

COVID-19: The operational impacts on manufacturing, now and later

Here are some of the short- and long-term impacts that will likely result from manufacturers' response to COVID-19, and the best actions to take.

The show must go on: Even as COVID-19 inflicts a new, jolting reality on business operations worldwide, this has become the new charge for COOs and CIOs everywhere. In my conversations over the past few weeks with manufacturing clients, I've learned a lot about how businesses are coping with the sudden onset of change and how - as these new practices are followed, enhanced and supported - they could end up accelerating enterprise modernization in the long run.

Here are some of the short-term impacts I anticipate as a result of COVID-19 response, as well as the best actions businesses can take.

Enabling a Remote Workforce

In a world where the integrity of information security is non-negotiable, preparing a remote workforce should be addressed in multiple phases:

• Prioritize critical business processes

Analyze which business functions and sub-functions cannot be sacrificed for the company to keep moving ahead. Create multiple tiers of business necessity, from core operations through support and implementation roles, and identify the associated workers required for each function.

• Address the realities of remote access

Once your organization understands who must work from home first, many questions surface as to whether they actually can work from home:

- Do these workers have reliable WiFi access, hotspots, etc.?
- Do they have a company-provided computer or device?
- If they use a PC, how does it work with customer-secured sites, VPN, etc.?
- If they use a company machine, are they allowed to take it home? (Some security policies mandate that equipment be left onsite.)
- If they don't have a machine that can be used from home, can they borrow a machine from a worker in a less immediate tier?

• Consider licensing and infrastructure limitations

After users are equipped with needed equipment and access, organizations must determine which mission-critical data and services aren't available in the cloud, and then figure out how fast they can get it there. This is typically followed by contractual concerns regarding licenses and expansion options. From there, organizations must determine whether they have appropriate infrastructure capacity. Most are only set up to accommodate remote access for 10% to 20% of the workforce. Pressure tests must be performed to ensure systems can support a massive increase in demand. A contingency plan should be put in place based on the results.

Ensuring the Safety of the Onsite Workforce

As initial quarantines are eased and lifted, companies need to decide how to safely and smartly re-integrate workers into the field who are not capable of working from home but can return to work. Just because people are allowed to leave their homes doesn't mean rigorous physical and educational measures aren't still needed.

• Safety protocols:

New standard operating procedures must be agreed upon by leadership, such as a minimum distance standard, handshake policies, handwashing requirements, fever scans and mandatory equipment requirements (masks, gloves, booties, etc.).

• Communication and implementation:

The logistics of safety implementation now come into play: Who will conduct fever scans; will safety equipment be provided; how will procedures be communicated to employees; do companies need to document acknowledgment and agreement of the new procedures for legal purposes?

• Mitigate risk and inefficiency:

Once new operating procedures are in place, it is wise to field-test reentry to on-site operations in shifts. This mitigates the risk of

negatively impacting a large part of the workforce and allows for realistic means of access. Just like bottlenecked traffic in rush hour due to lane closure, individually screening each worker for fever and safety compliance could keep the majority of workers waiting in line for hours just to begin work if all employees return at once.

Different approaches will work for different organizations; companies may decide to bring in one-quarter of workers one week at a time, trade off every other day, work in three-day stints, etc.

What's Next: Long-Term Impacts

Just as we've emerged from previous epidemics with positive outcomes, we also expect to see some positive long-term impacts from COVID-19, particularly in the form of business modernization and the environment:

• The ultimate test (and advancement) of cloud and IoT readiness.

COVID-19 has made it painfully clear to enterprises the cloud capabilities they do and don't have. As companies see the value and necessity of the cloud (as well as the capability to move quickly when forced), they will begin fast-tracking initiatives that have been on hold or in unscaled pilots. Many will realize the value of not staffing a data center and will accept that leading mega-platform providers deliver levels of security that are typically better than on-premises solutions.

Beyond cloud, we'll also see advancements in how Internet of Things and augmented/virtual reality better enable the non-remote workforce. Smart factories and offices will increase, allowing critical functions that currently need to be overseen in person to be monitored remotely or, at a minimum, by fewer people.

• Reduced emissions

As business become more technologically intensive, the practice of working from home will become the norm. This will result in a sizable decrease in daily commuters. I expect to see studies estimating the volume of emissions avoided in major cities during the weeks of quarantine, and how that could extrapolate over time if (and likely, when) workers continue to work from home.

• Innovation across the board

Changes in consumer behavior lead to innovations, and the vast change in consumer behavior brought on by COVID-19 - especially the need to reduce human contact - will undoubtedly lead to more automation and virtualization. Virtual power plants will become more important than ever as millions begin working from home, spiking electricity usage during hours that would typically be considered "off-peak." 5G, which is already forecast by GSMA to support 48% of connections in the U.S. by 2025, will accelerate even faster to support the mobile workforce and better power IoT connections.

As 5G and IoT advance as one, the possibilities for edge computing will rise exponentially. According to an IDC FutureScape 2020 prediction, 70% of enterprises will run varying levels of data processing at the IoT edge by 2023. In tandem, organizations will spend over \$16 billion on IoT edge infrastructure in that time. While use cases vary, there will be instances, such as plant operations, where IoT devices on the factory floor will need to communicate with one another and be in a position to collect, analyze and act on data acquired from a variety of other sources as well. Doing so will require the type of low-latency, high-reliability network that 5G delivers. This will not only improve industrial processes but will also give rise to industry-specific implementations such as in healthcare.

By taking the appropriate actions, enterprises and society at large will walk away from the coronavirus crisis stronger than before. Organizations can emerge more nimble, innovative and better prepared to solve whatever life throws our way tomorrow.



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