

A Generational Opportunity

FUNDAMENTAL REDESIGN OF ENTERPRISE SUPPLY CHAINS

Undoubtably, we have gone too far in the relentless pursuit of cost efficiencies, and in the process made our supply chains overly brittle, unable to withstand sudden unexpected disruptions – or surges in demand! Now we must move back along the efficiency spectrum and accept that we may need some level of in-built redundancy, in the cause of increased resilience, states **Dr John Gattorna, Global Supply Chain ‘thought leader’ and Author.**

THE modern supply chain has faced several major disruptions in its short 50-year history, but nothing like the Covid-19 virus, which has brought the global economy to its knees in a few short months. The health impact has been unprecedented across the world, and so has the knock-on effect on national economies as governments have struggled to arrest the spread of the virus to safeguard their people, and healthcare systems, which have been near breaking point. The immediate and only remedy has been to shut down industry and commerce, and isolate people in their homes, which in turn has put their economies into reverse gear. This is truly a ‘1 in 100’ year event that we are all involved in as active participants.

GOVERNMENTS CAUGHT OUT

Governments around the world have been caught unprepared for the scale and speed of this latest disruption. Many governments have not had strategic stocks of personal protective equipment (PPE) available for their healthcare workers, which has led to a somewhat unseemly rush to acquire stocks, with governments bidding against each other for the available stock.

Government procurement departments are not good at expediting purchases at the best of times, and the current crisis has again showed up the failings in conventional procurement processes. New protocols for emergency situations will have to be introduced in the future. In Australia we saw the



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ridiculous situation where the federal government was unable to buy stocks of testing kits because of their inability to pay quickly. Instead, a billionaire businessman stepped in, paid cash up front and secured 10 million test kits, which he then handed over to government.

Hopefully, governments everywhere will learn from these types of failures and take pre-emptive steps to establish full-time Emergency Agencies in the near future, dedicated to preparing for the next major disruption, wherever it comes from and whenever it occurs.

Ports and airports have been closed in many countries, reducing the flow of urgent freight across borders. It seems as if we have all been lulled into a false sense of security by the previous decades of almost uninterrupted

growth, propelled by globalization. Now governments and private enterprises must pull back, reset, and seek more regional and local solutions in order to dampen down the likely effects of future disruptions.

WHAT WENT WRONG?

Governments and business enterprises alike have gone about their business as if the growth wave powered by globalization would go on forever. This growth mentality pushed everything else aside in its path in the name of prosperity through corporate profits. We must now turn this mentality around and seek more modest growth targets, growth that is sustainable in light of the finite resources' planet Earth has to offer.

LIVING ECOSYSTEMS

Supply chains are pervasive in our lives, driven by people distributed all along the chains- people called customers and consumers at the front end; people called suppliers at the back end; and people in the middle called employees and management of enterprises. The common thread? They are all human. Therefore, much of the activity that takes place in supply chains is driven by human behaviour and decision-making, enabled by technology of course. But technology on its own cannot save the world. Human intervention of the appropriate kind must also be present. The problem is that designers of enterprise supply chains are still largely in denial about the pivotal role of humans and their behaviour, and until this situation is rectified, we will always find ourselves in reactive mode.

ONSET OF COVID-19

The Covid-19 virus started in Wuhan, China, and due to strict containment measure taken by the Chinese Government, many factories were closed, so the initial impact was supply shortages. For customers worldwide, the short-term questions that have to be addressed in these circumstances were:

- a. Are you a preferred customer with key suppliers, and if so, will they find a way to fulfil my orders? If you are not a preferred customer, you have little hope of receiving the stock you ordered.
- b. Which products should you prioritize?
- c. On the demand-side, how should you allocate scarce products to your customers? Are there customers who deserve priority over others?
- d. Do you have a system in place to monitor the progress of your orders along the supply chain?

In the longer-term, and post-Covid-19, companies have to significantly change the way they do business. No longer can a single source of supply be relied on, even if this is the lowest cost source. Procurement functions must seek to reduce risk by spreading orders across multiple suppliers and geographies, especially for critical items. Pharmaceutical companies, in particular, are going to have to wean themselves off China as the primary source of active ingredients.

We will have to pull back from designing supply chains for lowest cost only, because we have gone too far in that direction. To cope with future volatility and indeed major disruptions, we will have to build-in some degree

of redundant capacity in the form of extra inventory, machine capacity, and manpower. The resulting additional resilience will have the effect of increasing the cost-to-serve, which no one wants to hear, but there are no other options.

Ultimately, we need to better understand our demand and supply markets and tie them together with digital systems that provide continuous end-to-end (E2E) visibility. I will explain how to do this in the residual of the article.

START AT THE CUSTOMER END: THINK 'OUTSIDE-IN'

Supply chain designs to date have predominantly followed an 'inside-out' approach, where personnel inside the business take a view of what they think customers' needs are, and proceed to build out the corresponding infrastructure, processes, technology. When times are good, and growth is positive, everything you do in this respect seems to work.

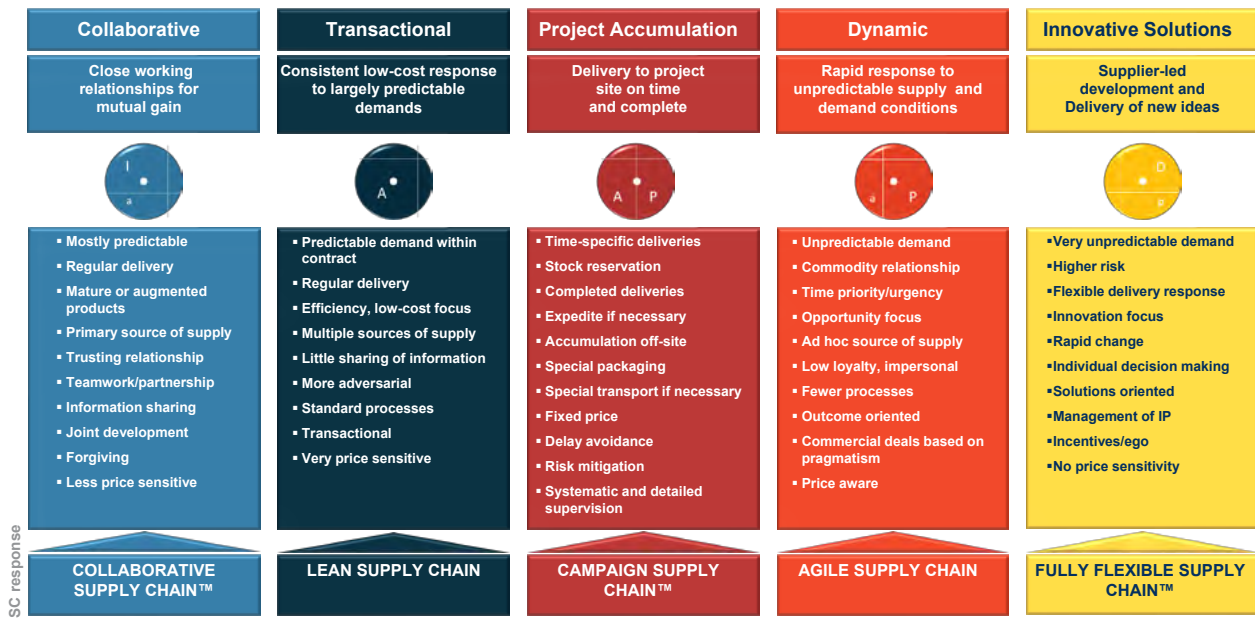
But as we move into more volatile operating environments, and customers become more vocal and empowered, it becomes obvious that a single 'ideal' supply chain configuration will be unable to service the full spread of customer requirements, and the extra dynamism in customer demands.

Our research over three decades indicates that four (4) behavioural segments can explain up to 80% of the buying behaviours of customers in a given market, for a given product/service category. This principle holds true irrespective of nationality. The only thing that changes is the mix



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The five most common behavioral segments and equivalent supply chains



SC response

Source: Adapted from Gattorna (2015) p.58 and Gattorna & Ellis (2020), p. 35

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of behaviors, influenced by country cultures.

On that basis, we concluded that it will be necessary to design four (4) matching supply chain pathways to precisely align with these segments, i.e., Collaborative SC™ ; Lean SC; Campaign SC™; and Agile SC. There is a fifth segment which customers move into in times of great uncertainty and extreme disruption, and the corresponding supply chain configuration then is what we called the Fully Flexible SC™. This is the configuration that is especially relevant to the current crisis caused by Covid-19. All five (5) segments and their matching supply chain types are depicted in Figure 1 above.

FUTURE-PROOF DESIGNS

Going forward, enterprise supply chain designs will have to have the capability to flex under 'business as usual' (BAU) operating conditions to service customer demand patterns ranging from stable (baseload), through to say plus or minus 30-40% of that base load; it's called volatility! This objective must be achieved by more precisely managing capacity requirements of each supply chain type, without pushing costs inordinately high. The way to do this is to hardwire a portfolio of customer-facing supply chain configurations (up to four as suggested above), each with a different combination of processes,

technologies, KPIs, and teams. Different combinations of standard components lead to supply chain configurations which are unique in their operating capacity.

In addition to these 'business as usual' teams driving supply chain configurations focused on day-to-day operations, it is recommended that enterprises raise a small dedicated 'Smart' team(s) that will focus on finding and deploying innovative solutions to unresolved and urgent problems, including emergencies. This is in effect the Fully Flexible SC referred to earlier.

Both the BAU and Smart teams will have demand and supply side in their scope of operations, with Procurement personnel represented on both. In this way procurement practices at the backend of the organization will be brought into synch with the demand signals emanating from customers at the front-end.

So, going forward, companies have

to learn to manage a parallel universe of two main capabilities, i.e., BAU , with the ability to flex up to 40 percent in day-to-day demand; supplemented by a further special capability that is able to find innovative solutions, fast, to sudden and unexpected disruptions coming from any source, and cope with quantum changes in demand. This latter capability will most likely entail setting up long-term alliances with external parties that will facilitate rapid access to required resources to supplement internal efforts.

In effect, we are talking about a significant change in organization design, something that most companies have been unwilling to contemplate until now. But it has to happen if we are to step into the future. Some more advanced companies in fast fashion and electronic high-tech are already there and flourishing because of it.

E2E VISIBILITY THE KEY

With the new architecture as described

Sharing knowledge and improving the education of the profession has been a strong motivation for Dr. Gattorna. He is a prolific author with at least 11 books, which have been translated into 10 languages. His latest book is "Transforming Supply Chains: Realign your business to better serve customers in a disruptive world (Financial Times Series)", a guide to designing supply chains that fit, and adapt, and bring competitive advantage – whatever your business is and whoever your customers are.



Even for the best run companies, some of the biggest impacts of the coronavirus crisis have been felt on the supply-side. Globalization, coupled with the conventional KPIs that drive the behavior of Procurement personnel, have led inevitably towards many instances of dependence on single, remote sources. This can work for stable businesses in stable times but can be a hindrance if the market is dynamic – and is disastrous in times of severe disruption such as that which we are experiencing now.

above in place, the next step is to map each supply chain type in terms of the specific data required to run it; this is quite a different approach to simply collecting every bit of data possible (Big Data), because that way you run the danger of getting lost.

One way of approaching this task is to go through the steps of building a network optimization model of your entire supply chain infrastructure, because in the process the specific data you need to collect will become obvious. It then becomes a case of installing sensors and tracking devices as required to collect this data on an ongoing basis.

By installing real-time data collection systems along your enterprise supply chains, powered by tracking devices/sensors like Trackster, which also has a contactless 'Proof-of-delivery' capability, you will be in a position to collect and analyze this data, ideally in a Control Tower environment. The Control Tower can either be your own or outsourced to a Logistics Provider (4PL). In turn, you will then have the means to make faster decisions and get ahead of developments. At the aggregate level, this same data will be useful in planning future changes in your company's strategic supply chain infrastructure.

A FINAL WORD

The old saying: 'there will be no change unless there is pressure for change' is very appropriate to the current global crisis caused by the Covid-19 virus. Even just a few months into the crisis, managements of major companies around the world report a greater willingness to change than ever before. Therefore, let's make the most of this new, receptive attitude to change, and make the necessary changes

for the good of future generations. What enterprises everywhere have to remember is that if supply chains stop, the world stops. That's how important they are to our modern lifestyle.

Rationalize Procurement Thinking

We need to think about where Procurement personnel sit in the organization and the degree to which their decision-making is integrated. We know theoretically that strategic decision-making in silos is not optimal, but this crisis has highlighted just how dangerous it can be – whether it be sourcing strategy, cost optimisation, risk management or inventory policy – only an end-to-end view of the trade-offs gives us a chance of weathering significant disruptions.

Here are some specific items to consider:

- Change your organisation design and bring the Procurement function under the CSCO; this will increase internal co-ordination. Some of the best companies have already made this key adjustment.
- If you are a global manufacturer, divide your world up into regions, and review sourcing lines within the region. Are they/can they, be self-supporting? And can you engineer a greater overall diversity of your supply-base by having options across regions?
- In each region, segment your supplier base along behavioral and capability lines, e.g., which suppliers do I wish to develop strong collaborative relationships with that will be sustainable through difficult times? Which suppliers can provide lowest cost for large quantities of product or components, albeit with long lead times? Which suppliers have excess capacity and could supply our requirements at short notice, albeit at a higher cost? Which suppliers are noticeably more innovative and will always find creative ways to meet our inbound supply requirements? A portfolio of capabilities increases flexibility in the supply base.
- For some manufacturers, the solution will be to become more vertically integrated, by taking control of some materials and components supply back in-house. If the business has found itself competing for scarce supply during this crisis, the balance of insource vs outsource might need to be reviewed, and a new balance struck.

In some exceptional cases where the danger of being starved of key supplies has become apparent, it may be worthwhile to buy out or JV with selected suppliers of critical inputs to your manufacturing process. In this way your control is increased, and risk reduced.

But none of this can happen without strong, overt leadership from the top. Leaders will need to be fearless in adopting new modes of operation in the future, and the climate for making major change will never be better than in the next two years. At the individual, business, and government levels we have found that the paradigm can be changed overnight – so we need to apply the lessons learned, quickly, and not let them get lost in the depths of the long-term strategy stockpile.