



COVID-19 has moved the value chain optimization goal posts for many companies.



How COVID-19 Has Disrupted the Value Chain

Value chain optimization involves the agile and efficient alignment of the supply of premium products as closely as possible to market demand with sufficient resilience or operational flexibility to readily adjust production and exploit market opportunities. Under normal circumstances, the main goal of value chain optimization is enhanced return on capital employed, for which the three levers are revenue maximization, at least cost, while being capital efficient. A distant secondary goal, albeit important, is a reinforced “license to operate.”

However, COVID-19 is a major disruption that has transformed circumstances in an unprecedented manner. Today, the goal has become an existential one, to “flatten the curve” of COVID-19 infection, to give health services time to cope and protect our older and higher risk employees and members of society.

In many cases, the older and higher risk employees are those who have key skills, knowledge and decades of experience to enable and empower the younger generation. The goal of society now is to save lives and restore its communities.

The healthcare community needs more doctors, beds, ventilators, sanitizer, cleaning agents, disposable suits and other personal protective equipment. The way in which the Energy and Chemical industries are pulling together to answer this call is admirable. Value chain manufacturing is pivoting from optimizing return on capital employed to optimizing production in order to address industry’s license to operate. After all, a large segment of the community has spent, or will spend approximately one third of their lives serving these companies. It’s now their turn to respond.

Organizations with resources and capabilities to possibly help in some way, are re-purposing their activities to support communities in need. Chemical companies have changed their manufacturing recipes to ramp up volumes of alcohol-based sanitizer. Electronics companies, who normally make televisions, DVD players and other plastic-based consumer goods are re-purposing their activities to make more masks. Doctors and nurses are coming out of retirement to augment the system. Even armies around the world are re-purposing their “value chains” to wage war against the invisible enemy, through the building of hospitals at speed.

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If ever Industry 4.0 technologies needed a catalyst for adoption, COVID-19 has delivered. Within days, the UK’s National Health Service had built and released a mobile app that pre-checked volunteers who could be called on to support. Another example is the CEO of KBC-A Yokogawa Company, Andy Howell, who volunteered to courier much needed medicine and blood between hospitals and isolated patients on his motorcycle in his free time. The 3D printing community is pulling together in a “wartime” manner to build ventilators at scale to help those in need. Those sheltering at home out of prevention or self-quarantining are relying on online purchasing at a scale which has never been seen before. The digital collaboration and connectivity tools we now have on our phones allow us to connect with family and friends who are living under lock-down around the world. More important than our own personal needs is the way IT connectivity has evolved to enhance primary care system capacity through telemedicine, with doctor consultation through video-conferencing tools.

Technology has become central to our lives. The technologies we have in our hands—our phones, PCs, and tablets—while sheltering at home are very apparent to us. However, behind the scenes, there is leading-edge measurement, control, information, and optimization solutions that keep our power plants, oil refineries, petrochemical, and chemical plants running. Without them, lights would not be on, there would be no connectivity, and there would be no semblance of normalcy.

Value chain optimization and factories of the future need to be smart and connected, but still with a human touch. We owe a great deal of thanks to all the instrumentation, control, optimization and IT engineers out there working through their shifts and keeping society’s basic needs met.



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