Global Supply Chain Impacts of COVID-19

Analysis of Supply Chain Impacts on Select JanSan Product Categories
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The topic of COVID-19 has dominated the news and collective psyche of the world for the last several months – and it may be the height of understatement to say that this intense focus has had a dramatic and oversized impact on many of the facets of our everyday lives which we may have previously taken for granted.

In addition to the implementation of social distancing measures which have kept us separated and unable to enjoy many of the daily opportunities for interpersonal interactions we are used to having with our friends, families, and neighbors, the COVID-19 pandemic has also shined a very bright light on the global supply chain, and our collective ability to be able to source and buy the products which are typically viewed as basic staples of our everyday lives, as well as those supplies which we can all agree are needed by those responsible for facilities maintenance in the buildings where we work, learn, heal, and relax in order to combat this new viral threat.
A Brief Overview Of The Supply Chain

What is a “supply chain”, and what does it have to do with viral pathogens and facility maintenance supplies?

According to Investopedia, a supply chain is “a network between a company and its suppliers to produce and distribute a specific product to a final buyer...The supply chain also represents the steps it takes to get the product or service from its original state to the customer.”

In short, the supply chain is the process which is ultimately responsible for putting products on the shelves of grocery markets, big box stores, and wholesale distributors like WAXIE and others. In “normal” times, and prior to COVID-19, the global supply chain which has been developed over the course of the last several decades has shown itself to be extremely efficient at putting products where the need to be, when they need to be there, and at the lowest cost for all stakeholders.

Just-In-Time Delivery

Supply chain efficiencies have been improved by adopting just-in-time delivery. The practice of “just-in-time” delivery means that the individual components which will ultimately be combined to make a finished product arrive at the manufacturing plant shortly before they are needed in the assembly process. And as a result of this blend of meticulous forecasting, planning, and execution, products can be made and then purchased for lower prices, while simultaneously minimizing the expense and waste of holding excess inventory for manufacturers, wholesalers, and consumers alike.

Although there are always seasonal fluctuations and local market conditions to consider which may temporarily lead to some product scarcity, for the most part consumers in the U.S.A. have not been given a compelling reason in the recent past to have to think that hard about product availability. As a matter of fact, the average U.S. consumer has been conditioned by a plethora of recent purchasing experiences to expect to receive a product the next day, or at least very soon after placing an order for it.

However, COVID-19 has now given us a reason to think about the availability of products for consumers to purchase, the availability of products for wholesalers to sell, and the availability of raw material components for manufacturers to use to make the products which will ultimately go into the supply chain which serves us all.
Supply Chain Survey And COVID-19 Disruptions

According to a recent survey of businesses and their supply chains by the Institute for Supply Management, 95% of respondents are expecting to be impacted by supply chain disruptions as a result of COVID-19, with 86% of respondents seeing longer lead times for products sourced from China, 74% seeing longer lead times for products sourced from Europe, and 34-44% seeing longer lead times for products sourced from North America.

And while the global supply chain has shown resiliency and the ability to overcome specific short term traumatic events in the past, it is fair to say that the supply chain was not built to successfully accommodate the level of disruption which is occurring today as a result of COVID-19.

Government lockdowns of countries, unavailable and/or sick factory workers, factory shutdowns, international border closings, decreased international shipments via ocean and air, immediate and dramatically huge surges in demand for products across many disparate product categories, international competition for finite product resources, panic buying, and product hoarding are all contributing factors to create a situation where product shortages within the supply chain can be expected to occur.

And since the supply chain has become so global, a worldwide event like COVID-19 is proving to have far-reaching impacts on product availability throughout the supply chain.
Personal Protective Equipment (PPE), Disinfectants, and Toilet Paper – Oh My!

Here in the United States, American shoppers and businesses have been stocking up on items such as face masks, gloves, hand sanitizers, disinfectants, and toilet paper (among other items), with the subsequent and ongoing demand consistently managing to successfully outpace available supply.

PPE – Face Masks

Since the start of the COVID-19 outbreak, severe and mounting disruptions to the global supply of PPE like face masks and gloves – caused by rising demand, panic buying, hoarding, and misuse – has left healthcare workers ill-equipped to care for patients, and has also led to a big surge in prices, according to the World Health Organization (WHO).\(^8\)

One of the initial causes for this disruption in availability of PPE happened at the epicenter of the burgeoning pandemic, as the Chinese government moved to corner the global market\(^9\) for these products in early January and February, just as the world was beginning to fully grasp the extent of the new coronavirus threat.
It is estimated that from January 24 to the end of February, the Chinese government purchased over 2.2 billion face masks on the global market. Given the fact that over 50% of the global supply of face masks came from China before this pandemic crisis began in the first place, combined with the Chinese government commandeering all of their domestic production right away and then moving to purchase other available supplies from the rest of the world, followed by the ensuing competition between other countries for any remaining supply capacity once the virus began to spread throughout the globe, and it is easy to see in hindsight how there would now be a global shortage of PPE products like face masks.

As this analysis is being written, availability of face masks has begun to increase slightly as China allows some excess inventory to be exported, and as additional manufacturing assets are being brought online throughout the world to increase production. Nevertheless, face masks are expected to continue to be in short supply in the coming months as governments and companies compete for a finite amount of available inventory.

PPE – Gloves

Face masks are not the only PPE product to experience this shortage in supply – the product category of gloves has also seen a dramatic surge in demand in the U.S. and Europe as the COVID-19 outbreak has expanded from Asia and the eastern part of the globe to hit hard in the western part of the globe.

As a matter of fact, one of the largest glove makers in the world located in Malaysia has predicted an ongoing shortage as demand has increased more than 100% since the onset of the pandemic. Top Glove Corporation Bhd, which is responsible for approximately 20% of the total global production of gloves, has extended shipping times and increased capacity in an effort to cope with this surge in demand, according to executive chairman Lim Wee Chai.
“Some customers panic order; normally they order 10 containers a month but now they suddenly increase to 20 containers,” Lim said. “Definitely there is a shortage. They order 100% more, we can only increase 20% so there is a shortage of about 50% to 80%”.1

To add an additional complication to this surge in demand, the entire country of Malaysia, where a large percentage of the world’s nitrile gloves are made, was on lock down by their government until April 14.12 Although many companies which manufacture gloves in this country have been allowed to have employees come back to work, conditions there remain challenging to achieve maximum manufacturing efficiency and output, and it is estimated that factories are only producing at around 50% capacity at this time.

And for a product category where purchase orders are typically placed with manufacturers in Asia three months prior to eventual delivery in the U.S., it will take some time to rebuild the domestic safety stock which has supplied and sustained the first wave of demand in Q1 2020 for healthcare facilities and other JanSan companies.

As this analysis is being written, availability of gloves is expected to continue to be tight for the next several months as factories in Asia ramp up production to respond to the surge in demand, and as international, national, and state governments as well as the private sector compete on the open market for a finite amount of available inventory.

**Hand Sanitizers and Disinfectants**

Availability of hand sanitizers and disinfectants has also been dramatically impacted by this surge in demand. According to Adobe Analytics (as attributed in a recent article in Bloomberg Business Week),13 demand for PURELL® hand sanitizer from GOJO Industries spiked 1400% from December to January, and has not shown any signs of letting up since.

The demand for these categories of types of products has spiked so much that manufacturers are saying that current stockpiling is “more frenzied than that which occurs before a natural disaster”.13 According to Rick McLeod, Vice President of Product Supply for Procter & Gamble Co.’s Family Unit, “What’s different here is that it’s not as concentrated as you would see in a hurricane response – it’s obviously more widespread.”

As a matter of fact, the surge in demand has been so extreme during this time period, the U.S. Food & Drug Administration (FDA) has even taken the extraordinary step of issuing guidance for the temporary manufacture of certain alcohol-based hand sanitizer products by manufacturers who don’t typically make this product in an effort to help boost supply to protect public health.

“We are aware of significant supply disruptions for alcohol-based hand sanitizers. Many manufacturers make hand sanitizers, and several have indicated that they are working to increase supply,” said FDA Commissioner Stephen M. Hahn, M.D. “In the meantime, these guidances provide flexibility to help meet demand during this outbreak. We will continue to work with manufacturers, compounders, state boards of pharmacy, and the public to increase the supply of alcohol-based hand sanitizer available to Americans.”14
Using this guidance from the FDA, and with a waiver from the Alcohol and Tobacco Tax and Trade Bureau which allows distilled spirit makers to produce hand sanitizer, several companies from the alcoholic beverage industry have started to pitch in and produce hand sanitizers from denatured raw alcohol, glycerin, and hydrogen peroxide. But the alcohol industry is seeing shortages in raw materials they will need as well.

The demand for hard surface disinfectants – both chemicals and wipes – has also led to raw material shortages. Manufacturers report seeing supply interruptions for items such as the polypropylene material used to make wipes – ironically, it has been reported that some of this raw material is being diverted from the production of wipes to the production of face masks.

In addition, some of the ingredients needed to make quaternary ammonium-based disinfectants stopped arriving from China in March, and as a result, manufacturers of quat-based disinfectants report that there will potentially be a shortage of finished products through the months of May and June at a minimum. As if these shortages in quat weren’t enough, bottles and packaging are also concerns, and even if a manufacturer can find itself with enough chemical ingredients to make a batch of disinfectant, it is possible to not have enough bottles and packaging to make a finished product which can be ready for shipment to consumers.

As this analysis is being written, availability of alcohol-based hand sanitizer and quat-based disinfectant products (both chemicals and wipes) are expected to continue to be difficult for the next several months through at least June. Other options to consider during this time include hydrogen peroxide-based disinfectant products and bleach-based disinfectant products, although each of these products is also subject to allocation.

**Toilet Paper**

Many articles have been written about the psychology behind the huge surge in demand for toilet paper in response to the coronavirus pandemic. Needless to say, there has been an enormous uptick in the amount of toilet paper being purchased over the course of the last several months, and the companies who manufacture this product are still playing catch up so that they can refill the supply chain.

According to NCSolutions, a data and consulting firm quoted in an article in the New York Post, online and in-store sales of toilet paper rose 51% between February 24 and March 10, as consumers began to grow concerned over the rising number of COVID-19 cases. And when several states announced lockdowns on March 11 and 12, sales skyrocketed 845%. Needless to say, this surge has led to shortages.

Although not a frequent occurrence, there have been toilet paper shortages before.

Some notable examples include the months-long toilet paper shortage in Hawaii in July 1971, when a strike by the International Longshore and Warehouse Union shut down every dock on the West Coast, which in turn led to the ceasing of shipments of a variety of goods including toilet paper. The shortages lasted for months, and left such a lasting impression on the Islands that there was a run on toilet paper in stores across the state when there were concerns that there would be another strike in 1999, and again in 2002 during a dock worker lockout.
And late night king Johnny Carson caused a toilet paper scare on December 19, 1973 after delivering his monologue on the “Tonight Show” when he said, “There is an acute shortage of toilet paper in the good old United States. We gotta quit writing on it!” It turns out his writers had been misinformed about a shortage, but the damage was done – the resulting excessive demand at retail outlets caused by the monologue led to an actual shortage, and the need to implement an allocation system for the national distribution of toilet paper.

And while there are some differences between the most recent shortages of toilet paper caused by COVID-19 and shortages caused by other reasons in the past, the similarities are that once consumers begin to feel uneasy about availability of product and the panic buying begins, it is difficult for the toilet paper supply chain to keep up with demand right away.

In “normal” times, toilet paper flows from paper mills to retail stores and wholesale distributors through a tight and efficient supply chain, and retailers typically receive frequent shipments to restock their inventory to satisfy a relatively predictable demand. The amount of toilet paper the average American uses has remained constant for many years (around 141 rolls per year, according to AlixPartners, a consulting firm quoted in an article in the New York Post), and even small changes in buying habits can throw everything into disarray, let alone big changes such as those which have been associated with COVID-19.

Why don’t the toilet paper companies just make more?

The reality is making toilet paper is a lower-margin business proposition, and in order to make a profit, the big three U.S. toilet paper companies – Georgia-Pacific, Proctor & Gamble, and Kimberly-Clark – were already running their toilet paper plants 24 hours a day before this new coronavirus pandemic hit. In an effort to increase total output during this surge in demand, these manufacturers are making fewer varieties of toilet paper to avoid the down-time which is associated with changing machines to produce a different product SKU.

As this analysis is being written, availability of toilet paper is expected to increase in the coming weeks and months. The good news is that consumer demand is beginning to level off, and more toilet paper is being made and is on its way to grocery stores and wholesale distribution warehouses every day.

Conclusion

COVID-19 has had an enormous and outsized impact on every facet of our daily lives, and it appears that this virus will continue to have a negative impact the global supply chain for the immediate near-term future.

While it is anticipated that toilet paper will continue to be more available in the coming weeks, products like face masks, gloves, hand sanitizers, and disinfectants will continue to be in high demand with a comparatively limited supply.

Through it all, count on WAXIE to continue to work together with our manufacturer partners to try to minimize the impact these disruptions will have on the supply chain. And thank you for trusting WAXIE to be your partner to help you keep your facilities cleaner, healthier, greener, and safer.
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