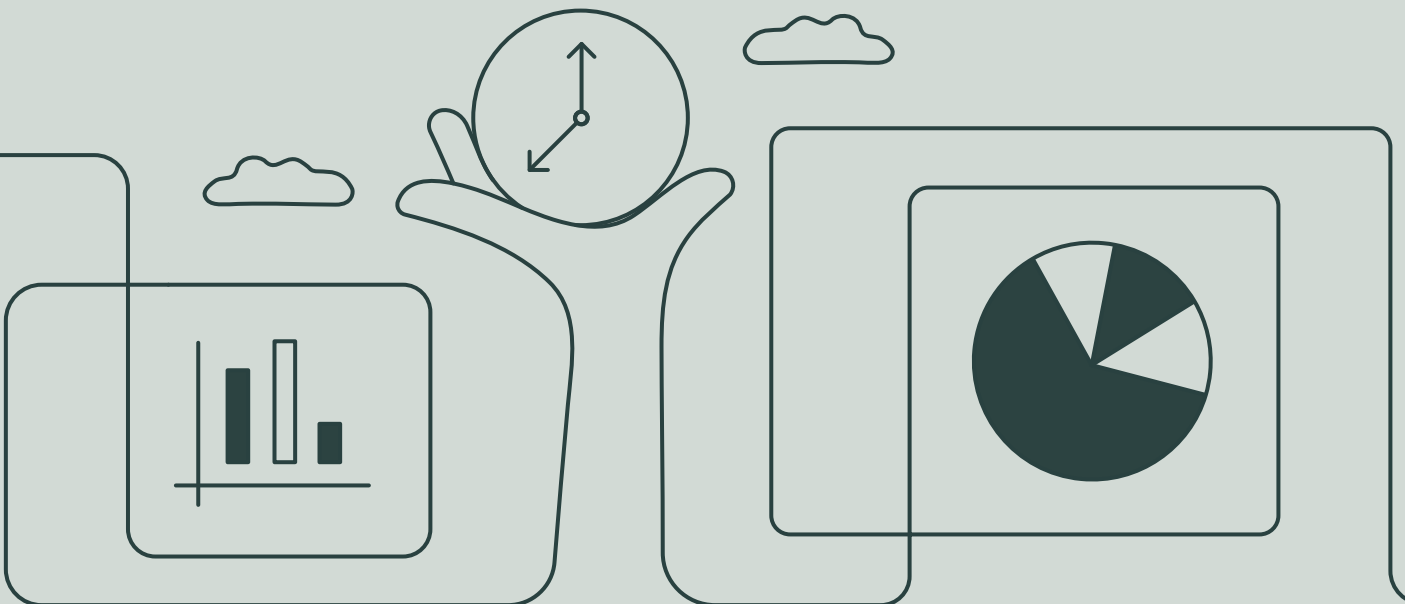


APM Systems Thinking Skills Framework

APM Competence Framework



APM Systems Thinking Interest Network
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Systems Thinking Skills Framework

Systems thinking is both a mindset and a toolset that helps project professionals recognise, understand, analyse and manage complex projects/programmes. It helps project managers understand and explain projects to stakeholders in terms of systems of dynamically interconnected components rather than static isolated parts. This helps to reveal where planned activities could result in unexpected consequences that would lead to emerging requirements, delays, cost overruns or under-delivery of benefits.

This advisory paper aims to illustrate the stages of developing a successful systems thinking approach.

Level	Knowledge	Application
Level 1: Aware	- Understands that projects exist within a wider context of 'systems' (e.g. operational, organisational, political etc.) and that project activities and deliverables need to align with the contexts of these systems. - Can outline the basic principles of systems thinking, including systems of activity, dynamic interactions between system elements, emergence of new behaviours and the need to identify and address all impacted systems. - Appreciates that the limits (boundaries) of the systems affecting, and affected by, a project are likely to extend beyond the project's scope. - Understands that different stakeholders hold different criteria for success.	- Explores how far and how much a project can affect (or be affected by) things beyond its scope: its 'span of influence'. - Identifies all stakeholders within the span of influence of the project and includes them in the stakeholder engagement planning.
Level 2: Practised	- Understands how a project's span of influence must be considered in the way the project is scoped and managed. - Can explain how different perspectives shape stakeholder behaviour and project priorities. - Understands that quick fixes often create ripple effects that generate later issues and how, using systems thinking, unintended consequences can be recognised and avoided. - Can recognise the different drivers of complexity, relationships and emergent behaviours/requirements.	- Applies simple analytical tools to reveal connections between project activities, deliverables and other functions and uses them to improve coordination. - Identifies straightforward dependencies between tasks, people and outcomes. - Uses visual techniques (e.g. rich pictures) to illustrate the relationships between systems and functions, and gain consensus between stakeholders. - Engages stakeholders so that they understand how changes affect them individually, to ensure that stakeholder requirements are comprehensive and to avoid the emergence of their requirements late in the programme.

Level 3: Competent	• Can explain the concepts of uncertainty and complexity. • Can explain effectively how the complexity of the project/programme leads to the emergence of new behaviours and requirements, and the need to plan for change during projects. • Understands that complexity is the key factor in selecting the best project management approach. • Can explain effectively how complex projects need to focus forwards on delivering benefits, rather than backwards on adhering to the baseline plan. • Understands how stakeholder incentives (and disincentives) drive behaviours, both beneficial and adverse.	• Analyses how project scope aligns with operational and organisational systems, their boundaries, stakeholder perspectives and interrelationships, to influence project outcomes. • Adapts delivery to anticipate wider impacts, using visual and analytical tools to explore feedback between parts of the system. • Recognises and documents recurring patterns of, rather than individual, symptoms (problems) and analyses cause and effect. • Uses 'cause and effect' analysis tools and techniques to analyse the knock-on effects and unintended consequences of decisions, including any beyond the project scope. Engages stakeholders in reviewing ripple effects before key decisions are confirmed. • Adapts plans to reduce unintended consequences (in both the organisation's operations and other projects).
Level 4: Proficient	• Understands the need to adjust the project's scope to give adequate control over its span of influence, to avoid problems being created outside the scope but within that span of influence. • Recognises interdependencies across organisational functions, departments, customers and other third parties. • Understands that actions have possible systemic consequences (unintended or otherwise). • Always considers the supply chain and all end users within the systems context. • Is familiar with several generally useful systems thinking tools and techniques and knows when to use them.	• Promotes practices facilitating diverse groups recognising and analysing complex systemic risks and issues, advising which system thinking tools are most suitable. • Leads interdependency mapping and participative planning sessions to predict emergent behaviour and long-term ripple effects. • Designs and plans the controls and reviews needed to reveal systemic risks early. • Balances local, project-focused optimisation against system-wide outcomes. • Pre-empts 'fixes that fail' (i.e. short-term, superficial approaches that eventually make the situation worse) by reviewing the wider impact of a solution, to avoid solving one issue only to trigger another.
Level 5: Expert	• Understands, and is able to explain, how wider systems thinking is core to effective project leadership. • Knows how to create convincing and compelling interpretations, in appropriate language, of complex patterns; gives explanations of the uncertainties and risks they represent. • Explains how the change in the wider environment, stakeholder perspectives and incentives, and the interactions between project elements, can lead to new patterns of behaviour. • Able to demonstrate a pragmatic knowledge of the various systems thinking methodologies and is adept in considering how they are related and how they integrate.	• Designs and shapes governance and culture so that systemic insights guide strategy and delivery. • Creates organisational practices that anticipate and mitigate possible ripple effects. • Facilitates workshops with stakeholders from all systems within the project span of influence to align goals and trade-offs throughout the project, starting with the project concept phase. • Designs and promotes governance that rewards long-term, system-wide success over short-term and/or localised wins. • Promotes understanding of how scope should align with real-world system boundaries. Mentors others in applying systemic insights to managing complex projects.



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