

<https://doi.org/10.23913/ricea.v12i24.210>

Artículos científicos

Marcos de referencia de dirección de proyectos empleados en pequeñas y medianas empresas de México

***Project Management Frameworks Implemented in Small and Medium Sized
Companies from Mexico***

***Quadros de referência em gerenciamento de projetos usados em pequenas e
médias empresas no México***

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Resumen

La dirección de proyectos es un proceso que ayuda a proporcionar mayor confianza en el logro de los objetivos, ya que se minimiza el desperdicio de recursos, se reducen los riesgos y se facilita la gestión del cambio. En este artículo, se presentan los hallazgos de un estudio sobre la implementación de prácticas de dirección de proyectos en pequeñas y medianas empresas (pymes) en México para identificar cuáles son los marcos de referencia o metodologías más implementados. El estudio se llevó a cabo para una muestra aleatoria de 113 pymes de México, en las cuales se han empleado proyectos con una duración promedio de un año. Los resultados demuestran que el 52 % de estas no tiene proyectos documentados ni bien definidos, con bajos niveles de monitoreo y control; además, dichas implementaciones son identificadas de forma reactiva y ejecutadas a través de procesos y procedimientos desarrollados de forma interna, mediante marcos de referencia propios que no están probados, pues se considera que los estándares como los del PMI, Prince2 o Ágil son muy complejos o costosos. Lo anterior trae como consecuencia que, con base en los resultados obtenidos, solo el 50 % de dichas organizaciones tengan proyectos exitosos, y aproximadamente el 41% de estos se encuentran bien definidos o definidos; además, en promedio, el 70 % ejecuta al menos tres proyectos en paralelo, lo que requiere de marcos de referencia estandarizados y probados para asegurar el éxito de estos a lo largo de su implementación en la organización.



Palabras clave: dirección de proyectos, marcos de referencia de dirección de proyectos en México, dirección de proyectos en pymes, dirección de proyectos en pymes mexicanas.

Abstract

Project management is the process helping to create higher confidence to achieve objectives, minimizing resource wastes, reducing overall risks, and facilitating change management. This article presents the findings of a study about project management practices implemented in Small and Medium Sized Companies (SME) from Mexico, to identify what are the most implemented project management frameworks or methodologies. This study was carried out for a random sample of 113 SME from Mexico, in which there have been implemented projects with an average length of 1 year and it was identified that 52% of them do not have documented and well defined projects, with low levels of monitoring and control; also, they are identified in a reactive way and executed using process and procedures developed internally, and they would rather implement their own frameworks instead of standards such as PMI, Prince2, or Agile, since they are considered very complex or highly costly. Therefore, consequently, and based on the obtained results, only 50% of those organisations have successful projects, considering as well that about 41% of the projects are well or just defined, and about 70% of companies are executing at least three parallel projects, which requires mature standard frameworks to ensure the success along their implementation in the organization.

Keywords: Project Management, Project Management Frameworks in Mexico, Project Management in PYME, Project Management Research in Mexican PYME.

Resumo

O gerenciamento de projetos é um processo que ajuda a proporcionar maior confiança no alcance dos objetivos, minimizando o desperdício de recursos, reduzindo riscos e facilitando o gerenciamento de mudanças. Neste artigo são apresentados os resultados de um estudo sobre a implementação de práticas de gestão de projetos em pequenas e médias empresas (PMEs) no México para identificar quais são os quadros de referência ou metodologias mais implementados. O estudo foi realizado para uma amostra aleatória de 113 PMEs do México, nas quais foram utilizados projetos com duração média de um ano. Os resultados mostram que 52% destes não possuem projetos documentados ou bem definidos, com baixos níveis de monitoramento e controle; Além disso, estas implementações são identificadas de forma reativa e executadas através de processos e procedimentos desenvolvidos internamente, utilizando frameworks de referência próprios que não são testados, uma vez que padrões como os do PMI,



Prince2 ou Agile são considerados muito complexos ou caros. Do que precede resulta que, com base nos resultados obtidos, apenas 50% destas organizações têm projetos de sucesso, e cerca de 41% destes estão bem definidos ou definidos; Além disso, em média, 70% executam pelo menos três projetos em paralelo, o que requer quadros de referência padronizados e testados para garantir o seu sucesso ao longo da sua implementação na organização.

Palavras-chave: gestão de projetos, quadros de referência de gestão de projetos no México, gestão de projetos em PME, gestão de projetos em PME mexicanas.

Fecha Recepción: Enero 2023

Fecha Aceptación: Julio 2023

Introduction

Projects normally have great challenges related to their management, hence they have a high level of uncertainty (Cerón Hernández, 2017; Rojas-Molina *et al.* , 2018). Some of the challenges that project managers frequently face have to do with risk management (financial, legal, political, operational, technological, environmental), human resource management (teamwork, culture, leadership) , project planning and definition (scope and location management), performance management (list of performance standards, methods for aligning intangible results, maturity in project management, key performance indicators), project management knowledge (project management competencies, tacit project knowledge), stakeholder management, and value management (Tabassi *et al.* , 2019; Vasantro Patil , 2019).

According to a study carried out by the firm PwC and PMI, senior management faces various challenges when implementing projects. Among these challenges, 42% point to a poor digital culture and 41% cite insufficient leadership. According to the organizations surveyed, the main reasons for failure include incorrect estimates or missed dates in 89% of companies, changes in scope (78%), lack of resources (67%), changes in the environment (53 %) and changes in strategy (44%). This highlights the need for effective project management, people with the right skills and techniques to mitigate the risk of failure, as well as processes and capabilities to anticipate and address challenges that may arise (Najjar and Alkhaldi , 2022) .

A study carried out by Standish Group revealed that approximately 70% of small and medium-sized business projects in Mexico end with resources, scope and time outside of initial estimates (Rudas Tayo, 2017).

Furthermore, a study focused on the cultural dimensions of project managers in Mexico found that there is a greater orientation towards public space, cooperation and carrying out one task at a time. In other words, collaboration in open spaces and teamwork to achieve objectives are valued, but when they engage in an activity in a project, they prefer not to be interrupted or not work on several projects simultaneously (López Miranda, 2016) .



Good project management practices that seek to improve results, reduce problems, increase quality and customer satisfaction, as well as efficiently use resources and carry out strategic projects include the use of methodologies, tools, standards, metrics and knowledge for this purpose. It is also essential to implement effective governance, properly evaluate and manage resources, and ensure the integration and alignment of projects with business objectives, and keep standards up to date (Oliveria Pinto *et al.* , 2019; Scholl , 2016; Tereso *et al.* , 2019).

However, despite the existence of standards and good practices, organizations in Mexico face a high rate of projects that fail to achieve their planned objectives. Therefore, it is vitally important to identify the reasons behind this problem, especially in the context of small and medium-sized businesses, where, despite the presence of standards and good practices, the expected results often do not materialize.

Materials and methods

In Mexico, about 13% of companies are small and medium-sized (National Institute of Statistics, Geography and Informatics [Inegi], June 23, 2022), which were the object of study of this work. To do this, a random sample size was taken (Orihabor and Anyanwu , 2019):

$$n = \frac{\frac{z_{\frac{\alpha}{2}}^2 p(1-p)N}{2}}{\varepsilon^2(N-1) + \frac{z_{\frac{\alpha}{2}}^2 p(1-p)}{2}}$$

Where

n : Sample size.

$1 - \alpha$: Confidence level.

p : Probability of selecting a small or medium-sized company.

N : Population size.

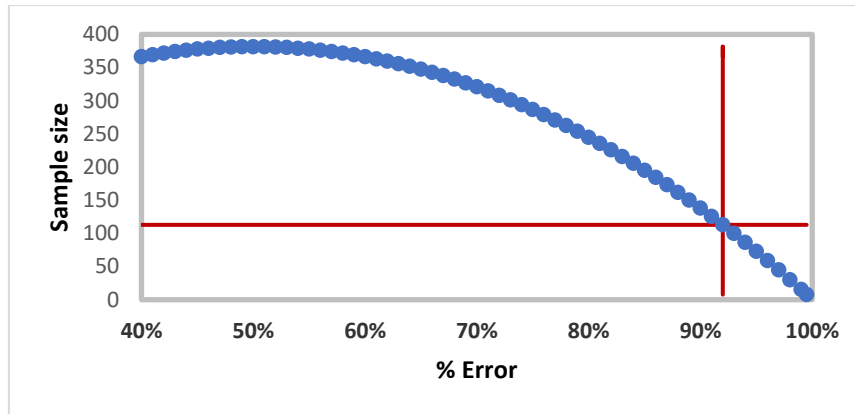
ε : Sampling error.

$\frac{z_{\frac{\alpha}{2}}}{2}$: Standardized random variable .

Considering that the size of the population (N) is 55,724 SMEs (Inegi , June 23, 2022) in Mexico, with a confidence level of 95%, which is the most used when surveys are applied (Hazra , 2017). Likewise, the standardized value of z is 1.95996, for a sampling error (ε) of 5% (Khadka , 2019), a sample of 174 companies was obtained to be surveyed. However, given the limitations of time and response rate (which in this case was approximately 70%), only 113 could be surveyed through an online questionnaire, which corresponds to a confidence level of 92%. That is, even when the adequate sample size was not achieved, there is not a large

deviation (figure 1), since the acceptable confidence level for this type of research can be up to 90% (Hazra, 2017) . .

Figure 1. Sample size



Source: self made

The applied questionnaire consists of 15 questions, and was applied to both public and private companies to obtain information about project management practices, the types of projects implemented and the way in which they are identified, the performance indicators that are used to monitoring and control, as well as the success rate in implementations. All this with the purpose of identifying if there is a relationship between the implemented practices and the success rate, for which a correlation analysis was done using SPSS *software* , through the comparison of ANOVA, using the comparison of means (Khadka , 2019). The hypotheses formulated were the following:

H0: The mean project success rates are equal between the groups.

Ha: Mean project success rates differ between groups.

In other words, what we seek to test with the previous hypotheses is whether the fact of using a standardized methodology influences the success of the project (null hypothesis: H0); On the other hand, if the difference is not significant, it may be interpreted that it does not matter whether or not a standardized or internal methodology is used for the project to be successful; In this case, it can be inferred that success depends on other factors.

The main hypothesis was tested through the following variables:

- Types of reference frameworks used : Through this independent variable, the reference frameworks or methodologies used by companies will be identified in order to determine whether they correspond to known or internally developed standards.
- Number of projects executed in parallel: This independent variable helps to know if there are two or more projects running at the same time, since this can affect their success; Therefore, it is most advisable to use a standard framework (López Miranda *et al .*, 2016).

- Reasons for using standard reference frameworks: This independent variable is used to identify whether or not the organization knows the standard reference frameworks, since it has been detected that sometimes it is not known or they are not used because they are considered very complex. (Oliveria Pinto *et al.* , 2019).
- Project definition level: Independent variable to measure whether the implemented projects are well defined in terms of scope, cost and time, since these elements correspond to 80% of failures (Rojas-Molina et al., 2018) .
- Success rate (level of project success): Dependent variable through which we seek to answer the hypothesis about whether or not there is a correlation between the success of the projects and the reference framework used during their implementation.

The variables and hypotheses will generally help determine the most implemented project practices in Mexico, as well as the reason for their choice through:

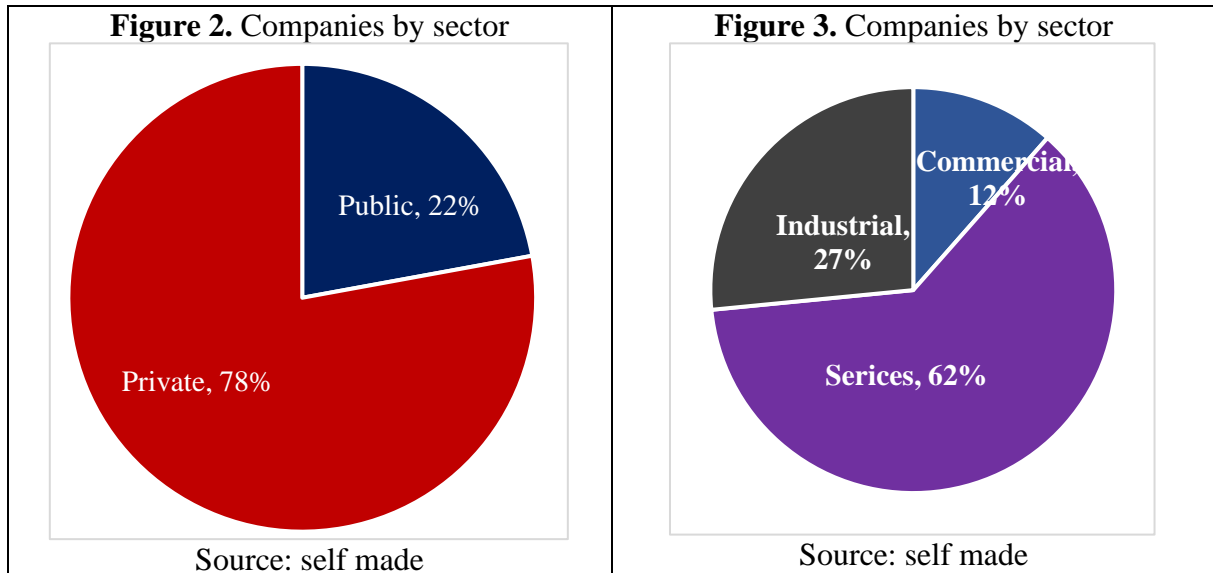
- Identify the degree of success of the projects based on the reference framework used.

Additionally, in particular, you will be able to:

- Determine if there is a correlation between the reference frameworks used and the success of the projects.
- Determine if there is a correlation between the degree or level of project definition and their success.
- Determine whether the most used frames of reference are those that are well known and standard, and/or tailored, and this is related to the way they are perceived.

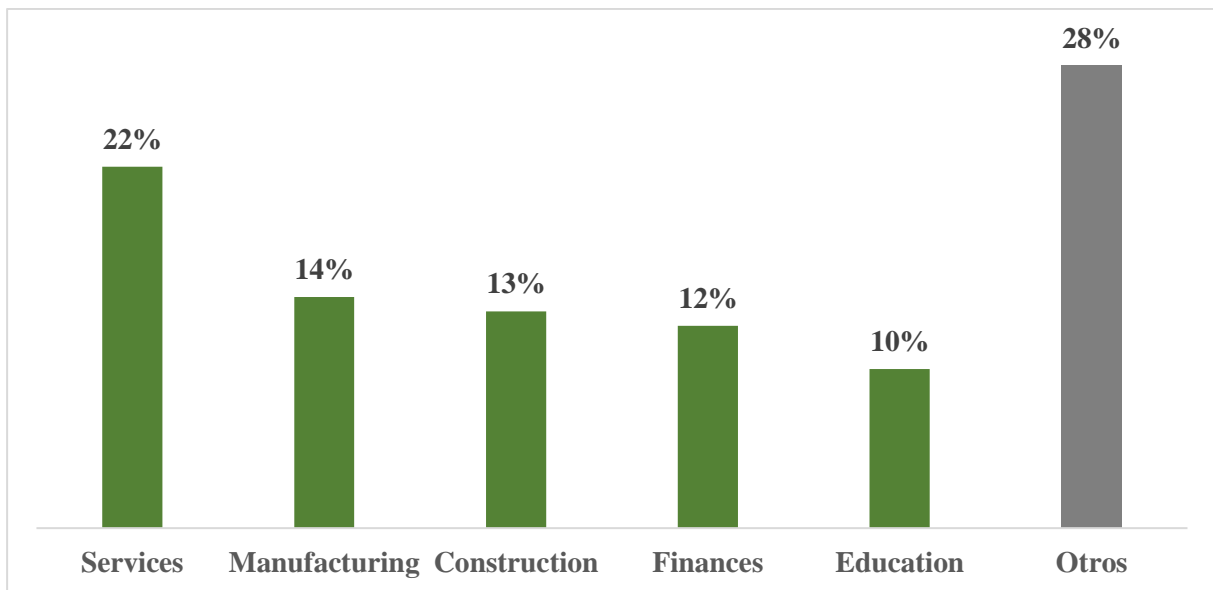
Results

According to Piperca and Floricel (2023), resilience in projects is related to the intentions and interactions of the participants, that is, the objectives of the interested parties, which are important, since whether the strategic objectives can be met is part of vital part of the organization, especially the type of organization that was part of the study.



The line of business of the companies surveyed is mainly located in services, finance, manufacturing, construction, and education, with approximately 72% (figure 4), of which 86.73% (figure 5) are classified according to the number of employees, such as small and medium-sized companies (Inegi , June 23, 2022).

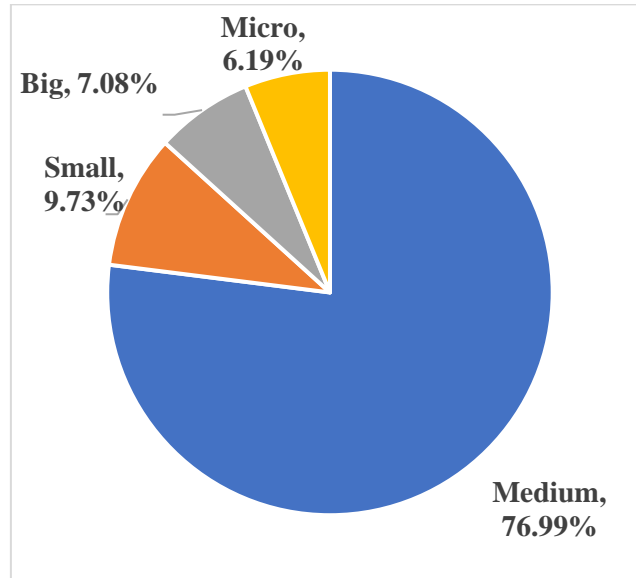
Figure 4. Business activities



Source: self made

In addition to the business, the size of the companies was also determined, which are mainly medium-sized (76.99%) (figure 5).

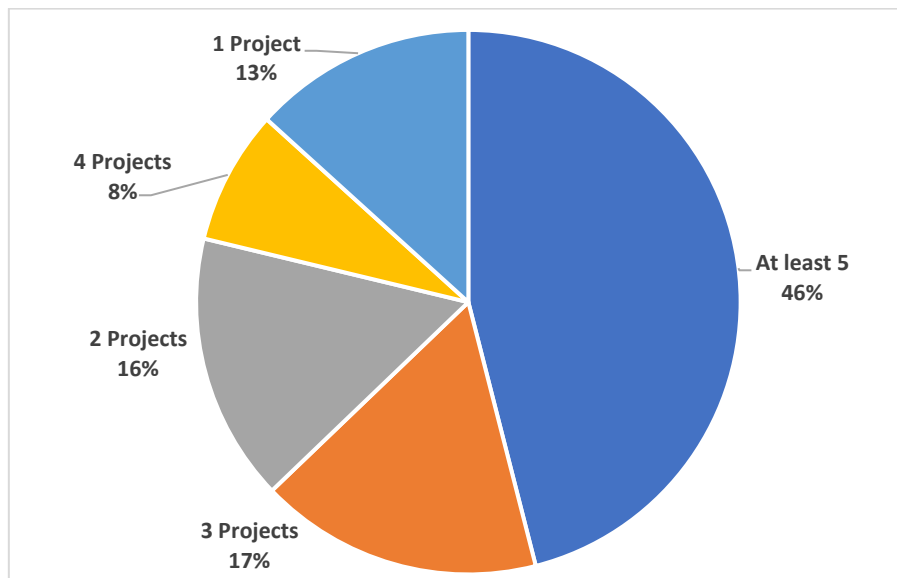
Figure 5. Size of the companies



Source: self made

The previous classification helps to understand the type of stakeholders available and to what extent the expectations will be with respect to the projects in order to understand to what extent there will be emphasis or not on them, as well as the strategic alignment (Piperca and Floricel , 2023). In addition to the above, at least 70.80% of the companies surveyed were executing at least three projects in parallel (figure 6), which requires the implementation of practices that help with their proper management (Cerón Hernández, 2017).

Figure 6. Projects executed in parallel

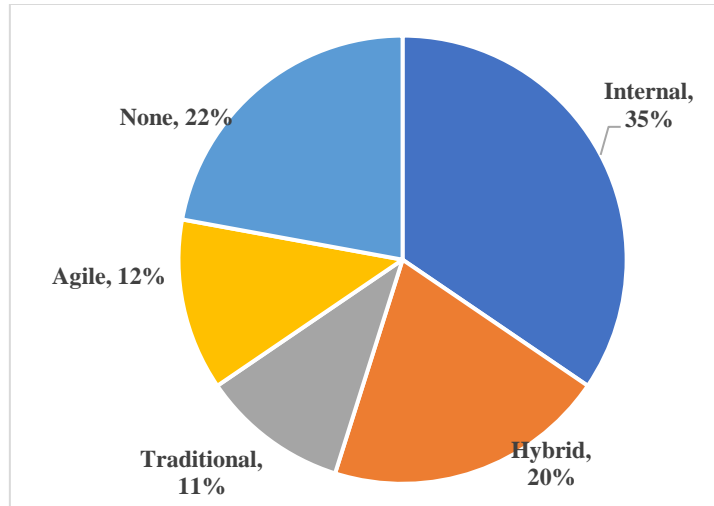


Source : Own elaboration

Of 113 companies surveyed, approximately 52% (22% none and 35% internal) do not use a standard framework or use internal development (Figure 7), which could lead to a lack of achievement of strategic objectives and projects, given the lack of documentation and guidance

to achieve what is expected . This is one of the main critical success factors of companies in Mexico (Tabassi *et al.* , 2019; Vasantro Patil , 2016).

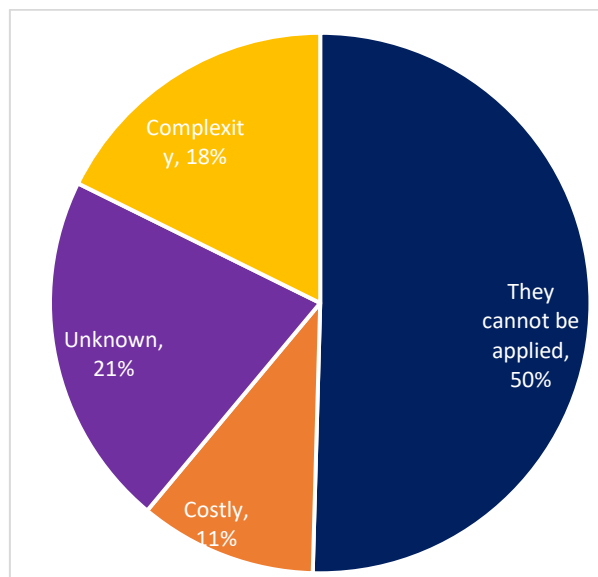
Figure 7. Project management reference frameworks used by SMEs



Source: self made

Regarding the main reasons why they do not apply standard reference frameworks, it was found that they consider them very complex (about 18%), 11% consider them expensive, 21% do not know them and approximately 50% think that they cannot apply to the organization (figure 8).

Figure 8. Reasons why certain project frameworks are applied



Source: self made

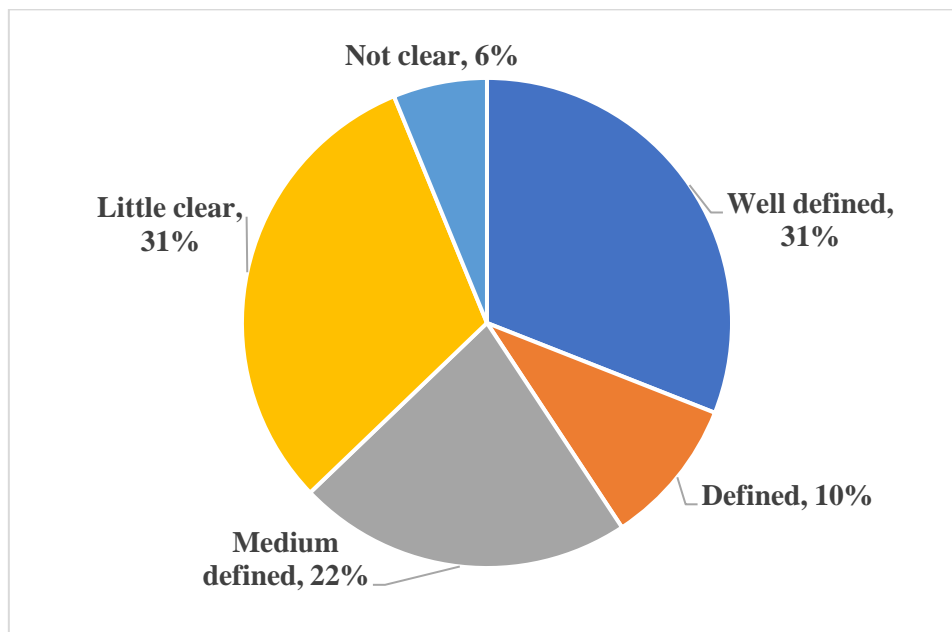
Regarding the reasons why organizations sometimes feel that they cannot apply standard frameworks, it has been noted that this may be due to a lack of alignment with their internal policies or procedures. Additionally, some organizations may argue that they would need to



hire specialized project management staff, but have concerns that, by not being familiar with the particular industry or organization, they could put project outcomes at risk. However, it is important to highlight that these standard project management practices are essential for risk mitigation, more effective management of resources and, given the number of projects underway, the cost of maintaining them is generally less than the benefits they provide. they contribute in terms of value and results (Najjar and Alkhalidi , 2022).

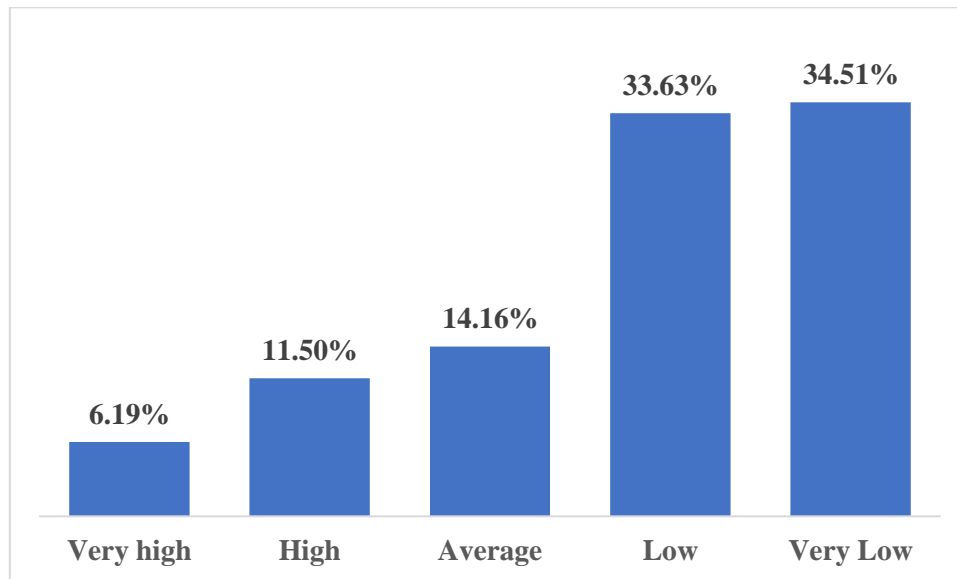
Likewise, in relation to value alignment, the survey included an assessment of whether companies consider their projects to be adequately defined and clear. The results revealed that approximately 41% of the projects have defined or well-defined objectives (Figure 9). However, this suggests that there is a significant area of opportunity in the remaining percentage of projects, which could hinder achieving the desired success. It is important to remember that the clear definition of objectives is essential, since it represents the essential starting point for any project (Cerón Hernández, 2017).

Figure 9. Project definition level



Source: self made

Although some organizations can achieve success without the use of acceptable frameworks, the question arises as to how much additional success they could achieve by employing appropriate frameworks based on good practices. This is particularly relevant given that approximately 82% of companies report having a very low level of success in their projects (Figure 10), meaning they are not achieving their stated objectives. Importantly , these objectives, as mentioned above, are often not well defined, which is related to the significant challenges in project management identified by Rojas-Molina *et al.* (2018).

Figure 10. Project success level

Source: self made

Discussion

Although no specific study has been published on project management practices in small and medium-sized companies in Mexico, which represent a significant part of the country's economy (Inegi, June 23, 2022), it is important to keep in mind that research previous studies in the field of project management—such as those of López Miranda *et al.* (2016), Cerón Hernández (2017), Rojas-Molina *et al.* (2018) and Najjar and Alkhalidi (2022)—provide a clear understanding of how project management practices are carried out in Mexico and globally, and what the main associated challenges are, which are closely related to management processes. .

According to Vasantro Patil (2016) and Tabassi *et al.* (2019), there are critical elements to consider to carry out effective project management. These cover processes that incorporate reference frameworks such as PMI or Prince2, as well as the definition of the scope and value of the project, time and cost planning, human resources management, risk management, the establishment of performance standards. performance, knowledge management and stakeholder management. All these aspects are essential to achieve the desired results.

The results obtained allow us to offer an answer, although limited to the findings, on why projects continue to experience failures despite the availability of international standards such as PMI, Prince2, PM2 or agile approaches. That is, this phenomenon is related to the low adoption of these standards by organizations, which is due to the perception of high costs, lack of knowledge and the belief that these standards may not be applicable (figure 8). . This

resistance to implementing proven practices leads to a high proportion of projects with unsatisfactory results.

On the other hand, it is important to highlight that this study was based on a sample of 113 cases with a confidence level of 92%, which implies a margin of error of 8% (see figure 1). This level of error is acceptable given the nature of the research (Hazra , 2017). Therefore, the results obtained can be considered valid and support the statement that in Mexico there is a wide field for improvement in the implementation of good project management practices. Despite the availability of these practices, many organizations still do not implement them due to misperceptions about their cost, applicability, or complexity. However, when appropriately adapted, these practices can offer results aligned with effective resource management, clear objectives and planning aligned with value generation and organizational strategy (Cerón Hernández, 2017; Rojas-Molina *et al .* , 2018; Rudas Tayo, 2017; Tabassi *et al .* , 2019; Vasantro Patil , 2016).

Now, to determine the influence of these factors on the success of the projects, an Anova table was prepared with a confidence level of 95% (p- value of 0.05) using SPSS. This analysis determined to what extent the success of the projects depends on the use of a standard methodology (table 1).

Table 1. Anova table between the methodology used and the success of the projects

Variability	Sum of squares (SS)	Degrees of freedom	SS Mean	F	Significance
Between groups	30,366	4	7,592	9,488	,000
Within the groups	86,412	108	.800		
Total	116,779	112			

Source: self made

According to the results of the Anova table , the F test indicates that the significance value is 0.000, which is less than the p- value of 0.05 (table 1). Therefore, the null hypothesis (H0) is rejected, leading to the conclusion that the use of a methodology does influence the success of the projects. This agrees with the results obtained by Rudas Tayo (2017), Vasantro Patil (2019) and Najjar and Alkhalidi (2022). Although their studies did not focus on Mexico, they highlight the importance of this factor in global projects.

To strengthen the validity of these results, the means and their 95% confidence intervals were calculated, which are presented in Table 2.

Table 2. Means of the level of success of the projects according to the methodology

Methodology	N	Half	Standard deviation	Standard error	Lower limit	Upper limit	min	Max	Variance between components
None	25	1.6400	.86023	.17205	1.2849	1.9951	1.00	5.00	
Internal	39	1.8974	.85208	.13644	1.6212	2.1736	1.00	5.00	
Hybrid	23	1.6522	.88465	.18446	1.2696	2.0347	1.00	4.00	
Agile	14	1.9286	.99725	.26653	1.3528	2.5044	1.00	4.00	
Traditional	12	3.4167	.99620	.28758	2.7837	4.0496	2.00	5.00	
Total	113	1.9558	1.02111	.09606	1.7654	2.1461	1.00	5.00	
Fixed effects			.89449	.08415	1.7890	2.1225			
Random effects				.28529	1.1637	2.7478			.31472

Source: self made

Table 2 reveals that the highest mean is observed when using a traditional framework, with an average value of 3.4167, followed by Agile frameworks, which have an average of 1.9286. In third place are those that use an internal framework, with a mean of 1.8974. These values reflect the variability, as evidenced by the standard deviation, which corroborates the previous conclusions of Tereso *et al.* (2019) in private companies.

To determine differences in significance between these results, a difference in means (Tukey) test was performed using SPSS at a 95% confidence level. The results are presented in Table 3, which further reinforces the conclusions obtained in the studies by Tereso *et al.* (2019).

Table 3. Difference in means of the use of project management methodologies

(I) Methodology	(J) Methodology	Mean Difference (IJ)	Standard error	Significance	Lower limit	Upper limit
None	Internal	-.25744	.22917	.794	-.8933	.3784
	Hybrid	-.01217	.25844	1,000	-.7292	.7048
	Agile	-.28857	.29859	.870	-1.1170	.5398
	Traditional	-1.77667 *	.31413	.000	-2.6482	-.9051
Internal	None	.25744	.22917	.794	-.3784	.8933
	Hybrid	.24526	.23517	.835	-.4072	.8977
	Agile	-.03114	.27869	1,000	-.8043	.7421
	Traditional	-1.51923 *	.29528	.000	-2.3385	-.7000
Hybrid	None	.01217	.25844	1,000	-.7048	.7292
	Internal	-.24526	.23517	.835	-.8977	.4072
	Agile	-.27640	.30321	.892	-1.1176	.5648
	Traditional	-1.76449 *	.31853	.000	-2.6482	-.8808
Agile	None	.28857	.29859	.870	-.5398	1.1170
	Internal	.03114	.27869	1,000	-.7421	.8043
	Hybrid	.27640	.30321	.892	-.5648	1.1176
	Traditional	-1.48810 *	.35189	.000	-2.4644	-.5118
Traditional	None	1.77667 *	.31413	.000	.9051	2.6482
	Internal	1.51923 *	.29528	.000	.7000	2.3385
	Hybrid	1.76449 *	.31853	.000	.8808	2.6482
	Agile	1.48810 *	.35189	.000	.5118	2.4644

*. The difference in means is significant at the 0.05 level.

Source: self made

As seen in Table 3, there is a significant difference in the means, especially when comparing the lack of use of a reference frame with the use of a traditional reference frame. The significance is 0.000, a value that is lower than the p- value of 0.05, corresponding to a 95% confidence level. This provides a 95% confidence interval (CI) ranging from -2.6482 to -0.9051. This suggests that not using a standard methodology will lead to worse results compared to using a traditional methodology, such as PMI. Likewise, when comparing the internal methodology with the traditional one, as well as the hybrid and Agile, a significant difference is observed, with superior performance in the case of the traditional methodology in these specific cases of the sample.

Based on the above results, performing the Tukey test to identify homogeneous subsets in SPSS, with an alpha value of 0.05, two subsets are obtained. One encompasses the use of agile, hybrid, in-house, and none frameworks, while the other refers to traditional frameworks (Table 4). This suggests that, for a factor analysis and variable reduction, a model with two variables could be considered: a non-standardized model (none, hybrid, internal and agile) and



a standardized model (traditional framework), which coincides with what was identified. by Tereso *et al.* (2019) in private companies. However, it is important to note that this approach assumes that the organizations surveyed do not have a well-developed agile framework internally. This limitation could be addressed in a future study focused on determining the agile practices used by organizations and their level of development or internal implementation.

It is also essential to consider what type of internal practices organizations have developed, whether they are based on traditional or agile models. This aspect cannot be determined in this study due to its limited focus, the main objective of which was to determine whether or not standard project management practices were being leveraged in small and medium-sized businesses in Mexico. Additionally, it is important to note that, although this study refers to Mexico, it is based on a post-pandemic sample, a time when companies reorganized their processes and stopped using the frameworks they had previously used. Therefore, it would also be relevant to determine to what extent there have been changes or if mature processes are still being used or in the process of implementation.

Table 4. Factor analysis for the means

Methodology	N	Subset 1	Subset 2
None	25	1.6400	
Hybrid	23	1.6522	
Internal	39	1.8974	
Agile	14	1.9286	
Traditional	12		3.4167
Significance		.858	1,000
Alpha = 0.05			
Mean square error = .800.			
Harmonic sample size = 18,948.			

Source: self made

Conclusion

The results obtained provide an accurate perspective of the current situation in the country regarding project management; In this sense, significant areas of improvement are highlighted in relation to the development or simplification of reference frameworks to achieve the objectives desired by organizations. These challenges are closely linked to the adaptation of project management practices to the needs of each organization, the implementation of training to facilitate the adoption of standard international practices and the promotion of training in organizations on project management practices that contribute to the generation of

value. In addition, the creation of a practical manual is suggested that allows companies to understand how good practices can help them achieve their objectives.

Likewise, the consolidation of research lines in project management in Mexico should be considered, since limited resources were identified in this area. This could include creating a centralized repository of best practice-based tools that improve project management processes, helping organizations identify areas for improvement in their current project management processes to maximize expected value. It is also essential to keep staff trained in project management practices and encourage the use of international best practices and certifications to make the most of resources within organizations.

The above will contribute to increasing the adoption of international practices in Mexico in the future, resulting in cost reduction, more efficient use of resources and greater alignment of project managers with practices such as those of the PMI. All of this is supported by previous studies, such as that of Cerón Hernández (2017), whose findings, although focused on the construction industry, can be applied to other industries and resources to achieve greater use. Furthermore, future research should investigate the specific causes of difficulties in implementing project frameworks in Mexico and why some organizations perceive them as too complex.

Future lines of research

The practical project study provides an essential starting point for identifying how small and medium-sized businesses can address their project management opportunity areas. Additionally, it provides a solid foundation for understanding why the expected value is often not achieved in these projects. Therefore, it is crucial to conduct a deeper analysis to examine the internal methodologies that organizations have developed. In other words, you need to investigate what specific practices form the basis of your internal processes, whether they are based on traditional or agile practices, whether you understand the rationale behind your internal frameworks, whether these are aligned with the organizational strategy, or whether additional training needs to be provided to implement and improve existing practices.

This analysis must also consider how the project management processes work internally in these organizations to know if they are adequately standardized or if, despite existing, they are not followed according to what is established. These issues should be addressed in future research to promote the maturity of project management practices, encourage alignment with international standards, and facilitate continuous improvement in project execution.

References

- Cerón Hernández, EJ (2017). PMI® Project Management Institute – Helping Small Mexican Construction Management Company Reduce Their Errors? Ceron ® case . *RICEA Ibero-American Journal of Accounting and Administration* , 6 (11). <https://doi.org/10.23913/ricea.v6i11.88>
- Hazra , A. (2017). Using the Confidence Interval Confidently . *Journal of Thoracic Disease* , 9 (10), 4125-4130.
- National Statistics Institute Geography and Computing (Inegi) (June 23, 2022). Demographics of MSME establishments in the context of the covid-19 pandemic . <https://www.inegi.org.mx/app/saladeprensa/noticia.html?id=7419>
- Khadka , J. (2019). Sampling Error in Survey Research . *International Journal of Science and Research* , 8 (1), 2214-220.
- López Miranda, A., Velázquez Reyes, M. and Carrillo Gamboa, O. (2016). Exploring Cultural Dimensions of Mexican Project Managers. *Procedia -Social and Behavioral Sciences* , 226 , 439-446.
- Najjar , R.A. and Alkhalidi , M. (2022). How to Unlock your PMO's Strategic Value . *Middle EAST Transformation and Project Management Report* .
- Oliveria Pinto, G., Brazil de Brito Mello, L. and Spiegel, T. (2019). Best Practices in Implementing a Project Management Office: A Systematic Review of the Literature . *Systems & Management Electronic Magazine* , 14 (4), 448-463.
- Oribhabor , C. and Anyanwu, C. (2019). Research Sampling and Sample Size Determination: A Practical Application. *Journal of Educational Research* , 2 (1), 47-56.
- Piperca , S. and Floricel , S. (2023). Understanding Project Resilience : Designed , Cultivated or Emergent ? *International Journal of Project Management* , 41 .
- Rojas-Molina, A., Toledano-Ayala, M., Rodríguez Reséndiz, J., Rivas-Araiza, E. and Herrera-Ruiz, G. (2018). Project Management in Higher Education Education Institutions in Mexico : A Case Study . *International Journal of Engineering Education* , 34 (4), 1335-1346.
- Rudas Tayo, L. (2017). *Risk management model for technological development projects* (degree work). CIATED.
- Scholl , J. (2016). *Project Management Best Practices for Projects that Introduces Innovative Processes* (master's thesis) . University of Oregon .
- Tabassi , AA, Bryde , DJ, Kamal , EM, Dowson , J. and Roula , M. (2019). *Challenges for Project Management in the 21st Century* . 4th International Conference - on Rebuilding Place.

Tereso, A., Ribeiro, P., Fernandes , G., Loureiro, I. and Ferreira, M. (2019). Project Management Practices in Private Organizations . *Project Management Journal* , 50 (1), 6-22.

Vasantro Patil , G. (2019). Project Management Challenges . *Journal of Multidisciplinary Engineering Science and Technology* , 3 (11), 6018-6024.