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Research article

Achieving goals toward excellence: How managing organizational excellence leads to project delivery success through knowledge management and transformational leadership

Carlos Culqui-Arce[1,*], César R. Balcázar-Zumaeta[1], Diner Mori-Mestanza[1], Alex J. Vergara[1], Marleni Medina-Mendoza[1], Armstrong B. Fernández-Jeri[1], Efraín M. Castro-Alayo[1] and Ilse S. Cayo-Colca[2]

[1] Instituto de Investigación, Innovación y Desarrollo para el Sector Agrario y Agroindustrial (IIDAA), Facultad de Ingeniería y Ciencias Agrarias, Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas, Chachapoyas 01001, Perú

[2] Facultad de Ingeniería Zootecnista, Agronegocios y Biotecnología, Universidad Nacional Toribio Rodríguez de Mendoza de Amazonas, Chachapoyas 01001, Perú

* **Correspondence:** Email: carlos.culqui@untrm.edu.pe; Tel: +51 924711996.

Abstract: In this research, we examined the mediating role of Knowledge Management (KM) and Transformational Leadership (TL) in the relationship between Organizational Excellence Management (MOE) and Project Success (PS) among 180Peruvian project managers in the service, manufacturing, construction, and technology sectors. A quantitative, explanatory, cross-sectional design using structural equation modeling was applied. The results revealed that OME had a significant direct effect on PS (β =0.85, $p < 0.001$) and indirect effects through KM ($\beta = 0.28$, $p < 0.001$) and TL ($\beta = 0.23$, $p < 0.001$). The model explained 60% of the variance in PM, 23% in KM, and 44% in TL, indicating a satisfactory level of explanatory power and model fit. These findings demonstrated that excellence-oriented management practices strengthen knowledge and leadership capabilities, which in turn improve project performance. The study provides empirical evidence supporting the integration of OME, KM, and TL as key drivers of project success in emerging economy contexts such as Peru.

Keywords: project management; Organizational Excellence Management; Knowledge Management; Transformational Leadership; successful project delivery
Mathematics Subject Classification: 90B50, 19A13

1. Introduction

Project management (PM) has become a critical component for achieving organizational competitiveness and success in today's volatile and constantly changing environment. It enables organizations to effectively plan, execute, and control resources and activities to deliver specific results within a defined scope and timeframe. PM plays a strategic role in optimizing resources, mitigating risks, and promoting innovation and continuous improvement. [1–4]. It also facilitates coordination among multidisciplinary teams and ensures alignment with the organization's strategic objectives [5,6]. As organizations face increasingly complex challenges, project management has established itself as an essential capability for sustainable performance.

Despite its importance, project management faces numerous challenges at the global and local levels. At the international level, the increasing complexity of projects and the interdependence of economic systems require greater agility and adaptability on the part of organizations [7,8]. In the Peruvian context, these problems are even more critical. Public sector projects often suffer from underperformance, cost overruns, and delays, affecting approximately 70% of them [8,9]. Factors such as inadequate planning, lack of qualified personnel, and political interference further complicate the successful implementation of initiatives [10,11]. These challenges highlight the need to explore internal organizational mechanisms to strengthen project execution.

To address these persistent problems, the literature highlights the potential of Organizational Excellence Management (MOE), Knowledge Management (KM), and Transformational Leadership (TL) as integrated strategic approaches to improve project outcomes [6,12–14]. Although these constructs have been studied individually, there is little research on their combined and mediating effects within a single analytical model, especially in emerging economies such as Peru. This limitation restricts the theoretical and practical understanding of how these internal capabilities interact to promote project success. Consistent with calls for incremental rather than radical theoretical advancement, this study provides an integrative and clarifying contribution rather than introducing new constructs or relationships.

The theoretical contribution lies in explaining how excellence-oriented management systems operate as meta-organizational enablers that structure leadership and knowledge mechanisms. This integrative lens clarifies the relational architecture between MOE, KM, and TL, which are often examined as isolated predictors in studies.

Moreover, rather than proposing entirely new relationships, this study contributes by structurally integrating Organizational Excellence Management (MOE), Knowledge Management (KM), and Transformational Leadership (TL) into a single explanatory framework for project success. While researchers have examined partial linkages among these constructs, research remains fragmented and lacks an integrative perspective that clarifies how excellence-oriented management systems shape leadership and knowledge mechanisms simultaneously. In this study, we address this gap by positioning MOE as a higher-order organizational system that enables and conditions KM and TL, thereby explaining their joint role in project success within an emerging economy context. By

grounding this explanatory structure in a Peruvian context characterized by institutional constraints, hierarchical governance, and high public-sector project failure rates, we extend the applicability of integrated excellence–leadership–knowledge frameworks beyond the predominantly corporate and Western settings in which they have been developed and tested.

Our objective of this study is to analyze how EOM influences the success of project execution, considering the mediating role of KM and TL, within Peruvian project-based organizations. For this purpose, a quantitative, explanatory, and correlational study is conducted, using validated measurement scales and a mediation analysis. The rest of the article is organized as follows: In the next section, we present the theoretical framework and literature review; in the methodology section, we provide details on the research design and instruments used; in the results, we show the major findings; in the discussion, we interpret their implications; and in the last section, we provide conclusions, limitations, and future lines of research.

2. Theoretical framework and literature review

2.1. Management of organizational excellence (MOE)

The MOE refers to a systematic and holistic approach aimed at continuous improvement, innovation and adaptability in the face of organizational and environmental changes. It is often guided by consolidated models such as that of the European Foundation for MOE, which integrates criteria related to leadership, strategy, people, partnerships, processes, and results [6,13,15]. This model has been widely used to assess and promote excellence in public and private organizations, offering a practical framework for performance improvement and strategic alignment [16,17].

In project-oriented organizations, MOE plays a crucial role in fostering a culture of high standards, customer focus, and process efficiency, all of which are necessary for successful execution. Several studies have shown that MOE practices strengthen organizational capabilities, including improved decision making, cross-functional collaboration, and sustainable competitive advantages [6,13,18]. However, in the Peruvian context, the implementation of quality and excellence models is at an early stage, which evidences the need for a more structured and strategic approach [16,19]. In this sense, understanding the direct and indirect contributions of the MOE to the success of projects represents a highly relevant line of research.

2.2. Knowledge Management (KM)

KM is the set of systematic processes by which organizations create, store, distribute, and apply knowledge to improve decision making, innovation, and performance [11,12,20,21]. These processes are usually grouped into four major dimensions: creation, storage, transfer, and application of knowledge. They enable information to be transformed into strategic action [17,22–24].

Effective KM improves project outcomes by ensuring that relevant knowledge is available and used at all stages of execution. The literature shows that robust KM is associated with increased capacity for organizational learning, problem solving, and innovation, factors that directly contribute to successful project delivery [8,21,25]. Several empirical studies have validated the mediating role of KM in the relationship between organizational practices and project performance, suggesting that it acts as a key enabler in dynamic, knowledge-intensive environments [12,25,26]. In emerging

economies such as Peru, where access to formal knowledge systems may be limited, the development of robust KM processes becomes more critical to achieving successful results.

2.3. Transformational Leadership (TL)

TL is a leadership approach that seeks to inspire and motivate team members to exceed expectations, promoting a shared vision, fostering innovation, and developing individual potential. Unlike transactional leadership, which focuses on supervision and performance rewards, TL is based on personal influence, intellectual stimulation, and emotional engagement [1,2,14]. Its major dimensions include idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration [27,28].

In project environments, TL plays a critical role in improving team performance, fostering trust and collaboration, and aligning individual efforts with organizational goals [4,29,30]. Leaders who manifest transformational behaviors tend to generate greater commitment, creativity, and adaptability in their teams, essential skills for project success in dynamic and uncertain contexts [1,14,31]. In addition, TL has been associated with improvements in communication, innovation, and decision making within project teams [2,29].

The relationship between Organizational Excellence Management (MOE) and Transformational Leadership (TL) can be explained through an integrative theoretical perspective. From a Dynamic Capabilities and Resource-Based View (RBV), MOE represents a higher-order organizational system that enables the development, reconfiguration, and alignment of internal resources and capabilities, including leadership practices. In parallel, Social Exchange Theory (SET) provides a complementary micro-level explanation by clarifying how excellence-oriented practices foster climates of trust, reciprocity, and perceived organizational support. These conditions increase leaders' willingness to adopt transformational behaviors such as inspiration, intellectual stimulation, and individualized consideration. Accordingly, SET is used in this study to explain the MOE–TL linkage, while RBV and Dynamic Capabilities provide the broader theoretical foundation for conceptualizing MOE as an enabling organizational system rather than a direct behavioral construct [32].

Several empirical studies have highlighted the relevance of TL in project-based organizations. For example, the researchers in [1] demonstrated that TL contributes significantly to project success through team building and a shared vision [1]. Likewise, other researchers have confirmed that TL mediates the relationship between organizational practices and performance outcomes, making it a strategic factor for project execution [4,29]. Despite this, there are some researchers who integrate TL with MOE and KM in the same analytical model, especially in emerging markets, which underlines the novelty of this study.

2.4. Integrated relationships and research gaps

The literature has placed increasing emphasis on the importance of integrated models that explore the interplay between MOE, GC, and LT as drivers of successful project execution [12,18,24,25,32]. These organizational capabilities, while distinct, play complementary roles in promoting innovation, improving internal processes, and aligning strategic objectives with operational execution. The MOE provides the structural and cultural foundation for continuous improvement; KM ensures the generation and sharing of critical knowledge; and the LT mobilizes teams toward common goals through motivation and a shared vision.

Although these constructs have been individually related to project success in other studies [8,13,21,29], few researchers have examined them jointly within a mediation model, especially in emerging economies such as Peru. This represents a critical gap in research. Most models do not consider the mediating roles of KM and LT, or do not contextualize their findings in environments characterized by high rates of project failure, institutional constraints, and resource scarcity.

In this study, we seek to address these gaps by proposing and evaluating a mediation model in which the MOE influences the success of project execution directly and indirectly through KM and LT. This approach enables a more holistic understanding of how internal organizational mechanisms interact to improve project management performance. While researchers have explored the relationships between knowledge management, transformational leadership, and project performance, these researchers typically conceptualize leadership and knowledge as isolated drivers or examine their interaction without embedding them within a broader excellence-oriented management system. Consequently, what remains underexplored is how organizational excellence frameworks operate as meta-organizational architectures that simultaneously structure leadership behaviors and knowledge processes. By modeling MOE as an antecedent system rather than a simple aggregate of practices, this study offers a configurational understanding of how excellence management shapes project success mechanisms. By focusing on the Peruvian context, the study also provides novel empirical evidence from an underexplored environment, offering valuable learnings for academia and practitioners in the field.

From a theoretical standpoint, the proposed causal ordering draws on complementary perspectives that clarify how internal capabilities interact. Resource-Based View and Dynamic Capabilities conceptualize Organizational Excellence Management (MOE) as a higher-order meta-capability that enables the development and reconfiguration of internal resources. In turn, Social Exchange Theory (SET) explains how excellence-oriented practices create climates of trust, reciprocity, and perceived organizational support that facilitate knowledge sharing and transformational leadership behaviors. Within this integrated lens, KM and TL operate as enabling mechanisms that translate excellence-oriented systems into performance outcomes, which justifies their analytical role as mediators. Given the cross-sectional nature of the data, this ordering is interpreted analytically rather than as definitive temporal causality, while alternative configurations are acknowledged in the limitations section.

Table 1 shows a summary of the major studies related to the variables in this study. This synthesis enables us to identify the approaches used, the contexts analyzed and, above all, the gaps in the literature that justify the theoretical proposal of this study.

Table 1. Relevant studies on MOE, KM, TL, and project success.

Author (s)	Key variables	Type of study	Context / Sector	Major findings	Identified gaps
[15]	TL → Project Success	Cuantitative	TI, Pakistán	TL positively influences the success of projects.	Does not analyze mediating role.
[13]	KM → Innovación	Cuantitative	PYMEs	KM improved innovative performance.	Not focused on project success.
[12]	KM + TL	Cuantitative	Manufacturing	joint effect of KM and TL.	Does not analyze MOE or Latin American context.
[26]	KM + Liderazgo emprendedor→Éxito en proyectos	Cuantitative	Varied	Direct and configurational relationship.	No MOE analysis.
[18]	EFQM + KM	Mixto	Spain	KM improves organizational results within the model EFQM.	Does not link to PM.

MOE: Organizational Excellence Management, KM: Knowledge Management, TL: Transformational Leadership, EFQM: European Foundation for Quality Management.

2.5. Cultural influence

Several studies have shown that national and organizational cultural factors can significantly influence the implementation of excellence practices, knowledge processes and leadership styles [33]. In the Peruvian context, elements such as hierarchical orientation, conflict aversion, centralization of decisions, and perception of power can modify the way in which MOE principles are applied, knowledge is shared, or transformational leadership is manifested.

Although we do not directly measure cultural dimensions, it is possible that they act as moderating variables in the relationships between MOE, KM, TL, and PM. Moreover, studies such as those of Lasrado and Kassem [34] have raised this type of contextual effects, which reinforces the need to consider culture as a relevant dimension in future research.

According to Hofstede's cultural dimensions, the Peruvian context is characterized by high power distance and collectivism, factors that influence the application of excellence, leadership, and knowledge management. In hierarchical environments, decisions are concentrated at the top management level, limiting knowledge sharing, while collectivism favors cooperation and reinforces transformational leadership by promoting a shared vision and commitment. Thus, national culture can moderate the relationships between MOE, KM, and TL, affecting their impact on project success [35–37].

Research has reinforced the importance of integrating excellence management practices with knowledge and leadership dimensions to improve project outcomes. Studies published between 2023 and 2025 highlight how excellence-oriented cultures promote knowledge sharing and organizational learning, which in turn strengthens leadership effectiveness and project performance [38,39]. These works contribute to updating the theoretical perspective of this study by emphasizing the importance of dynamic capabilities, continuous improvement, and people-centered leadership as critical factors that facilitate project success in contemporary organizations. The incorporation of these perspectives provides a more comprehensive and recent contextual basis for analyzing the mediating roles of KM and TL in the relationship between MOE and PM.

It is important to note that the mediation structure proposed in this study reflects a theoretically informed explanatory ordering rather than a strict causal sequence. While alternative configurations, such as transformational leadership preceding knowledge management or operating as parallel organizational capabilities, are conceptually plausible, we adopt the MOE → KM/TL → project success structure based on organizational theory that positions excellence-oriented management systems as foundational enablers of leadership behaviors and knowledge processes. Given the cross-sectional and perceptual nature of the data, mediation is interpreted in analytical and explanatory terms rather than as definitive evidence of temporal causality.

Hypothesis of the study

Hypothesis 1: MOE has a positive direct effect on PM.

Hypothesis 2: MOE has a positive direct effect on KM.

Hypothesis 3: MOE has a positive direct effect on TL

Hypothesis 4: KM has a positive direct effect on PM.

Hypothesis 5: TL has a positive direct effect on PM.

Hypothesis 6: KM has a mediating effect between MOE and PM.

Hypothesis 7: TL has a mediating effect between MOE and PM.

The proposed model represents the direct and indirect relationships between MOE, KM, TL and the PM. Hypotheses H1 to H7 state the direct effects and mediations analyzed (Figure 1).

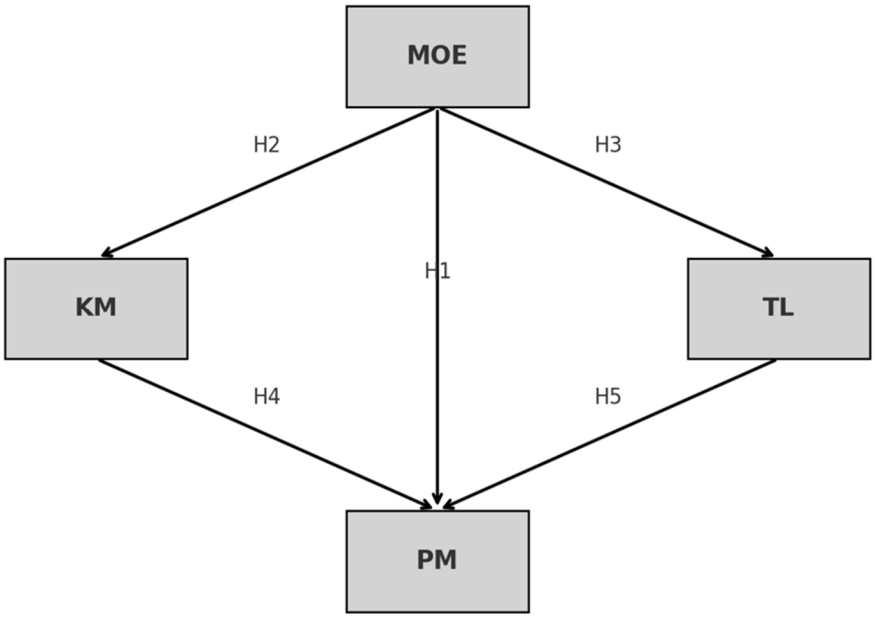

Figure 1. Conceptual model of the study. Hypotheses H6 and H7 correspond to mediation effects (MOE → KM → PM and MOE → TL → PM, respectively), derived from the multiple paths depicted.

Contributions of the study

This study makes three contributions to project management literature. First, it advances an integrative explanatory framework that positions Organizational Excellence Management as a meta-capability shaping both leadership and knowledge mechanisms, rather than treating these constructs

as isolated drivers of project success. Second, it empirically clarifies the mediating role of Knowledge Management and Transformational Leadership as complementary pathways through which excellence-oriented management systems influence project outcomes. Third, it provides empirical evidence from the Peruvian context, extending the applicability of integrated excellence–knowledge–leadership frameworks to emerging economies characterized by institutional constraints and high project failure rates.

3. Methods

3.1. Type and design of study

This is a quantitative, explanatory, and correlational study, with a non-experimental, cross-sectional design. Our objective was to analyze the mediating effect of KM and TL on the relationship between MOE and PM in Peruvian organizations.

3.2. Population and sample

The sample consisted of 180 project managers from medium and large companies in Lima and Trujillo (Peru), operating in the service, manufacturing, construction, and technology sectors.

A non-probabilistic convenience sampling was used, selecting participants with at least five years of experience in project management and who held positions as managers, directors, or project leaders.

Eighty-five percent of the respondents held management roles, 20% had a master's degree in project management, and 60% indicated that their organization had quality certifications. The sample was selected for its accessibility and relevant experience for the purpose of the study.

To provide a clearer picture of the sample composition, Table 2 shows the distribution of participants according to the industry sector in which they operate. The sample includes professionals from four major sectors: services, manufacturing, construction, and technology.

Table 2. Distribution of participants by industry.

Industrial sector	Frequency (n)	Percentage (%)
Services	70	38.9
Manufacturing	45	25.0
Construction	40	22.2
Technology	25	13.9
Total	180	100.0

The distribution shows that most respondents come from the service sector, followed by manufacturing, construction, and technology, reflecting the current composition of project-oriented organizations in Peru's major cities.

3.3. Data collection instruments

3.3.1. Management of Organizational Excellence (MOE)

A unidimensional scale of 14 items adapted from a self-assessment questionnaire of the European Foundation for Quality Management (EFQM) model [3] was used to measure MOE. The original questionnaire consisted of 50 items with a Likert-type scale that assessed nine criteria, including leadership, strategy, people, partnerships, resources, processes, products and services, customer outcomes, people outcomes, and societal outcomes, according to the standard, where D equaled "there have only been a few good ideas" to A, which represents "the approach is excellent".

Anantatmula and Rad [3] constructed the EFQM-KM Likert-type scale from 1 to 7 (1: being in total disagreement and 7: being in complete agreement) to measure Quality Management (QM) in Spanish organizations with some form of EFQM recognition. The EFQM is a structured, practical, and non-prescriptive model that serves as a tool to measure results, compare them, and identify areas for continuous improvement of organizations concerning the management system. The 14 items used in the EFQM-KM scale covered several of these criteria, including leadership (4 items), strategy (2 items), people (3 items), partnerships, resources and processes (1 item), and products and services (4 items), which is why its use is justified, as it is based on a well-established model that has proven to be effective in promoting organizational excellence and continuous improvement. For these reasons, it did not undergo a validation process, and the items were taken directly from the original scale in Spanish.

3.3.2. Knowledge Management Processes (KM)

The model created by Anantatmula and Rad [3] was used to measure KM; this model consists of four dimensions: knowledge creation (7 items), knowledge storage (4 items), knowledge transfer (6 items), and knowledge application (11 items). After the translation and adaptation into Spanish, the model was subjected to a validation process through an exploratory factor analysis using the maximum likelihood extraction method combined with an oblimin rotation, for which a pilot test consisting of 50 managers was conducted, revealing a structure of four factors that together explained 67.8% of the variance. The first factor explained 27.9% of the variance with a factorial load higher than 0.60 on the seven items. The second factor explained 15.3% of the variance with a factorial load higher than 0.55, and the third factor explained 12.9% with a factorial load higher than 0.50. Finally, the fourth factor of knowledge application explained 11.7% with a factorial load above 0.45. The KMO test resulted in a value of 0.89; Bartlett's test of sphericity was statistically significant ($p < 0.001$). The composite reliability of each dimension estimated through Cronbach's alpha was adequate, with values of 0.88, 0.79, 0.83, and 0.91 for the knowledge creation, storage, transfer, and application dimensions, respectively. The overall Cronbach's alpha was 0.93.

3.3.3. Transformational Leadership (TL)

This variable was measured following the methods in Ahmad et al. [2], which is made up of 13 items on a unidimensional Likert-type scale anchored at the extremes of 1 (not at all) to 5 (always), which, after its respective translation and adaptation to Spanish, was subjected to an exploratory factor

analysis using the maximum likelihood extraction method combined with an oblimin rotation, revealing a single factor that explained 61.7% of the total variance; all 13 items of the scale saturated with loadings above 0.65. Cronbach's alpha was 0.89. The KMO resulted in a value of 0.92, and Bartlett's test of sphericity was statistically significant ($p < 0.001$).

3.3.4. Successful Project Implementation

PM was measured using the unidimensional scale developed by the researchers in [1], which consists of 14 items with a seven-point Likert-type scale with options ranging from "1 = strongly disagree" to "7 = strongly agree". After translation and adaptation into Spanish, it was subjected to a validation process through an exploratory factor analysis using the maximum likelihood extraction method combined with an oblimin rotation, for which a pilot test was carried out with 50 managers, revealing the presence of a single factor that explained 56.7% of the total variance. All 14 instrument items saturated strongly in this factor with factor loadings above 0.60. The instrument's reliability was estimated through Cronbach's alpha and resulted in a value of 0.94, indicating a high internal consistency among the items.

The KMO resulted in a value of 0.92. Bartlett's test of sphericity was statistically significant ($p < 0.001$).

The sampling process followed a non-probabilistic convenience approach, selecting participants who met specific inclusion criteria, such as holding managerial, executive, or project leadership positions and having at least five years of experience in project management. Data was collected through a questionnaire between 2023 and 2024. This procedure ensured the participation of qualified respondents with relevant experience, improving the validity and contextual accuracy of the data collected.

3.4. Process

A structured questionnaire composed of four previously validated scales was designed and administered between June and July 2023 using online forms. Informed consent and anonymity of the participants was guaranteed. The invitation was sent by e-mail and professional contacts, prioritizing project managers in Lima and Trujillo. No financial incentives were offered. Participation was voluntary.

3.5. Statistical analysis

A mediation analysis using the Jamovi project was used to answer the study hypotheses, constructing a model in which KM and TL act as mediating variables in the relationship between MOE and PM, considering a significance $p < 0.05$.

Mediation analysis was performed using Jamovi statistical software, employing the maximum likelihood estimation method to calculate direct, indirect, and total effects with a 95% confidence level. This approach provides reliable results that are consistent with established standards for mediation analysis.

In addition to the coefficient of determination (R^2) reported for each endogenous construct, the overall adequacy of the model was evaluated using standard fit indices commonly used in structural

equation modeling. Specifically, the chi-square to degrees of freedom ratio (χ^2/df), the Comparative Fit Index (CFI), and the Root Mean Square Error of Approximation (RMSEA) were considered to ensure that the proposed mediation model achieved an acceptable level of fit. These indices complement the explanatory power provided by R^2 and enable a more holistic validation of the structural relationships between Organizational Excellence Management (OEM), Knowledge Management (KM), Transformational Leadership (TL), and Project Success (PM). According to conventional standards, a satisfactory fit of the model is achieved when the χ^2/df values are less than 3, the CFI values exceed 0.90, and the RMSEA values remain below 0.08.

3.6. Methodological flowchart

For a better understanding of the methodological flow followed in this study, the following diagram summarizes the major stages of the research design, including the context, the type of study, the variables involved, the instruments used, and the type of analysis performed (Figure 2).

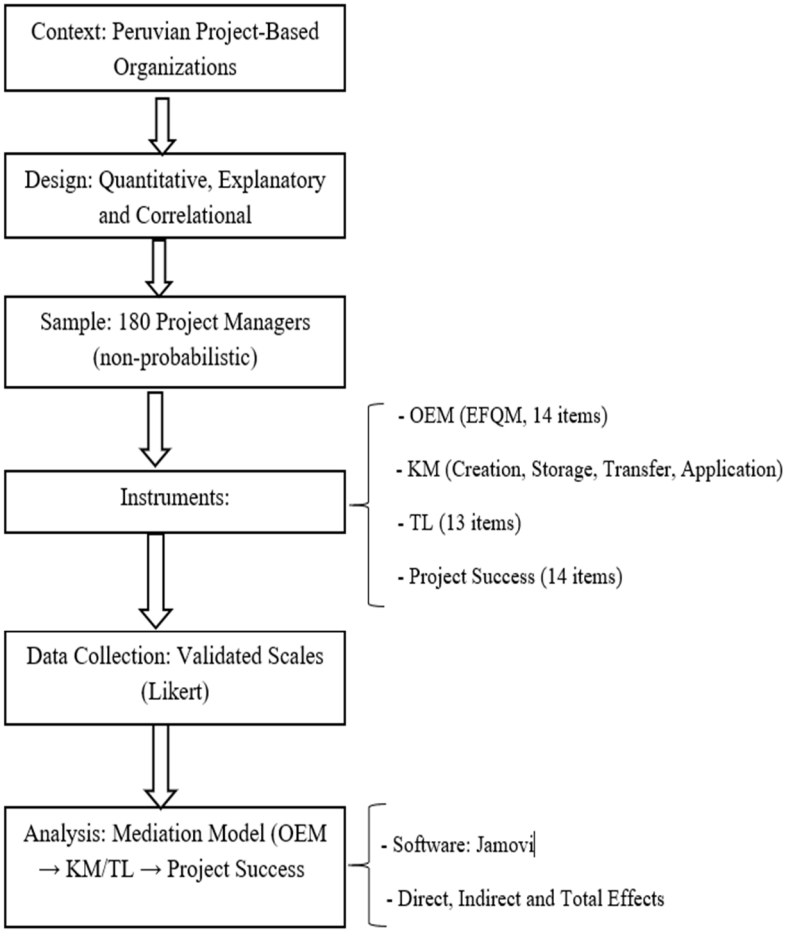

Figure 2. Diagram of the methodological flow of the study. MOE: Organizational Excellence Management, KM: Knowledge Management, TL: Transformational Leadership, and EFQM: European Foundation for Quality Management.

4. Results

A mediation analysis was conducted to examine the effect on MOE on PM and the mediating role of the KM Process and TL in a sample of Peruvian managers directly related to a project (manager, director, project manager, or team member roles).

Total effects analyses indicated that the model was significant (F (1,00;178) = 269; $p < 0.001$), explaining 60.2% of the variance of PM. The structural model explained 60.2% of the variance in PM ($R^2 = 0.602$), indicating a substantial explanatory power according to SEM benchmarks. In addition, MOE had a positive and statistical effect on PM ($p < 0.001$). It was found that, for every unit increase in MOE, there was a 1.27-unit increase in PM. In other words, those project managers who reported higher levels of implementation of MOE practices in their companies also tended to perceive significantly higher levels of success in executing their projects.

The results in Table 3 indicate that MOE had positive and significant effects on the KM Process ($p < 0.001$), finding that for each unit increase in MOE, KM increased by 1.51 units. Analyses indicated that the model was significant (F (1,00;178) = 53.8; $p < 0.001$), explaining 23.2% of the variance of KM. Additionally, findings showed that for each unit increase in MOE, TL increased by 0.699 units ($p < 0.001$); moreover, the model was significant (F (3,00;176) = 46.3; $p < 0.001$), explaining 44.1% of the variance of TL. The results of the model indicated that the KM Process and TL had positive and significant effects (F (3,00;176) = 510; $p < 0.001$) on PM, explaining 89.7% of the variance of PM.

Table 3. Mediation model**.**

Regression				95% C.I. (a)					
Independent variable	Dependent variable	Estimate	SE	Lower	Upper	β	df	t	p
GEO	KM	1.51	0.235	1.04	1.97	0.433	178	6.42	< .001
	LT	0.699	0.1031	0.4952	0.902	0.3861	176	6.78	< .001

In Table 4, we can observe that the KM Process had an effect of 0.281 ($p < 0.001$) on PM; that is, managers who reported more consolidated processes of knowledge generation, storage, transfer, and application in their companies tended to perceive higher levels of success in their projects. Furthermore, TL had an effect of 0.226 ($p < 0.001$) on PM, suggesting that the presence of inspiring and intellectually stimulating leaders was related to a higher likelihood of PM, even considering the level of MOE. Additionally, MOE had an effect of 0.85 ($p < 0.001$) on PM, highlighting the importance of implementing MOE practices to improve the likelihood of PM among the project managers surveyed. In practical terms, the findings suggested that promoting organizational excellence improves company project success.

Table 4. Complete prediction model.

Independent variable	Dependent variable	Independent variable	SE	Lower	Upper	β	df	t	p
KM	EP	0.281	0.0127	0.256	0.3061	0.5964	176	22.06	< .001
LT		0.226	0.0328	0.1618	0.291	0.4453	176	6.91	< .001
GEO		0.85	0.0442	0.763	0.9372	0.5191	176	19.24	< .001

Indirect effect analysis revealed positive and statistically significant ($p<0.001$) indirect effects of MOE on PM across KM and TL mediating variables. Specifically, the indirect impact of MOE on PM through KM was 0.423 (95% CI: 0.289 to 0.559), while the indirect effect through TL was 1.384 (95% CI: 1.029 to 1.735). Both indirect effects were significant ($p < 0.001$). Additionally, the model analysis showed that MOE had a positive and statistically significant direct effect on PM (direct effect = 0.850, $p < 0.001$). Therefore, those managers who reported higher implementation of excellent management practices in their organizations tended to perceive tremendous success in directly executing their projects (Table 5).

Table 5. Indirect and total effects.

				95% C.I. (a)				
Type	Effect	Estimate	SE	Lower	Upper	β	z	p
Indirect	GEO ⇒ KM ⇒ EP	0.42333	0.06903	0.2886	0.55915	0.25852	6.133	< .001
	GEO ⇒ LT ⇒ EP	1.3842	0.18	1.02941	1.735	0.4817	7.69	< .001
Component	GEO ⇒ KM	1.50651	0.24913	1.0211	1.99767	0.43346	6.047	< .001
	KM ⇒ EP	0.281	0.01335	0.2547	0.30698	0.5964	21.051	< .001
	GEO ⇒ LT	0.6986	0.1246	0.45669	0.945	0.3861	5.61	< .001
	LT ⇒ EP	0.3135	0.0669	0.18181	0.444	0.2145	4.68	< .001
Direct	GEO ⇒ EP	0.85001	0.04369	0.7638	0.93509	0.51909	19.457	< .001
Total	GEO ⇒ EP	1.2702	0.08156	1.1108	1.43048	0.77569	15.574	< .001

However, when comparing the magnitude of this direct effect (0.850) with the indirect effects through the KM Process (0.423) and TL (1.384), it was observed that MOE also exerted a positive influence on PM indirectly, in addition to the direct effect. All mediation values corresponded to standardized indirect and total effects. Due to standardization and model scaling, indirect effects may appear numerically larger than simple paths, which does not violate mediation logic but reflects the compounded nature of sequential relationships. Therefore, the results suggested that the KM Process and TL act as partial rather than total mediators in the relationship between MOE and PM. That is, implementing a culture and practices of organizational excellence was directly and indirectly associated with a higher likelihood of success in PM among the surveyed managers.

MOE explained 60.2% of the variance in PM, indicating a substantial effect on this outcome variable. That is, those managers who reported higher levels of implementation of organizational excellence practices also tended to exhibit higher levels of success in executing their projects.

The direct effect of MOE on PM was positive and statistically significant, accounting for 67% of the total effect, suggesting that there are additional mediators in this relationship; this means that, in organizations with more established excellence management practices, project managers will tend to perceive more robust processes of knowledge generation, storage, transfer, and application, as well as the presence of leaders who inspire them and provide intellectual stimulation.

Significant indirect effects were found through the KM Process (33% of the total effect) and LT (109% of the total effect), confirming their mediating role, which accounted for a significant part of the total effect of excellence management on PM. In other words, when project managers reported robust KM processes and transformational leaders, they also tended to perceive higher levels of success in implementing their projects. Implementing excellence practices in organizations has a direct effect

and favors knowledge and leadership processes that, in turn, increase the likelihood of PM executed by managers.

Visualization of the validated model

The overall evaluation of the model indicated that the proposed mediation structure between MOE, KM, TL, and PM achieved a satisfactory level of fit according to the thresholds established for χ^2/df, CFI, and RMSEA. This finding supports the robustness of the theoretical framework and confirms that the hypothesized relationships adequately represent the observed data, reinforcing the partial mediation effects of KM and TL in the relationship between Organizational Excellence Management (MOE) and Project Success (PM). Figure 3 shows the structural model validated with the standardized routes. It is observed that MOE has a significant direct effect on KM, TL, and PM. In turn, KM and TL also positively influence project success.

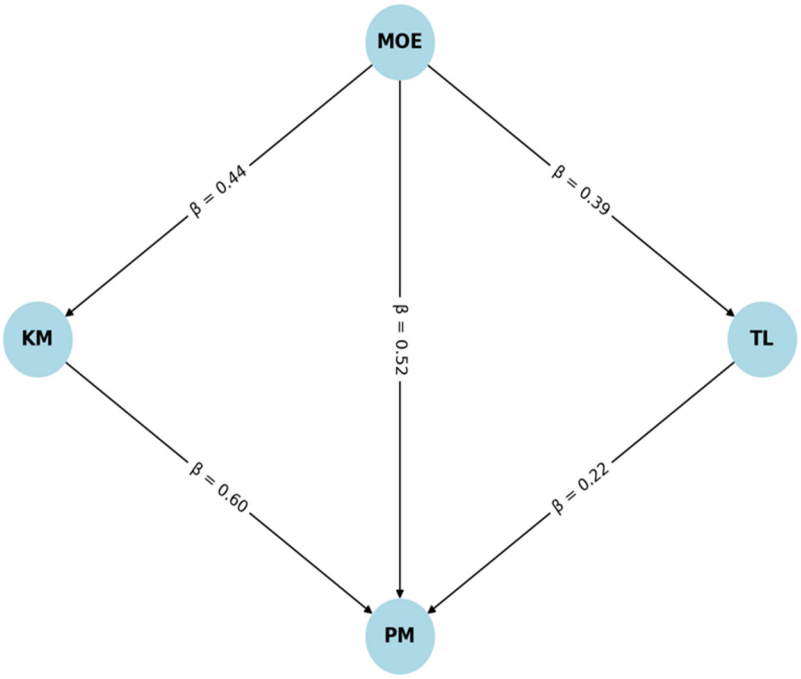

Figure 3. Validated structural model. MOE: Organizational Excellence Management, KM: Knowledge Management, and TL: Transformational Leadership.

The conceptual model presented in Figure 3 provides a comprehensive visualization of the validated relationships between the constructs analyzed. The inclusion of standardized path coefficients and explained variance (R^2) enables empirical confirmation of the theoretical structure proposed in this study. This representation serves not only as an illustration of the identified mediation mechanisms, but also as an integrative synthesis of the major findings of the study. Consequently, the figure supports the interpretation of the direct and indirect effects between Organizational Excellence Management (OEM), Knowledge Management (KM), Transformational Leadership (TL), and Project Success (PM), which agrees with established practices in structural equation modeling and management research [24,40,41].

5. Discussion

In this study, we examined the relationship between MOE and PM for a group of Peruvian project managers and the mediation of this relationship through KM and TL. The analyses showed that MOE exerts a positive and statistically significant direct effect on PM, explaining 60.2% of its variability. However, the effects are indirect; significant indirect effects were also found through the mediating variables of KM and TL, confirming the partial mediating role of KM and TL in the relationship between MOE and PM among managers.

The general model showed a satisfactory level of fit, complying with the conventional standards recommended in structural equation modeling. The inclusion of multiple goodness-of-fit indices such as χ^2/df, CFI, and RMSEA enabled a comprehensive evaluation of the proposed mediation structure. These indicators are widely recognized for assessing the adequacy of measurement and structural models in organizational and management research [24,40,41]. Their results confirmed that the theoretical configuration between MOE, KM, TL, and project success adequately represented the observed data, reinforcing the empirical robustness of the model. This satisfactory fit supports the reliability of the estimated trajectories and validates the robustness of the proposed framework for explaining project performance in organizational contexts.

However, these results should be interpreted with caution. Organizational Excellence Management, as operationalized through an EFQM-based measurement approach, inherently encompasses dimensions related to leadership, people management, processes, and organizational learning. Consequently, a certain degree of conceptual overlap with Knowledge Management and Transformational Leadership is possible. Although the analytical separation of these constructs is supported by empirical research and the measurement validation performed in this study, the relatively strong direct effect of MOE on project success may partially reflect shared variance and common managerial perceptions rather than purely distinct explanatory effects. This finding reinforces the interpretation of MOE as a higher-order organizational system that integrates multiple organizational capabilities, rather than as an isolated causal factor [24,40].

Accordingly, the mediation results should be interpreted as reflecting theoretically consistent relational patterns among MOE, KM, TL, and project performance, rather than as evidence of temporal or causal precedence, given the cross-sectional and perceptual nature of the data. Implementing organizational excellence practices not only has a direct effect but also favors knowledge and leadership processes that increase the likelihood of PM executed by managers. Organizations can develop sustainable competitive advantages by accumulating valuable, rare, difficult-to-imitate, and non-substitutable resources and capabilities [5,6,20]. The study empirically showed how MOE, KM, and TL interaction creates a distinctive capability.

It was found that implementing a MOE culture and practices in organizations has a direct positive effect on PM outcomes. That is, it promotes higher levels of PM managed by companies [18]. However, it also exerts significant indirect effects through its positive influence on MOE capabilities and TL; this reveals that MOE directly impacts and strengthens key aspects such as routines for sharing and applying knowledge and the presence of leaders who motivate and inspire project teams [12,13]. Thus, the importance of adopting a systemic approach that integrates different organizational capabilities, such as excellence, knowledge, and leadership, that leverage each other is evident, creating synergies that translate into more significant chances of success, and enabling organizations to achieve superior performance [7,40].

Specifically, MOE provides a systematic framework for developing a culture and practices of accumulating valuable knowledge and experiences in the organization. Moreover, implementing MOE involves processes and methodologies that improve the efficiency, quality, and effectiveness of management in an organization. This valuable resource directly contributes to PM [8,25]. Specifically, KM and TL contribute significantly to PM, supporting the idea that MOE not only directly influences project outcomes but also indirectly enhances internal capabilities that lead to success, whereby their joint development enables firms to generate a competitive advantage that translates to higher levels of PM [41–43].

Empirical findings confirmed the synergies between these variables and their impact on organizational outcomes, supporting the notion that MOE tend to foster KM [9] and leadership [10], which, in turn, improve the likelihood of PM [11]. MOE can be interpreted as a manifestation of effective leadership and strategic management. Project managers who report higher levels of implementation of MOE practices indicate an alignment with leadership and strategy principles that promote positive PM outcomes [11].

The importance of efficient organizational processes is highlighted; this study shows that MOE positively and significantly affects KM and TL and correlates with the perspective that efficient processes and effective leadership are fundamental pillars for achieving organizational excellence and, thus, PM [24,44]. The results also show that KM and TL partially mediate the relationship between MOE and PM. This suggests that implementing excellence improves organizational outcomes and strengthens internal processes and leadership, thus indirectly contributing to PM [44,45]. In practical terms, these findings indicate that the adoption of aligned principles and practices, especially in terms of leadership, strategy, and efficient processes, can significantly enhance successful project execution among managers, with an emphasis on continuous improvement and integration of organizational processes and resources to achieve excellence [3,12].

From another point of view, TL is characterized by leaders who inspire their followers, motivate them intellectually and emotionally, and empower them to contribute meaningfully to the organization's goals [15,16]. Furthermore, our results indicate LT's positive and significant impact on project managers. First, a positive direct effect of TL on PM was found, which aligns with evidence on the influence of this leadership style on performance [19], suggesting that the implementation of organizational excellence practices is associated with the presence of leaders who inspire and intellectually stimulate their work teams [46,47]. Second, the study revealed an indirect effect of TL on the relationship between MOE and PM, which means that the presence of transformational leaders partially mediated this relationship. This is expected since such leaders orient organizational efforts toward achieving results [48], suggesting that transformational leaders in organizations can significantly enhance PM [49]. In other words, managers in organizations implementing MOE practices tend to manifest leadership behaviors beyond mere supervision, engaging their teams in inspiring and motivating ways [50].

Further analysis reveals that the TL partially mediates the MOE and PM relationship; this implies that while MOE directly impacts PM, part of its influence on PM is carried out through the TL. In other words, the implementation of organizational excellence practices not only directly improves PM but also creates an enabling environment for the development of transformational leaders, who in turn contribute to success in PM [20].

From another perspective, the results showed that MOE positively affects KM; this is explained by the culture of continuous improvement and the focus on people that characterizes organizational excellence,

leading to new knowledge. This finding builds on the idea that organizational excellence practices, such as efficient process implementation and promoting quality management, contribute to the organization's effective generation and flow of knowledge [9,44]. Managers operating in an environment where MOE is valued and encouraged tend to be immersed in a context conducive to KM [9,22]. Furthermore, KM showed a positive direct effect and a partial mediation effect on PM, which implies that although MOE directly impacts PM, part of its influence on PM is through KM. In other words, implementing MOE practices not only directly improves PM but also promotes an enabling environment for KM, which, in turn, contributes to PM [23,51]. Therefore, the knowledge creation, retention, and transfer processes to improve performance are essential, meaning that those managers who report more consolidated processes of knowledge generation, storage, transfer, and application tend to experience higher levels of PM. This finding suggests that a robust approach to MOE can improve project implementation effectiveness [23,43,51]. In other words, implementing MOE practices in organizations improves the likelihood of PM [11].

These results expand on the findings of the researchers in Aga et al. [1] and Ting et al. [12], who analyzed transformational leadership and knowledge management separately. We integrated both constructs within the framework of organizational excellence, demonstrating that the simultaneous development of these internal capabilities produces synergistic effects on project outcomes. This integrated approach provides a novel theoretical contribution to emerging economies, where such interactions remain largely unexplored.

While the findings provide consistent empirical support for the proposed relationships, they should also be interpreted considering the specific institutional and organizational context in which the data were collected. The Peruvian context is characterized by relatively high institutional fragmentation, a strong presence of public-sector projects, and hierarchical organizational structures, which may shape how excellence management practices, leadership behaviors, and knowledge processes are enacted in practice. These contextual particularities suggest that the Peruvian institutional environment operates as a boundary condition that may shape the strength and direction of the relationships between MOE, TL, KM, and project outcomes. Therefore, the model should not be interpreted as universally generalizable, but rather as context-dependent, particularly for emerging economies with similar governance structures, sectoral configurations, and resource constraints.

These institutional characteristics may condition the strength and form of the observed relationships, potentially limiting their transferability to other emerging economies with different governance, cultural, or project management environments. Future research could explicitly model contextual variables, such as sector, organizational maturity, or institutional constraints, to better capture boundary conditions and alternative explanatory mechanisms.

5.1. Implications for the study

Our findings reveal the importance of consolidating a culture and practices of excellence at the organizational level to enable PM to be executed by employees. In the sample assessed, it is evident that MOE is positively related to the likelihood that project managers perceive their initiatives to be successful and effectively implemented.

Regarding the KM Process, in organizations where excellence management practices have been implemented to a greater extent, project managers tend to perceive more consolidated processes of knowledge generation, storage, transfer, and application. Regarding TL, the finding indicates that

MOE is positively related to the presence of leaders who inspire their collaborators and provide them with intellectual stimulation. Therefore, in organizations with stronger cultures of excellence, managers are more likely to consider that their leaders exhibit TL qualities. Thus, according to the perspective of the project managers consulted, implementing excellent management practices in companies is positively associated with better KM processes and more transformational leadership. In this aspect, the KM Process and TL are positively associated with PM, above and beyond the effect of implementing MOE practices in companies. From a managerial perspective, these findings suggest concrete actions such as: (i) Institutionalizing excellence routines through project dashboards, after-action reviews, and internal performance audits; (ii) creating cross-project knowledge repositories and learning mechanisms to consolidate KM practices; and (iii) developing leadership development programs that emphasize transformational competencies aligned with knowledge sharing environments. These actions provide practical pathways for translating MOE principles into improved project execution in resource-constrained and hierarchical organizational contexts like Peru.

The findings indicate that MOE not only has a direct effect on PM but also exerts an indirect effect by leading to the improvement of KM Processes and TL in organizations, increasing the likelihood of PM executed by managers. In addition, implementing a culture and practices of organizational excellence facilitates the knowledge and TL needed to improve PM success, hence emphasizing the value of GEO in fostering successful Peruvian project execution, directly and indirectly through knowledge and leadership processes. Moreover, the findings highlight the importance of MOE, the KM Process, and TL as interrelated factors that promote PM in the context of the studied Lima organizations.

To synthesize the results of the mediation analysis and provide greater clarity on the validation status of the proposed hypotheses, Table 6 presents a summary of each hypothesis evaluated, its validation result, the main statistical evidence, and the research gaps addressed. This summary is intended to facilitate future replications and highlight areas for further exploration.

Table 6. Hypotheses and research gaps.

Hypothesis	Validation status	Primary evidence	Research gaps addressed / Future direction
H1: MOE → Successful Project Execution	Validated	Direct effect = 0.85, $p < .001$	Understanding the direct impact of MOE on project success in Peru.
H2: MOE → Knowledge Management (GC)	Validated	Direct effect = 1.51, $p < .001$	Empirical validation of MOE as an antecedent to GC.
H3: MOE → Transformational Leadership (LT)	Validated	Direct effect = 0.70, $p < .001$	Empirical validation of MOE as an antecedent of LT.
H4: GC → Successful Project Execution	Validated	Direct effect = 0.28, $p < .001$	Clarifying the role of GC in predicting project success.
H5: LT → Successful Project Execution	Validated	Direct effect = 0.23, $p < .001$	Clarifying the role of the LT in predicting project success.
H6: MOE→ GC → Successful Project Execution	Validated (Partial Mediation)	Direct effect = 0.423, $p < .001$ (vía GC)	Identification of GC as a partial mediator in the MOE - project success relationship.
H7: MOE → LT → Successful Project Execution	Validated (Partial Mediation)	Direct effect = 1.384, $p < .001$ (vía LT)	Identification of the LT as a partial mediator in the MOE-project success relationship.

MOE: Organizational Excellence Management, KM: Knowledge Management, and TL: Transformational Leadership.

The results open the possibility of developing qualitative research that provides a deeper understanding of the processes by which these strategic capabilities interact with and impact outcomes, create exciting opportunities, and provide implications for research and practice in the PM. Moreover, at an academic level, this research contributes to a novel theoretical model that integrates MOE, KM, and TL to explain PM, but further studies are needed to replicate and expand this model in different contexts.

For management practice, the findings provide a valuable framework to guide companies' project managers in the implementation of MOE, KM, and TL development initiatives so that they enhance each other and lead to substantial improvements in executed PM, as the implementation of a MOE culture and practices in organizations can have a significant direct and indirect impact on PM. The results indicate that MOE is a valuable strategic resource that, when implemented, directly improves PM and strengthens the organization's internal resources and capabilities, thus contributing to successful PM outcomes.

The results also highlight the importance for organizations to continue to adopt and mature their management systems of excellence, given the direct and indirect positive influence on the results of their strategic projects.

5.2. Limitations of the study

An additional limitation of this study relates to potential endogeneity and common method bias. Organizational Excellence Management, Knowledge Management, and Transformational Leadership are conceptually interrelated constructs, and we acknowledge the potential conceptual proximity among these constructs. In this study, MOE is conceptualized as a higher-order organizational management system, whereas TL and KM represent behavioral and process mechanisms, respectively, operating at different analytical levels. This multi-level distinction reduces the risk of conceptual redundancy; yet, researchers should examine discriminant validity more rigorously, such as through higher-order modeling or multi-source measurement designs. Additionally, their assessment through self-reported, cross-sectional survey data may introduce shared variance and perceptual bias. Although we employed validated multi-item scales and ensured respondent anonymity to reduce evaluation apprehension, the use of a single self-reported survey instrument raises the possibility of common method variance. As the design was cross-sectional, the mediation results should therefore be interpreted as associative rather than strictly causal. Researchers could mitigate these limitations by incorporating procedural and statistical controls for common method bias, as well as by using longitudinal or multi-source data. Although we employed validated measurement scales and structural equation modeling to assess construct relationships, future research could strengthen causal inference by entailing longitudinal designs, multi-source data, or multilevel analytical approaches.

Another limitation of this study concerns the sampling strategy. The use of non-probabilistic convenience sampling restricted to two Peruvian cities and involving organizations from multiple sectors may limit the internal validity and generalizability of the findings. Project success dynamics may vary across sectors such as construction, technology, and services; however, sector-specific effects were not explicitly modeled in this study. Therefore, the results should be interpreted as context-dependent rather than universally representative of all organizational or emerging economy settings. Additionally, although organizations from multiple sectors participated in the study, sectoral heterogeneity was not explicitly modeled. Project success dynamics may vary across industries such

as construction, technology, and services, which could influence the strength or direction of the observed relationships. In future studies, researchers could incorporate sectoral controls or conduct multi-group comparative analyses to examine potential moderating effects and strengthen external validity.

A potential limitation is the need for a more precise and contextualized definition of key concepts such as MOE, KM, and TL. The literature suggests that the interpretation of these terms can vary, and a clear and agreed definition would provide a more robust framework for research.

Another area for improvement is the need to pay more attention to the specific characteristics of different types of projects. Diversity of the project nature could also influence the applicability of particular approaches to excellence management, KM, and TL. Hence, this variability could enrich and make the research findings more robust. In addition, the literature suggests that the successful implementation of KM and TL may be highly dependent on organizational culture. A wrong adequation of this variable may limit the results' generalizability and applicability to different organizational settings.

Temporality is also an important consideration. The literature highlights the dynamic change in society and technology, suggesting that today's practical strategies and practices may be less effective in the future. Research could consider how these variables evolve and impact long-term project implementation. Moreover, a potential limitation lies in the need to assess possible biases in the literature critically. Some researchers may be focused on specific contexts or certain types of organizations, which could limit the generalizability of the results.

In future studies, researchers could address these limitations by adopting longitudinal designs that enable the observation of causal relationships over time or by incorporating qualitative approaches such as interviews or case studies that explore in depth how excellence, knowledge, and leadership interact in different organizational environments. Likewise, comparative studies between public and private organizations, or between Latin American countries, could enrich our understanding of the contextual factors that influence the success of projects.

5.3. Theoretical and practical implications of the study

At the theoretical level, this study provides a conceptual and empirical model that simultaneously integrates MOE, KM, and TL as explanatory factors of PM success. Unlike researchers who have addressed them in isolation [8,12,25], this integrated approach provides insight into how these organizational capabilities interact to enhance outcomes.

Our results of this study show that the combination of organizational excellence management, knowledge management, and transformational leadership constitutes a comprehensive approach to enhancing the success and sustainability of projects. This model promotes a culture of continuous learning, innovation, and shared responsibility, strengthening organizational capabilities in dynamic environments [38]. It also highlights the importance of incorporating transformational and emotionally intelligent leadership practices that promote strategic alignment, stakeholder engagement, and institutional and environmental sustainability. Together, these elements act as complementary mechanisms that drive performance and organizational resilience [39].

Furthermore, the study provides empirical evidence in an underexplored Latin American context such as Peru, extending the applicability of the model to emerging regions [8,45]. These implications are particularly relevant for project-based organizations operating in institutional contexts similar to Peru, rather than for emerging economies in general.

On a practical level, the findings offer strategic inputs for project managers and organizational leaders. The implementation of organizational excellence practices not only directly improves project execution [6,24], but also strengthens QA processes [21,25] and transformational leadership styles [1,4,20], which act as enablers of success. Therefore, it is recommended that organizations adopt a systemic approach that integrates these dimensions into their project management systems, as has been suggested in other studies [8,22].

For public and corporate decision-makers, this study provides a useful framework for designing policies, certification standards, and training programs. Particularly in countries such as Peru, where failure rates in public projects are high [9,41], the promotion of organizational cultures oriented to excellence [6,52], knowledge-based innovation [12,21], and inspirational leadership [2,14] may be determinant to reverse these figures. The results can also serve as a basis for methodological guidelines applicable to continuous improvement processes in state and private institutions [17,53].

Furthermore, the profile of the sample used in this study offers additional implications. Most of the participants were managers with more than 10 years of experience and management training, which may have favored the implementation of EOM practices and the use of TL. In addition, the high proportion of participants coming from the public sector may have influenced the way in which QA processes are developed, considering the hierarchical structures and organizational culture prevalent in this area. These characteristics should be considered when interpreting the results and may partially limit the generalizability of the findings to other settings with different professional profiles.

6. Conclusions

In this study, we generated novel evidence on the interrelationship between organizational excellence management, knowledge management, transformational leadership, and success in project execution in an underexplored context such as Peruvian project management companies.

The results support the existence of a positive and statistically significant influence of organizational excellence management practices on the success of the projects executed by the analyzed organizations. Direct and indirect effects explain this relationship through the knowledge management and transformational leadership capabilities present in the companies. Thus, the partial mediating role of knowledge management processes and transformational leadership between the implementation of organizational excellence practices and the results of the projects managed by the organizations studied is confirmed. These findings provide a comprehensive explanatory model of how excellence in management, knowledge, and leadership impacts project success, addressing the limitations of other studies. These results have implications in research and practice in the field.

Therefore, our findings encourage managers and policymakers to promote integrated systems of excellence, knowledge, and transformational leadership as a strategic route to achieving sustainable project success and long-term organizational performance in dynamic and competitive environments.

Author contributions

Carlos Culqui-Arce: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Software, Visualization, Writing – original draft, Project administration, Writing – review & editing.

César R. Balcázar-Zumaeta: Conceptualization, Formal analysis, Funding acquisition, Investigation, Resources, Software, Supervision, Writing – original draft, Writing – review & editing.

Diner Mori-Mestanza: Formal analysis, Funding acquisition, Investigation, Methodology, Resources, Validation, Visualization, Writing – original draft.

Alex J. Vergara: Formal analysis, Investigation, Methodology, Software, Validation, Visualization, Writing – review & editing.

Marleni Medina-Mendoza: Investigation, Methodology, Resources, Software, Visualization, Writing – original draft, Writing – review & editing.

Armstrong B. Fernández-Jeri: Investigation, Supervision, Visualization, Writing – original draft.

Efraín M. Castro-Alayo: Investigation, Resources, Software, Supervision, Writing – original draft, Writing – review & editing.

Ilse S. Cayo-Colca: Formal analysis, Funding acquisition, Supervision, Validation, Writing – original draft, Writing – review & editing.

Use of Generative-AI tools declaration

The authors declare no use of AI in this study.

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Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

1. D. A. Aga, N. Noorderhaven, B. Vallejo, Transformational leadership and project success: The mediating role of team-building, *Int. J. Project Manag.*, **34** (2016), 806–818. https://doi.org/10.1016/j.ijproman.2016.02.012
2. M. K. Ahmad, A. B. Abduhamid, S. A. Wahab, M. U. Nazir, Can the project manager's transformational leadership lead to project success?: Empowerment, goal clarity, and CR leadership, *Int. J. Inf. Technol. Project Manag.*, **14** (2023), 1–21. https://doi.org/10.4018/IJITPM.323206
3. V. S. Anantatmula, P. F. Rad, Role of organizational project management maturity factors on project success, *Eng. Manag. J.*, **30** (2018), 165–178. https://doi.org/10.1080/10429247.2018.1458208
4. N. Zhao, D. Fan, Y. Chen, Understanding the impact of transformational leadership on project success: A meta-analysis perspective, *Comput. Intell. Neurosci.*, **2021** (2021), 7517791. https://doi.org/10.1155/2021/7517791

5. M. A. Karim, T. S. Ong, S. H. Ng, H. Muhammad, N. A. Ali, Organizational aspects and practices for enhancing organizational project management maturity, *Sustainability*, **14** (2022), 5113. https://doi.org/10.3390/su14095113
6. A. M. Ubaid, F. T. Dweiri, U. Ojiako, Organizational excellence methodologies: A systematic literature review, *Int. J. Syst. Assur. Eng. Manag.*, **11** (2020), 1395–1432. https://doi.org/10.1007/s13198-020-01017-3
7. E. Baia, J. J. Ferreira, R. Rodrigues, Value and rareness of resources and capabilities as sources of competitive advantage and superior performance, *Knowl. Manag. Res. Pract.*, **18** (2020), 249–262. https://doi.org/10.1080/14778238.2019.1599308
8. D. Emiliano de Souza, C. Favoretto, M. M. Carvalho, Knowledge management, absorptive and dynamic capacities and project success: A review and framework, *Eng. Manag. J.*, **34** (2022), 50–69. https://doi.org/10.1080/10429247.2020.1840876
9. K. R. Escobar Carmelo, O. F. Terry Ponte, W. E. Zavaleta Chávez, G. Zárate Ruiz, Desempeño de los gobiernos subnacionales en la gestión de inversión pública del Perú, *Rev. Venez. Gerenc.*, **26** (2021), 595–609.
10. M. C. J. Moron, G. V. N. Arteaga, M. E. N. Arteaga, P. A. V. Mena, Una mirada a la calidad del servicio a partir de la modernización de la gestión pública: una situación emergente en el Perú, *Cienc. Lat. Rev. Cient. Multidiscip.*, **6** (2022), 1723–1739. https://doi.org/10.37811/cl_rcm.v6i5.3188
11. E. L. López Armes, Responsabilidad social y el compromiso organizacional de empleados públicos del Perú, *Rev. Venez. Gerenc.*, **26** (2021), 656–668.
12. I. W. K. Ting, H. J. Sui, Q. L. Kweh, G. Nawanir, Knowledge management and firm innovative performance with the moderating role of transformational leadership, *J. Knowl. Manag*., **25** (2021), 2115–2140. https://doi.org/10.1108/JKM-08-2020-0629
13. N. U. Zia, Knowledge-oriented leadership, knowledge management behaviour and innovation performance in project-based SMEs, *J. Knowl. Manag.*, **24** (2020), 1819–1839. https://doi.org/10.1108/JKM-02-2020-0127
14. T. Bush, Transformational leadership: Exploring common conceptions, *Educ. Manag. Adm. Leadersh.*, **46** (2018), 883–887. https://doi.org/10.1177/1741143218795731
15. A. Afzal, M. M. Khan, B. G. Mujtaba, The impact of project manager's competencies, emotional intelligence and transformational leadership on project success in the information technology sector, (2018).
16. A. M. Alzate-Ibañez, J. F. Ramírez Ríos, L. M. Bedoya Montoya, Modelo para la implementación de un sistema integrado de gestión de calidad y ambiental en una empresa siderúrgica, CADM, 13 (2018), 032. https://doi.org/10.24215/23143738e032
17. F. Criado-García, A. Calvo-Mora, S. Martelo-Landroguez, Knowledge management issues in the EFQM excellence model framework, *Int. J. Qual. Reliab. Manag.*, **37** (2019), 781–800. https://doi.org/10.1108/IJQRM-11-2018-0317
18. J. Bocoya-Maline, M. Rey-Moreno, A. Calvo-Mora, The EFQM excellence model, the knowledge management process and the corresponding results, *Rev. Manag. Sci.*, **18** (2024), 1281–1315. https://doi.org/10.1007/s11846-023-00653-w
19. G. A. R. Rodríguez, M. A. R. Correa, L. J. R. Rodríguez, Y. Á. López, Análisis de factores que influyen en la implementación de un sistema de gestión de calidad, *South Am. Dev. Soc. J.*, **8** (2022), 216–236. https://doi.org/10.24325/issn.2446-5763.v8i23p216-236

20. A. A. Al-Subaie, M. N. Faisal, B. Aouni, F. Talib, A strategic framework for transformational leadership development in megaprojects, *Sustainability*, **13** (2021), 3480. https://doi.org/10.3390/su13063480
21. U. Israeli, A. Gonen, Project success as a function of organizational knowledge management, In: 2018 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), (2018), 356–360. https://doi.org/10.1109/IEEM.2018.8607799
22. M. H. Khan, Knowledge, skills and organizational capabilities for structural transformation, *Struct. Change Econ. Dyn.*, **48** (2019), 42–52. https://doi.org/10.1016/j.strueco.2018.05.006
23. S. C. Pandey, A. Dutta, A. K. Nayak, Organizational capabilities and knowledge management success: A quartet of case studies, *Kybernetes*, **47** (2017), 222–238. https://doi.org/10.1108/K-01-2017-0041
24. J. Nenadál, D. Vykydal, D. Waloszek, Organizational excellence: Approaches, models and their use at Czech organizations, *Qual. Innov. Prosper.*, **22** (2018), 47–64. https://doi.org/10.12776/qip.v22i2.1129
25. C. Favoretto, M. M. Carvalho, An analysis of the relationship between knowledge management and project performance: Literature review and conceptual framework, *Gest. Prod.*, **28** (2021), e4888. https://doi.org/10.1590/0104-530X4888-20
26. K. F. Latif, O. Afzal, A. Saqib, U. F. Sahibzada, W. Alam, Direct and configurational paths of knowledge-oriented leadership, entrepreneurial orientation, and knowledge management processes to project success, *J. Intellect. Cap.*, **22** (2020), 149–170. https://doi.org/10.1108/JIC-09-2019-0228
27. B. D. Gonfa, Review on components of transformational leadership, *Arab. J. Bus. Manag. Rev.*, **9** (2020).
28. H. Sutanto, Y. Utami, A. K. Diantoro, The effect of idealized influence, inspirational motivation, intellectual stimulation, and individual consideration on HR performance, *Bus. Manag. Soc. Sci.*, **1** (2021), 100–109. https://doi.org/10.31098/bmss.v1i3.293
29. S. M. Javed Iqbal, M. Shahid Nawaz, S. Hafeez Siddiqui, M. Kashif Imran, Does project teamwork matter? Investigating the relationship between transformational leadership and project success, *J. Manag. Sci.*, **6** (2019), 79–95. https://doi.org/10.20547/jms.2014.1906106
30. M. A. Santos, A. M. A. Marques, P. M. do Espírito Santo, The impact of leadership and rewards on project management success mediated by team cohesion, In: 2021 16th Iberian Conference on Information Systems and Technologies (CISTI), 1–6. https://doi.org/10.23919/CISTI52073.2021.9476296
31. A. A. Musleh, the influence of leadership behaviour and skills in stimulating innovation in organizations, *Int. J. Entrep. Manag. Pract.*, **4** (2021), 38–54. https://doi.org/10.35631/IJEMP.416004
32. R. Ahmad, M. R. Nawaz, M. I. Ishaq, M. M. Khan, H. A. Ashraf, Social exchange theory: Systematic review and future directions, *Front. Psychol.*, **13** (2023). https://doi.org/10.3389/fpsyg.2022.1015921
33. L. Salas-Arbeláez, M. García Solarte, G. Murillo Vargas, Effect of organisational culture on the performance of the SMEs of Cali, *Suma Neg.*, **8** (2017), 88–95. https://doi.org/10.1016/j.sumneg.2017.11.006

34. F. Lasrado, R. Kassem, Let's get everyone involved! The effects of transformational leadership and organizational culture on organizational excellence, *Int. J. Qual. Reliab. Manag.*, **38** (2020), 169–194. https://doi.org/10.1108/IJQRM-11-2019-0349
35. M. T. Jannesari, S. E. Sullivan, How relationship quality, autonomous work motivation and socialization experience influence the adjustment of self-initiated expatriates in China, *Cross Cult. Strateg. Manag.*, **28** (2021), 309–331. https://doi.org/10.1108/CCSM-02-2020-0056
36. L. A. Manrai, A. K. Manrai, Las dimensiones culturales y la conducta turística según Hofstede: análisis y marco conceptual, *J. Econ. Financ. Adm. Sci.*, **16** (2011), 23–48.
37. W. Shi, Y. Xie, From knowledge to success: Understanding the crucial role of governance, tacit knowledge sharing, and team leadership in project outcomes, *Curr. Psychol.*, **43** (2024), 8219–8229. https://doi.org/10.1007/s12144-023-04994-3
38. M. Tanveer, Leading green with heart and intelligence: Uniting AI, emotional intelligence, and transformational leadership for a sustainable future, *Sustain. Futures*, **10** (2025), 101137. https://doi.org/10.1016/j.sftr.2025.101137
39. M. Tanveer, M. ud Din, M. F. Khan, H. M. Almurad, E. A. H. Hasnin, Unleashing the power of green HR: How embracing a green culture drives environmental sustainability, *Environ. Sustain. Indic.*, **26** (2025), 100657. https://doi.org/10.1016/j.indic.2025.100657
40. P. V. Livesey, Further insights by project managers into the problems in project management, *Constr. Econ. Build.*, **20** (2021), 137–153. https://doi.org/10.5130/AJCEB.v20i4.7121
41. C. Huaman-Orosco, A. A. Erazo-Rondinel, An exploratory study of the main barriers to lean construction implementation in Peru, In: Annu. Conf. Int. Group Lean Constr., (2021), 474–483. https://doi.org/10.24928/2021/0173
42. L. Alvarado, S. Aranda, Y. Vásquez, C. Raymundo, Socio-environmental risk assessment model in Peruvian junior mining exploration projects, In: IEEE Sci. Humanit. Int. Res. Conf., (2018), 1–4. https://doi.org/10.1109/SHIRCON.2018.8592969
43. P. M. Carbajal, E. Pellicer, S. Santos-Fonseca, C. Torres-Machi, P. Ballesteros-Pérez, Planning and control of civil engineering works in Peru: Current state and improvement proposal, In: Project Management and Engineering Research, Springer, (2019), 51–65. https://doi.org/10.1007/978-3-319-92273-7_4
44. M. M. Raziq, F. M. Borini, O. F. Malik, M. Ahmad, M. Shabaz, Leadership styles, goal clarity, and project success: Evidence from project-based organizations in Pakistan, *Leadersh. Organ. Dev. J.*, **39** (2018), 309–323. https://doi.org/10.1108/LODJ-07-2017-0212
45. G. Rezaei, A. Mardani, A. A. Senin, K. Y. Wong, L. Sadeghi, M. Najmi, et al., Relationship between culture of excellence and organisational performance in Iranian manufacturing companies, *Total Qual. Manag. Bus. Excell.*, **29** (2018), 94–115. https://doi.org/10.1080/14783363.2016.1168692
46. S. V. Florián, J. F. B. Auqui, Modelo de gestión organizacional para mejorar la calidad de servicio tras el COVID-19, *Rev. Investig. Valor Agregado*, **9** (2022), 106–123. https://doi.org/10.17162/riva.v9i1.1883
47. M. R. Huilcapi Masacón, J. E. Mora Aristega, G. V. Bayas Huilcapi, D. C. Escobar Mayorga, G. A. Castro López, Modelo de excelencia ecuatoriano y su relación con el desarrollo institucional del sector público local, *ProSciences*, **2** (2018), 34–39. https://doi.org/10.29018/issn.2588-1000vol2iss10.2018pp34-39

48. L. M. P. Figueroa, W. P. Díaz, P. G. C. Serrano, Análisis exploratorio secuencial de la implementación del proyecto curricular de una región altoandina del sur del Perú, *Cienc. Lat. Rev. Cient. Multidiscip.*, **8** (2024), 8192–8215. https://doi.org/10.37811/cl_rcm.v8i4.12984
49. C. A. Gómez, Los proyectos y sus dimensiones: Una aproximación conceptual, *Contexto*, **7** (2018), 57–64. https://doi.org/10.18634/ctxj.7v.0i.885
50. A. Cerezo-Narváez, A. Pastor-Fernández, M. Otero-Mateo, P. Ballesteros-Pérez, La figura del director de proyectos en la gestión integral del proceso edificatorio, (2020).
51. S. Pathak, R. Agrawal, Design of knowledge based analytical model for organizational excellence, *Int. J. Knowl. Based Organ.*, **9** (2019), 12–25. https://doi.org/10.4018/IJKBO.2019010102
52. A. Singsa, C. Pamornmast, T. Sriyakul, The impact of leadership, organizational excellence and enterprise resource planning on organizational performance: A case of SMEs in Thailand, *Asian Adm. Manage. Rev.*, **3** (2020). https://doi.org/10.2139/ssrn.3900511
53. C. Gabriela-Livia, EFQM excellence model – European Foundation for Quality Management, In 6th International Conference on Education Reform and Modern Management (ERMM 2021). Atlantis Press, 2021: 301–303. https://doi.org/10.2991/assehr.k.210513.070

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