Process Decision Program Chart (PDPC)

Problem
How to anticipate and mitigate potential problems?
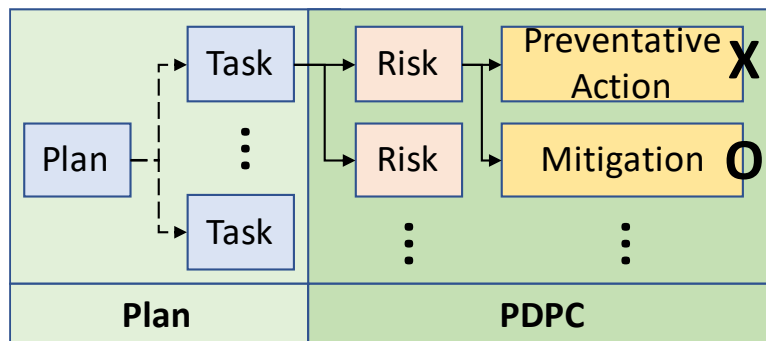
Difficulty
Easy to use

- A **Process Decision Program Chart (PDPC)** is a risk identification and mitigation tool.
- PDPC starts with a tree diagram representation of a program plan and systematically identifies risks by asking what-if questions.
- Using PDPC, you can revise the plan or prepared mitigations.
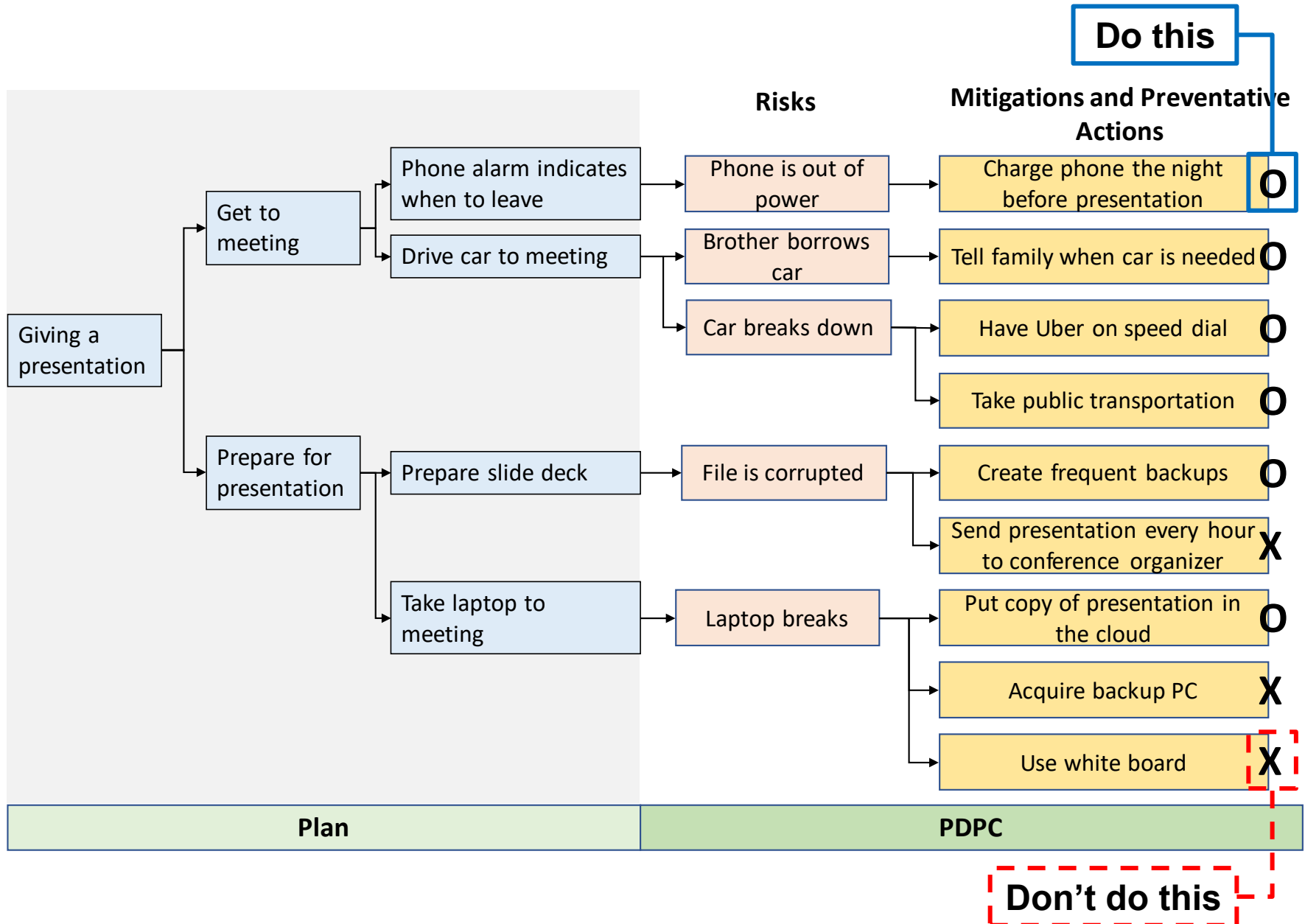
Preliminary plan → **PDPC Analysis** → Plan with mitigations

1. Create a tree diagram for a program plan.
   - Do not make it overly complex.
   - Perhaps, 3 layers to the task level.
2. For each task, identify what can go wrong using brainstorming. Address, perhaps:
   - How could this task fail?
   - Are the assumptions reasonable?
   - Is there margin for error?
3. Add each identified risk to the tree.
4. For each identified risk, brainstorm mitigations and preventative actions.
5. Add each of them to the tree.
6. Evaluate each of them:
   - How easily can it be implemented?
   - How effective is it?
   Label each with an "O" if it is practical, or with an "X" if it is not.

Plan		PDPC	
Plan	Task	Risk	Preventative Action **X**
	⋮	Risk	Mitigation **O**
	Task	⋮	⋮

PDPC – Example – Giving a 6in6 presentation

Do this

Risks

Mitigations and Preventative Actions

Giving a presentation

- Get to meeting
  - Phone alarm indicates when to leave → Phone is out of power → Charge phone the night before presentation **O**
  - Drive car to meeting → Brother borrows car → Tell family when car is needed **O**
    - Car breaks down → Have Uber on speed dial **O**
    - → Take public transportation **O**

- Prepare for presentation
  - Prepare slide deck → File is corrupted → Create frequent backups **O**
    - → Send presentation every hour to conference organizer **X**
  - Take laptop to meeting → Laptop breaks → Put copy of presentation in the cloud **O**
    - → Acquire backup PC **X**
    - → Use white board **X**

Plan	PDPC

Don't do this

PDPC – Notes

Slide 1

1. PDPC is similar to FMEA. Usually, FMEA is applied to a process while PDPC is applied to a project.
2. PDPC is a much simpler tool to use than FMEA, since FMEA is quantitative.
3. Possible questions for use with PDPC to identify risks:
   - Could the assumptions be incorrect regarding: Inputs? Outputs? Performance by others?
   - How likely is it that new information will change the plan?
   - What parts of the plan can, or cannot, be changed?
   - Is there a reasonable margin for error?
   - What lessons have been learned from similar projects?

Slide 2

1. It is easy to brainstorm many possible failure modes, only some are shown for the given example.
2. After determining which mitigations are practical, a useful subset should be implemented.