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SCM 3830 Sourcing and Supply  
Supply Chain Disruption Analysis

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The purpose of this analysis is to identify, describe, find a cause and effect, as well as a prevention and response to a supply chain disruption personally experienced during the COVID 19 pandemic.

## **Section 1: Supply Chain Disruption – Identification and Description**

Southwest Airlines is a major airline of the United States. With 121 destinations within the U.S. and 10 other countries, it is relied upon heavily as the world's largest low-cost carrier. For the sake of this report, Southwest will act as our focal company, and is a main supplier of the air travel service.

The disruption to be identified is the variety of cancelled flights during and still now after the COVID 19 pandemic. While most of this disruption happened in 2020 and 2021. I personally experienced the aftereffects of this disruption when attempting to travel for spring break in March of 2022. I was flying with a different airline, but that is beside the point. I was flying from Nashville to Fort Myers and because of a product scarcity, the part our plane needed repairs on was not readily available. Our flight was delayed not one, not two, but three days because no other planes were available, and the impact of limited labor made it difficult to find a new crew to operate the flight.

Between labor and product shortages, the issues at hand happen at different points throughout the supply chain. Arthur Wheaton, an airline expert at Cornell states that “The push for lean production and just in time delivery is not working in a global pandemic and border issues... The drive to reduce costs without redundant backup systems has caused issues with cars, computer chips, toilet paper, gasoline, and many other common goods and services” (Wheaton, Arthur).

When a plane needs repairs, and is still scheduled for flights that day, but there is no available part to fix the issues, we can understand what type of chokehold such an issue puts on the Southwest Airline's team and the disappointment put upon their customers. Labor shortages have been cited as one of the most common reasons for flight delays and cancellations (Jones, Stephen). During the pandemic, airlines were forced to furlough and let go workers by the thousands to roll with the punches of COVID 19 pandemic and changes in demand. We went from a time of having zero to little travel with minimal air travel, and their labor had to reflect the amount of travel the airlines were catering to. For example, you wouldn't keep 100% of your staff on board if your demand plummeted to 30%.

Umang Gupta from Alton Aviation consultancy states that “Now that you're coming out of COVID, and the demand is showing signs of rapid recovery. You're starting to see that they have fewer pilots, and the same amount of flying to do” (Jones, Stephen) . Those contemplating coming back to their job within the airline industry are not ready to take the same position with the same pay as before, and as a result, airlines now must pay more to get the same people they had before.

The tier that the supply chain disruption of limited part availability falls under Tier 2 Suppliers because the companies that are assembling the airplanes (tier 1 supplier), are not

receiving the parts on time from their suppliers (tier 2 suppliers). This is a combination of the two shortages at hand. This is a double-edged sword. Due to labor shortages, not only are flights not being staffed adequately, but the essential parts are not being made on time to make repairs to the airplanes, thus making labor shortages and product shortages an immediate threat to the airline industry.

### **Section 3: Supply Chain Disruption – Prevention & Response**

This disruption began in early 2020, and still as we are closing out 2022, we are experiencing the negative effects of the labor shortages and incentives to get back to work. Will this ever end? I'm not quite sure. We've used the term "The new normal" throughout our COVID recovery and the new normal for air travel might be to expect delays, cancellations, and limited product availability on flights. The new normal for airlines might be to have extra planes on site throughout the country. Better yet, they could enable a response team with quite a few common replacement parts on hand if an airplane needs repairs. To handle the labor shortages, airlines will have to get creative with hiring practices, benefits, and pay to maintain a steady workforce. If they opt to raise wages, this will raise their costs. The airline can either choose to absorb the costs or will end up putting these costs back onto the paying customers by raising their ticket prices and additional fees.

This supply chain disruption could not have been prevented, but the recovery of this disruption could have been handled better in hindsight. As companies around the world are bouncing back post-COVID, it would be essential to maintain competitive employment opportunities. In a world full of rising costs, inflation, disruption, and unknowns, maybe it is time for large businesses that control the economy to absorb some of their rising costs, rather than put them off onto their end customers.

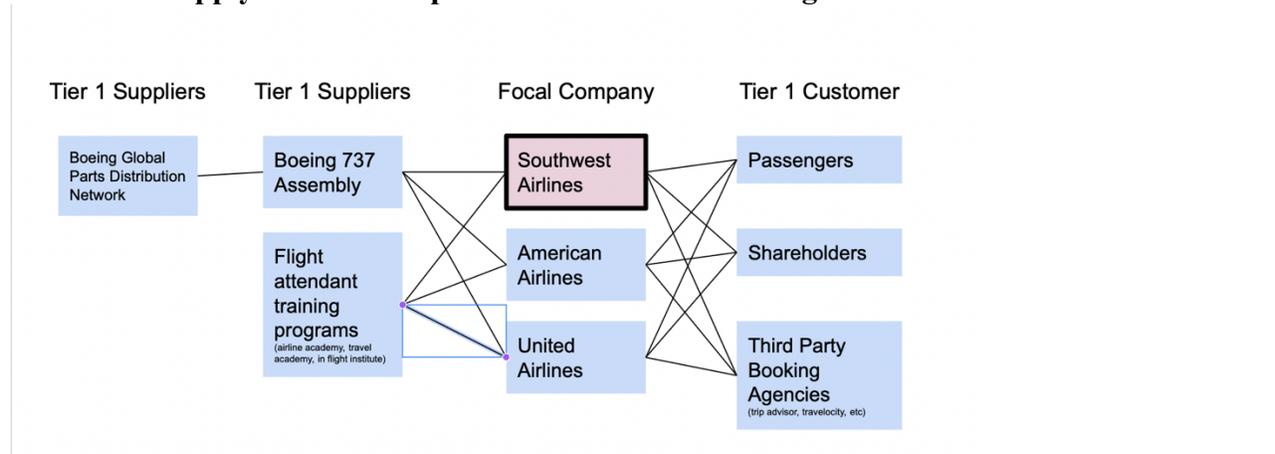
When the shutdowns of 2020 occurred, Southwest (and other airlines) could have found other areas for their employees to contribute to their mission. Whether this is research, process improvements, or understanding what Southwest can do for their employees to make a better work environment. We know that the most common waste within any supply chain is the underutilization of employee's minds. Understandably, employees had to be let go, limited hours, or furloughed, but the time of the pandemic could have been a time to reevaluate Southwest's business practices.

While these shortages are still happening today, many have adjusted to the new normal and expect delays and issues with their air travel. As with most of everything, the prices have been rising consistently and air travelers must be strategic when planning their trips. Because competitors were also impacted by the same disruptions of limited labor force which resulted in limited product supply and limited overall demand for air travel, the industry took a hit. As for 2020, the International Civil Aviation Organization, or ICAO, reported that there was a 60% drop in passenger rates. (Air Travel down 60 per Cent, as Airline Industry Losses Top \$370 Billion). Now, in 2022, air travel is gaining its footing once again with an increase in flights inbound and outbound. The International Air Transportation Association predicts that air passenger numbers should recover to 4 billion travelers by 2024 (Air Passenger Numbers to Recover in 2024).

Now that this disruption has occurred, the next appropriate next steps are to create a more bullet-proof supply chain. Regarding Southwest Airlines, it would be in their best interest to push Boeing to increase their stock of airplane parts within their warehouses. By doing this, hopefully the replacement parts would be more easily accessible if they are needed. This would get airplanes back on the runway faster than being out of commission for a particular part to be created, shipped, and repaired.

Now, as we are bouncing back, remaining a competitive employer is critical to having a fully staffed operation. This applies to Southwest as an air travel service provider and to Boeing’s distribution network and assembly teams.

## Section 2: Supply Chain Disruption Cause-and-Effect Diagram



Cause	Effect
Labor Shortages (COVID, Layoffs, furlough)	Not enough workers to staff flights adequately AND create essential repair parts on time AND transport essential parts to their destination in time.
Product Shortages	Impacted airplane production and repairs, withholding airplanes from serving airlines
Limited Airplane Supply	Cancellations/Delays and unsatisfactory customer service AND Profit Loss
Delayed Repairs due to labor/product shortages	Limited fleet, cancellations/delays, profit loss, losing customers to competitors
Inflation	Increased plane product price, increased ticket price, increased labor costs, increased transportation costs, increased taxes. Which all results to put more cost onto the end customer: the airplane passenger.

## REFERENCES

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