

STEVE ALI MONGE POLTRONIERI



CONSIDERATIONS AND
**IMPORTANT
ASPECTS**
FOR
**PROJECT
MANAGEMENT**



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Considerations and important aspects for project management

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Due to its fundamental role in achieving strategic objectives and maximizing results in a variety of sectors of economic activity, project management has acquired significant relevance in the current context. In this sense, pre-investment studies are essential because they provide useful and detailed information on the multiple factors that affect the viability and success of a project. These studies cover a variety of dimensions, including legal, marketing, technical-administrative, human resources, finance and socio-environmental. Each of these dimensions has a significant impact on how a project is developed and successfully carried out.

First, pre-investment legal study is crucial to ensure that the project environment complies with current laws and regulations. This includes things like obtaining the necessary permits, licenses, and authorizations to operate legally and avoiding legal conflicts during the project. In addition, the law firm also focuses on evaluating legal risks and creating methods to reduce or manage them.

On the other hand, in the pre-investment phase, marketing study is essential to understand the target market, identify opportunities and threats, analyze the competition and design effective strategies to position a product or service in the market. This analysis provides useful information about customer needs and preferences, as well as trends and changes in the market that may affect the success of the project.

It focuses on evaluating the technical and operational feasibility of the project in the technical-administrative study. This involves analyzing the necessary infrastructure, production processes, logistics, supply chain and other issues related to the operation and efficiency of the project. In addition, administrative issues such as the organizational structure, the functions and responsibilities of the work team, management, and control systems, among others, are considered.

In the pre-investment phase, it is essential to carry out a human resources study to determine the skills, knowledge, and capabilities necessary for the work team to carry out the project effectively. The evaluation of professional profiles, planning training and development, defining roles and responsibilities, and developing strategies for managing human talent during project execution are some examples of what can be done.

In the financial field, the pre-investment study focuses on evaluating the economic and financial viability of the project. This includes making financial projections, analyzing costs and benefits, evaluating funding sources, estimating cash flows, and determining profitability and return on investment. Decision making about the economic viability of the project and its ability to generate positive returns depends on these analyses.

Finally, during the pre-investment phase, the socio-environmental study focuses on evaluating the social and environmental effects that the project could have on the community and the environment. This includes the identification of potential risks and social conflicts, the implementation of corporate social responsibility measures, compliance with environmental regulations and the implementation of sustainable practices that promote sustainable progress and social well-being.

Therefore, to evaluate the viability and maximize the success of a project, pre-investment studies in various fields such as law, marketing, technical-administrative, human resources, finance, and the environment are essential. These studies provide useful and detailed information that helps make informed decisions, reduce risks, find opportunities, and ensure the sustainable and responsible growth of companies. To achieve successful results and contribute to the sustainable growth and development of organizations and society in general, today's project management requires a comprehensive and balanced understanding of these aspects.

KEYWORDS: finance, human resources, legal, management, market, projects.

THE IMPORTANCE OF PROJECT MANAGEMENT

Currently, companies and projects must face the economic problem, this is because the availability of resources is usually less than the existing needs and the application of rational processes is needed to guarantee.

The best use of these resources. In addition to this, the growth of the economy is closely linked to the production of higher and better quality of goods and services, therefore, management is decisive to direct resources towards projects that allow their return to make new investments.

Project management becomes a discipline of great importance in the business and organizational sector because it allows the planning, organization, control and direction of the resources and activities essential to meet the objectives of a specific project (Xie & Zhang, 2013; Tonchia, 2018), especially when efficiency and competitiveness are essential for the success of any company or entity, and this practice has become increasingly relevant.

The ability to provide a structure and framework to effectively manage the human, financial and material resources involved in the execution of a project is one of the most important aspects of project management (Rusanen et al., 2014). This is achieved using specific tools and methodologies that help define project objectives, establish work plans, assign responsibilities, manage budget and time, monitor progress and make informed decisions in case of deviations or changes in the project course of the project.

By having a clear vision of the resources necessary to carry out a project, it is possible to identify possible limitations or problems that could affect the development of the project, which is why project management also plays a decisive role in optimizing available resources. Additionally, effective resource management reduces waste and increases profitability, which means more efficient and profitable use of resources.

The ability to improve communication processes and collaboration that exists between members of the work team is another important aspect of project management, since this facilitates the coordination of efforts and the resolution of conflicts efficiently (Niazi et al., 2016), and by establishing clear roles and responsibilities, defining effective communication channels, and fostering a culture of teamwork, productivity and the quality of project results are improved.

In turn, project management allows greater flexibility and adaptability to changes and contingencies that may arise during a project, and from the early identification of risks and the implementation of contingency plans, it helps to maintain the project going and achieving the objectives.

Project management is an essential tool for innovation and sustainable growth of organizations in an increasingly competitive and dynamic business environment (Kapsali, 2011; Bowers & Khorakian, 2014). By enabling the effective implementation of new ideas, products and services, project management boosts companies' ability to adapt to

changing environments, meet customer needs and maintain a competitive advantage in the marketplace.

On the other hand, project management also helps to continually improve the internal practices and processes of an organization because it allows analyzing and evaluating the performance of the projects carried out, identifying areas of opportunity, learning from past experiences, and applying improvements that allow optimizing the efficiency and effectiveness in future projects.

In this way, project management is, today, a key and essential discipline for the success and sustainability of any company, for which, from planning and resource allocation to execution and control of activities, provides a systematic and structured approach that allows objectives to be achieved efficiently, maximizing the value delivered to clients and stakeholders, and generating a positive impact.

Within the project development processes are the legal aspects, which support the legal framework under which the project must be governed according to its nature; the marketing aspect, which determines, among other aspects, the supply and demand of the product to be offered. The technical-administrative aspects include the financial, material, human and technical resources necessary to carry out the project.

It is decisive to identify and evaluate the economic aspects of the project, since they reveal its profitability, the balance point that must be reached, its main sources of financing and, finally, its viability. Although a project may have all the legal characteristics, thrive in a diverse market, and have adequate human and material resources, it would not make sense to carry it out if it does not have financial stability that allows it to make sustainable strategic decisions over time.

THE PRE-INVESTMENT STUDY

Conducting pre-investment studies is a clearly significant step in the development of any project, whether public or private, as these studies are a key tool to evaluate the viability and potential for success of an initiative before committing resources. financial and human for its execution (Halawa et al., 2013; Bowers & Khorakian, 2014).

In this way, they are called pre-investment studies because they are carried out before approval and investment in any project, therefore, these analyzes allow a better understanding of the internal aspects and environment of the project, identifying its strengths and opportunities, as well as its weaknesses and potential threats that could endanger the execution or development of the project (Namugenyi et al., 2019; Hernández et al., 2022).

The legal and regulatory aspects related to the project are one of the first to be evaluated in a pre-investment study, since these include the review of current laws, regulations and regulations that may affect the development of the project, such as construction permits, environmental licenses, and labor regulations, among others (Mullan,

2012; DeMingo & Helder, 2020). To avoid legal problems and delays in the development of the project, it is essential to ensure that it complies with all legal provisions.

The legal framework can be defined as the set of rules and provisions on human rights established in national and international agreements that a State or nation has ratified. These agreements are internationally recognized and are used to interpret and apply norms related to human rights (Poder Judiciary, 2024).

The analysis of the market to which the project is directed is another essential aspect; to do so, the existing demand for the product or service that will be offered must be analyzed, the competition must be identified, and the commercial viability of the project must be evaluated (Castilhos et al., 2017). Since the analysis provides valuable information to make informed decisions about the commercial viability of the project, aspects such as market trends, customer profile, prices, distribution channels and marketing strategies must be considered.

The purpose of a market study is to find commercial opportunities for a product in a sector or market niche, determine the group of consumers that can be targeted, and identify the potential of the specific market (Sorescu et al., 2017).

The organizational structure of the project, the roles, tasks, and responsibilities of each person in the work team, the decision-making processes and the planning of human and material resources are some of the technical-administrative aspects of the project (Liu & Cross, 2016). It is crucial for the project to establish a clear and effective structure that ensures effective management of the project in all its stages. In addition, control and monitoring systems must be established to monitor the progress of the project and, if necessary, take corrective measures.

The technical-administrative aspects refer to how and with what to carry out the various activities to produce a product or service, so to achieve this, one must consider how the economic, material, technological and, of course, human resources are distributed to achieve the goal.

One of the most crucial components of a pre-investment study is the financial analysis, since it is responsible for evaluating the initial investment costs, recurring operating costs, projected income and cash flows projected in the future. time. This allows calculating the Internal Rate of Return (IRR), the Investment Recovery Period (IRP), the Net Present Value (NPV) and the profitability of the project, among other important financial indicators (Weber, 2014). These analyzes allow decisions to be made about the economic viability of the project and attract investors or financing sources.

The financial study includes quantitative information aspects that allow choosing and evaluating the viability of a project, integrating the behavior of the operations necessary for a project to work, and visualizing its growth over time.

Socio-environmental aspects are becoming increasingly important in project pre-investment studies, which include evaluating the social and environmental impact of the

project on the community and environment. Potential risks must be identified, and measures taken to prevent and reduce negative effects (Morimoto, 2013). Furthermore, it is essential to consider issues such as corporate social responsibility, compliance with environmental regulations and the adoption of sustainable practices to promote sustainable progress and the well-being of society.

The socio-environmental elements have to do with the actions carried out by the project, and that have a direct impact on society and the environment, which include the scope, direct and indirect jobs, socio-cultural events, and social utility, as well as the environmental impact, among others.

Pre-investment studies, therefore, are a vital tool to evaluate the viability and potential success of a project before its execution, since by addressing the legal, market, administrative, financial, and socio-environmental aspects, they are You obtain a complete vision that allows you to make informed decisions and minimize risks, ensuring efficiency and effectiveness in the implementation of successful and sustainable projects.

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PRE-INVESTMENT STUDY: LEGAL FRAMEWORK

A primary step to evaluate the viability, and thus the potential success, of a pre-investment project is to carry out a legal or regulatory study, since this type of research focuses on analyzing and understanding the regulations, laws, and regulations applicable to the project, as well as the legal elements that may affect its implementation and growth.

The importance of this study lies in ensuring that the project complies with applicable local, regional, national, and international laws and regulations (Nekvi & Madhavji, 2014). This is essential to avoid legal problems, fines or even stopping the project for legal violations.

Also, this study helps reduce risks by identifying and reducing potential legal risks (Yevdokimenko, 2018), by thoroughly analyzing the legal framework in which the project will be carried out. These risks include property conflicts, disputes with local communities and non-compliance with environmental regulations, among others.

The legal study must also consider the protection of rights, as it helps safeguard the rights of all parties involved in the project, such as investors, collaborators, workers, and the community in general. This includes guaranteeing respect for labor, intellectual property, and consumer rights, among others.

Furthermore, this legal study can also attract investors (Gottschalk, 2014), as having a solid legal study and demonstrating compliance with regulations can be a key factor in attracting investors and financing, and as part of your feasibility analysis and profitability of a project, investors usually evaluate the legal risk.

The legal framework is made up of legal norms, it cannot coexist with each other without a hierarchical order, and it is the institutional framework that establishes the structures, functions, and responsibilities of the entities. In this way, the first in analysis must be the laws, which respond to social control through the systematic use of force in a politically organized society, in which the law corresponds to the rational organization oriented towards collective benefit, established by the authority in charge of managing the community.

The law is the regulatory act issued by the Legislative Assembly in the exercise of its legislative functions, through the observance of a predetermined procedure that requires the approval and publication of the Executive Branch (Jinesta, 1996).

The regulations that correspond to the legal norms that specify and concretize the principles and procedures established by the laws themselves (Agarwal et al., 2017; Kalulé, 2019), are those that detail the procedures established by the laws or the conditions required for that certain phenomena are recognized as valid or effective in the legal system.

They are also the result of the use of regulatory authority, which is the power arising from the constitution or the law through which public administrations can establish rules with a legal effectiveness lower than the law. The regulation is both an administrative act and a legal norm.

The provisions of the local territorial entities, approved by the corresponding plenary body, regulate the organization and operation of the entities, complementing those provided for in the basic state legislation of local regime.

Finally, this structure presents the decrees and administrative agreements issued by the Executive Branch. They are made up of administrative decisions that often have a binding impact on the general population (Shane, 2018; Liu & Liu, 2022), and are sometimes limited to decisions made within Ministries or Autonomous Institutions. of the State.

About agreements, these are not limited to legally binding contracts, and can also be called covenants, therefore, an agreement is a commitment that is binding only in moral terms. This type of commitment can be tacit, explicit, oral or written, and can be made in any way in which it can be inferred that there is an intention to limit the will.

However, it is essential that, in the pre-investment analysis of any project, all aspects related to local, regional, and national laws and regulations are considered. It should be noted that the legal aspects are particular to each nation, so it is crucial to know the existing regulations that are completely related to the project in this area.

Some of the most important elements that can be mentioned include:

- **Regulatory Framework:** Understanding the regulatory framework in which the project will be developed is essential, as this includes laws and regulations specific to the industry or sector of the project, as well as environmental, health and occupational safety standards.
- **Permits and Licenses:** documentation necessary to execute the project, must be identified and evaluated, these include construction permits, environmental licenses, and health authorizations, among others. Before beginning any project activity, it is essential to obtain all necessary permits.
- **Property rights:** If the project involves the use of intellectual property, land, natural resources or other assets, a thorough analysis of the property rights involved is required.
- **Labor Aspects:** Legal firms must also consider work-related issues, such as employment contracts, labor rights, social security, and compliance with working hours, so it is crucial to comply with all legal regulations related to employment and regulations. labor Relations.
- **Environmental Regulations:** Due to growing concern about the environmental effects of projects, it is essential to evaluate and comply with all applicable environmental regulations, these include protecting the environment, correctly managing waste, and avoiding pollution.
- **Contractual Aspects:** Finally, the legal firm must review and analyze all contracts and agreements related to the project, including supply, service, and financing contracts, among others. All contracts must be clear, fair, and legal.

It is important to identify and comply with the legal procedure that a project must follow. To verify its regulatory compliance, laws related to tax contributions and collection, health, municipal management, labor and insurance, among others, must be verified.

It is very common that a Land Use Permit must be required, which is a regulation that is applied in local governments (micro governments) of the country. It consists of a regulatory plan that normalizes the uses of land and divides them into land for commercial, residential, industrial, agricultural, or mixed purposes (Henger & Bizer, 2010), which allows the regulation of related uses by area, which guarantees good coexistence in the community.

Another legal requirement to comply with is registration as a taxpayer, the project or business administrator must register as a tax taxpayer before the competent authority in matters of tax collection and payment of tax obligations, within the deadlines and amounts established by law in tax matter.

Some countries have regulations regarding affiliation to social security, there is a system where the contribution to social security is tripartite so that the worker, the employer, and the Government contribute, therefore, it is the responsibility of the employers to contribute to the social security regime for its employees (Iturbe, 2015).

The operating permit for the economic activity must be issued by one or several governing entities regarding compliance with minimum operating requirements depending on the type of economic activity. In this way, the activity and its impact on the immediate context and people's health can be controlled and classified directly or indirectly (Ministry of Health, 2024). A regent may be required, who is an expert in the field who continually monitors the performance of the company or project.

If necessary, in addition, the health registration of the products will be required by the regulatory and competent body in matters of health, as part of the requirement of the legal system to be met (Ministry of Health, 2024). This registration is only required for certain products such as pharmaceuticals, cosmetics, food, hygiene, natural products, pesticides, and chemicals.

Regarding mandatory policies, the occupational risk policy stands out, which seeks to protect employers and workers in case of accidents during work (Drakopoulos & Theodossiou, 2012). The importance of these regulations is directly linked to the protection of the health and integrity of people in their jobs, so that any type of incident that threatens workers can be prevented and attended to in a timely manner.

The commercial patent is a regulated process, like land use, since any economic activity requires a patent (or license) from the municipality or regulatory entity to carry out the activity (Svensson, 2011; Hsieh, 2013). The procedure and requirements to obtain a patent may vary between governments, according to their laws and administrative regulations, because these permits are specific in terms of the economic activity carried out (construction, transportation, environmental protection, veterinary medicine, etc.).

Opening bank accounts could become a legal requirement, since it allows the security and transparency of the project's commercial actions to be managed (Lahrech et al., 2014; Chenet et al., 2020), which provides the authorities in matters of raising economic resources and registering economic activities, the certainty of the sources of income of the project.

In this way, it is important to highlight that the legal or regulatory study in a pre-investment project is essential to guarantee compliance with regulations, reduce legal risks, protect rights, attract investors, and guarantee that the project is carried out successfully. (Nekvi & Madhavji, 2014). The factors mentioned above are essential to carry out a complete and effective legal study that contributes to the long-term success and sustainability of the project.

Therefore, analyzing the legal framework of a project facilitates the identification of limitations and opportunities that affect the viability of the project, as well as fiscal, environmental, labor and safety regulations are part of this. The application of these rules protects the project from sanctions and promotes sustainability.

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PRE-INVESTMENT STUDY: MARKET STUDY

In a pre-investment project, the market study is a stage that cannot be ignored in the design of a project, because it allows the viability and potential for success of the project to be evaluated before investing financial and human resources in its execution. The competitive environment, market trends, customer needs and preferences and other factors are the main topics analyzed in this type of research.

The main objective of conducting a market study is to find potential commercial opportunities for a product in a specific market or market segment, which involves identifying the target audience of the product and evaluating the corresponding market potential (Barnham, 2014); Mancini & Maiorano, 2017).

In addition, quantifying and determining supply and demand, price analysis and the study of marketing are part of this, but it is also responsible for determining the real probability that a product will enter a given market, considering the Souza risk, et al., 2022). It is an analysis of all aspects of the current or potential market for a product, as well as trends, consumers, and distribution.

The market study analyzes current market demand, unmet customer needs and trends that can generate new growth opportunities to identify business opportunities, as this is essential to develop a project that adapts to the market.

By better understanding the target market and its characteristics, it is also possible to reduce the risks associated with launching a new product or service, as market research helps to anticipate potential obstacles, find potential competitors, and evaluate the acceptance of the product or service. by clients (Danaher & Rossiter, 2011).

Furthermore, by providing detailed and up-to-date information about the market, it allows informed and strategic decision-making at all stages of the project. Market research provides very important data for making business decisions, from the definition of the concept to the implementation of marketing and sales strategies.

In turn, it implies the validation of the business idea, so before investing significant resources in the execution of the project, the sponsors and managers of the project must validate the business idea through a market study, which involves evaluating the real demand for the product or service, evaluate the competition and determine the commercial viability of the project.

Since these elements are essential for the proper development of the project, the analysis of supply and demand, customer profile, competition, marketing strategies, commercial variability and market trends are some of the fundamental elements to be considered in the market study, which will allow management to make better decisions.

Regarding the analysis of demand, it is essential to evaluate the current and future demand for the good or service that is intended to be marketed in the target market, therefore, an analysis of the market size, trends in consumption habits is required, specific

customer segments and growth estimates (Chintagunta & Nair, 2011). This demand analysis involves offering products, services, information, or experiences to the market to satisfy a specific need or want.

For its part, the analysis of supply goes beyond the quantity of goods or services available on the market at a specific price and at a specific time. This refers to the combination of goods, services, information, or experiences that are offered to the market to satisfy needs or desires (Li et al., 2015). It is essential to understand that supply does not simply refer to the ability to offer goods or services at a specific price and for a specific period (Aydin et al., 2014).

An additional consideration to consider is the customer profile, since it is necessary to know the profile of the ideal customer, including their demographic, psychographic and behavioral characteristics (Romdhane et al., 2010; Trusov et al., 2016), to create more effective marketing and sales strategies and adapt the product or service to the customer's needs and preferences.

After determining the customer profile, the company can find the target market, which is made up of a group of buyers who share needs or characteristics that the project aims to satisfy. It can also be defined as the set of potential consumers who share a need or desire and are willing to satisfy it through the exchange of other elements of value (Grier & Kumanyika, 2010; Thao & Duong, 2019).

On the other hand, a thorough analysis of direct and indirect competition in the market must be carried out, since this analysis may include the identification of important competitors, the analysis of their strengths and weaknesses, the evaluation of their position in the market and the understanding their pricing and marketing strategies (Arora et al., 2010). Competition occurs when various companies that manufacture or sell the same product compete to obtain desired results.

Direct competition are projects and companies that offer similar goods or services and compete directly in the same target market. Therefore, analyzing direct and indirect competition is essential to understand the competitive environment in which a project operates. Indirect competition, on the other hand, refers to companies and projects that provide different products or services but satisfy the same customer needs or wants. By studying both, strengths, weaknesses, opportunities, and threats can be identified (Arora et al., 2010; Schertler, 2014). This allows us to develop effective differentiation strategies in the market.

Establishing brand positioning, creating advertising campaigns, setting competitive prices, and choosing appropriate distribution channels are examples of marketing and communication strategies that will be used to promote a product or service (Urde & Koch, 2014; Iyer et al., 2019).

Furthermore, marketing and communication strategies are essential for the success of any project because they help position the initiative in the market, capture the attention

of potential customers and generate demand, and these strategies allow the unique characteristics of the product or service to be highlighted. offered, communicate your value proposition effectively, and persuade customers to choose one offering over the competition.

Marketing and communication strategies in turn help build and strengthen the brand image, establish solid relationships with customers, generate trust and loyalty, and increase the perception of value of the product or service (Floreddu & Cabiddu, 2016). In addition, they facilitate the dissemination of key messages, the promotion of special offers, the launch of new products or services and the participation in events and market activities.

By considering marketing and communication strategies from the beginning of a project, effective actions can be planned and executed that drive the growth, visibility, and profitability of the initiative (Raupp & Hoffjann, 2012). Therefore, it is important to use the appropriate tools and techniques for each communication channel, correctly segment the target market, measure the return on investment (ROI) of the actions taken and adjust based on the results (Silva et al., 2020), to achieve business objectives and maximize the positive impact of the project on the market, marketing and communication strategies are essential.

The calculation of the price of the products, on the other hand, is an essential aspect that every project must carefully consider, since establishing an adequate price is decisive in guaranteeing the profitability of the business and its ability to cover operating costs, generate profits and maintain competitiveness in the market (Torres, 2015; Mondaca et al., 2019).

When calculating the price of a product, several factors must be considered, including production costs, raw materials, labor, overhead, marketing and distribution, and this is why it is important to consider price analysis. market demand, competition, customers' perception of product value and brand positioning strategies.

A well-calculated price can influence the perception of quality, customer loyalty and the ability to attract new market segments, in addition to guaranteeing the economic viability of the project (García, 2019). A price that is too low, on the other hand, can negatively affect profitability and brand reputation, while a price that is too high can drive away potential customers.

Therefore, calculating the price of products is essential to achieve a balance between business profitability, customer satisfaction and competitive position in the market (Rodríguez et al, 2016). It is a strategic process that must be constantly analyzed and adjusted to adapt to changes in the business environment.

For its part, commercial viability takes care of factors such as the size of the market available for the product or service, the market penetration capacity, the expected profitability margins and the sales and income estimates regarding commercial viability (Ramaseshan et al, 2013; Peters et al., 2020). Therefore, to ensure long-term success and profitability, the project must consider commercial viability.

This market analysis evaluates market demand, competition, operating costs, projected revenues, and profitability margins, by understanding these factors you can make informed decisions, identify growth opportunities, reduce risks and attract investors. Commercial viability also helps create marketing strategies, competitive pricing, and effective distribution channels (Aubin et al., 2011).

It is necessary to consider market fluctuations as these can affect the viability of the project, changes in the market include changes in technology, consumer behavior and government regulations, among other external factors.

In this way, it is determined that the market study is essential to evaluate the commercial viability and the potential for success of a pre-investment project, since when analyzing the demand, the customer profile, the competition, the marketing strategies, the commercial viability, and market trends, you can obtain useful data that helps you make informed decisions and reduce risks. This ensures that the project is carried out successfully in the target market.

After identifying the legal aspects of a project, it is necessary to evaluate the characteristics of the market to determine its acceptance and profitability. To do this, an exhaustive study of the various market agents is carried out, which allows establishing strategies to satisfy the needs and desires. of the population on which it focuses.

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PRE-INVESTMENT STUDY: TECHNICAL-ADMINISTRATIVE STUDY

In a pre-investment project, the technical-administrative study is a necessary stage because it allows evaluating the management and operation capacity of the project before its implementation. This type of study focuses on human resources, materials, purchases, infrastructure (building and plant) and the development of production processes. Therefore, administrative technical studies focus mainly on obtaining and managing four major types of resources: economic, material, technological and human resources.

The objective of the technical-administrative study is to optimize the production process using the available resources to produce the required product or service with reduced costs and a quality that satisfies customers. Furthermore, it strives to ensure market competitiveness, adequate flexibility, and the commercial commitment necessary to provide value-added service to customers (Gossett, 2012; Abbott & Laskowski, 2014).

In turn, the technical-administrative study allows identifying and optimizing the resources necessary to carry out a project, which include human, material, financial and technological resources, as well as analyzing the operational and administrative processes of a project, areas can be found of improvement and optimization that could increase operational efficiency, reduce costs, improving the quality and productivity of project activities.

Analysis of the needs of materials, equipment, tools, and supplies required for the project is a requirement in this study, and it is also important to identify reliable suppliers, negotiate supply contracts, manage inventory, and ensure that the necessary material resources are available on time.

Material resources are the necessary inputs to carry out the processes (Jain et al., 2013; Weiss et al., 2017), since when acquiring materials, it is important that they are as standardized as possible, without forgetting that there are laws that prohibit or They make the use of specific materials difficult because they can be toxic, polluting or flammable.

The material resources that may be necessary for a project include buildings or facilities, furniture, machinery, vehicles and consumables, and in the same sense as in the case of human resources, it is necessary to relate all the material resources that are considered necessary, even if they do not have a specific cost as they are provided by the project promoting entity or by some other entity or individual free of charge (Weiss et al., 2014).

However, as these are related to the purchasing and procurement processes, it is necessary to plan and manage purchases effectively, evaluate suppliers, compare quotes, negotiate favorable conditions, manage contracts, and ensure that the goods and services being purchased are high quality and available (Dixit et al., 2013; Meng et al., 2018). In

addition, the acquisition of the materials, equipment and supplies necessary to carry out the project must be analyzed and planned, this includes evaluating suppliers, negotiating contracts, managing inventories, and ensuring that the required resources are available on time.

The technical-administrative study also includes the resources known as infrastructure and technology, which cover the evaluation of the physical infrastructure (buildings, plants, facilities) and technological (equipment, systems) necessary for the project, which implies ensuring that the infrastructure and technology are appropriately sized and compatible with the needs of the project.

The technological analysis will have to consider and select a variety of means and procedures, as well as evaluate the benefits and effects of using one or another option. Technological resources are the set of methods and resources that the project will use to produce a good or service (Xie, 2018; Xu, 2021). The characteristics of the users, the availability of inputs, the production process of goods or services, human resources, equipment, and the impact on the environment are some of the factors that can affect the technology of a project.

By evaluating the physical and technological infrastructure necessary for the project, its adequacy and availability is ensured, the installation and maintenance of equipment is managed, safety and protection systems are implemented (Yu & Hsiao, 2022) and it is guaranteed that the infrastructure and technology function correctly during the project.

In addition, the design and development of the project's production or service provision processes includes defining the stages of the process, establishing workflows, designing quality and safety control systems, and ensuring efficiency and quality in the delivery of the product or service. final service.

At the same time, it involves the technology necessary to improve production processes, as well as advances and updates in administrative, financial, and commercial processes, and the legalization of trademarks and patents. All these resources must be clearly defined and known by those who are directly or indirectly involved in the production of the good or service.

Another important aspect is related to the production, operational or service provision processes of the project, which must be designed and developed with process stages, workflows, quality and safety control systems and performance indicators to guarantee that the project works efficiently, of high quality and meets its objectives (Chron er & Bergquist, 2012).

Additionally, it is timely to analyze the financial resources that the project has and that have been budgeted to finance the investment and operation items (operational and investment plan), with the objective of facilitating the achievement of the planned results and objectives (Steffen , 2018; Jadidi et al., 2020), as well as the description of possible financing sources, including the budget, subsidies, user payments, income, credits, etc.

However, the administration of the project's human resources cannot be left aside since this is a core responsibility due to its nature and implications for the project. Human resources are the most important asset and, therefore, the one that requires the most attention, since all activities of a project or company include human elements (Dwivedula, 2019; Carden et al., 2020), and a manager If you want to obtain positive results, you need the collaboration and productive effort of your employees. However, economic, and human resources will be treated in a separate chapter due to the complexity of addressing them.

It is reinforced that the technical-administrative study is necessary in a pre-investment project to guarantee efficient management of human resources, materials, purchases, infrastructure, and production processes necessary for the project. A solid foundation is created for long-term project success and sustainability by considering aspects such as resource optimization, operational efficiency, human talent management, purchasing control, infrastructure and technology, and the development of processes.

It is necessary to establish the technical requirements and resources necessary to carry out the project, along with the way in which they will be managed, once the legal framework that will govern it and the characteristics of the market it is aimed at having been identified. The administration of resources, the organization of activities and the structures of any project are key factors in its success or failure; Therefore, the management variable plays an integrating role between obtaining the necessary inputs and the satisfactory conclusion of the project.

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PRE-INVESTMENT STUDY: HUMAN RESOURCES STUDY

Human talent is how most procedures are achieved within the organization, so human talent must be properly managed as the foundation of an organization. It corresponds to the actions carried out by managers to ensure the hiring and maintenance of the right personnel, in the right places and at the right times, and its planning helps organizations avoid sudden shortages or abundance of personnel (Ridder & McCandless, 2010; Stone & Deadrick, 2015; Azadeh & Zarrin, 2016).

Personnel management includes the acquisition of human resources, salary management, training and development of human resources, negotiation of individual and collective employment contracts, negotiations with the interest group, as well as being the department responsible for health and safety, among other activities (Brock & Buckley, 2013; Boxall, 2014).

Every time plans are created for the company, the department or person in charge of human talent must intervene, therefore, adequate management of human talent is important for the successful achievement of the projected objectives, goals, and strategies. An organization or project's talent can grow, and the resources invested can benefit from success and growth if managed correctly.

Human resource management, also known as human resource management, is the strategy and intention of recruiting, selecting, training, developing, retaining, promoting, and mobilizing the employees of a project, in addition, it is the function that allows people to work together effectively to achieve organizational and individual objectives (Zakaria, 2011; Nimalathasan, 2012; Navaz et al., 2013). The authors demonstrate that effective human talent management is important for all companies, allowing personnel entry and retention processes to be ideal for achieving objectives.

Similarly, people who enter and work in organizations experience comprehensive development, both individually and as a group. To carry out effective talent management, it is necessary to be familiar with the organization's standards and policies, as well as with the methods management that include the selection, evaluation, and occupational health of personnel.

The human talent management system has a process to ensure that it is being carried out correctly, the first process is recruitment, which means that the most suitable people arrive at the doors of the organization or project and compete for the vacant position (Holtbrügge et al., 2010).

A good recruitment is a preselection because the profile requirements are established, which act as a filter so that only the most suitable people can participate according to the requirements of the position and the needs of the company or the project (Dhamija, 2012; Reddy et al., 2018). In addition, it is the process of attracting people quickly, in sufficient quantity and with the appropriate characteristics to apply for vacant positions in an organization.

After that, the project will be able to select candidates who have the characteristics that best fit the job descriptions, and when the project needs to hire employees, it is crucial to find the right way to motivate qualified candidates to apply for the positions. positions (Davison et al., 2016; Shet & Nair, 2022).

The second step in human talent management is selection, which consists of evaluating candidates to determine who is the best candidate for the position and is also considered the most important component of the staffing process because it begins once that an adequate pool of applicants has been gathered through recruitment.

Due to different perspectives on personnel selection, organizations may follow different procedures with candidates during this process. In some cases, the process is simple and effective, especially when it comes to internal employee vacancies. However, some organizations and projects opt for expensive, complex, and exhaustive processes.

Great care and experience are required to select the right person for the right position, as this ensures that the person is integrated into the organization and the organization into them through key factors such as inductions and training (Onnekikami & Okpala, 2016). In addition, it allows people to stay in their positions for longer to avoid constant staff turnover, which means a large investment within the organization and projects.

However, to carry out an effective and functional recruitment process, it is necessary to first create an accurate description of the position that needs to be filled, and then proceed with the recruitment and selection process of suitable candidates (Nimalathasan, 2012; Tian et al., 2016; Hussain; 2016). This means that job profiles are the backbone of the human resources process.

After selecting a candidate, it's time to introduce a new employee to your job and the project. There are two types of induction: work unit orientation, which familiarizes the employee with the goals of their area, explaining how their work contributes to those goals and including a presentation with their colleagues; and organizational orientation, which informs the new employee about the company's goals, history, philosophy, procedures, and rules (Sthapit, 2012; Professor, 2023). Additionally, it is essential to include relevant human resources policies and, if possible, schedule a site visit.

In any project, regardless of its size and number of employees, it is important to carry out an adequate induction so that people feel identified with the organization from the first day of work. In addition, it is important to know the history of the company, its development, and its projection in the market.

The next step is known as training and development, which are essential components of an ongoing effort to improve the performance and competency of a project's employees. Employees can acquire the knowledge and skills necessary to perform their current roles through training (Chatzimouratidis et al., 2012; Raheja, 2015; Danvila et al., 2019). For example, training may include teaching a worker how to operate a machine or a supervisor how to oversee daily production.

Development, on the other hand, involves long-term learning that goes beyond current responsibilities, preparing employees to adapt as the organization grows. Training and development can connect employees to company strategies, which can increase employee satisfaction, morale, employee retention, turnover, profits, and better hires (Xu, 2012; Stephens & Dailey, 2015). A key strategic benefit of training and development is that satisfied employees translate into satisfied customers.

To improve and achieve the success of operations, it is essential to incorporate growth and training policies in the project, this helps employees to perform adequately in their jobs and prepare to promote to other positions within the company, thus achieving the performance of new tasks, for this reason, it is crucial to implement a performance evaluation.

The creation of standards to evaluate an employee's performance with the purpose of identifying problems such as supervision, integration into the position or project, lack of expected performance, motivation, among others (Osmani & Maliqi, 2012; Góes & Oliveira, 2020; Wang, 2022). This process helps create appropriate policies for the project.

In addition, performance evaluation is essential to control the selection, training, training and development processes, the results of the evaluation are also used to make decisions about promotions, awards, incentives, etc., rewarding outstanding employees (Stylianos et al. al., 2013) and identifying underperforming employees who may need training or a change in position.

In this way, the performance evaluation is carried out to identify problems or deficiencies within the organization, on the other hand, the relationship between collaborators and their roles is what determines if the training that is being provided is giving the results. expected or if new methodologies should be applied or developed to reach the expected standards for the benefit of the organization and collaborators (Akhondzadeh et al., 2015).

Although the topic of occupational health is very broad, in the study of human resources, it should focus on ensuring that the workplace is developed in a safe and healthy environment (Harrison & Dawson, 2015; Fan et al., 2020), and based on this, employees who work in a safe and healthy environment are more likely to increase their productivity and generate long-term benefits for the project. Ensuring the physical and mental well-being of employees and reducing the difficulties that prevent them from performing effectively in their daily tasks is what is known as occupational health (Hasson et al., 2014).

An organization is complemented by elements that are considered relevant, one of which is the organizational structure. It is important to clarify its definition, since it is the way in which the positions of an organization are formally distributed (Ridder & McCandless, 2010; Riana et al., 2020), and this structure can be represented visually through an organization chart.

The organizational structure is the unifying element of activities within an organization, serving as a model to coordinate and unite its members. It is also the essential framework for

the functioning of the social group, established through the arrangement and relationship of functions, hierarchies, and activities necessary to achieve the objectives (Santalova, 2021).

Therefore, it is essential for the project organization to know and clearly describe the organizational structure to provide an overview from the beginning of who is responsible for making decisions according to the different hierarchical areas. Therefore, it is important to know what an organization chart is and what it is represented so that collaborators can visualize the structure through a graph.

The organization chart is a part of the organizational structure that allows the positions of a company or project to be organized graphically, based on the nature of the position, complexity, responsibility, requirements and working conditions, among other elements (Popescu et al., 2017). This simpler structure details the responsibilities and level of authority of managers and positions within the corresponding departments.

The organization chart describes the hierarchy of the organization, how its departments are divided and the chains of command within it, beginning with departmentalization, in turn, the organization chart of an organization can show a variety of activities that are carried out within the organization, and these can be organized based on the actions they carry out (Malik, 2020). The above is known as departmentalization and it is possible to classify five types: functional, geographical, by products, by processes and by clients.

The integrating aspect of the activities carried out in an organization or project is the occupational structure, which details the various positions and how they connect with each other according to the organizational design that the company has, it is a model that coordinates and integrates the members of the organization (Hennekam & Herrbach, 2013). It establishes the fundamental framework for the functioning of the social group, as well as the arrangement and correlation of tasks and hierarchies to achieve objectives.

Occupational structure is an indisputable measure of the number of workers working in an organization and is used to fill specific positions based on their hierarchical level. This is done by assigning positions, functions, and responsibilities to each of the employees with the objective of ordering and controlling all their activities to achieve greater performance and continuous improvement (Mateo, 2012).

Organizational culture refers to how workers act. It is interesting to know here the person who interacts in any process where the work of several people in teams or groups is involved, an intrinsic aspect of human society. In business, the term is used to refer to those who work under the direction of another person (Inanlou & Ahn, 2016; Harrison & Bazzy, 2017; Maxwell et al., 2017). As you can see, the worker is a person who participates in all the purposes of the organization, which is why they are essential for its success, which is why it is important to keep them in a pleasant, motivated, and committed environment.

In projects, it is essential to create job profiles that respond to a specific number of requirements or talents to complete a complete task. These profiles are linked to the occupational structure, since it is this idea that is used, therefore, the profile is developed

using information provided by the methods and procedures function and focuses on identifying the work processes and procedures in the that the specific position is involved (Ven et al., 2017; Perera et al., 2018).

From this information, the knowledge, skills, tools, and information necessary for the position are identified, as well as the relationships that must be established with other roles or areas of the organization, and the objectives and results that must be achieved. This information serves as a basis for defining the qualities sought in candidates (Russo et al., 2013). It is advisable that these qualities be described in terms of observable behaviors, that is, that they can be defined operationally.

The optimal process for creating job profiles involves a detailed analysis of work processes and procedures, including written descriptions of daily tasks, the challenges the person will face, the objectives to be achieved, as well as the work style, values and the organization's policies (Portoghese et al., 2020).

Accordingly, an explanation of what should be included and evaluated in a job profile is provided to facilitate the recruitment and selection process when making a hire, ensuring that the person has prior knowledge of all the skills necessary to perform adequately and successfully in the position for which you applied, which are detailed in the job description.

The occupational structure facilitates the connection between positions and employees, but to achieve this, it is necessary to have a clear understanding of the definitions of each position and its implications. The first step is to make a detailed job description, including the associated responsibilities, tasks, and duties. These descriptions must be both relevant and precise (Carvalho & Chambel, 2016; Prakash et al., 2016), they need to contain clear statements about employees' responsibilities in the job, how they should perform their tasks, and the conditions under which they must perform their tasks. They must fulfill their duties.

Job descriptions typically include the main tasks to be performed, the time spent on each task, the performance standards that must be met, working conditions and potential risks, the personnel they will report to, and the equipment and tools used in the job.

The content of the job description varies depending on the position, but achieving a summary of the guarantees that the human talent management process is carried out effectively for the organization and/or the service offered (Kossek et al. al., 2012). The fact that an employee has quick access to the job description will help him to better excel in his responsibilities, he will be clearer about the tasks to be performed and will be able to make better use of his time, avoiding wasting time on things that are unimportant or irrelevant to his job. daily performance.

The study of human resources involves creating plans for the recruitment, training and development of personnel and evaluating the competencies, skills, and abilities necessary for the work team. The project can gain a competitive advantage in the market by evaluating the organizational structure, the roles and responsibilities of the work team, the

necessary competency profiles, hiring and selection policies, training and staff development programs, evaluation systems performance, among other aspects related to human talent management.

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PRE-INVESTMENT STUDY: FINANCIAL STUDY

The financial study of a pre-investment project is a determining stage that allows evaluating the economic and financial viability of the initiative before its execution, since this type of study focuses on analyzing the economic, financial and investment aspects of the project, providing key information to make informed and strategic decisions.

The economic-financial study is one of the stages of the projects and collects monetary information from the research and analysis carried out in the previous stage. The information collected here will be useful to evaluate the economic profitability of the project (Popov, 2017; Durusu et al., 2017). It is the process in the development of a project where it is determined if it is profitable, that is, if the money invested will generate the desired return.

The financial study includes quantitative elements that help choose and evaluate the viability of a project; these elements include the behavior of the operations necessary for a project to work and visualize its growth over time.

The financial study allows evaluating the economic and financial viability of the project because it involves analyzing the initial costs of the investment, operating costs, income, projected cash flows and profitability indicators such as the Net Present Value (NPV), the Internal Return (IRR) and the Investment Recovery Period (PRI) (Osborne, 2010; Osborne, 2012; Robison et al., 2015).

From the definition of the budget to the evaluation of financing alternatives, the financial study provides key data to guide financial decisions and maximize the return on investment (Walstad et al., 2010; Zwan, 2014), have solid financial information and Updated information allows you to make informed and strategic financial decisions at all stages of the project.

To attract investors and obtain external financing, investors usually evaluate the financial viability of the project, its profitability, and associated risks before committing resources (Liu et al., 2020), investors can trust investors more and obtain more financing with a solid and favorable financial study.

Financial analysis improves operational efficiency and project budget management by optimizing capital use, reducing unnecessary costs, and maximizing revenue (Shih et al., 2010; Tú & Wei, 2015). It is advisable to establish a series of indicators such as feasibility, profitability, financing sources, cost-benefit, and the break-even point to financially define the benefits and the real possibility of carrying out a certain project.

The ability to generate sufficient utility or profit in relation to the investment is known as profitability, or, in more specific terms, it is an index that evaluates the relationship between the resources or investment used to obtain the utility or profit (Hoechle et al. al., 2018; Bucchianico, 2019). The profitability of any activity or project is determined by the relationship between the profit generated and the investment required.

It is the percentage of profit or utility that an asset generates during a given period, so profitability is used in a broader sense to describe the profitable quality of an activity, company, or investment. measure of management effectiveness through sales and investment income

Assess the initial investment expenses necessary to start the project, which includes the expenses of asset acquisition, infrastructure development, installation, and start-up. In addition, it involves analyzing the recurring operating costs of the project, such as staff salaries and benefits, materials and supplies, maintenance costs, utilities, insurance, among others (Wei & Dianzuo, 2014; Spalek, 2014; Steffen, 2018). To calculate the break-even point and profitability of the project, it is essential to estimate these costs accurately.

Likewise, the potential income of the project must be estimated, considering anticipated sales, sales prices, the volume of production or the provision of services and other factors that may affect market demand, therefore, it is necessary to carry out Realistic projections based on concrete data to calculate the income potential of the project.

Financing sources refer to the acquisition of funds to support a specific investment project, where lenders and financiers mainly depend on the cash flow of the project to service their loans and the return on investments in the project, these sources , which can be internal or external, represent the resources or payment methods available to meet financial obligations (Bond et al., 2012; Gatti, 2013; Aimurzina, et al., 2019).

The term sources of financing are all the strategies that allow an organization to obtain the financial resources necessary to achieve its goals of expansion, development, position, and consolidation in the market. Depending on where they originate in the accounting balance sheet and how they affect project activities, these sources can be both internal and external financial resources.

Identifying and evaluating the sources of financing available for the project, such as equity, bank loans, private investors, government grants or other financing mechanisms, is important for making appropriate financing decisions.

Additionally, the aim is to prepare cash flow projections for the project, identifying income and expenses in different time periods. This will allow evaluating the project's ability to generate cash and cover operating expenses, investments, and financial obligations. One of the most important elements that a project must carefully consider is cash flows, which represent the cash inflow and outflow of the project during a given period and are crucial for financial management and strategic decision making (Maravas & Pantouvakis, 2012; Zayed & Liu, 2014; Mohagheghi, et al., 2017).

Cash flows are also important because they allow you to evaluate the liquidity and solvency of the project, that is, its ability to meet its financial obligations, such as paying suppliers, paying salaries, paying taxes and other financial commitments. as well as perform more accurate financial planning by estimating future income and expenses, identifying cash flow peaks and valleys, and anticipating financing needs or financial management adjustments.

Cash flows provide crucial information for making strategic decisions, such as investing in new projects, buying things, growing, reducing costs, or changing financial policy, and this data helps evaluate the impact of project financial decisions. For this reason, cash flows are essential for calculating return on investment, payback period, profitability and other financial indicators when evaluating the viability of a project (Sharifi & Safari, 2016; Shash & Qarra, 2018). This facilitates making correct decisions about the economic viability of the project.

Initial investment costs, operating expenses, working capital and other financial aspects essential to the operation of the company are included in the analysis of financing sources to determine the amount of capital required for the project. By considering multiple sources of financing, dependence on a single source is reduced, financial risks are diversified, financial stability is increased, and the ability to face unforeseen situations or economic crises is improved.

By evaluating various financing sources, the costs associated with each, such as interest rates, fees, required collateral, and payment terms, can be compared, helping to choose the most cost-effective options appropriate for the project's financial needs. By considering a variety of financing sources, greater flexibility is achieved to adapt to changes in the economic environment, additional investment needs or growth opportunities, which facilitates financial management and strategic decision making (Ovillos, 2016).

Adequate financing sources help the sustainable growth of the project by providing the necessary resources for the expansion of operations, as well as the launch of new products, access to new markets and improvement of competitiveness in the sector (Grozdanovska et al., 2017). Therefore, it is essential to consider the financial options available, such as equity, bank loans, external investors, venture capital, government grants, crowdfunding, or others. Because each source has advantages and disadvantages, it is crucial to conduct a thorough analysis and choose the most appropriate options for the financial and strategic needs of the project.

In addition, the project must calculate and analyze important financial indicators, such as the Net Present Value (NPV), the Internal Rate of Return (IRR) and the Investment Recovery Period (IRP), among others (Pasqual et al., 2013), these indicators provide a clear picture of the financial viability and profitability of the project.

The net present value (NPV) corresponds to the difference between the initial investment cost and the present value of the cash flows projected in the future. A positive NPV means that the project will generate a greater amount of income than the investment made, which makes the project financially attractive (Shou, 2022). Calculating the market value (NPV) is crucial because it allows you to determine whether a project is profitable in financial terms, facilitates the comparison of several projects to choose the most profitable one, and considers the time value of money by discounting future cash flows. at a discount rate (Hanafizadeh & Latif, 2011; Kawabata et al., 2020; Dobrowolski & Drozdowski, 2022).

The interpretation of the results with respect to the NPV can be analyzed as follows:

- $NPV < 0$. The NPV is zero. The project is considered non-viable if the value obtained is less than zero (0).
- $NPV = 0$. If the result is equal to zero (0), it means that the project will not obtain profits or losses or will be indifferent.
- $NPV > 0$. It is assumed that the project will be profitable when the value obtained is greater than zero (0).

The internal rate of return (IRR) corresponds to the discount rate that equates the net present value (NPV) of a project to zero, which means that it represents the effective profitability of the investment. An IRR greater than the required discount rate indicates that the project can generate a return greater than the cost of capital, which makes it attractive to investors (Magni, 2012; Weber, 2014). Calculating the IRR is crucial because it allows you to evaluate the relative profitability of a project compared to other investment options, helps determine whether the investment is viable and offers an acceptable return, and facilitates decision-making on the allocation of financial resources (Altshuler & Magni, 2011; Kulakov & Blaset, 2020).

The interpretation of the results with respect to the IRR can be analyzed in this way:

- $IRR < r$. If the IRR is less than the discount rate, the project should be rejected. This is because the rate of return represents the expected profitability of the project, that is, the rate of return that equals the Net Present Value (NPV) to zero. If the discount rate (which represents the cost of capital or the minimum required return) is less than the IRR, it means that the project does not generate enough return to compensate for the risk associated with the investment. In this case, the project is not financially viable and cannot be approved.
- $IRR = 0$. IRR is equal to 0. It is initially recommended to reject the project if the IRR is zero. Although there might be strategic reasons to invest in the project, it is not worth taking that risk from a financial point of view. A zero IRR means that the project does not generate any return on investment and cannot even cover the discount rate used. This indicates that the project would not be profitable or financially viable, although there are additional strategic considerations that could lead to a different choice.
- $IRR > r$. If the IRR is greater than the discount rate, the project is viable and can be approved. In this case, the IRR indicates that the project generates a return greater than the cost of capital or the minimum required return. This indicates that the project is expected to pay the discount rate used in the financial analysis and generate a positive return on investment. Therefore, the project is considered financially attractive and viable to carry out.

Regarding the Payback Period (PRI), it refers to the time necessary to recover the initial investment, through the cash flows generated by the project (Best et al., 2012; Kuang et al., 2023). A short PRI indicates a rapid recovery of investment, which is desirable to reduce

risk and increase the liquidity of the project, the calculation of the PRI is necessary because it helps to evaluate the liquidity and risk management of the project and facilitates financial planning by establishing a time horizon for the recovery of the investment (Muggeridge et al., 2014; Sawik, 2018).

Proper sensitivity analysis is essential for the project to evaluate the impact of various economic and financial scenarios (Razavi & Gupta, 2015; Borgonovo & Plischke, 2016), as it involves analyzing how variations in costs, prices, volumes sales or market conditions can affect the profitability and viability of the project over time.

As a result, the financial study is essential to evaluate the economic and financial viability of the project, make informed strategic decisions, attract investors and financing, efficiently manage resources, and maximize return on investment. A complete and accurate view of the financial health of the project and its potential for long-term success is obtained by considering elements such as investment and operating costs, revenues, cash flows, financial indicators, financing sources and the sensitivity analysis (Hu & Shi, 2010; VanderWeele & Ding, 2017).

After establishing the legal elements, market characteristics, technical-administrative elements, and human resources necessary to begin developing the project, it is necessary to evaluate whether it is viable from a financial point of view and whether the expected benefits justify the investment.

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PRE-INVESTMENT STUDY: SOCIO-ENVIRONMENTAL STUDY

In a pre-investment project, the socio-environmental study is a novel and indispensable stage that seeks to evaluate the social and environmental impacts that the initiative may generate before its execution. This type of study focuses on analyzing the project's interactions with the local community, the natural environment, natural resources, and cultural aspects, with the aim of identifying potential risks, reducing negative effects, and promoting sustainable practices.

The socio-environmental study allows us to identify the risks and negative impacts that the project may have on the local community and the natural environment. These environmental impacts include water and air pollution, loss of biodiversity, soil degradation, among others, as well as social conflicts, displacement of communities and changes in the social and cultural dynamics of the area (Morimoto, 2013; Turner et al., 2016).

The socio-environmental study proposes measures to reduce the environmental and social effects of the project once the risks and impacts are identified, thus the measures may include the implementation of clean technologies, adequate environmental management, reforestation programs and restoration of ecosystems, among others. This study is also important to avoid legal disputes, fines or sanctions that may arise due to non-compliance with environmental laws, local community rights or other regulatory aspects.

An exhaustive socio-environmental study committed to sustainable practices improves the reputation of the project and the promoting company before the community, investors, authorities, and other stakeholders, which contributes to the long-term sustainability of the project, increases social acceptance, and reduces reputational risks (Alkahrer & Tal, 2014; Senier et al., 2017).

The socio-environmental study must include the evaluation of the potential impacts of the project on the natural environment, such as water quality, air quality, biodiversity, waste management, the use of natural resources, the generation of emissions and discharges, in other aspects.

As well as developing plans for the management of waste produced by the project, guaranteeing its separation, treatment, and final disposal in accordance with current environmental standards and good environmental practices. In addition, establish restoration and conservation programs for ecosystems that are affected by the project, such as reforestation of deforested areas, rehabilitation of degraded soils, protection of natural habitats and conservation of species at risk.

You must conduct a social impact analysis to identify potential impacts on the local community in areas such as employment, health, safety, education, culture, housing, and quality of life (Franks & Vanclay, 2013), to Therefore, compensation programs, community participation, discussion and prior consultation with the affected communities must be established.

The human rights of local communities must be guaranteed and protected, such as labor rights, indigenous rights, women, children, and other fundamental rights, as well as implement contingency and emergency plans to respond to accidents, spills, fires, or other events that may endanger human health and the environmental environment.

Therefore, in a pre-investment project, the socio-environmental study is necessary to identify, reduce and manage the negative effects of the project on the natural and social environment. Responsible and sustainable management of the project is ensured by considering aspects such as environmental impact, waste management, restoration and conservation, water management, community relations, human rights, emergency plan and monitoring and evaluation. This contributes to the sustainable development and well-being of local communities and the natural environment.

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