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How to ensure that the project properly solves the right problem

Alejandro Fernandez, Piénsalo Colombia,
Colombia.

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Alejandro Fernandez

Piénsalo Colombia

Educación Empresarial con Resultados

Alejandro Fernandez has been a TOC educator and practitioner since 1993. Director of Piensalo Colombia He received his initial TOC training as Jonah Jonah, and Licensee in Operations, MSW, CCPM at the AGI. During the last 21 years Alejandro has extensively worked with numerous production and supply chain companies in Colombia and Ecuador supporting them on their way to build and communicate their process of ongoing improvement.

Since 2001 to 2013 Alejandro has been part of Goldratt Group holding the position of Goldratt Schools Regional Director, Latin America. He has translated several TOC books to spanish, from authors like Oded Cohen, Yuji Kishira, Rajeev Athavale, Justin Roff.

As a joint initiative between Piensalo and Goldratt Schools, Alejandro developed a comprehensive TOC Program Alex Rogo, 12 sessions, 4 days each, that has been conducted in Colombia, together with North University with involvement of international TOC experts.

Alejandro has organized several TOC conferences and has been a part of the teaching team in the major TOC program ManTOC in India. He also participated in writing a series of Goldratt Schools books – CCPM (Critical Chain Project Management) (2009), TOC for Production Management (2010), Leading People Through Change (2011).

Alejandro is Founding Member of TOCPA – TOC Practitioners Alliance.

Contact info:
afernandez@piensalo.com
Skype: afrtoc

Current Reality

Statistically there are two major managerial mistakes:

1. Accepting a decision/idea/project that shall not be accepted.
2. Rejecting something that should be accepted.

TOC, using its methodology and ideas help management to make better decisions,

Understanding the initiative behind a project

- A project is a solution idea, a top management initiative:
  - Management role: improve reality with SOLUTIONS
  - To which problem?
  - To take advantage of which opportunity?
- **When & How you check the positive/ negative effects of the projects / initiatives of top management?**

Pre- requisites

- Focus the management efforts & attention in selecting in a proper way the right projects.
- Identify when a management initiative deserves to be managed as a project.
- When not?
  - **Not every initiative must be worked as a project.**
  - **Some initiatives should be rejected as they do not contribute to the goal of the company or any necessary conditions demanded for achieving the goal.**

The solution idea: To Which problem?

- A project is a solution to a problem.
- What kind of solution deserves to be managed as a project?
- Includes several actions, some are kind of new this time. How many actions?
- Includes the active collaboration of several areas, inside and outside the system / company / area.
- **Usually, what kind of work is required to make true the solutions proposed by top management?**
- **Remember Critical Chain book when Eli Goldratt describes what is a project?**

The Idea

- Who proposed the idea the first time?
- What was the initial problem to solve?
- What was the opportunity we were looking for?
- How was the initial exploration about the idea?
- **Did you start with some initial steps?**
- **The initial outcomes were interesting or dissapointing?**

The understanding of the solution proposed by top management

- The CEO said: *"Let´s work on this problem"*
- Suggest a solution… or expects for a solution…
- The subordinates answers: "*Yes, Sirrrrr*"
- Almost everyone assume that they clearly understood the actions required, the sequence, the details of each action, AND they will deliver as fast as possible, or as required…
- **Anyway, they have a Mission….**
- **Should they STOP and understand first if the solution requires a project approach?**
- **Who likes to plan???**

The solution idea: To Which problem?

- A project is a solution to a huge problem.
- How can we validate that we have the right project?
- It should meet 2 initial requirements:
  - Solve the right problem
  - Properly solve the right problem

✓ **What is the meaning of solving the right problem?**

✓ **The project is born in a specific situation, and starts a mutation process…**

The project birth

- The objective of the project was clear from the beginning?
- Each person/area/company could have in mind a different end point of the project.
- A new product development…
- **A new Business Information System…**
- **A reorganization of the structure…**
- **A marketing research…**

Some examples

- The project does not solve the right problem.
  - IT Department: Increase the speed to generate local data to make local decisions, with no global impact.
  - **Sales: Rearrange the percentages used to pay sales commissions.**
  - **Transportation: Build a Metro in a 7 M people city with buses that go on the surface sharing current avenues with car traffic.**

Is the right project? – Two roads…

The initial problem to solve

- There is a problem that the project will solve.
- How to describe this situation that is **undesirable?**
- Which is the conflict that blocks us to solve this undesirable situation?
- Build the Cloud of the undesirable effect(s) that the Project intend to solve.
- Look for a Root Cloud that covers several UDEs.
- **Each Injection, that invalidates an erroneous mode of operation, must satisfy the two Needs of the Root Cloud of the area you want to improve.**
- **THESE INJECTIONS ARE THE PROJECT OBJECTIVE**

The opportunity to take advantage

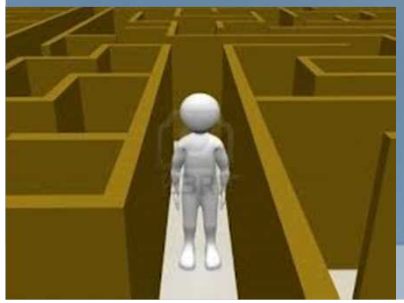
- We suppose that there are some benefits generated as a result of ENDING the project.
- How much Throughput is expected to generate?
- What is the Investment required?
- What is the additional Operational Expense required?

The Undesirable Effect - UDE

- Is a description of something that exists in our reality,
  - Blocks us to achieve the Goal.
    - Reduces T as it Increases/Reduces I, Increases/Reduces OE.
  - Is something incorrectly DONE.
  - Is not the absence of the solution.
  - **Is real (we know the Frequency and t Magnitude (in $)).**
  - **Is not blaming anyone.**

What happens if we try to solve the undesirable effect?

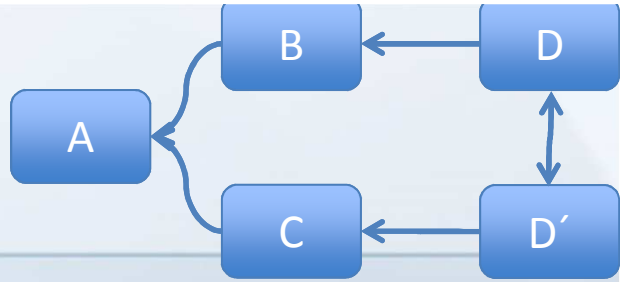
- The UDE is a symptom.
- If we solve it, the UDE will really dissapear?
- If we solve it, we might lose the trace that lead us to the problem.
- How to move from here to the problem?
- If you ask why the symptom exists, several times, are you sure you will converge to the deeper cause?
- **How to ensure to converge to the root problem?**
- **What you will find in the root as a problem?**
- **We have a problem…**



The definition of a problem

- Usually managers and academics talk about a problem in different ways.
- For managers, a problem is an UDE described with frequency and magnitude… *Give me the facts to understand the problem.*
- For academics, a problem is defined in such a way that you end asking to your teacher what is his definition of my problem. *Remember your Thesis problem definition???*

TOC definition of a problem – How easy is to implement clouds in a regular daily basis?



- A problem is an objective you cannot achieve, A. WHY? – *The objective is not the solution?*
- In order to achieve it, you must satisfy at least two basic needs, B & C. – *Why only 2 needs? Reality is not that simple…*
- In order to satisfy need B there is an action D. *– How difficult is to write an action connected to a need..*
- In order to satisfy the other need C there is no way to do action D. You should do the opposite, action D´. – *Thinking in the need of the other side – B - is a system need.* ***Firefighting blocks achieving this need B, but we like to manage on a reactie way.***
- Action D deteriorates need C, and action D´deteriorates need B. - ***This assumption reinforces that each action is a half baked solution.***

Example

Assumption B-D: The due date that will be set in the contract will not allow us enough time to complete all works we think will be included in the contract.

D
Start without the signed contract sent by the client.

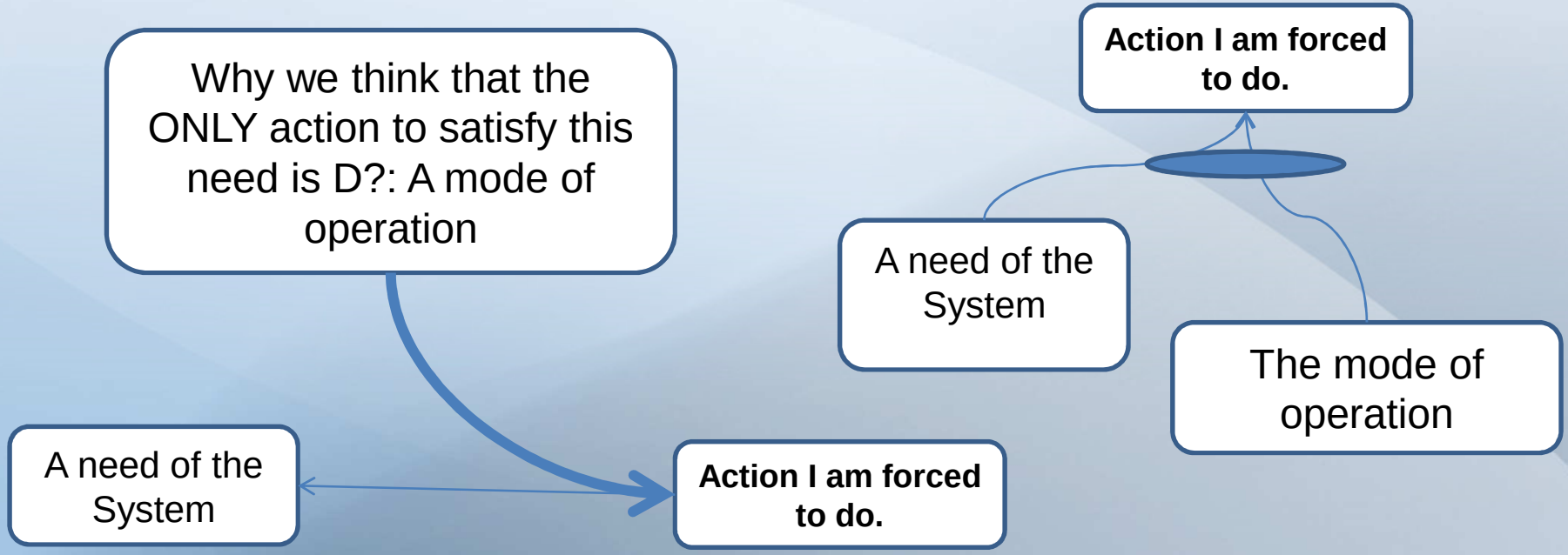
B
Ensure to deliver on the Due Date.

A
Do a good business with the client.

C
Control project costs.

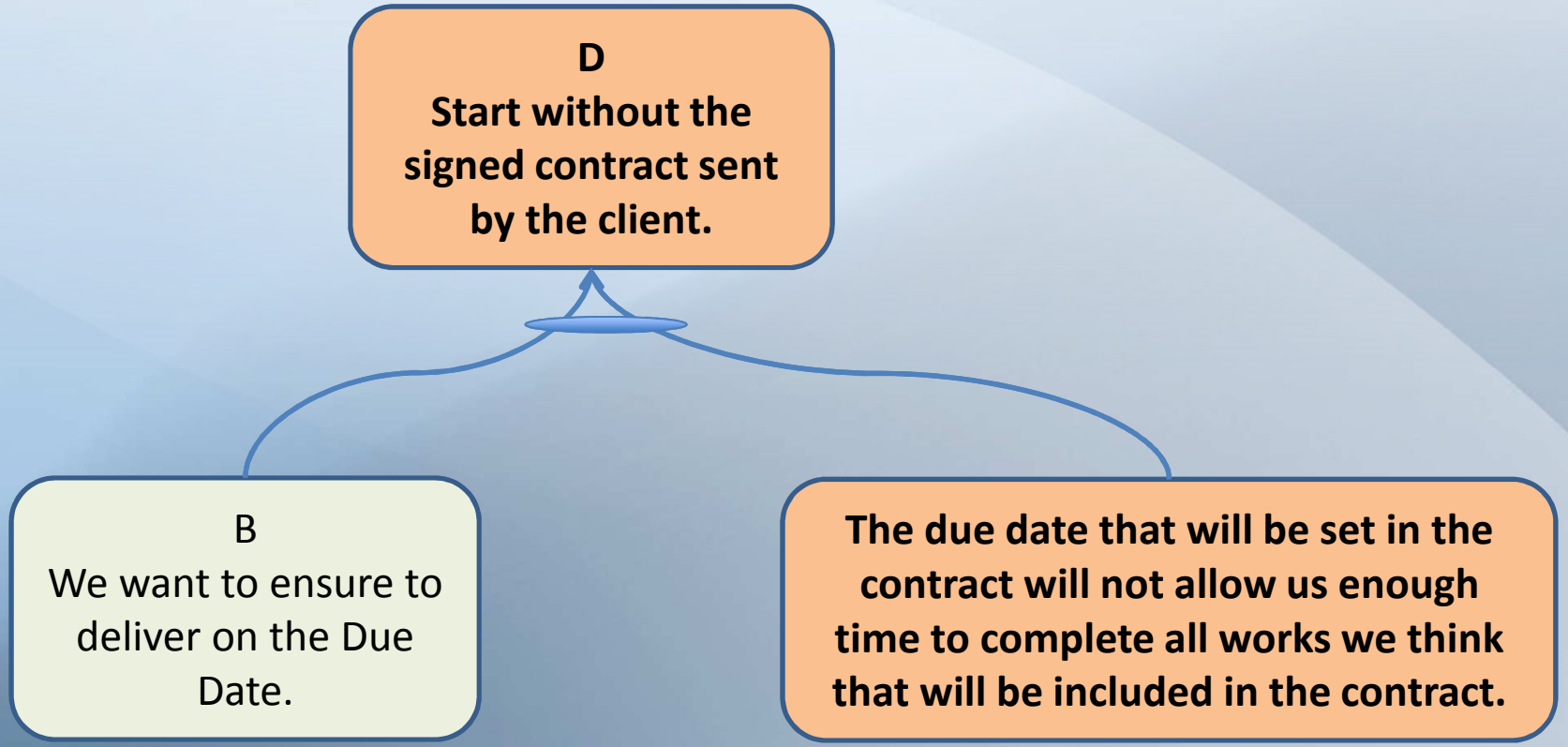
D´
Start only when we agreed & sign on the contract requirements.

Looking for the wrong assumptions

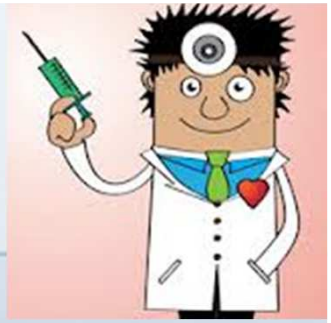


In order to satisfy this need, I am forced to do this action, because: a Mode of Operation.

Checking the assumption

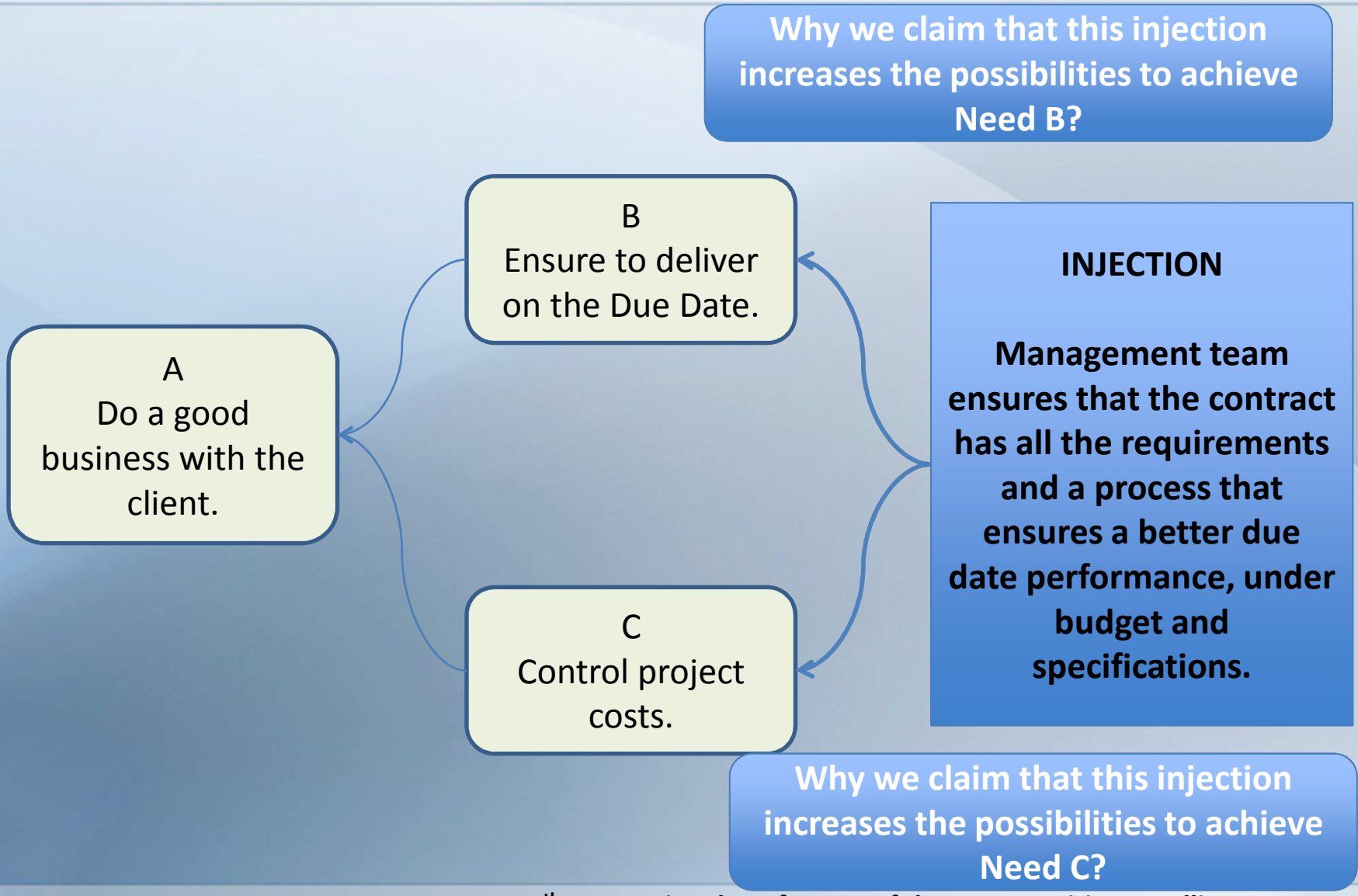


Looking for an injection



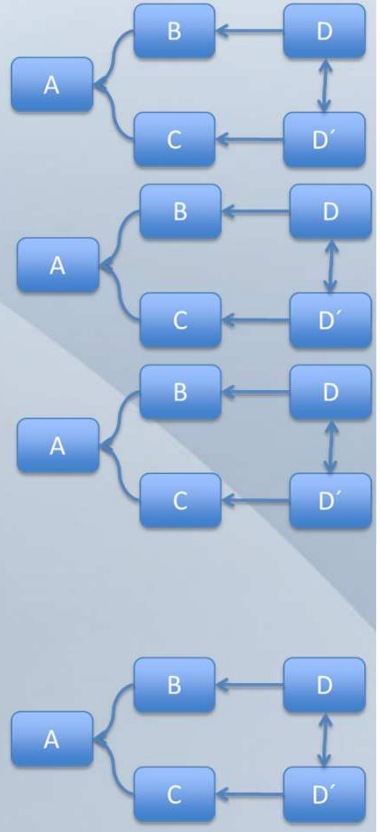
- Are all these mode of operation always true?
- Can we “invent” a new situation different / opposite to one of these mode of operation?
- How we can change / improve one of these mode of operation, so we can increase our posibilities to achieve both needs?
- This answer is a set of Injections: **The objective of a Project.**

Example


Why we claim that this injection increases the possibilities to achieve Need B?
B
Ensure to deliver on the Due Date.
A
Do a good business with the client.
C
Control project costs.
INJECTION
Management team ensures that the contract has all the requirements and a process that ensures a better due date performance, under budget and specifications.
Why we claim that this injection increases the possibilities to achieve Need C?

General procedure suggested (1)

1. Top management have some Undesirable Effects they want to solve.
2. They should understand what are the problem that generates this UDEs.
3. For each UDE they build the UDE cloud.
4. Then they find the Root Cloud that explains all these UDEs.
5. Analyzing this Root Cloud they explain the connection between Need B and Action D, and between D & D´: assumptions.



General procedure suggested (2)

6. They look for the Direction of the Solution – focused brainstorming.
7. Explain why this Direction is Win Win: Satisfy both needs B & C.
8. **Then they generate – focused brainstorming - a set of injections that shows the HOW to Achieve this Direction of the Solution.**
9. **They need to check then if this set of injections deserves to be managed as a project.**

Next step

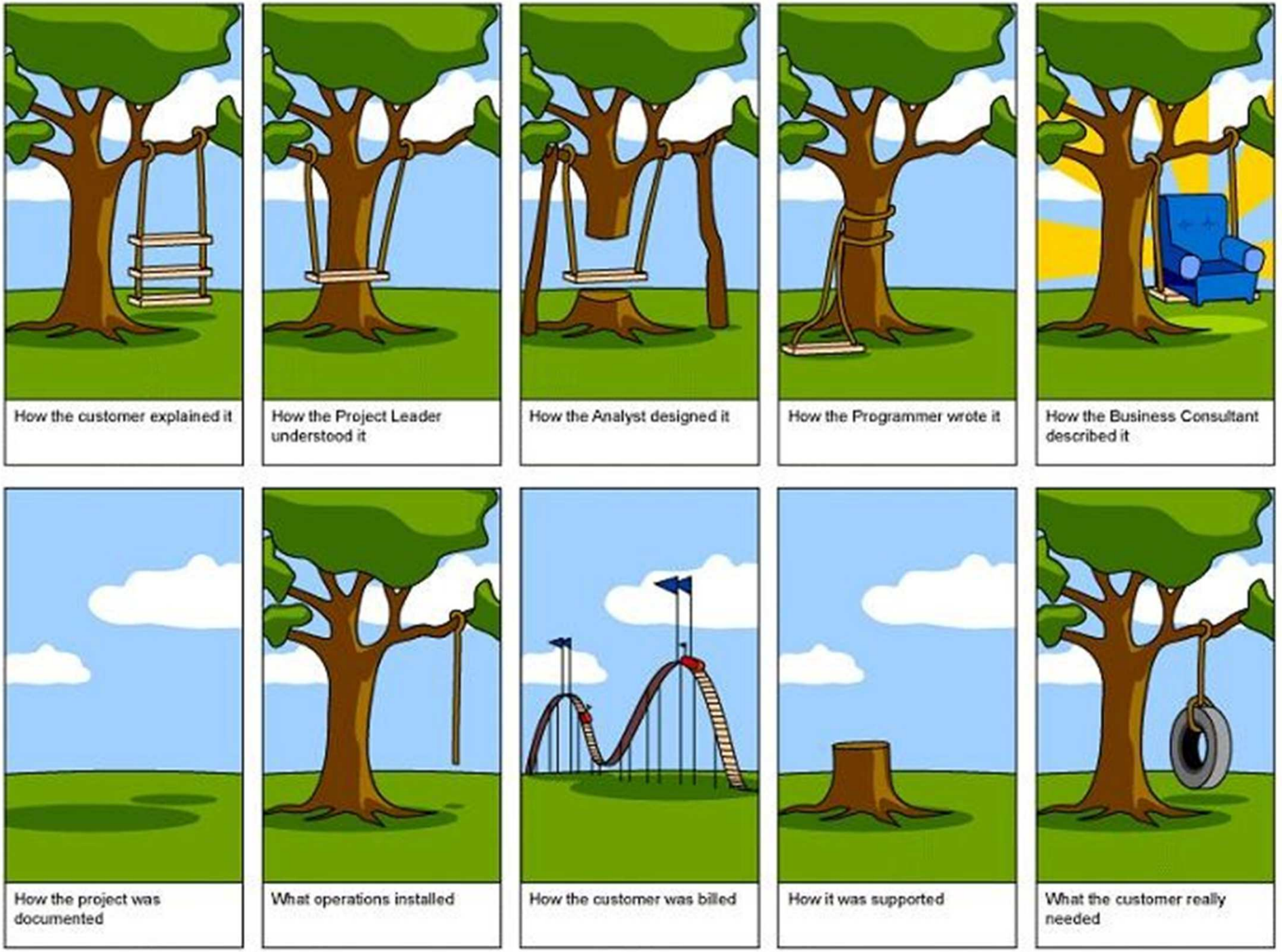
- Now that we have defined that the Project Objective is Win Win…
- There is the need to check the Future Reality that we think the Project Objective will generate, once it is ACCOMPLISHED.
- How often we use the Future Reality Tree for this purpose?
- **It should be a reality full of Desired Effects (fast and powerful benefits, greater than the effort required and with low risk).**
- **If the project adresses the right problem AND the project properly solves the problem, THEN the Project is CORRECT.**

The Project is going to generate soon many Desired Effects?

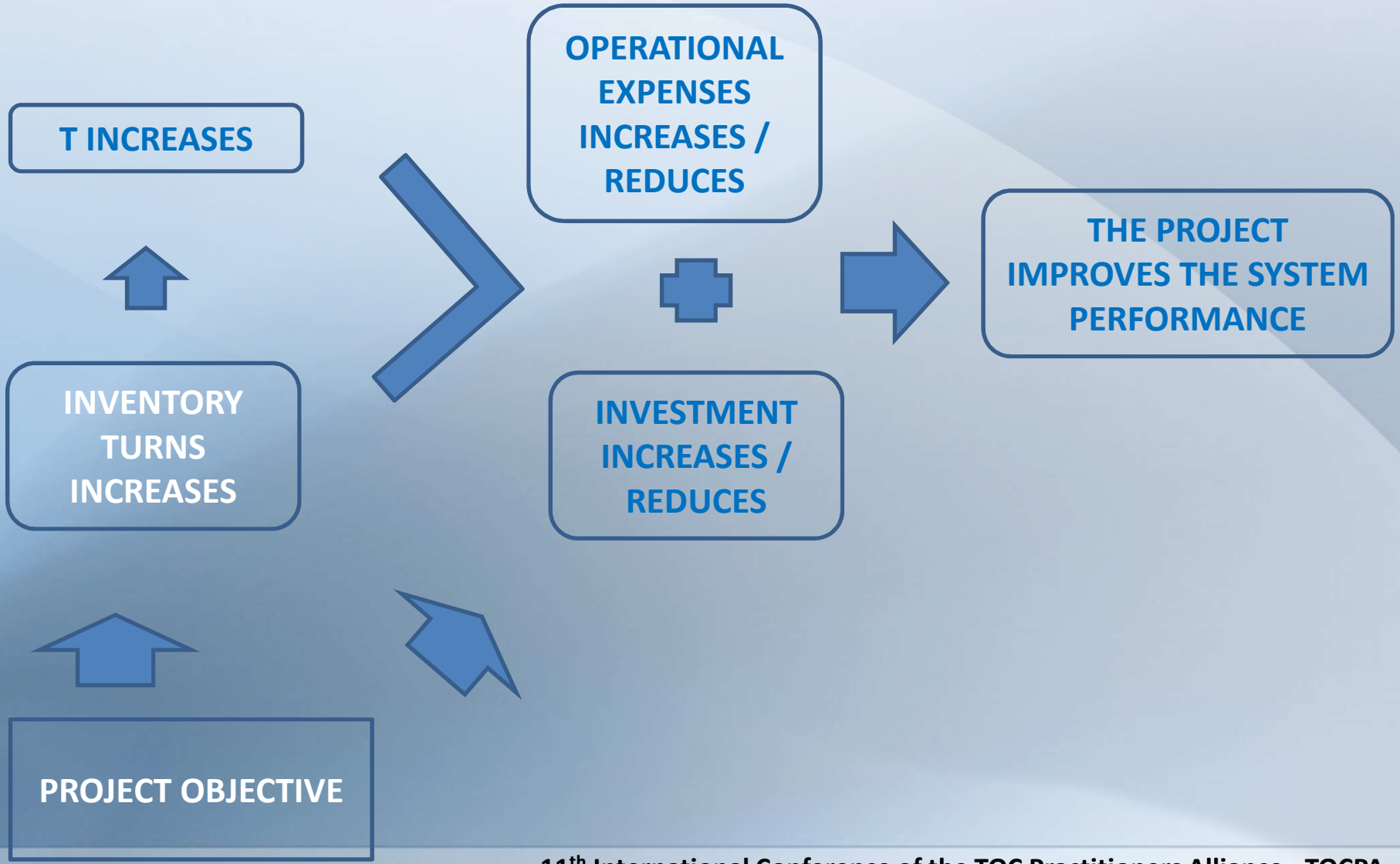
- The project must allow to:
  - Exploit the constraint,
    - Did we check that the objective of the project will increase the capacity of the system constraint?
  - Subordinate the system to the constraint,
    - The project objective is oriented to support the constraint?
  - Elevate the constraint so it will be in the strategic place we have defined.
    - The project increase the capacity of the constraint but we do not look ahead for where will be the constraint now.
- **If the project achieves one of these requirements, the project will increase the Throughput generated by the system.**

Solve Properly the Right Problem

- When you achieve the project objective, the project must generate some desirable effects that justify all the invested time, energy and effort:
  - A positive Benefit / Cost ratio
  - Results must be generated fast
- Also we need to make sure that there will not be significant negative collateral effects.
- If the solution – the Project Objective – has significant **positive** effects and very few **negative collateral** effects, then the project objective has its own merit.
- If the solution – the Project Objective – has significant **negative collateral** effects and very few **positive** effectes, then the project has NOT its own merit.
  - **WE MUST PREDICT THIS BEFORE STARTING THE PROJECT EXECUTION**


How the customer explained it
How the Project Leader understood it
How the Analyst designed it
How the Programmer wrote it
How the Business Consultant described it
How the project was documented
What operations installed
How the customer was billed
How it was supported
What the customer really needed

The generation of positive effects



The expected results

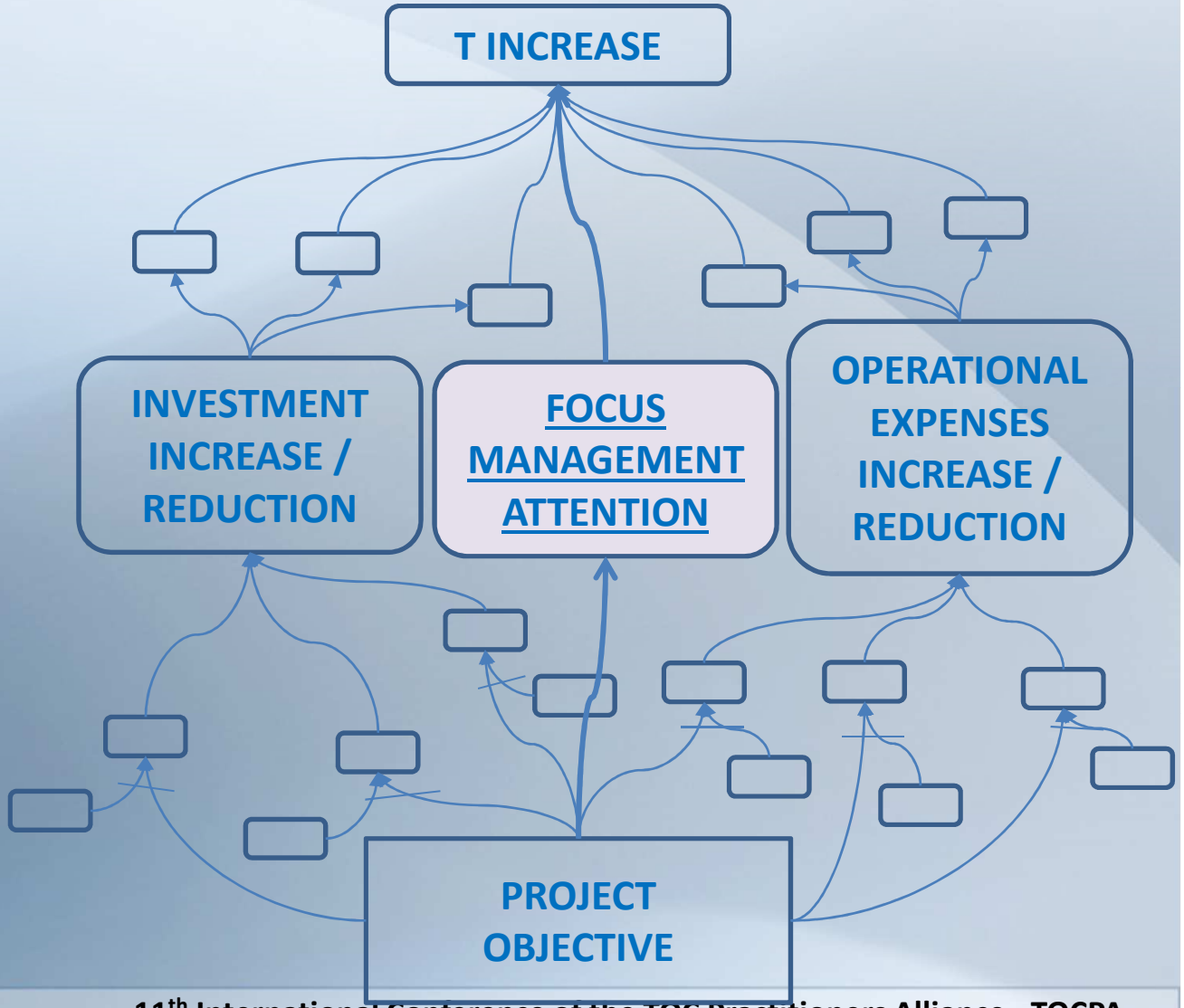
- How much Throughput is expected to receive?
- The numbers are based only on Sales.

- How much is the additional Investment required?
- We are offering a new technology, we must do it, but we do not have a clear idea about the investment.

- How much is the additional Operational Expenses required?
- We assume that managers will do the required work in their working hours… between 40 an 24 x 7.

The demonstration that the expected results are going to be generated

- Why you claim that if you FINISH this project, Throughput will increase more than Investment and Operational Expenses?
- How is the interrelation between causes and effects that lead you to this statement?
- **DO WE USE FUTURE REALITY TREES?**



The Future of the Project

- Managers work on the feasibility study of the project.
- Usually the study has a lot of success probabilities…
- When we recommend to use the Future Reality Tree and the Pre-Requisite Tree..
  - **How easy is to explain that FRT is cause and effect, and PRT use this logic to express necessary conditions?**
  - **How frequent is to just make a list of Desired effects and then try to build and communicate the Negative Branch?**

Checking point

- We have a better understanding about the problem that the project is expected to solve, and/ or the opportunity we want to take advantage.
- We know what could be the positive impact of the project once it is FINISHED.
- But..
  - **Have we detected several main risks?**
  - **Are we properly protected?**
  - **Are they some risks we do not know how to avoid… Do we need to assume them? Are we ready to assume them?**
  - **Have we completely answer the question: WHAT TO CHANGE? – The Future Reality we will have when the project FINISHES.**

Criteria to evaluate a solution (a project)
From: Eliyahu Goldratt, CCPM Webcast

- Produces excellent results.
- Is win win win for all people that we need to collaborate.
- The risk, multiplied by the damage, is relatively low compared with the benefits.
- **Easier than what we do before.**
- **The sequence allows that the people can join – any group of actions generate significant immediate results.**
- **Do not destroy by itself.**

Serie E&T de Goldratt, CCPM

The criteria we already have achieved

- ✓ Produces excellent results.
- ✓ It is win win win for all people that we need to collaborate. (All of them?)

We have 2 out of 6…

- ❖ The risk, multiplied by the damage, is relatively low compared with the benefits.

How we evaluate risk?

What is the relation between

risk, uncertainty and Murphy?

It is something that is going to happen, it is close, it is in the road to something valuable…

- Then, talking about Projects, you can have risks in the road and risks after FINISHING the project.
- We are going to deal first with the risks that could happen AFTER FINISHING the project. Why?

Better show me the future BEFORE we start working hard to get there…

Checking point

Now we have more intuition, knowledge and experience about how to generate consensus about

- ✓ ***We have selected the right project***
- ✓ ***The project properly solves the right problem***

There is a very powerful way to resume our findings when we need to communicate, looking for full agreement.

The Pot of Gold

All the Benefits for the system of FINISHING the Project.
T, I, OE.
Security, Satisfaction
HARMONY

The Crunches

We already collect, detect and PROPERLY DEAL with many negative branches and obstacles.
ARE THERE ANY MORE?

The Marmaid

There are A LOT of things we are doing correctly we need to take good care.

The Alligator

In the current reality there are symptoms of a seriuos problem we need to understand and take a powerful medicin.
The medicin could be seen as an OPPORTUNITY.

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Thanks! Please send me your comments:

afernandez@piensalo.com