a process of ongoing improvement



OPERATIONAL RULES

THROUGHPUT

Money coming in

INVENTORY

Money to pay out to

make THROUGHPUT happen

Money tied up

Have a measurement for e

### THE STORY

Dude Al's got 3 months to

turn around!

the manufacturing plant

# How to easily tell if you are making money?

If rewriting the textbooks... what are the minimum measurements to know If you're making money?

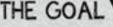
· Increase net profit, increase ROI, increase cash flow... SIMULTANEOUSLY

### PRODUCTIVITY

- JActions bringing the company closer to the goal
- J... is meaningless unless you know what the goal is
- I There's only one goal... no matter what the company







- ♣ Reduce operational expense
- ↓ Reduce inventory
- 1 Increase throughput
- SIMULTANEOUSLY

### KNOW A



- √ A plant where everyone is working is inefficient:
- √ Excess manpower creates excess inventories
- √ Closer to a balanced plant, the closer to bankruptcy

### MANAGE ACCORDING TO THE GOAL

### FIND THE WEAKESTLINK:

Start a process of on

going improvement... w/o launch-

ng a formal improvement project

Lidentify constraints

by Eliyahu M. Goldratt

and Jeff Cox

- 2. Exploit the constraints
- 3. Subordinate all else to the above decision
- 4. Elevate the system's constraints
- 5. If, previously, a constraint has been broken, go to step I

### BEASCIENTIST

shop? Check out www.VelocitySchedulingSystem.com and www.JobShopPricing.com

What to implement The Goal in YOUR

- J Everything is based on "If... then"
- √ Determine how you are currently operating
- √...then determine how you should operate
- Not knowing what caused a situation... results in throwing punches in all directions

### BOTTLENECKS

√ Distinguish between bottlenecks and non-bottlenecks

OPERATING EXPENSES

- √ Bottleneck: Resource is capacity <u><</u> the demand placed on it
- J Non-bottleneck: Resource w capacity > the demand placed on it
- ↓ Optimize the whole vs sub-optimize the parts

## PLANTS



Most mfg plants don't have bottlenecks... resulting in enco mous excess capacity 🗹 The capacity of the plant = the capacity of its bottlenecks Pushing more material than the system can convert into throughput... results in excess inventory Asystem of local

optimums is an inefficient system

BALANCE FLOW, NOT CAPACITY

- ASK ANSWER I. What to change?
- 2. What to change to?
- 3. How to cause the change?

CAUSE CHANGE SMOOTHLY

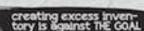






All we are doing is looking at the time line from the moment the customer gives us an order to when we collect the cash ... and reducing that time.

- · Limit space allowed for inventory to accumulate
- Abolish local efficiencies
- . Not everyone has to be busy 100% of the time
- · Focus on flow... to increase throughput
- To do the above... make work visible (via kanban)



- √ Dad assumption... for workers to produce 100% of the time
- J Activating and utilizing a resource are not the same
- Activating a non-bottleneck to its maximum is an act of maximum stupidity





