

The Need for a Thinking Process

By Kate Bennett

Article at a glance:

Modern business is plagued with examples of organisational failure and poor strategic decision-making, often the result of misleading data and unsupported intuition. It is obvious that we are in need of a Thinking Process which enables us to verbalise our intuition and emotion, and then rigorously test our assumptions using data and cause-effect logic

TOC has such a Thinking Process which organisations can use to confirm exactly what their core problem is, what they need to change to, and how they can most successfully execute that change. Often companies do not investigate these vital points before pursuing improvement initiatives and this can prove costly. The brilliance of the TOC Thinking Process is the way it enables organisations to answer all these questions and test new strategies before investing valuable resources in them.

The following paper investigates the reasons behind corporate failure and explains how the TOC Thinking Process tools are used to ensure the development and execution of successful strategies and improvement initiatives.

Detailed article:

Origins of the “silo mentality”

We are living in a complex world. As globalisation increases, the world grows smaller – and even more complex. A hundred years ago, most commercial business was small, relatively self-contained, and vertically integrated. In the early days of the automobile, for example, Ford Motor Company owned and operated the iron mines and rubber plantations needed to produce steel and tires for cars, and owned its own transportation system and retail outlets. After World War II, however, things started to get complicated. Economies boomed and vertically integrated companies could no longer keep up. Companies began to “horizontally integrate”, assigning parts of their operations to independent companies in a bid to make management problems smaller and easier to manage. The result was increased decentralization and specialization; different parts of an organization became focused exclusively on their own discrete responsibilities.

Increased complexity caused leaders and managers to lose “visibility” of the whole and become focused on their own group or department, developing what is known as a “silo mentality” – those in one functional silo gave almost no thought to what was going on in the silos around them, how it impacted them, or how what they did affected others. This mentality may have improved local efficiencies but it devastated overall system performance. *Suboptimisation*, the term given to the relationship between increasing efficiency at the expense of broader system effectiveness, abounds in business today and it is the core reason behind most corporate failures. To solve the suboptimisation problem we need to return to broader system thinking. More specifically, we need a way of creating a visual representation of the cause-effect relationships among the various “silo” components of a system. This is where the TOC logical thinking process steps in. It

is fundamentally a system thinking tool which works through the three main questions faced by any company: (1) What to change? (2) What to change to? (3) How to cause the change? Correct answers to these questions are vital to any improvement initiative – every improvement is a change, but every change is not necessarily an improvement. The rest of this paper will describe the Thinking Process tools and how they are used to find these answers.

Categories of Legitimate Reservation

The Thinking Process (TP) tools are all based on rigorous cause-effect logic and are visual diagrams which can be used for the most simple or complex problems. Before discussing each one and how it is used, it should be noted that there are a set of guidelines which are referred to throughout the construction process of the TP diagrams to test their validity. These guidelines are referred to as the Categories of Legitimate Reservation (logic checks) and they serve several key functions:

- **Entity Existence** Verifies that what we say exists does exist
- **Causality Existence** Validates the relationship between causes and their effects
- **Clarity** Ensures that what we say reflects what we mean
- **Additional Cause** Poses the possibility that there is something else, independent of the cause(s) already speculated or validated, that is causing the effect
- **Insufficient Cause** Suggests that something else must exist in conjunction with the speculate cause(s) in order for the effect to exist as a result.
- **Predicted Effect** Attempts to invalidate your hypothesis: involves prediction of another effect that must result from the cause, and confirmation of the existence of that effect.

It is by employing these Categories of Legitimate Reservation that we can ensure the validity of our TP results.

What to Change?

Professor Sydney Finkelstein, author of “Why Smart Executives Fail”, carried out a 6 year study of over 100 companies and business leaders. His results highlighted four main reasons behind organisational failure. One reason was organisational breakdown which “relates to information and control systems in the organization.” He noted that “often critical pieces of information are lost or dropped along the way and therefore never understood.” How can any organisation possibly know what to change if it does not have all the information? They can’t. So they end up making changes which are generally ineffective. Often deep policy and paradigm constraints are hidden behind what we tend

to call “problems”. No matter how many of these “problems” are solved and how many modifications are made, if the underlying policies remain unchanged the company will see no improvement.

The Current Reality Tree (CRT) is the TP tool used to identify the key constraint within an organization, the constraint responsible for many of the system’s current problems. The CRT is different to other tools used to find root causes in that it does not focus on diving deeper and deeper into the issues. It examines cause-effect relationships that exist between conditions present in the system, discovers the common causes and finally identifies the core problem. It is a fundamental tool in any improvement initiative.

(See Appendix 1 for an example of a CRT)

What to Change to?

Once the core problem has been identified we use another tool – the Conflict Resolution Diagram (CRD), often referred to as the Evaporating Cloud) – to find out what we need to change to. Conflict within a system is an indication of suboptimisation, which, as we already know, is detrimental to the system as a whole. The CRD surfaces hidden assumptions which are subconsciously accepted as valid but which are, in fact, dubious. By invalidating any underlying assumptions not only is the conflict rendered moot, but breakthrough solutions are surfaced. The CRD is a very powerful tool, and enables us to:

- Confirm that conflict actually exists
- Identify the conflict perpetuating a major problem
- Identify all assumptions underlying the problems and conflicting relationships
- Explain in depth why a problem exists
- Create solutions in which both sides win
- Create new, breakthrough solutions to problems
- Resolve conflict
- Avoid compromise

(See Appendix 2 for an example of a CRD)

The CRD provides us with possible solutions, but it does not guarantee that they will actually work. Professor Sydney Finkelstein listed “executive mindset failures” as another major cause for organisational collapse. “This is all about getting the strategy wrong and believing you have the assumptions about the marketplace, customers, and competitors all worked out, when in fact you don’t.” Some refer to this as the ready-fire-aim syndrome. Senior managers are often too quick to embrace a proposed change without first asking 2 very important questions:

- Will this change really deliver the results we want?
- What adverse side effects can we expect?

The Future Reality Tree (FRT) logically tests the effectiveness of a proposed course of action before any time, energy or resources are invested in it. Once the FRT has verified that the action chosen will deliver the desired results, the Negative Branch (NB) tool is used to identify any adverse new consequences the proposed action might have so they can be counteracted in advance.

How to cause the change?

Thus far, the Thinking Process tools have provided us with a well researched idea for change - the next step is turning that idea into reality. Ideas are not solutions until they have been converted into effective action.

- What obstacles stand in the way of our implementing this bright idea?
- How do we overcome these obstacles?
- What must we do – and in what sequence – to turn our ideas into reality?

The Prerequisite Tree (PRT) helps execute the transition from proposed to physical action. It identifies the obstacles that may prevent the proposed course of action from happening and determines ways of overcoming these obstacles. The Transition Tree (TT) is then used to develop detailed step-by-step instructions for implementing the chosen course of action.

Thinking Process to Avoid Company Failure

This paper has already discussed two of Finkelstein's reasons for company failure – “organisational failure” and “executive mindset failure” – and how they can be avoided using the TP tools. Finkelstein's research also found two other reasons why companies fail: “delusions of dream company” and “leadership behaviour”.

When an organisation has been successful it suffers “delusions of a dream company”: it believes it knows all the answers so shuts down alternative points of view and critical enquiry. Even the most stable and well established organizations have born witness to product flops and strategic disasters: the Ford Edsel (1957), Coca-Cola's “New Coke” (1985), McDonald's Deluxe line (1996), Levi's Type 1 jeans (2002) are all perfect examples. Even the best of the best get it wrong, and as Ross Bonander states in his article on Failed Product Launches “there will always be companies whose greed prevents them from doing the most basic of homework”.

“Leadership behaviour” refers specifically to the executives. An illusion of pre-eminence in an executive can result in them dominating others in terms of their decision making, thinking and behaviour. Executives with this mind-set often fire or remove all those who disagree with them, leaving the organization with inferior decision making and, in turn, reduced adaptability and flexibility in the marketplace.

Organizations and executives who commit to a culture of Systems Thinking and continually make practical use of a logical thinking process will be at significantly lower risk of committing any of those faults found by Finkelstein to be responsible for company failures.

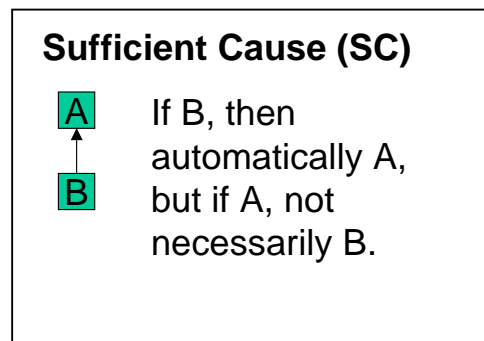
APPENDIX 1: Current Reality Tree

A brief explanation of how to read the logic contained in the following CRT is given below.

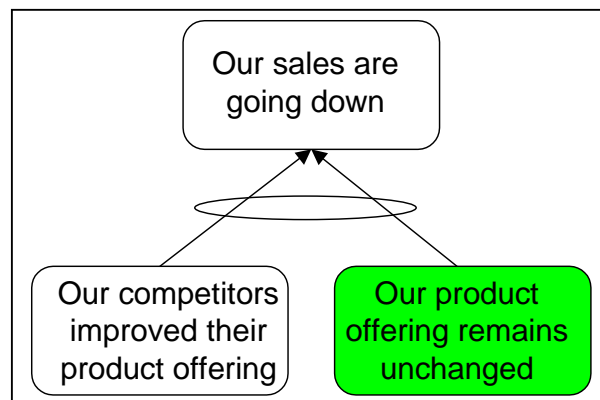
A Current Reality Tree (CRT) is a network of entities (see below), connected by arrows. Arrows go in one direction only. The CRT is read from the bottom upwards and from the base of an arrow to the point of the arrow. **Sufficient cause logic** is used.

An “entity” is an **undesirable effect (UDE)**, written as a sentence and encapsulated in a box.

The CRT should be read: If [the entity (box) at the base of the arrow] then [the entity (box) at the tip of the arrow]



An ellipse is the logical “and” statement, used where a **concurrent cause** exists – one entity is *not enough on its own* to cause another entity, it takes two or more. Thus, the diagram below s read: if [our competitors improved their product offering] and [our product offering remains unchanged] then [our sales are going down].



Multiple branches may split-off and re-join at various points in the trees.

Root Causes

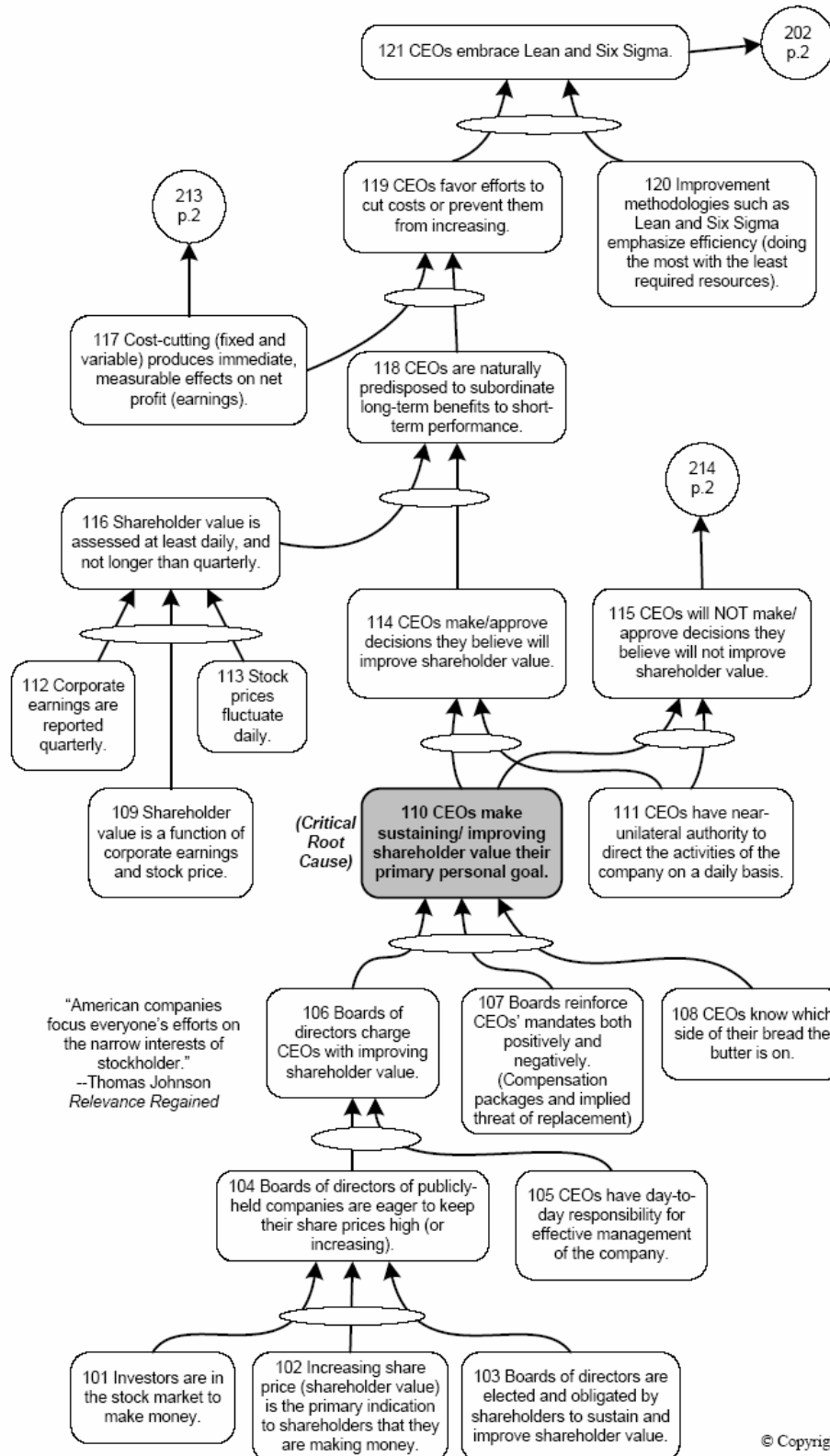
All of the connections between the various UDE’s are put into place. Those UDE’s that are not caused by another UDE are identified as **root causes**.

In order to gain consensus as to what to change, the root causes, or core conflicts, are examined to determine whether they are policy issues imposed on the system, or facts of life that have to be lived with.

APPENDIX 1: Current Reality Tree

“Why TOC has difficulty achieving acceptance”

P.1

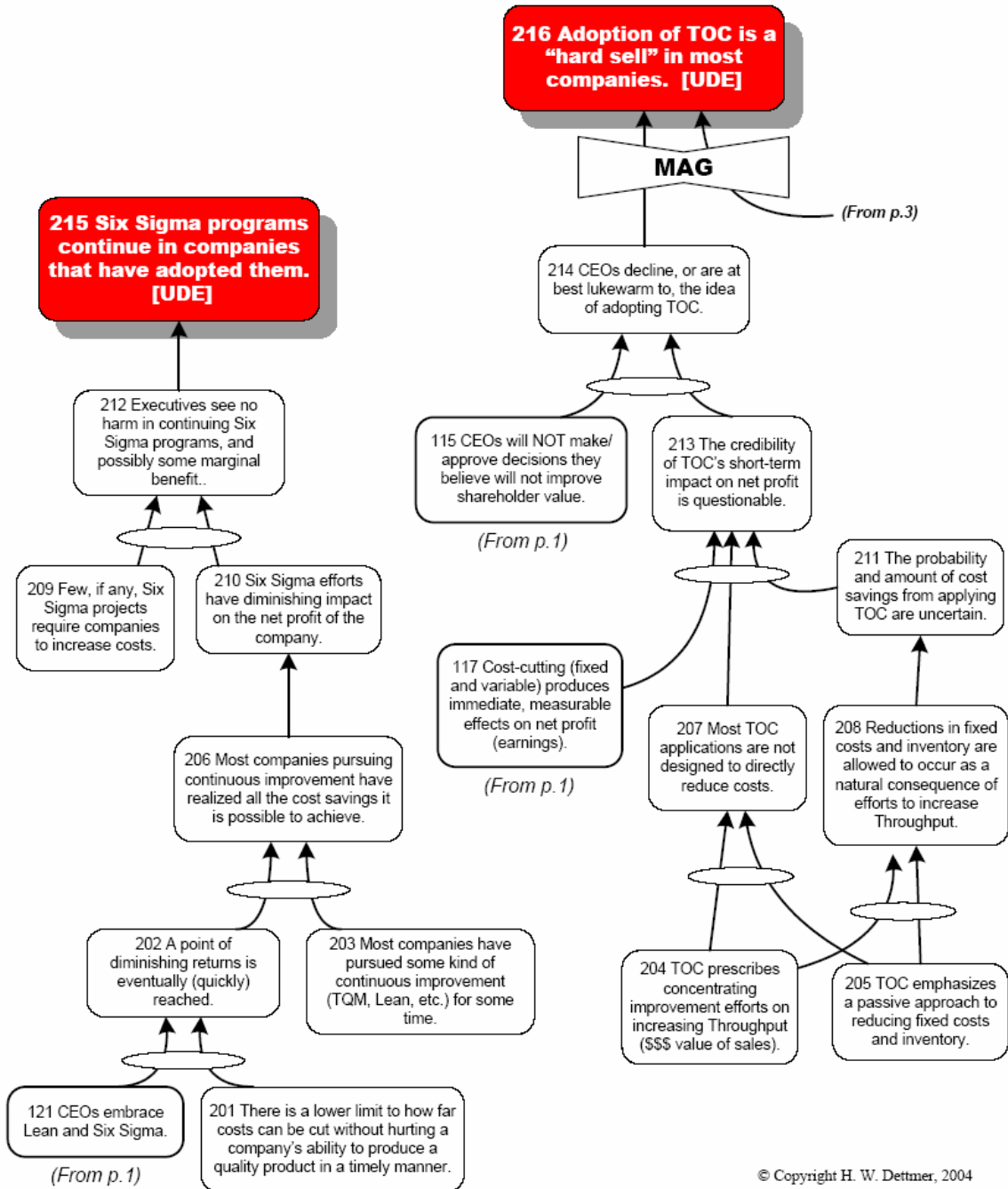


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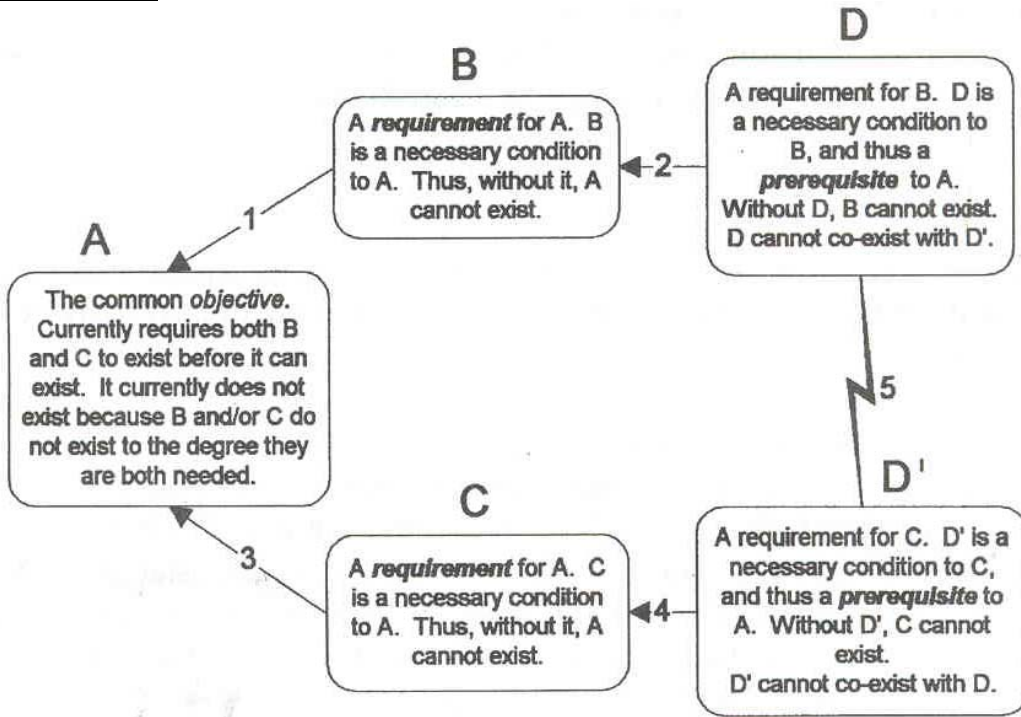
“Why TOC has difficulty achieving acceptance”

P.2

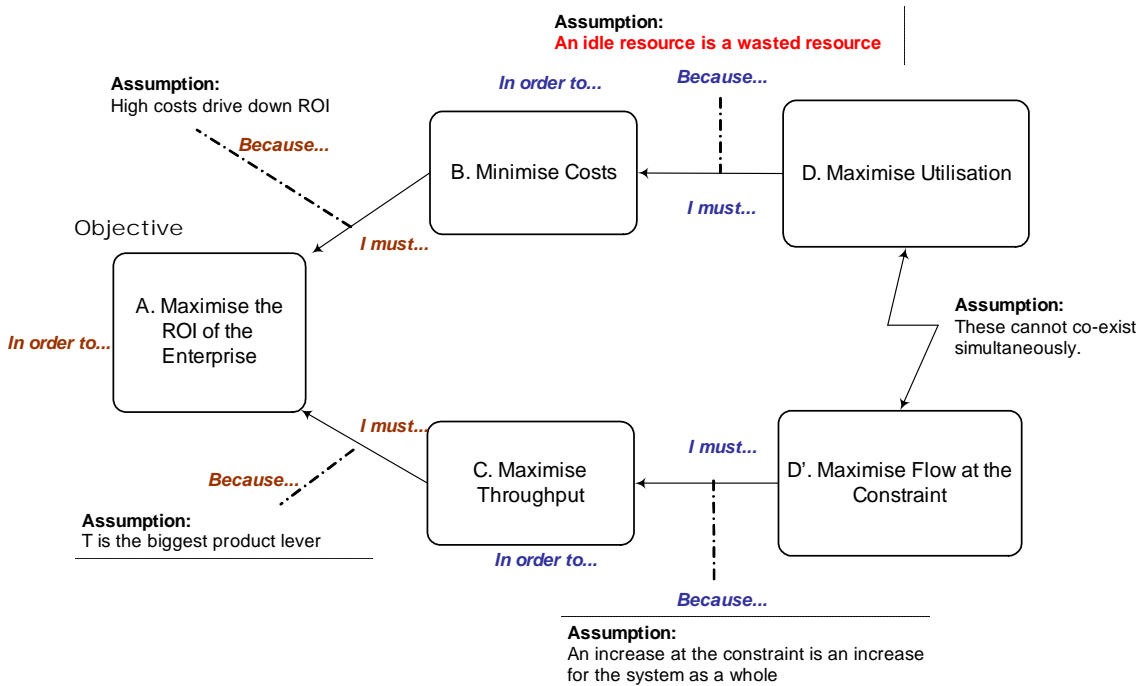


APPENDIX 2: Conflict Resolution Diagram

CRD Explained



CRD Example – Classic Conflict



Further Reading

For further reading on the TOC Thinking Process TOCCA recommends the following books:

Breaking the Constraints to World-Class Performance
(H. William Dettmer, ASQ Quality Press, 1998)

Strategic Navigation: A Systems Approach to Business Strategy
(H. William Dettmer, ASQ Quality Press, 2003)

Thinking for a Change: Putting the TOC Thinking Processes to Use
(Lisa J. Scheinkopf, St Lucie Press, 1999)

And these links:

<http://www.tocca.com.au/Services/thinkingProcess.asp>

www.goalsys.com/books/papers.htm

www.thedecalogue.com/Tools/toolshome.htm

<http://www.vancouver.wsu.edu/fac/holt/em526/ConstraintsOverview/TOCOverview.htm>

<http://www.ciras.iastate.edu/library/toc/thinkingprocesses.asp>

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