Why Project Management Fails at Scale: The Missing System Layer [1]

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Abstract

In recent years, project management has evolved significantly, incorporating increasingly advanced standards, methodologies and tools. However, when projects are carried out in complex, multi-project environments, recurring problems such as cost overruns, delays and difficulties in decision-making continue to arise, even in mature organisations.

This article proposes that the root cause of these limitations lies not solely in execution, but in the absence of a governance layer designed at the organisational level. Based on this premise, MetaPMO is presented: a framework based on the KPM (Key Process Management) methodology and developed from a research project applied in complex environments.

MetaPMO proposes a different approach to project management: it does not replace existing methodologies, but rather defines how they should coexist, how decisions are made and how information from different systems is integrated. Furthermore, it incorporates artificial intelligence to support improved risk anticipation, cost predictability and organisational learning.

The article covers both the fundamentals of the model and the results observed during its implementation in sectors such as construction and technology, where improvements have been identified in the quality of decision-making, risk management and the role of the PMO.

Keywords: *Project Governance; PMO; System Thinking; Project Management; Organizational Maturity; Complexity; Portfolio Management*

1. Introduction

Over recent years, the field of project management has gained in importance, becoming a highly recognised professional discipline. Companies across various sectors have

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progressively incorporated into their organisational structures professionals dedicated exclusively to project management, who strive for excellence in project delivery by drawing on international standards, the latest technologies and sector-specific strategies. Project Management Offices (PMOs) are being strengthened, with the primary aim of ensuring projects are executed correctly and on schedule, whilst anticipating potential risks to minimise their impact.

However, this stability is disrupted when we find ourselves in highly complex environments, where projects are carried out amid considerable uncertainty and interdependencies with other teams. Decision-making, strategy formulation and control become reactive, even in organisations that adhere to best practices and international standards. Without a holistic view, it is common to encounter problems such as cost overruns, delays to deadlines and difficulties in monitoring performance. Here I pose a question: why do we find ourselves in a state of chaos in complex contexts despite having methodologies, tools and highly qualified professionals at our disposal?

From a traditional perspective, the reasons for failure are often attributed to factors related to execution. Poorly conceived planning, a lack of apparent oversight, the absence of a risk contingency plan, or resistance to change within teams are frequently cited as the root causes of the problem. To try to alleviate this situation, organisations relatively often implement new frameworks, refine processes, or opt to intensify training for their teams or bring in highly experienced professionals. However, with this strategy, the aim is to improve the outcome without considering the underlying structural causes. As complexity increases—due to the nature of the project portfolio, the coexistence of different methodologies, regulations, etc.—focusing solely on improving execution becomes insufficient.

If we analyse this situation in greater depth, we will see that many of these problems do not arise at the project or team level, but rather at the organisational level of management governance. In complex environments, projects are not usually carried out in isolation; instead, they will have dependencies on other teams and resources, and it will be necessary to analyse information from different systems, with their contribution to the company's results being key. Consequently, decisions taken at a particular level will have a direct impact on other projects, and if there is no clear definition of how to manage the various interactions, we may find ourselves with projects which, even when executed well individually, do not yield predictable results.

If we add to this the increasing coexistence of different methodologies (traditional, agile or hybrid) which, depending on the sector, are applied simultaneously within the same organisation, we are faced with a major problem. Although we might initially think that the incorporation of these methodologies responds to the need to adapt to different projects, in reality it presents us with a challenge relating to alignment and governance. If we do

not explicitly define how they interact, we may encounter significant friction that leads to inefficiency.

This article argues that, in order to manage projects effectively in complex environments, we need to shift our perspective: we must stop managing projects as isolated units and start designing an integrated management system within the organisation. We are not going to introduce new implementation methodologies, but rather create a layer of governance at a systemic level where we define how the different methodologies will coexist, what the decision-making flow will be, and how to integrate information from the various projects so that, once completed, this experience is incorporated as corporate learning.

2. The trend towards execution in project management

From the outset, project management has focused on execution—that is, on defining how projects should be planned, monitored and carried out. Methodologies, standards and certifications have all been designed to improve the efficiency of project-level activities.

This has brought significant benefits to organisations by providing well-defined planning structures, standardised control mechanisms and increasingly consistent role definitions. All of this has contributed to improved transparency and predictability of results in relatively stable environments.

However, as projects have grown in complexity and scale, we have realised that an analysis based solely on the execution perspective has significant shortcomings.

Most of the frameworks currently in use focus on how activities are executed. They help us configure processes, events, artefacts and metrics to improve delivery, but they are based on the assumption that the organisational context is perfectly structured, whereas in practice this is rarely the case.

In complex organisations, there is often a wide variety of methodologies and frameworks applied at the project, programme and portfolio levels. These execution practices are frequently adapted reactively at a local level to address immediate needs, requirements or critical stakeholder engagements.

We can also observe this focus on execution in the way organisations tackle performance-related issues. When faced with delays or cost overruns, companies attempt to fine-tune execution by refining planning and increasing reporting, controls and tools. Providing additional training for teams is included as a cross-cutting strategy.

However, we are not addressing the root of the problem, which in most cases lies at the system and governance level.

By focusing on execution, we are unlikely to resolve issues such as:

- Who has the capacity and authority to make decisions on prioritising projects across different departments?
- Who has the authority to resolve capacity conflicts regarding resources shared across different projects?
- What is the strategy for managing commitments and trade-offs at portfolio level?
- How is the coexistence of different methodologies organised to ensure their effectiveness?
- How is information from different tools integrated and analysed?
- How can project experience be incorporated as a basis for organisational knowledge?

In order to resolve the problems we face in complex environments, project management must go further and incorporate a systemic perspective. This does not mean that methodologies focused on execution are any less important throughout the process; on the contrary, it helps to ensure that execution is properly aligned with corporate objectives, governs their interactions, and promotes the use of information as a learning model.

3. When methodologies have to coexist

As organisations have gradually adapted to increasingly diverse and dynamic contexts, the coexistence of different methodologies has become the norm rather than the exception. It is quite common to find a single team operating using predictive, agile, hybrid and sector-specific approaches, depending on the project.

This diversity of methodologies is not, in itself, a problem; on the contrary, it reflects the acceptance that there is no single approach that can be applied across all sectors and contexts. If we look at the PMBOK® Guide and ISO 21500, they propose adapting practices, whilst the PRINCE2 framework focuses on adapting to the context. At the other end of the spectrum, Agile promotes flexibility and adaptability at team level. We all agree that each of these methodologies or frameworks is of great value within its own organic scope of application.

It is important to bear in mind that organisations often adopt different methodologies in a gradual manner, taking into account their needs, contractual requirements, organisational maturity and corporate leadership. As a result, the implementation of these methodologies has not been carried out in a planned manner, and we find ourselves in a situation where different models coexist without a shared architecture. We may find that, at portfolio level, governance is approached using traditional, predictive mechanisms,

whilst teams are asked to move forward through iteration and with horizontal organisational structures.

When we encounter this type of friction, problems arise at the points where decisions, information and responsibility are concentrated. This is most evident in decision-making: agile teams are encouraged to collaborate autonomously, yet decisions regarding funding, changes in scope, priorities and deadlines are often designed within predictive environments. This misalignment leads to:

- Tension between delivery teams and governing bodies.
- It hinders the decision-making process.
- It undermines the expected benefits of agility.

Another point to bear in mind in this context is the standardisation of information flows. Each methodology proposes different metrics, deliverables and performance reports, and without a clear governance framework, the information will be biased and there will be no coherent, comprehensive view at portfolio level.

This fragmentation is exacerbated by the need to integrate information from various tools, planning platforms, project tracking systems, cost control systems, ERPs and document management software, which have been progressively adopted by companies and tend to operate in isolation. Although the need to integrate this information has now been recognised (ISO 21500 and the PMI guidelines), there is no specification as to how the information should be consolidated.

The lack of an integrated methodology or framework at the system level also affects risk management and scope changes. Without a governance framework backed by comprehensive information, decisions regarding which changes can be escalated, how to analyse risk, and how to manage contingencies become highly complex.

Most organisations attempt to address this situation by adopting hybrid methodologies, which are highly effective at the operational level but do not resolve the underlying governance issues. Far from facilitating coexistence, the existence of hybrid methodologies creates a more complex scenario.

It is therefore necessary to design a system-level governance framework capable of defining the context in which the different methodologies interact, decision-making at all levels, how information is integrated, and how it is consolidated to form part of the company's learning process.

4. The PMO Paradox

Project Management Offices (PMOs) were initially designed as a means of improving transparency, control and project management. However, over time they have taken on new roles involving coordination, support for the adoption of methodologies, reporting and oversight at programme or portfolio level. In other words, PMOs are equipped to deal with complex contexts and environments.

But in reality, these offices find themselves at the centre of a contradiction. On the one hand, they are expected to improve project delivery, decision-making, methodology selection and standardisation of information, and to contribute to corporate learning; yet in many cases, they are not granted the necessary authority to influence the governance and design of the system. Consequently, PMOs are held accountable for outcomes over which they are structurally unable to act.

This is particularly evident in organisations operating in complex environments where different methodologies coexist. PMOs are expected to enforce standardisation whilst still being able to adapt quickly to flexible environments. Or to promote the adoption of agile, multidisciplinary and self-managing teams whilst maintaining traditional reporting structures.

In many cases, PMOs become experts in monitoring and controlling performance but are unable to influence the system that governs it. Success is often measured by the production of scorecards, templates, process simplification and speed of reporting. Without downplaying the importance of these activities, they are rarely allowed to address the conditions that lead to cost overruns, delays in decision-making and excessive exposure to risk.

Furthermore, if the PMO is asked to act as an agent of change in the adoption of new methodologies—where it is expected to lead initiatives aimed at maturity and standardisation—but is not permitted to influence the governance mechanisms necessary to carry out the transformation, it will be perceived as ineffective, even though the problem has nothing to do with a lack of capability, but rather the absence of an appropriate structural mandate.

This perspective lays the foundations for system-oriented governance approaches, such as MetaPMO, conceived not as execution methodologies, but as frameworks designed to structure and govern project management at an organisational level.

5. MetaPMO: A System-Level Governance Framework

MetaPMO is not a methodology geared towards project execution; therefore, it does not define how performance should be planned or delivered. Its aim is to design the project

and portfolio management system—that is, to establish a higher-level framework that defines the architectural principles upon which the governance mechanisms will be based.

5.1 Methodological Basis of MetaPMO

MetaPMO does not emerge as an isolated theoretical development, but rather as the operational implementation of KPM (Key Process Management), based on a research project carried out between 2023 and 2025, which analysed projects in complex environments within the fields of construction, technology and business management.

The key difference between KPM and current methodologies lies in how projects or portfolios are divided. Whilst a common pattern among methodologies focused on execution is the temporal division of tasks to be carried out within a given timeframe (vertical division), KPM proposes dividing the project into functional management units—the key processes—and defining a comprehensive end-to-end workflow (horizontal division).

5.2 Purpose and scope of MetaPMO

Unlike prescriptive methodologies, MetaPMO does not dictate fixed steps, but rather defines a set of phases, modules and processes that each organisation can configure according to its nature and maturity.

The main purpose of MetaPMO is to bring a new dimension to project management: to evolve from optimising execution towards designing the system that governs projects.

It therefore operates at the organisational and PMO levels, helping to understand:

- How to select, combine and govern the various methodologies and best practices in the field of project execution.
- How to structure authority to take responsibility for decisions across projects and portfolios.
- How to organise the information needed to manage costs, anticipate risks and deliver performance within the organisation.
- And how to elevate experience into reusable organisational knowledge for the management of future projects.

With this focus on governance rather than execution, MetaPMO enables organisations to adapt delivery practices to the specific conditions of each project, without losing overall consistency and control.

5.3 Structural components of the MetaPMO framework

MetaPMO is structured in a modular way around a set of interconnected components which, taken together, govern the project management system.

The first component is the governance architecture. Here we define roles, responsibilities and decision-making authority within projects, programmes or portfolios. It is very important at this level to take into account the degree of influence exerted by the various stakeholders throughout the lifecycle. This involves a thorough analysis of each key process and an assessment of the stakeholders' power and influence matrix in order to design an appropriate two-way communication plan and ensure that decisions can be taken in a timely and appropriate manner with all information consolidated.

The second component is methodological orchestration. MetaPMO establishes the criteria and principles that determine where it is most appropriate to adopt agile, predictive or hybrid methodologies, setting out the guiding principles of methodological governance.

The third component is the integration of information and data. MetaPMO defines the systems for integrating data from the organisation's systems, ensuring that information is standardised and consistent, thereby enabling reliable, real-time decision-making. Whilst existing standards focus on highlighting the importance of information quality, MetaPMO goes one step further and takes charge of designing unified information flows.

Maturity and evolution mechanisms constitute another key component. MetaPMO incorporates a structured approach to assessing and improving organisational maturity in project management over time. This concept is aligned with maturity models such as CMMI, but is integrated directly into governance practices rather than being treated as a separate improvement initiative.

Finally, knowledge and learning mechanisms ensure that lessons learnt are not confined to individual projects. MetaPMO defines how experience is organised and reused, enabling learning to become an ongoing organisational capability rather than a one-off retrospective exercise.

5.3 The PMO within MetaPMO

Here, the PMO plays a key role as the system's guardian, with its administrative and reporting functions taking a back seat.

It focuses on:

- Maintaining the integrity of the project management system by adapting its structure.
- Ensuring consistency between methodologies.

- Supporting senior management with unified, reliable and relevant information for decision-making (consistency of cost and risk data).
- Ensuring quality.
- Promoting learning across projects.

5.4 MetaPMO as a facilitator of adaptability and control

A fundamental design principle of MetaPMO is the balance between adaptability and control. Complex projects require flexibility to respond to changing technical, regulatory and market conditions. At the same time, organisations need stable governance structures to effectively manage their exposure to cost and risk.

MetaPMO facilitates this balance by separating what must be governed from what can be adapted. This allows different companies to evolve their delivery approaches without compromising systemic coherence.

By providing a system-level governance layer, MetaPMO creates the conditions necessary for execution methodologies to function effectively. Rather than competing or clashing, methodologies operate within a designed system that aligns execution with organisational objectives and supports sustained performance improvement.

6. Artificial Intelligence as an Integrated Capability

The increasing amount of data available to us on every project presents an opportunity on the one hand, but on the other poses a serious management challenge. In complex sectors such as construction, engineering, technology, etc., a vast volume of data is generated throughout the project lifecycle, which must be organised, structured and retained in order to make proper use of the information collected. Despite this scale, much of this data is not taken into account in decision-making.

Most traditional project management approaches rely on manual analysis, static performance reports and expert judgement. We wish to emphasise that whilst professional experience is essential, the sheer volume of information generated makes it difficult for organisations to ensure the speed with which behavioural patterns are detected, risks are anticipated, and corrective actions are taken to avoid cost and schedule overruns. This is where the benefits of integrating Artificial Intelligence into governance structures become apparent.

Within the MetaPMO framework, AI is not viewed as a standalone tool or a substitute for professional judgement. On the contrary, it is designed as an integrated capability that strengthens system-level governance, decision-making and organisational learning.

6.1 Integration of heterogeneous data sources

One of the problems we encountered whilst developing the research project was the fragmentation of data across different platforms operating as isolated systems. It was not that we had to read data from different sources, but rather that it was sometimes almost impossible to trace the data because there was no standardisation of databases, and the same element was named differently in different systems.

Before designing the information exploitation system, we must ensure that the organisation's various systems are consolidated; otherwise, this situation would need to be rectified.

Once the environment had integrated data, an AI agent could be integrated with a clear role focused on analysing costs, risks, dependencies and decision-making within project portfolios.

6.2 Predictive analysis of costs and risks

When applied to integrated and governed datasets, AI enables predictive analysis of cost and risk trends. Within the MetaPMO system, AI models are used to identify trends, recurring patterns and early warning indicators that flag potential cost overruns, delays or emerging risk scenarios.

This is not intended to replace the professional in decision-making, but it does facilitate data analysis and therefore enables the expert to consider a greater volume of information, ensuring that their judgement is based on objective data. This allows for early scenario analysis and proactive interventions.

This aligns with current trends in project control and risk management, where data is positioned as a key competitive advantage.

6.3 Support for governance and decision-making

Within the MetaPMO framework, AI contributes to governance through:

- greater cross-project visibility;
- support for portfolio-level risk assessment;
- the ability to carry out forecasting and scenario analysis;
- and the strengthening of accountability through the transparent and traceable use of data.

This is particularly relevant in contexts where decisions have significant financial, contractual or reputational implications, and where a failure in the decision-making chain or risk detection can have a critical impact.

6.4 Promoting organisational learning

In addition to supporting decision-making, AI plays a key role in promoting organisational learning. By analysing historical data, AI models transform accumulated experience into knowledge that can be reused in the management of future projects.

For this information to be truly useful, it is necessary to design an organisational knowledge base capable of continuously evolving, where information is always available and easy to extract and analyse. There is no point in making the effort to monitor projects if, ultimately, there is no standardised common repository.

This approach reinforces the learning principles promoted by maturity models such as CMMI, whilst integrating learning directly into governance and decision-making, rather than relegating it to retrospective exercises.

6.5 Human oversight and ethical considerations

Although AI enhances the capacity for data analysis, MetaPMO explicitly recognises the need for human oversight when it comes to key decisions regarding costs, scope and risks. In this way, AI is relegated to a purely supportive role that can in no way replace professional expertise and accountability.

Clear roles and responsibilities are defined for interpreting the insights generated by AI, ensuring transparency, traceability and the ethical use of data. This ‘governance-first’ approach mitigates the risks associated with over-reliance on automated systems and strengthens confidence in AI-supported analyses.

7. Implementation of the MetaPMO Framework and Observed Results

Once the research project had been completed in 2025—which formed the basis for the design of both the KPM methodology and the MetaPMO framework—we began the early implementation phase of the framework in companies operating in complex environments, specifically in the construction and technology sectors.

The choice of these sectors was no coincidence; rather, we sought to align the synergies of introducing the most advanced technologies in a sector with the characteristics of the construction industry.

We began this process in Q3 of 2025; the average implementation took six months, and this phase has now been completed. The aim was to assess the effectiveness of this governance framework at a system level and its ease of implementation and understanding by organisations.

We have now just begun the general implementation phase, in which we have expanded the target sectors and geographical scope.

7.1 Context and initial conditions for the first implementations

The selected companies were chosen based on the following criteria:

- Varying levels of maturity in project management.
- 50% had at least well-established PMOs.
- Coexistence of different implementation methodologies
- Diversity of corporate management tools (ERP, planning software, BIM, document management, etc.).

Initial assessments revealed recurring challenges, consistent with the findings of sector-specific studies published by organisations such as the PMI, including cost overruns, late identification of risks, fragmented reporting and limited reuse of lessons learnt. These conditions provided a suitable context for evaluating the impact of a system-level governance approach.

7.2 Implementation approach

A standardised implementation approach was followed, structured in phases:

1. **Design of the system-level governance structure:**

MetaPMO was used to define the governance architecture, decision-making responsibilities, escalation mechanisms and information flows at both project and organisational levels. Emphasis was placed on assigning the PMO the role of system architect.

2. **Alignment of execution methodologies:**

There was no proposal to replace the methodologies used to execute projects, nor was their suitability in the given contexts questioned; rather, a layer of governance and coexistence for these methodologies was designed.

3. **Data integration and the use of AI**

Data from various systems—ERP, planning tools, cost control systems, agile platforms and document repositories—was consolidated into a unified information layer. To achieve this, the pre-existing standardisation of data across the various systems was analysed; where data consistency could not be guaranteed, the necessary preliminary steps were taken to rectify the situation. On this basis, AI-supported analytical models were applied to facilitate predictive analysis of costs and risks.

4. Monitoring, feedback and continuous adjustment:

Governance mechanisms, analytical results and decisions taken were reviewed on a regular basis. Based on these reviews, iterative adjustments were made to refine governance practices and improve data quality.

This implementation process enabled us to establish a comparative framework for the various implementations whilst maintaining the sector-specific and organisational characteristics of each.

7.3 Results observed in the pilot projects

The results obtained during the implementation phase demonstrated substantial improvements in:

Cost predictability:

In most cases, cost forecasts became more reliable at earlier stages of the project lifecycle. Having access to consistent, integrated data supported by AI analysis made it possible to identify recurring patterns of deviation and proactively anticipate the need for corrective measures.

Risk identification and mitigation:

Risk management was one of the areas that evolved the most, as the ability to simulate different scenarios helped to frame it as a more proactive process where early warning signs were detected, enabling the design of more effective mitigation plans.

Quality of decision-making

Management teams with access to comprehensive, consolidated information highlighted an improvement in the decision-making process and the quality of decisions. There was an increase in transparency regarding the management of scope changes, team and resource dependencies, structured two-way communication, and reduced reliance on personal experience and judgement.

Organisational learning

Lessons learnt were structured within the MetaPMO framework, ensuring the accessibility and utilisation of information to enhance corporate learning, with this knowledge being reused across projects and phases.

Effectiveness of the PMO

The role of the PMO has evolved from functions focused on coordination and reporting towards active governance of the system. PMO teams were better equipped to support

senior management with portfolio-level information relating to cost exposure, risk concentration and performance trends.

These findings are consistent with industry research highlighting the importance of integrated governance and learning mechanisms for improving project outcomes at an organisational level.

8. Conclusions

This article has highlighted the current problem organisations face when managing projects in highly complex contexts, and how the lack of a governance layer leads to constant challenges in the integration of methodologies, tools and the adoption of standards, risk management and quality assurance.

Following the identification of the need for systemic governance, a research project was developed using case studies from the construction and technology sectors, culminating in the development of the KPM (Key Process Management) methodology and its practical application as the MetaPMO framework.

The results obtained from the early implementation of the MetaPMO framework demonstrate that when methodologies are applied in isolation, there is a tendency towards fragmentation in their coexistence and very limited organisational learning.

The research highlights the need to effectively separate the execution of the system from its governance in order to ensure effective decision-making, methodological coordination, and the integration and consistency of information with learning mechanisms. In this way, organisations can maintain flexibility at project level whilst ensuring alignment and control of the portfolio at organisational level.

The role of PMOs is reinforced as a key factor in the design and maintenance of the management system, with administrative or reporting tasks taking a back seat.

Artificial intelligence reinforces the governance model by integrating within the system, with the aim of improving predictive capabilities and supporting proactive risk management, provided that data quality and consistency are guaranteed.

References

AXELOS (2017). *Managing Successful Projects with PRINCE2*. AXELOS.

CMMI Institute (2018). *CMMI for Development, Version 2.0*. CMMI Institute.

Gartner (2022). *Analytics Ascendancy Model*. Gartner Research.

ISO (2021). *ISO 21500: Guidance on Project Management*. International Organization for Standardization.

McKinsey & Company (2021). *The State of AI in Organizations*. McKinsey Global Institute.

Meadows, D. H. (2008). *Thinking in Systems: A Primer*. Chelsea Green Publishing.

PMI (2021). *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)* – Seventh Edition. Project Management Institute.

PMI (2023). *Pulse of the Profession*. Project Management Institute.

Schwaber, K., & Sutherland, J. (2020). *The Scrum Guide*. Scrum.org.

Senge, P. M. (2006). *The Fifth Discipline: The Art and Practice of the Learning Organization*. Doubleday.

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