

# Uncle Stank's TOC Reference Sheet

## The 5 Pillars of TOC

- Nature is simple and harmonious  
*Every situation, no matter how complex it appears, is exceedingly simple*
- Every conflict can be removed
- People are good  
*Decisions are made from different points of view with inbred and learned biases*
- Accept variation
- Never say "I know"  
*It behooves us to constantly check to see if there is something to learn*

## Constraint

The factor that, at any point in time, most limits the system from achieving more of its goal.

## Types of Constraints

- Resource
- Capacity
- Market
- Supply
- Cash

## The 5 Focusing Steps

1. **Identify** the system's constraint\*
2. Decide how to **Exploit** the system's constraint
3. **Subordinate** everything else to the decision above
4. **Elevate** the system's constraint
5. Warning!!!! If in the previous steps the constraint has been broken, go back to Step 1 and do not allow **Inertia** to become an obstacle.

\* Rarely systems have interactive constraints which must be considered together when following these steps.

## Throughput Accounting

Priorities:

1. **Increase Throughput (T)**. T is the rate at which money is generated by the business. T is Sales (S) minus Totally Variable Costs (TVC).
2. **Reduce Investment (I)**. I is all the money held inside the company which can be sold, such as finished goods, WIP and raw materials inventories, A/R, land, equipment, fixed assets, buildings.
3. **Control Operating Expense (OE)**. OE includes direct labor, indirect labor, selling expenses, general & administrative expenses, utilities, rent, interest, taxes.

- Net Profit (NP) = T - OE
- ROI = (T - OE) / I
- Throughput Margin (%T) = T / S
- Productivity = T / OE
- Throughput \$ Days (TDD) = Σ(T value of each late order X days late)
- Inventory \$ Days (IDD) = Σ(I value of each product X days in stock)

## Non-Constraints

(Failures to Subordinate)

- Erroneous points of view
- Lack of knowledge
- Local efficiencies
- Measures
- Policies
- Pricing

## Goldratt on Technology

A technology can be beneficial if and only if it reduces a current limitation

1. What is the power of the technology?
2. What current limitation does the technology diminish?
3. What rules or behaviors exist today because of this limitation?
4. What rules or behaviors must be changed to get the benefit of the new technology?
5. Given the new rules, what changes are required to the technology?
6. How do we build, capitalize on and sustain the new win-win business?

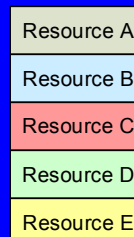
## The Layers of Buy-In

1. What is the problem?  
-Express each problem as a conflict.  
-Understand the underlying assumptions.  
-Quantify the holistic damage.  
Agreement on the problem.
2. What is the generic solution?  
-List criteria for an ideal solution.  
-Make sure list is complete.  
-Suggest any good solution meets all criteria.  
Agree that conflicts would disappear.
3. What is the specific solution?  
-Construct a solution that meets all criteria.  
-Find win-win solutions  
-Look for issues.  
Agree the solution works in this case.
4. How to avoid negative branches?  
-Ask the one who voiced the NBR for an injection,  
-Ask for more NBRs  
Agree on injections.
5. How to surmount obstacles?  
-Brainstorm ways w/ cross functional teams.  
-Use Prerequisite Tree if complex.  
Agree to take action after ...
6. Overcoming any unverbalized fears.

## Critical Chain Project Management



- Cut task times in half and add half of the safety removed into buffers
- Identify the Critical Chain: the longest chain of dependent tasks considering also resource contention
- Identify the Drum Resource (most limited)
- Plan Buffers for the Critical Chain and chains that feed the CC
- Ensure a "full kit" is ready before starting
- Begin tasks as late as possible
- Employ a "relay team" work ethic
- Protect project portfolio Throughput by staggering the Drum
- Reduce bad multitasking! Ensure this across multiple projects



## Goal Tree

