PMO Memory Framework for Knowledge Management and Visualisation [1]

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Executive Summary

The PMO Memory Framework delivers a strategic approach to project governance and performance management by integrating real-time viz-boards, structured knowledge repositories, and advanced analytics into a single ecosystem. It enables senior leaders to make informed decisions by connecting standards, performance insights, and lessons learnt, ensuring continuous improvement and risk mitigation. By leveraging both tacit and explicit knowledge, the framework transforms fragmented data into actionable intelligence, driving efficiency, transparency, and alignment with organisational objectives. This model positions the PMO as a central hub for knowledge-driven decision-making and long-term value creation, thus creating and supporting the Centre of Excellence (CoE).

Introduction

The "PMO Memory" framework is designed to integrate Knowledge Management (KM) and Visualisation Boards (Viz-boards) within a Project Management Office (PMO). The framework's purpose is to systematically capture, organise, visualise, and analyse project-related information.

The PMO Memory framework is structured around five core, interconnected zones: **PMO Guidelines**, **Lessons Learnt (LL)**, **Knowledge Management (KM)**, **Directorate (or Company) Viz-boards**, and **Analytics**. This structure creates a holistic ecosystem where foundational standards (Guidelines) inform project execution, which is monitored in near real-time (Viz-boards) and retrospectively captured (Lessons Learnt). This information is then consolidated within the Knowledge Management zone, which is further processed by the Analytics zone to generate high-level insights.

A key aspect of the framework is its detailed breakdown of the Knowledge Management zone, which segregates knowledge into **Tacit** and **Explicit** categories. Tacit knowledge is cultivated through collaborative platforms like forums, while Explicit knowledge is

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housed in structured repositories, frameworks, and learning hubs. The model emphasises dynamic information flows, including the use of data mining on reports and lessons learnt repositories to generate new insights, creating a continuous cycle of learning and improvement.

Detailed Analysis of the PMO Memory Framework

The PMO Memory framework offers a sophisticated, multi-layered approach to centralising and utilising a PMO's intellectual assets. It integrates governance, real-time data, historical experience, and analytical processing into a single, cohesive system. Figures 1 & 2 illustrate this as a mind map, which is detailed below.

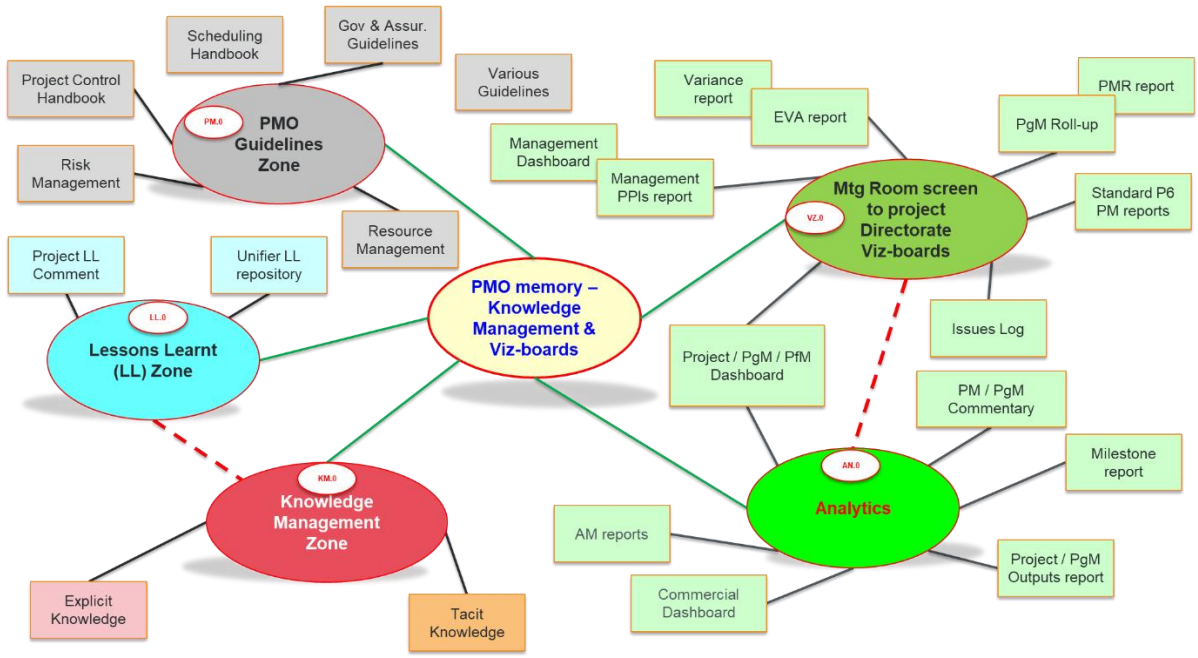

Figure 1. PMO Memory – Knowledge Management & Viz-boards (Antoniadis, 2018).

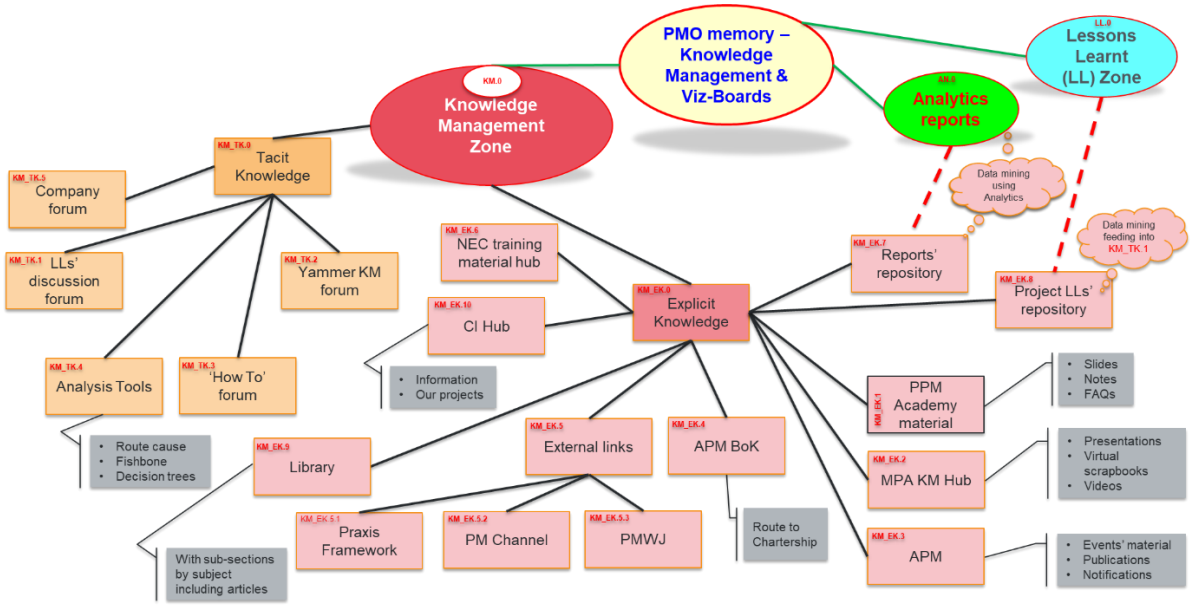

Figure 2. Proposed areas that can be covered under Knowledge Management (Antoniadis, 2018).

Core Components of the Framework

The model is organised into five primary zones, each with a distinct function contributing to the overall system.

1. PMO Guidelines Zone (PM.0)

This zone represents the foundational layer of governance and standards that guide project execution. It contains the official documentation defining processes, methodologies, and best practices.

- **Purpose:** To provide a single source of truth for project control standards and assurance guidelines.

- **Sample Contents:**
  - Project Control Handbook
  - Scheduling Handbook
  - Risk Management documentation
  - Government & Assurance (Gov & Assur.) Guidelines
  - Resource Management guidelines
  - Various other guidelines

2. Directorate Viz-boards Zone (VZ.0)

This zone is the primary interface for visualising project and programme of works performance data for senior management and directorates. It aggregates numerous reports into a consolidated view, likely presented on a meeting room screen.

- **Purpose:** To provide a real-time, high-level dashboard of project and program status, performance, and key metrics.

- **Data Inputs:** The Viz-boards are fed by a wide array of standard project reports, including:
  - Management Dashboard & Management PPIs report
  - Variance reports & Earned Value Analysis (EVA) report
  - Project Management Review (PMR) reports & Programme (PgM) Roll-up
  - Standard P6 PM reports
  - Risk Log & Issues Log
  - Milestone report
  - PM / PgM Commentary
  - Project / PgM Outputs report

3. Lessons Learnt Zone (LL.0)

This component is dedicated to the systematic capture of experiential knowledge gained during project lifecycles.

- **Purpose:** To collect and store insights from past projects to prevent recurring mistakes and replicate successes.

- **Contents:**
  - Unifier or other software LL repository
  - Project LL, on P6 or other scheduling tools, comments

4. Analytics Zone (AN.0)

The Analytics zone acts as the data processing and insight-generation engine of the framework. It consumes data from other zones to produce higher-order intelligence.

- **Purpose:** To perform analysis on project data to identify trends, create forecasts, and generate strategic insights.

- **Inputs:** The zone directly pulls data from visualisation components like the Project / PgM Dashboard.

- **Outputs:**
  - AM (Asset Management) or Governance Board reports
  - Commercial Dashboard

5. Knowledge Management Zone (KM.0)

This is the central hub for storing and organising the PMO's collective knowledge. It serves as a bridge, integrating inputs from the Lessons Learnt zone and providing structured information for the Analytics zone. It encompasses both informal (Tacit) and formal (Explicit) knowledge.

Deep Dive into the Knowledge Management Zone

The framework provides a detailed schematic of the Knowledge Management Zone (see Figure 2), breaking it down into two fundamental types of knowledge and their associated platforms, tools, and repositories.

Tacit Knowledge (KM_TK.0)

This branch focuses on capturing and sharing informal, experience-based, and conversational knowledge that is often difficult to codify. The tools are primarily collaborative platforms that encourage discussion and peer-to-peer support.

Table 1. Sample of Tacit Knowledge system content.

Category	Component	Identifier	Details
Discussion Forums	Company forum	KM_TK.5	General internal discussion platform.
	LLs' discussion forum	KM_TK.1	A dedicated space for discussing lessons learnt.
	Yammer KM forum	KM_TK.2	Utilises the Yammer platform for KM-focused dialogue.
	"How To" forum	KM_TK.3	A practical forum for procedural questions and answers.
Analysis Tools	Analysis Tools	KM_TK.4	Tools to structure problem-solving and investigation. Includes methods such as Root Cause analysis, Fishbone diagrams, and Decision trees.

Explicit Knowledge (KM_EK.0)

This branch deals with formal, codified, and documented knowledge. It comprises a wide array of internal repositories, external frameworks, professional body resources, and training materials.

Table 2. Sample of Explicit Knowledge system content.

Category	Component	Identifier	Details
Internal Repositories	Reports' repository	KM_EK.7	Central storage for formal project reports.
	Project LLs' repository	KM_EK.8	The formal database for documented lessons learnt.
	Library	KM_EK.9	A general library, potentially containing articles by subject.
	CI Hub	KM_EK.10	A hub for "Our projects" information.
Training & Learning	PPM Academy material	KM_EK.1	Includes slides, notes, FAQs, presentations, virtual scrapbooks, and videos.
	NEC training material hub	KM_EK.6	Hub for materials related to NEC contracts.
	MPA KM Hub	KM_EK.2	A knowledge hub possibly related to the Major Projects Authority (MPA).
External Resources	Praxis Framework	KM_EK.5.1	An integrated framework for project, programme, and portfolio management.
	PM Channel	KM_EK.5.2	An external resource or media channel for project management.
	PMWJ	KM_EK.5.3	Likely referring to the PM World Library or Journal.
	APM BoK	KM_EK.4	The Association for Project Management's Body of Knowledge.
	External links	KM_EK.5	A curated collection of relevant external web resources.
Professional Bodies	APM / PMI	KM_EK.3	Resources from the Association for Project Management, including a route to Chartership, event materials, publications, and notifications.

Key Information Flows and Integration

The framework's strength lies in the defined connections between its components, creating a dynamic flow of information.

- **The Lessons Learnt Lifecycle:** The process begins in the **Lessons Learnt Zone**, where raw comments and repository entries are made and entered continuously into the relevant tools, e.g. Primavera P6, capturing notes on various notes made by project team members. This feeds into the **Knowledge Management Zone**, specifically the formal "Project LLs' repository." This repository is then subjected to "Data mining feeding into KM_TK.1," a process that

analyses the structured data to generate insights that are then fed back into the **Tacit Knowledge** domain, likely for discussion and contextualization.

- **The Role of Analytics and Data Mining:** Analytics is a critical integration point. The **Analytics Zone** draws high-level dashboard data from the **Viz-boards Zone**. Concurrently, data mining processes are applied directly to Explicit Knowledge repositories ("Reports' repository" and "Project LLs' repository"). This indicates a dual approach to analysis: one based on real-time performance metrics and another based on deep-diving into historical text-based data.

- **Connecting Knowledge to Action:** The framework demonstrates a complete loop. The **PMO Guidelines** set the standards. The **Viz-boards** monitor performance against those standards. The **LL Zone** captures deviations and successes. The **KM Zone** stores and structures this information. Finally, the **Analytics Zone** processes it to generate insights (e.g., "AM reports," "Commercial Dashboard") that can be used to refine guidelines, improve performance, and inform future projects.

In addition to the two mind maps (Figures 1 & 2), the whole concept of the KM framework can be depicted by Figure 3 below.

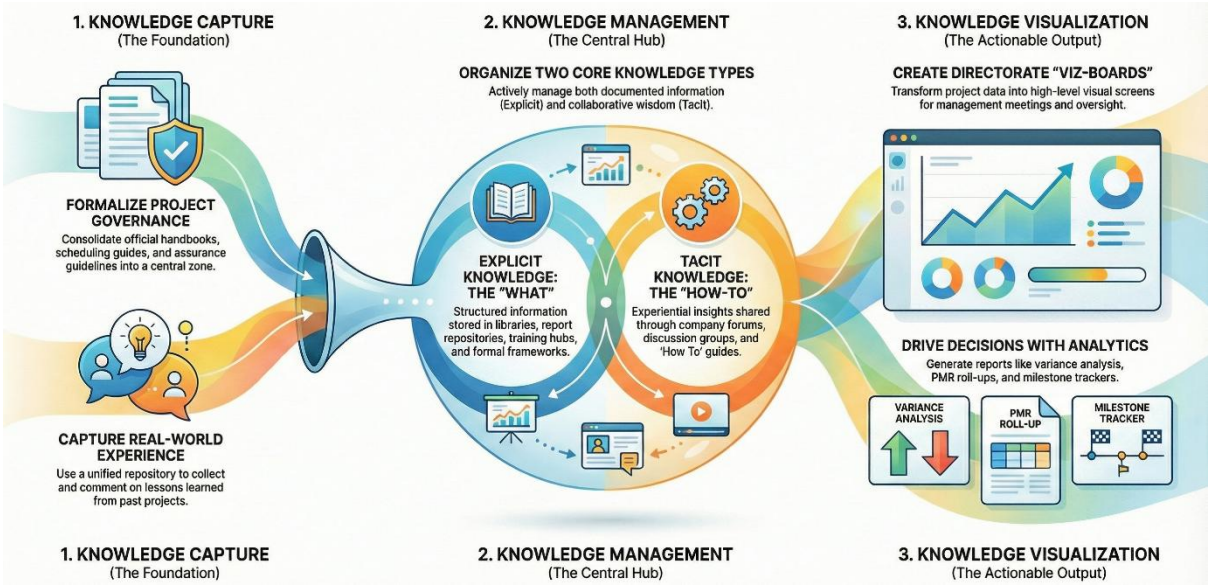

Figure 3. The Project Knowledge lifecycle: A PMO Knowledge Management framework.

The PMO, through its CoE, together with the project control disciplines, can set this integrated approach at any organisational level. Wise set up and use of software tools,

together with robust governance, allow for the integration of information generated by project control and project teams.

References

Antoniadis, D. (2018). Demystifying Project Control. Publisher, Amazon.

About the Author

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Dr Dimitris N. Antoniadis PhD MSc BEng(1st) CEng FAPM FCMI MIMechE, based in UK, has 35+ years' experience in Programme and Project Management positions, having covered project phases from concept to handover and operation / maintenance.

He is currently Director in the Programme, Project Management and PMO with DANTON PROGM, technical advisor to Novacept and has set up the BSc in Project Control that is currently delivered by the partnership between London Metropolitan College and the University of West London.

He has held Senior Management posts in major utilities, infrastructure and construction organisations delivering programmes of works ranging from £250M to £3.2Bn. As Head of Programme Management Office (PMO) he has set up and run the departments within challenging partnering environments, setting up all the processes from governance to reporting. He has also led / co-led major business transformation programmes for Client organisations in UK and abroad, integrating project management software tools with ERP systems.

He is the author of the book '*Demystifying Project Control*'; contributed chapters in books on complexity, leadership and other project management topics and has written a number of journal and conference papers. He has been a guest speaker at UK Universities as well as International conferences on various project management topics.

He was awarded the PhD, from Loughborough University, UK, on the subject of '*Managing Complexity in Project Teams*', where he developed a framework for managing the effects of complexity on projects.

Parts of his work can be seen in www.danton-progm.co.uk

His book Demystifying Project Control can be purchased from: https://amzn.to/2Jm1Zeh

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