The Theory of Constraints (TOC) Thinking Processes

Steps By Step Building Trees

Demi B. Yilmaz
Twitter: @demiculus
demiculus.com

Beware

- **It is very hard to build these trees**
- **Don’t be afraid to ASK FOR HELP from your colleagues or professionals**
- **Each tree may take 1-10 hours**

It is hard but worth it

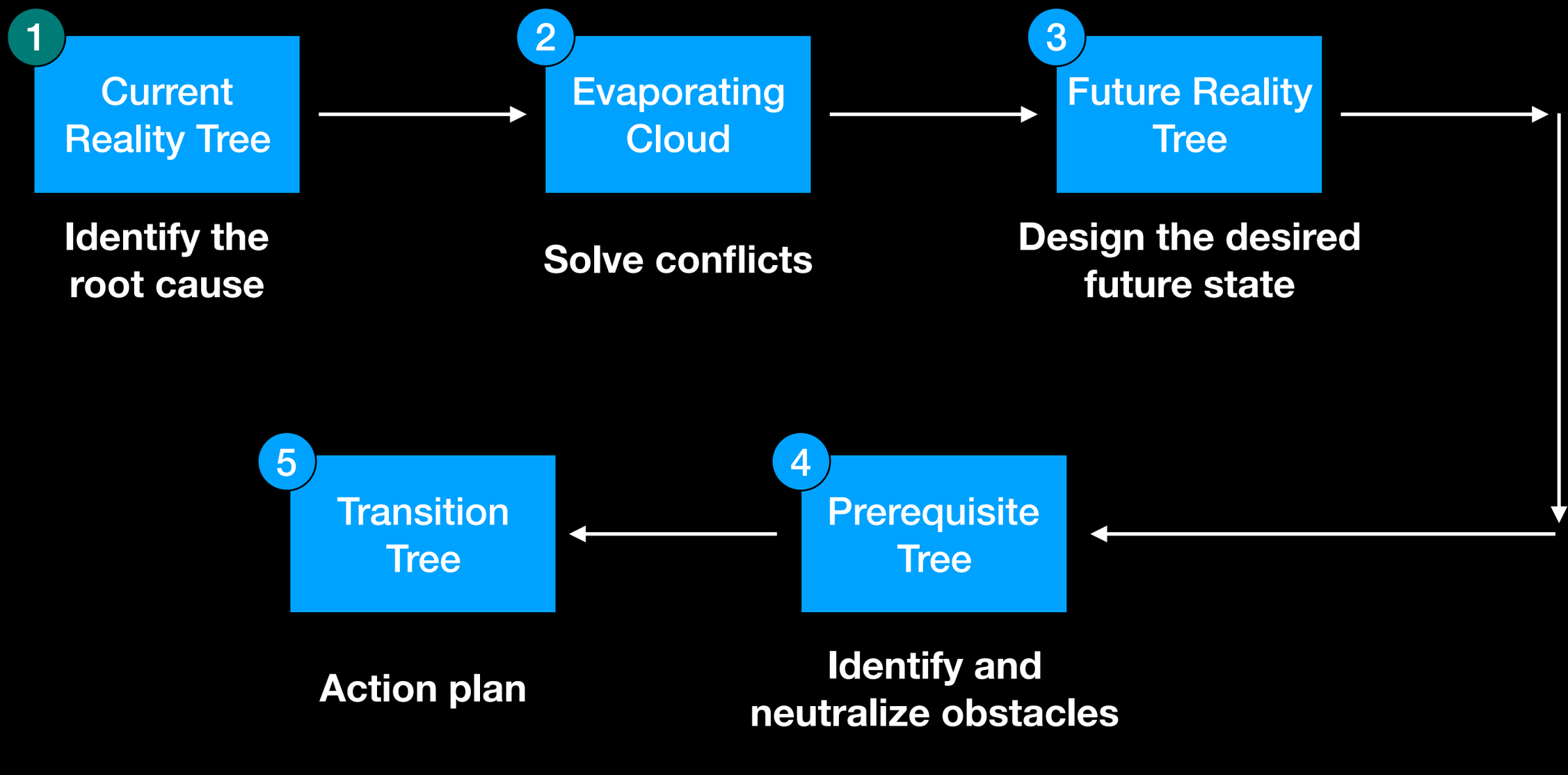
Questions To Ask While Constructing Trees

Level I:	**Clarity reservation**	**Are the statements clear?**
Level II:	**Entity existence**	**Do the entities exist?**
	Causality existence reservations	**Is the cause and effect relationship plausible?**
Level III:	**Cause insufficiency**	**Are the causes sufficient to cause the effect?**
	Additional cause	**Is there some other cause adding to the effect?**
	Predicted effect	**If the cause is true, then what else would you expect to see?**
	Cause-effect reversal	**Are the cause and effect the right way around?**
	Tautology reservations	**Are the cause and effect just stating the same thing?**

Lastly check the ‘big picture’

Step 1- Current Reality Tree

This is built to figure out what the root cause is. If you think you already know the root problem skip to Step 2



Step 1- Current Reality Tree

1. Create a list of UDEs (undesirable effects)

- Try to have around 10 UDEs
- Make sure they have clear wording and meaning

1. We don’t have sufficient stable income

2. We don’t have much recognition in TR

3. We’re not working on any project

4. We don’t have cash-flow to hire more people

5. We’re not marketing

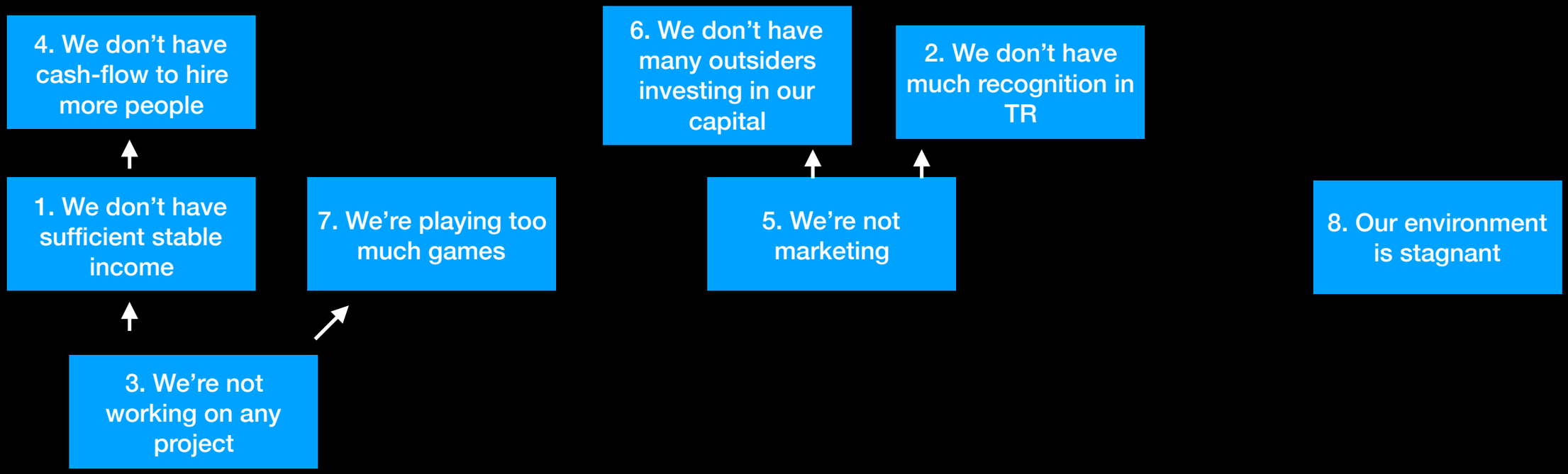
6. We don’t have many outsiders investing in our capital

7. We’re playing too much games

8. Our environment is stagnant

Step 1- Current Reality Tree

2. Arrange UDE's according to cause and effect

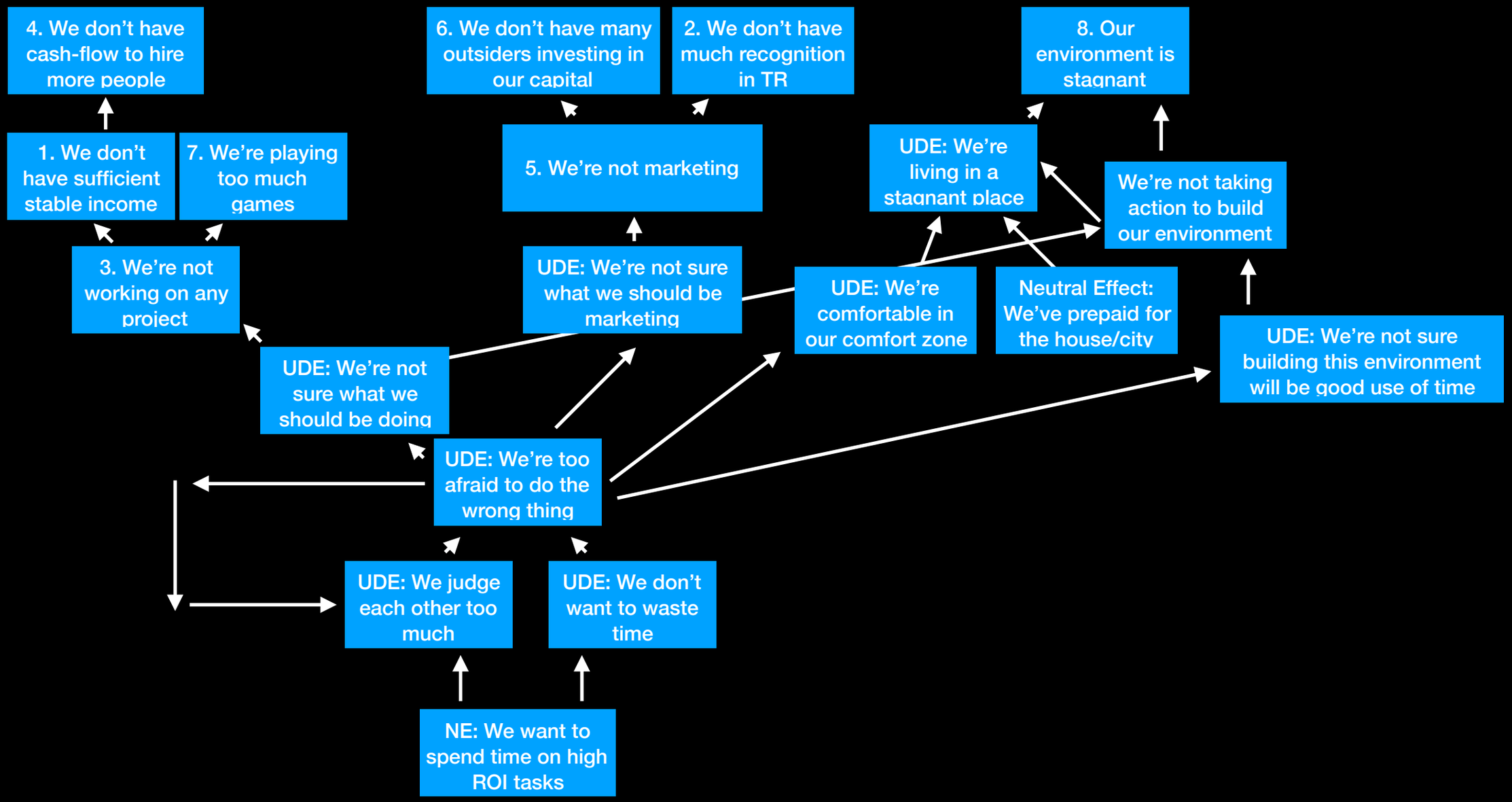


We can read the relationship as:

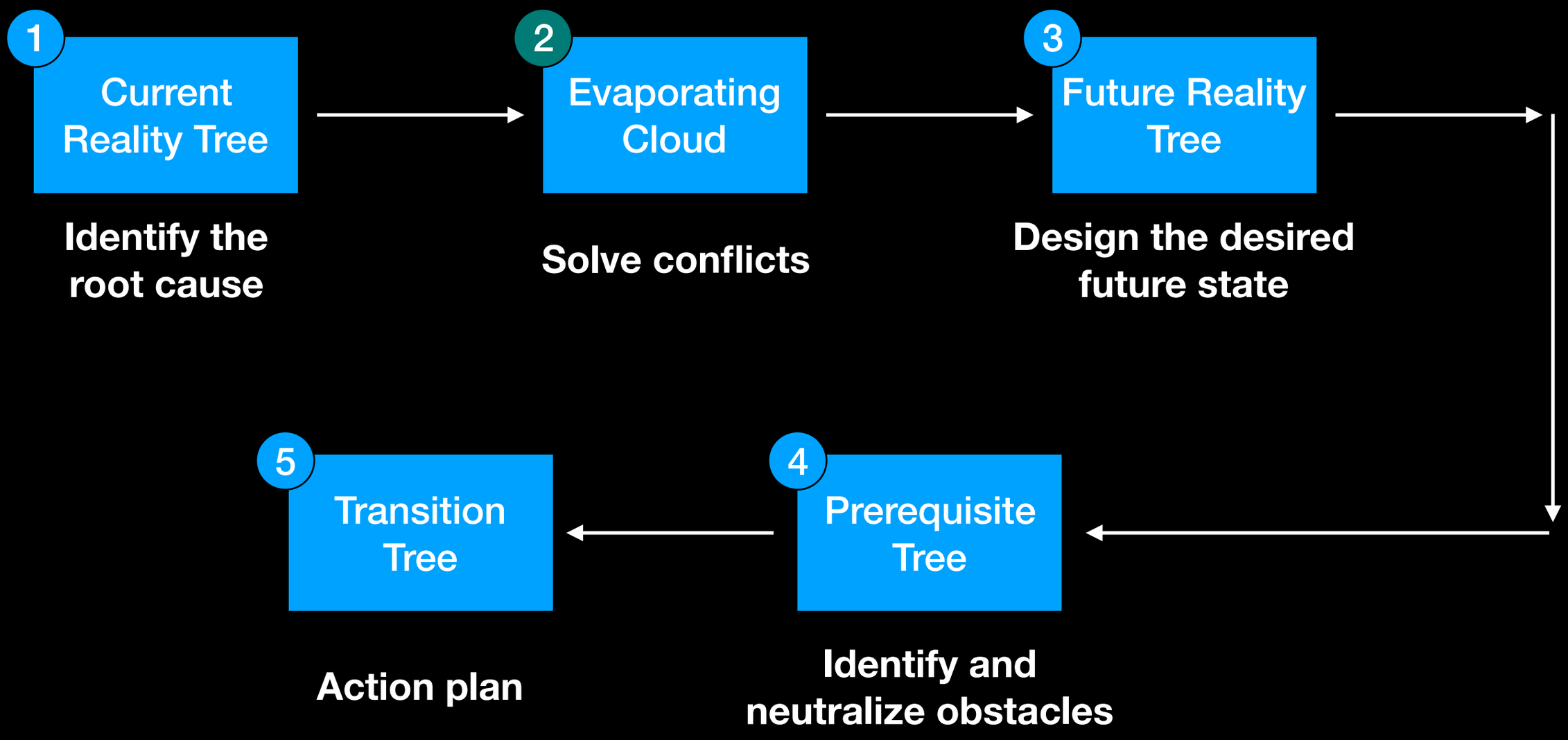
- if UDE-3 then UDE-1 & UDE-7.
- If UDE-1 then UDE-4.
- Example: If we don't have sufficient stable income then we don't have cash-flow to hire more people.

Step 1- Current Reality Tree

3. Build down from these systems to deeper underlying causes using the questions in slide #2



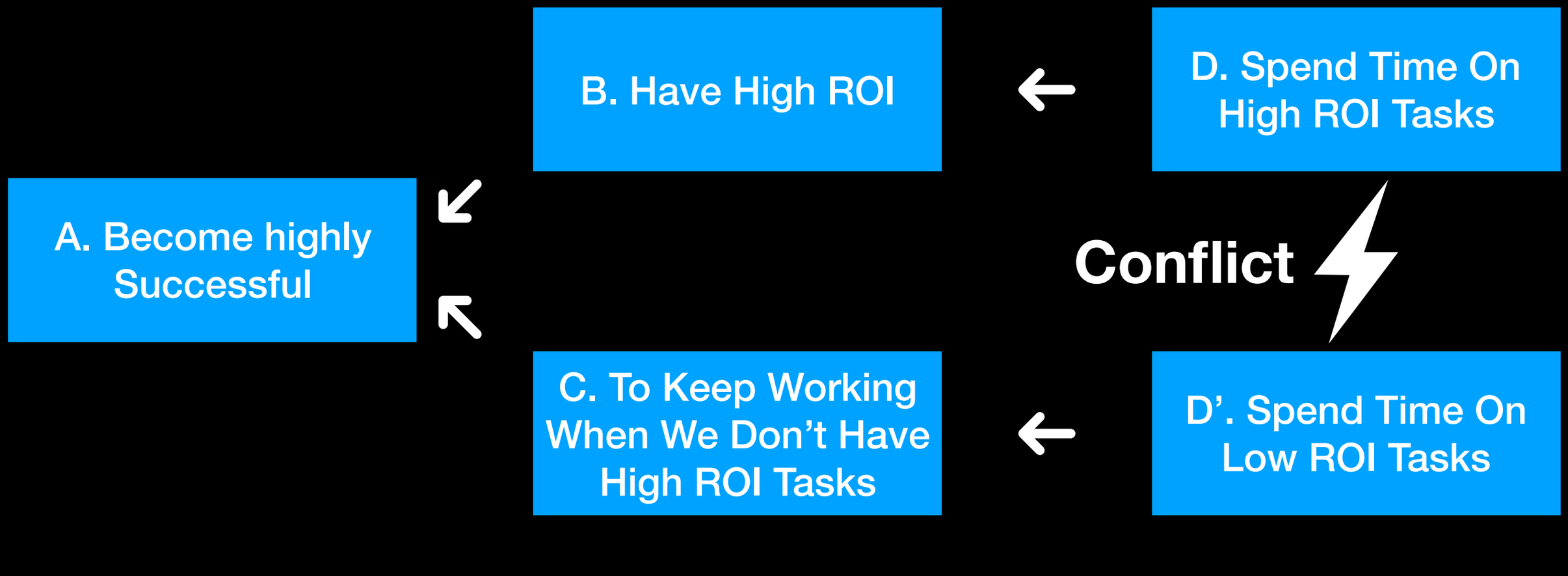
Step 2- Evaporating Cloud



Step 2- Evaporating Cloud

1. **Construct the Evaporating Cloud according to the core problem you've discovered.**

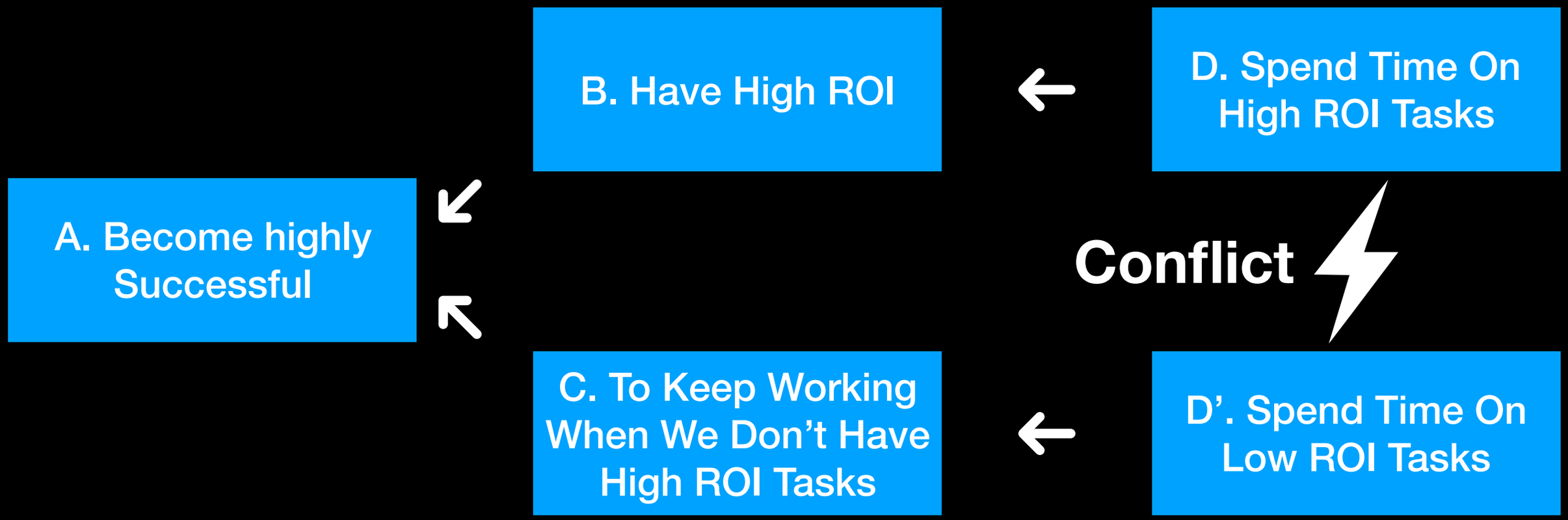
- **What is that thing I'm having trouble getting? (D)**
- **What is that thing I don't want others to have? (D')**
- **Why do I want what I want? (B)**
- **Why do the others want what they want? (C)**
- **What goal do we share mutually? (A)**



Step 2- Evaporating Cloud

2. Check the cloud and see if it makes sense

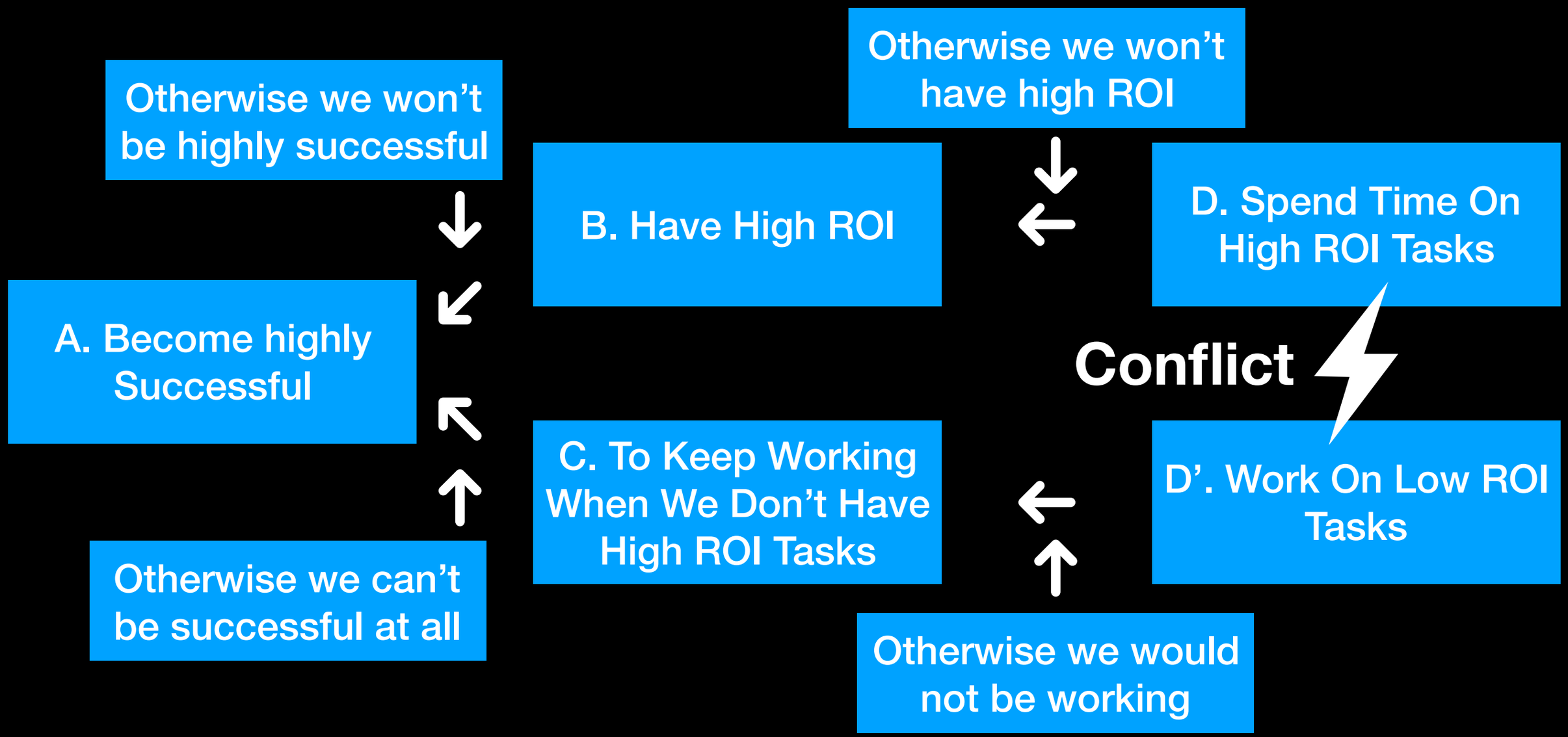
- In order to have objective A, it is necessary to have requirement B...
- In order to have requirement B, it is necessary to have prerequisite D...
- In order to have objective A, it is necessary to have requirement C...
- In order to have requirement C, it is necessary to have prerequisite D'...
- But prerequisites D and D' are in conflict...



Step 2- Evaporating Cloud

3. Create the assumptions

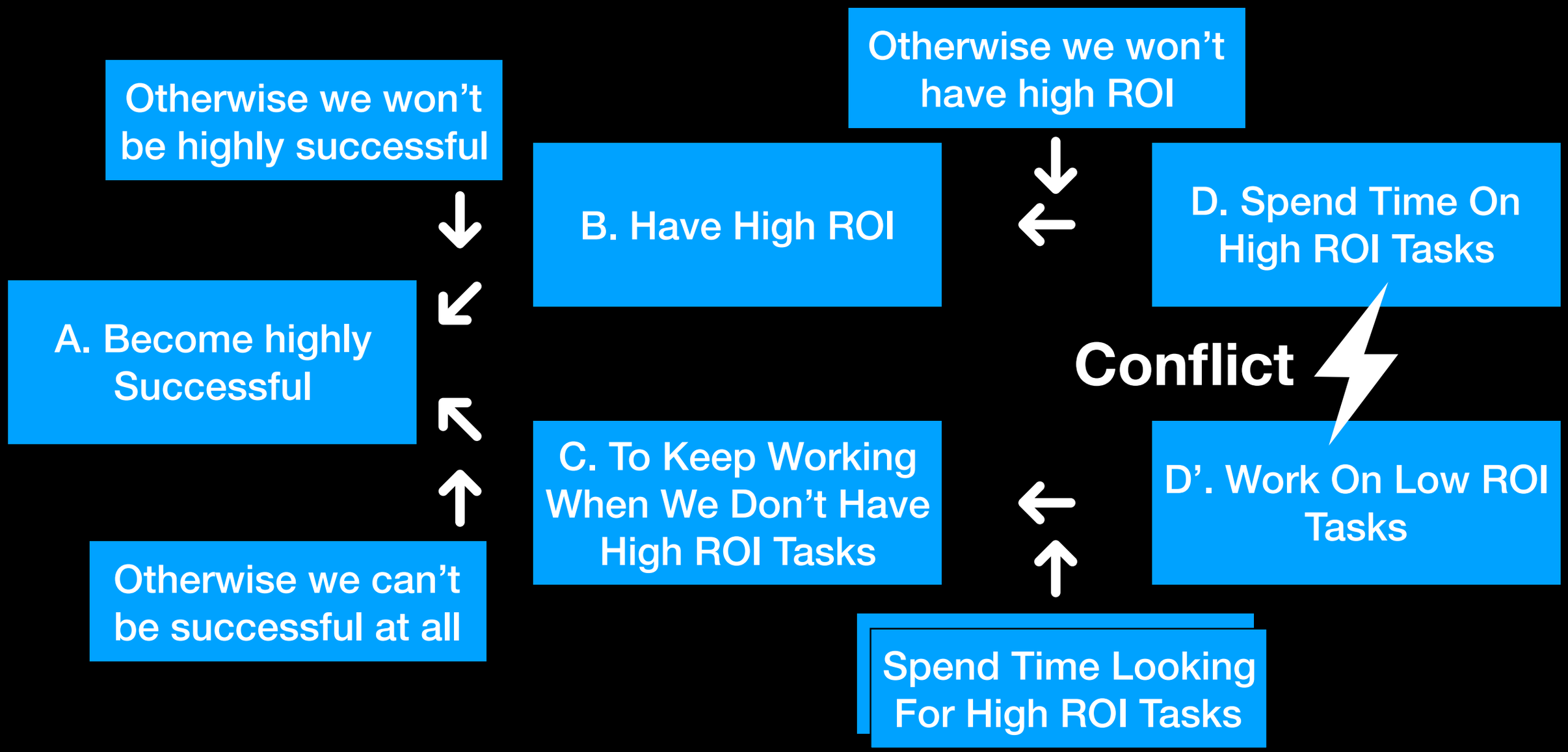
- Assumptions are revealed with the because statement.
- In order for us to … we need to … because ….
- Ex: In order for us to have high ROI we need to spend time on high ROI tasks because otherwise we can't have high ROI



Step 2- Evaporating Cloud

3. Find the weak assumption and remove it

- Determine which of the assumptions you feel really confident with.
- Remove the assumption with a but statement
- In order for us to … we need to … because … but we could also …



Step 2- Evaporating Cloud

4. Check if your cloud makes sense

- If not go back 1 slide and try again

B. Have High ROI

D. Spend Time On High ROI Tasks

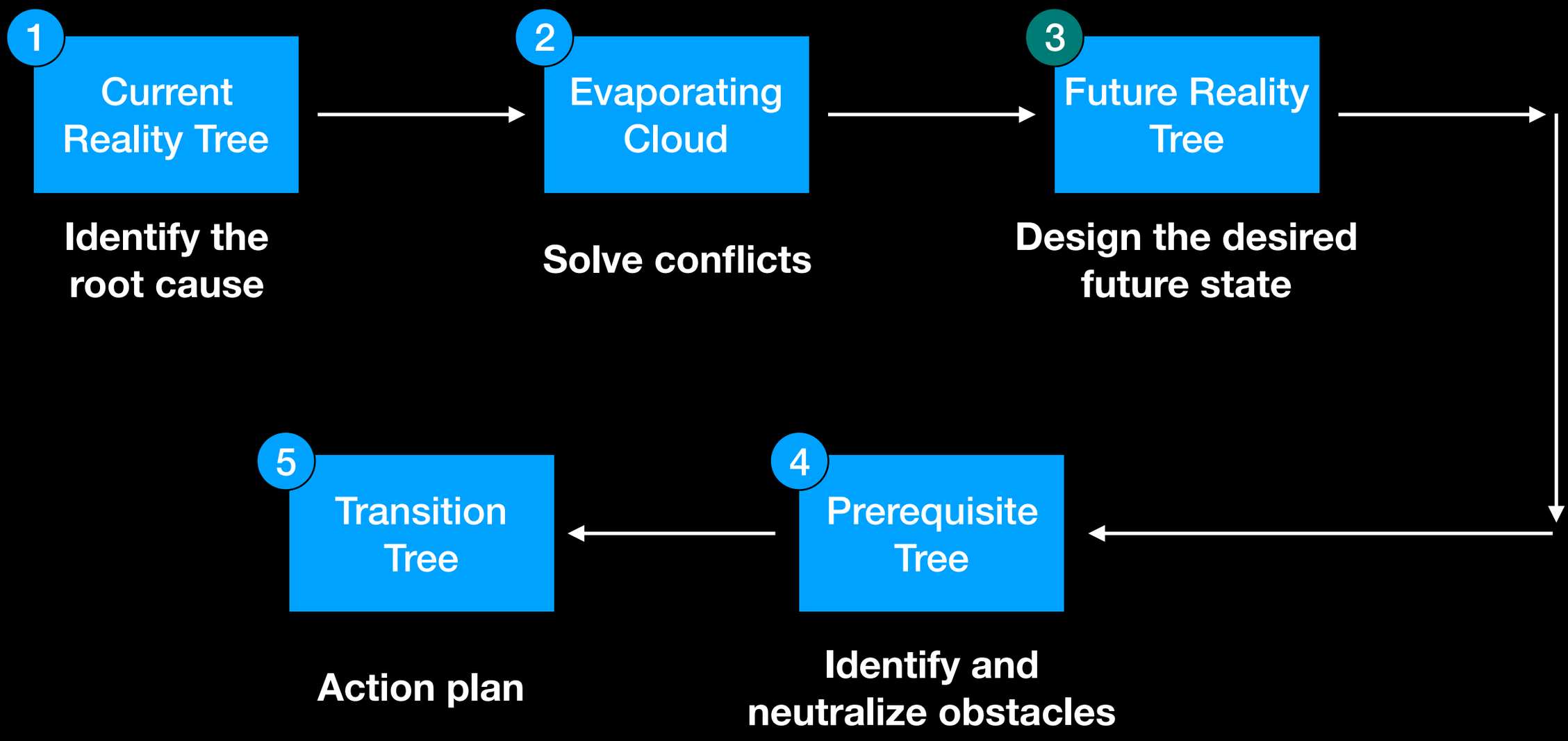
A. Become highly Successful

Conflict Resolved

C. To Keep Working When We Don’t Have High ROI Tasks

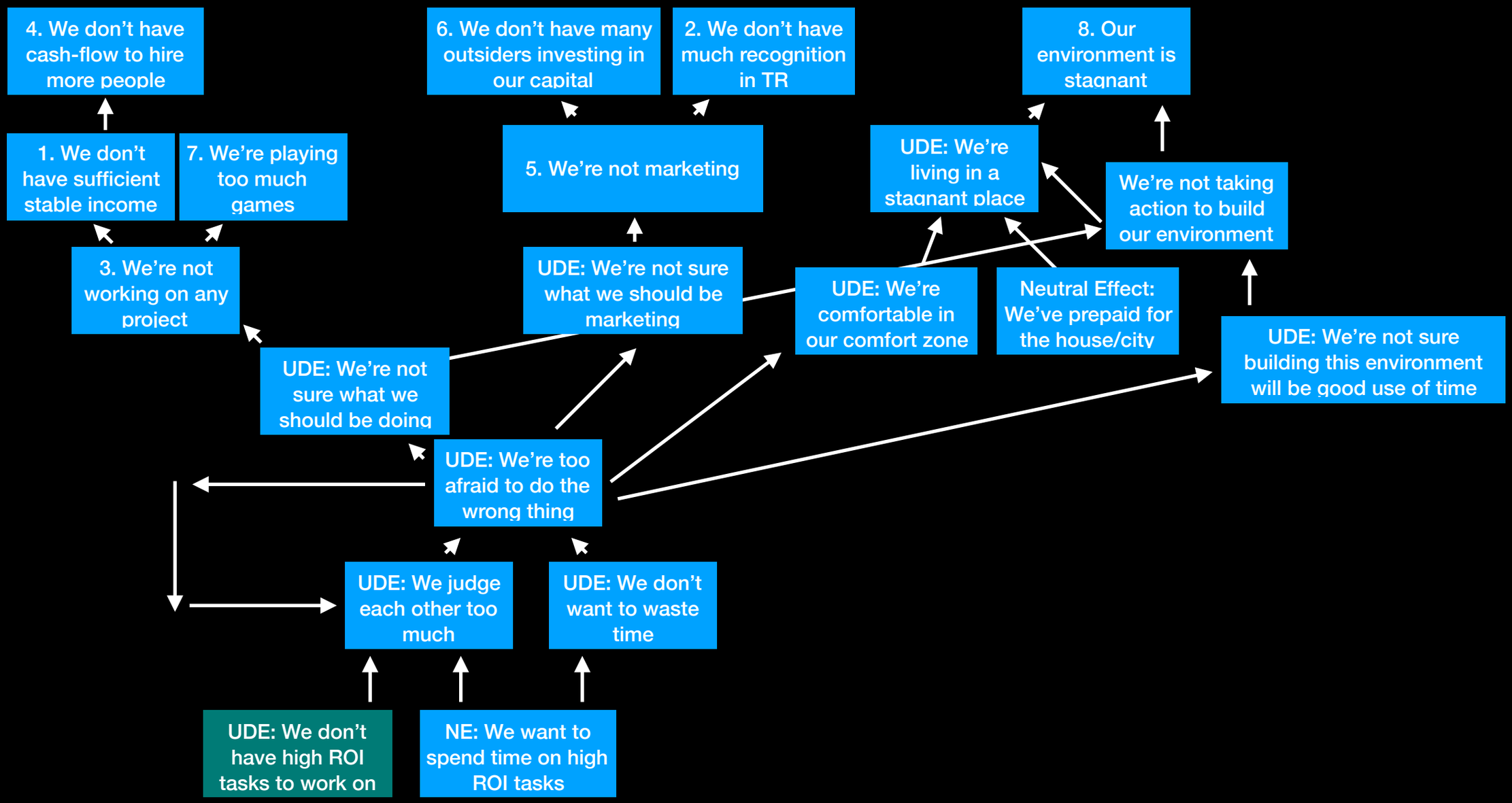
Spend Time Looking For High ROI Tasks

Step 3- Future Reality Tree



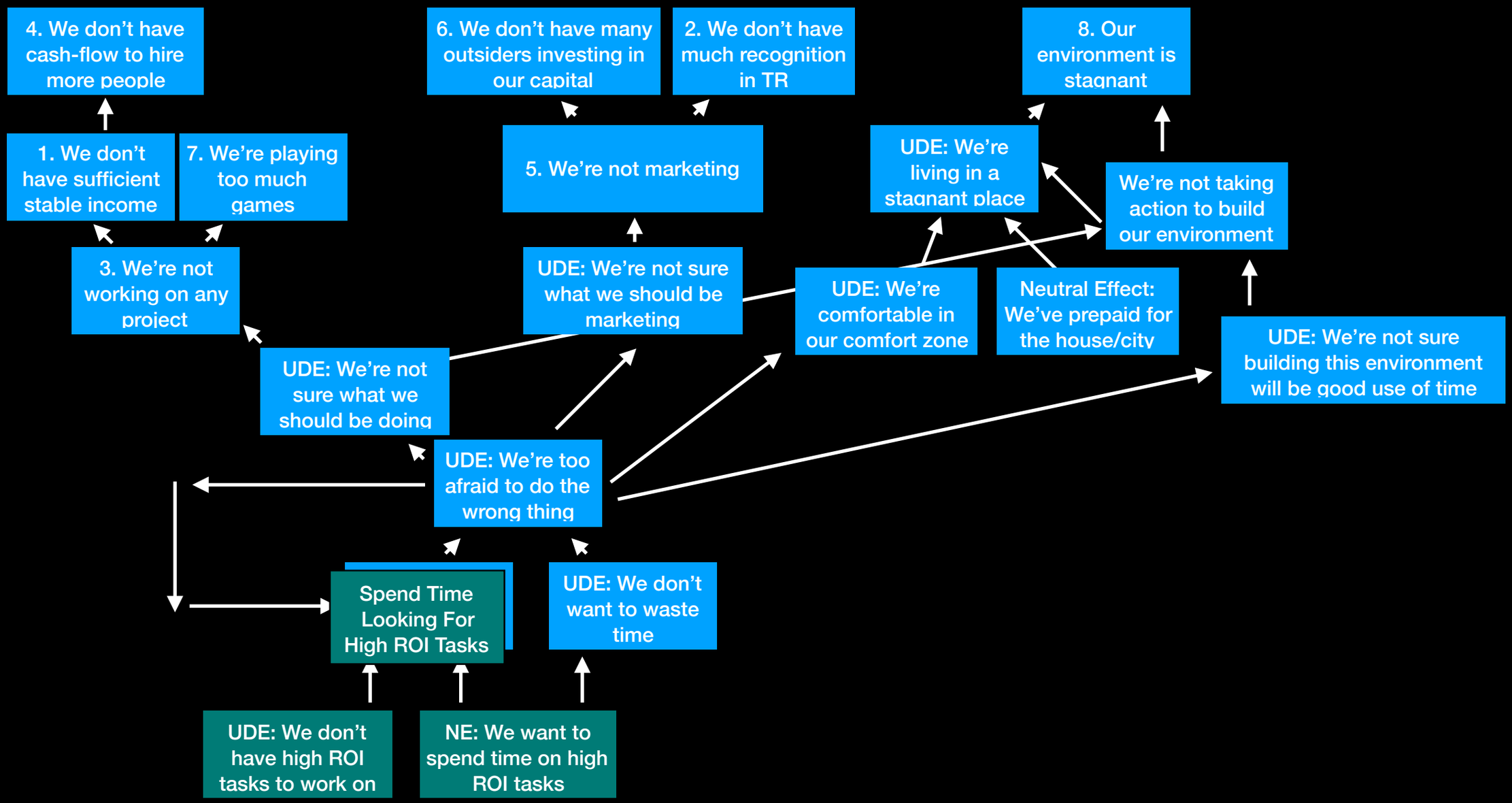
Step 3- Future Reality Tree

1. Start From CRT



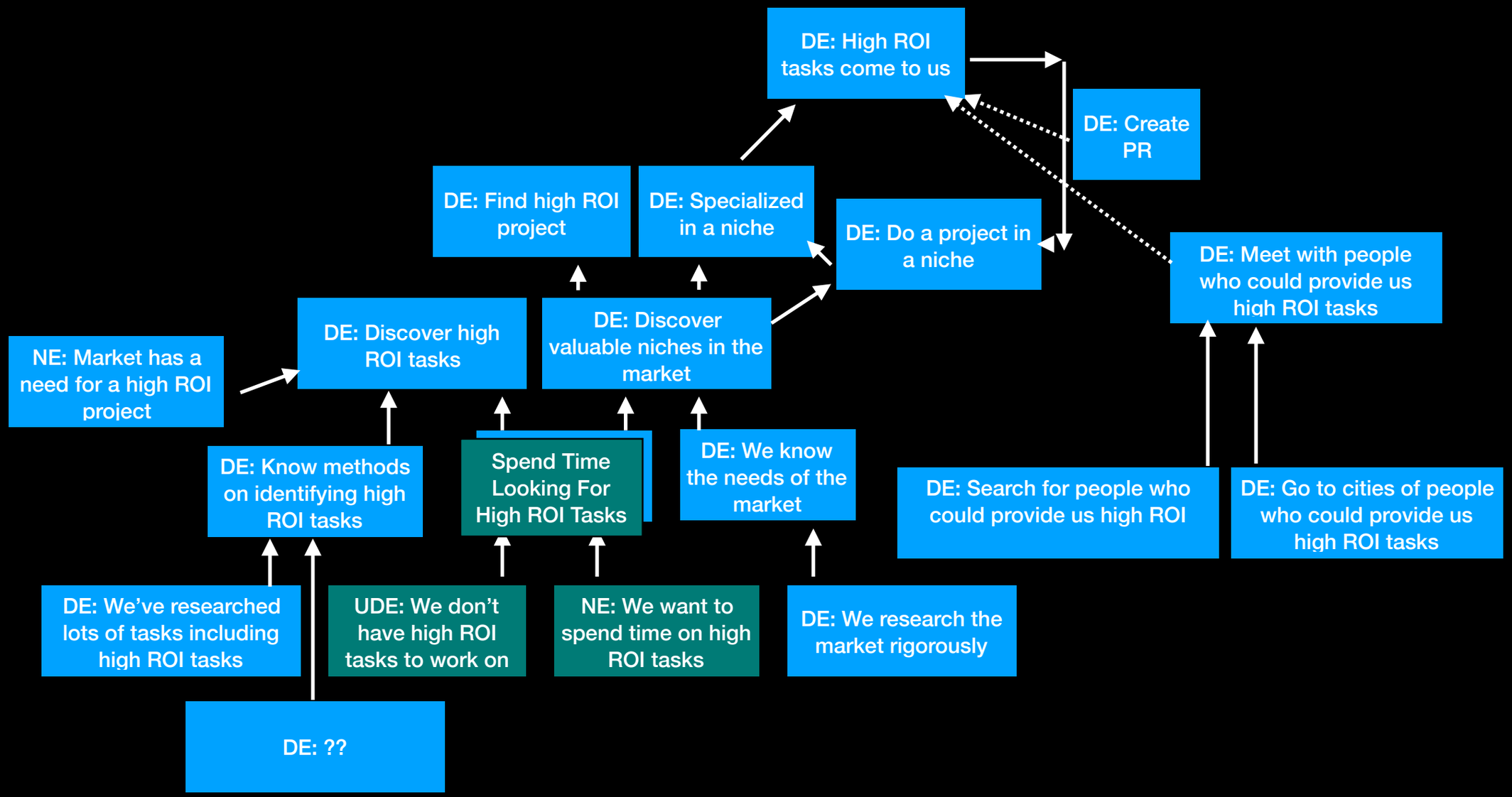
Step 3- Future Reality Tree

2. Inject From Cloud



Step 3- Future Reality Tree

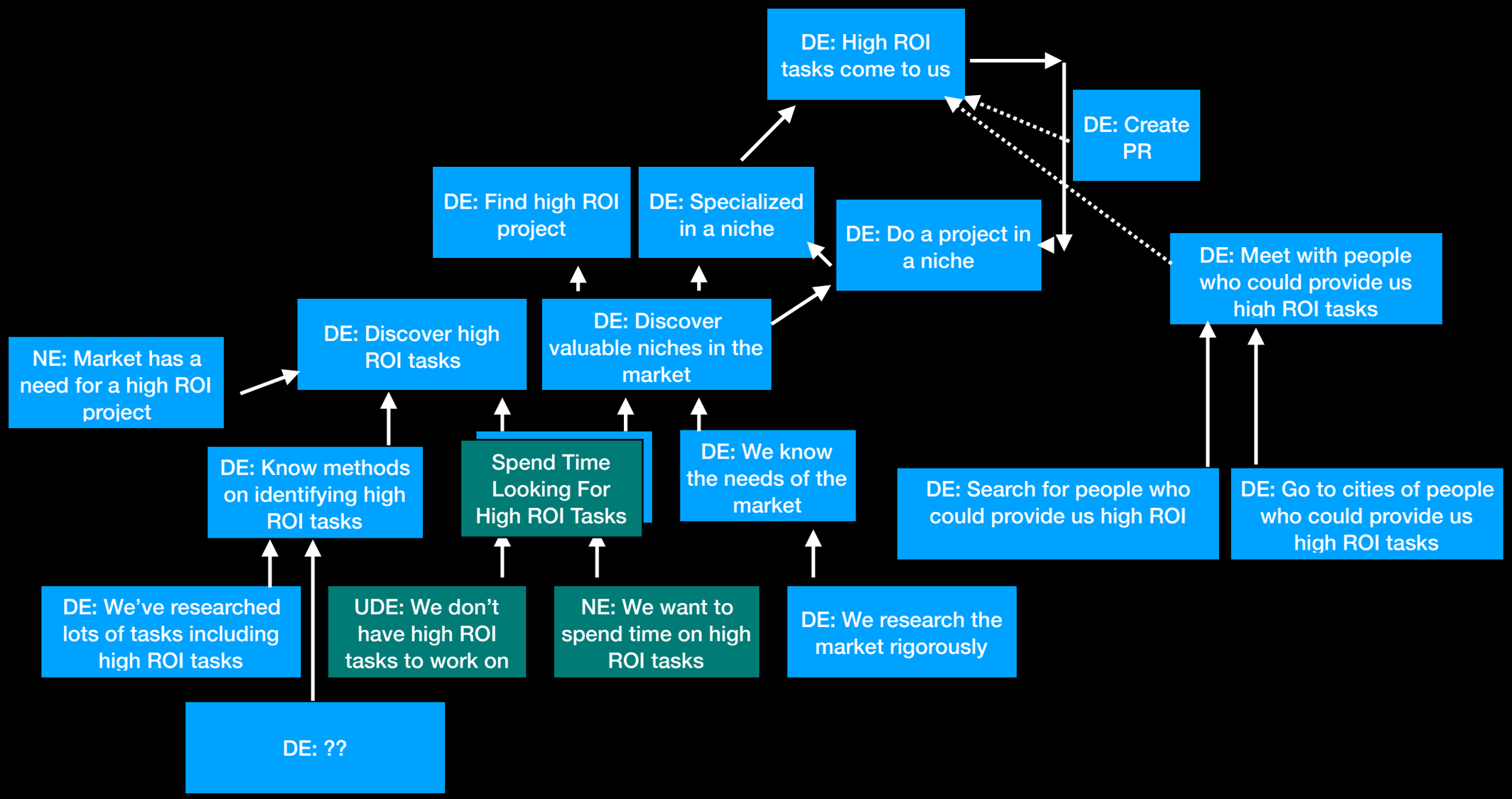
3. Build the FRT with the questions from slide #2



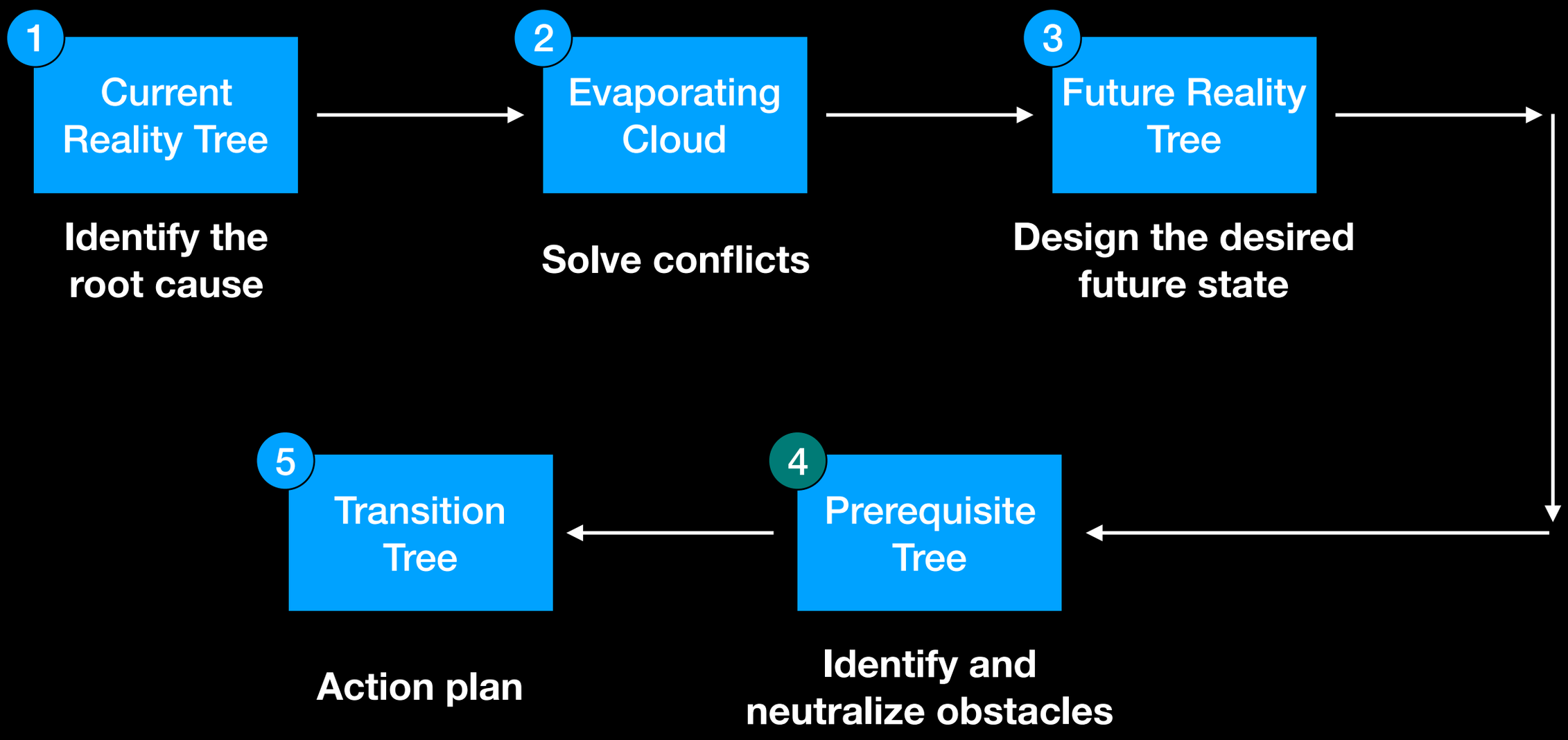
Step 3- Future Reality Tree

4. Trim negative branches with Negative Branch Reservation tool

- https://www.intelligentmanagement.ws/learningcentre/negative-branch-reservation-thinking-process-tool/

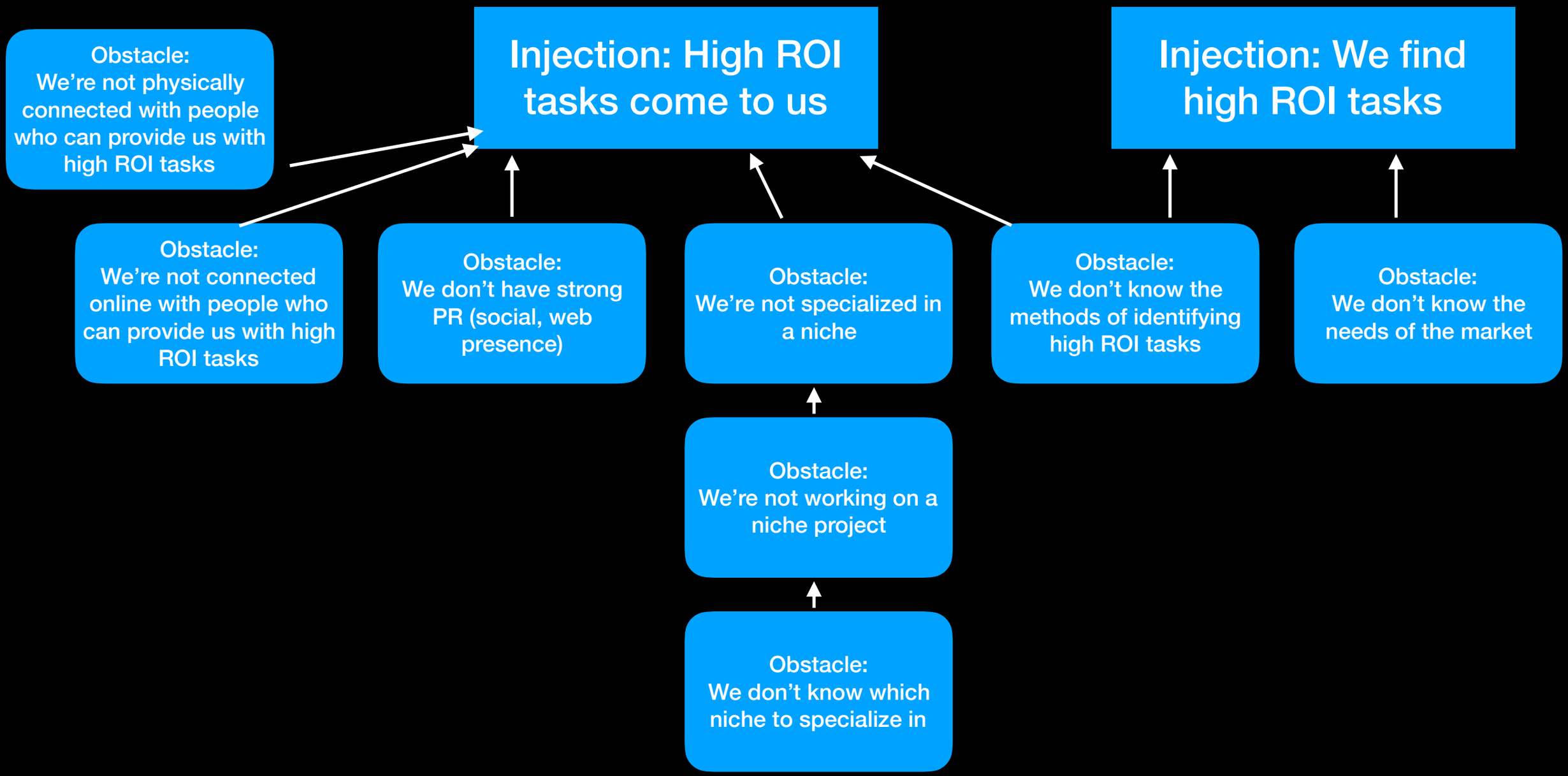


Step 4- Prerequisite Tree



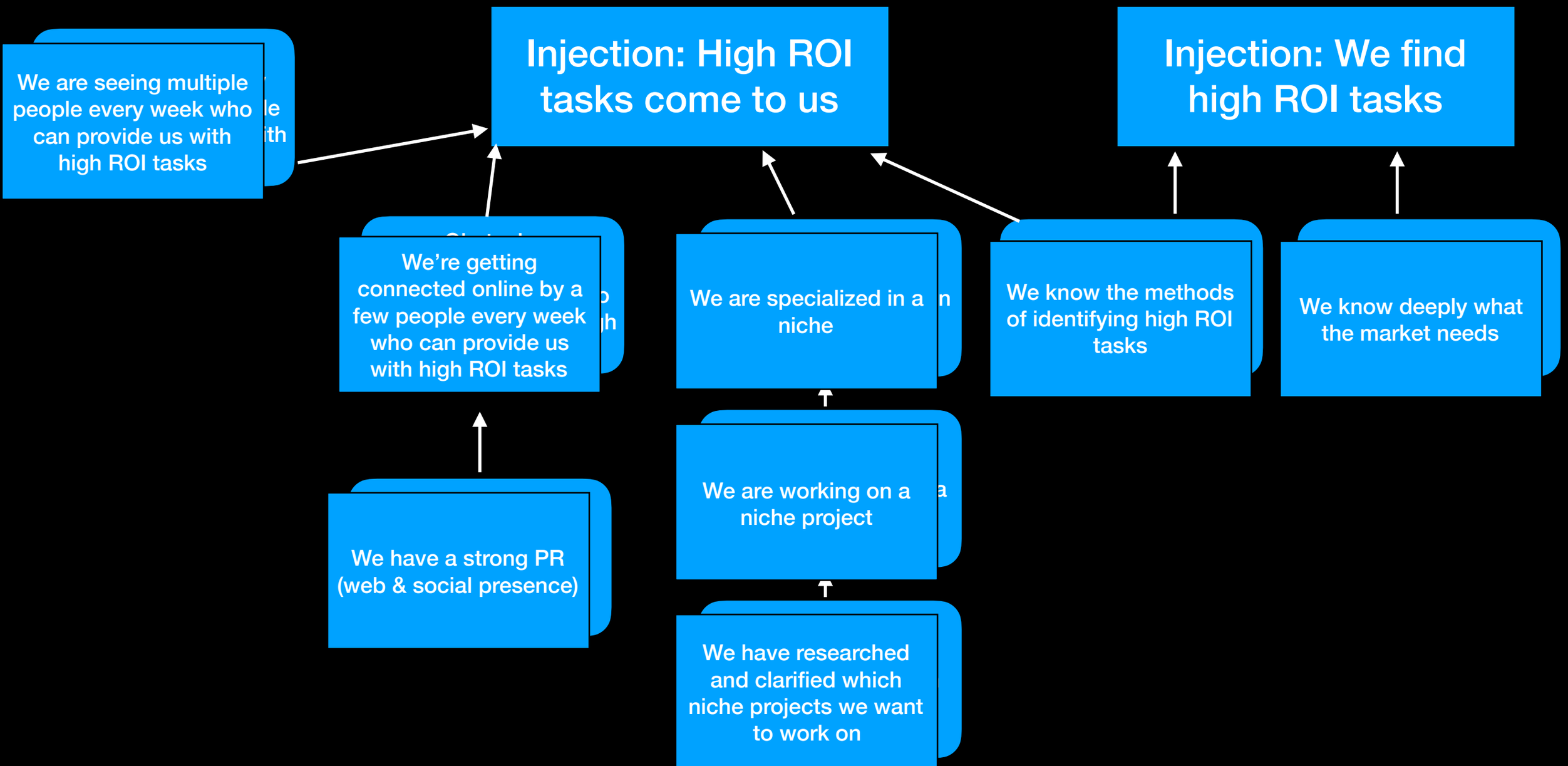
Step 4- Prerequisite Tree

1. Write down all the obstacles preventing us from implementing the injection.



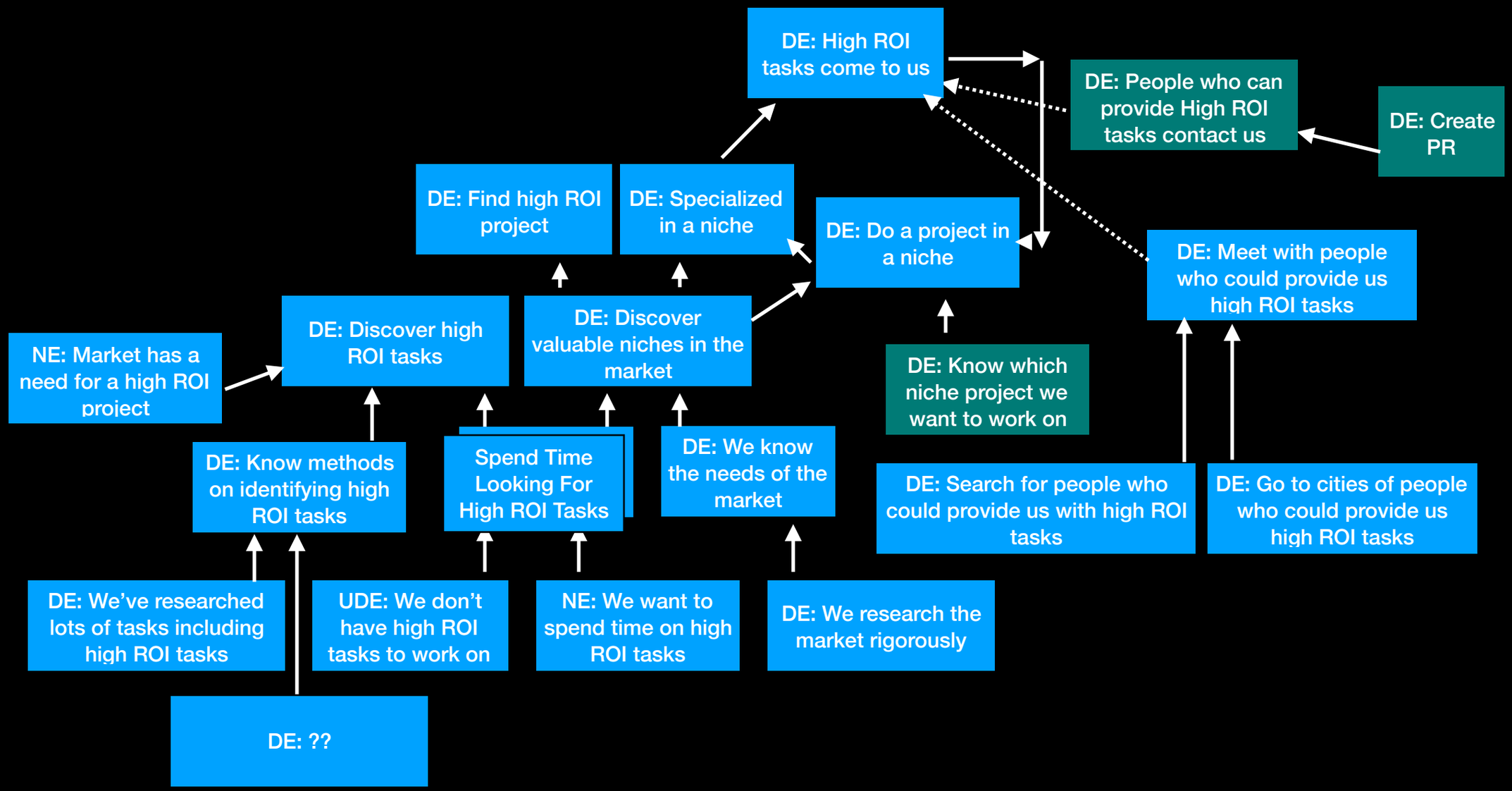
Step 4- Prerequisite Tree

2. For each obstacle find an intermediate objective(IO). This is something that, if achieved, would overcome the obstacle

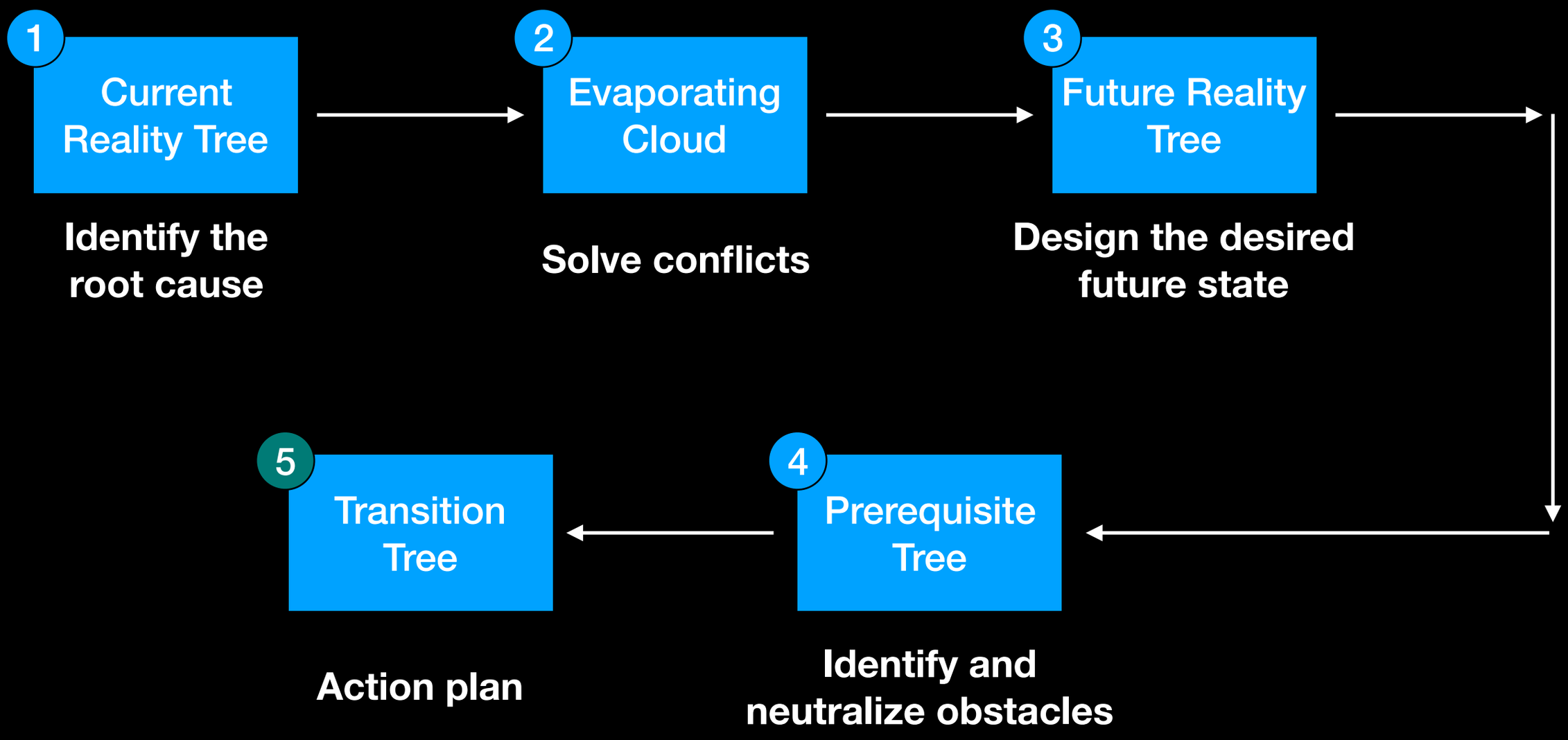


Step 4- Prerequisite Tree

3. Add missing parts to the Future Reality Tree



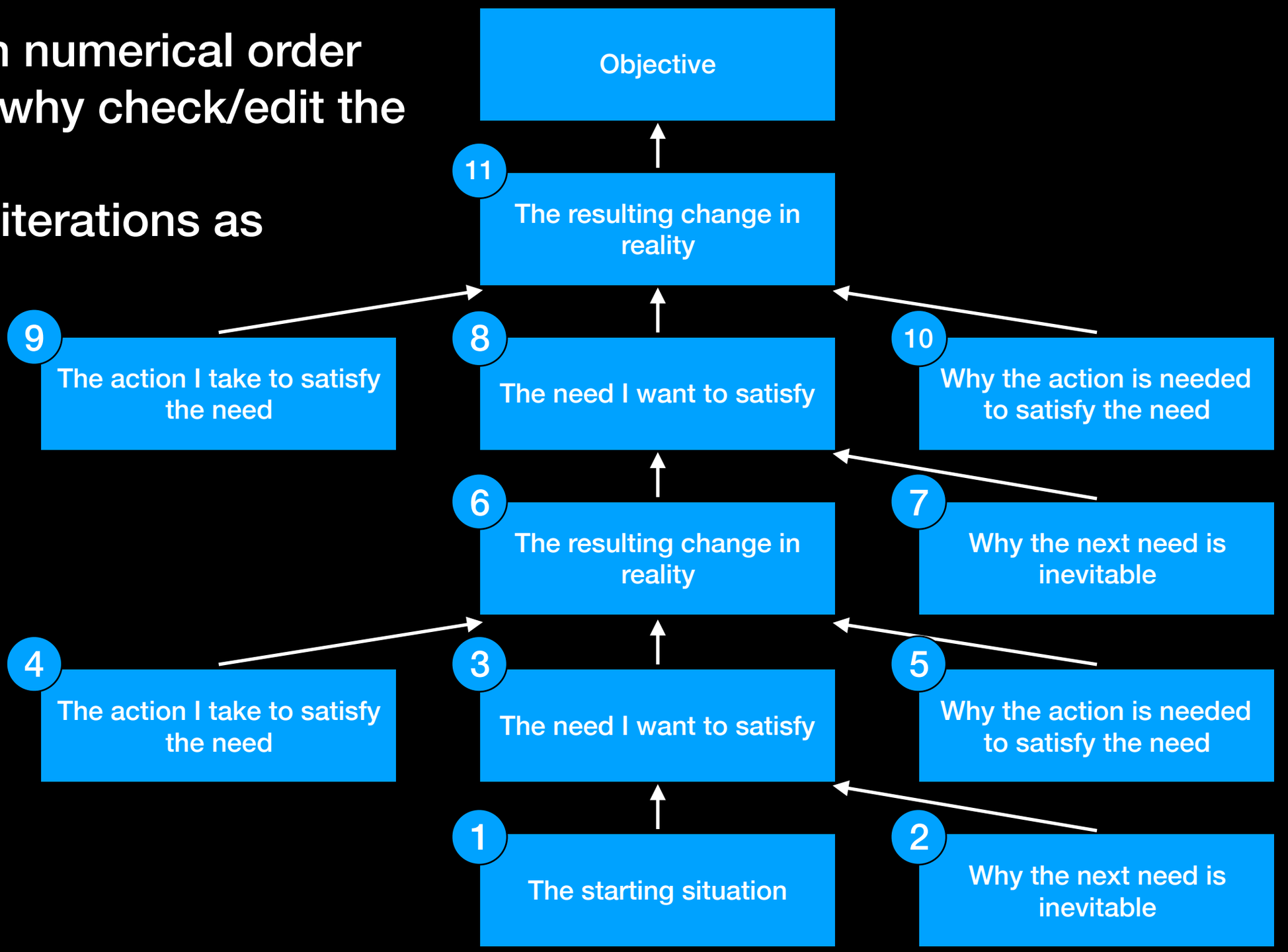
Step 5- Transition Tree



Step 5- Transition Tree

1. Construct the tree

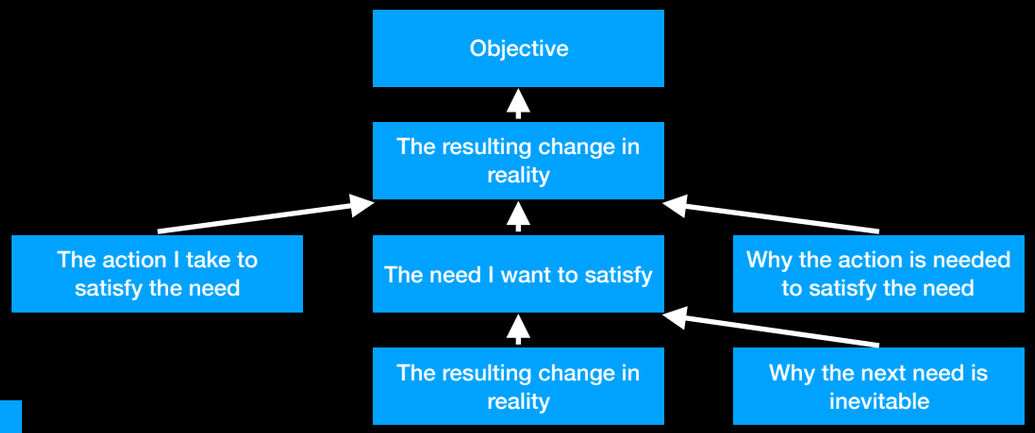
- Fill the boxes in numerical order
- After filling the why check/edit the action
- Make as much iterations as possible



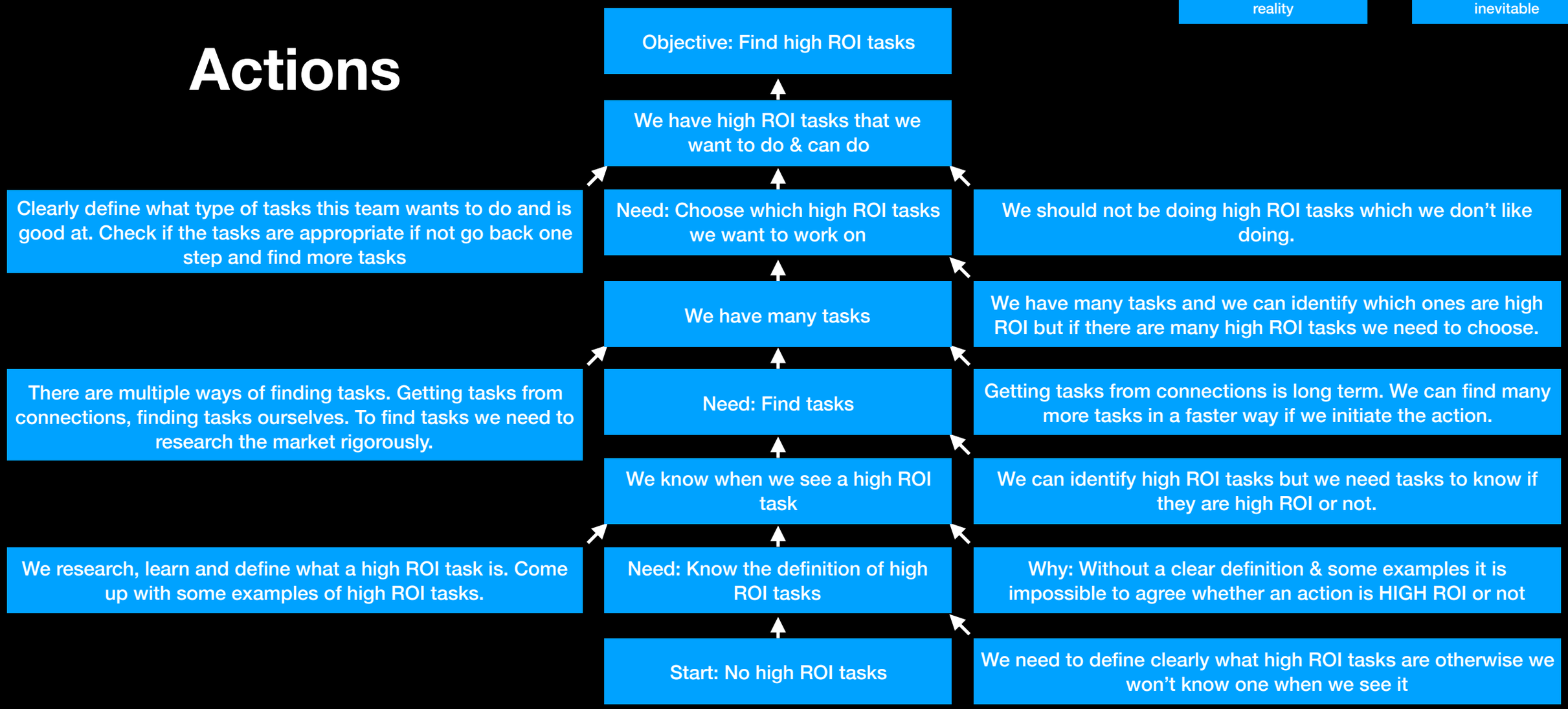
Step 5- Transition Tree

2. Check all your actions

- Make sure they feel sufficient
- Try to get in to as much detail as you can

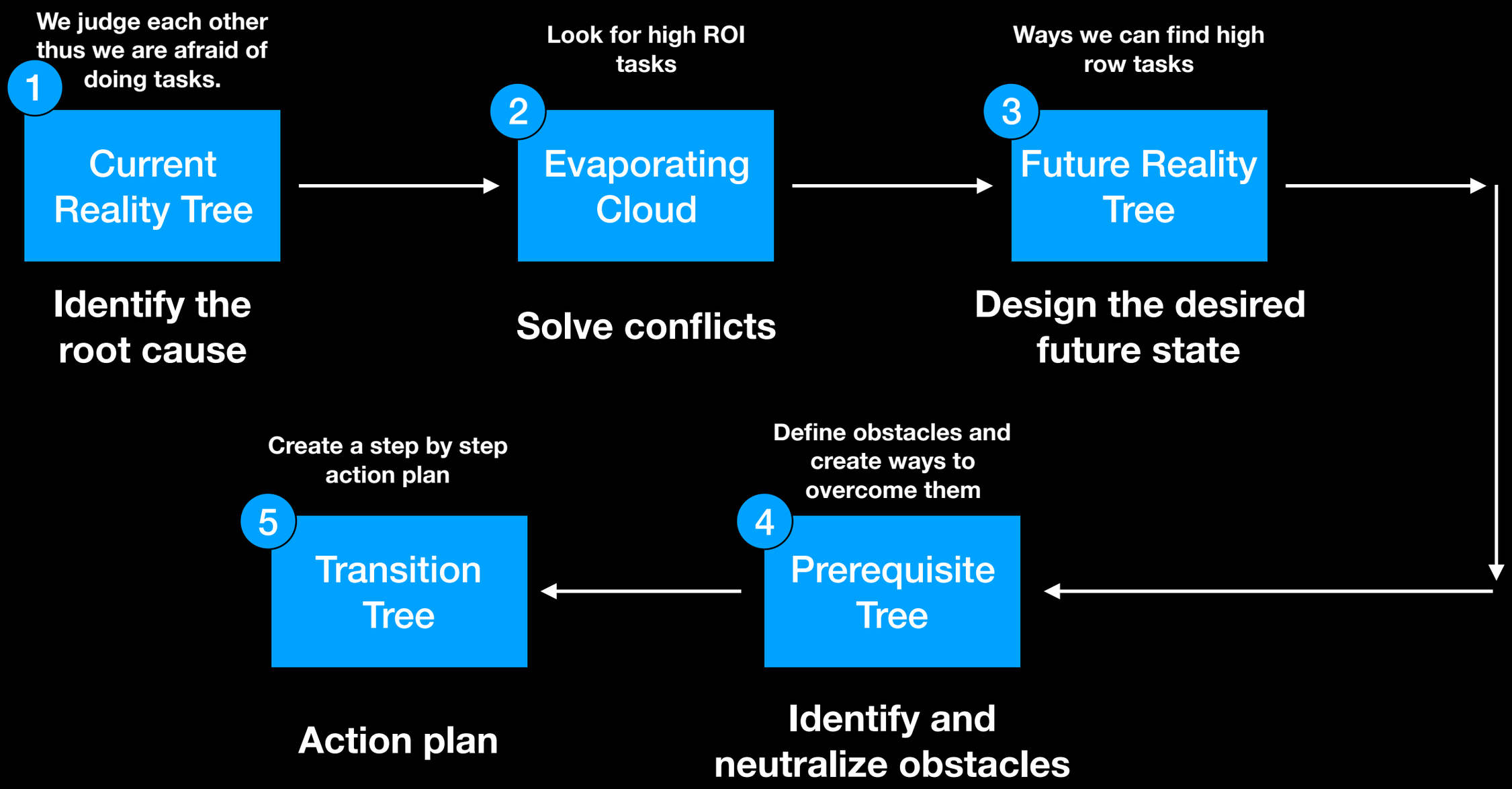


Actions



Congratulations

1. You have successfully used TOC Thinking Process tools



Congratulations

2. Get feedback from your team

- Get feedback & iterate on the tree with your team
- Also get professional help when you’re stuck
- Feel free to reach out and ask your questions
  demirbyilmaz@gmail.com

Congratulations

3. Execute

- It is time to execute your actions
- When you're done with execution go back to step #1 for your new problems

Actions

Clearly define what type of tasks this team wants to do and is good at. Check if the tasks are appropriate if not go back one step and find more tasks

There are multiple ways of finding tasks. Getting tasks from connections, finding tasks ourselves. To find tasks we need to research the market rigorously.

We research, learn and define what a high ROI task is. Come up with some examples of high ROI tasks.

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Demi B. Yilmaz
Twitter: @demiculus
demiculus.com

References

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