



Disrupted Global Supply Chains

Lausanne, 2 June 2020
Professor Carlos Cordon

Panic Mode: Supply Chains in The Spotlight... And Becoming Mutable...

- The world is in panic mode and our supply chains are faltering. They were either overwhelmed – think toilet paper producers – or now trying to get up to speed – like car factories.
- Sudden changes in demand and supply create imbalances that challenge the usual way of leading supply chains. The infamous bullwhip effect is in full swing.
- Usual processes are unfit for the situation, back to fundamentals of balancing supply and demand (from automatic processes to manual driving), specially:
 - S&OP process and
 - Sourcing: the extended supply chain
- The new supply chain strategy is to be tactical in the short-term, not to optimize costs, but reputation and customer satisfaction.
- The long term is an acceleration of some trends started before the coronavirus crisis (i.e. : volatility, AGILITY) and some new ones (i.e.: scarcity of supply).

Panic Buying: Toilet paper... Ravioli cans... Insuline...



Home > Manufacturing

May 20, 2020 08:20 PM

Ford's three shutdowns in two days signal bumpy factory restart

The automaker is working through the kinks of resuming output at its North American factories this week after idling them for two months to slow the spread of the virus.

Amazon hiring 100,000 new distribution workers to keep up with online shopping surge caused by coronavirus

By [Clare Duffy](#), [CNN Business](#)

Updated 1420 GMT (2220 HKT) March 17, 2020

New York (CNN Business) – Amazon says the [coronavirus outbreak](#) has caused a surge in online shopping, and now the online giant is adding 100,000 new full-time and part-time positions across the United States to keep up with the demand.

The jobs will be Amazon's fulfillment centers and its delivery network.

"We are seeing a significant increase in demand, which means our labor needs are unprecedented for this time of year," Amazon ([AMZN](#)) said in a [blog post](#) Monday.

On Saturday, the company said customers could experience more extended delivery times than usual because of the high volume of orders as coronavirus spreads. The number of [cases in the United States](#) surpassed 4,000 on Monday.

The infamous bullwhip effect in full blast: the standard one is bad

	manufacturer		wholesaler		retailer	
	inventory	demand	inventory	demand	inventory	demand
week 1		40		40		40
monday week 2	40		40		40	
week 2		40		40		45
monday week 3	40		40		35	
week 3		40		55		40
monday week 4	40		25		50	
week 4		80		30		40
monday week 5	0		75		40	
week 5		0		40		40
monday week 6	160		35		40	
week 6		45		40		40

The infamous bullwhip effect in full blast: the panic one is awful

	manufacturer		wholesaler		retailer	
	inventory	demand	inventory	demand	inventory	demand
week 1		40		40		40
monday week 2	40		40		40	
week 2		40		40		80
monday week 3	40		40		0	
week 3		40		80		40
monday week 4	40		0		40	
week 4		80		40		0
monday week 5	0		40		80	
week 5		40		0		40
monday week 6	120		80		40	
week 6		0		40		40

WHAT TO DO? (SHORT – TERM)

- SAFETY FIRST
- BACK TO MANUAL
- THE NON-CRITICAL BECOMES CRITICAL
- CHANGE OBJECTIVES
- A MULTIFUNCTIONAL CRISIS TEAM
- SOURCING: ALL SUPPLIERS IN THE EXTENDED SUPPLY CHAIN

New coronavirus

Last update: 5.3.2020

PROTECT YOURSELF AND OTHERS



✓ NEW



Keep your distance.

For example:

- Protect the elderly by keeping a safe distance.
- Keep your distance from others in a queue.
- Keep your distance at meetings.

STILL IMPORTANT:



Wash your hands thoroughly.



Avoid shaking hands.



Cough and sneeze into a tissue or the crook of your arm.



Stay at home if you have got a high temperature and a cough.



Always call ahead before going to the doctor's or the emergency department.

www.foph-coronavirus.ch



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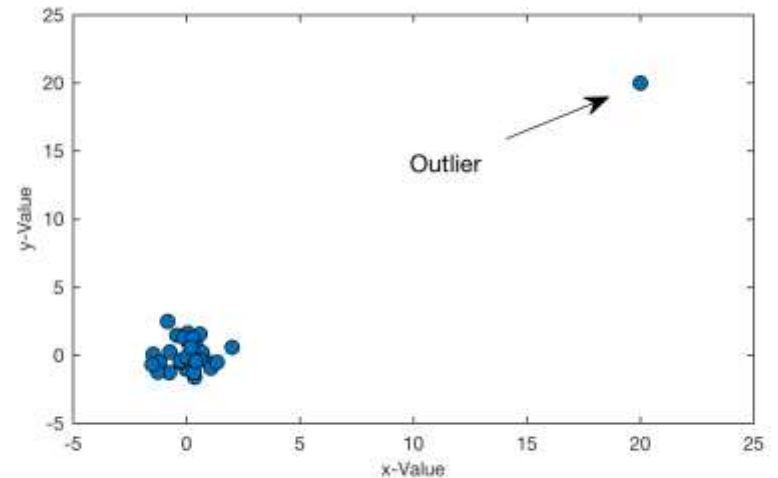
Bundesamt für Gesundheit BAG
Office fédéral de la santé publique OFSP
Ufficio federale della sanità pubblica UFSP
Uffizi federal de sanadad publica UFSP



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Back to Manual

- Our Processes assume **NORMAL** things happening
- Algorithms discard not normal events as outlier



Back to Manual

- Our Processes assume **NORMAL** things happening
- Algorithms discard not normal events as outliers
- Back to Manual: Excel... Planning Whiteboards...

**BUT WE NEED DATA
TO MAKE DECISIONS**



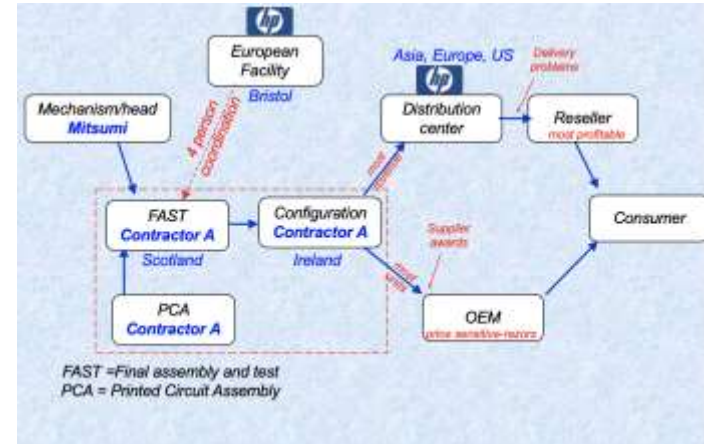
THE NON-CRITICAL BECOMES CRITICAL: Learning from a past crisis, Japan 2011



Philips: Reacting to the 2011 Japan Tsunami

- We know: direct suppliers, will lose sales and our suppliers do not know their suppliers situation
- We do not know: how much we are going to lose in sales, but it can be huge, the weak links in the chain and how to react
- The reaction:
 - A CRISIS team: Find all of the suppliers of the suppliers...
 - Understand the weak points
 - Develop alternative supplies
- What they learned:
 - Need to collaborate and know the suppliers chain
 - Apple made 30 billion available to buy “everything”
 - Suppliers serve their most attractive customers first

PHILIPS







COVID 19: Obvious differences

- Expected sales down in some industries
- All of the world affected:
 - Factories
 - Transportation
 - Customs...
- Consumers might change
- Governments might want to influence the supply chains



Classifying Supplier: Kraljick matrix

High Spent €€€	<p>Leverage</p> 	<p>Strategic</p> 
Low Spent €	<p>Nuisance</p> 	<p>Insure</p> 

Non critical

Critical



CHANGE OBJECTIVES: SAFETY, SALES, REPUTATION... NOT COST EFFICIENCY

- FROM:
 - FULLFILL CUSTOMER ORDERS (OTIF)
 - RELIABLY,
 - WITH GOOD QUALITY
 - AT THE LOWEST COST...
- TO:
 - WHAT IS THE OVERALL BUSINESS OBJECTIVE
 - GIVEN THAT YOU CAN'T DELIVER IT ALL
 -

 - ALLOCATION OR SELECTION OF WHAT TO MAKE
 - ... OUR PROCESSES ARE NOT DESIGNED FOR THIS AT ALL



A MULTIFUNCTIONAL CRISIS TEAM

- A MULTIFUNCTIONAL CRISIS TEAM:
 - S&OP
 - SALES, FINANCE, OPERATIONS...
 - ... AND PROCUREMENT AND LOGISTICS...
 - ... AND HR

- ... MAYBE OTHERS...
- A VIRTUAL WAR ROOM...



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SOURCING: ALL SUPPLIERS, SUPPLIER'S SUPPLIERS, S....

- IDENTIFY 2, 3 rd TIER SUPPLIERS
- IDENTIFY SERVICE SUPPLIERS
- WORK WITH THEM,
- FIND POTENTIAL ALTERNATIVES WITH THEM
- ANYTHING THAT COULD GO WRONG...

- ... TAKE CARE OF THEM...



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- CHANGE OBJECTIVES
- A MULTIFUNCTIONAL CRISIS TEAM
- SOURCING: ALL SUPPLIERS IN THE EXTENDED SUPPLY CHAIN

- THE STRATEGY: TACTICAL TO SURVIVE

New coronavirus Last update: 5.3.2020

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✓ NEW



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For example:

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STILL IMPORTANT:

- ✓  Wash your hands thoroughly.
- ✓  Avoid shaking hands.
- ✓  Cough and sneeze into a tissue or the crook of your arm.
- ✓  Stay at home if you have got a high temperature and a cough.
- ✓  Always call ahead before going to the doctor's or the emergency department.

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WHAT TO DO? (LONG – TERM)

- SCENARIOS ? (U, V, W...)
- CHANGES IN CONSUMER/CUSTOMER BEHAVIOR AFTER DECONFINEMENT
- INVESTMENTS IN WAREHOUSING AND LOGISTICS
- ACCELERATION OF RETAIL APOCALYPSE
- MUCH MORE ADAPTABLE SUPPLY CHAINS

- ... PROTECT SUPPLIERS SURVIVAL!!!



CHANGES IN CUSTOMER BEHAVIOR: ONLINE, AT HOME (HUGE VOLATILITY)



SOME ANECDOTAL SIGNS AFTER DECONFINEMENT:

- Sales in China down 30% in apparel
- Sales in some countries in Europe very high
- Overall, up or down substantially depending on the industry

Bicycling Booms During Lockdown—But There's A Warning From History



Carlton Reid Senior Contributor @

Transportation

I have been writing about transport for 30 years.

Fifty per cent of people plan to use public transport less after lockdown

Motors | Published: May 14, 2020

Government has encouraged people not to use public transport, which will drive up car use.



How COVID-19 Is Transforming E-Commerce



Louis Columbus Senior Contributor @
Enterprise & Cloud



ISTOCK

- U.S. retailers' online year-over-year (YoY) revenue growth is up 68% as of mid-April, surpassing an earlier peak of 49% in early January.
- There's been a 129% year-over-year growth in U.S. & Canadian e-commerce orders as of April 21 and an impressive 146% growth in all online retail orders.

The 2020 Retail Apocalypse Just Claimed J.C. Penney – and 100 More of Your Favorite Stores Are on the Chopping Block



John Csiszar

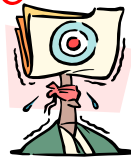
GOBankingRates May 20, 2020



Supply Chains need to mutate to become much more agile ...

Unique /
differentiated
product

LOSS OF REVENUE



Match

Common /
functional
product

Match



Efficient SC

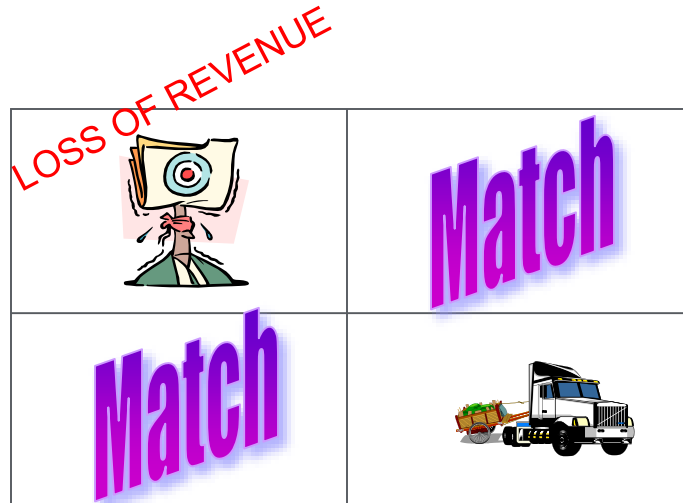
Agile SC



A consumer trend towards more products, SKU's...

Unique /
differentiated
product

Common /
functional
product



- Ultra premium
- 50% more SKU's
- Local products
- 17 iPhones in www.apple.ch

Efficient SC

Agile SC



AGILE AND ADAPTABLE SUPPLY CHAINS

FROM:

- LOWEST POSSIBLE COST
 - MAXIMIZE EFFICIENCY (OEE)
 - FIXED FORECAST (ACCURACY)
 - MINIMIZE CHANGES
 - CONSTRAINED VARIETY
 - AGREED QUALITY
- BIG FACTORIES AND BIG WAREHOUSES FOR ECONOMIES OF SCALE
 - OUTSOURCE SMALL PRODUCTIONS



TO:

- BEST CUSTOMER SERVICE
 - AGILITY (LOVE CHANGES)
 - ADAPTABILITY (LOVE VARIETY)
 - ACCEPTABLE COST
 - MAXIMIZE REVENUES
- A NETWORK OF AGILE FACTORIES AND WAREHOUSES IN PARTNERSHIP WITH THE ECOSYSTEM...
 - INSOURCE SIGNATURE PRODUCTION



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Thank You for your Attention

In case of questions, please contact:

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