Unlocking Potential: Leveraging Lean Project Management for Thriving University Initiatives

By: Samantha Taylor and Chat GPT

CREATE YOUR LEGACY

Meet the Team

"I'm ChatGPT, a large language model created by OpenAI. My goal is to assist you with tasks, answer questions, and provide support in areas ranging from writing and coding to brainstorming ideas and technical analysis. While I lack personal experiences and a physical form (which means no coffee breaks), I'm designed to be versatile and informative—making our conversations productive and engaging." ~ ChatGPT

. "I'm Sam, a Business Systems Analyst in the Registrar's Office at Illinois State University, and I'm currently working on my MS in Data Analytics at NIU. While my expertise is similar to ChatGPT's (minus the AI superpowers), I bring the human touch—and I do have a physical form, though that mostly means more paperwork and fewer naps." ~ Samantha Taylor

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ILLINOIS STATE UNIVERSITY

Illinois' first public university

Located in Central Illinois, Illinois State University is the first public university, founded

Campus Stats

20,000+ Students

1,500+ Instructors

2,500+ Staff

4,000+ Student Workers

Oracle PeopleSoft

PeopleSoft Campus Solutions 9.2 (PUM 30)

PeopleTools 8.59.18

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Problem Solving

What is it that you are trying to solve

What is your problem?

In many cases, what we think is the problem is only a visible symptom of a deeper, underlying issue.

Without fully understanding the problem, teams might implement solutions that don't address the root cause, leading to ongoing issues.

How do we figure out what our problem is?

The 5 Whys

How it works:

- Start with the problem and ask "Why?" multiple times to drill down to the underlying cause. Each answer leads to the next question.

Why it's useful:

- Simple and effective for uncovering root causes in any situation.

The 5 Whys: Example

- Problem: Faculty aren't submitting grades on time.
    - Why? → No reminders about deadlines.
    - Why? → No automated system in place.
    - Why? → System hasn't been updated.
    - Why? → Staff time is spent on manual processes.
    - Why? → Manual processes take too much time.

- Root Cause: The manual process needs automation

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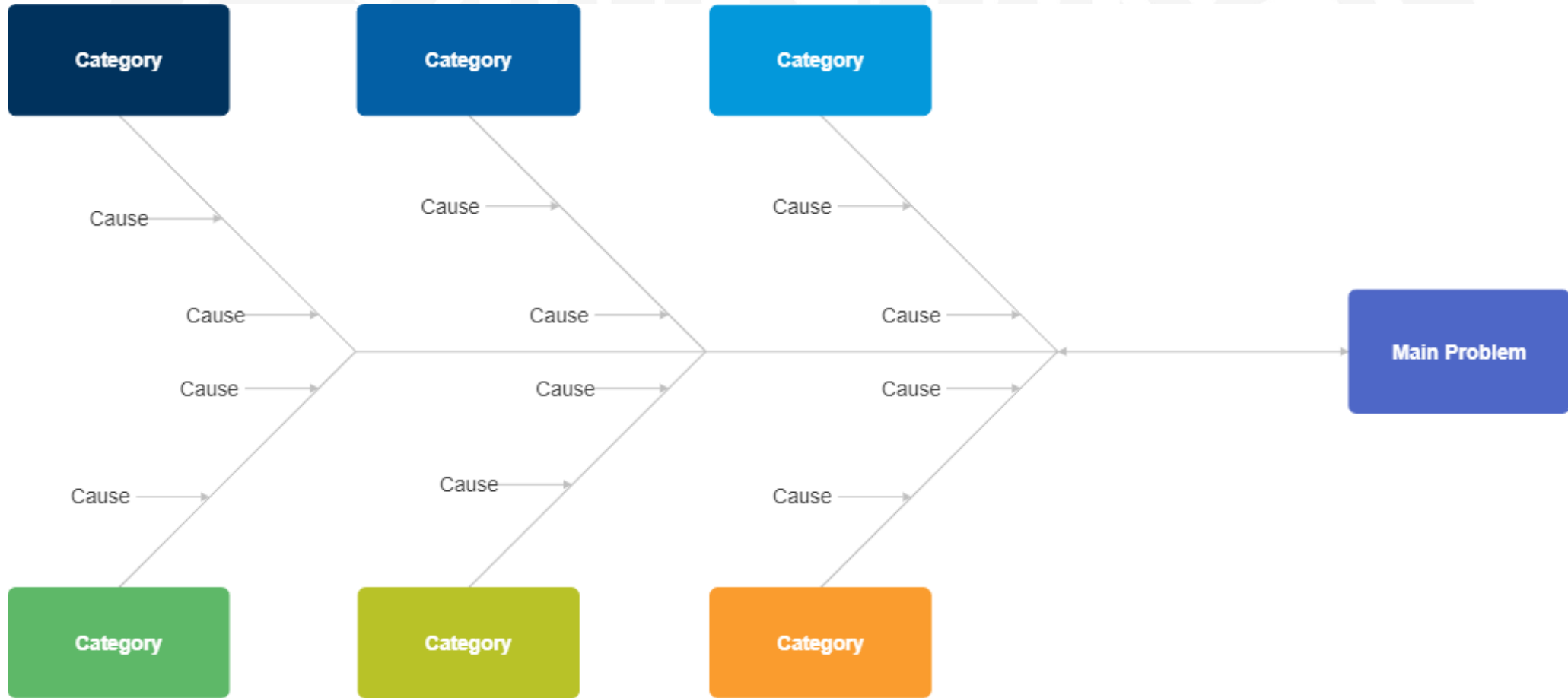# Fishbone Diagram (Ishikawa)

How it works:

- Visually map potential causes of a problem and sort them into categories like people, process, technology, and environment.
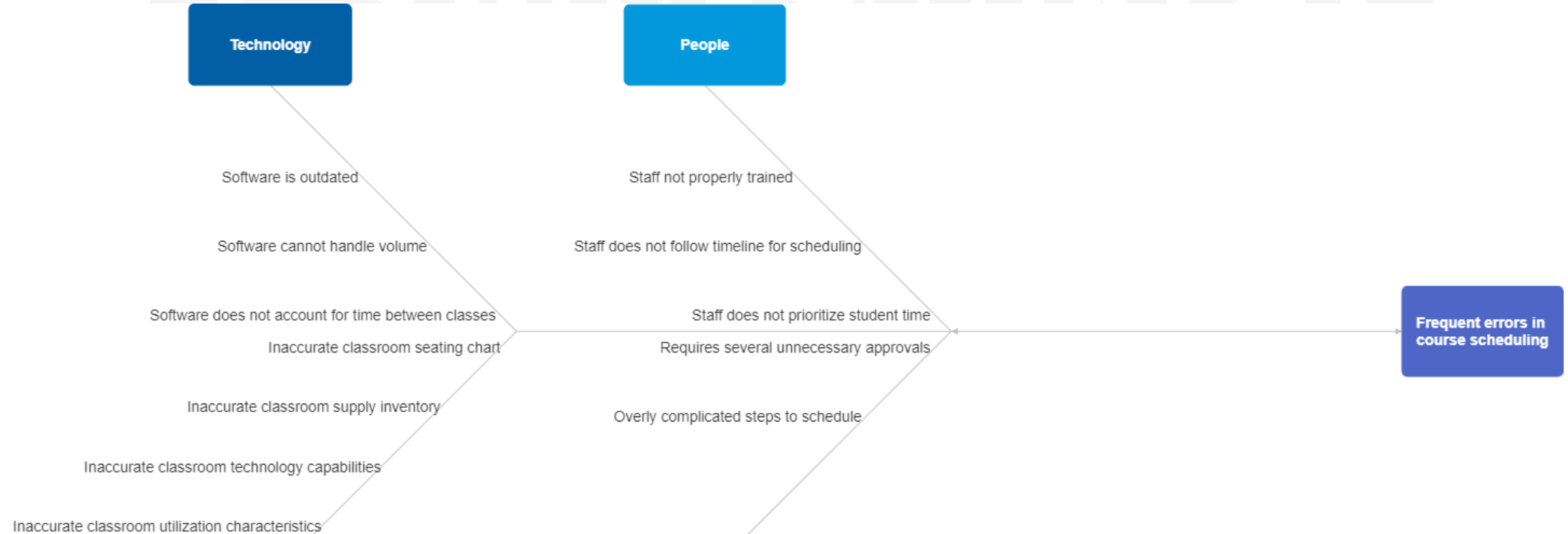
Why it's useful:

- Organizes possible causes and shows their connections, helping teams see the full scope of issues.

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Fishbone Layout

Fishbone Diagram (Ishikawa): Example

Value Stream Mapping

How it works:

- Map the entire process, showing each step, and identify steps that add value and those that don't.
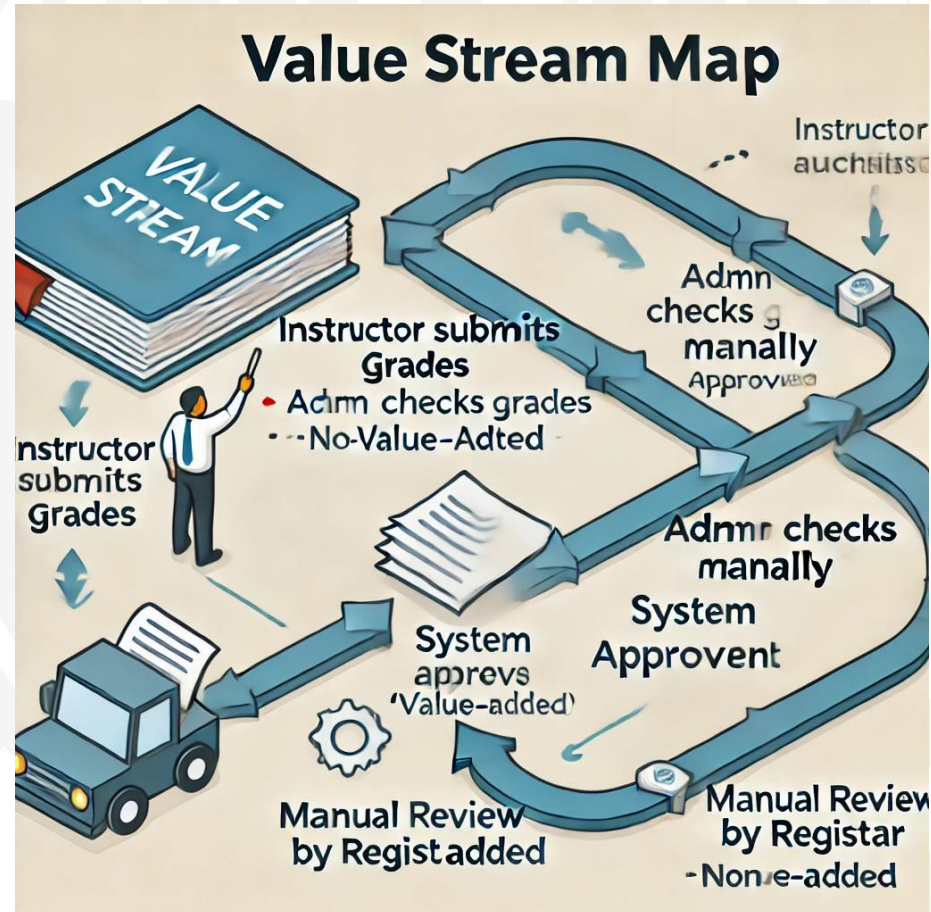
Why it's useful:

- Helps visualize the process to spot inefficiencies and streamline workflows.

Value Stream Mapping: Example

- Process steps (list each one)
- Mark value-added or non-value-added for each step
- Identify bottlenecks or wasteful steps

# Value Strem Mapping: Example

Root Cause Analysis (RCA)

How it works:

- A structured method that involves defining the problem, gathering data, identifying possible causes, determining the root cause, and developing solutions to prevent recurrence.

Why it's useful:

- Combines multiple techniques for a deep, structured analysis of complex problems.

Root Cause Analysis (RCA): Example
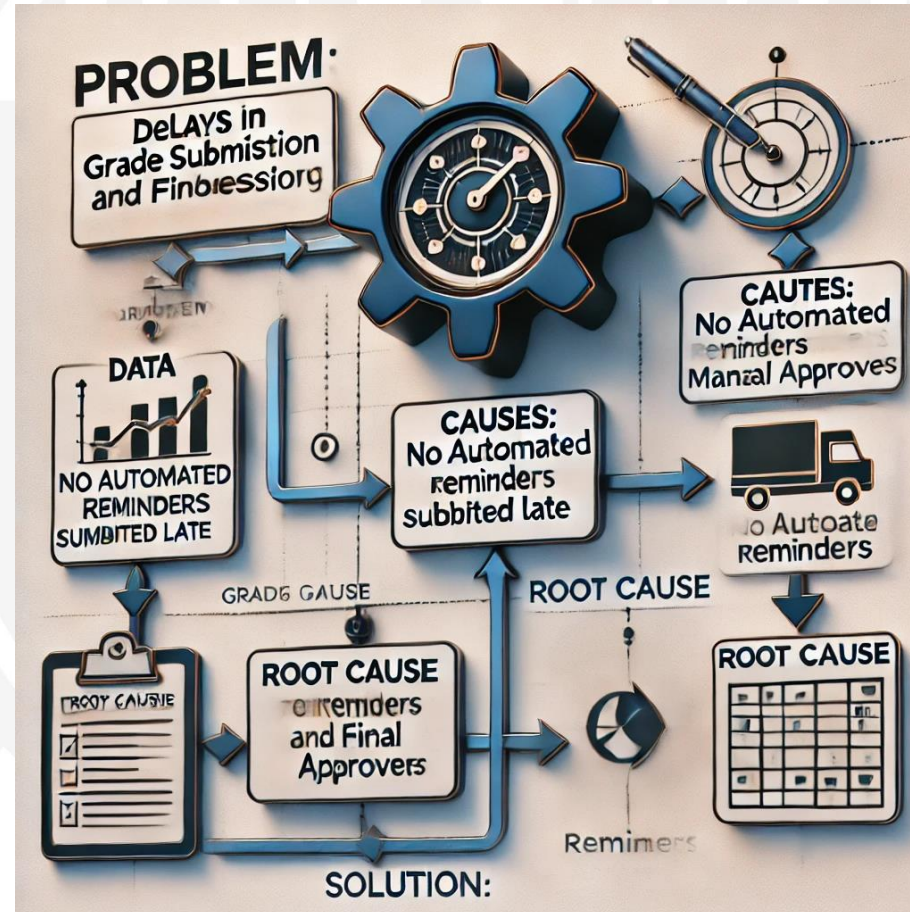
Pareto Analysis (80/20 Rule)

- How it works:
  - Identifies the causes that have the most significant impact, focusing on the 20% of causes that are responsible for 80% of problems.

- Why it's useful:
  - Helps prioritize efforts to solve the most impactful issues and concentrate on the most frequent root causes.

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Pareto Analysis (80/20 Rule): How to chart

- List problems or causes and count their frequency.
- Sort problems from most frequent to least.
- Focus on the top 20% that are causing 80% of the issues.
- Develop solutions for the top causes.

Admission Delays
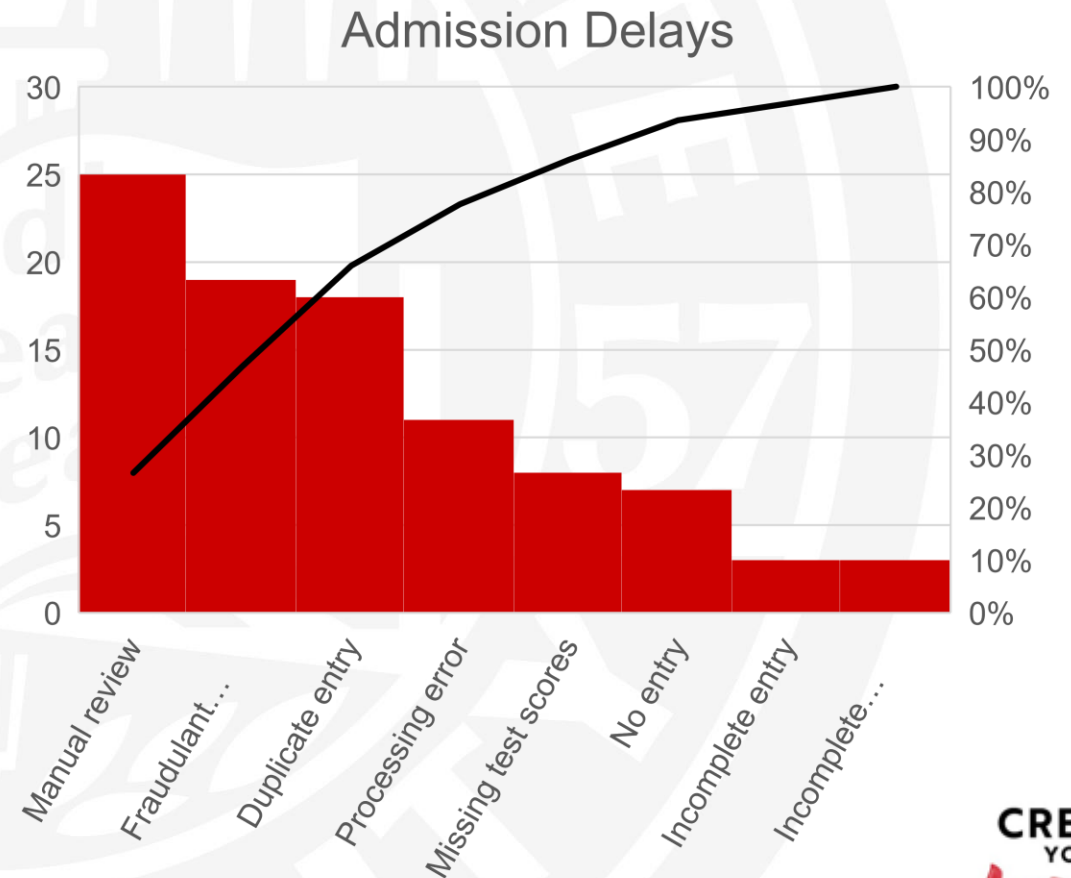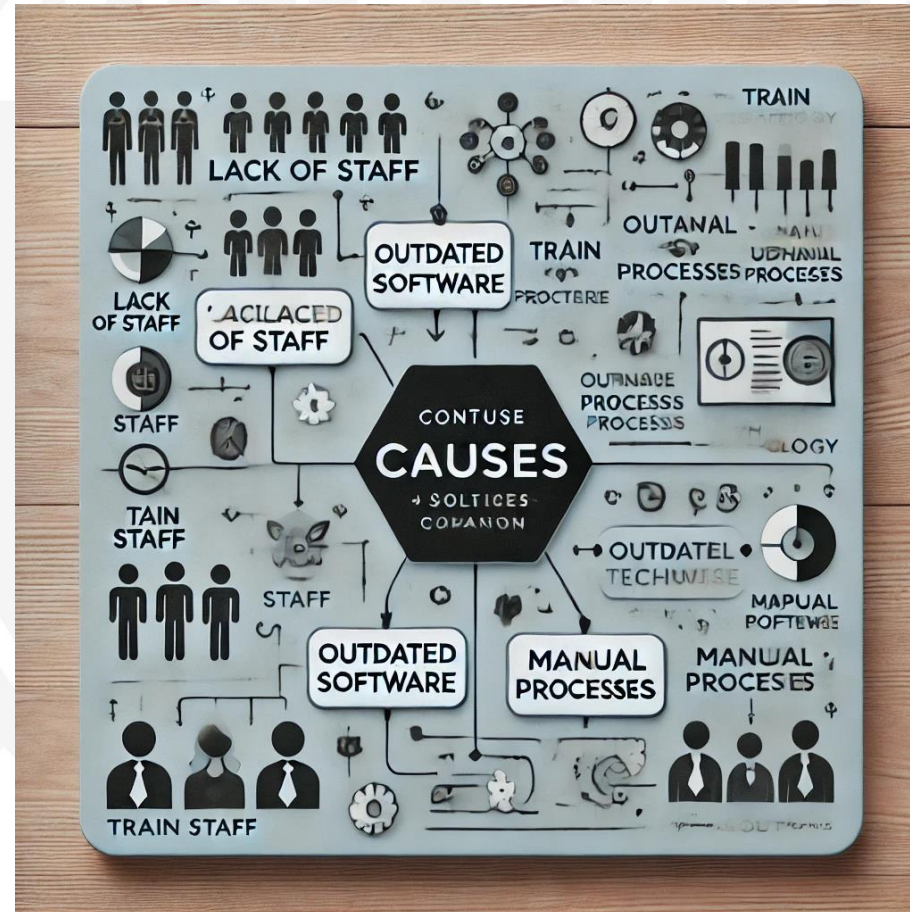
Brainstorming and Affinity Diagrams

How it works:

- Brainstorm all potential causes for a problem, then group similar causes into categories using an Affinity Diagram.

Why it's useful:

- Encourages team collaboration, organizing ideas into meaningful categories to focus on during problem-solving.

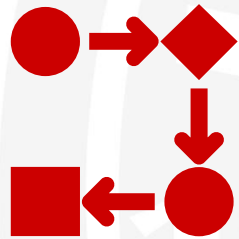# Brainstorming and Affinity Diagrams: Example

Lean Principles

It's a diet, but for your approach to business processes

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Identify Value

What it means:

Focus on what is valuable to the customer or stakeholder. Every step in the process should align with their needs.
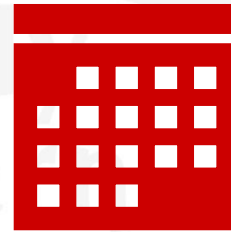
How to apply:

In higher education, this could mean streamlining tasks that provide direct value to students or faculty, such as simplifying registration processes.

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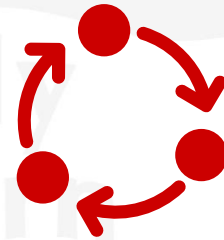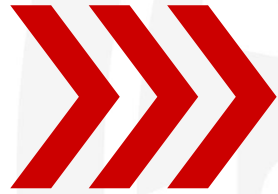# Map the Value Stream

What it means:

Analyze every step in the process and distinguish between value-added and non-value-added tasks. Eliminate wasteful steps.

How to apply:

Map out processes like admissions or course scheduling to identify areas of inefficiency.

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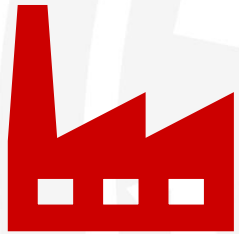
Create Flow

What it means:

Ensure the workflow moves smoothly from one step to the next without interruptions or delays. Eliminate bottlenecks.

How to apply:

Automating steps in administrative processes like grade submissions or document approval creates a more continuous flow.

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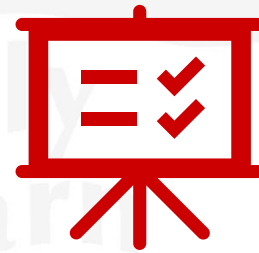
Establish Pull

What it means:

Only produce work based on demand, avoiding overproduction or early work. Align production with real needs.

How to apply:

Avoid preparing materials or reports before they're needed—work just in time to meet real demand.

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Seek Perfection (Kaizen)

What it means:

Continuous improvement over time is key. Always look for ways to refine and perfect processes, even after initial improvements.

How to apply:

Regularly assess processes to find additional improvements, such as streamlining workflows in grading or administrative tasks.

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Lean Focus: Muda

Muda = eliminate waste

7 Types of Waste:

Overproduction: Doing more than what's needed.

Waiting: Delays in the process where nothing happens.

Transportation: Unnecessary movement of information or materials.

Overprocessing: Doing more work than is necessary.

Inventory: Having too much of something (like excess materials or information).

Motion: Unnecessary movements by people.

Defects: Errors that require rework.

Example: Processing paperwork or reports that no one uses.

Example: Waiting on approvals from departments to move forward.

Example: Manually passing documents between departments when an automated system could do it.

Example: Rechecking data multiple times due to inefficiencies in the system.

Example: Excessive reports piling up that take time to sort through.

Example: Staff moving between buildings or locations when everything could be centralized or virtual.

Example: Incorrect grades or course schedules that need to be fixed later.

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WASTE in the OFFICE

Eradicating waste is important because up to 90% of all office process steps are waste.

In the office, waste can masquarades as productive work.

90% OF ALL WORK DONE IN THE OFFICE IS WASTE

These are some of wastes as they appear in the office

PROCESS WASTE

Approvals
Bottlenecks
Communication Barriers
Competition (within the organization)
Defects
Extra features
Handoffs
Incompatible systems
Incomplete work
Inspections
Multitasking
Reviews
Rigid hierarchy
Shadow systems
Searching
Signatures
Task switching
Unnecessary complexity
Useless information
Variable flow in process
Waiting / delays
Workarounds

INFORMATION WASTE

Converting formats
Data dead ends
Data discrepancies
Lack of usefullness
Manually checking electronic data
Metrics / measures
Missing data
Re-entering data
Redundant data inputs
Unavailable data
Unclear or incorrect data
Unknown data
Unnecessary data

### PEOPLE WASTE

Ineffective meetings
Lack of project management
Lack of training
Lack of useful feedback
Mishandled conflict
Relearning
Turnover
Unclear roles
Unclear sponsorhip norms & boundaries
Underutilized talent
Emotional waste: unnecessary frustation, stress

PHYSICAL ENVIRONMENT WASTE

Interruptions
Moving / transportation
Unsafe conditions

WHY the FOCUS on WASTE?

That means, if you focus on improving value-added work, with a new computer system or more people, for example, then you don't get much improvement overall.
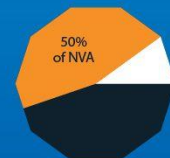
But when you focus on eradicating waste, big things happen.

50% of VA

50% of NVA
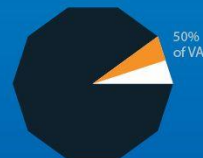
50% improvement in value-added work (VA)...

...doesn't yield much in the way of overall improvement.

50% improvement in non-value-added work (NVA)...

...yields a much bigger impact on capacity, speed, lead times, quality, and customer and employee satisfaction.

■ Non-Value-Added work   □ Value-Added work   ■ Improvement focus   ■ Improved work

Project Management Styles

Several different styles, ranging from extremely detailed and pre-planned to on-the-fly

Waterfall

- Overview: Waterfall is a linear and sequential approach to project management. It follows a strict phase-by-phase process where one step is completed before moving on to the next.

- Best for: Projects with clearly defined goals and requirements, such as construction or software projects where the scope doesn't change.

- Key Features:
  - Clear structure and planning.
 - Difficult to change course once a phase is completed.
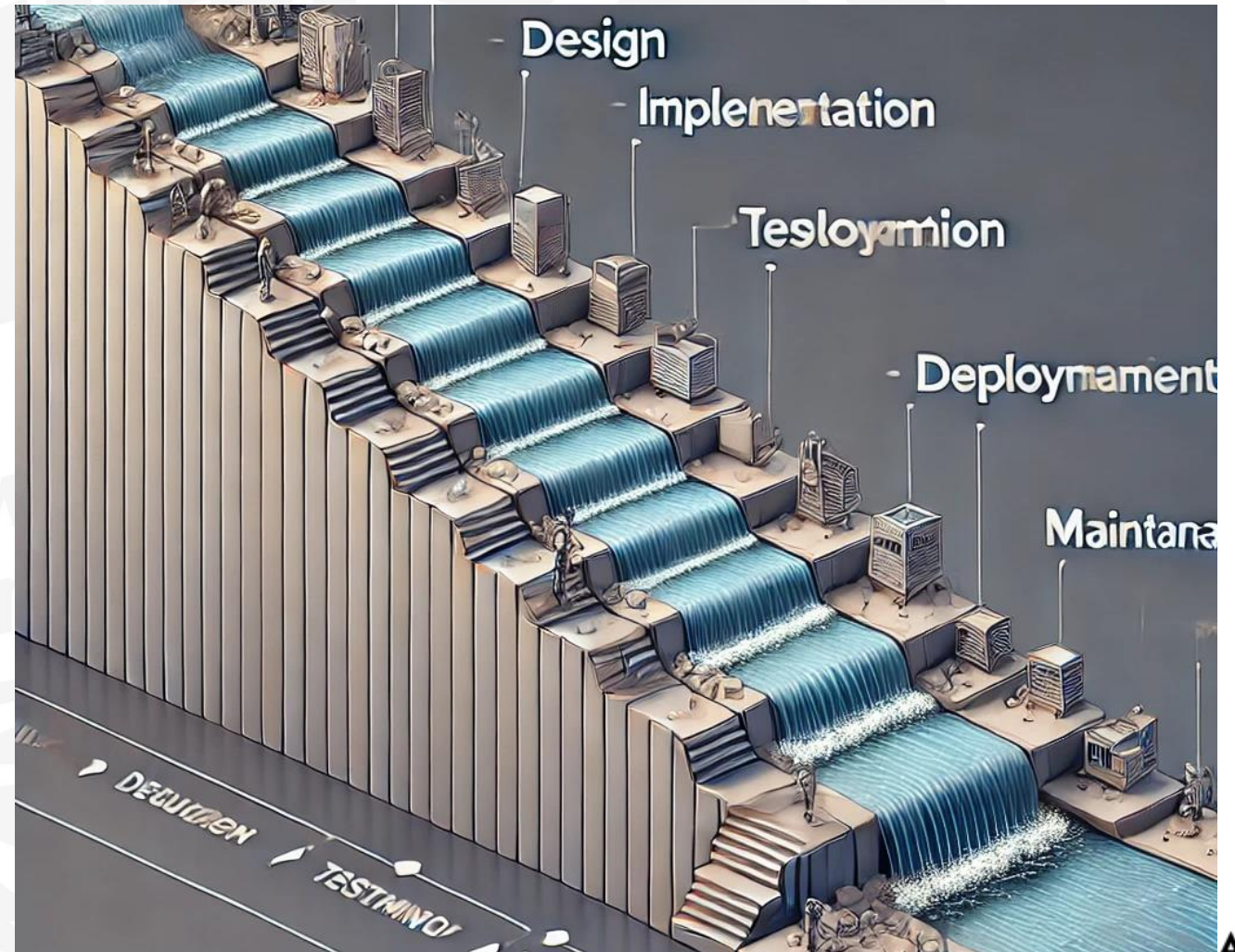
Agile

- Overview: Agile focuses on flexibility and continuous improvement. Projects are broken into small, iterative cycles called "sprints," with regular feedback and adaptation.

- Best for: Projects with evolving requirements, like software development, where changes are expected along the way.

- Key Features:
  - Emphasis on collaboration, customer feedback, and adaptability.
 - Frequent product releases and continuous iterations.
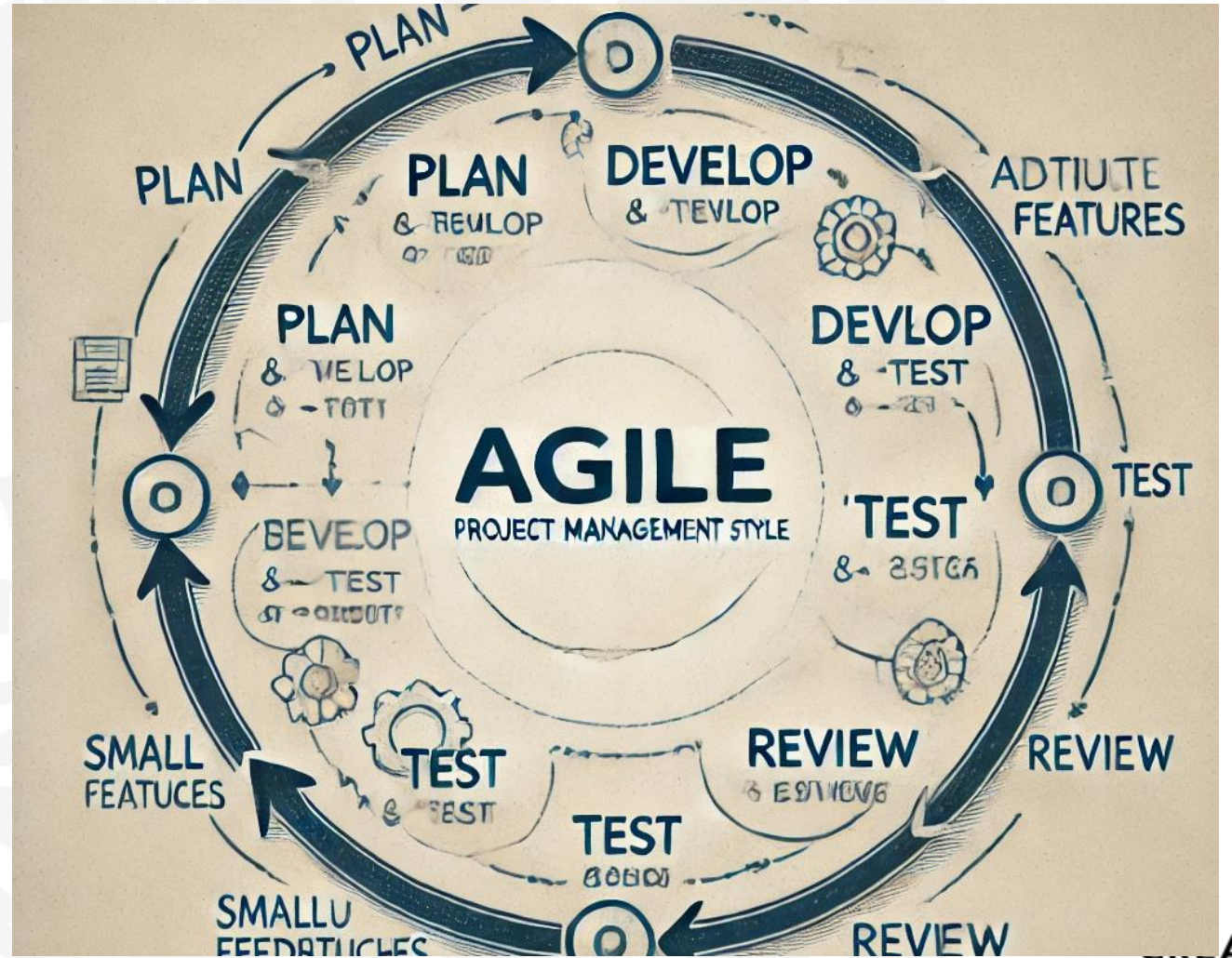
Scrum

- Overview: Scrum is a subset of Agile, providing more structure. It involves small teams working in short "sprints," typically 2-4 weeks, delivering incremental improvements.

- Best for: Fast-paced, dynamic projects with tight deadlines, such as tech or creative projects.

- Key Features:
  - Daily "scrum" meetings to review progress.
 - Defined roles like Scrum Master and Product Owner.
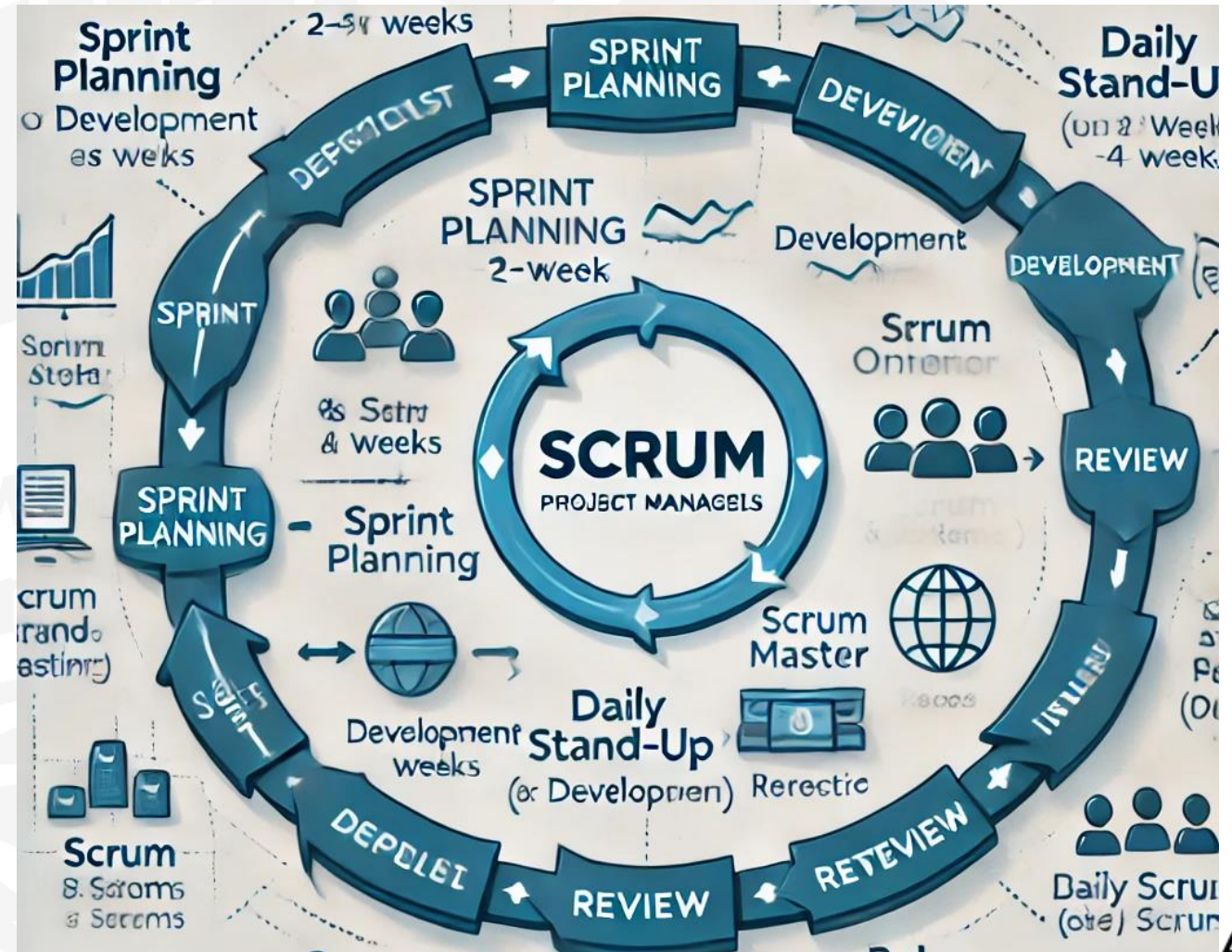
Kanban

- Overview: Kanban focuses on visualizing workflows to manage project tasks and progress. Tasks are managed through a Kanban board, where they move from "To Do" to "In Progress" to "Done."

- Best for: Teams that want to visualize workflow and increase efficiency, especially in continuous work environments like manufacturing or IT support.

- Key Features:
  - Emphasis on limiting work in progress (WIP) to avoid bottlenecks.
 - Continuous improvement, no set timeline like Scrum.
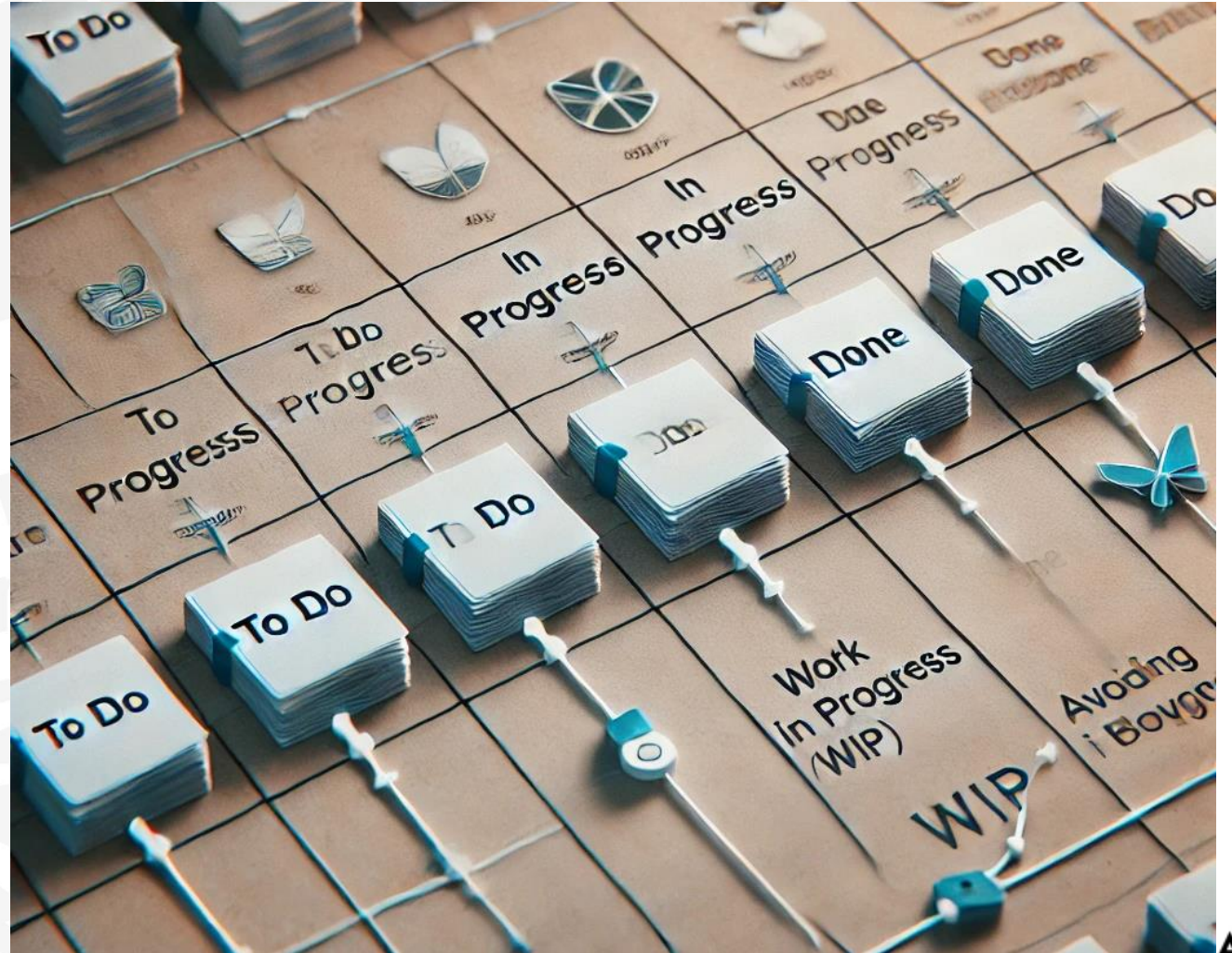
Hybrid

- Overview: Hybrid blends Waterfall and Agile approaches. It takes the structured planning of Waterfall and combines it with Agile's flexibility and iterative processes.

- Best for: Projects that require a balance between planning and adaptability, such as large-scale projects where certain phases are well-defined, but others may evolve.

- Key Features:
  - Flexibility to adapt where needed, while maintaining structured phases for certain aspects.
  - Combines the best of both structured and flexible methodologies.
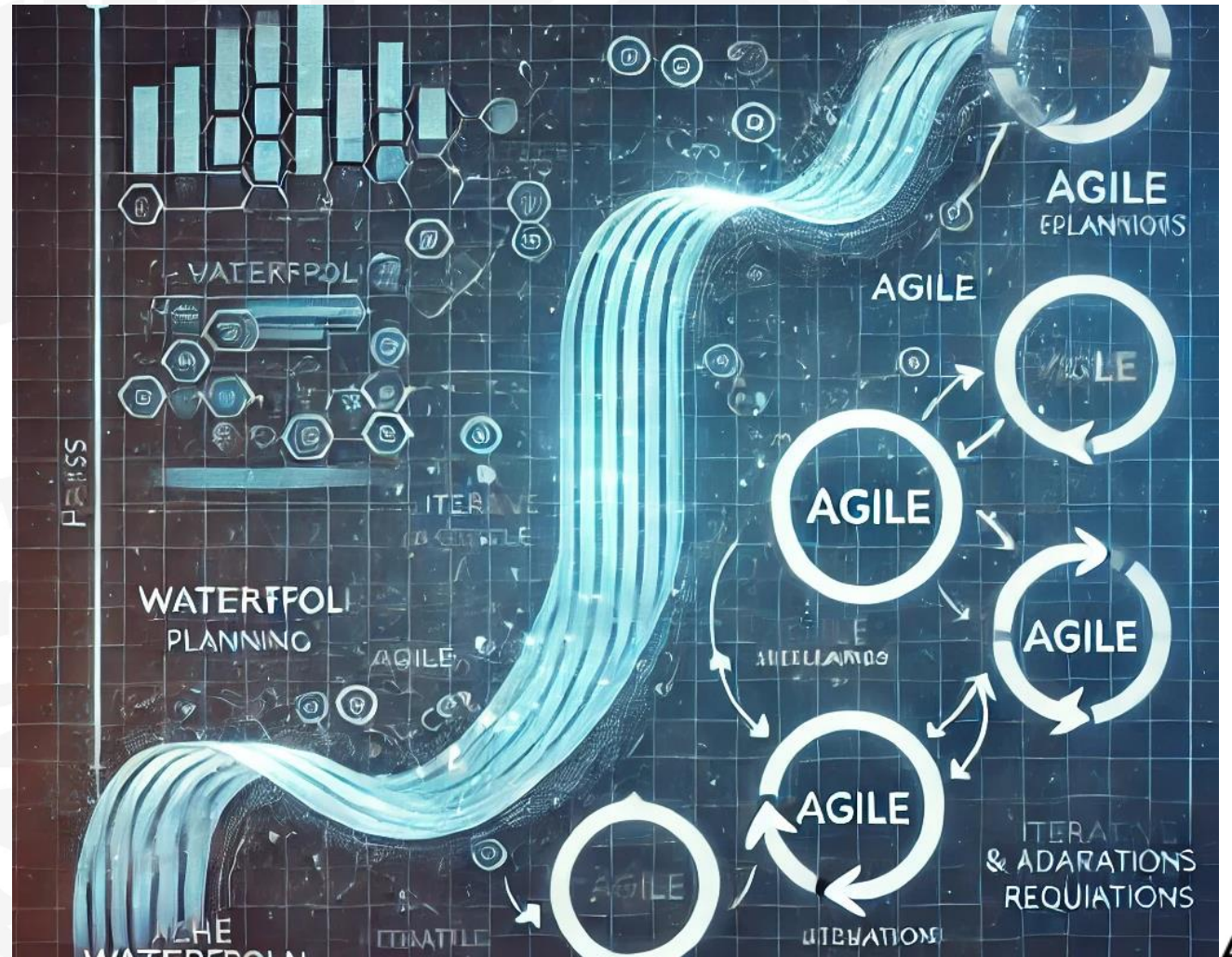
How they look together
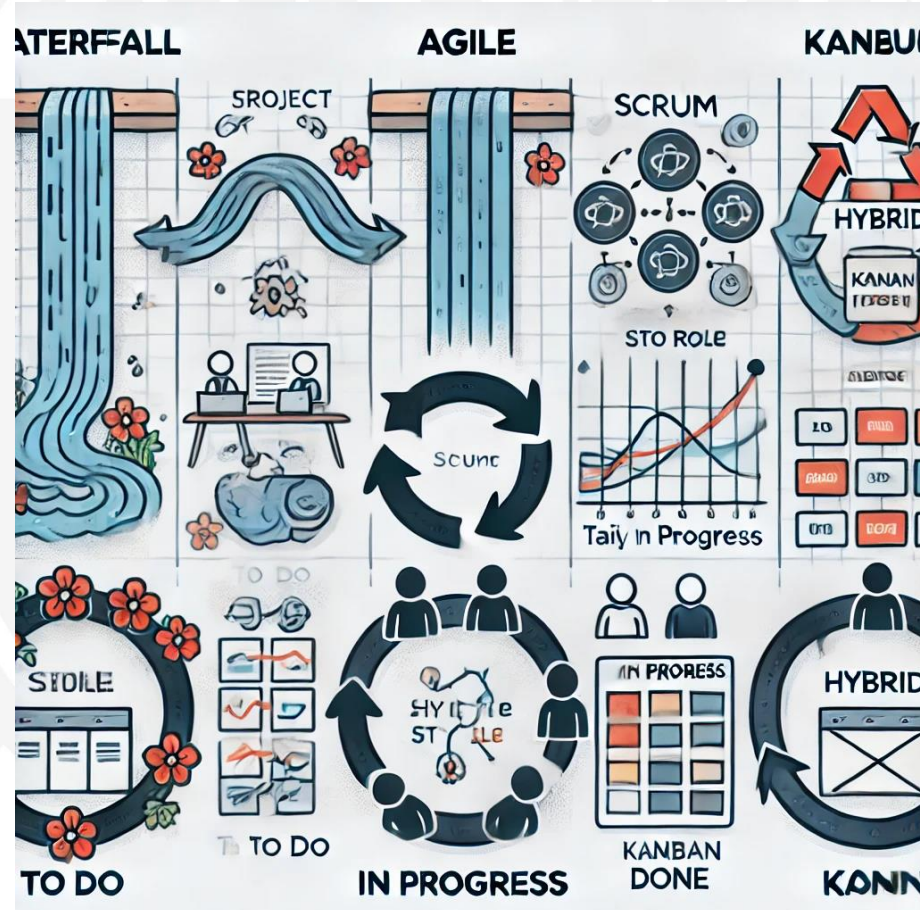
The Importance of Organization in a Project

Key Message: Organization is the backbone of any successful project. It ensures that tasks are completed on time, resources are managed effectively, and the project stays on track.
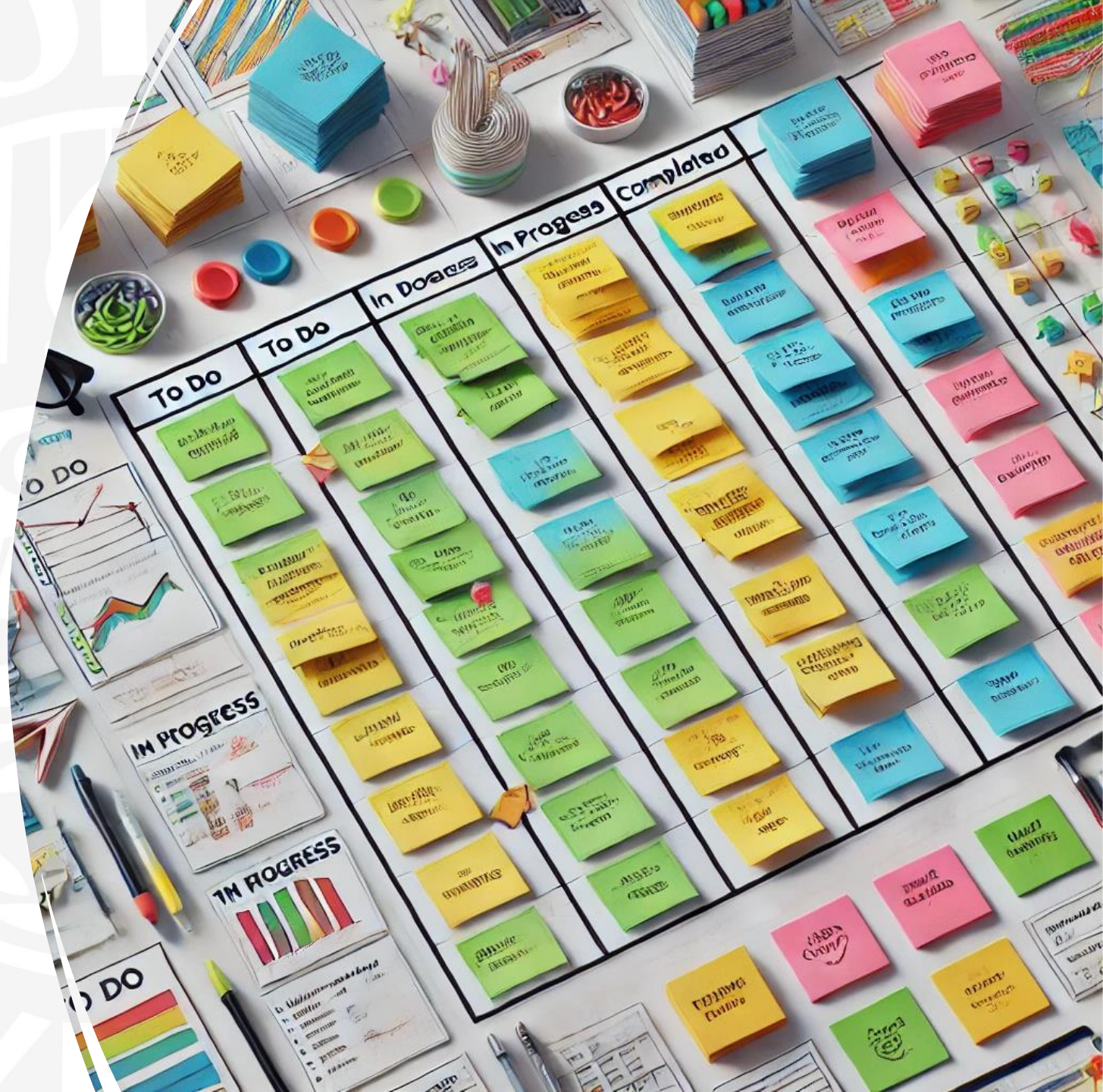
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Plan:

- A well-organized plan outlines what needs to be done, when, by who, and how. Include milestones and timelines.
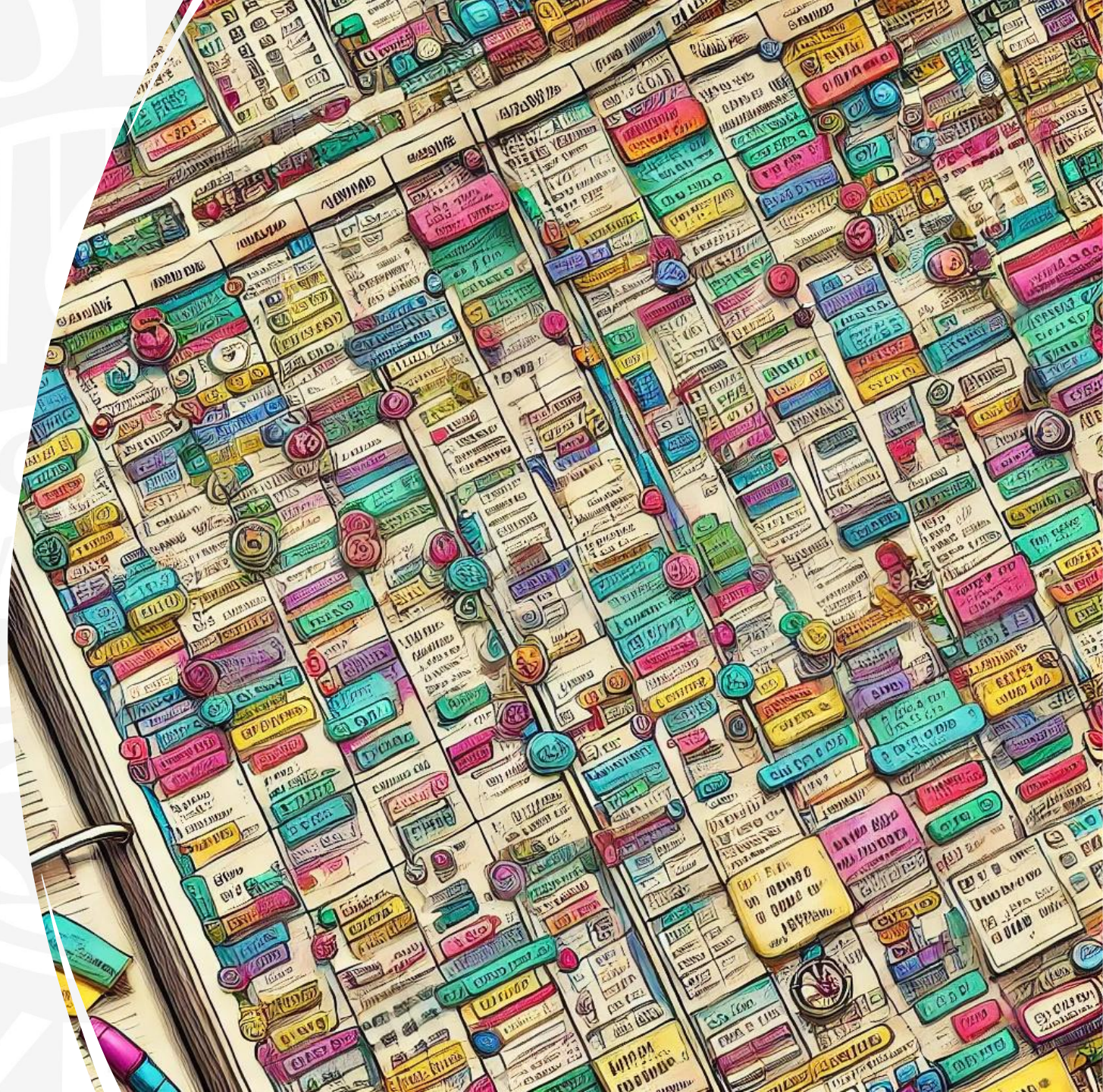
Tasks:

- Use a task-tracking system to make sure nothing falls through the cracks.

- Tip: Tools like Kanban boards (Trello, Asana) track tasks visually.

Communication:

- Clear lines of communication between team members, stakeholders, and leadership are essential for project success.

Resources:

- Organize your resources, such as budgets, tools, and materials, to avoid bottlenecks.

- Tip: Use resource management tools to track availability.

Timeline:

- Keep track of deadlines and adjust when necessary to avoid delays.

People Skills and Team Selection is Crucial

Clear roles and responsibilities prevent confusion and overlap.

Tip: Use a RACI matrix to clarify who is Responsible, Accountable, Consulted, and Informed.

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Compatibility:

- Ensure that team members can collaborate and communicate effectively.

- Tip: Assess past collaborations for working dynamics.

Work Style:

- Some people work well independently, while others excel in group settings. Balance both work styles in your team.

Teamwork Ability:

- Choose individuals who work well in teams and can also manage their own responsibilities.
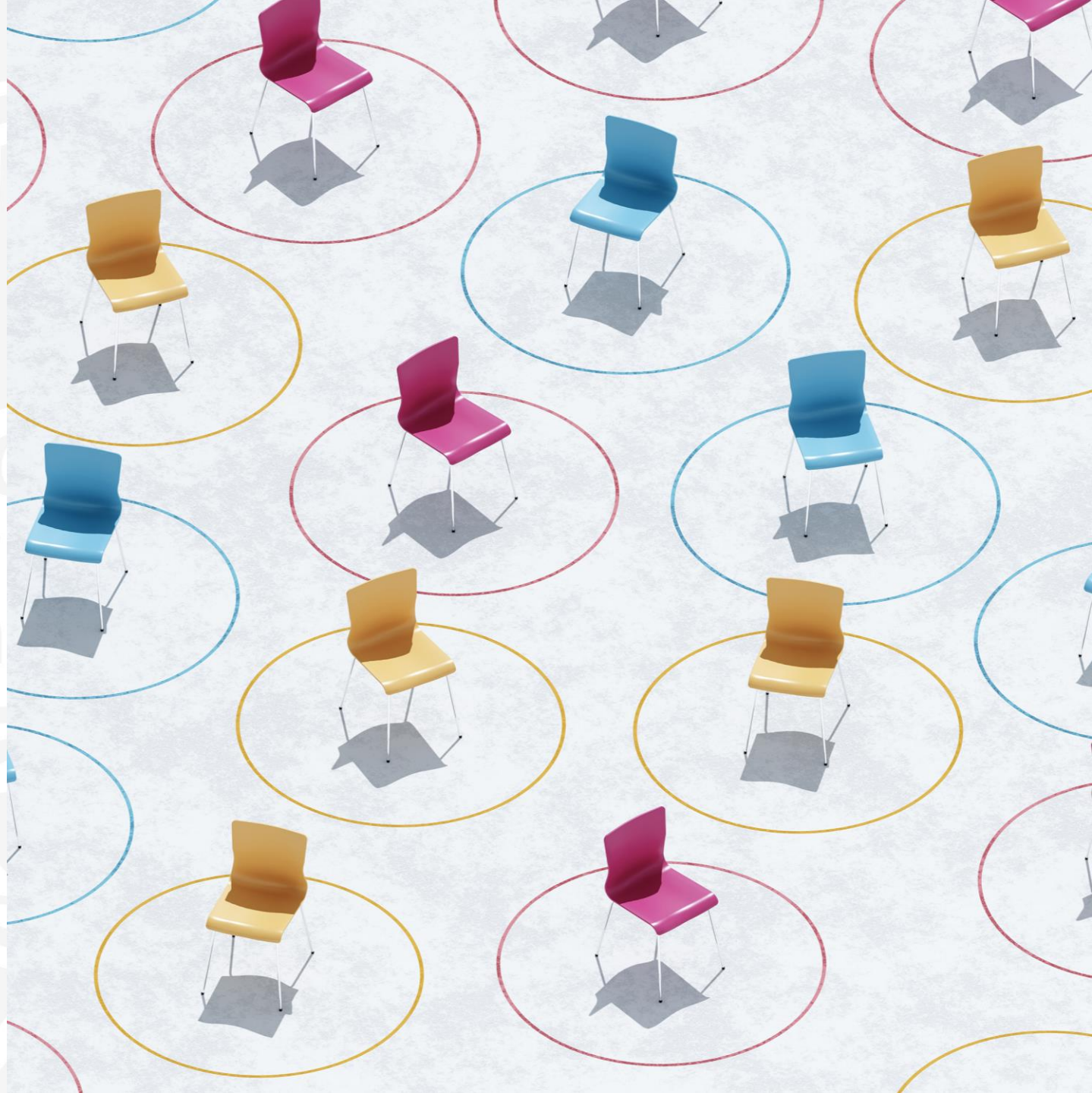
Expertise Level:

- Include a mix of experienced and less-experienced team members to ensure both knowledge and growth.

Availability:

Ensure that each team member has enough time to fully commit to the project. Set expectations early.

Diversity of Skills:

Build a team with a wide range of skills, from technical to organizational and interpersonal.

Attitude and Motivation:

A positive, motivated team drives the project forward. Passion for the project can be just as important as expertise.

Key Takeaways

Think Lean:

- More efficient
- More accurate
- Uncomplicated
- Smooth flow
- Remove speed bumps
- Avoid "too much"

Problem

- Get to the root of the problem
- Find underlying issues that contribute to the problem

Plan

- Find the best way to attack the problem
- Methodical, wing it, or somewhere in between

Dream Team

- Teamwork makes the dream work
- Find the best lineup for your plan

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