

Pandemic-resistant manufacturing and distribution:

How consumer goods companies can build immunity with six levels of supply chain flexibility

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Covid pandemic: A bolt from the blue

With Covid -19, many organizations are experiencing the impact of a pandemic for the first time in their lifetime. Most were unprepared to deal with a disruption of this scale. Economic activity in the country took a severe beating when a complete lockdown was enforced to contain the spread of the virus. Organizations suffered severely; their sales have fallen off the cliff.

Viruses can never be completely eliminated from any country with a single lockdown. This means that, even when the complete lockdown is lifted, and some territories have been selectively opened up based on the number of cases in these areas, the areas open for business are not likely to remain stable. It is very likely that new cases of infection will re-emerge in different areas from time to time, leading to fresh bouts of localized lockdowns. This will likely go on until a vaccine can be administered to the entire population.

Are we being pessimistic?

Going by past record of our struggle with and triumph over infectious diseases, we can confidently assume that a vaccine or a treatment for Covid-19 is sure to be invented thus relegating the disease to the same status as that of a common flu which passes without triggering a pandemic.

Should organizations forget this episode as one of its kind?

Nevertheless, organisations can learn from this pandemic and prepare for any similar crises that can befall us. There are countless zoonotic viruses out there in nature with the potential to create havoc for world populace and economy. It might serve organisations to become pandemic-resistant. This means that organizations need to be ready to exist and thrive in environments where lockdowns are dynamically imposed across territory.

Why we claim current practices of consumer goods companies are not pandemic-resistant?

Most organizations follow a process of forecast and push-based monthly planning system for manufacturing, procurement, and distribution. The horizon of planning can vary from one month to even six months depending on the lead time of the entire delivery system. Since forecasting errors are inevitable, and there is a need to provide stability to procurement and production, many organizations grudgingly, try to fix the schedule to a smaller part of the entire planning horizon, extending to a month or more, depending on type of environment.

The errors in forecasting in the fixed horizon leads to stock-outs, wrong placement of inventory and continuous expediting, along with a month-end skew in dispatches. Organizations have learned to live with this phenomenon because many others in their industry follow similar practices and suffer from same problems. Being in a herd, at times, gives courage to stay in the status-quo.

However, the same practices which force companies to fix production and distribution plans for at least a month can cause more havoc in an environment of dynamically shifting lockdowns

- Inventory turns will deteriorate drastically when some locations come under lockdown. At times, inventory turns can become half based on period of lockdown and sluggish sales in the aftermath
- Extended lockdowns, as the ongoing one in the country, can lead some distributors into a severe liquidity crisis. If they are short of cash and end up in credit locks, they may not be able to re-start business immediately after lockdown. In turn, this can lead to a gridlock which prevents them from getting more supplies, leading to eventual loss of sales for the parent company.



- Capacity of sales team in lockdown areas is also likely to be lost as they are unable to meet customers. Others cannot be pressed into service to take this up because salespeople are traditionally allocated fixed geographies. Moreover, in an environment of uncertainty and travel restrictions, they would be struggling to cover their own geographies and would not be in a position to take on extra load.
- Suppliers clustered in an area under lockdown can disrupt production. They can also cause delays in ramp-up after lifting of lockdown due to working capital woes.

The impact of the above will be a double whammy of deteriorating working capital turns and significant loss of sales.

Only those companies who have developed systems designed for agility to react to uncertainties created by dynamic lockdowns (disruption) and changing demand patterns across geographies will survive and gain market share in this environment.

Potential problems with the current way of managing sales in the post lockdown situation:

- High risk of losing sales from areas that salespeople are unable or refuse to visit
- Drop in sales productivity by as much as 75% due to restriction in the amount of time the market stays open and the time required to serve customers
- Compromised range selling since each visit has to be short if more retailers have to be visited in limited time
- Broken rhythm of weekly beat- order collection and dispatch, due to limited time/manpower to visit the market
- Significant impairment of sales if the organization relied on indirect distribution in the past since retailers have no time to go and purchase from wholesalers

This means shortening the decision horizon of following decisions

- what to produce
- how much to produce
- where to send the inventory
- how much to send

Shorter the horizon for planning, fewer the forecasting errors. So, ideally, for maximum flexibility, the horizon for these decisions should be reduced to a single day. (A monthly plan for planning overall RM and capacity coverage can continue). This will allow production and inventory management to react seamlessly to emerging scenarios of dynamic lockdowns.

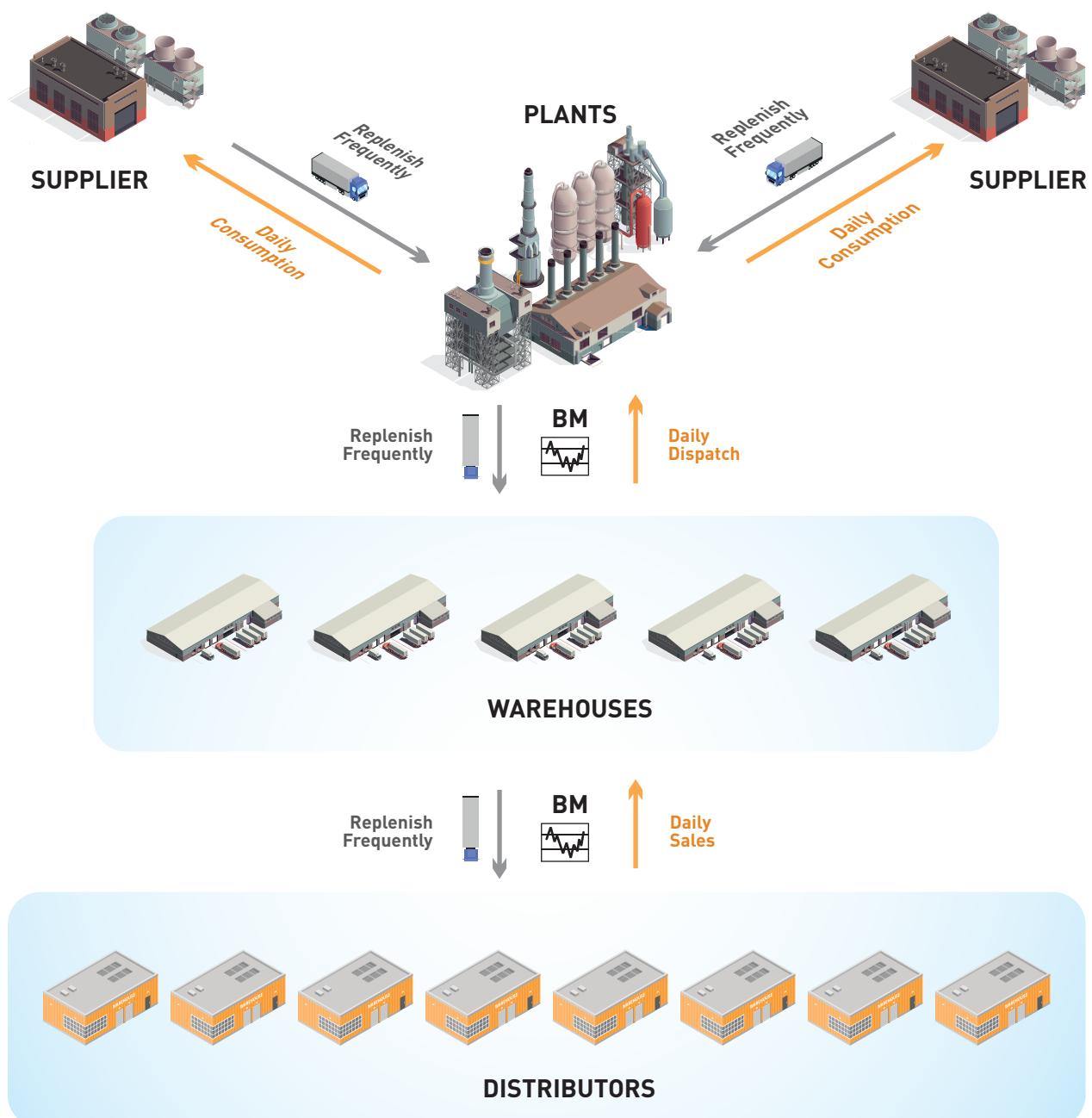
Similarly, a company should be able to divert sales efforts to areas where opportunities exist in the very short horizon, without getting bogged down by the traditional geography-linked organization structures.

Direction of Solution- Flexibility leading to Agility

1 Flexibility in planning

Companies have to shift into a process of daily planning based on daily consumption signals from the recipient node(s) in the system. The TOC methodology of 'Pull-manufacturing', 'Pull-Procurement' and 'Pull-Distribution' enables companies to react to daily variability without losing

out on efficiencies. Companies which have moved to this way of planning have low committed positions in inventory in all downstream nodes with the ability to swiftly resupply any demand in each area. Hence, they will be able to transition to normalcy fast, while their counterparts struggle with supplies.

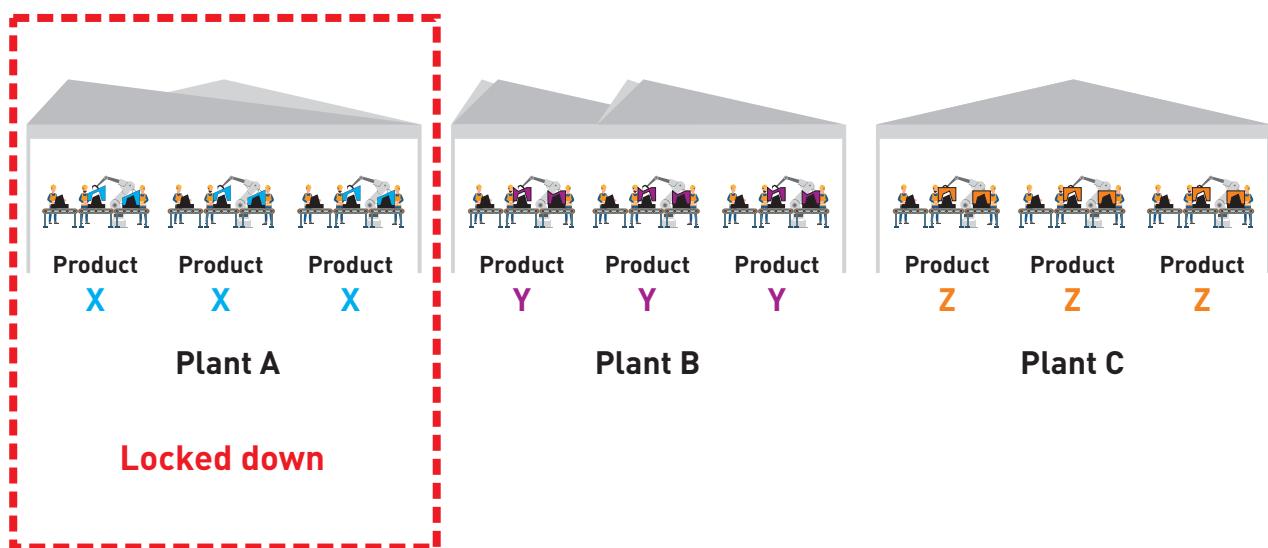


Companies can react with agility using TOC pull systems for procurement, manufacturing, and distribution

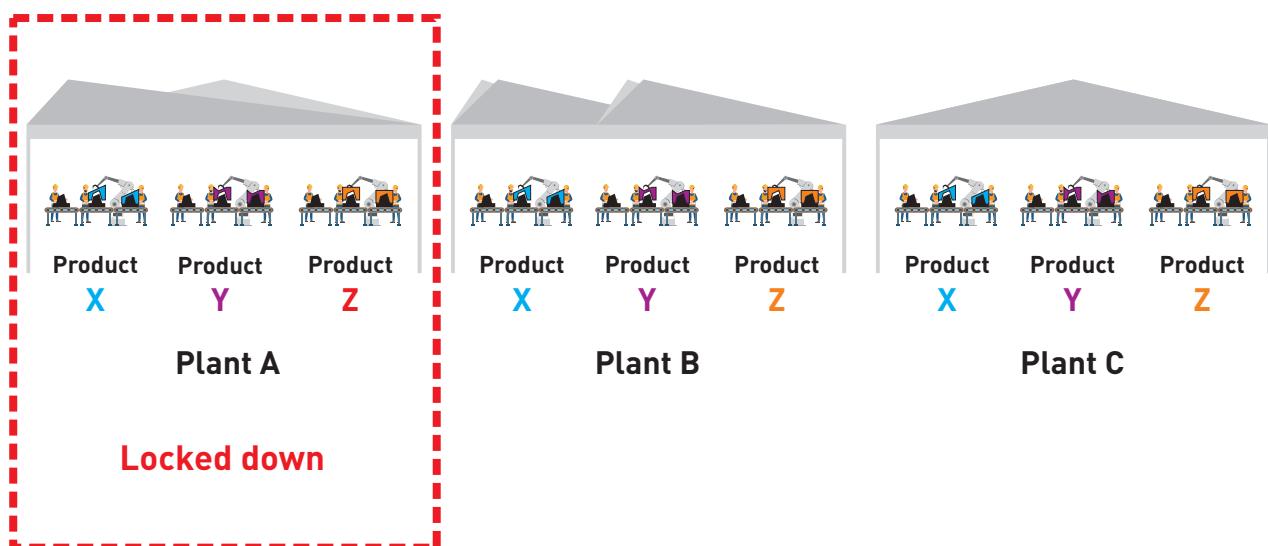
2 Flexibility in manufacturing and supplies

With daily dynamic planning systems, plants will have higher flexibility. However, it is also important for companies with multiple plants to move away from the practice of dedicating plants to specific sets of products and make products across the various plants to reduce risk. Otherwise, if a particular plant becomes part of a lockdown area, products of this plant will quickly become unavailable in the market. Making products across the various plants implies that entire change-over times need to be reduced to ensure that plants maintain similar levels of efficiency, despite adding more variety.

Single product facilities:



2 Multi- product facilities:



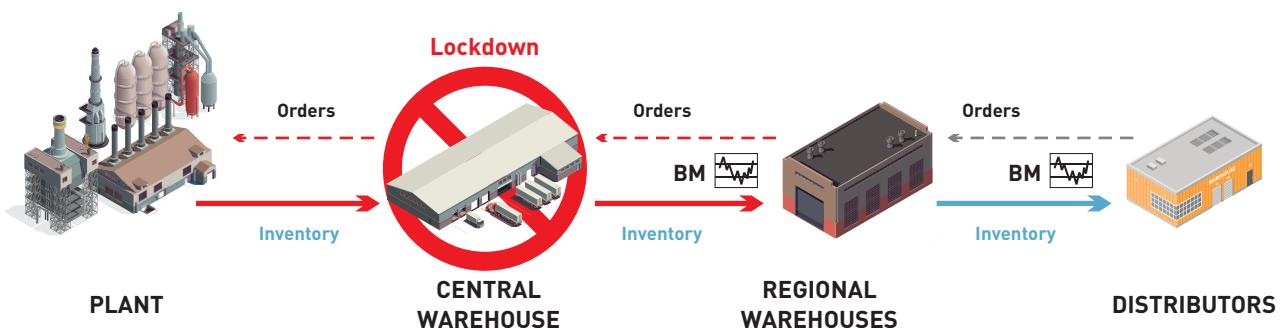
Reduce risk of market unavailability of products by having multi-product facilities

When suppliers also move into system of daily pull-based manufacturing, they will have low levels of inventory and at the same time, they will rapidly adjust to changing demand patterns. Low inventory levels also allow suppliers to operate with low working capital (almost half of a monthly planning system) which in turn allows them to bounce back after lockdown much faster than others.

3 Flexibility in distribution

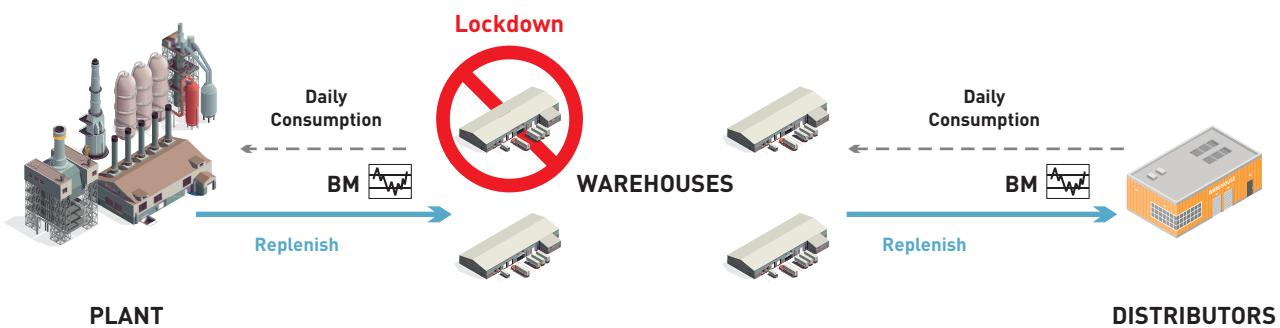
The idea of having an aggregated hub and distributed spoke model of distribution has been accepted by most companies in this GST era. Companies have started consolidating warehouses with that model in mind. However, having a single physical hub warehouse can be a risky idea if the area goes into a lockdown. Hence, companies need to have multiple-hub locations with ability to behave as single virtual hub.

Single aggregated hub



The distribution to downstream locations should follow the pull model of consumption-based inventory movement to minimize the risk of large inventory moving out and piling up at any location downstream. It is also important to distance the warehouses from the plants to ensure that even if the plant goes under lockdown, the warehouses can continue to supply from their buffers. And if a warehouse goes under lockdown, the plant can redirect its stock to other warehouses. Warehouses should not be in close proximity of densely populated areas.

Multiple hub locations with pull model of inventory movement



Seamless inventory movement possible even if a few warehouses are forced to be inactive

4 Flexibility in Sales

Companies depending on physical “beat plans” for order taking will have a big issue. With social distancing, limited capacity due to travel and market opening restrictions, the ability to physically collect orders shall be severely jeopardized. Hence, it is imperative to set up a system of centralised, yet distributed, order taking on phone calls. This not only enables a greater reach of sales force but the model also de-risks the vagaries due to physical order taking. Since a tele-order representative can touch three to four times the number of retailers compared to an on-field foot soldier, it will free up sales manpower for the distributors. The remaining sales team of distributors and the company can focus on physical visits for expanding 'reach' or to solve problems of retailers who are not placing orders frequently.

Companies who have moved on to this model, prior to the crisis, have not only expanded their sales reach but are also now ready to operate seamlessly in an environment of dynamic lockdown. The other advantages of this model are 'direct connect' with retailers and ability to derive data-driven insights thanks to availability of retail point data from even the smallest mom and pop store. Further, unlike the rigid traditional sales structure, these companies have the flexibility to immediately shift the calling location without any problem as and when needed.

Advantages of shifting to phone calls instead of physical visits for order-taking from customers



5 Flexibility in physical branch offices

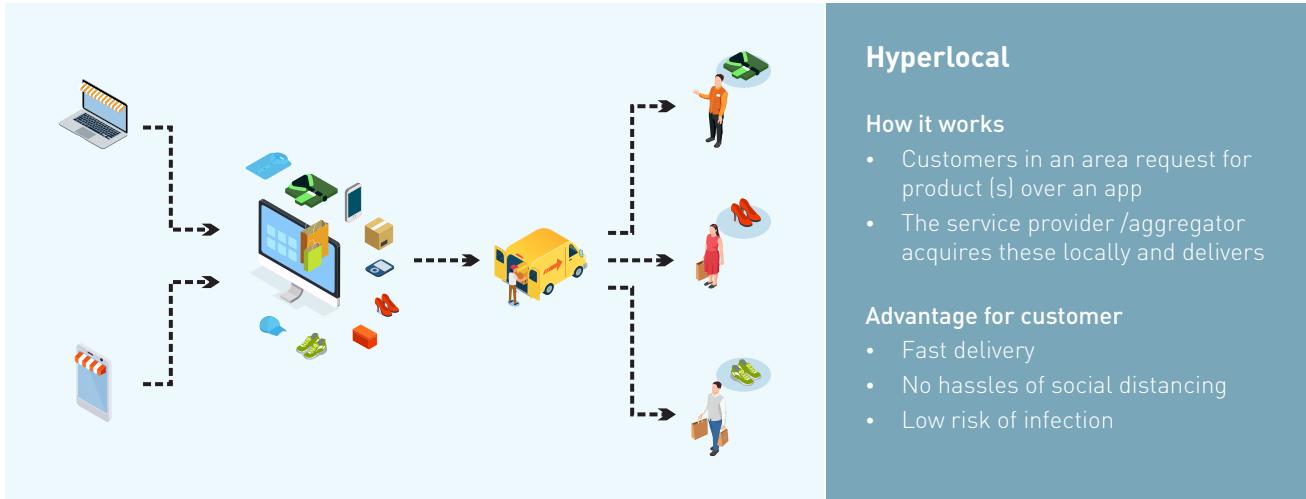
In such a sales environment, do companies really need a branch office? Lockdown has proven that most of the discussions and review work can now be done over virtual platforms. The work of local logistics and documentation in the branch can also be easily moved to a centralized back-office, making the physical branch office redundant. Moving all back-office work to a central location also allows one to share the workload across branch offices and proves more robust and cost effective.



Branch offices are increasingly redundant

6 Flexibility in sales channels

Companies need to re-think models of selling. While physical stores will continue to exist many buyers might choose to move to e-commerce modes if there are too many hassles of social distancing at the retail point. It is important for companies to build/collaborate with hyperlocal e-commerce platforms where customers have the ability to view inventory in the nearest location and place orders over an app. This will allow companies to provide products through any channel the customer chooses without undue dependence on e-commerce market place.



Hyperlocal

How it works

- Customers in an area request for product (s) over an app
- The service provider /aggregator acquires these locally and delivers

Advantage for customer

- Fast delivery
- No hassles of social distancing
- Low risk of infection

Flexibility on these six levels will enable organisations to respond rapidly to a market that is dynamic, especially during a pandemic.

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