FUTURE-PROOFING ENTERPRISE SUPPLY CHAINS - MANAGING IN A PARALLEL UNIVERSE

Contemporary supply chains have faced several major disruptions in their short 50-year history, but nothing as severe as 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, many of 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 national economies in reverse gear. This is truly a '1 in 100' year phenomenon that we are all involved in as active participants.

The initial supply chain shock

Due to the strict containment measures taken by the Chinese government as the Covid-19 virus took hold in Wuhan, China, many factories were closed - so the initial impact was on the supply-side. For shippers worldwide, the short-term questions that needed addressing in these circumstances were:

a. Are we a preferred customer with key suppliers, and if so, will they find a way to fulfil our orders? If you are not a preferred customer, you have little hope of receiving the stock you ordered.
b. Which products should we prioritise?
c. On the demand-side, how should we allocate scare products to your customers? Are there customers who deserve priority over others?
d. Where is the stock?

In the next phase the supply-side issue extended into other major manufacturing centres, including northern Italy, Spain and parts of the US; and the crisis swung around to include the demand-side. Consumption across numerous categories of discretionary expenditure plummeted, and warehouses filled up with products because outlets and consumers were closed for business. At the other extreme, what consumers had identified as their essential items were subject to enormous spikes in demand, and retailers scrambled for new sources.

The first lesson to be learned in all of this is that no longer can a single source of supply be relied on, even if it 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 over-reliance on China or India 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 major unexpected disruptions, we need to embed some degree of redundant capacity in the form of extra inventory or machine capacity and manpower. The resulting additional resilience may have the effect of increasing the cost-to-serve, which no one wants, but there are few if any other options for those who are committed to supporting their customers and their shareholders.

This suggests a much closer consideration of our supply base and supply options and leads us to the second lesson coming through strongly – and that is the criticality of knowing our customers and their demand patterns intimately.

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 and technology. When times are stable, 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 expectations, coupled with the extra dynamism as customers change their minds.

Our research over three decades indicates that four (4) behavioural segments can explain up to 80 percent of the buying behaviours of customers (and the resultant demand patterns) 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 of behaviours, influenced by country cultures and how the business has evolved in that country.

On that basis, we concluded that it will be necessary to design four (4) matching supply chain pathways to precisely align with the four (4) segments identified, i.e., the Collaborative Supply Chain™, Lean Supply Chain; Campaign Supply Chain™; and the Agile Supply Chain [i]. There is a fifth segment, which customers move into during times of great uncertainty and extreme disruption, and the corresponding supply chain configuration is what we called the Fully Flexible SC™. This is the configuration that is especially relevant to the current crisis.

Future-proof designs

Going forward, we propose that enterprise supply chain designs should have the capability to adjust 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. This is the natural volatility of doing day-to-day business!

The objective is to more precisely respond to different customer needs and expectations, without pushing costs inordinately high. The way to do this is to hardwire a portfolio of customer-facing supply chain configurations, each with a different combination of processes, technologies, KPIs, and teams. Different permutations of standard components lead to supply chain configurations which are unique in their capability and in what the customer experiences.

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 'Fully Flex' team that will focus on finding and deploying innovative solutions to unresolved and urgent problems, including emergencies caused by severe disruptions.

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

An organisation geared up to focus on the particular customer needs and behavours also has a much better chance of validly answering those troubling questions on allocation that were triggered by Wuhan – which customers and which products to prioritise when supply is short. And on the supply side they will better understand where they sit in relation to their vendors own prioritisation.

So, going forward, we contend that companies have to learn to manage a *parallel universe* of two main capabilities, i.e., BAU , with the ability to flex up by about 40 percent in response to day-to-day demand variations; supplemented by a further special capability that is able to find innovative solutions, fast, to sudden and unexpected disruptions and opportunities coming from any source, and thus cope with quantum changes in demand and supply. This latter capability will most likely entail setting up long-term alliances with external parties that can facilitate rapid access to resources to supplement internal efforts. And the interesting thing is that the individuals that suit this fast, flexible solutions-focused environment are the same types that can drive innovation more generally in the supply chain when not engaged in critical situations.

In effect, we are talking about a significant change in organisation 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.

E2E visibility is key

The architecture outlined above also gives more clarity to the visibility goal that many organisations are pursuing as part of their digital transformation. Each supply chain type can be mapped to the specific data required to run it. This is quite a different approach to simply collecting every bit of data possible (Big Data), because in that way you run the danger of getting lost in the detail and generating cost and complexity without return.

Real-time data feeds are crucial, as has been highlighted during this crisis when containers and airfreight shipments have gone off the radar. Data collection systems along the extended enterprise supply chain, powered by tracking devices and sensors, enable the collection of critical time and quality data – which is the underpinning of end-to-end visibility. This data can then be monitored, with proactive intervention to address deviations from plan through a Control Tower, either your own or outsourced to a Logistics Provider (4PL).

This immediate visibility is the means to make faster decisions and get ahead of developments day- by-day and hour-by hour – both during BAU and in a crisis.

From this same data is also derived the assumptions, lead times and variations to populate, at the aggregate level, the strategic models that can be used to design the company's supply chain infrastructure and pathways to customers; and for the Fully Flex solutions team, to test tactical planning scenarios during disruptions.

Governments caught out

When we move from the individual business perspective to the national level, the same lessons apply.

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 use by their healthcare workers, which has led to a somewhat unseemly rush to acquire stocks, with governments and states bidding against each other.

Government procurement agencies are not good at expediting purchases at the best of times, and the current crisis has again revealed the flaws in conventional procurement processes when under time pressure. New protocols for emergency situations need to be introduced. In Australia we saw the ridiculous situation where the Federal government was unable to buy stocks of testing kits because of their inability to identify new sources and to pay Chinese suppliers quickly enough.
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 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 and whenever it comes, and empowered to move beyond the strict process and governance controls that have stifled their response during this disruption.

A final word

What enterprises everywhere must remember is that if supply chains stop, the world stops. That's how important they are to our modern lifestyle. Consumers, who before the Covid-19 crisis had never heard the phrase before, now realise that they are in fact sitting at the end of a series of supply chains – and are dependent on their effectiveness for their sustainment and health.

The old saying: '*there will be no change unless there is pressure for change'* is most appropriate at this time of crisis. Even just a few months into the pandemic, management of major corporations around the world are reporting a greater willingness by employees to change than ever before. This is leading to rapid adjustments, and improved productivity when least expected! Therefore, let us make the most of this new, receptive attitude and embed the changes that must be made, for the good of future generations.

John Gattorna & Deborah Ellis, Co-authors of *Transforming Supply Chains*,
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[i]Collaborative™ SC, Campaign™ SC and Fully Flexible™ SC are Trademarks of Gattorna Alignment