

Utah OPS: Building on SUCCESS

September 8, 2016
Salt Palace Convention Center

TOC Thinking Process for Breakthrough Results

Presenter:
Dr. Yishai Ashlag

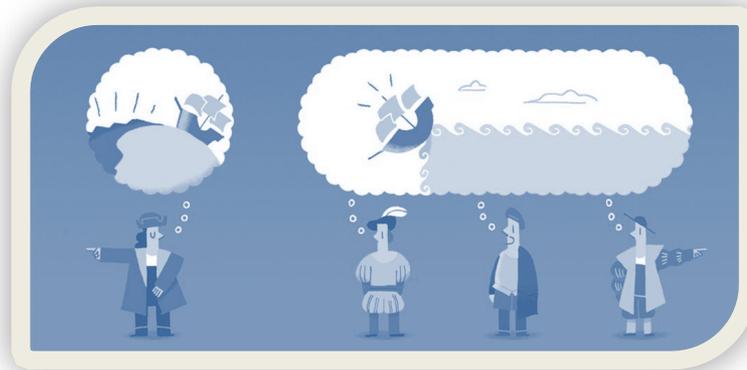


S U C C E S S
— F R A M E W O R K —

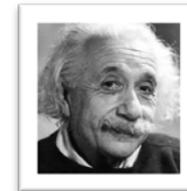


INERTIA

“Inertia is the enemy of Innovation”



“Insanity: doing the same thing over and over again and expecting different results.”



Albert Einstein

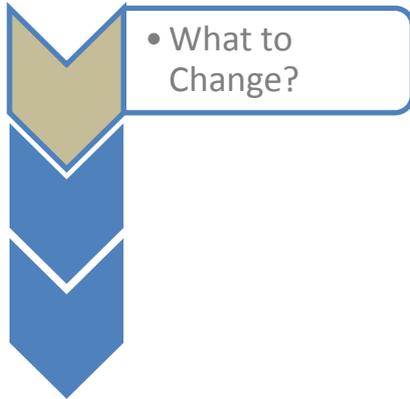
Breaking Inertia

Every improvement is a change....



...but not every change is an improvement.

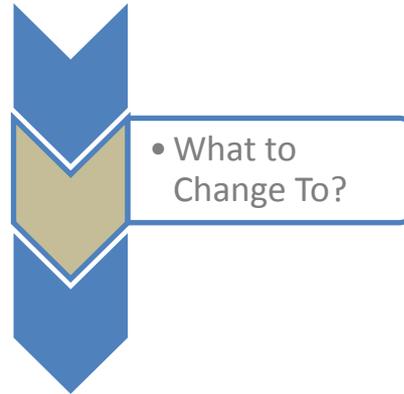
Challenges



Many local initiatives do not translate to a global improvement.

Rather than confronting the root cause we deal with symptoms.

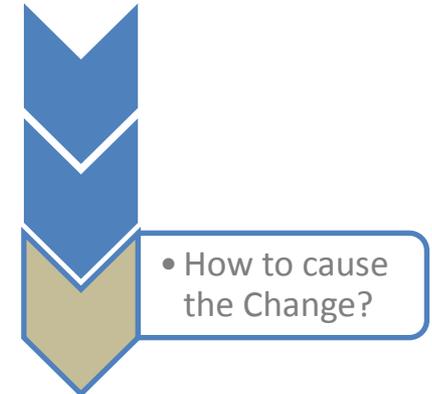
How to avoid losing focus pursuing so many improvement efforts?



Often a solution to one part of the system creates problems elsewhere.

Often short term solutions conflict with long term objectives and visa versa.

How to avoid replacing one set of problems with another set of problems?



Many good solutions fail in execution.

Often introducing a meaningful change is chaotic and generates many conflicts.

How to circumvent obstacles and enhance harmony?

1

What to Change?

Approach

Vicious
Cycle

Core
Conflict

2

What to Change to?

Direction Of
Solution

Refining the
Solution

Robust
Solution

3

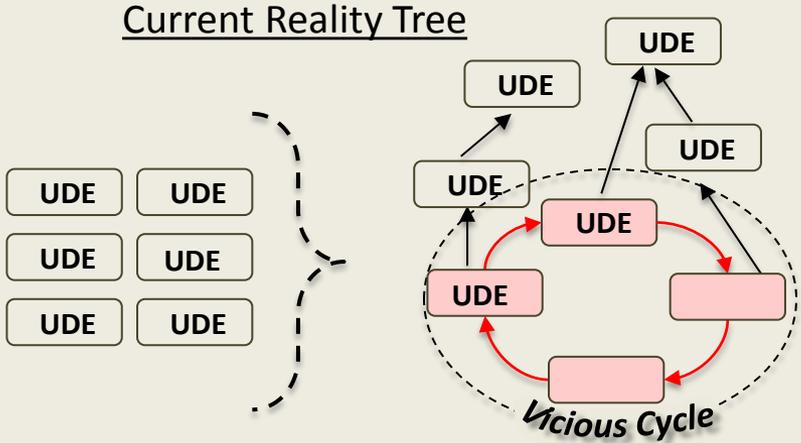
How to cause the Change?

Buy-in
Process

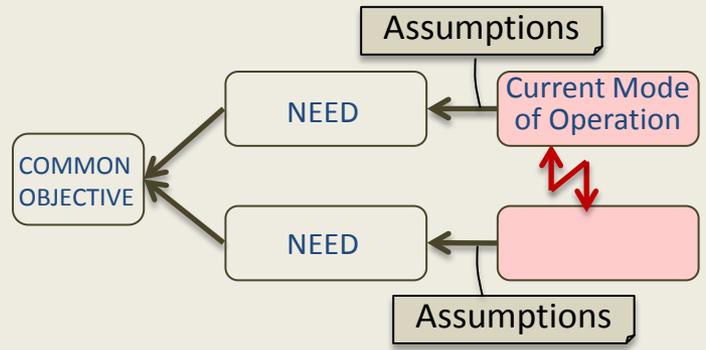
Execution
Plan

Mystery
Analysis

What to change?

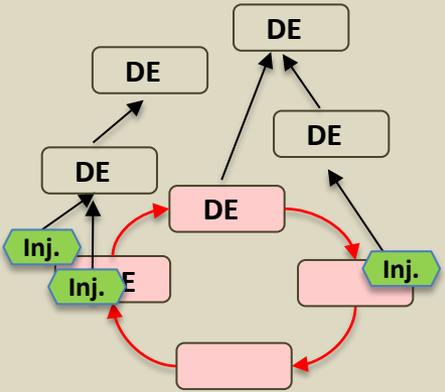


Conflict Cloud

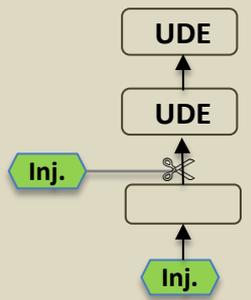


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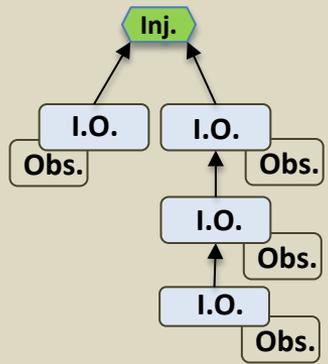
Future Reality Tree



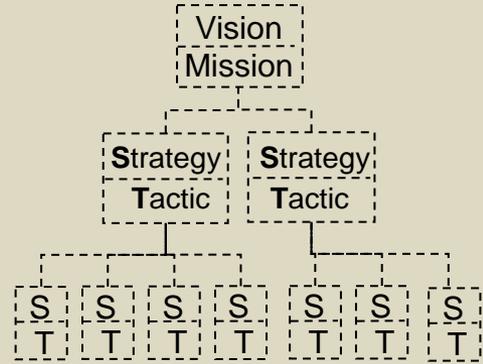
Negative Branches



Prerequisites Tree



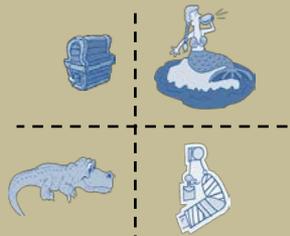
Strategy & Tactic Tree



How to cause the change?

Achieving Buy-in

Change Matrix

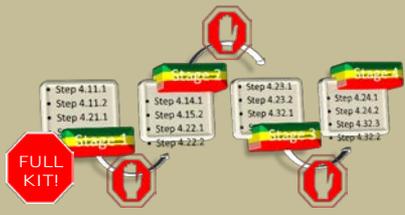


Layers of Resistance

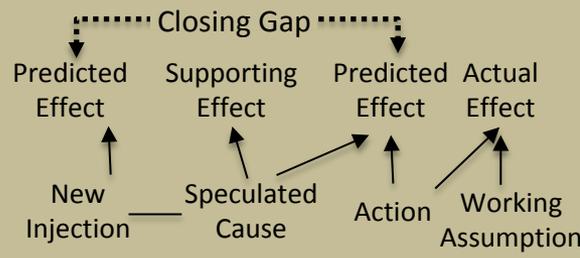
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2. A different direction
3. The solution is partial
4. Yes, BUT risks
5. Yes, BUT obstacles
6. Un-verbalized fear

Execution Plan

Flow Management



Mystery Analysis



What to Change?



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Solution

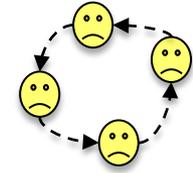
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How to cause the Change?

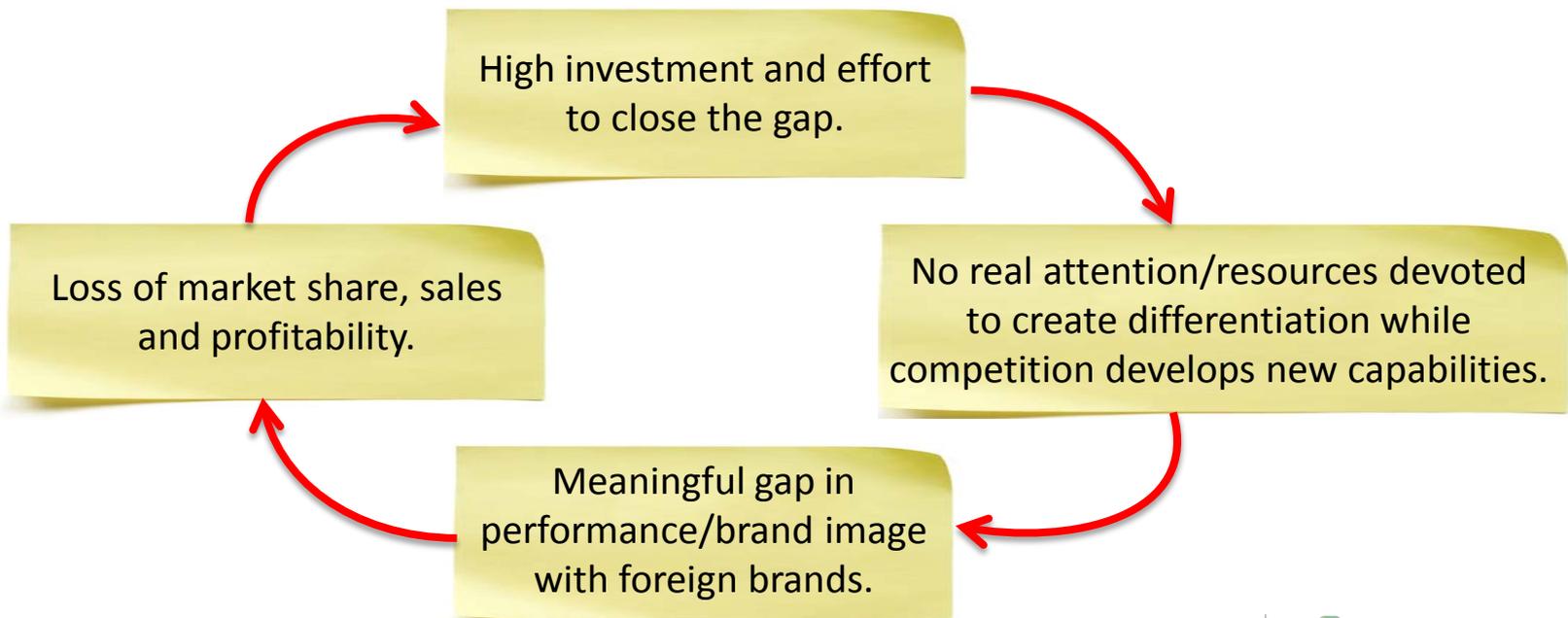
Buy-In
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Execution
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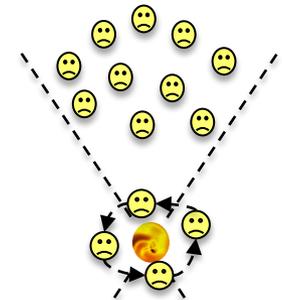
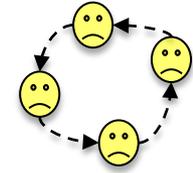
- ❖ **Motivation** – looking for the vicious cycle. Dynamics which escalate an area we greatly care to improve.



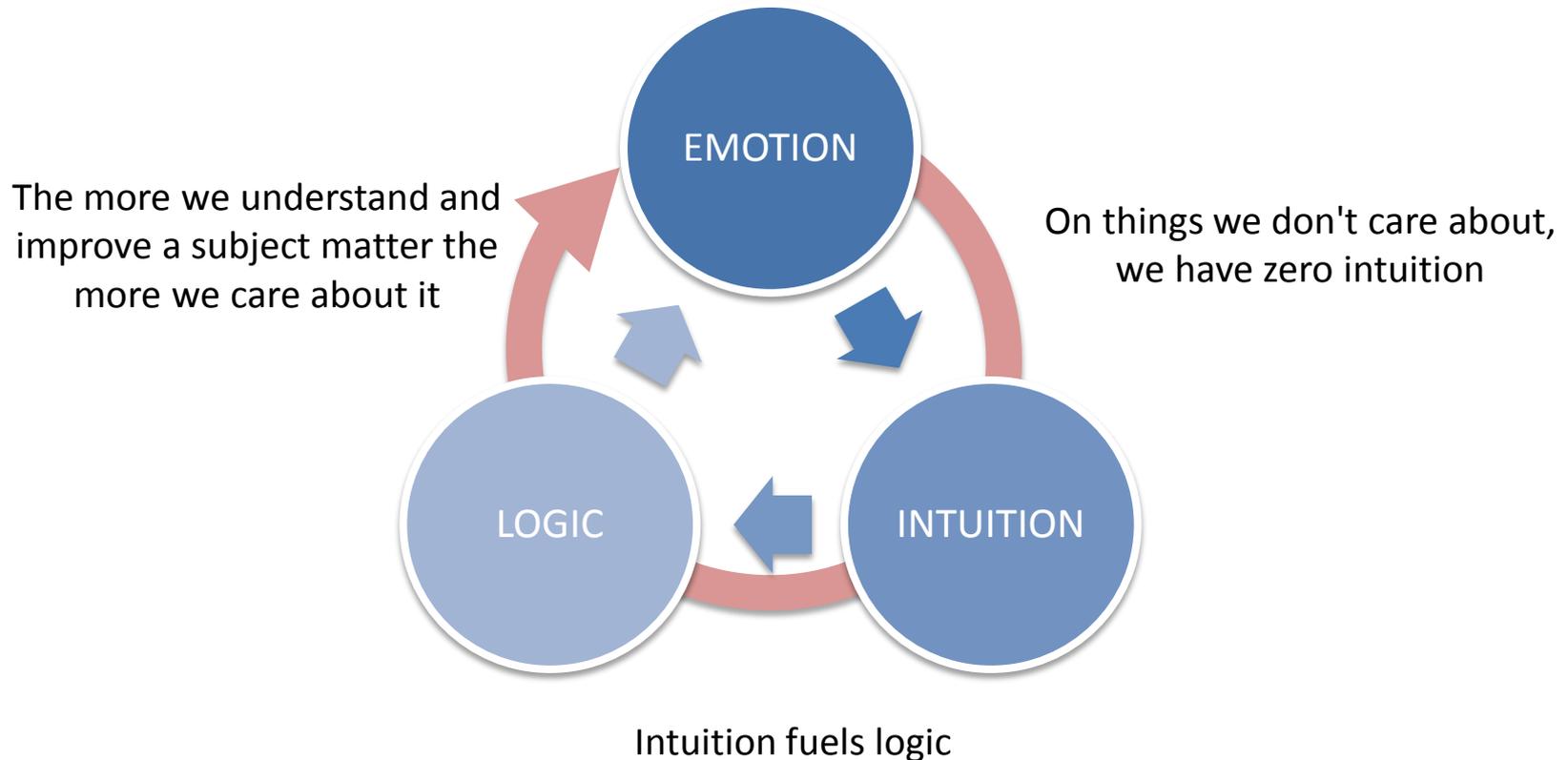
Example: Domestic Car Manufacturer – vicious ‘catch me’ cycle



- ❖ **Motivation** – looking for the vicious cycle. Dynamics which escalate an area we greatly care to improve.
- ❖ **Meaningful and Sustainable Improvement** – looking for core problems standing at the base of many undesirable effects.
- ❖ **Practical** – looking for core problems associated with a human based behavior/policy/assumptions.



Behavior Behavior



1

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How to cause the Change?

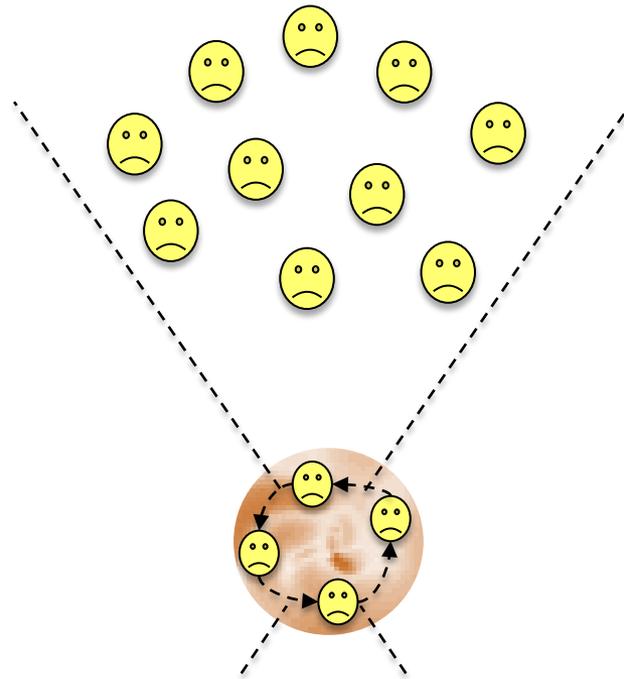
Buy-in
Process

Execution
Plan

Mystery
Analysis

The Current Reality Tree

Finding the Vicious Cycle



Where should we focus to make the biggest impact?



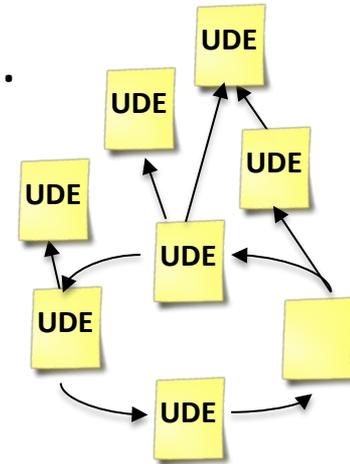
The Current Reality Tree

1

What to
Change?

Vicious
Cycle

1. Define the system.
2. Make a list of meaningful Un Desirable Effects (UDEs).
3. Identify a Focal Point.
4. Define the Vicious Cycle.
5. Connect the UDEs with cause-effect connections.
6. Look for human behaviors/policies at the base of the UDEs.



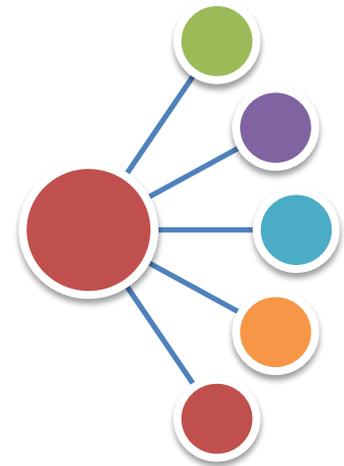
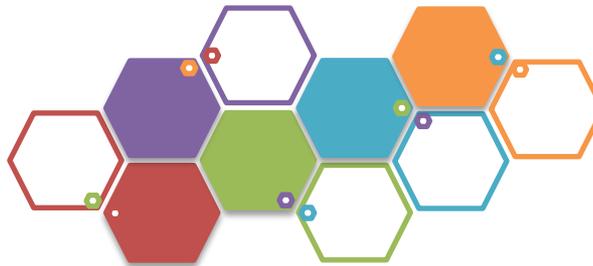
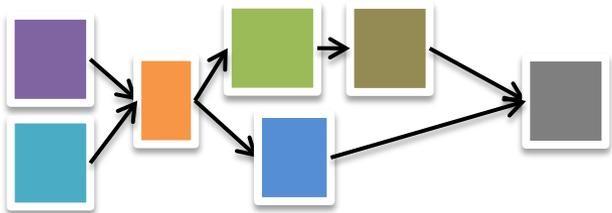
1. Define the system

1

What to
Change?

Vicious
Cycle

- Identifying key stakeholders for the relevant domain.
- Where do we have problems that call for a breakthrough?



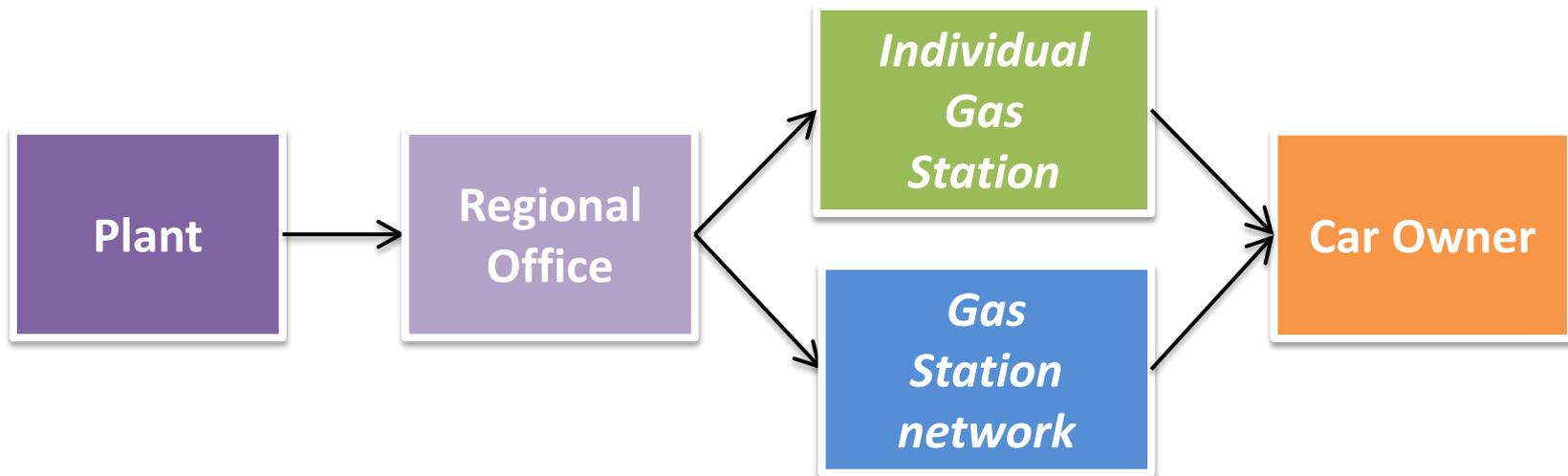
1. Define the system – **CAR WASH**

1

What to
Change?

Vicious
Cycle

Example: Car Wash Equipment



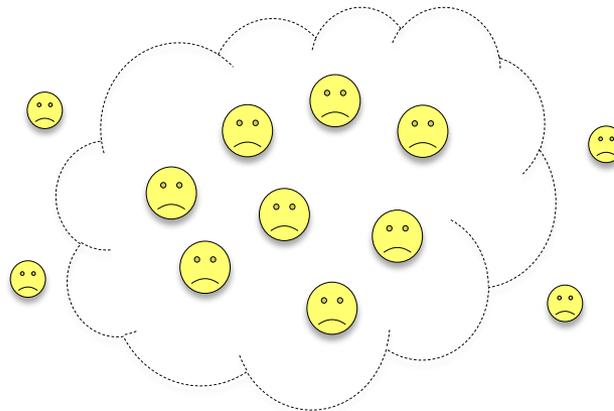
2. Collecting the UDEs

1

What to
Change?

Vicious
Cycle

- For selected stakeholder define the list of UDEs.
 - Look for meaningful UDEs (ones which escalate).
 - Verify the UDE does not blame someone.
 - Verify the UDE existence is not questionable.
 - Verify the UDE is not verbalized as the absence of a solution which you have in mind.
 - Ignore “Chupchiks”- UDEs that solving them will not make a big impact.



2. Collecting the UDEs – **CAR WASH**

1

What to
Change?

Vicious
Cycle

Car Wash Company

List of UDEs

There is stagnation
in company's sales.

Equipment
replacement cycle
gets longer.

Gas Station

List of UDEs

There is a decline in
number of washes
per gas station
(low conversion).

Car wash is not
making good
business for the
gas station.

Car Owner

List of UDEs

Equipment's wash
quality below
standards.

Time to wash the
car is too long.

Periods of non
service.

2. Collecting the UDEs – CAR WASH

1

What to
Change?

Vicious
Cycle

- Examine the UDEs and identify a Focal Point.
 - Identify a phenomena which seems to be a major source of problems and is getting worse and worse.

LIST OF UDES

LIST OF UDES

Focal Point

LIST OF UDES

There is stagnation
in company's sales.

There is a decline in
number of washes
per gas station
(low conversion).

Equipment's wash
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Equipment
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Car wash is not
making good
business for the
gas station.

Time to wash the
car is too long.

Periods of non
service.

4. Define the Vicious Cycle - CAR WASH

1

What to Change?

Vicious Cycle

- Define the vicious cycle – the negative feedback loop which escalate the focal point.
- Read the connections in the Cycle using “If... Then...”.
- When a connection is not clear, either:
 - add additional intermediate steps in the cycle.
 - add an explanation for the conditions under which the cause leads

Car wash operation requires proper attention to service customers and to ensure machine is running effectively.

Gas station is giving less attention to properly operate and service car wash business.

Equipment's wash quality below

There is stagnation

Car wash is not making good business for the gas station.

(low conversion).

Customers' car wash experience deteriorates:

- Longer time to wash.
- Poor quality of wash
- Periods of non-service.

Car wash is not making good business for the gas station.

> Poor quality of wash brings many drivers not to visit again.

> Any hassle associated with the car wash brings many drivers to go on their way.

gets longer.

6. Identify behaviors/policies - CAR WASH

1

What to Change?

Vicious Cycle

Th
in

- Look for human behaviors/policies at the base of the UDEs.

Equipment replacement cycle gets longer.

Gas station is giving less attention to properly operate and service car wash business.

to service customers and to ensure machine is running effectively.

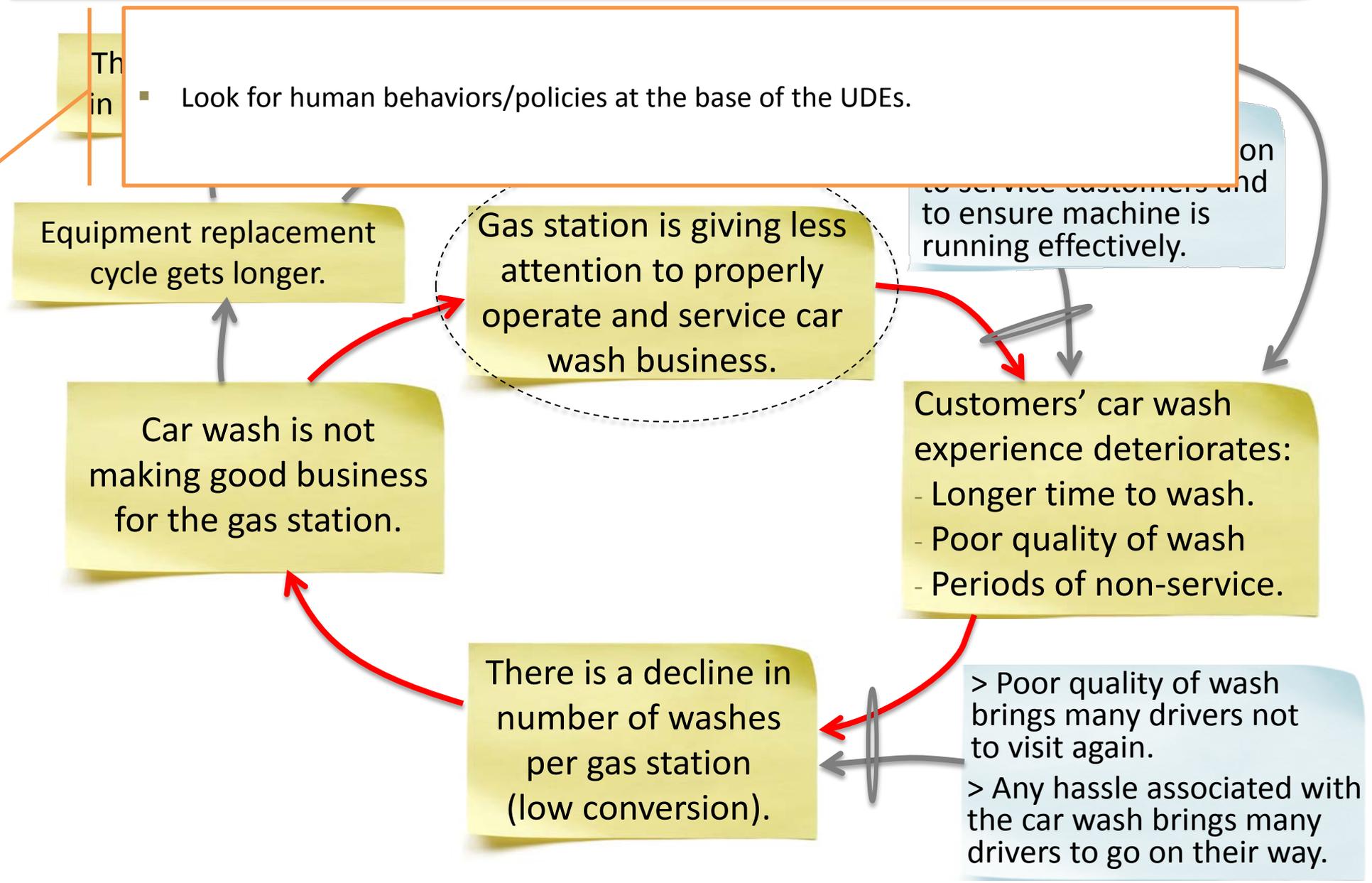
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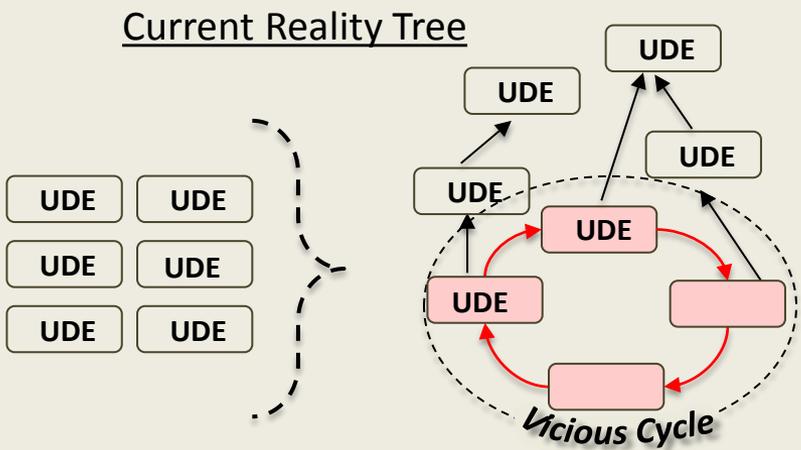
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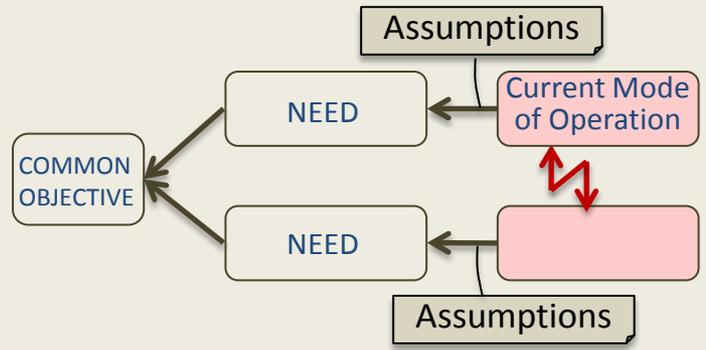
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What to change?

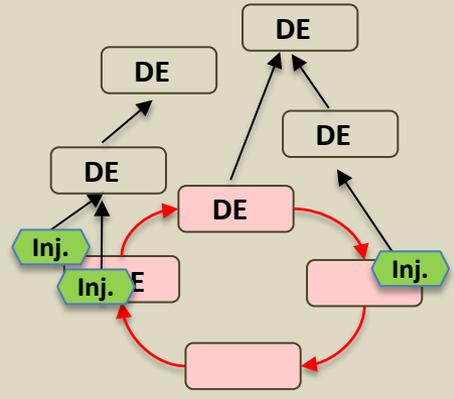


Conflict Cloud

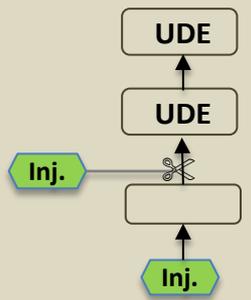


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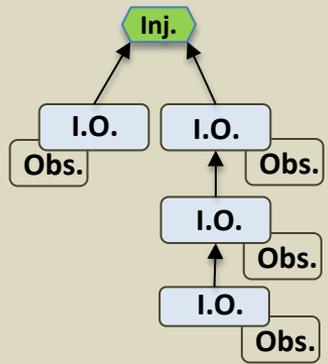
Future Reality Tree



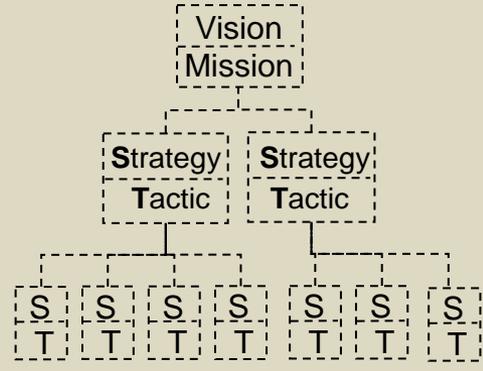
Negative Branches



Prerequisites Tree



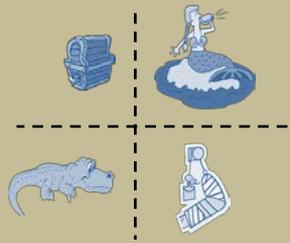
Strategy & Tactic Tree



How to cause the change?

Achieving Buy-in

Change Matrix

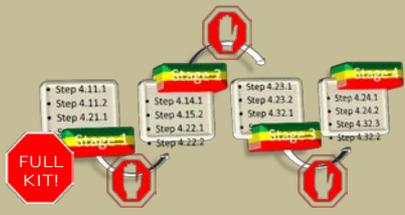


Layers of Resistance

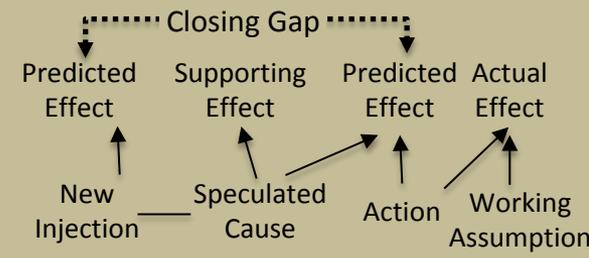
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Execution Plan

Flow Management

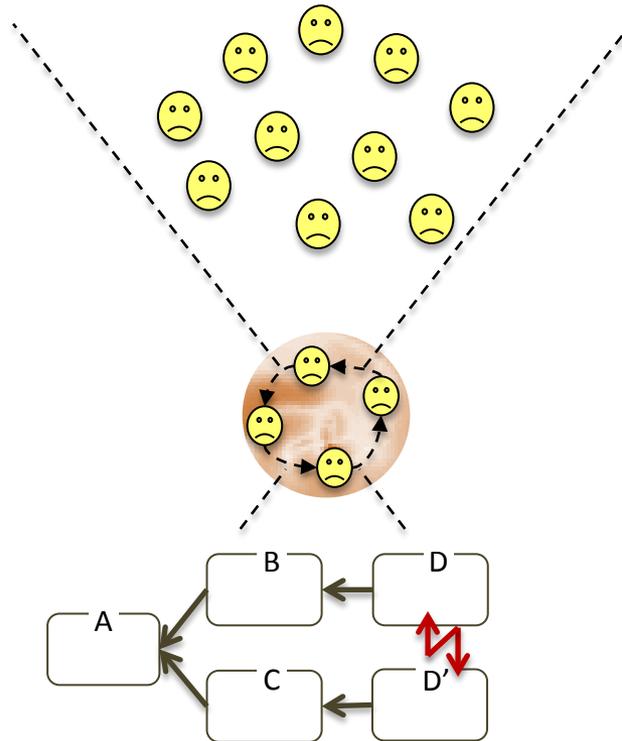


Mystery Analysis

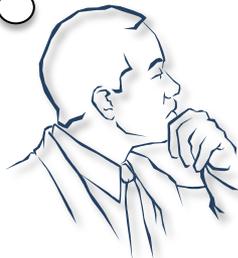


The Cloud

Understanding the Core Conflict



Better we understand the whole problem before jumping to a solution.



- ❖ There must be a reason for a solution not to be realized yet.
There is likely a long-lasting unsolved dilemma(s).
- ❖ In order to create a breakthrough, we need to solve the conflict that prevents us from breaking the vicious cycle.
- ❖ The longer the conflict was in existence, the bigger the breakthrough we can create.



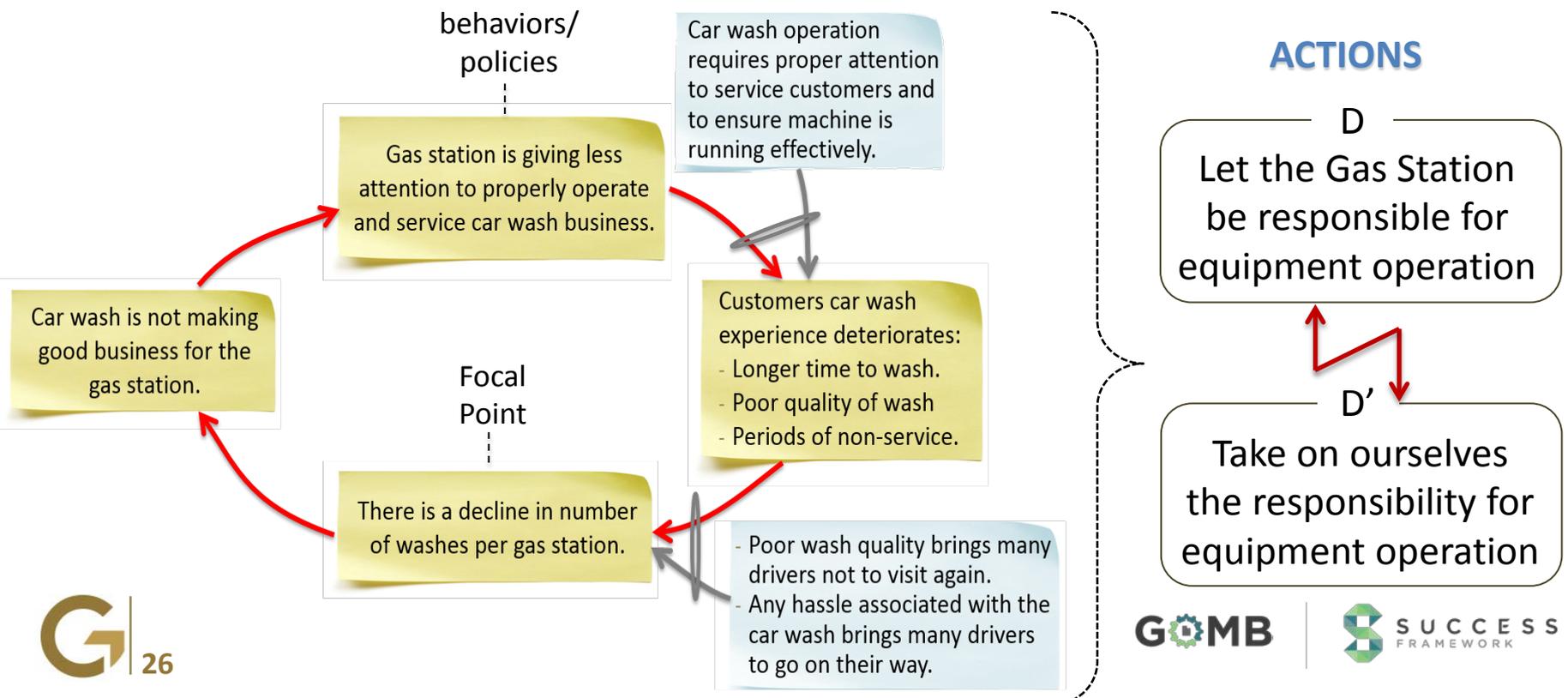
The Core Conflict- **CAR WASH**

1

What to Change?

Core Conflict

- Examine the Vicious Cycle, the Focal point and the behaviors that are causing it.
 - In what way the vicious cycle limits the company's growth?
 - What is currently preventing the company from solving the Vicious Cycle?
 - What are we risking by changing the current mode of operation?
 - What is the core operational/business challenge blocking us from solving the Vicious Cycle.
- Based on above discussion define the underlying conflict of the company - Write the current mode of operation as D, write the counter mode of operation as D'.



The Core Conflict- CAR WASH

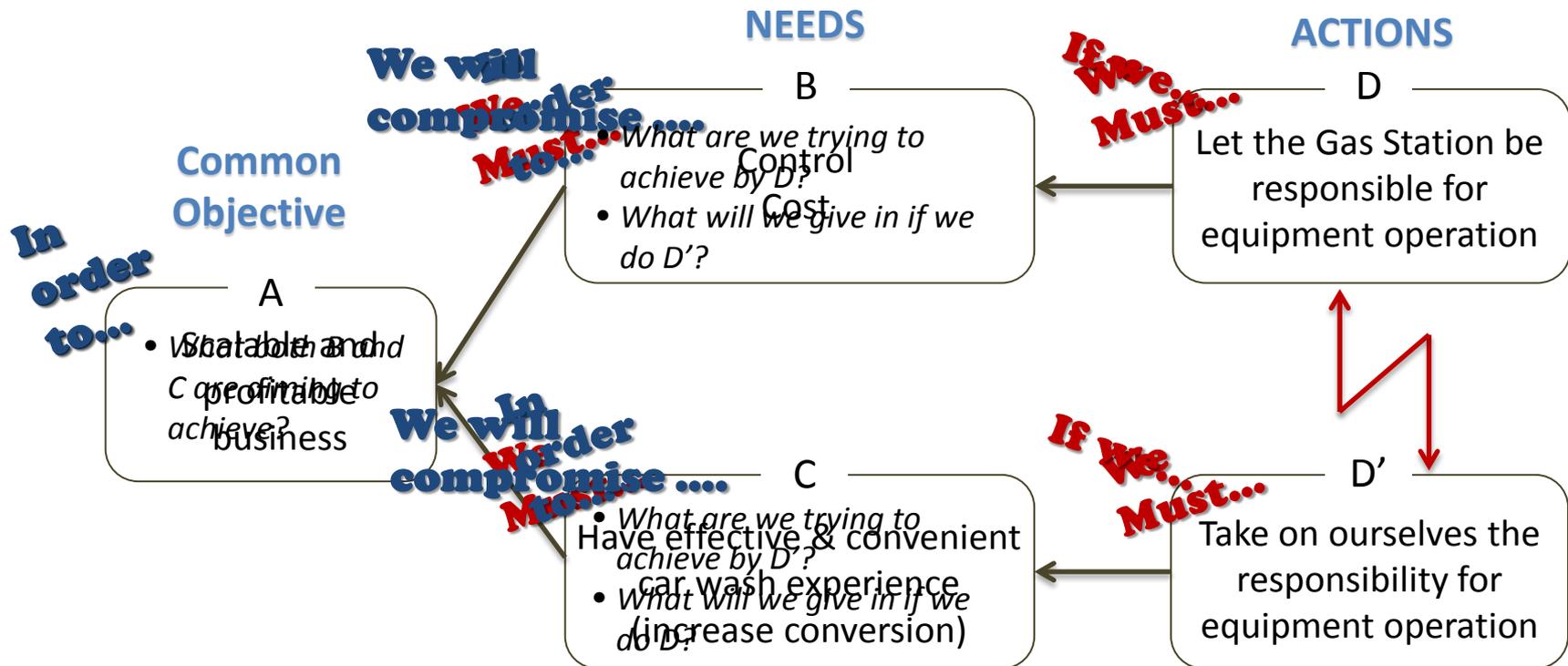
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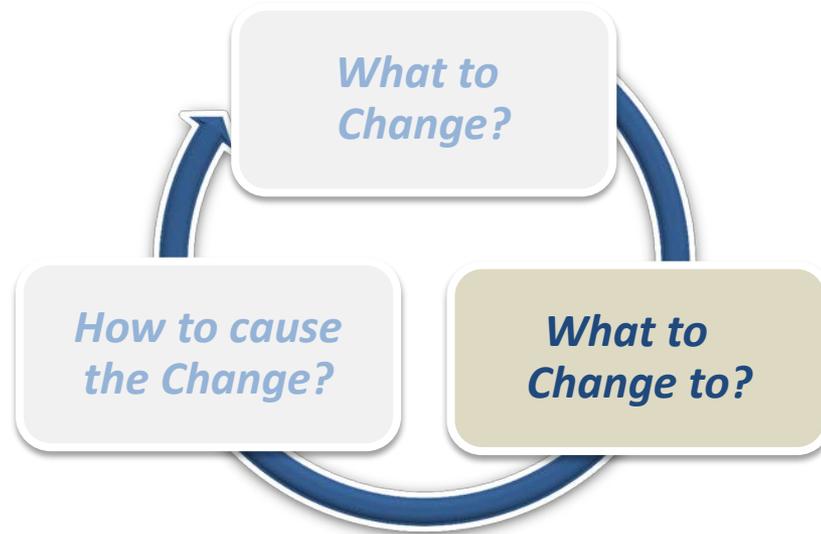
Core Conflict

Car Wash Equipment

What are the needs behind each opposing action/requirement?
Why both needs are important – what is the common objective?



What to Change to?



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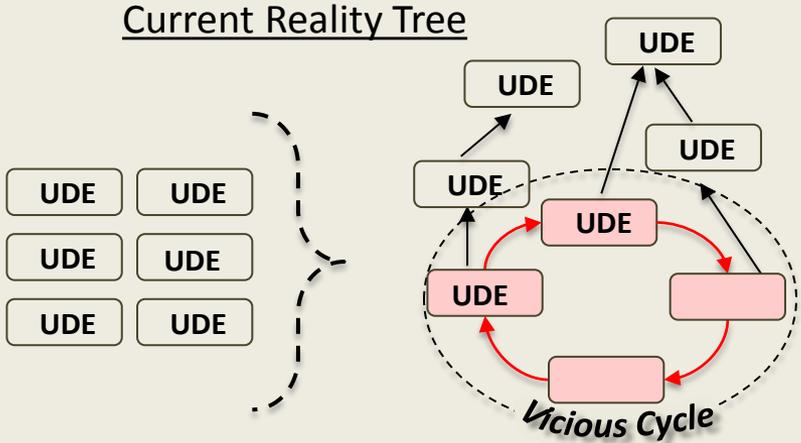
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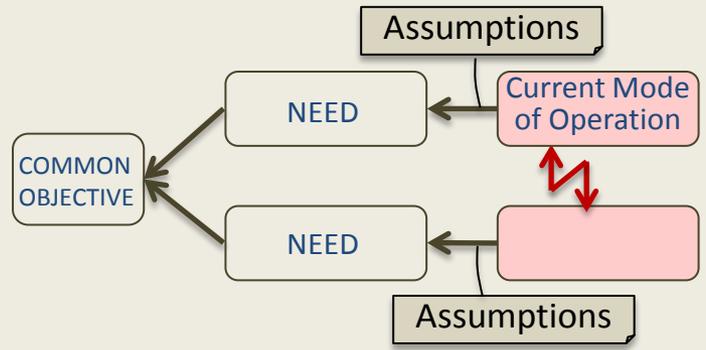
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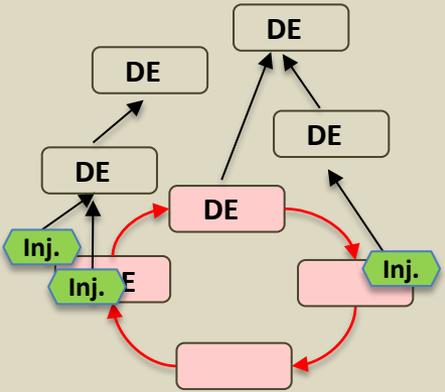


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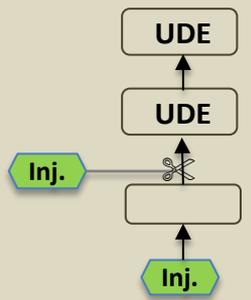


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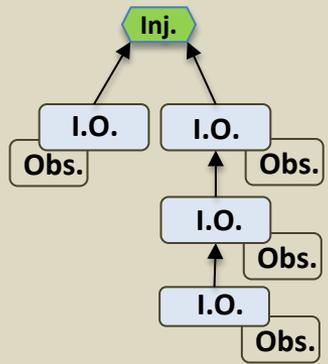
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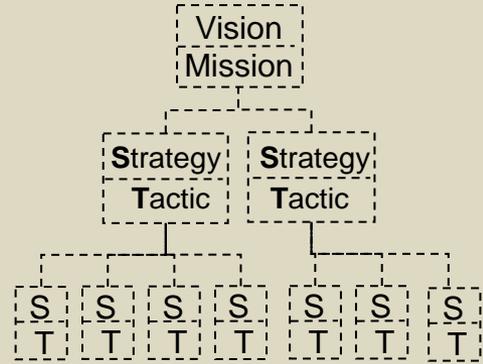
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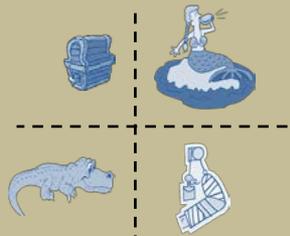
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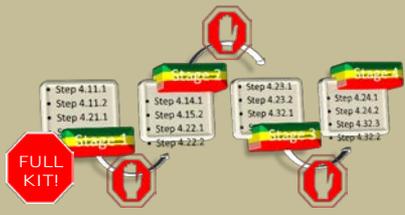


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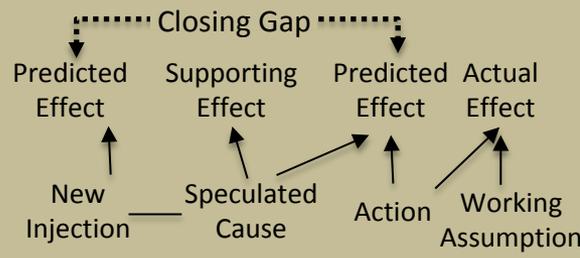
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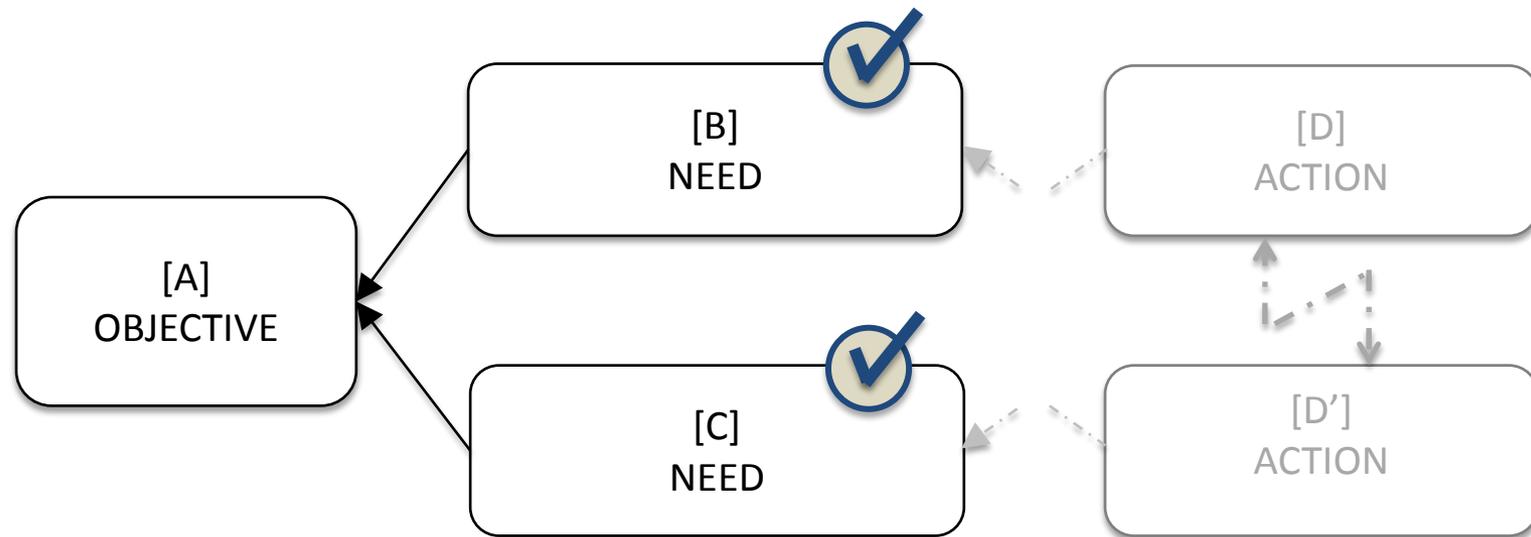
Breaking the Conflict

2

What to
Change to?

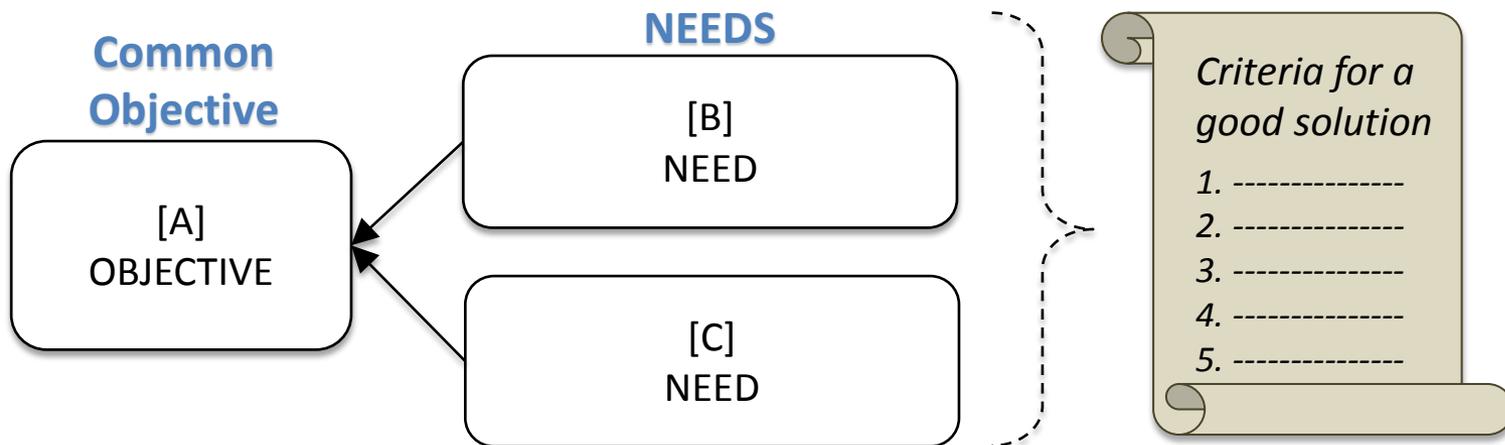
Direction of
Solution

In order to solve the conflict without a compromise we should strive to satisfy both needs.



SATSIFYING BOTH NEEDS – CRITERIA FOR A GOOD SOLUTION

- A good solution enables to satisfy the Needs on both sides of the conflict.
- Defining a list of criteria to evaluate if a proposed solution satisfies the Needs can help us come up with effective solutions.
- The list of criteria is not the solution. It is the yardstick used to evaluate any proposed solution. Any solution to the conflict is evaluated by the extent it meets the criteria.



Breaking the Conflict Example (2)

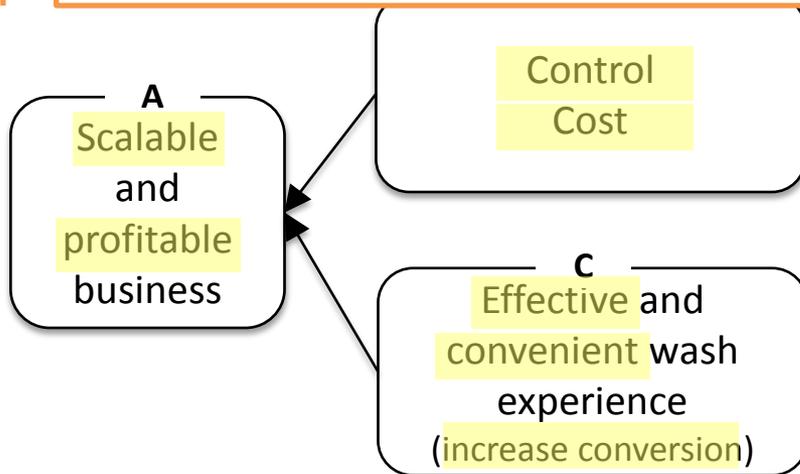
2

What to
Change to?

Direction of
Solution

SATSIFYING BOTH NEEDS – CRITERIA FOR A GOOD SOLUTION

- Mark the keywords in your verbalization of the Needs and the Common Objective, and clarify the meaning of each keyword.
- Based on the above clarification, devise a list of criteria that any good solution must meet.
- Make sure the Criteria address both needs of the system for growth and stability.



Meaning of **effective and convenient wash**:

- High and consistent quality of wash
- Dramatically reduce Time to wash.
- Dramatically reduced non service periods.

Meaning of **increase conversion**:

- Increase gas station ROI.
- Maintain initial high rate of conversion.

Meaning of **control cost**:

- Maintain current fixed cost levels.
- Ensure good ROI for company.

SATSIFYING BOTH NEEDS – **CRITERIA FOR A GOOD SOLUTION**

Criteria for a good solution

Any solution to the conflict should...

- 1. Ensure good consistent quality of wash.*
- 2. Reduce time to wash.*
- 3. Enable good ROI to gas station.*
- 4. Be scalable across many current and new clients.*
- 5. Increase sales and profit levels to company.*

Breaking the Conflict

2

What to
Change to?

Direction of
Solution

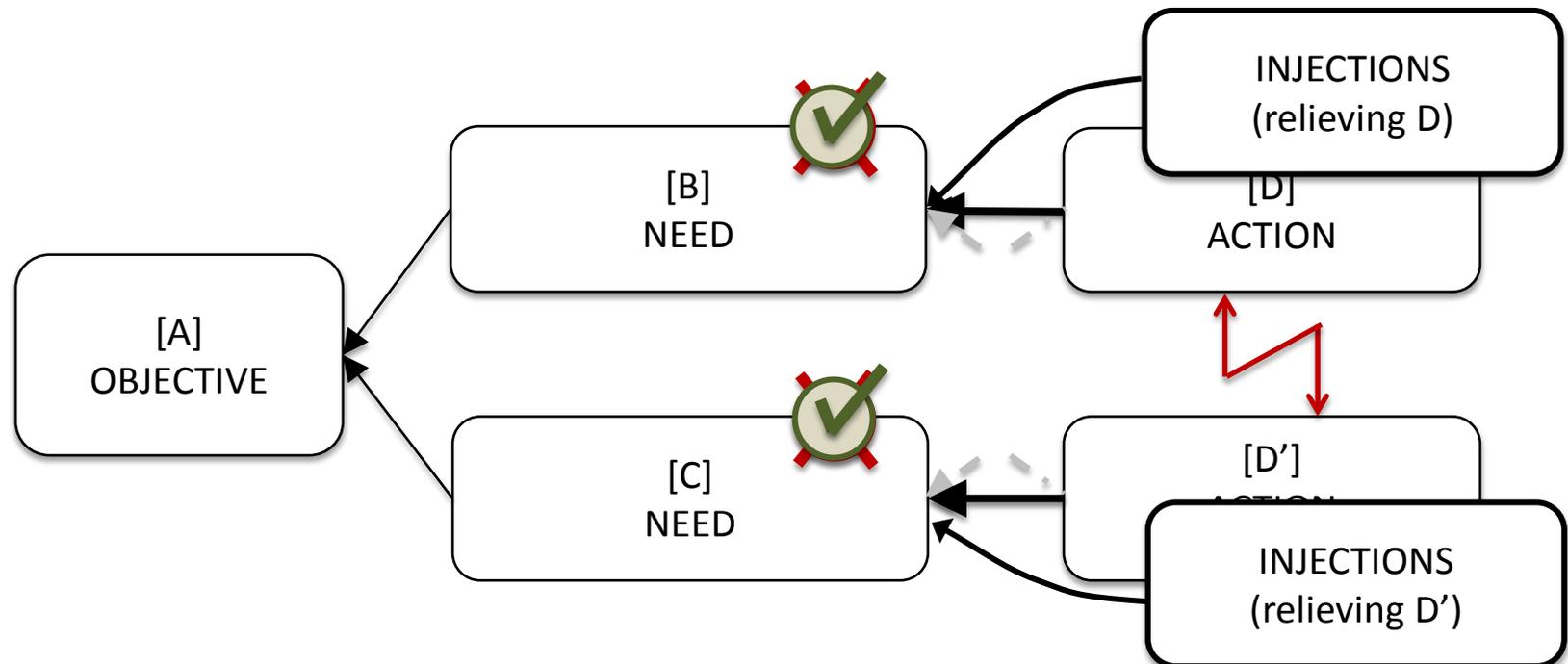
Since actions D and D' are in conflict they cannot coexist.

As long as D is necessary to have B,

and D' is necessary to have C,

we cannot satisfy both Needs.

In order to satisfy both needs we should find alternative ways
("Injections") to satisfy the needs without a conflict.



Breaking the Conflict

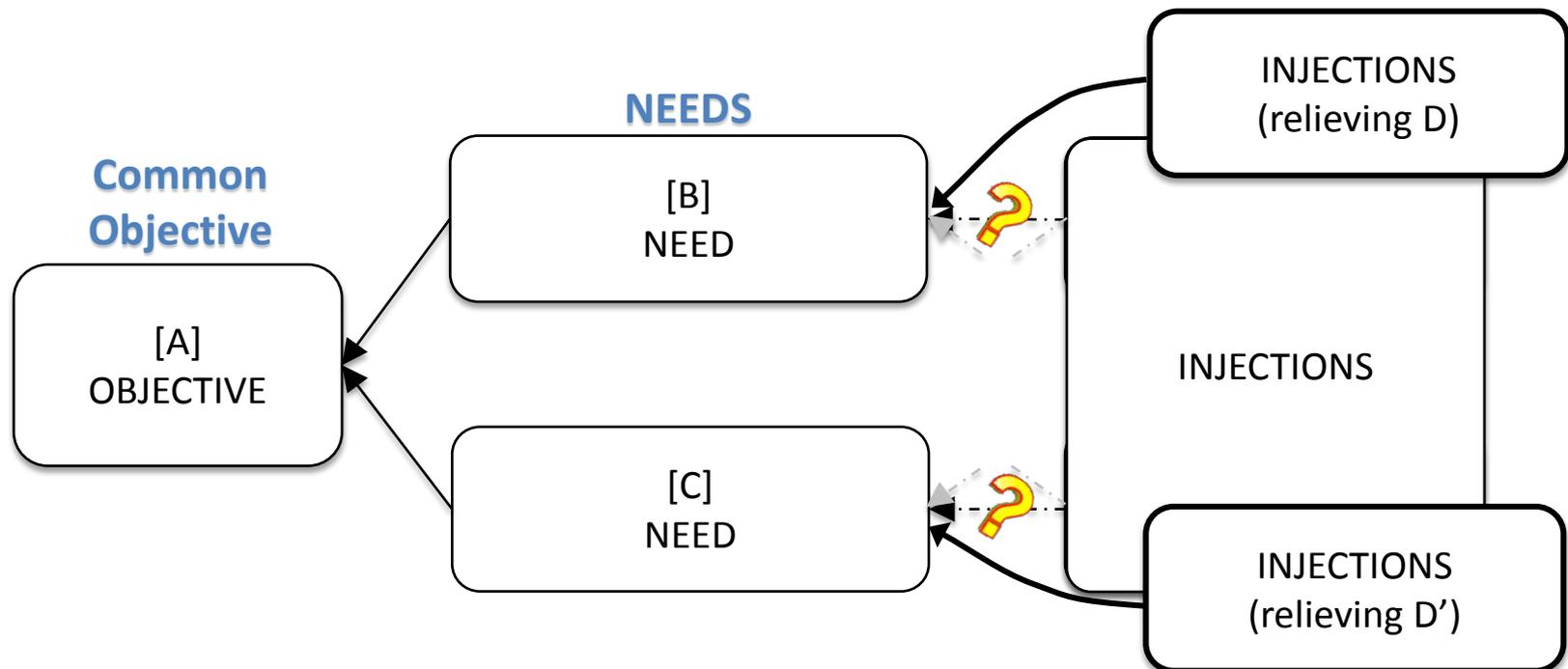
2

What to
Change to?

Direction of
Solution

FINDING INJECTIONS

- Which changes can enable us to meet the criteria and get both [B] and [C]?
- How can we have [B] although we do [D']?
- How can we have [C] although we do [D]?



Breaking the Conflict - Example (2)

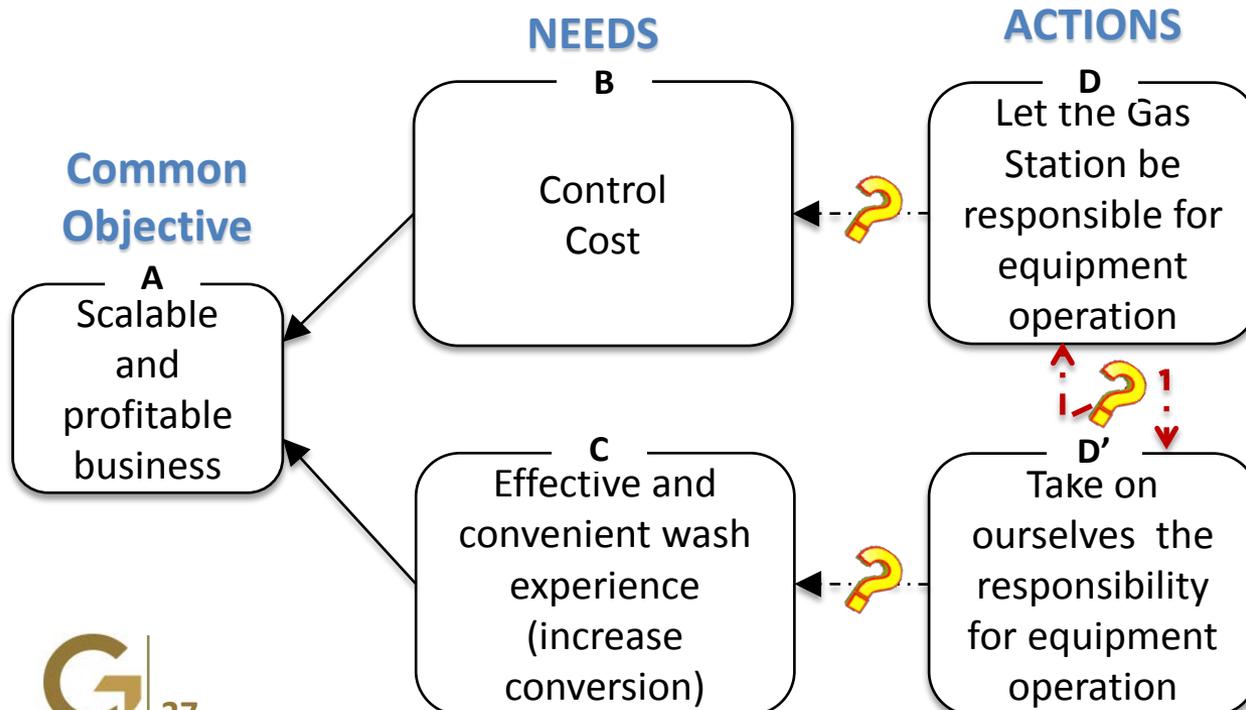
2

What to Change to?

Direction of Solution

Car Wash Equipment

- Which changes can enable us to meet the criteria and get both [B] and [C]?
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- How can we have [C] although we do [D]?



Criteria for a good solution

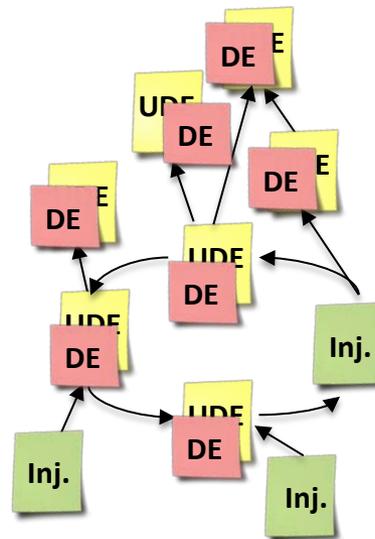
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2. Reduce time to wash.
3. Enable good ROI to gas station.
4. Be scalable across many current and new clients.
5. Increase sales and profit levels to company.

The Solution:

- Remotely monitor the operational status of each equipment.
 - Processes that will remotely recalibrate the equipment.
 - Concentrated soap cartridge to reduce the need for manual intervention.
 - Have a quick pay kiosk in front of the machine and a simplified wash-options menu.
 - We can offer the upgraded kit to the gas station owner and share the upside.
 - Another option – we assume responsibility for the wash, and share with gas station.
- Quality*
- Convenience*
- ROI*

The Future Reality Tree

Verifying the Solution Effectiveness



Let's make sure we do break the vicious cycle and eliminate the UDEs.



Solution Verification – Car Wash

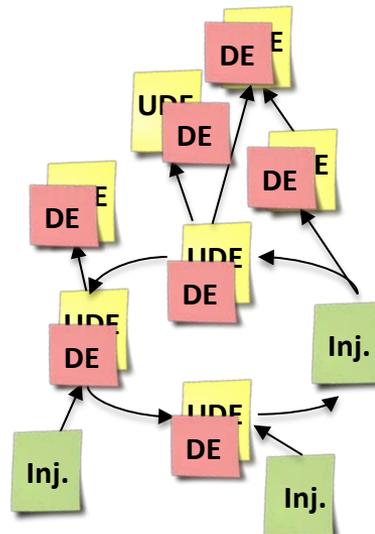
2

What to
Change to?

Direction of
Solution

Examine the CRT with the Direction of Solution in mind:

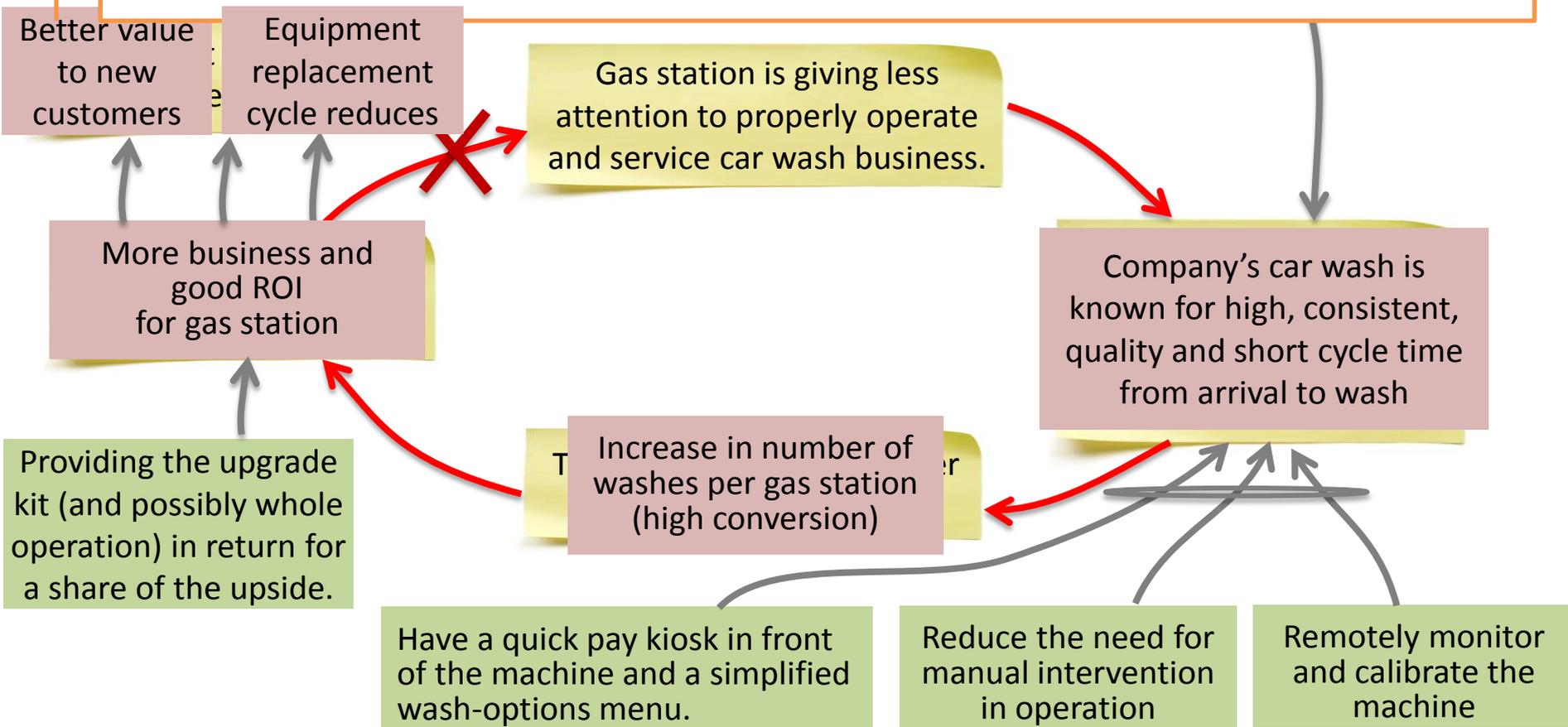
- Plug the injections in the right places and verify the CRT transforms to an FRT.
- Do the UDEs still exist with the same intensity?
- What are the DEs (Desired Effects)?
- What should be added to the solution to achieve the DEs?



Solution Verification – Car Wash

Examine the CRT with the Direction of Solution in mind:

- Plug the injections in the right places and verify the CRT transforms to an FRT
- Do the UDEs still exist with the same intensity?
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- What should be added to the solution to achieve the DEs?



1

What to Change?

Approach

Vicious
Cycle

Core
Conflict

2

What to Change to?

Direction Of
Solution

**Refining the
Solution**

Robust
Solution

3

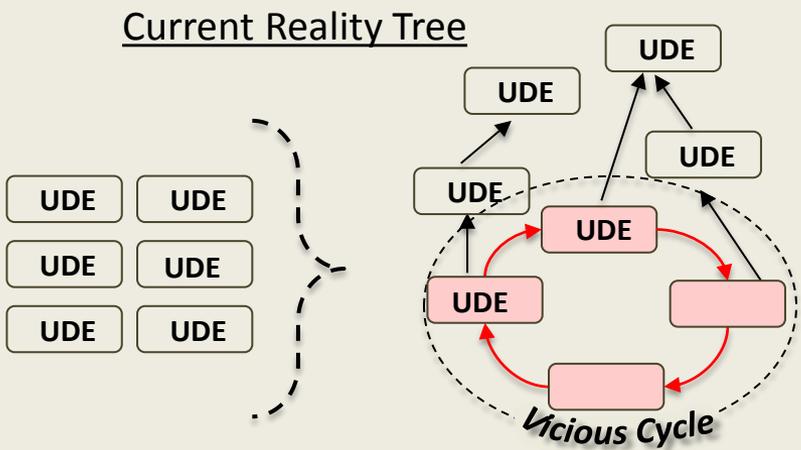
How to cause the Change?

Buy-in
Process

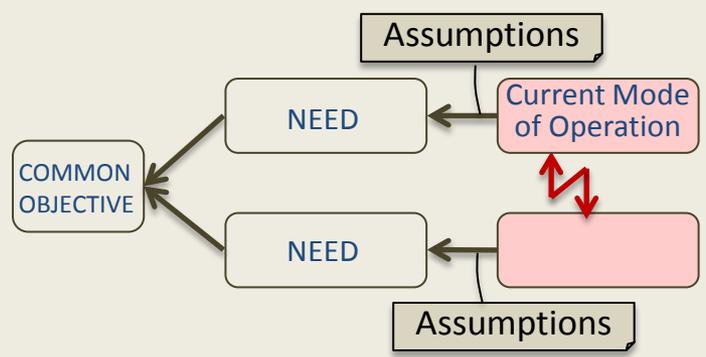
Execution
Plan

Mystery
Analysis

What to change?

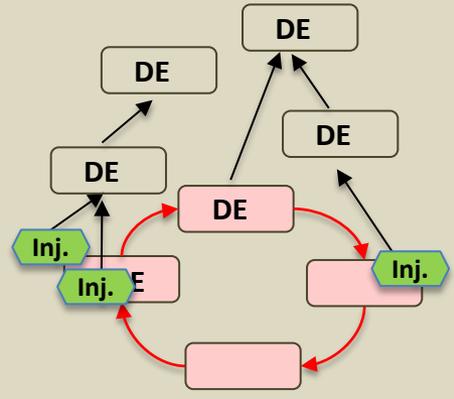


Conflict Cloud

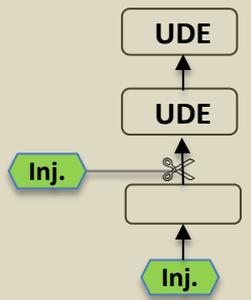


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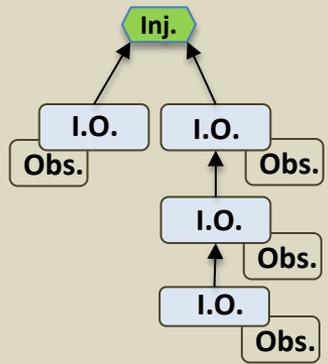
Future Reality Tree



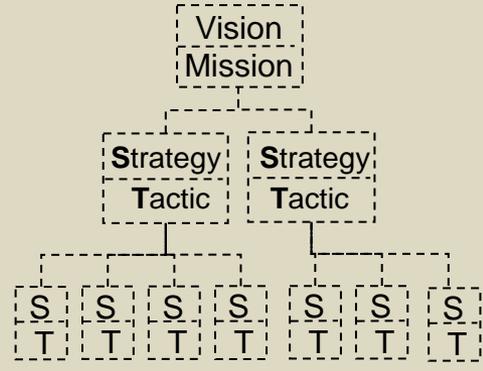
Negative Branches



Prerequisites Tree



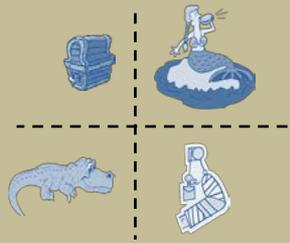
Strategy & Tactic Tree



How to cause the change?

Achieving Buy-in

Change Matrix

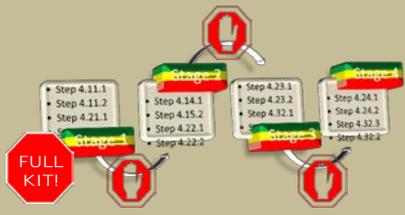


Layers of Resistance

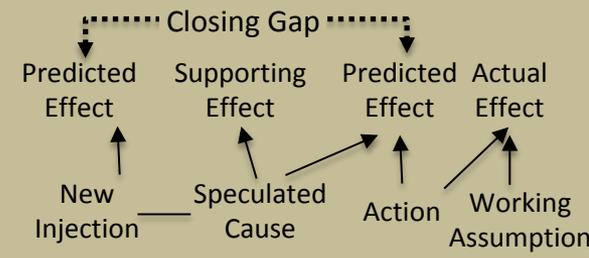
1. Problem is different
2. A different direction
3. The solution is partial
4. Yes, BUT risks
5. Yes, BUT obstacles
6. Un-verbalized fear

Execution Plan

Flow Management



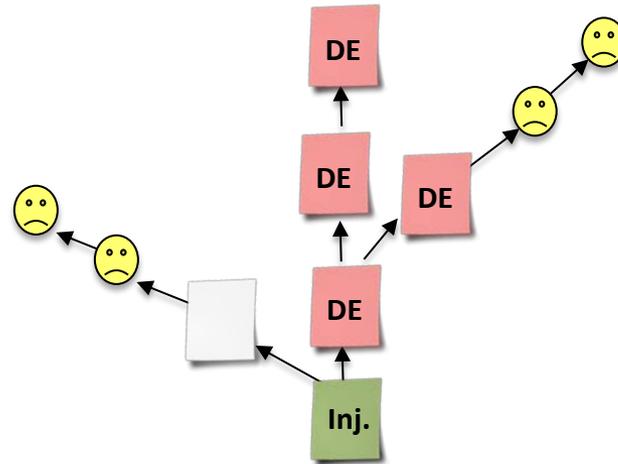
Mystery Analysis



Negative Branches

Refining the Solution – trimming negative outcomes

What should be added to the solution to avoid the negative outcome?



Trimming Negative Branches

2

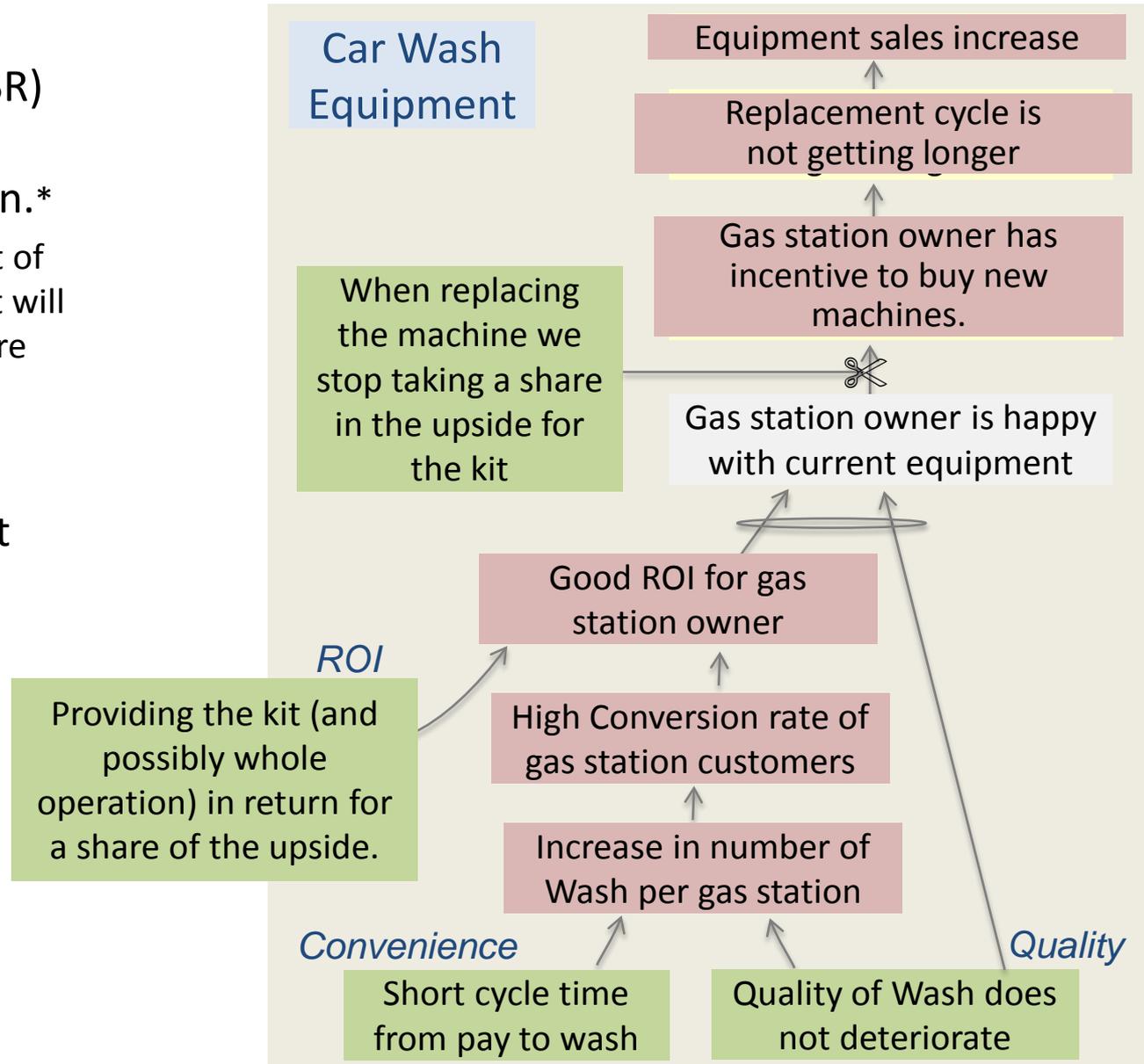
What to Change to?

Refining the Solution

- We look for possible negative branches (NBR) in order to polish and strengthen the solution.*

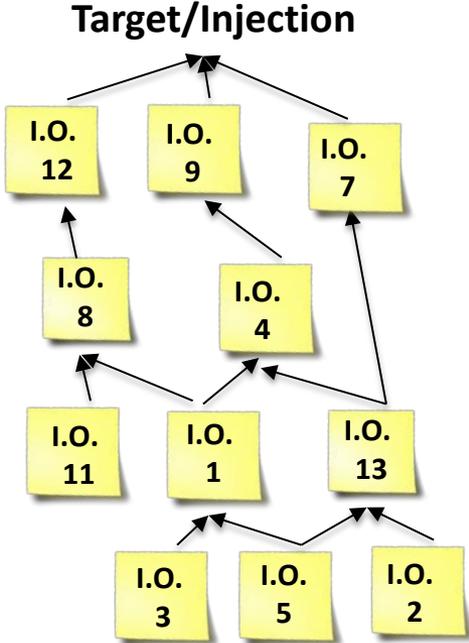
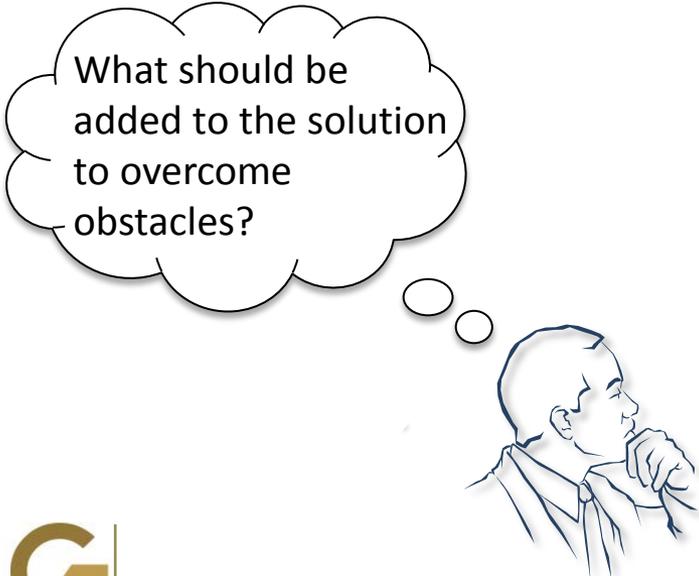
* Note: NBRs may also result of achieving the DEs. (e.g. what will become a constraint if DEs are achieved?)

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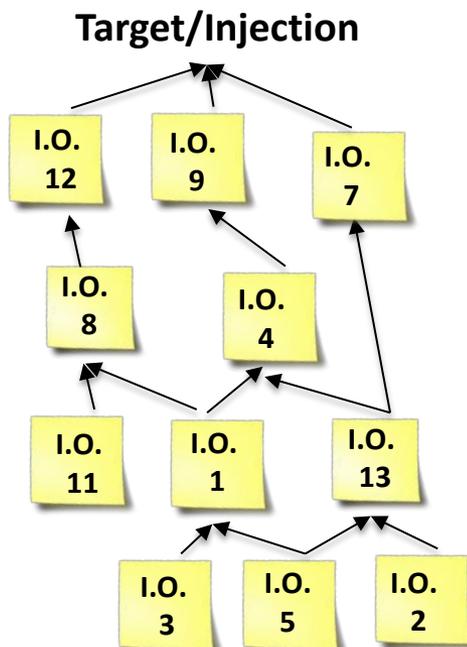
Prerequisite Tree

Refining the Solution – overcoming obstacles



The Prerequisite Tree (PRT) is used to define the Intermediate Objectives (prerequisites) for achieving an ambitious target.

When we need to break generic injections to smaller elements we treat each injection as an ambitious target and create a PRT for it.



The Prerequisite Tree

2

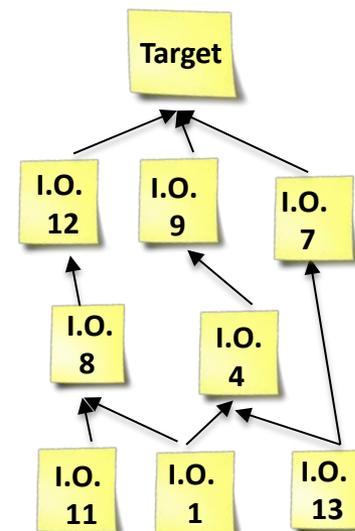
What to
Change to?

PRT

The process to construct a PRT:

1. Define the ambitious target (or select one of the generic injections).
2. Make a list of obstacles standing in the way to achieve the target.
3. For each obstacle define an Intermediate Objective (I.O.); achieving the I.O. means overcoming the obstacle.
4. Sequence the I.O.s from the target to the beginning. (“in order to achieve the target we must first achieve...; in order to achieve the intermediate objective we must first achieve...”)

Obstacle	I.O.



The Prerequisite Tree – Car Wash

2

What to
Change to?

PRT

Have a quick pay kiosk in front of the machine and a simplified wash-options menu.

I.D.	Obstacle	I.O.
1		
2		
3		
4		
5		
6		
7		

1

What to Change?

Approach

Vicious
Cycle

Core
Conflict

2

What to Change to?

Direction Of
Solution

Refining the
Solution

**Robust
Solution**

3

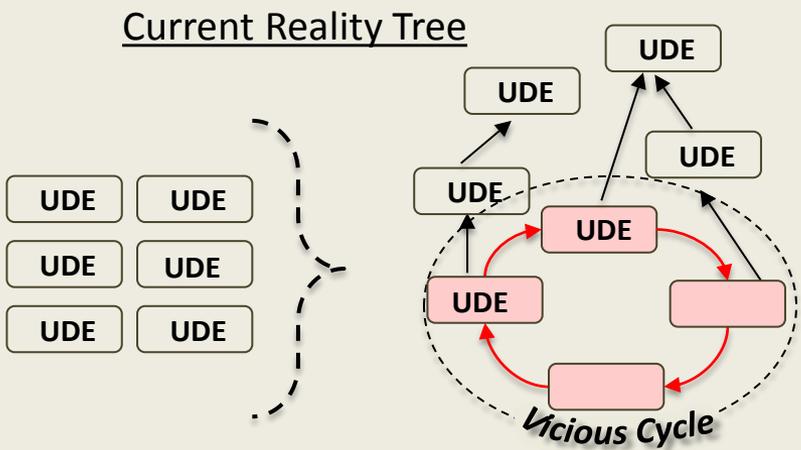
How to cause the Change?

Buy-in
Process

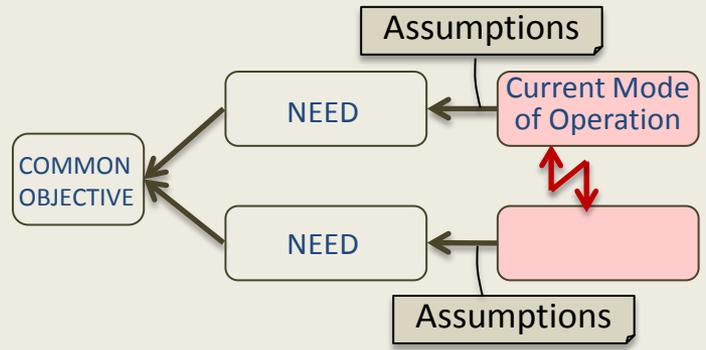
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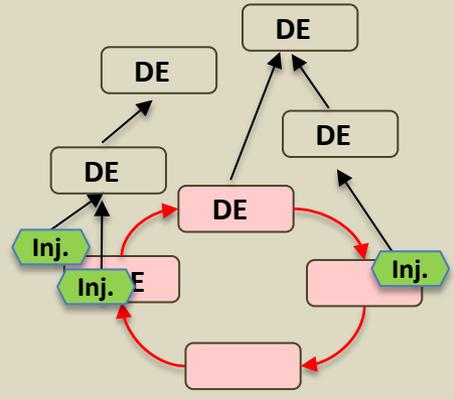


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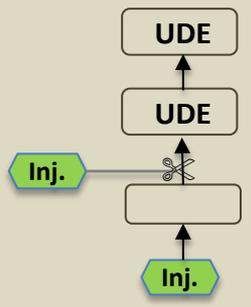


What to change to?

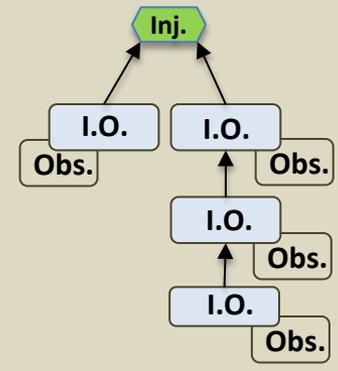
Future Reality Tree



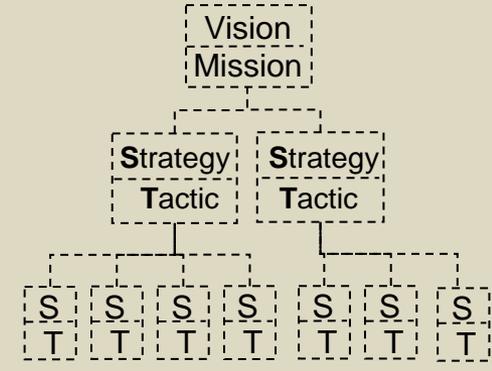
Negative Branches



Prerequisites Tree



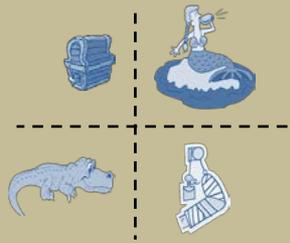
Strategy & Tactic Tree



How to cause the change?

Achieving Buy-in

Change Matrix

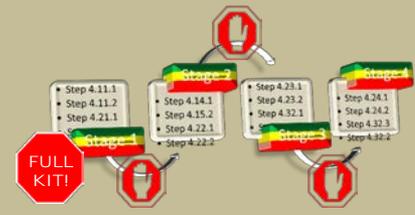


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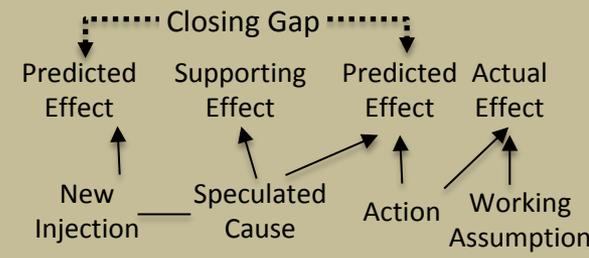
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Execution Plan

Flow Management



Mystery Analysis



Achieving Breakthrough - INSIGHTS

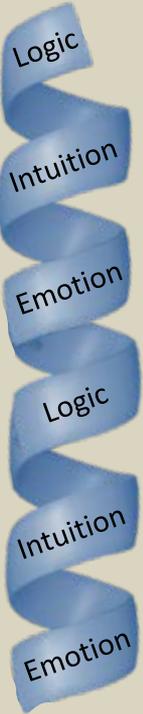
Insights:

1. To achieve a breakthrough we need to look outside the boundaries of a given stakeholder.
2. We need to identify the vicious cycle / conflict that severally impacts all stakeholders.
3. We have to look for a solution that break the vicious cycle in a way that will directly impact all stakeholders.
4. For the solution to be feasible the solution should rely on existing programs of agencies and only add the minimum changes.



“When we practice thinking clearly we don't devote the same attention to every subject; we tend to concentrate on our areas of interest.

Now suppose that we use the intuition that we have in these areas to fuel logic. The more we succeed in thinking clearly the deeper our emotions in those areas become. The deeper the emotions, the stronger is the resulting intuition. The stronger the intuition, the higher the chances to successfully apply logic – the higher the chances to achieve good results. And since these results were achieved in our areas of interest they are meaningful in our eyes. The more meaningful the results the deeper are the emotions and so on and on.”



Dr. Eli Goldratt; The Choice; Ch. 18

Thank you



S U C C E S S
— F R A M E W O R K —

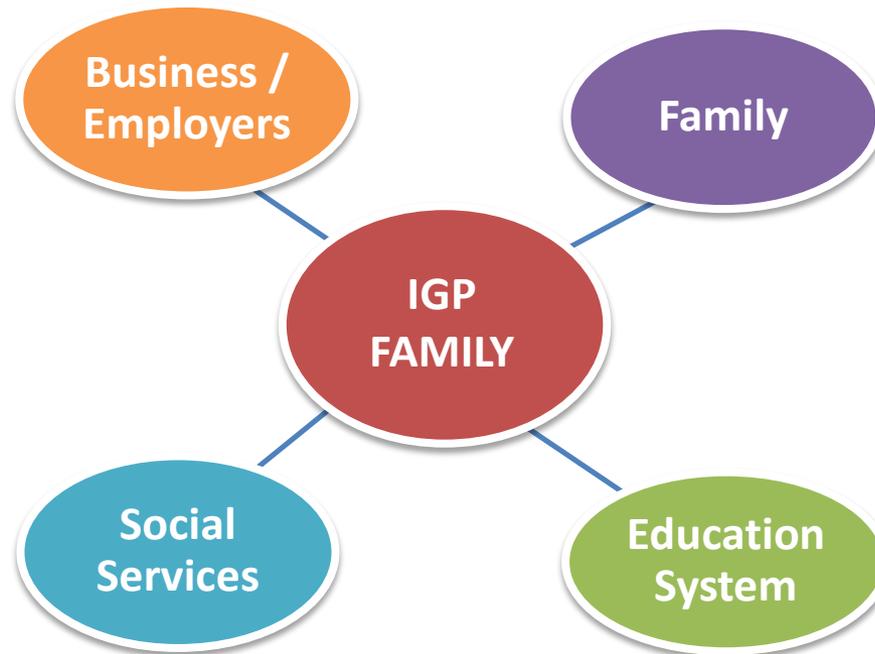
1. Define the system - IGP

1

What to
Change?

Vicious
Cycle

Inter Generation Poverty



2. Collecting the UDEs - IGP

1

What to Change?

Vicious Cycle

IGP Stakeholders –
Listing major UDEs

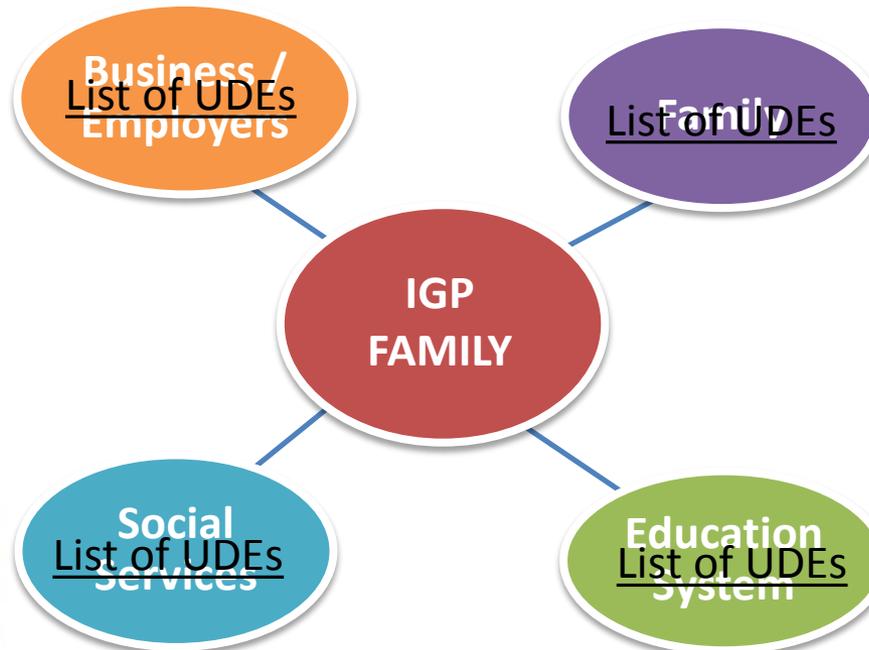
Lack of skilled workers

High attrition rate

Need to expand
outside the state

Growing investment
and load

Frustration



Growing up in a poor socio-economic environment

2nd generation poverty

Low pay jobs/
unemployment

Crime & Addiction

Low graduation rate

High attention of
teaching resources

Frustration of failure

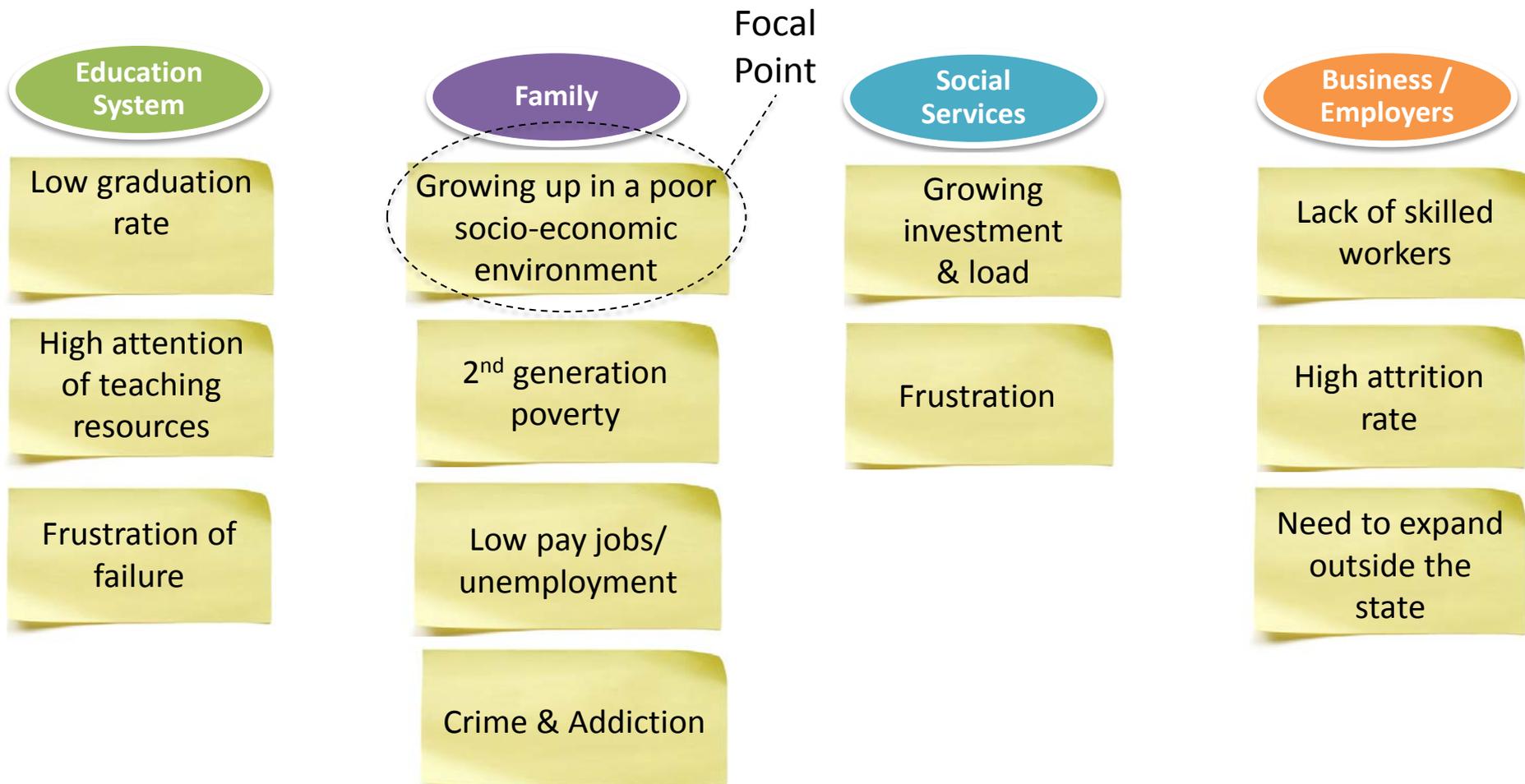
3. Identify a Focal Point - IGP

1

What to Change?

Vicious Cycle

- Examine the UDEs and identify a Focal Point.
 - Identify a phenomena which seems to be a major source of problems and is getting worse and worse.



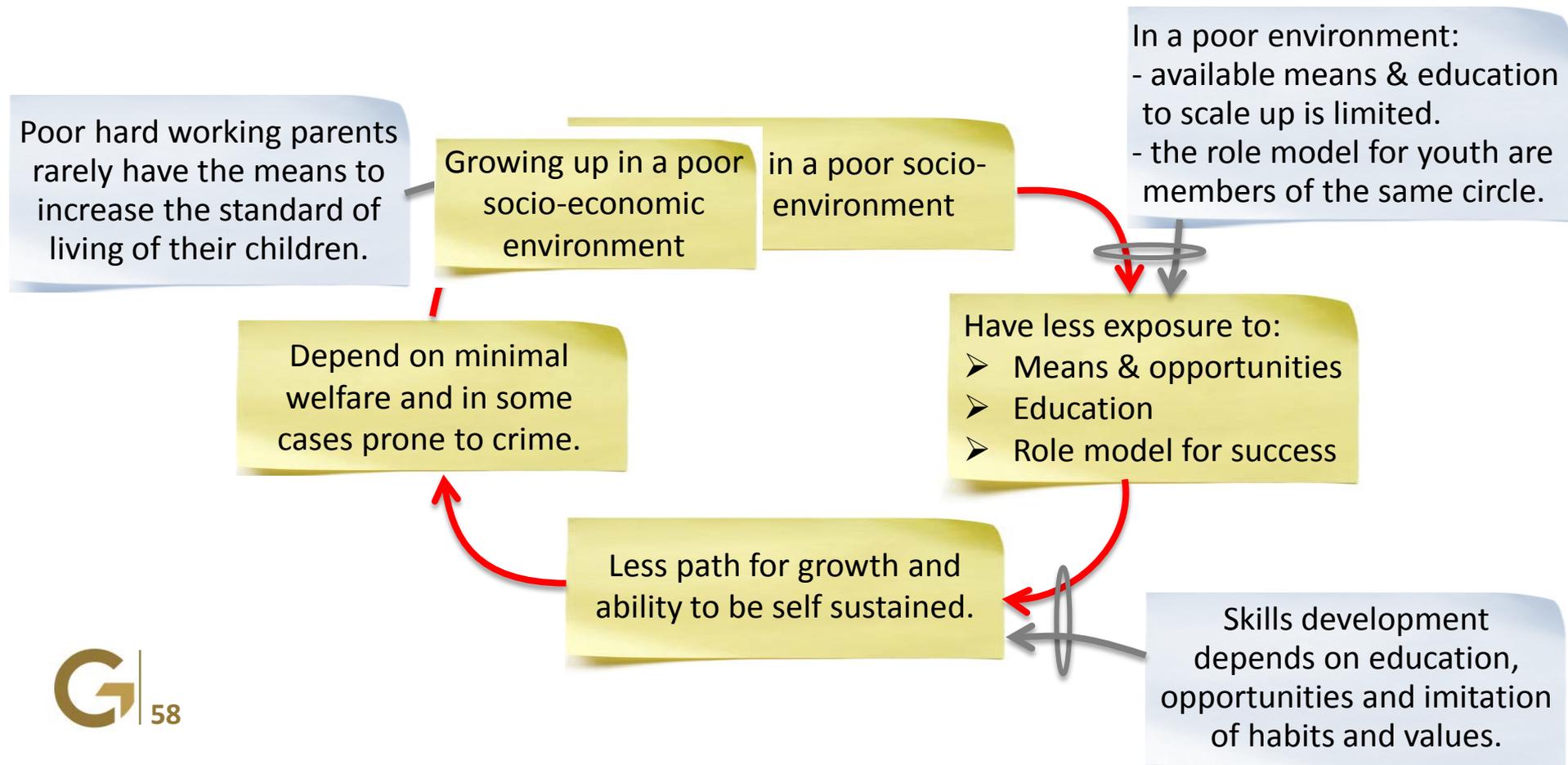
4. Define the Vicious Cycle - IGP

1

What to Change?

Vicious Cycle

- Define the Vicious Cycle and identify a Focal Point loop which escalate the focal point.
 - Read each connection in the Vicious Cycle using “if, then” and is
 - When a connection is not clear, either:
 - add additional intermediate steps in the cycle.
 - add an explanation for the conditions under which the cause leads to the effect.



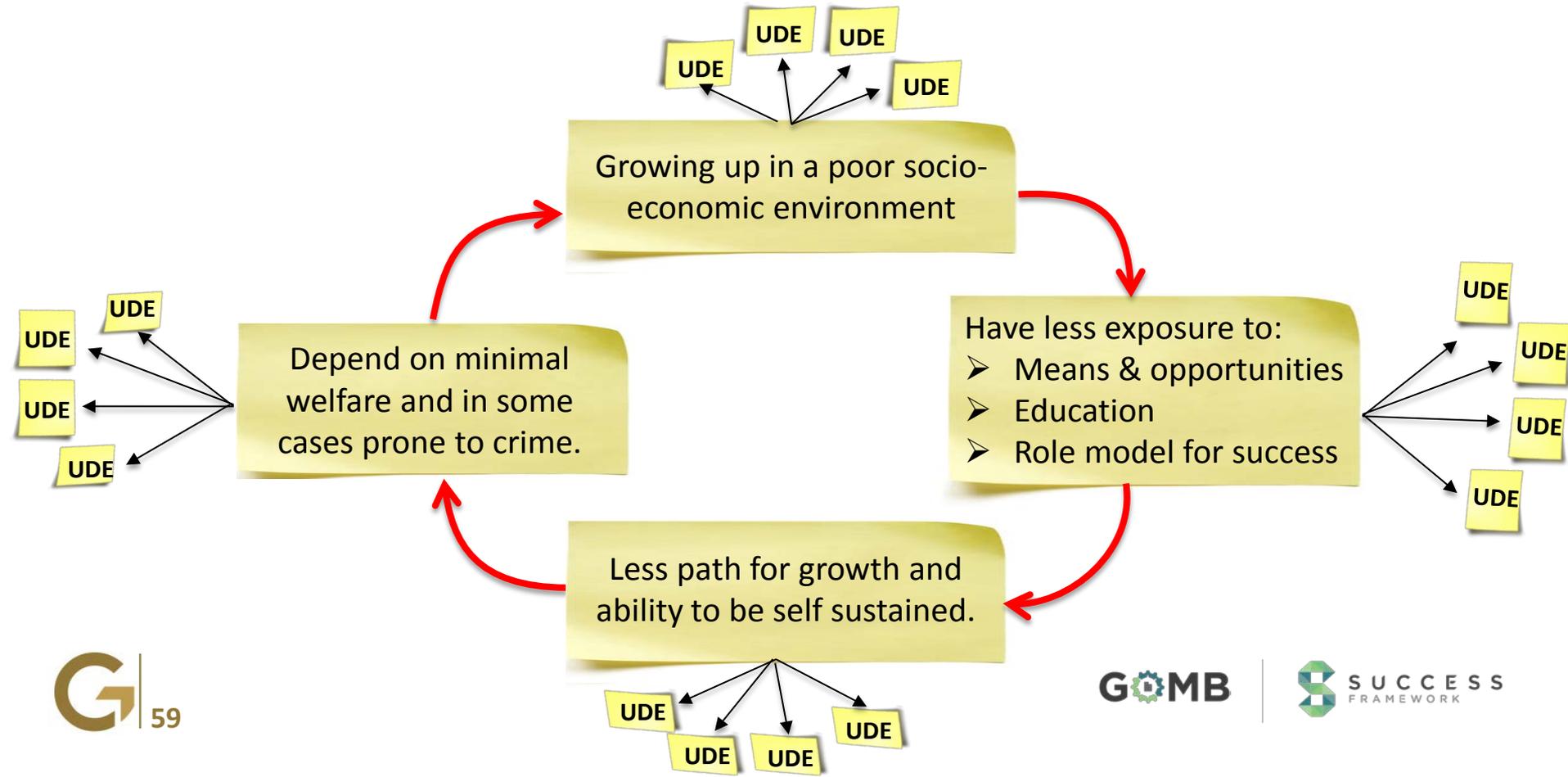
5. Connect the UDEs – IGP

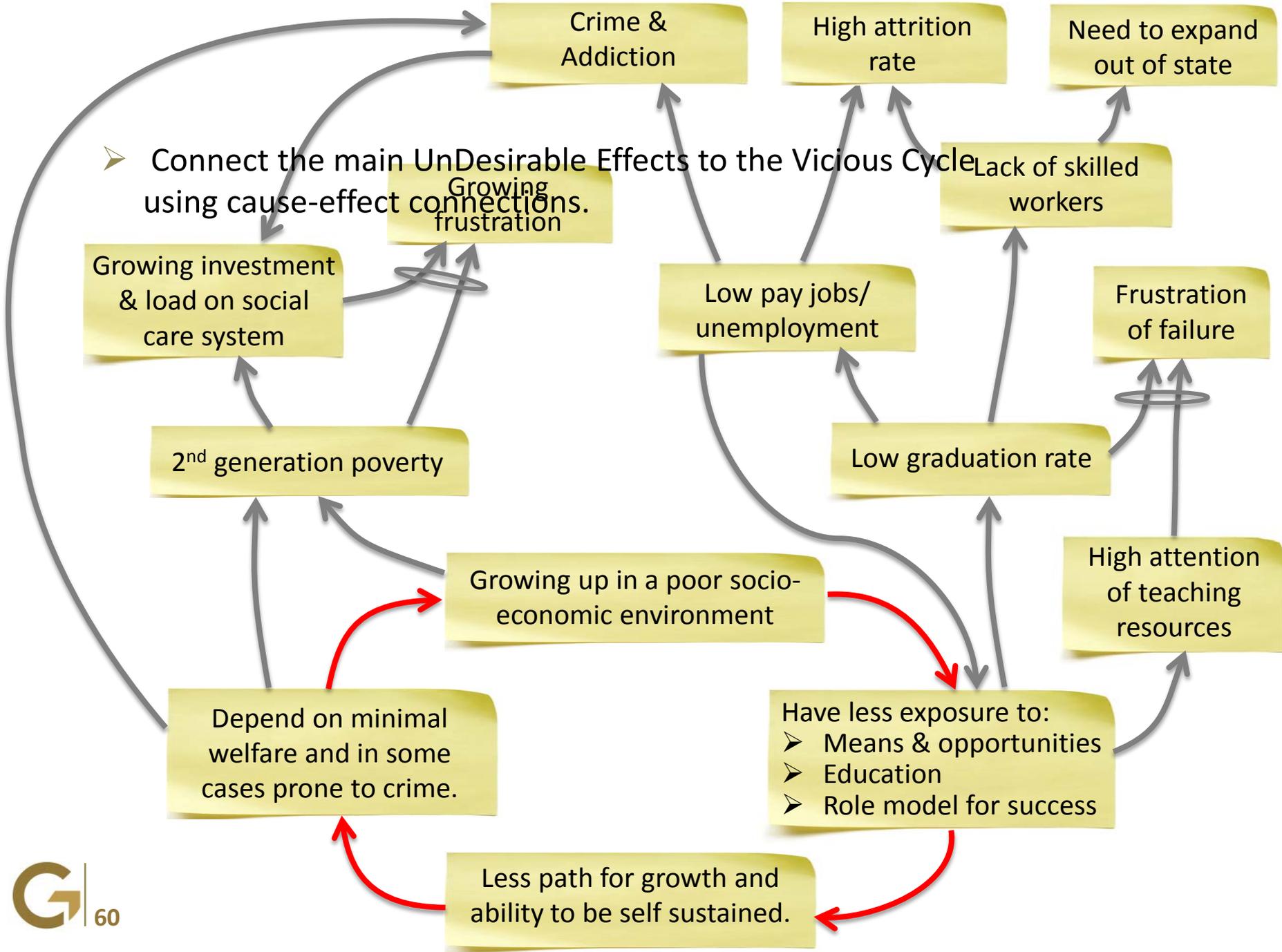
1

What to Change?

Vicious Cycle

- Define the Vicious Cycle – the negative feedback loop which escalate the focal point.
- Connect the main UnDesirable Effects to the Vicious Cycle using cause-effect connections.
- Read each connection in the Vicious Cycle using “If... then...”.
- When a connection is not clear, either:
 - add additional intermediate steps in the cycle.
 - add an explanation for the conditions under which the cause leads to the effect.





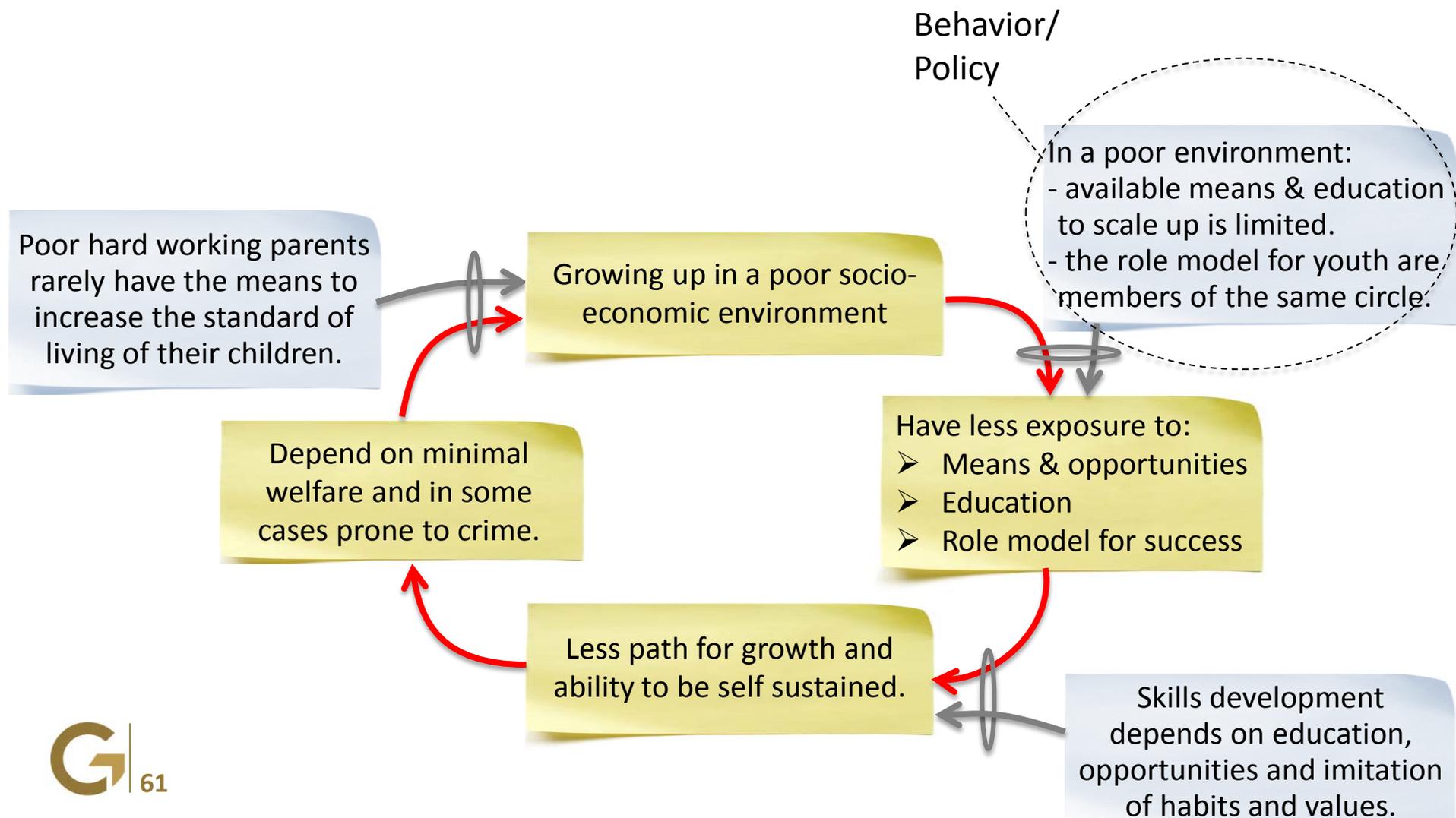
6. Core human behaviors/policies - IGP

1

What to Change?

Vicious Cycle

- Look for human behaviors / policies at the base of the UDEs.



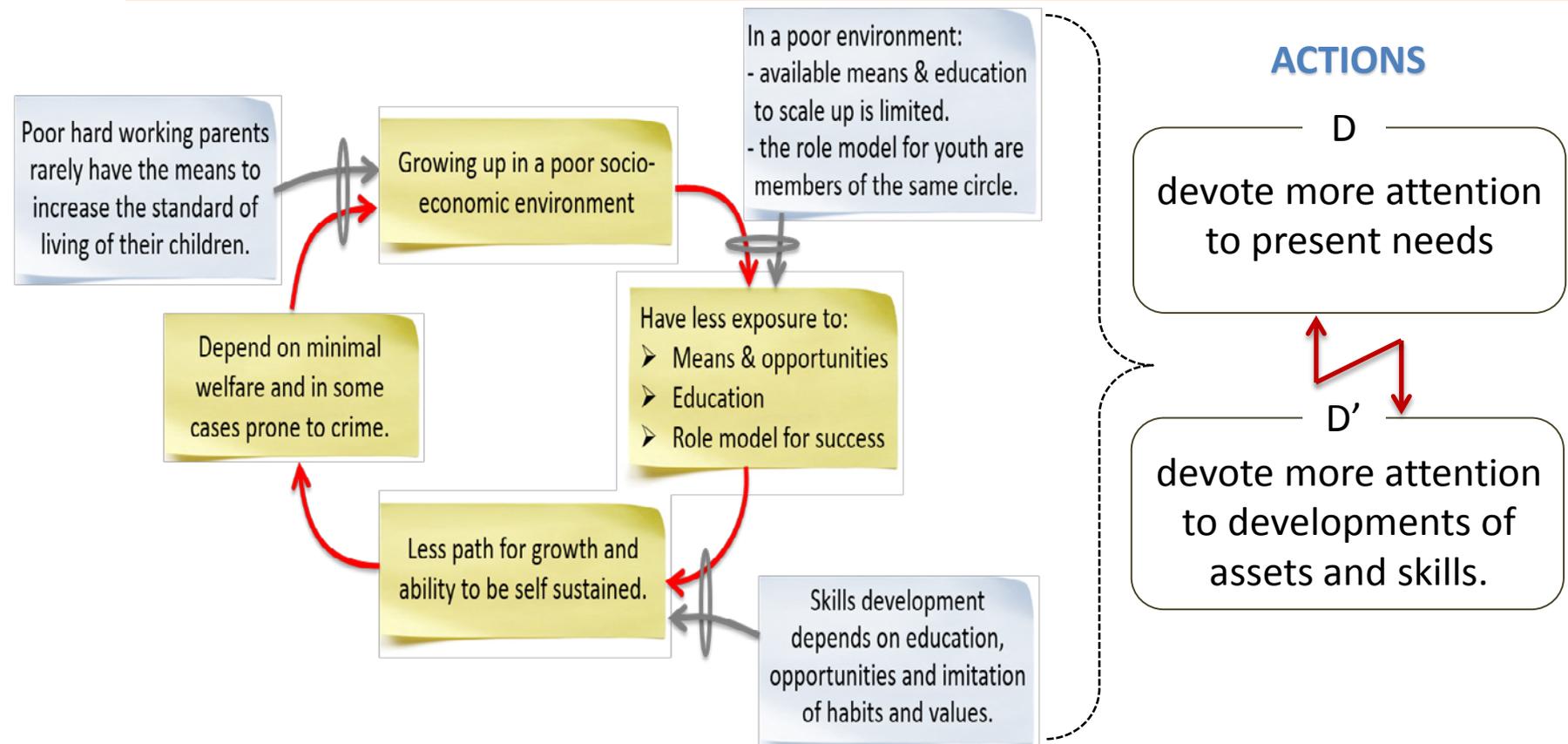
The Core Conflict - IGP

1

What to
Change?

Core
Conflict

- Examine the Vicious Cycle, the Focal point and the behaviors that are causing it.
 - What is the current mode of operation that prevent us from solving the Vicious Cycle?
 - What are we risking by changing the current mode of operation?
 - What is currently preventing us from solving the vicious cycle?
 - What is the core operational/business challenge blocking us from solving the Vicious Cycle?
- Based on above discussion define the underlying conflict - Write the current mode of operation as D, write the counter mode of operation as D'.



The Core Conflict - IGP

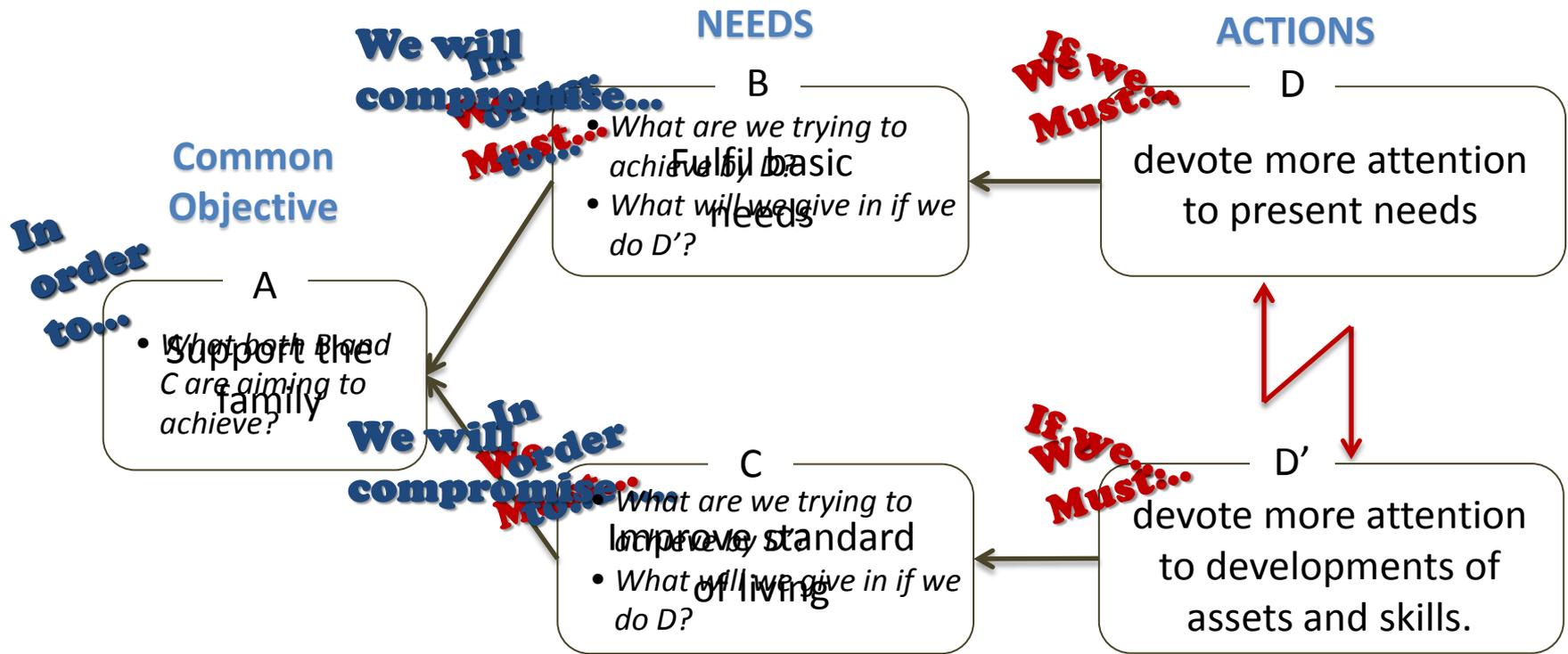
1

What to Change?

Core Conflict

What are the needs behind each opposing action/requirement?

Why both needs are important – what is the common objective?



The Core Conflict

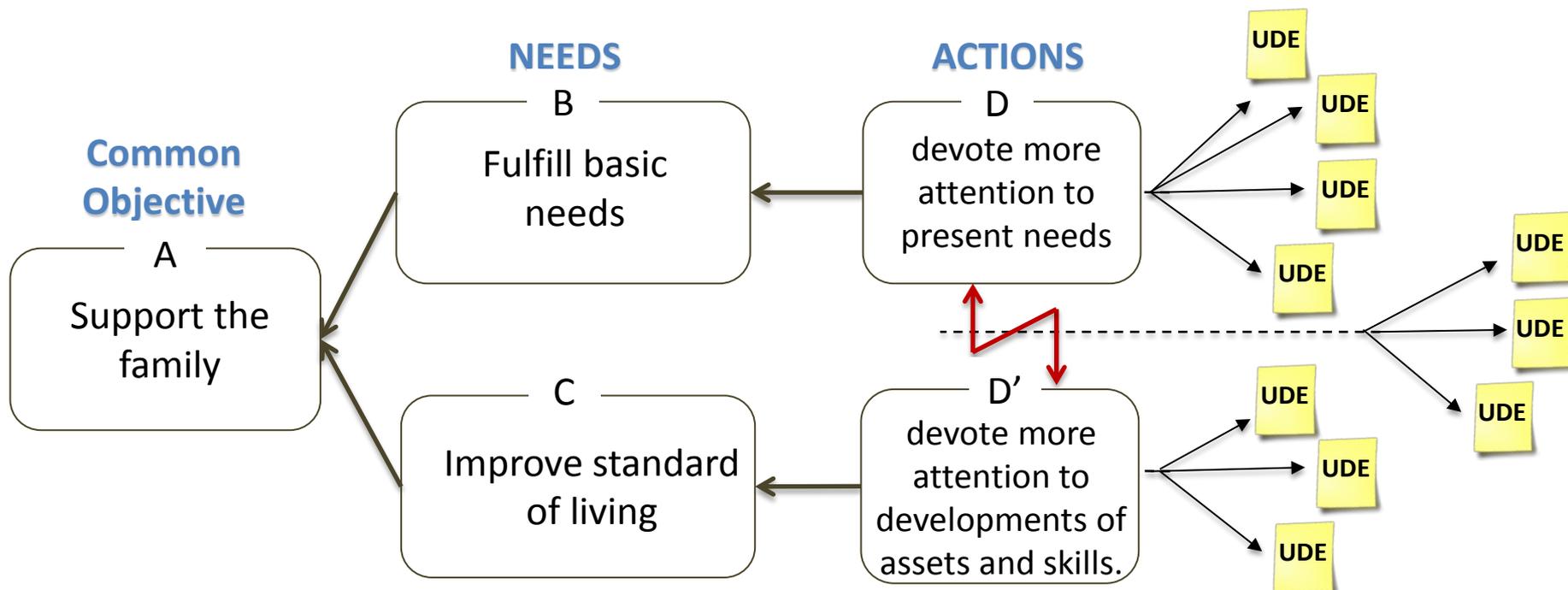
1

What to Change?

Core Conflict

Examine the UDEs appearing in the CRT.

- Are they a result of a tendency to be on one side of the cloud?
- Can you think of UDEs created at times we move to other extreme?
- Are there UDEs resulting from a certain compromise we apply?



SATSIFYING BOTH NEEDS – CRITERIA FOR A GOOD SOLUTION

Criteria for a good solution

Any solution to the conflict should...

- 1. Generate immediate success.*
- 2. Provide meaningful education.*
- 3. Have a positive helix (cycle).*
- 4. Not require additional investment/cost on already exhausted resources (of family and state).*
- 5. Be applicable for (majority/critical mass) of families.*

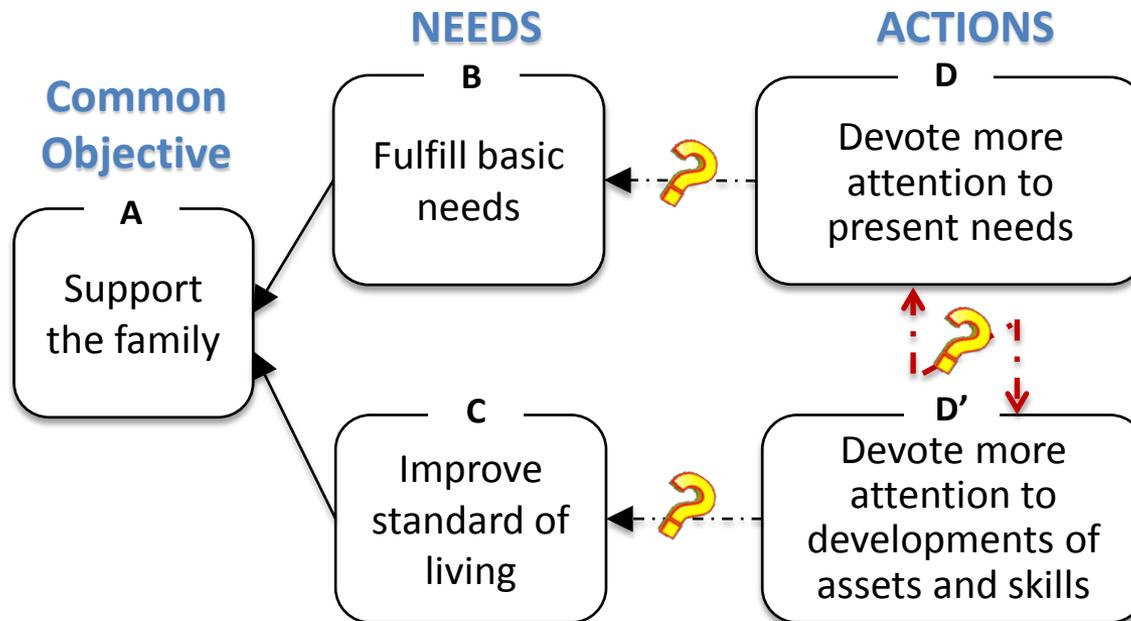
Breaking the Conflict - IGP

2

What to Change to?

Direction of Solution

- Which changes can enable us to meet the criteria and get both [B] and [C]?
- How can we have [B] although we do [D]?
- How can we have [C] although we do [D]?
- Make sure the solution address both needs of the system for stability and growth



Criteria for a good solution

1. Generate immediate success.
2. Provide meaningful education.
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4. Not require additional investment/cost on already exhausted resources (of family and state).
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Direction Of Solution Example (1)

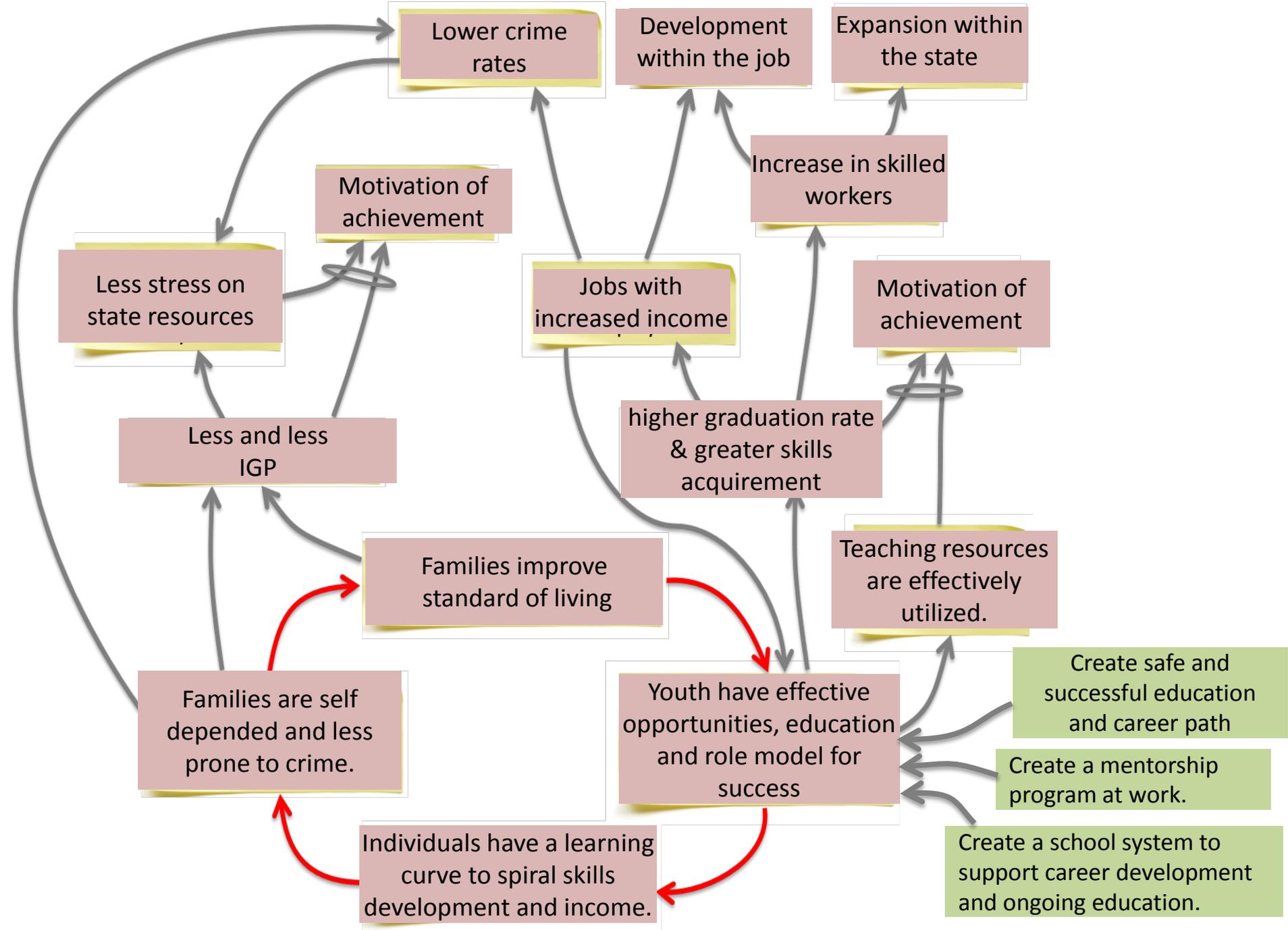
2

What to
Change to?

Direction of
Solution

The Solution:

- Create safe and successful education and career path (helix of learning → applying at work → learning -->).
- Create a mentorship program at work.
- Create a school system to support career development and ongoing education.



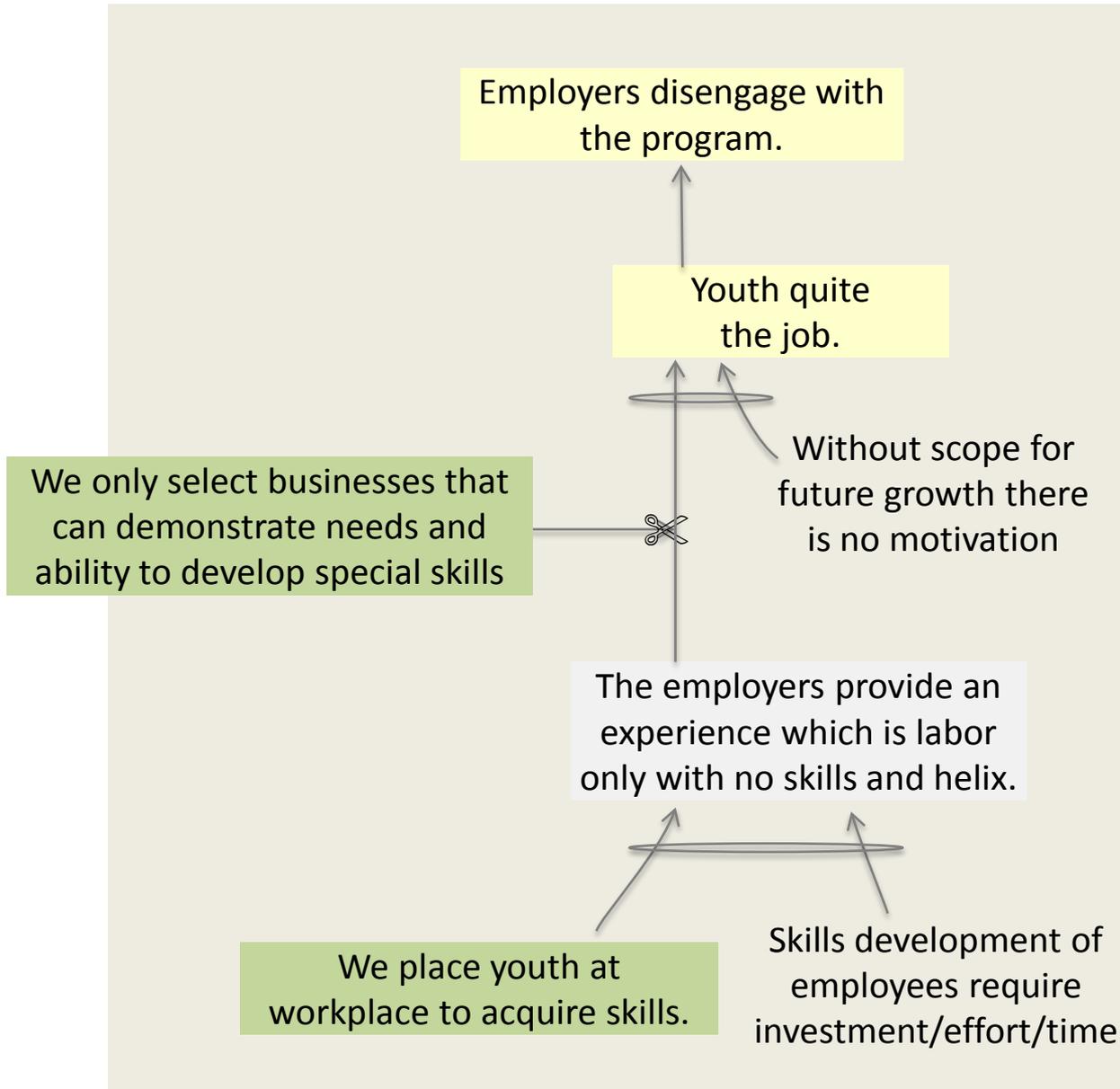
Trimming Negative Branches - IGP

2

What to
Change to?

Refining the
Solution

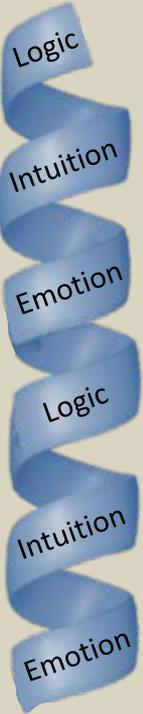
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