

The Food Supply Chain

Impacts of the COVID-19 Pandemic

FOOD PROTECTION CONNECTION

A look at how the pandemic has interrupted the global food supply chain

Have you ever taken a ride on the Mount Washington Cog Railway? The Cog is the world's first mountain-climbing rack-and-pinion railway whose design uses a ladder-like rack with open bar rungs engaged by the teeth of the cog wheel, allowing the locomotive to climb Mount Washington—the second steepest rack railway in the world. The Cog Railway is an amazing feat of engineering—if one small part fails, the best case scenario is that train does not make it up the mountain, the worst case is that it becomes a runaway locomotive uncontrollably barreling down that mountain and crashing.

The food supply chain is in some ways similar to The Cog, in that there are many integral parts working together to ensure that the system functions properly, and food and goods are delivered to consumers. The emergence of COVID-19 in early

2020 inserted itself into every aspect of our lives like a flaw in the cog, and has proven that complexities and unpredictability can have significant consequences impacting food supply chains as well as business and society as a whole.

Supply chain issues have always been present, even in non-pandemic times. The food supply chain is a massive component to the critical infrastructure of the food industry globally. The supply chain is extremely complex. Understanding those complexities is challenging under the best of circumstances, let alone when faced with a pandemic that the world has not seen the likes of in over 100 years. Everything is interrelated across the supply chain, meaning you have suppliers bringing product to you, they have suppliers bringing product to them and so on, but don't forget that you are also a supplier to your consumers.



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And, keep in mind, suppliers can only survive if they are able to produce product and provide goods.

No one was prepared for the magnitude of disruption brought on by COVID-19. At the onset of the pandemic, one of the first major disruptions we experienced was product unavailability—whether this was from a distributor of products at your foodservice operation or bare shelves at the grocery store. Most people attributed this to supply shortages, when in fact this initial phase was primarily due to transportation and logistical issues. These transportation and logistical issues had two main components including COVID-related infrastructure complications and employees (people).

Infrastructure issues ranged from a lack of trucks, significant delays in inbound/outbound shipments, closing of ports, and import/export restrictions—to name a few. With these delays and hiccups in transportation came a secondary consequence of temperature control anomalies resulting in unusable product. One logistical issue that took center stage was the shift of where products were being consumed. This created the need for a super high-speed change in the supply chain that wasn't conquered as quickly as the market needed, resulting in more shortages

when in fact there was ample supply.

Traditional markets were abandoned and manufacturers had to figure out how to pivot from foodservice markets to retail markets, including the implications of packaging and labeling. Do you recall seeing thousands of gallons of milk being dumped, or fields of produce being plowed under? That's because the manufacturers couldn't figure out how to repackage and distribute those products through the new channels of the supply chain easily. The largest foodservice distributor



in North America, Sysco had to pivot from a business model focused on serving restaurants (62 percent of their business pre-pandemic) to retail and direct consumer, and they've done it well.

Employee issues were primarily focused around truck drivers and included a massive shortage of drivers for many reasons including age-related fears of the virus,

refusal to travel to "hot spot" regions, and quarantine rules forcing drivers to stay home for extended periods after interstate trips. The people issue also included shortages in jobs like port workers and pickers, selectors, line-production workers, meat packers, and shelf stockers for a variety of COVID-related issues.

Another issue experienced by manufacturers, which trickled down to end-user consumers, was difficulty getting basic raw materials and ingredients. The inability to get raw materials in a timely manner

and in required quantities resulted in the inability to produce products, and thus created market shortages for consumers. This issue also resulted in a secondary concern and that was food fraud, including Economically Motivated Adulteration (EMA) of ingredients and products. EMA occurs when specific ingredients

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of a lesser monetary value are substituted for a more expensive one (common historical examples are honey, olive oil, and spices). With the market shortages being seen, manufacturers were having to look at new suppliers and consider ingredient sourcing due to scarcity of goods and inferior and even fraudulent and potentially dangerous products and ingredients being introduced, putting the supply chain under greater pressure and increased risk.

We also continue to see a streamlining of businesses for their own survival. Coca-Cola eliminated more than 400 items from their product line, Outback Steakhouse removed 40 percent of its menu items, and Godiva Chocolatier announced the closure of all U.S. retail stores, shifting to an entirely e-commerce business model. This cleaner and simpler approach is likely to stick, and many consumer-oriented companies feel the narrowed product lines make it easier for customers to not be overwhelmed by an excess of choices and ultimately streamline the overstressed supply chain.

Additionally, and as a direct result of the other previously identified issues, there have been significant increases in the cost of some goods. Shortages will produce price increases, it's inevitable.

More demand equals less product and higher prices. These increases apply to raw ingredients and packaged goods, as well as extending to transportation costs, including freight, lading, import fees, and fuel surcharges.

The food supply chain is dependent upon a specific cadence and relies on the fact that every interconnected part moves at the correct speed and that the flow is not interrupted by a missing link. If this occurs, there is a multilateral backup upstream and downstream in the supply chain. Nothing is independent in the supply chain.

LOOKING TO THE FUTURE

The start of vaccinations has provided all of us with a light at the end of the very long tunnel, but the future is still foggy. Will there be a resurgence with a virus mutation resistant to the vaccines? Will enough people get vaccinated? Will there be additional restrictions put in place before a return to normality? We cannot predict these things, but what is certain is that we are a year into this pandemic and we continue to have daily operating challenges. Initial fly-by-the-seat-of-your-pants approaches that were patchworked together at the

beginning of this crisis are abrading. Everyone has to recognize that we are in this long term and it is not going away, and we need to ensure our solutions are permanent and sustainable.

Unfortunately, there is the potential for future disruptions in the supply chain to occur on the flip side of this pandemic. As the country begins to reopen and ramp up functions of normal life and activities, the supply chain will yet again need to pivot to meet those demands. If we "turn on" too quickly there is a question as to whether the supply chain will be able to ramp up rapidly enough to meet the needs of the industry.

Time is critical to the supply chain being able to meet demand and operate normally. If there isn't enough notice given to manufacturers and suppliers to plan adequately for reopening and accompanying shifts in market demands, then there likely will be another period of disruptions and shortages.

Hindsight is 20/20—Isn't it ironic that COVID-19 attacked us in 2020? Some things to think about as we emerge post-pandemic, where the "new normal" becomes "the normal." Will peoples' perspectives be forever changed? Will we stockpile

goods waiting for the next event? Will patterns and behaviors have a drastic shift from those of pre-pandemic norms and expectations?

With problems come opportunities. What have we learned from COVID-19 and what have we gained? Now is the time to debrief with your teams and revamp your shortcomings planning for the future—planning for the next time.

Two major components that resulted in companies either succeeding or failing were communication and transparency. Did you have an Emergency Preparedness Plan in place and was it adequate for your facility to assist in navigating this crisis? Did your employees have enough information to allow them to navigate effectively and successfully? Lack of information breeds mistrust, conjecture, misassumptions, and fear. What worked for you and what didn't?

One thing that has been a repeating trend across the foodservice industry during this pandemic is that COVID-19 provided an accelerant to many things. What may have been a pipe dream or a five-year plan became a reality in five months or five weeks, depending on the degree of necessity. If you had projects



FOOD SAFETY TIP

Prepare for supply chain disruption in your Emergency Preparedness Plan

like this, use that to your advantage as you move forward and continue building on those opportunities, making them permanent solutions.

Lastly, in my opinion, the biggest food safety “win” that emerged from COVID-19 is the colossal emphasis that’s been placed on sanitation. Heightened employee

awareness, vigilance and improved behaviors around personal hygiene, health and illness and wellness, personal protective equipment, and, cleaning and sanitizing will

certainly prove to be long-term benefits to synergize and strengthen the culture of food safety in all foodservice operations moving forward into a secure future. **E**

SAN CE Questions | FOOD PROTECTION CONNECTION



This Level II article assumes that the reader has a foundation of basic concepts of the topic. The desired outcome is to enhance knowledge and facilitate application of knowledge to practice:

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Reading *The Food Supply Chain: Impacts of the COVID-19 Pandemic* and successfully completing these questions online has been approved for 1 hour of Sanitation continuing education for CDM, CFPPs. CE credit is available ONLINE ONLY. To earn 1 SAN CE hour, access the online CE quiz in the ANFP Marketplace. Visit www.ANFPonline.org/market and select “**Edge CE Articles**” within the Publications Section. If you don’t see your article title on the first page, then search the title, “*The Food Supply Chain: Impacts of the COVID-19 Pandemic.*” Once on the article title page, purchase the article and complete the CE quiz.

1. The first major disruptions from COVID-19 were product unavailability. What was the root cause of this?
 - A. Supply shortages
 - B. Transportation and logistical issues
 - C. Lack of COVID-19 tests
2. Which of the following is not a direct economic implication resulting in increased cost of goods?
 - A. Lack of raw ingredients
 - B. Fuel surcharges
 - C. Identification of “hot spots”
3. A secondary concern of the pandemic resulting from difficulties obtaining raw ingredients was EMA. What does EMA stand for?
 - A. Economically Motivated Adulteration
 - B. Emergency Management Actions
 - C. Energy Misinformation Act
4. What was the most difficult aspect of transitioning from food service to retail when the pandemic caused the market shift?
 - A. Food spoilage
 - B. Recipe reformulation
 - C. Packaging and labeling
5. Which is *not* a reason truck drivers were in short supply?
 - A. Fear of the virus
 - B. Not needing to work because of the stimulus check
 - C. Quarantine orders imposed from traveling out of state
6. As the country begins to reopen and ramp up functions of normal life there is the potential for future disruptions in the supply chain to occur on the flipside of this pandemic. What is the primary catalyst of future disruption?
 - A. Lack of planning time
 - B. Product shortages
 - C. Transportation and logistical issues
7. What is the biggest food safety opportunity that occurred as a direct result of the pandemic?
 - A. A realization of the importance of transparency in communication
 - B. A hyper-vigilance towards sanitation and hygiene
 - C. An acceleration of projects that occurred out of necessity