DRIVERS FOR SUCCESS AND FAILURE IN PROJECT MANAGEMENT: A FOCUS ON BEST PRACTICES

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Abstract. Organizations face an ever-increasing need to execute projects given the changes in the environment in which they operate in order to minimize risks and seize business opportunities. This context demands that Project Management Offices (PMOs) and Project Managers (PMs) employ best practices and lead projects or project portfolios to success. Project success is achieved when the deliverables are presented according to the initial plans, in time and within budget. The complex setting that projects face and the systemic nature that they have make their management a difficult task. This derives in a high failure rate that causes massive losses to organizations. In recent years several studies were conducted to follow up on the results of the projects, the actions of the Project Management Offices and the Project Managers in order to establish the correlation between drivers (best practices and elements from the projects' environment) and results (success or failure). The most relevant drivers that contribute to projects' success are: an effective high-level sponsor capable of effectively influence on the organization's decision-making process in favor of the project; a scope control plan capable of maintaining the project within the initial parameters and avoid modifications on scope that would impact the schedule and budget; an alignment of the organization's and project's strategies through the generation of value for key stakeholders; the investment in talent focused on forming professionals with leadership and technical skills in business and project management; and the existence of an enterprise-wide Project Management Office capable of managing shared resources in an efficient and integrated fashion.

Keywords: Project success, Project failure, best practices, project scope, schedule, budget

FACTORES DE ÉXITO Y FRACASO EN LA GESTIÓN DE PROYECTOS: UN ENFOQUE EN LAS MEJORES PRÁCTICAS

Resumen. Las organizaciones requieren implementar proyectos cada vez con más frecuencia para poder adaptarse a los cambios del entorno en el que operan, minimizando riesgos y aprovechando oportunidades. Este contexto exige que las Oficinas en Gestión de Proyectos (PMO) y los Gerentes de Proyectos (PM) empleen mejores prácticas para encaminar al éxito el proyecto o la cartera de proyectos.

Este éxito se logrará cuando el proyecto logre presentar los entregables de acuerdo a lo establecido en la planificación inicial, de acuerdo al cronograma y presupuesto dispuestos. El ámbito tan complejo de los proyectos y su naturaleza sistémica hacen que su gestión no sea una tarea fácil. Esto lleva a una tasa de fracaso bastante alta y pérdidas muy grandes para las organizaciones. En años recientes se ha realizado un cercano seguimiento a los resultados de los proyectos, las acciones de las Oficinas de Proyectos y los Gerentes de Proyectos con el objetivo de establecer la correlación entre variables (factores del entorno de proyectos y mejores prácticas) y resultados (éxito o fracaso). Los factores más destacados que contribuyen al éxito de un proyecto son: un efectivo patrocinio de alto nivel que influya de forma efectiva en la organización para la toma de decisiones a favor del proyecto; un control de alcance que permita al proyecto mantenerse dentro de lo planificado y no modifique los entregables impactando el cronograma y el presupuesto; la alineación estratégica entre el proyecto y la organización a través de la generación de valor para los usuarios clave; la inversión en talento humano enfocada en generación de profesionales con capacidad de liderazgo y conocimientos técnicos en gestión empresarial y proyectos; y la presencia de una Oficina de Proyectos que tenga un alcance amplio en la organización que sea capaz de gestionar los recursos compartidos de forma eficiente e integrada.

Palabras clave: éxito en proyectos, fracaso en proyectos, mejores prácticas, alcance, cronograma, presupuesto

Introduction

Organizations are faced with a reality in which the management of transformations through projects is becoming increasingly important to achieve their strategic objectives. Changes in the dynamics and environment of the organizations force them to undergo a constant transformation in order to minimize risks and seize opportunities. They do this through project management. Moreover, organizations often face more than one project at a time. This represents a challenge to them as each project's management scope, budget and schedule becomes more complex. This level of complexity requires Project Management Offices (PMOs) and Project Managers (PMs) to fully develop their capacities and to employ the best possible practices to achieve the objectives established. PMOs must be more agile, flexible, predictive and efficient; while PMs must be better leaders and have more technical knowledge in business and project management. This article explores some factors that contribute to the success of a project.

Method

This research's objective is to analyze recent studies focused on the organizations' performance in the implementation of projects in order to identify the best practices and the critical factors that lead to a successful project. As a natural extension of this objective, we studied those factors that create high risk for the project and can lead to its failure.

First, evaluation parameters were used to establish whether a project has been successfully implemented. A project is deemed as successful if it meets the following four main factors (Turner & Grude, 1996):

- its fulfillment serves the organization's strategic objectives,
- it was completed on schedule,
- the budget allocated was not exceeded,

- and it fully meets the planned scope of the activities.

Secondly, to establish whether an organization was considered successful, it was assessed whether it achieved a success rate in at least 80% of the executed projects. On the other hand, a low performing organization had a less than 60% success rate. The results between both values were discarded for the purposes of this study.

Lastly, after obtaining a success and failure factors list, it was evaluated which of them were most frequently found among successful and unsuccessful organizations, and which ones seemed to have a greater impact on project implementation.

Results

The study revealed an extensive list of good practices in project management. Successful organizations in project implementation showed compliance with several of these practices. The list was refined after assessing which practices were most common in successful projects and which had the greatest impact on positive outcomes in project implementation. Likewise, the most common practices in the implementation of unsuccessful projects were identified. The most relevant results are presented in this article.

Factors that Contribute to the Success of a Project

There are an infinite number of factors that contribute to the successful implementation of a project. Their presence does not guarantee a successful outcome, but they contribute to obtaining positive and significantly better results than in those projects where they are absent. However, it is worth noting that just as there are projects that achieve success without implementing the practices highlighted in this article, there are projects that fail despite doing so. This is because project management is not an exact science in which there is a formula for success that can be employed in all projects. These depend on an infinity of variables that can condemn a project to failure from its very beginning: unfavorable economic conditions, political insecurity, lack of monetary resources, unattainable deadlines, user requirements beyond the real possibilities of the project, etc.

Next, the most notable success factors are described:

High-Level Sponsorship

There is no more important factor in the success of a project than an effective high-level sponsorship. A well-planned project regarding scope, schedule and budget, but without a high level sponsor has a very high probability of not being successful. This sponsor must be genuinely convinced of the project's importance for the achievement of the organization's strategic objectives as they will act as advocates of the project to other higher-level users with decision-making power over it as a whole or any of its components. Sponsors have three main functions: they make strategic decisions for the project in an effective and timely manner, they influence other users with risk positions towards the project, and they eliminate technical and human obstacles that may hinder the implementation of the plans (Turner, Grude, & Thurloway, 1999).

The Project Manager must invest time and effort in securing the sponsor's commitment to the project objectives. A successful relationship and an effective communication channel can demand a change in the organization's culture. Some

executes do not understand that projects play an important role within organizations. Thus, they manage major changes not with the methodology that a project requires, but as something operational. In this case, it should be explained why the project is important at a specific moment and how its implementation will help the organization to achieve its strategic objectives. Sponsors must find a value for themselves, that is, they must gain some benefit from supporting and implementing the project. This may require the creation of a training plan, professional development or even some responsibility over specific activities. This will allow them to feel valued and to act proactively. The project success will help them to get something for themselves.

Projects without a suitable high-level sponsorship usually fail because they encounter several obstacles that interrupt the activities' implementation in time, cost and quality; or even have to modify the activities' scope. Non-sponsored projects are left orphaned. In other words, Project Managers are left to their own devices and, therefore, the project progresses as far as the leader's energy allows. The lack of high-level support means that the decisions taken are ineffective and inappropriate; leadership is weakened; tension and frustration within the team increase; and, therefore, the projects almost inevitably falls in downward spiral. If the leader somehow manages to carry out the project, it is highly probable that the project will be delivered out of schedule and at a higher cost than budgeted. Therefore, the proposed objectives are not achieved. This has an impact, first, on the ongoing project and, second, on the Project Office (PMO) and/or the Project Manager (PM) reputation. The organization will consider that both fail to meet its expectations and requirements. Thus, it will take a reluctant approach towards the implementation of new projects.

A study conducted worldwide by the Project Management Institute (PMI, 2018), and whose results are updated every year since 2006, shows that 41% of Project Managers who failed to achieve the project objectives attribute the failure to a lack of sponsorship. This same study concludes that organizations that were successful with their projects assigned a high-level sponsor 83% of the times.

Project Scope Control

A project suffers from corruption or dragging of its scope if requirements are constantly increasing; and the deliverables' budget, schedule and quality are not proportionally adjusted. This phenomenon happens when a client, sponsor or someone with decision-making power over the project increases the project' qualities, that is, if they extend the scope of the project' requirement. This can happen more than once and in an unpredictable way.

When there is corruption of scope, the schedule and/or the budget are not reasonably suited to the changes required. Misunderstanding and compiling client needs are the main reason for this problem. This can be due either to an inability of the Project Manager to understand what the client needs at the time of drafting the articles of incorporation or because the project principal does not know well what he needs at the time he presents the requirements. Other times, the organization changes priorities and the project loses relevance and alignment with the new strategic objectives.

It can also happen that the project objectives change due to external factors. Therefore, the project must be adapted in order not to end it and declare the resources lost. It is very common to see uncontrollable changes in scope in technology-based projects as changes in this industry happen very fast and the adaptation-adoption cycle of the organization must keep the pace. Likewise, this problem is very common in

public management projects where changes in policy guidelines affect decision-making processes and budget allocation.

The Project Manager must be very careful when faced with the scope's corruption. Any deliverable not begun can be modified without having a major impact on the project results if its cost and schedule are below the initial ones. It is important that the director and Project Manager modify the articles of incorporation, since the results will be compared with the plans and objectives agreed between the parties. The risk factors for the manifestation of changes in scopes are a weak PM, an immature PMO or a sponsor not committed to the project. If there is no control system for changes that can manage them in a timely and effective manner, those changes can even lead to the failure of the project.

It is considered that more than half of the projects experience corruption in their scope. In low performing organizations, this phenomenon occurs in almost 70% of projects, against 33% in organizations that manage them successfully (PMI, 2018).

Ability to Create Value

Organizations have changed drastically in recent decades, adapting to changes in the economy, technology, politics and other external factors. Those that failed to change disappeared. Project management is intimately related to, and vulnerable to, the same variables, and thus must comply with the same prerogative. Innovation has ceased to be an element of differentiation and has become an implicit element in any organization that is serious about being sustainable over time. The approaches used by organizations to manage their projects have evolved. The product-focused waterfall methodology used to manage all projects a few decades ago has given way to more flexible, agile and predictive methodologies.

As the slow process of reformulation that any change in the project represented became evident, it was necessary to create a model that does not require reformulating all the project's stages and allows working in more controllable, short and flexible areas. These agile methodologies focus on efficient, collaborative work and the generation of value for users (Rothman, 2016). In conclusion, the way projects are managed has changed, and will continue to change. The best practices will no longer prevail in the industry, and new tools and skills will be needed. Methodologies will also have to be more predictive, agile and controlled.

Project Managers have the difficult task of adapting each management model to the organization's specific requirements and culture. Because each organization is different, the same solution cannot be used for all. Some projects must focus on strict compliance with the scope and quality of deliverables, while others focus on the delivery of results in a short period of time or with a reduced budget. Some projects will have highly trained professionals at their disposal, while others will have to work from the basics. The important thing is to understand what users need, what they expect from the project, and to deliver value to them through project implementation (Augustine, 2005).

Recent studies have shown conclusively that organizations that use formal, agile, predictive and adapted methodologies achieve better results. Those organizations are able to meet project objectives in 73% of cases, complete activities within budget 63% of the time and on time 59% (versus 58%, 48% and 43%, respectively, in organizations that do not adopt these methodologies) (PMI, 2018).

Investment in Human Talent

The most valuable resource of a project, as in any organization, is its people. The project team will shape the future of a project more than any other factor. Globalized markets' increasing competitiveness, rapid technological changes and the complexity of the macroeconomic scenario create a complex environment for projects. In turn, these need a more competent team. A project team member must not only have technical knowledge of the specific field in which the project is implemented but must also have knowledge of a series of tools and best practices in strategic business and project management. In addition, this team member will need some soft skills to lead, motivate, communicate assertively, work as a team and be goal-oriented (PMI, 2017). This combination of talents among the team members will provide a competitive advantage to the project and the organization.

It is important to invest in human talent development because an organization with highly qualified personnel will achieve a higher success rate in projects. This can be verified by the statistics that show that three out of four organizations considered successful in project implementation invest in human talent development in the fields of leadership, strategic business skills and technical project skills. Only one in six low performing organizations does so (PMI, 2018). As Jeff Zircher, Manager of the Global Program Management at Caterpillar, says, "It's important to get the right people with the right skills and capabilities well-positioned from the start."

It is estimated that there are currently about 66 million project professionals worldwide. There is approximately a 33% gap between the demand of qualified project personnel and the number of professionals in the market for these positions (PMI, 2017). This gap is constantly growing as organizations are experiencing a "projectification" of their activities in nearly every industry, from construction and manufacturing to financial services, and in both profit-seeking and social development projects.

Large, fast-growing economies such as China and India lead the demand for project professionals because they have a huge number of mega-projects. The technification of industries and the consumerist maelstrom create a much greater demand for products and services than expected a decade ago.

Competitiveness in manufacturing costs in developing countries has attracted large projects to these countries, where higher education levels are substandard and professional availability did not meet the required conditions. It is believed that, worldwide, by 2027, almost 90 million professionals will be needed to work, directly or indirectly, in roles oriented to project management. Organizations should begin to train professionals in projects and offer careers that include development programs in that area. Failure to fill this gap would result in a loss of about $207 billion over the next 10 years (PMI, 2017).

Presence of a Project Management Office

Taking into account that organizations experience an ever-growing demand to implement changes, it is essential to rely on an area exclusively destined to manage them and that has an area of influence that covers the whole organization. Typically, an organization keeps a portfolio with projects of diverse nature and in diverse areas. Usually, they must share resources due to structural, budgetary, geographical and other restrictions. A Project Management Office (PMO) must work on planning the different projects in such a way that their goals are aligned with each other and with the

organization's strategy. Daniel Zvoboda, president of Key Bank states: 'I do not find the difference between strategy implementation and the success of a project'. This statement highlights the importance of achieving a correct alignment between them, implying that as the project delivers the expected products in its reach it adds value to the organization. This is an imperative condition in order to achieve an actual compromise and support from the higher spheres of the organization.

However, the Director of the PMO must manage benefits for the key users of the project portfolio. This is necessary, as the people that feel identified with the purpose of the project and perceive its value will be more likely to support it efficiently.

Additionally, a PMO allows the efficient management of shared resources through the correct programming of activities and the allocation of human, monetary and material resources. If this is complied with, each project will use only the amount of resources it needs and will not generate waste derived from their sub-utilization (PMI. 2017).

The Project Management Office will be responsible for originating the strategic transformations in the company, being the agent that identifies, studies and seizes opportunities for growth and development. If the structure of the organization is responsible for the maintenance of its operations, the PMO is responsible for making it grow through initiatives aligned with its strategy.

The value of having a PMO is gradually more evident. It is estimated that around 80% of the successful organizations in project implementation have a PMO in place. Three out of four PMO have a global scope in the organization and are aligned with its strategy. When this office is localized or has a delimited reach, its range of action and influence is limited, the risk of finding blockages to the activities increases and the ability to generate value for the whole organization is restricted.

Factors that Contribute to the Failure of a Project

Mark Langley, President and CEO of PMI states that 'if his organization is not good in project management, he is risking too much in terms of strategic compliance' (PMI, 2017).

Success does not come only from the implementation of good practices and the presence of favorable factors. It is also necessary to suppress - or at least mitigate - the impact and the probability of occurrence of risk factors that could lead to the failure of the project. The impact of some risk factors is sometimes greater than the positive effect generated by some of the good practices that can be implemented. When this happens, the chances of success for the project are low.

It is estimated that only 70% of the projects meet the goals they were designed for, and at least 10% of the organizations' resources are irretrievably lost because of the incorrect management of their projects (PMI, 2018).

As Kendrik (2015) explains, the projects increase their risk of failure as they become complex or present time, budget or technical capacities restrictions. The unique nature of each project impairs the transference of tools, information and knowledge from one project to another: what worked for a project might not work for another one.

Some non-recommended or bad practices have been identified, as opposed to the good practices described above. These practices do not guarantee the failure of the

project, but they do contribute to the project not meeting the required scope or not delivering the products within the required time and quality.

Next, the most notable and recurrent risk factors are described:

Loss of Project Significance

When the organization decides that, for some reason, the project does not play an important role for it, the project is bound to termination. The project's goals must be drafted based on the organization's strategic guidelines. They are, therefore, an extension of them.

If the organization decides to change its general strategy towards a direction that differs from the project goals, a strategic gap is generated. This implies that the project would be using resources in activities that do not generate any value for the company, in strategic terms. When this happens, the organization shall try to modify the project's scope and to reformulate its goals and deliverables. If this happens, the schedule and budget must be adjusted to respond to the new requirements of the projected system.

When this adjustment is not feasible, the organization usually makes the decision of canceling the project. This is a very hard decision for the organization, since it implies that a great part, if not the totality, of the invested resources in the project will be lost. This monetary loss is not the only cost when a project is canceled: the project team can be morally very affected, especially if it was a big, complex project or if the people were very committed to it. It is the PM's task to restore the team's motivation and to prepare them for a new initiative.

In organizations without a stable PMO or without a big project portfolio, the termination of a project means the cancellation of contract for most or all members of the team.

Changes in Scope

Changes in Scope are present in 35% to 40% of projects that failed (PMI, 2018). A project is initially planned based on the transformation that we want to achieve and the resource limitations to achieve them (cost, time, quality). That is when the scope is determined. It will define what deliverables or products will be presented in the different stages of the project. This is reflected in the project charter, approved by the project principal and the PM.

When this scope is modified, the change in what the project requires should imply a change in the time, cost and quality variables. The problem is that sometimes this does not happen, and then the effort to comply with one of the limitations sacrifices the rest. This results in projects that are concluded but not under the planned parameters. A project with this trait cannot be considered successful. There are procedures that help with the control and management of changes. They allow to reject changes that affect the projected system in a way that prevents its compliance under acceptable conditions. The changes that increase the scope but do not represent a significant increase in cost and time can be analyzed and approved by both the director and the PM. In the absence of a system able to control changes in an effective way, it might trigger a corruption of the scope, as explained above.

Incorrect Estimation of Activities, Costs and Time

"Once the project is started, controlling the schedule and the costs is the most difficult aspect of the PM's role" (Taylor, 2007). According to Taylor, 80% of the

projects that start underestimating costs and schedules are bound to exceed projections and fail.

Since the success of the project is measured depending on the presentation of deliverables (scope) within the established parameters of cost and time, it is natural that miscalculating them leads to the impossibility to fulfill them. Any action or decision made about the schedule affects the budget and the scope; additionally, the cost affects the schedule and the scope, and, therefore, the scope affects the cost and the schedule. This great complexity derives in a miscalculation of budget and cost in one out of four projects (PMI, 2018).

Managing this interdependence of variables is a very complex task that demands a lot of technical knowledge, experience, hard work, information availability and, occasionally, some luck, hoping that the project's environment remains unaltered. It is very difficult for a PM to combine these qualities to a such level that the whole budget and schedule planning can be carried out by a single person.

A PM should rely on a high performance, multidisciplinary work team. Carrying out the planning as a team reduces the risk of time and cost underestimation or overestimation. This is not an easy task, since planning each activity of the project, as well as the times and costs related to its execution, is affected by a set of variables.

The project may fail even if the team manages to accurately estimate the duration of each task and their priority and dependence, and even if they design a serious, reliable budget based on market values and budgetary execution task history for similar projects. External variables may impose changes and restrictions to any of the variables, modifying the project deliverables' quantity and/or quality, altering the execution schedule and/or altering the budget.

There are four highlighted aspects in which the PM must work in order to effectively control the mismatches in the project (Taylor, 2007). Leading the progress of the project is the first and, maybe, the most important one. A PM must be constantly comparing project execution rates to identify mismatches in due time.

Secondly, the PM must take corrective actions to return the project to the execution plan it had. There are several tools to perform the adjustments to schedule and budget. In some cases, more resources can be assigned to some activities to accelerate their execution. In other cases, it might be necessary to negotiate a reduction in the quality of the deliverables in order to reduce costs. The third aspect is result control, which implies the assessment of the corrective actions that must be taken depending on the goals of the project. If the actions contravene the strategy of the project or the organization, then they should not be executed, and it might be necessary to revise and amend the project charter.

Finally, the PM must always try to preserve the available resources. An efficient utilization of resources - material, human, monetary - without sacrificing the deliverables' scope or quality will imply saving money for the project. This translates into an advance in the activities, a budget release for the project (or for other projects or activities of the organization) and a minimization in project risk, in general.

Poor Risk Assessment

Risk is inherent to every project. This risk can be derived from conditions that are internal to the project, such as wrong decisions, team inefficiency or inadequate planning. Additionally, there are exogenous variables that affect the project, conditions

out of the PM's control but that affect its execution. Changes in the market conditions or in the economy, natural events and even changes in the organization's strategy. While it is almost imminent that the project is affected by some risk factor at some point, it is possible to take actions in order to counter most of them.

Time and effort must not be skimped on for the correct assessment of the project risks, which would result in a management plan that proposes actions to mitigate them having to be designed. Around 30% of the projects that failed were not able to correctly identify the risks, and almost the same proportion were unable to efficiently manage the changes when they materialized (PMI, 2018).

A correct risk management must, at least, include four processes. The first one is the identification of the factors that imply a risk for the project in terms of scope, cost and time. Then, the impact of this risks for the project in the case they materialize must be estimated. This impact can imply a delay in activities, initially unexpected outlays, modification in goals and/or deliverables or the appearance of conflicts in the work team. It is advisable to categorize the expected impact in order to identify the most critical ones. Concurrently, the possibility of each risk occurring must be estimated. The same way it happens with the impact, a high occurrence index implies that the risk is critical.

Finally, the combination of both factors - impact and occurrence probability - will help the PM identify the most critical factors on which the risk plan or the contingency plan shall be focused on. These risks should not be neglected, since their materialization can greatly contribute to the project's failure.

In this analysis it is critical to understand that the project is a system with several interrelated components. This implies that the effect of the materialization of risk has an immediate impact on a component of the project, but a delayed effect on other components and on the whole system.

Discussion and Conclusions

It is estimated that only 70% of the projects meet the goals that they were designed for, and at least 10% of the organizations' resources are irretrievably lost because of the incorrect management of their projects.

It is imperative that the Project Management Office (PMO) and the Project Managers (PM) implement better practices that contribute to a better management and lead the project to a successful conclusion, with a timely presentation of deliverables within the budget.

Recent studies allow us to establish a positive connection between the implementation of said practices and greater success rates. Even if they do not guarantee that the project is successful, since projects are exposed to external risks, they maximize the probability of meeting the goals within the planned parameters. Taking in account that the environment of projects and organizations are in continuous transformation and that projects are highly complex systems, the PM must be very qualified to lead the project team, provide them with knowledge and experience and apply the necessary tools to manage the different elements of the project, contributing value to the organization.

The projects must be aligned with the organization's strategic goals to genuinely support it. Efficient management enables saving valuable resources that the organization will be able to employ for other projects or to return to its assets. An adequate planning shall help with the efficient resource assignment for each activity and it shall include contingency plans that allow it to anticipate and correct the effects of the coming risks that threaten achieving the objectives.

In conclusion, the correct implementation of better practices will channel the projects to the achievement of their goals and will contribute value to the organizations. It is important to periodically review these practices so as to update them according to the changes within the domain of projects. In a world with an ever-growing demand of better project professionals, elevating the knowledge and performance level is indispensable.

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