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## Supply Chain Disruptions During the Pandemic and Ways Food and Beverage Companies are Looking to Find Stability

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**Supply Chain Disruptions During the Pandemic and Ways Food and Beverage Companies  
are Looking to Find Stability**

**By**

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**An Honors Thesis in partial fulfillment of the requirements for the degree Bachelor of  
Science in Business Administration in Supply Chain Management**

**Sam M. Walton College of Business  
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## **Abstract**

In March 2020, the world was impacted by the Covid-19 pandemic and is still dealing with its repercussions. This paper examines how the pandemic has had an impact on the food and beverage industry. In this study, there are three disruptions highlighted by industry professionals and online articles. The professionals within the supply chain industry cited in this research are Jane Gringer-Flinn, Director of Customer Solutions at Coca-Cola, Whit Calhoun, Senior Director of Logistics at The Fishin' Company, Judy Thorne, Senior Director Distribution Services at Tyson Foods, and Bill Carver, Senior Director at J.B. Hunt Transport Services Inc. The three disruptions to the food and beverage industry this paper highlights are: labor issues, sourcing disruptions, and demand swings. Each of these challenges changed the way that food and beverage companies conducted their business. This paper finds that there are mitigation strategies to alleviate disruptions that have and will be useful for businesses.

## Introduction

Hindsight allows businesses to examine the disruptions that Covid-19 has had on supply chains and study what certain businesses are doing to ensure their practices run smoothly. This study provides insights in the case that an extreme event like the pandemic happens again.

Covid-19 has affected the entire world ever since the first cases occurred in Wuhan, China in late December 2019. On March 11, 2020, the WHO declared Covid-19 a global pandemic. The emergence of Covid-19 was as early as October 2019. In April 2020, the transmission of the virus was under control locally, but by then, there were more than 100 countries reporting cases.

Businesses have had to consider how easily the virus can spread. Covid-19 is contracted through air particles from an infected person. Particles may also linger in the air and accumulate in indoor places. Risk of transmission is high when people are within three to six feet, and anyone who breathes the particles in or swallows them has a chance of becoming infected. Some people may have the virus, and not show any symptoms; however, they are at risk to spread it.

For an infected person, symptoms can show up in as few as 2 days or as many as 14, but it varies for each person. The CDC has suggested that people who do not feel well stay home, call the doctor for any trouble breathing, continue to follow doctor's advice, and keep up with Covid-19 on the news. Concerns over employee's health have led to disruptions that businesses have experienced.

Because of this pandemic, some businesses have adopted mask wearing policies, along with requiring proof of vaccination status for employees and customers. Social distancing measures in offices were common as well. Businesses must also deal with employees calling in sick, and then finding ways to delegate that work amongst others. Each company is different in how they go about their Covid-19 policies, and it is important for employees and customers to know what each company is doing.

In this study, there are takeaways and research from individuals whose business has been impacted by the pandemic. Each share their own unique insights from working in their respective positions. This study uses real life examples and articles published online to discuss the labor issues, sourcing disruptions, and demand swings that have impacted the food and beverage industry. It also contends there are mitigation strategies to help businesses remain flexible in times of disruption.

## **Food and Beverage Industry**

The food and beverage industry is a large industry in the United States, and it considers roughly 330 million consumers. This industry is continually growing. The global market reached a value of \$5,943.6 billion in 2019, which increased at a compound annual growth rate of 5.7% since 2015. The market expects to reach \$7,525.7 billion in 2023, \$8,638.2 billion in 2025, and then \$11,979.9 billion in 2030 (PR Newswire). Food and beverages are worldwide, and it is vitally important that companies' supply chains can provide products in a timely manner to meet consumer demand.

The supply chain of this industry includes food processing, packaging, and distribution. It is important to note that it does not cover raw food production, which is in the agriculture industry. Fresh food, packaged food, and beverages that are sold in grocery stores, restaurants and events are all included in this industry.

There are also broadly shared challenges. One challenge is ensuring supply chains deliver products in a prompt fashion because many products in the food and beverage industry can spoil. Food companies are always on a schedule and need to plan for specialized storage and transportation. It is also essential to practice careful inventory control. Another challenge is that the food and beverage industry is a highly regulated industry, and companies must abide by the regulations.

The food and beverage industry is regulated by several governmental agencies. The Food and Drug Administration (FDA) "regulates the composition, additives, and properties of materials for food contact." The US department of Agriculture (USDA), "regulates food safety and inspection for manufacturing, packaging, and handling practices, including meat, poultry, fruits and vegetables ("Food and Beverage Industry").

# **Three Challenges and Disruptions Caused by Covid-19**

Covid-19 has impacted the United States in multiple ways. It has changed the way people live. Some of the responses to the pandemic, such as online meetings and delivery services, will remain in the future. Industry professionals in the food and beverage industry spoke about disruptions they are facing within their company and ways that they are navigating issues. This study will discuss three major disruptions that Covid-19 has had in the food and beverage industry which includes labor issues, sourcing challenges, and demand swings.

## **Labor Issues**

Labor shortages were one of the biggest disruptions to supply chains during the pandemic. The labor industry was also impacted by quarantine periods, illness, masks, and personal protection. Not having available workers slows down supply chains, leading to longer lead times and less product on shelves. With the US economy still recovering, demand for labor has outstripped supply. Competition for labor has increased because there are rising labor costs and retention challenges across all industries. The cost of labor has also increased because of the demand for workers exceeding supply. Labor across all worker types and demographics has declined, and another factor that goes into labor is immigration rates, which decreased in the United States by 1.3 percent between 2020 and 2021 (Bhattacharjee).

## **Navigating Labor Related Challenges and Disruptions**

### **Tyson Foods**

One example of a food supplier navigating labor issues is Tyson Foods. Judy Thorne explained that Tyson Foods experienced a shortage of employees to work the production lines. Having workers on the production lines ready to harvest Tyson Foods' products when it needs to be is crucial to their supply chains. If there are not enough workers available to work in the timeline the animals must be processed, there is lost profit and less product available for consumers, leading to empty shelves at grocery stores across the country. In conclusion, the labor shortages across the food and beverage industry directly affect Tyson Foods through staffing in their office, trucks, and plants.

### **Coca-Cola**

Coca-Cola has 68 independent bottlers across the United States, and they are one of the largest beverage companies in the world. They have faced their own labor related challenges. Jane Gringer-Flinn explained that when the Omicron variant was spreading quickly in early 2022, one of their bottlers in Texas had as much as one-third of their workforce out due to quarantining. She also explained in the northeast region, Coca-Cola was experiencing drivers call in with Covid-19 at the rate of 15% per day. Employee illness and quarantine periods were a big disruption to Coca-Cola.

## **The Fishin' Company**

Whit Calhoun, Senior Director of Logistics at The Fishin' Company, has also faced labor issues throughout the pandemic. The Fishin' Company is a seafood supplier for retail stores and grocery chains across the United States. They source most of their products from countries in the Asian-Pacific region, including China. The Chinese New Year is the most celebrated holiday there, comparable to the United States' Christmas. Many workers take this holiday off to celebrate and be with their families. There was no production in factories at any significant level for about an eight-week period because of the Covid-19 travel policies in China at the time. The New Year started on February 1<sup>st</sup>, and for workers to travel, they had to quarantine for three weeks prior to traveling. Once the celebration was over, workers had to quarantine for three more weeks before returning to work.

## **Mitigating Labor Related Challenges**

To uphold Tyson Foods previous success, it was necessary to find stability with regards to labor issues. Judy Thorne first explained the differences in three different areas of Tyson Foods. From a corporate office perspective, Tyson Foods has allowed more people to work from home, and they have not seen much disruption from employees doing so. From a plant and driver perspective, Tyson Foods has been allowing leaves of absences for ill workers. In the transportation sector, Tyson Foods has hired contract carriers to take on the work that would have normally been on their own private fleets. This has come with extra costs, however. Tyson Foods has also tried to mitigate employee sickness by requiring all staff to be vaccinated. Judy Thorne also explained how important it is for Tyson Foods to invest in their employees and implement mitigation strategies to hire people as well as retain their current employees.

To mitigate driver illness and quarantine periods, Coca-Cola adjusted their drivers' route schedules. If one driver had to quarantine, then another driver that was normally driving six days a week might be adjusted to drive four days a week with increased loads. This helps alleviate the lost productivity of the sick driver.

Some companies are raising wages and offering benefits. Many major restaurant chains and convenience stores such as McDonalds and Walgreens have raised their pay. Companies have also offered perks such as education benefits, free phones, and sign on bonuses (Kaplan).

Industry professionals within the food and beverage industry, Whit Calhoun, Judy Thorne, and Jane Gringer-Finn, shared common approaches in what their companies have done to address labor issues. They have offered incentive bonuses, signing bonuses and increased wages. Flexibility and proactiveness in preparing for low labor levels for certain amounts of time also helped Tyson Foods, the Fishin' Company, and Coca-Cola mitigate labor challenges.

The bottom line is that labor shortages affect all aspects of the supply chain. If employees cannot work because they must quarantine, it makes it harder to move product throughout the supply chain. With longer lead times and higher consumer demand, grocery stores and chains will continue to experience shortages. These issues are shown across the board in the food and beverage industry. There are not enough workers to produce products, ship them, and then receive them.

## **Sourcing Challenges**

The pandemic made it hard for companies to receive their products in a timely fashion. A lack of workers to produce products, transport products, and receive products all lead to shortages of food and beverage items. Jessie McCauley, director of managed services and consulting at MARCUM accountants and advisors, writes, “In addition to the shortage of workers, food and beverage companies are facing challenges from a shortage of basic construction materials, such as lumber, metals, plastics, and resin” (McCauley). Shortages in these areas hurts necessary construction for the expansion of factories to accommodate the high growth that many companies within the industry are facing.

## **Navigating Sourcing Challenges**

Because of product shortages, the pandemic hindered bills of lading, which is a detailed list of a shipment of goods in the form of a receipt given by the carrier to the person consigning the goods. When trucks are loaded, the paperwork has to say exactly what is transported. The pandemic caused a disruption to the sourcing process because the accuracy and the timeliness of paperwork worsened.

## **Tyson Foods**

Tyson Foods does not source any of their meat products, but they do source some items including basic ingredients, personal protective equipment, truck equipment, and parts for assembly lines and communication equipment. Tyson Foods has had delays in obtaining their truck equipment, assembly line parts, and communication equipment, from both overseas and domestic.

The pandemic has made it harder for Tyson Foods to schedule appointments. Appointment refers to the time and date agreed between the seller and buyer for the goods to arrive at the specified destination. If there is a shift in an appointment, truckers must wait. Tyson Foods’ drivers, however, want to bring the order back because they receive payment for doing so. They do not receive payment for sitting and waiting. The drivers bring the load back, then must wait to get it unloaded at their facilities, only to have to take it back a day later. It has created inefficiency in delivery for carriers receiving payment during their down time while waiting for their next re-schedule.

## **Coca-Cola**

Coca-Cola sources certain sweeteners, ingredients, and sugars from overseas for syrup production within the United States. They did have a few challenges sourcing these ingredients throughout the pandemic, but Jane Gringer-Flinn of Coca-Cola explained that her company has done an excellent job sourcing items they need for their production. A big concern for many bottler and beverage companies is sourcing aluminum, as this industry has been hit hard by the shortages in aluminum. Jane Gringer-Flinn spoke on this when she mentioned that some craft beer companies are having troubles sourcing aluminum, and in January 2022, there was a quota put in place on the amount of aluminum companies can buy.



## **Mitigating Sourcing Challenges**

While the pandemic has run its course throughout the United States ports, there are a few ways companies are looking to find stability. Bill Carver of J.B. Hunt Inc. explained that one way companies are looking to combat sourcing issues is to determine if they can source their product from other countries that have more resources. Covid-19 affects different countries at various times, so creating a multi-vendor and multi-sourcing strategy allows companies to avoid absolute disruption. For example, companies within the United States can look to source equivalent products from different countries. Also, these companies can analyze what ports are experiencing congestion, and then assess other options to speed up their sourcing process.

Coca-Cola has done an excellent job preparing for sourcing delays. They started to stockpile items they were bringing in from the ports because of the extended lead times. They began to bring in more product than usual and have storage facilities that could handle the capacity of loads coming into the United States to buffer against the extended lead times.

## **Demand Swings**

When the pandemic hit the United States in March 2020, the way consumers bought what they ate and drank changed drastically. Lockdown and social distancing measures did not allow for people to go out in public to restaurants or entertainment venues such as movie theaters and sporting events. Retail demand skyrocketed as grocery stores were one of the few places in most states that remained open throughout the pandemic. Because so many people began dining at home, grocery stores, snack manufacturers, and liquor stores were all top performers within the food and beverage industry during the pandemic. Many companies within these industries received higher revenues which enabled them to respond to changing consumer preferences. Online food shopping, curbside pickup, and delivery services were all measures implemented by companies and used by consumers to buy their food and beverages.

Consumer purchasing behavior also changed during the pandemic. With the closure of restaurants, consumers began to buy in bulk, purchase more frozen food and non-perishable food, and buy more versatile food staples. Mandated lockdowns also created consumers behavior shifts. The most notable trends included an increase in consumers buying more breakfast foods, alcoholic beverages, and comfort foods. The pandemic had a massive influence on consumer purchasing decisions, and it was essential for companies to adapt and adjust to the shift.

## **Navigating Demand Swings**

### **Tyson Foods**

Tyson Foods services a wide array of chain restaurants including Popeyes, KFC, McDonalds, Chick-Fil-A, and Taco Bell. Tyson Foods' demand for their products shifted from food service to retail at the beginning of the pandemic because people were not eating out as much. Recently, restaurants began reopening, and the food service demand rose again, while the retail demand stays high. Demand has gone up, but the supply has decreased because labor shortages have affected Tyson's production, resulting in shortages to the market. Customers have continued to increase their orders.

## **Coca-Cola**

Like Tyson Foods, Coca-Cola experienced high demand in retail stores when the pandemic first hit, and while the restaurant and concession demand is returning to levels it was before the pandemic, the retail demand stays high. Before the pandemic, consumers never had problems finding Coca-Cola beverages such as Fanta Orange or Sprite Zero, but supply chain disruptions made it difficult for consumers to find many of Coca-Cola's products. Low supply ties directly to labor issues. If there is not enough labor to run the lines, drive the trucks to deliver the product, and then labor to receive it, there will be shortages. Jane Gringer-Flinn stated that incremental sales and demand, which were not expected, and a very constrained labor environment have been the biggest issues Coca-Cola has faced.

## **Mitigating Demand Swings**

Tyson Foods has been struggling to meet demand on all fronts, so they have enacted multiple strategies within their business to counteract demand swings. Automation is another way they are attempting to meet demand, which takes humans out of working the assembly lines and allows computers and machines to replace human labor. Tyson Foods is concerned with solving for capacity and working on order fill rates. Judy Thorne explained that it is essential for Tyson Foods to increase capacity and production, along with having enough throughput to meet consumer demand.

Because Coca-Cola experienced high demand in the retail area, they shifted their production to their four highest volume producers: Coke, Diet Coke, Coke Zero, and Sprite. These four beverages are responsible for most profits. Consumers were unable to purchase some of Coca-Cola's other beverages that had reduced SKUs because of the shift in production. The company is also attempting to use the customers' demand signals from sales data at the point of sale. Another way Coca-Cola is trying to better forecast their products is by looking at Walmart's Global Replenishment System. Jane Gringer-Finn explained that Coca-Cola is using this to better prepare their bottlers for their forecasting on the North America team because the replenishment system has up to a 17-week forecast visibility that the company finds to be fairly accurate within a six-week time horizon. Coca-Cola is making great strides in using data science to forecast.

## **Alignment and Visibility in Supply Chains**

Coca-Cola has implemented visibility across the organization during the pandemic. They have become more intentional and smarter across all functions to understand all factors impacting their supply chain. Because of the need to know what is happening in the supply chain, their supply chain leaders hold a “hot spot call” every Thursday. The leaders go through each North American team produced item, and show data, forecasts and what they are producing to forecast, along with an intentional meeting message that allows everyone to see what they are doing. Every Thursday, leadership also publishes detailed notes that cover everything impacting their supply chains, from end to end. On Fridays, Coca-Cola has an “office hours” session where any employee can pose questions about the notes. Jane Gringer-Finn stated that these are helpful to the company and provide visibility throughout the organization.

In general, many food and beverage companies have found food logistics solutions to increase supply chain visibility during the pandemic. It is difficult for food and beverage manufacturers to distribute without high visibility, so it is vital that they share consistent data among stakeholders. Food logistics solutions, according to Dispatch Track, “are available for enabling companies to manage delivery information effectively” and “these solutions centralize data and make it available to both internal and external stakeholders, so that everyone in the delivery chain knows exactly what’s happening” (Dispatch Track). It will be critical for the food and beverage industry to adopt new technological solutions to deal with current and future issues.

## **Conclusion: Overlapping Themes and Takeaways**

Food and beverage companies are facing similar sourcing, demand, and labor issues. Most all have a labor constraint, which in turn makes the sourcing process longer because a lack of workers to produce, ship, and receive products results in shortages for consumers. Food and beverage companies also faced similar issues regarding demand swings because of consumer purchasing. In the beginning of the pandemic, consumers were not eating out in restaurants or at other entertainment events. This caused the retail and grocery demand to rise drastically, and companies within the food and beverage industry had to navigate around this.

There are two key takeaways from this study. One is that supply chain management has become a crucial topic in the world. All areas of a business must have supply chain management knowledge to ensure visibility on pressing issues. Secondly, it will be important for supply chains to stay resilient no matter what problems occur. Consumers rely on supply chains for their everyday goods. Hopefully, the practices adopted by companies during the pandemic will remain in place in case a black swan event like the pandemic occurs again.

Covid-19 has been a catastrophic event that has affected individuals and businesses on a global scale. In supply chains specifically, labor, sourcing, and demand swings have all been pressing issues. Most companies have adopted mitigation strategies to remain resilient and find stability during this challenging time. As vaccination rates go up and infection rates go down, hopefully the world can return to a normal state like it was before the pandemic.

## Works Cited

- Bhattacharjee, Dilip, et al. "Navigating the Labor Mismatch in US Logistics and Supply Chains." *McKinsey & Company*, McKinsey & Company, 14 Dec. 2021, <https://www.mckinsey.com/business-functions/operations/our-insights/navigating-the-labor-mismatch-in-us-logistics-and-supply-chains>
- Corp., TriStar. "Food and Beverage Industry Overview: Why Bearing Materials Matter." *Bearing Manufacturer*, TriStar, <https://www.tstar.com/food-and-beverage-industry-overview>
- "Food Logistics and the Importance of Data Visibility." *DispatchTrack*, 27 May 2021, <https://www.dispatchtrack.com/blog/food-logistics-visibility>
- Kaplan, Juliana. "Businesses Have 3 Options to Tackle the Labor Shortage and They All Have Problems." *Business Insider*, Business Insider, 20 Sept. 2021, <https://www.businessinsider.com/3-business-solutions-to-labor-shortages-bank-of-america-2021-9>
- Markets, Research and Markets. "Insights on the Food and Beverages Global Market to 2030 - Identify Growth Segments for Investment." *Insights on the Food and Beverages Global Market to 2030 - Identify Growth Segments for Investment*, 7 Jan. 2021, <https://www.prnewswire.com/news-releases/insights-on-the-food-and-beverages-global-market-to-2030---identify-growth-segments-for-investment-301202729.html>
- McCauley, Jessie. "How Food and Beverage Companies Are Meeting Continued Challenges." *Marcum LLP*, 27 Dec. 2021, <https://www.marcumllp.com/insights/how-food-and-beverage-companies-are-meeting-continued-challenges>

