Project Management and Information Technology Context

Integrating Systems, Organizations, and Technology for Project Success

7204201 Project Management in Information Technology
Paranya Palwisut

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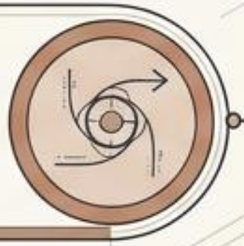
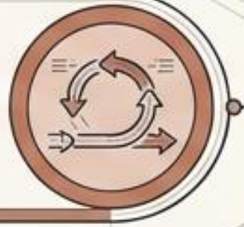
The Project Architecture Blueprint

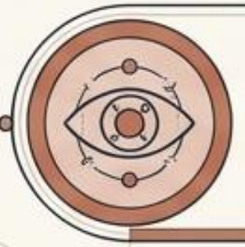
Sage Propction
Balancing Business, Orgaination and Technology variables



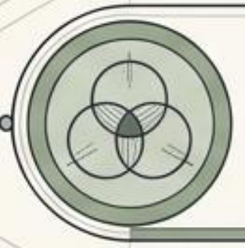
Organizational Frames & Structures:
Navigating corporate culture and power dynamics.

Project Life Cycle & SDLC:
Choosing the right development methodology from Waterfall to Scrum.



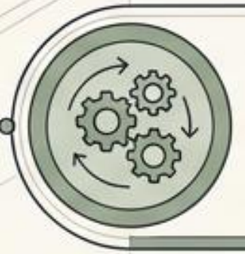


Systems Approach:
Analyzing the interconnected ecosystem before solving isolated problems.



Three-Sphere Model:
Balancing Business, Organization, and Technology variables.

Stakeholder Management:
Securing hierarchical commitment and alignment.



Project Management Process Groups:
The continuous dynamics of project execution.

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The Unique Landscape of IT Projects

High Diversity:

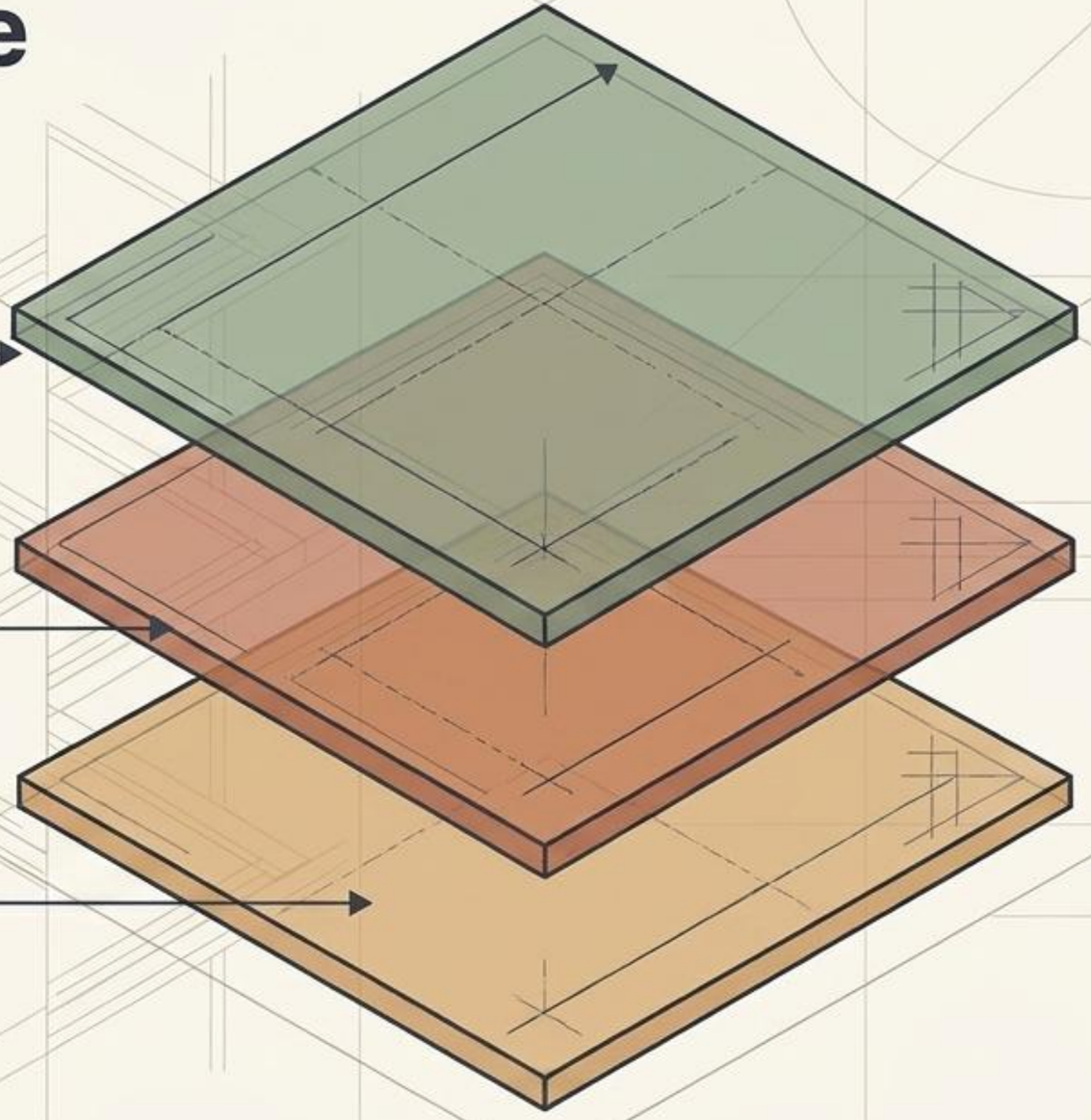
Highly varied technical and business skill sets create inherent cross-functional friction and communication barriers.

Rapid Change:

Unforgiving technological evolution means solutions designed today may be obsolete before implementation is complete.

Time Risk:

Delays do not just inflate budgets; they risk the fundamental viability and strategic goal of the entire initiative.



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The Systems Approach: Holistic Problem Solving

1. Systems Philosophy

The conceptual framework.

Viewing the environment as a web of interconnected components working toward a common goal rather than isolated parts.

2. Systems Analysis

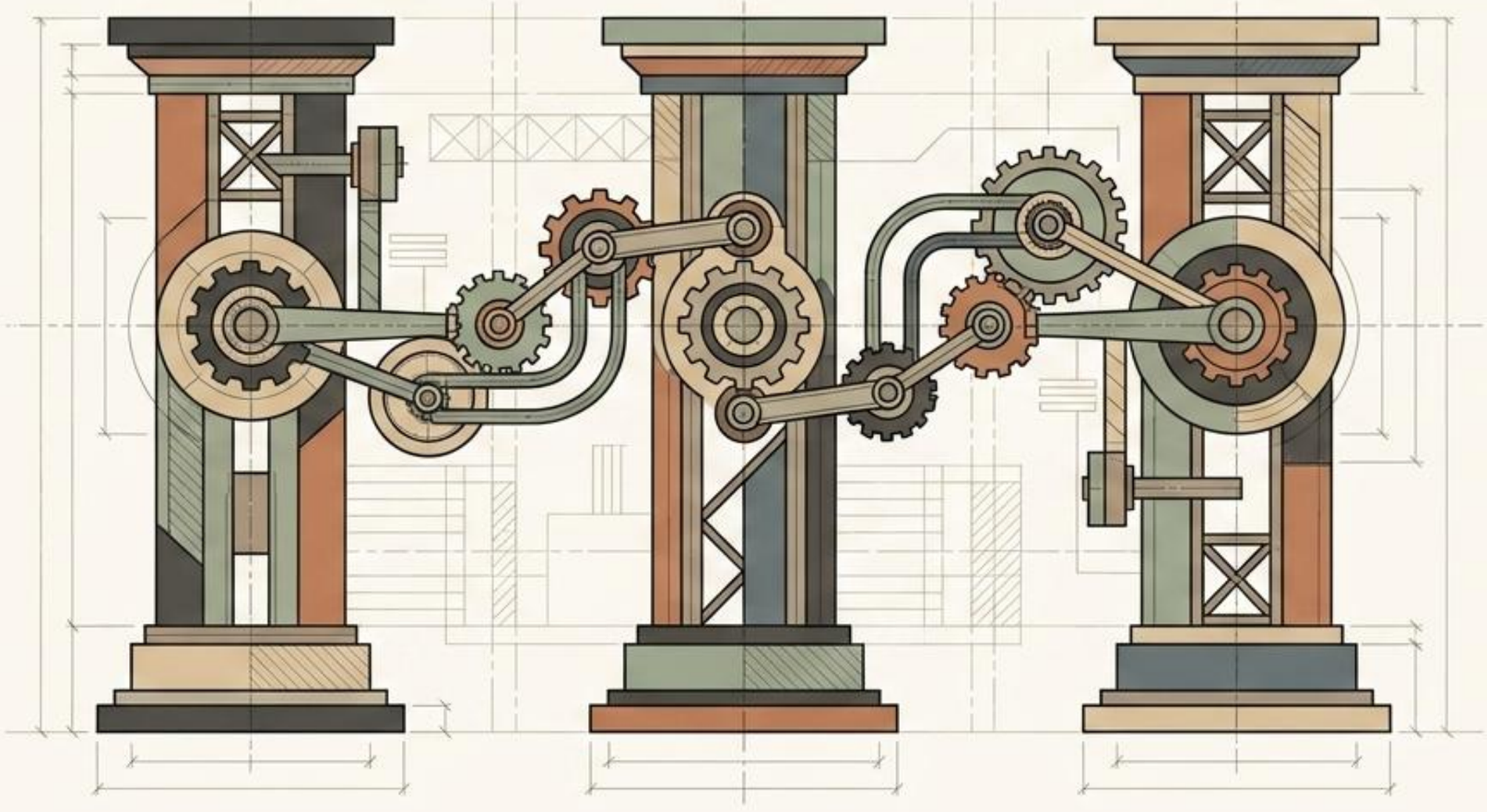
The problem-solving methodology.

Defining the project scope, evaluating options, and identifying the optimum or most satisfactory solution.

3. System Management

The practical application.

The active, simultaneous management of business, technological, and organizational variables to build and maintain the system.



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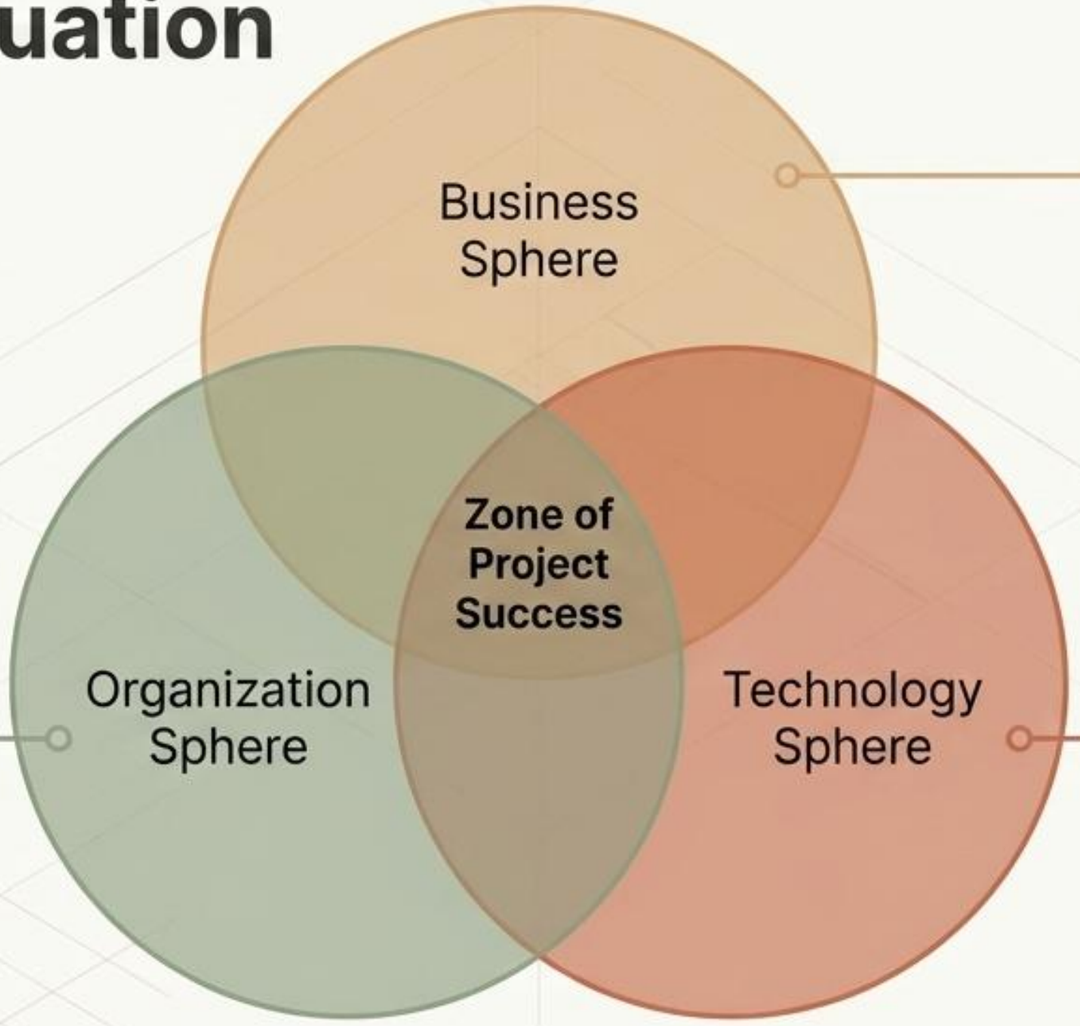
The Three-Sphere Model of Evaluation



Financial & Strategic Impact:

What are the institutional costs? What are the user costs? What is the impact on enrollment or revenue?

People & Processes:

Who is affected by this change? Who provides the training? Who acts as the ultimate sponsor and support system?

Infrastructure & Hardware:

What operating system is required? What are the hardware specifications? How does this impact the existing LAN/network?

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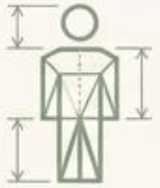
Navigating the 4 Organizational Frames

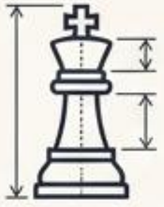
Structural Frame

Focuses on roles, responsibilities, and coordination. Maps how work is divided (e.g., centralized vs. decentralized IT).



Human Resources Frame

Focuses on the fit between the organization and its people. Addresses skill shortages, training needs, and work-life balance.



Political Frame

Focuses on power dynamics, conflict, and resource competition. Essential for understanding competing departmental agendas.

Symbolic Frame

Focuses on meaning, culture, and established symbols. Crucial when navigating multinational projects or shifting entrenched company habits.

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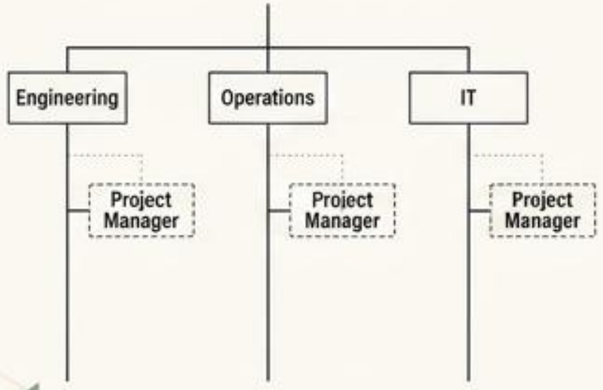
The Spectrum of Organizational Structure

Functional Structure

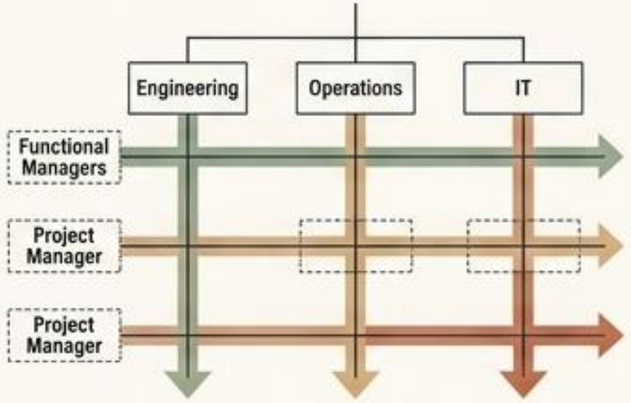


Organized by specialized departments.

Project Managers are merely part-time coordinators with NO authority.

Functional managers control the budget.

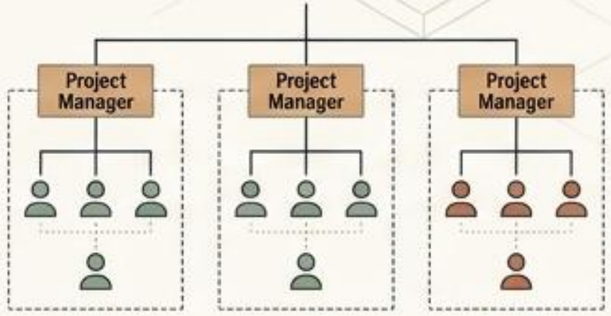
Matrix Structure (Weak to Strong)



Employees report to both functional and project managers.

Authority and budget control shift on a sliding scale from the functional manager to shared responsibility, to the Project Manager.

Projectized Structure



Organized entirely around projects.

Project Managers have FULL authority and budget control.

Teams are dedicated full-time to the project.

Increasing Project Manager Authority

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The Stakeholder Commitment Pyramid

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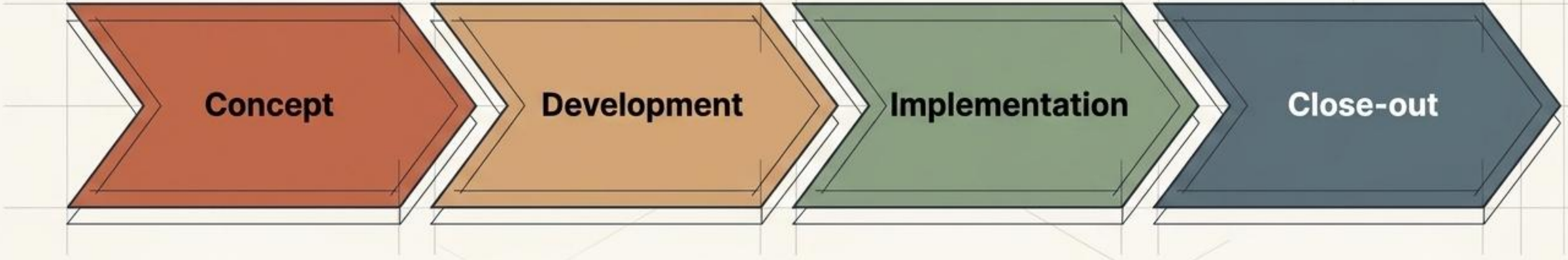
The Project Life Cycle: Feasibility to Acquisition

Mega-Phase 1: Feasibility (Planning & Viability)

Mega-Phase 2: Acquisition (Execution & Delivery)



High-level planning, preliminary cost estimates, initial 3-level WBS.

Detailed project plans, refined budgeting, expanded 6+ level WBS.

Executing the work packages, generating performance reports, tracking actual costs.

Completed work, formal customer acceptance, documented lessons learned.

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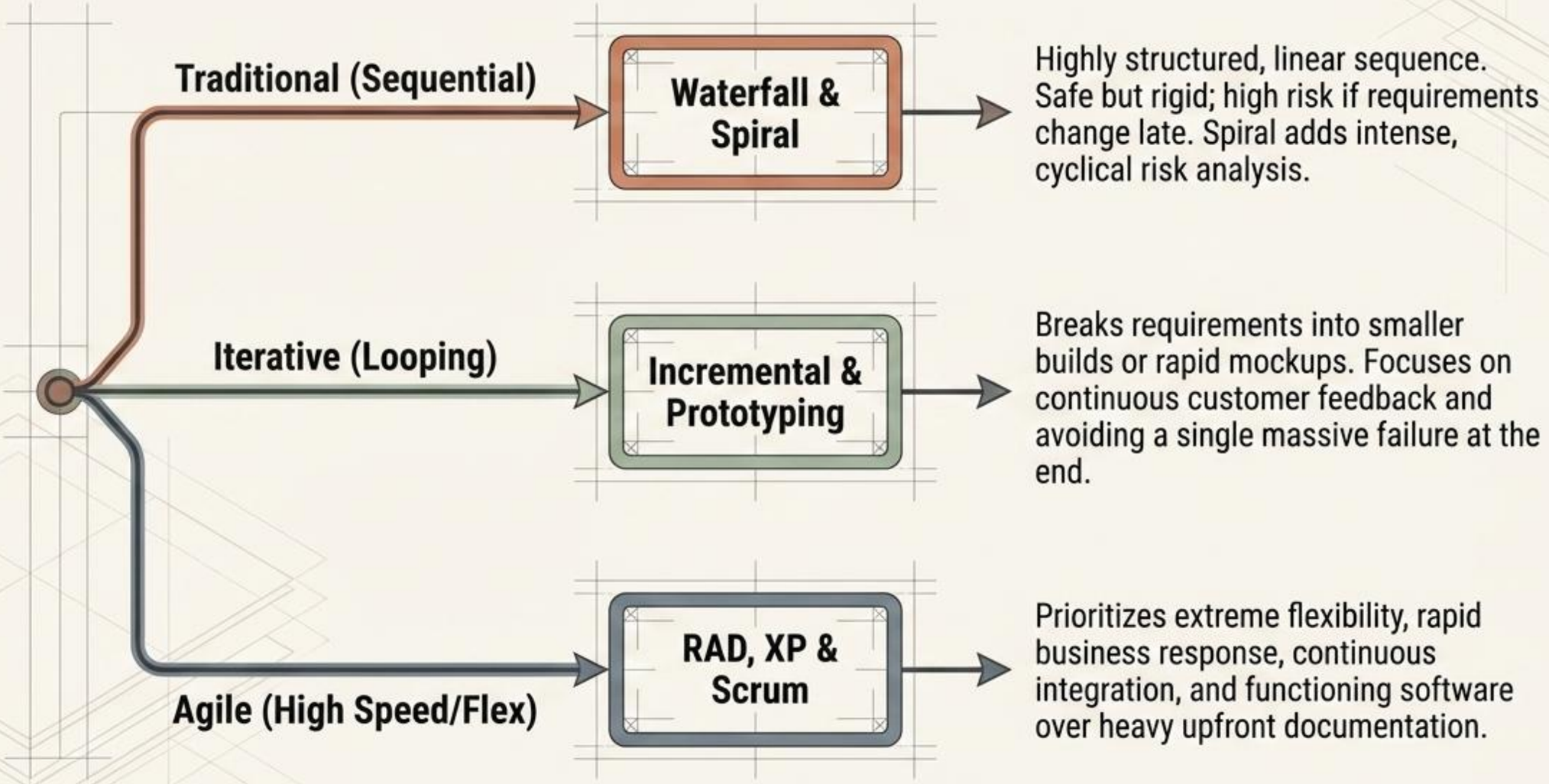
The Software Development Life Cycle (SDLC) Landscape



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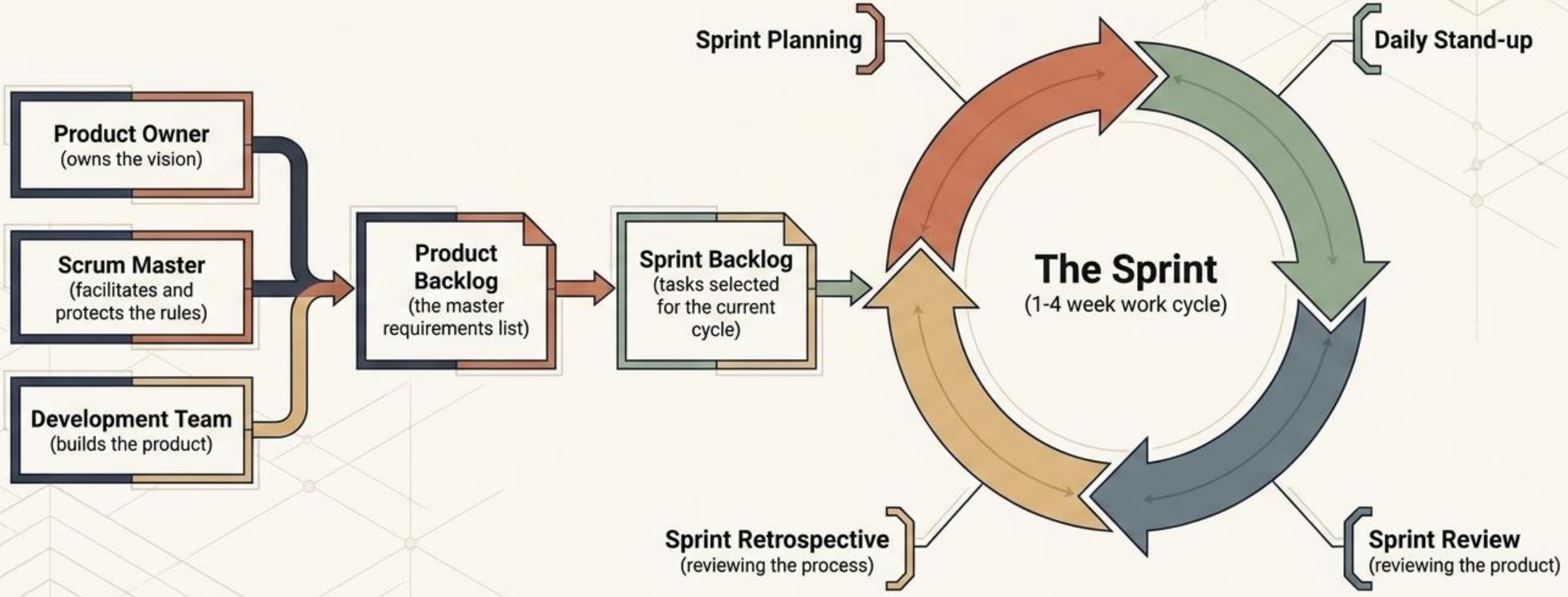
Deep Dive: The Scrum Framework



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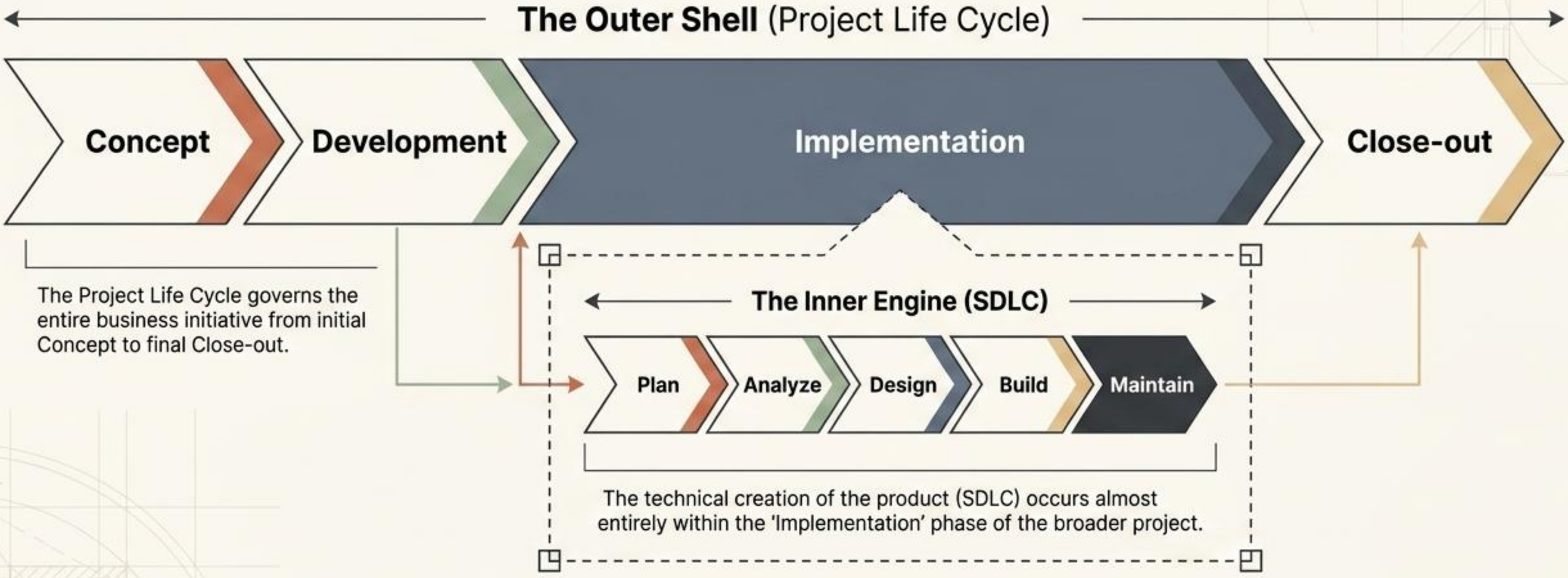
Integrating the Project and Product Lifecycles



Takeaway: You manage the business through the PLC, and you manage the software through the SDLC.

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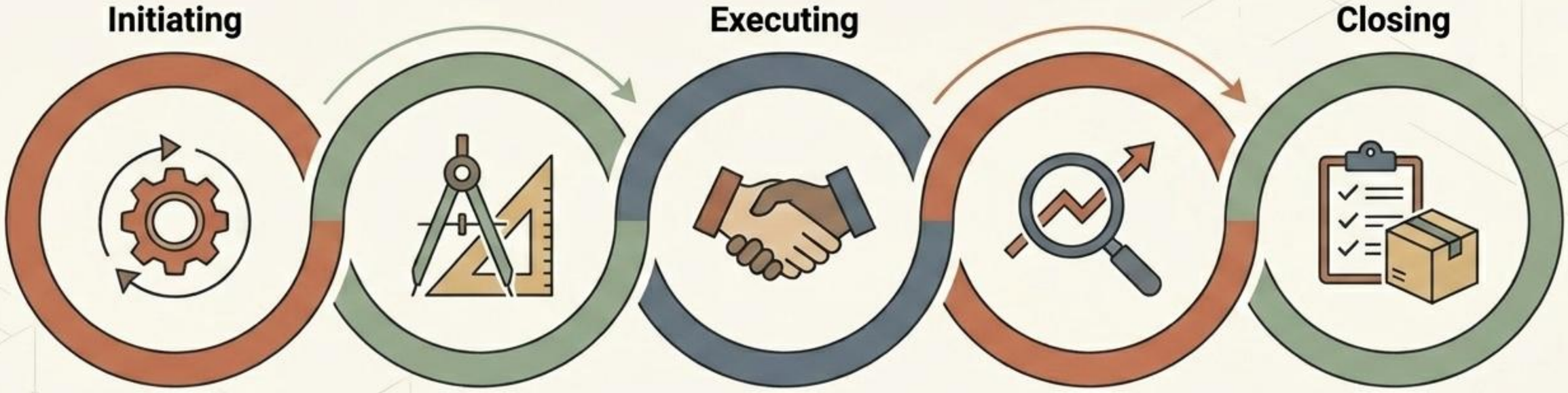
The 5 Project Management Process Groups



Initiating

Officially authorizing the project or a new phase.

Planning

Gathering intelligence, defining scope, and building the project management plan.

Executing

Coordinating people, resources, and technology to carry out the plan.

Monitoring & Controlling

The oversight function—tracking progress, reviewing performance, and managing change requests.

Closing

Formalizing acceptance, ending activities, and archiving operations.

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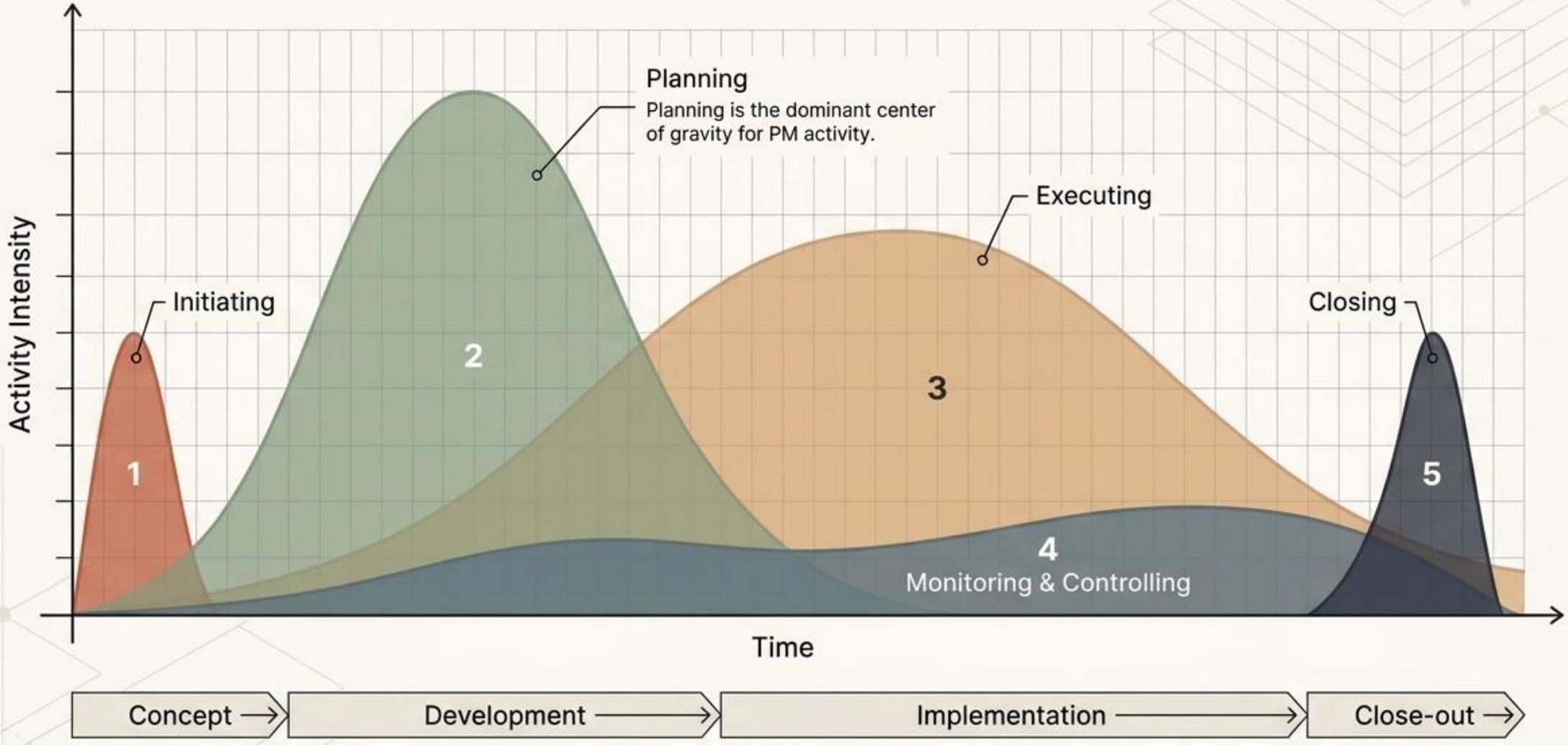
Process Dynamics: Waves Over Time



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Practical Synthesis: Building the IT Ecosystem

1 Business Definition

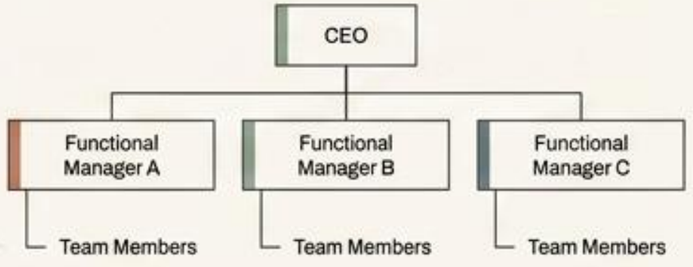
Establishing the company vision, mission, and core strategic value. (The top of the Three-Sphere Model).

2 Technology Stack

Selecting the operational and management tools (e.g., JIRA, AWS, GitHub) required to execute the SDLC.

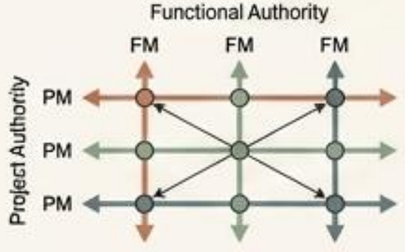
3 Functional Lines

Drawing the basic structural org chart (CEO -> Functional Managers).



4 PM Matrix Overlay

The final step—overlaying a Balanced Matrix structure onto the functional lines, establishing how authority will flow between Functional Managers and the newly installed Project Managers to ensure successful execution.



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