



Demand Driven MRP

Euralogistics

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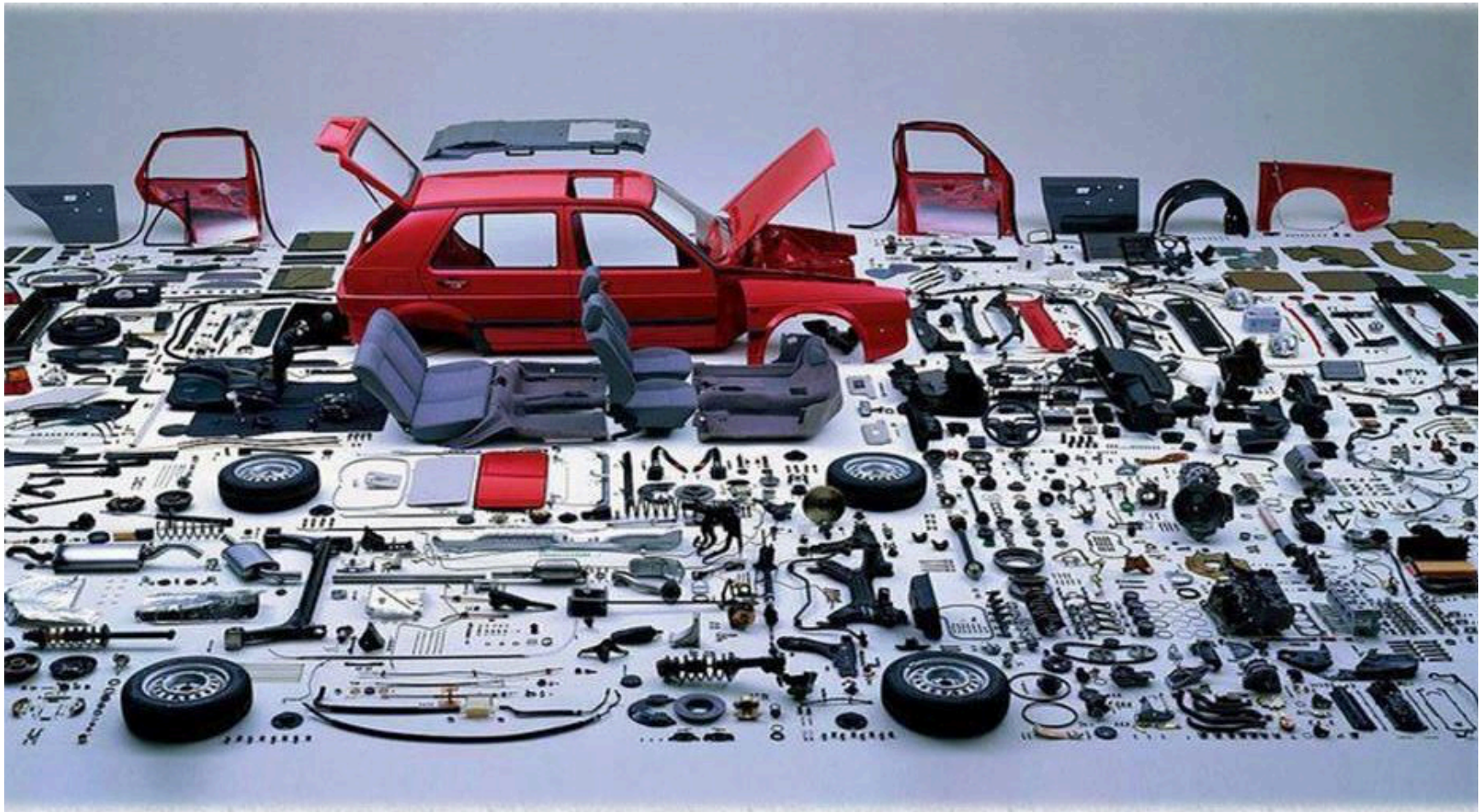
# Demand Driven MRP



The knowledge frontier in materials planning  
and execution in supply chain management

A systemic model, for planning and  
execution of materials along the entire  
supply chain, pull type, descriptive,  
disruptive - unique.

# A system



# Systemic Thinking/Management

- It is far more important to manage the interactions of the parts than the actions of the parts
- If the system is taken apart, both the whole and the parts lose their essential properties
- A simple definition: SYNCHRONIZATION

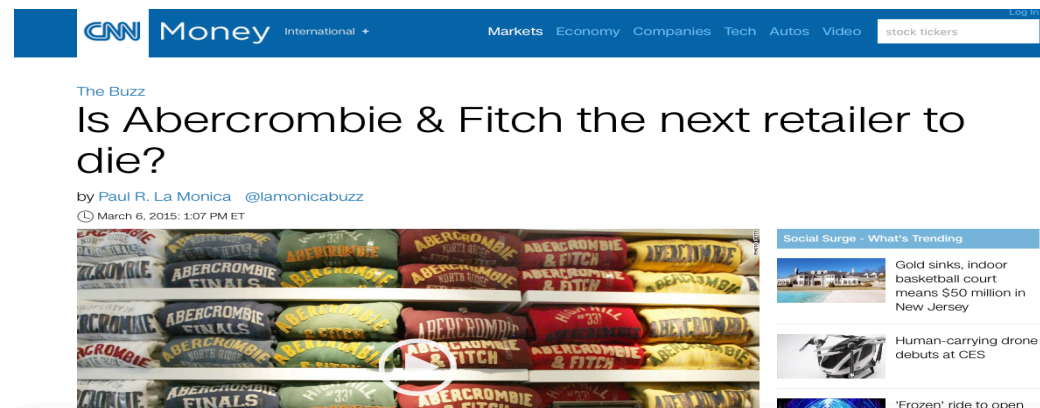
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# Different approaches to SC planning/execution



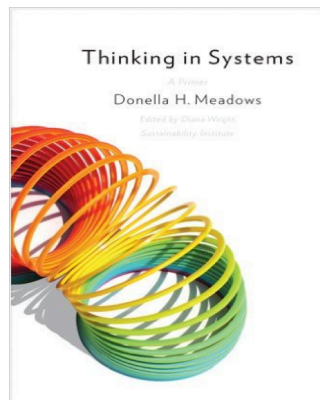
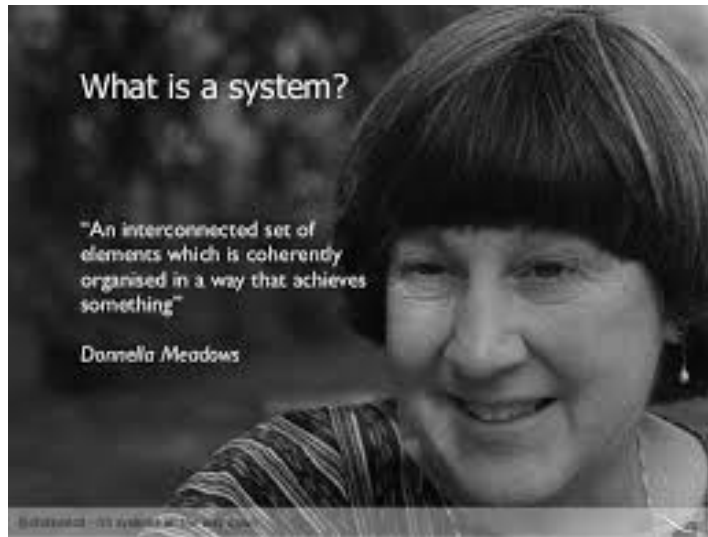
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# Donella Meadows



## Leverage Points: Places to intervene in a system



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### Leverage Points: Places to Intervene in a System



#### By Donella Meadows-

Folks who do systems analysis have a great belief in "leverage points." These are places within a complex system (a corporation, an economy, a living body, a city, an ecosystem) where a small shift in one thing can produce big changes in everything.

This idea is not unique to systems analysis — it's embedded in legend. The silver bullet, the trinitab, the miracle cure, the secret passage, the magic password, the single hero who turns the tide of history. The nearly effortless way to cut through or leap over huge obstacles. We not only want to believe that there are leverage points, we want to know where they are and how to get our hands on them. Leverage points are points of power.

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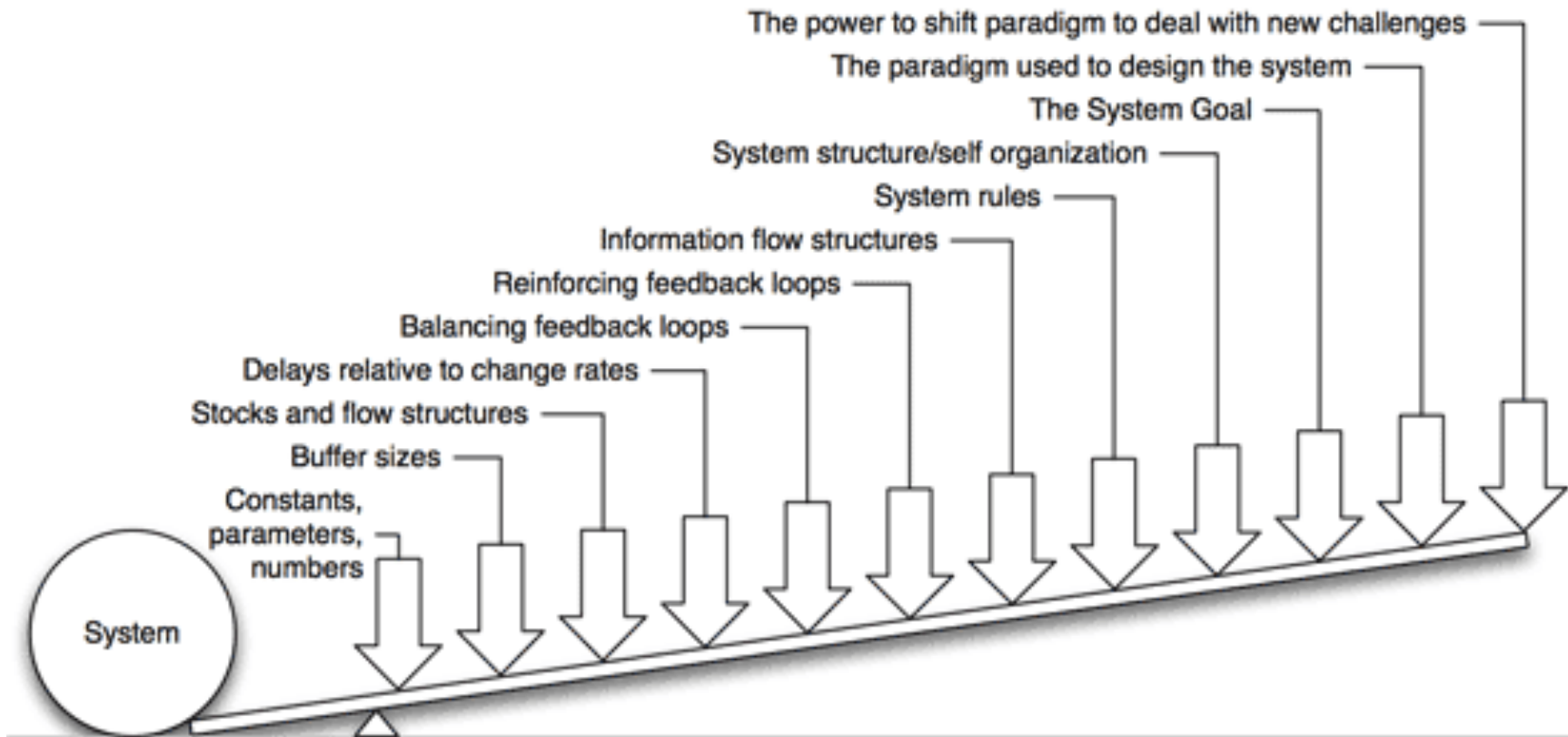
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# Donella Meadows Leverage Points



# The problem

- If there is not a problem, we do not need a solution
- Defining the problem correctly is a requisite for designing the right solution- Einstein

# The problem

- Currently widely accepted practices in Management and Supply Chain Management were developed during 20's-60's of XX century in industrial USA in a non globalized world
- It was a sellers marketplace.
- Virtually everything that was produced was sold.

# The problem

- Under those circumstances:
  - Inventory is always an asset
  - It is assumed that any thing that is produced/purchased will be sold soon
  - Maximizing production output is always good
  - Forecast error is irrelevant
  - Etc...
  - And:

The right management paradigm is:

“Minimizing unit cost is the  
main way to maximize ROI”

.... and it is still the prevailing and....

wrong one

# The problem

- The World economic environment is totally different today:
  - It is a buyers market.
  - Not every thing that is produced is sold.
  - Increasing VUCA (Variability, Uncertainty, Complexity, Ambiguity)
  - Long lead times
  - Forecast error is on the rise
  - Etc.

# This is what we get:

- Service levels under desirable performance (97% or higher)
- Inventory turns under 6 times per year, capturing huge figures in working capital, space and with its associated carrying costs
- Long lead time to market
- Urgencies
- Unplanned and frequent changes in production schedule
- Tensions between purchasing and production
- Tensions between production and sales
- Finance always wondering how to improve but no real solution at sight.
- Clients cancelling orders
- Promotions with large discounts
- Inventories written off every two or three years
- Etc, etc.

## To what to change:

- From a perspective focused in reducing costs (Carnegie, circa 1920) to a perspective focused in maximizing **FLOW**.
- From living constantly obsessed in reducing costs to living constantly obsessed in reducing **TIME**



# The new paradigm

G. Plossl, 1992: The fundamental Law of Operations

***“All benefits in the ROI are directly related to the speed of flow of (relevant) information and materials ”***



## Some examples of yesterday and today. Companies focused in reducing TIME not costs

- Venice shipyard, 1575, the largest industrial complex in Europe prior to the Industrial Revolution. 16.000 workers. First assembly line. First mass production system.
- Ford, 1913, vertically integrated from iron ore mines to assembly.
- Toyota, the most successful manufacturing company in history
- ZARA, the largest apparel retailer in the world.

# The expected result

The right KPI'S in Supply Chain

- Maximum Service level (OTIF)
- Maximum availability of raw materials, intermediate components and finished products
- Minimum lead time to market
- Minimum inventory
- Minimum related expenses

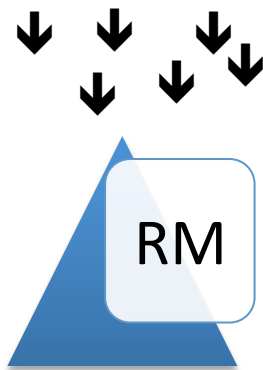
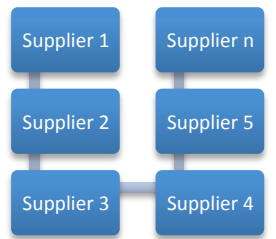
**ALL OF THEM, AT THE SAME TIME**

# The problem

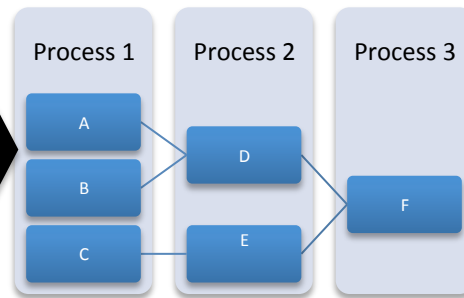
- Defining the problem correctly is a requisite for designing the right solution- Einstein

# Sources of variability

*Docens of suppliers*



**SOURCING**

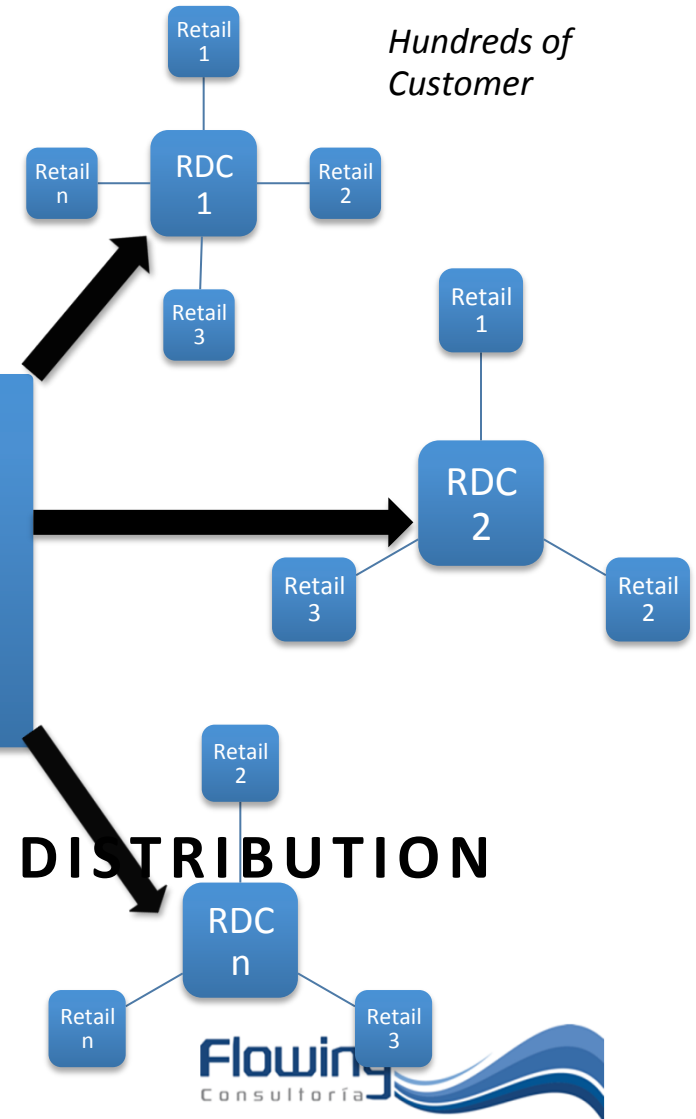


*Hundreds of SKU's  
Docens of processes*

**PRODUCTION**



**DISTRIBUTION**



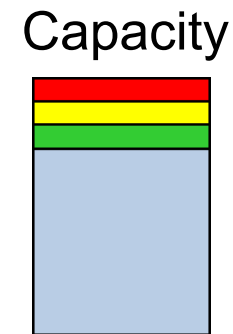
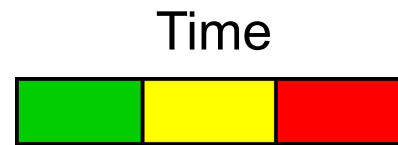
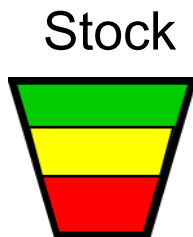
*Hundreds of Customer*

## The ONLY possible solution:

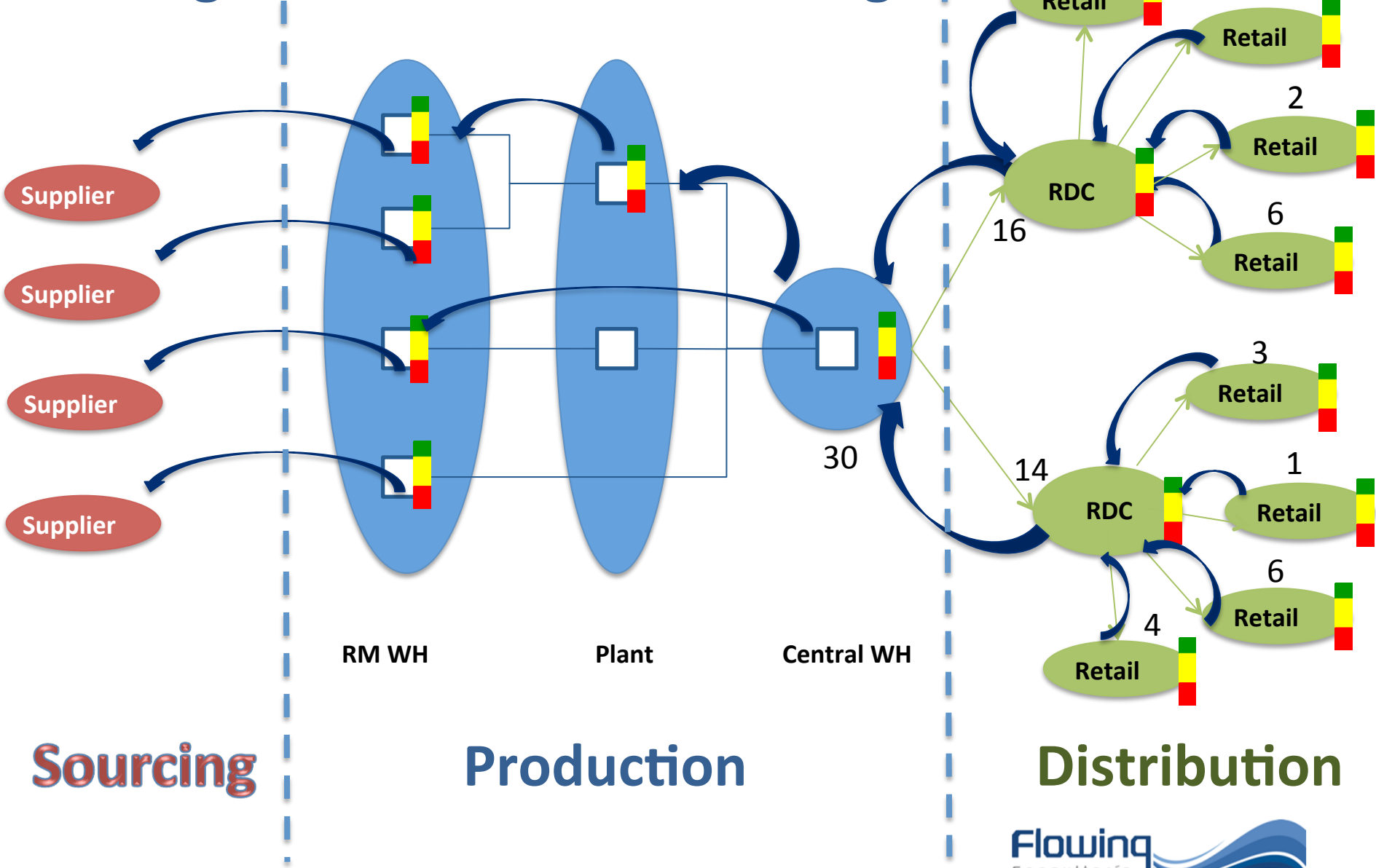
- The ONLY possible way to synchronize demand and supply in the presence of variability is by including buffers
- A buffer is an excess resource that corrects for misalignments in demand and supply

# The three types of buffers

There are only three types of buffers: stock (quantity), time and capacity.



# A synchronized holistic model. A single common and visible logic





# Applying DDMRP

## Some examples of results

# Results – MIC, Apparel-Retail





# Results –MIC, Apparel-Retail

- Sales 2013-2015 increased 60%.
- Expected to double in 2013-2016
- Inventory in the retail chain decreased 40%
- Sales of high movers in Christmas 2013 increased 800% compared to 2012.  
Replenished within the season.
- Less product sent to Outlets.
- “Scarcity sensation” of the stores managers eliminated.

# Results - MIC

- El Exito: largest retailer of Colombia: around USD4.0 billions annual sales, 400+ stores, belongs to the French group Casino.
- Awarded MIC “Best supplier of the year” in textile and apparel category in 2014, amongst 600 suppliers (Crisis 18 months before).
- VMI model in 58 stores (expanding to 200 now). Doubled sales.

# Results - MIC



- Created a second retail chain.  
Impressive growth
- Current lead time to market in fashion: 9.5 days in average
- Currently implementing DDS&OP

# Results – Polito

*We have changed our mentality eliminating wrong paradigms.  
We now focus on winning styles and replenish them increasing  
their sales in 80-90%.*



# Results - Americanino



- Doubled sales 6 weeks after going live
- Other actions: portfolio redefinition, staff training, etc.
- 40-50% of the results due to DDMRP



# Results - Coaspharma



- Secondary pharmaceutical
- 17% sales increase with 33% less inventory after 3 months live
- Further expected improvements

# Vajillas Corona



- Tableware
- Division of one of the largest ceramics producer in Latam
- Exports to US and Europe
- Formerly under TOC
- Customer strategic market lead time for decorated china: 15 days – used to be 30 to 45 days



# Results - Phax



- Ladies swimwear
- Sales to 40+ countries
- 27% sales increase before going live
- Replenishes fabrics by plane from Italy

# Results – Cortineros Líder



- Curtains producer and distributor
- Almost 100% service level in Home Center
- 30% sales increase with no additional efforts and less stress

# Results - Rotoplast



- Rotomolding
- Live with purchased parts
- 99.8% availability with 46% inventory reduction



Merci