	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Microsoft Excel	18	48.65%	48.65%	48.65%
Manual planner	8	21.62%	21.62%	70.27%
Microsoft Project	0	0.00%	0.00%	70.27%
Another tool	0	0.00%	0.00%	70.27%
None	11	29.73%	29.73%	100.00%
Total	37	100.00%		

**Note:**elaboration using JASP-2023.

Table 5 presents the different advantages of Microsoft Project when implemented. According to their experience, respondents chose which is the most important feature that they see and that would help improve their work in the institution. In the results obtained, we have that 40.54% of respondents believe that the greatest advantage is that it would help in the early identification of problems, likewise, 21.62% of respondents state that the software would help in decision making.

**Table 5**

*Analysis of the characteristics in the implementation of Microsoft Project in the GAD Nangaritza*

Factors	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Improving programming in a more efficient way	4	10.81%	10.81%	10.81%
Greater efficiency in resource allocation	5	13.51%	13.51%	24.32%
Better communication and collaboration	5	13.51%	13.51%	37.83%
Early identification of problems	15	40.54%	40.54%	78.37%
Improved decision making	8	21.62%	21.62%	100.00%
Total	37	100.00%		

**Note:**elaboration using JASP-2023.

Finally, in order to find out about the availability of the implementation of Microsoft Project in the GAD Nangaritza, I inquire about the possible challenges or factors that may prevent the implementation of this tool for monitoring project management. In the results obtained we can see that the main challenge detected by the technicians is the lack of knowledge for the use of the tool with 32.43% of the population surveyed, 29.73% represents the lack of availability of resources for the acquisition of the software, 18.92% reprimands the lack of adaptation of the staff to a new monitoring methodology and finally 18.92% represents the lack of time for structuring the monitoring methodology.

**Table 6**

*Analysis of the challenges for the implementation of Microsoft Project*

Factors	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Lack of staff adaptation to the methodology	7	18.92%	18.92%	18.92%

Lack of knowledge of software management	12	32.43%	32.43%	51.35%
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**Table 6**

*Analysis of the challenges for implementing Microsoft Project (continued)*

Factors	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Unavailability of resources for implementation	11	29.73%	29.73%	81.08%
Lack of interest from the administration in acquiring the software	0	0.00%	0.00%	81.08%
Lack of time to structure the methodology.	7	18.92%	18.92%	100.00%
Total	37	100.00%		

**Note:**elaboration using JASP-2023.

## Discussion

This research exposes the different factors that influence the failure to meet deadlines in project goals, identifying the factors that cause it. One of the most notable factors in the assignment phase is in the PAC (Annual Contracting Plan), which is where, prior to its preparation and approval, the resources to be used, budget and period of the year in which the projects are executed are considered. Second, time, the lack of adjustment in the times and sequences for the execution of the activities of each project. Third, monitoring or accompaniment, the poor structuring and organization of the functions and attributions of the advisory team with the operational team, also plays an important role in non-compliance. According to the studies carried out by Gutiérrez (2021), the importance of identifying the activities in the phases of the life cycle of a project will allow establishing control/monitoring over the feasibility of this in the fulfillment of the project's mission.

On the other hand, in the execution phase, in the timely follow-up, the failure in the constant and timely monitoring and follow-up for the control of unforeseen events. Likewise, the lack of commitment on the part of the technical team as well as the projects of which they are part as an operational or support team, are also factors that do not allow good compliance. In the studies presented by Petrousatou (2019), he talks about what are the factors that cause the goals in the projects to not be met, where the failures mostly occur in the poor establishment of a monitoring plan in the life phases of a project.

During the study, it was possible to identify the most commonly used techniques for controlling project timelines. Through the respondents of the Decentralized Autonomous

Government of the Nangaritza Canton, they highlighted the weekly meetings of the entire Department to review the progress of the week, although this does not leave any formality regarding the fulfillment of each technician in their functions. On the other hand, another Department highlighted the delivery of reports on the status of the projects, all these results are managed through the use of Microsoft Excel. During the study, it was also possible to identify that one of the most successful techniques is the Gantt chart and the most successfully used software is Ms Project, in which, through research by Vila & Capuz (2021), the same relevance is established.

This research determines prior to the literature review, the results of the surveys and the study of the files on the success of the fulfillment of the projects of the Decentralized Autonomous Government of the Canton Nangaritza, that one of the most viable options is the implementation of Ms Project for project management, which due to its user-friendly handling, will allow the adaptation of technicians to a new control methodology, which will allow monitoring the projects in detail and identifying deficiencies and thereby creating solutions. This position is in line with that established in the studies of Segovia (2020), where he establishes the efficiency of this tool for optimization and efficiency in the development of projects, in compliance with resources and time.

Finally, this study highlights the positive characteristics of the implementation of Ms Project and the challenges to which the institution is exposed. The most notable characteristics and the reason why it creates acceptance and predisposition on the part of the team is that it will allow the early identification of problems and improve communication and collaboration within the work team. This coincides with the research of Pasache (2022), where he reveals that one of the justifications why work teams prefer Ms Project is because it allows timely action when problems arise. Finally, the challenges faced, among which the relevant ones are the lack of knowledge in the management of the software, since the management was being done in a more rustic and empirical way. What has been said, fits with what is expressed Hatipkarasulu (2020) reveals that the refusal to implement the tool is due to the lack of training and the experience of traditional tools.

## Conclusions

- Ms Project is a tool that allows optimizing management in the life cycle of a project, with the aim of improving the coordination and planning of the activities that comprise it within the work team involved, considering resources and time, with the mission of bringing it to a successful conclusion.
- The Decentralized Autonomous Government of the Canton of Nangaritza is confirmed with four departmental directorates, which are directly or indirectly involved in the project phases as advisory, support or operational team. Each year, the Annual Operating Plan and the Annual Contracting Plan are prepared and

approved by the highest authority, in which each year the projects with budget and the official in charge are established; in which the full compliance with what is established in terms of time and resources is between 50 and 75%.

- The officials in charge of the GAD Nangaritza projects identified the causes of the lack of compliance in the projects in the phase of assignment of POA projects to the technicians 32.43% were affected by errors in the PAC (Annual Procurement Plan), while 45.94% were affected by poor structuring in the project monitoring strategy during the execution phase. These results conclude that the biggest deficiency is in the planning and monitoring of projects within the technical team.
- The thirty-seven officials surveyed from the GAD Nangaritza consider the preparation of the Annual Contracting Plan to be an important factor to be corrected, where the allocation of resources assigned in the planning has not been able to be adequately adjusted to the needs of the project, since this can present problems during execution, leading to having to make modifications or resolutions of reforms to the PAC. It is identified that with a percentage of 72.97% this parameter is sometimes met.
- The tools within the institution were identified for the officials in charge of monitoring the status and progress of the projects, in which 48.65% of the total population uses Microsoft Excel, which is the format in which the GAD Nangaritza manages the POA, on the other hand, 21.62% use a manual planner to keep track of activities with progress dates, finally, we can see that 29.73% do not use any tool to control project management.
- The implementation of the Ms Project tool for project management is seen as a beneficial option for the institution, allowing for greater control and supervision of activities in real time. Thus, within the features, the greatest advantage seen is with a 40.54% of respondents believe that the greatest advantage is that it would help in the early identification of problems, and 21.62% of respondents say that the software would help in decision-making.
- On the other hand, it is important to consider that, within the stages of the project life cycle, in the planning stage a more in-depth analysis must be carried out on the capacity to comply with the established considering background, the designated technical team and the budget availability according to the four-month period of the year, in order to protect the project from any risk or threat that may arise.
- The correct evolution of a project over time is directly linked to the efficient management of each of the activities that comprise it in the established times. For the implementation of strategies and to achieve good management, it is composed of tools that allow clear and organized information to be carried out in order to easily achieve real-time monitoring. The use of specialized tools for project



management, such as Ms Project, in addition to being an investment for the institution, considering the cost-benefit over time, will contribute to facilitating activities and projecting results, improving the training of the technical team, promoting resilience to changes and leaving the comfort zone.

- Finally, there are also other techniques that can perfectly complement Ms Project, such as the Gantt chart, which is used for literary and on-site research. This is done with the aim of improving results and providing support.

### Conflict of interest

The authors declare that there is no conflict of interest in relation to the submitted article.

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