

Process Decision Program Chart

Let's move on from the decision-making tools to another project planning and management tools.

This tool really shines when you're working to implement a **complex project**.

Anytime you're working on a **complex project** there will always be **obstacles, challenges, and uncertainty** along the way that might **prevent you from achieving your goal**.

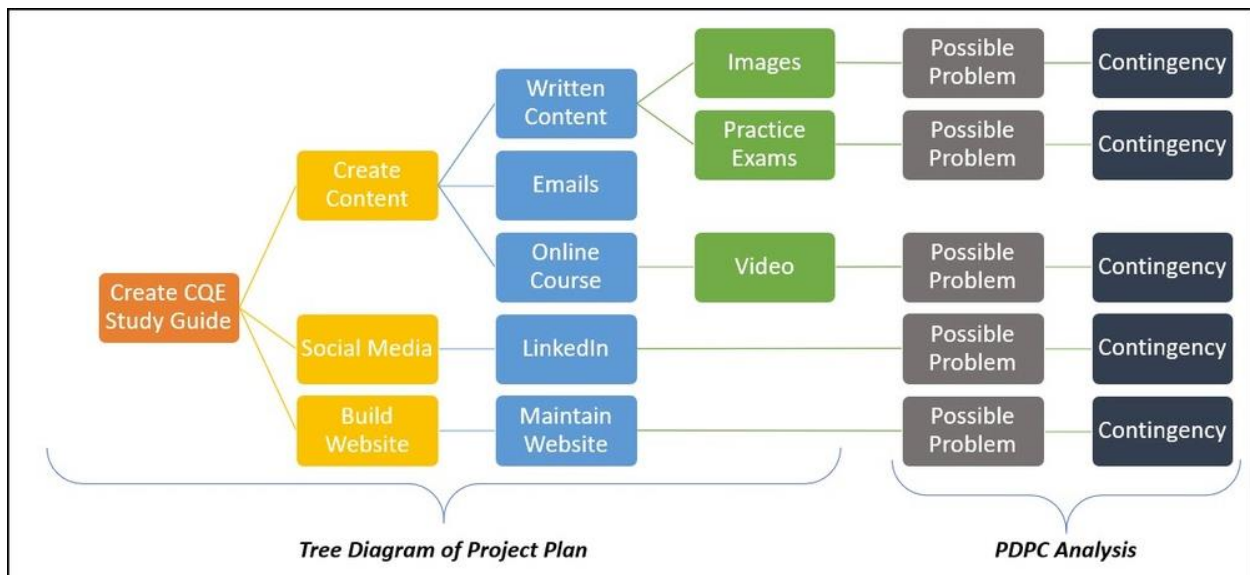
To maximize your chances for success, you must be able to anticipate obstacles and challenges, and have countermeasures and contingencies prepared.

The **PDPC** is a tool to facilitate the discovery of these obstacles, challenges and uncertainties, and allow you thoughtfully **consider all potential contingencies and countermeasures** to avoid issues.

The tool itself is an extension of the Tree Diagram, where we layer in the contingency planning for potential problems.

Below is an extension of the **tree diagram** I created above to outline the necessary steps to create a CQE Study guide.

The **PDPC** tools adds on the **brainstorming of potential problems**, along with the **identification of contingencies and counter-measures**.



The process of creating a Prioritization Matrix is below.

1. Form a team of subject matter experts
2. Start by creating a tree diagram of the high-level objective and specific tasks required to complete the goal
3. Brainstorm potential problems (ask what if) for each task throughout the project
4. Develop countermeasures or contingencies for the potential pitfalls
5. Evaluate the cost, and impact of the contingencies and countermeasures to determine viability

This tool is phenomenal during the planning phase of a complex project to identify potential future issues which will allow you to proactively mitigate those risks with countermeasures and contingencies.

Activity Network Diagram

The **Activity Network Diagram** is a **Project Planning** and **Management** tool that defines the sequential tasks requires to complete a project.

This hybrid, visual tool combines elements from the **Gantt Chart**, **PERT chart**, and **Critical Path Method (CPM)**

Similar to other project planning tools, the Activity Network Diagram also serves as a **communication tool** of the sequential or interrelated steps in a complex project.

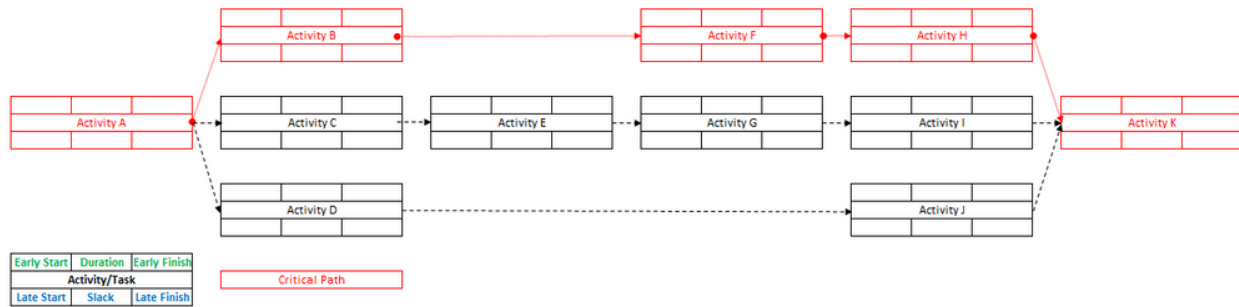
The **Activity Network Diagram** also facilitates the analysis of the best schedule for the entire project, and potential scheduling and resource problems.

Scheduling consideration for each activity take place and define the **earliest start, earliest finish, latest start and latest finish of each task**.

Performing a thorough **analysis of the time requirements** for each task also allow you to calculate the **critical path** of the project, which ultimately defines the **overall schedule** for the project.

The **process** of creating an **Activity Network Diagram** is below:

1. Form a team of subject matter experts who will be involved in the project
2. Brainstorm the necessary activities, tasks, steps or milestones required to complete project
3. Determine sequence and duration of each activity including predecessors
4. Brainstorm the earliest start/finish dates, and the latest start/finish dates
5. Identify the critical path of the project
6. Update and Manage project over time.



Above is an example of an **activity network diagram**, when you'd outline the various activities (tasks) to complete the project.

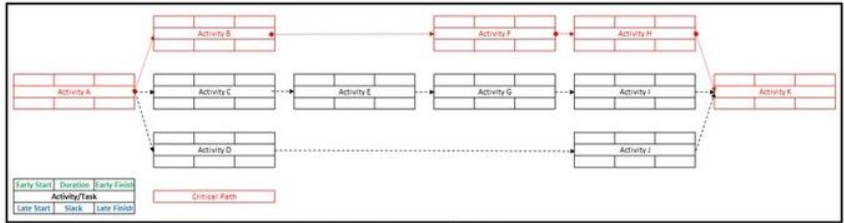
For each activity, consideration is made for the **earliest and latest start dates, and finish dates**, including the **duration** of each task.

Then the **critical path** is identified and highlighted. Further **resource analysis** can be conducted to **crash the critical path** and shorten the overall duration of the project.

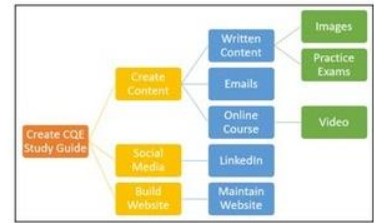
Conclusion

Alright, let's quickly recap the 7 Quality Management and Planning Tools:

- **Affinity Diagram** – facilitates **brainstorming and organization of facts** into themes of common characteristics
- **Interrelationship Digraphs** – aides in the identification of the **cause and effect relationships** for complex problems
- **Tree Diagram** – A visual tool to identify & **outline the necessary steps** to complete a complex project
- **Matrix Diagram** – A tool to **define the relationship between the factors** associated with a complex system
- **Prioritization Matrix** – A **decision-making tool** weighs various options against decision making criteria
- **Process Decision Program Chart** – A **project planning** too that facilitates the proactive **identification of potential problems** along with **contingencies and countermeasures**
- **Activity Network Diagram** – A **Project Planning and Management** tool that defines the **sequential tasks** requires to complete a complex project



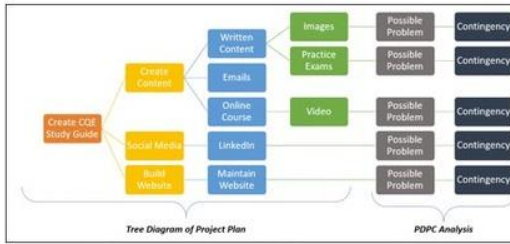
Activity Network Diagram



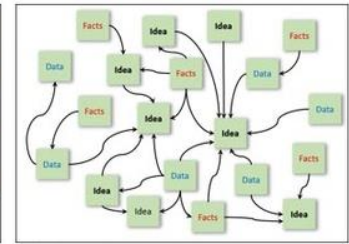
Tree Diagram

	Brainstorming and Idea Analysis	Relationship Analysis	Decision Making	Project Planning and Management
Affinity Diagram	•	•	□	□
Interrelationship Digraph	•	•	□	•
Tree Diagram	□	•	□	•
Matrix Diagram	□	•	•	•
Prioritization Matrix	□	□	•	•
Process Decision Program Chart	•	□	□	•
Activity Network Diagram	•	□	□	•

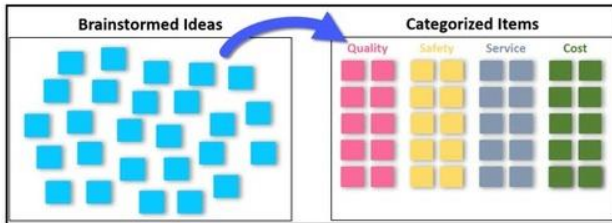
Matrix Diagram



Process Decision Program Chart



Interrelationship Digraph



Affinity Diagram

Prioritization Factor (Weight)	Criteria						Total
	Quality		Cost		Functionality		
	Rank	Total	Rank	Total	Rank	Total	
	130%		100%		115%		
Design Option A	3	3.9	2	2	4	4.6	10.5
Design Option B	1	1.3	4	4	2	2.3	7.6
Design Option C	2	2.6	1	1	3	3.45	7.05
Design Option D	4	5.2	3	3	1	1.15	9.35

Prioritization Matrix