Building a Current Reality Tree

Cause & Effect

What the Theory of Constraints (TOC) is really all about!
Which system is more complex?
Complexity
Two very different ways of looking at it.

• In its most general use complexity tends to be used to characterize something with many parts in intricate arrangement. Therefore system B would be described as more complex.

• In the physics world complexity is used to describe the degrees of freedom which are present. The more freedom the more complex. Therefore system A is more complex.
Which system is more complex?

Whenever a problem is addressed in isolation, not only is the solution much more complex, but we cannot predict the system outcome.
Complexity

The current environment

• Demand for short term/high impact change.
• People are good at identifying problems and/or potential solutions.
• Prioritization becomes key.
• Currently handled one of five ways;
  – Internal source prioritizes
  – External source prioritizes
  – An assessment is used
  – More than one issue is addressed at the same time.
  – Combination of the above.
Complexity
The current environment

• How is prioritization handled internally?
• Do we look at problems in isolation?
• What are priority decisions made based upon;
  – Opinions – of one or group
  – Data
  – Ease of change
  – A combination or variation of the above
“All the undesirable effects of a organization can be linked together with cause and effect logic”  Goldratt – It’s not luck

“The more complex the problem appears, the simpler the solution must be”  Eli Goldratt
Eli Goldratt - The founder of TOC

• Was a physicist before TOC.
• Physicists typically disregard opinion, ease of change, and precise data to support findings.
• Some data is needed, but frequently, the data by itself does not clearly indicate cause-effect. In fact, sometimes data can create an additional barrier to acceptance.
• The preferred physicist method is to use cause & effect logic to explain a result.
• This is the paradigm Goldratt used to develop TOC and which he says is what all his books are about.
Why do we do it?

• Layers of Resistance to Change
  1. We don’t have a problem.
  2. You don’t understand the problem.
  3. I don’t agree with the direction of the solution.
  4. The solution won’t provide the results desired.
  5. Your solution will cause bad things to happen.
  6. We can’t do it because of...
  7. I don’t want to talk about it.

The Current Reality Tree helps overcome these three layers.
One way that TOC uses cause & effect logic to determine priority?

- Current Reality Tree (CRT) process contains six major steps:
  1. Determine the scope.
  2. List between 5 and 10 pertinent undesirable effects.
  3. Diagram the cause and effect relationships between the entities.
  4. Review and revise for clarity and completeness.
  5. Apply the "so what" test.
  6. Identify the core causes.
Client Example
The story as told with cause & effect!

- Inability to Meet the Schedule → Un-Desirable Effect → Inability to Determine Job Priority
- Lost Sales Opportunities → Un-Desirable Effect
- Negative Cash Flow → Un-Desirable Effect → Poor Vendor Performance
- Missed Due Dates → Un-Desirable Effect → Unhappy Customers
- Excessive Leadtime → Un-Desirable Effect
- Excessive Qty. of Set-ups → Un-Desirable Effect
- Inconsistent Product Quality → Un-Desirable Effect
- Low Employee Moral
Benefits

• Using a picture takes the focus off expertise level and promotes teamwork and common understanding.
• A CRT provides a visual thought process that can easily be scrutinized for validity and edited for increased buy-in of the problem & priority.
• Can uncover unrecognized needs.
• Gets you started on the one thing that has the most impact on the system as a whole.
How to write an Undesirable Effect (UDE)

Some characteristics of a well articulated UDE include:

• a complete statement about a single consequence – does not contain the following words/phrases: ‘and’, ‘because of’, ‘as a result of’, ‘lack of’, ‘due to’.
• something that exists in the reality of the organization precisely as stated.
• something that is negative in its own right, without dependence on any other factors.
• neither a presumed cause nor a presumed solution of the organization’s dilemma.
• Undesirability is usually defined in relation to the organizational or system's goal or its necessary conditions.