



About the Constraint - in a Simple Way

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**The only justification of
debating about something is
when the subject of the debate
is needed for something
practical.**



The name “Theory of Constraints” (TOC) clearly announces that this approach deals with The Constraint(s).

TOC practitioners use TOC in their work in their systems or in the systems of their clients, and use the term Constraint.

Hence, for all practical purposes, we should know what it is – “The Constraint” in the approach that is called TOC.



Let's look at the issue of

“What is the Constraint in TOC”

**from the perspective of the
existent solutions.**



The solution for managing production – OPT – was developed by Eli Goldratt and his team WITHOUT the term “Constraint”, and BEFORE the name “The Theory of Constraints” was coined.



**If something is called a
“solution” –**

**it is a solution TO SOMETHING
THAT MUST BE RESOLVED!**



OPT (and later DBR)

was developed from the understanding that:

A specific company AS A WHOLE has something in its operation flow that IS NOT ENOUGH for the company to fulfill ON TIME ALL ORDERS, and the company SUFFERS FROM IT!

The logical derivative:

DO NOT WASTE THE CRITICAL LITTLE

(CAPACITY OF THE BOTTLENECK) THAT YOU HAVE!

→ The logistical solution: OPT, DBR

with the aim of FULFILLING ORDERS ON TIME (DDP – Due Date Performance) AND NOT ALLOWING TO TAKE ORDERS THAT CANNOT BE DELIVERED WITHIN THE COMMITTED TIME



SDBR was developed from the understanding that:

A specific company AS A WHOLE does NOT HAVE ENOUGH **ORDERS** (while having excess capacity that COULD be used to process MORE orders), and the company **SUFFERS FROM NOT ENOUGH ORDERS!**

The logical derivative: **DO NOT WASTE THE CRITICAL LITTLE (MARKET ORDERS) THAT YOU HAVE!**

→ The logistical solution SDBR: with the aim of **IMPROVING DUE DATE PERFORMANCE (DDP) AND QUOTED LEAD TIME (QLT) to the level of competitive edge.**

- Why not “reduce price”? – Not enough revenue already.

- Why not “improve product quality”? – If the quality is NOT what was promised then it is a matter of quoted lead time (it increases with the return and rework), if the market is ordering with the knowledge of THIS quality, it means there is market for such quality.



CCPM was developed from the understanding that:

There are **MANY** projects, that, **AS A WHOLE**, are **BADLY LATE, OVERRUN BUDGET AND HAVE TO CUT ON SPECS, AND EACH PROJECT AND THE COMPANY SUFFER FROM THAT!**

The logical derivative: **DO NOT WASTE THE CRITICAL LITTLE (THE DURATION OF THE PROJECTS=CRITICAL CHAIN) THAT YOU HAVE!**

→ The logistical solution CCPM:
with the aim of **NOT ALLOWING THE PROJECT STRETCH BEYOND THE COMMITTED DURATION.**



TOC REPLENISHMENT SOLUTION was developed from the understanding that:

A specific company AS A WHOLE does NOT HAVE ENOUGH STOCK OF **HIGH RUNNERS IN SPECIFIC POINTS OF SALE WHEN THERE IS DEMAND** (while having excess inventory of what the market does not want in such quantities in these points of sales), and the company **SUFFERS FROM THESE SHORTAGES!**

The logical derivative: **DO NOT WASTE THE CRITICAL LITTLE** **(CLIENTS THAT COME IN THE POINT OF SALES TO BUY)** THAT YOU HAVE!

→ The logistical solution TOC Replenishment Solution: with the aim of **ENSURING AVAILABILITY** and **HIGH INVENTORY TURNS**



Check the listed “NOT ENOUGH” (=“CRITICAL LITTLE”) through 5 Focusing Steps

- **Capacity of the bottleneck** (Logistical solution OPT & DBR)
- **Market orders** (Logistical solution SDBR)
- **Duration of the projects = Critical Chain** (Logistical solution CCPM)
- **Clients that come in the point of sale to buy** (Logistical solution TOC Replenishment Solution)
 1. *Identify (choose) the system’s constraint*
 2. *Decide how to exploit the system’s constraint*
 3. *Subordinate everything else to the above decision*
 4. *Elevate the system’s constraint*
 5. *If the constraint is broken go back to step one but do not allow Inertia to cause the system’s constraint*



Please note that Eli Goldratt spoke about
**“management attention as the
Constraint”**

**NOT BEFORE the S&T Trees were
developed!**

**Also note that S&T trees WERE BUILT TO
ENSURE IMPLEMENTATION OF ALL TOC
LOGISTICAL SOLUTIONS listed above, each one
to handle specific constraints →
TO STOP WASTING THE CRITICAL LITTLE!**



Other TOC solutions and tools like

- Throughput Accounting
- Thinking Processes

are mere practical tools for
Steps 2-3-4 of 5 Focusing Steps

**WHEN CONVENTIONAL TECHNIQUES DO NOT
WORK**



The 4 Questions of Change

**What to change? - What to change to? -
How to cause the change? - What creates the
process of ongoing improvement?**

as well as

The 6 Questions of Technology

**have been USED ONLY to DEMONSTRATE THAT
THE TOC SOLUTIONS ANSWER THESE
QUESTIONS BETTER THAN OTHER APPROACHES!**



The bottom line

- As I said before: the only justification of debating about something is when the subject of the debate is needed for something **practical**.

My recommendations from the area of “practical”:

- As long as there is a TOC logistical solution – use it. It has already accommodated for the Constraint!
- If you are in the environment that falls under one of the existing TOC Logistical solutions, but instead of implementing the known solution you feel that you want to “find the constraint”, with a high level of probability this means one of the two:
 - (1) you have no authority to implement the TOC logistical solution but want to pursue TOC,
 - (2) regardless whether the company has adopted one of the TOC logistical solutions or not, you recognize that you stepped on an obstacle to subordinate what is under your authority to what needs to be done to exploit the SYSTEM Constraint (and the SYSTEM CONSTRAINT will be the one of the 4 listed earlier), and you may thank that calling it “The Constraint” can help you get due attention to it.
- If you are in the environment that is NOT COVERED by the existent TOC Logistical Solutions and the TOC Logistical Solutions cannot be adjusted to the environment, and you still want to use TOC, then use 5 Focusing Steps, and start from identifying, keeping in mind that the Constraint is NOT what can be removed, but it can only be MOVED to another location.

Check what the system as A WHOLE does not have enough and suffers from not having it enough, and proceed from that.



Theory of Constraints Practitioners Alliance

www.tocpractice.com

Important to watch if you want to understand more about the Constraint



Oded Cohen

The historical view of the development
of the concept of the Constraint

12 February 2020, Wednesday, 17:00 (5 pm) UK time

Oded's webinar
recording available
on

<http://tocpractice.com/webinars/2017/11/01/oded-cohen-webinars/>