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The Top 5 Supply Chain Delays of 2020

Understanding the most common and longest supply chain delays and how to mitigate them

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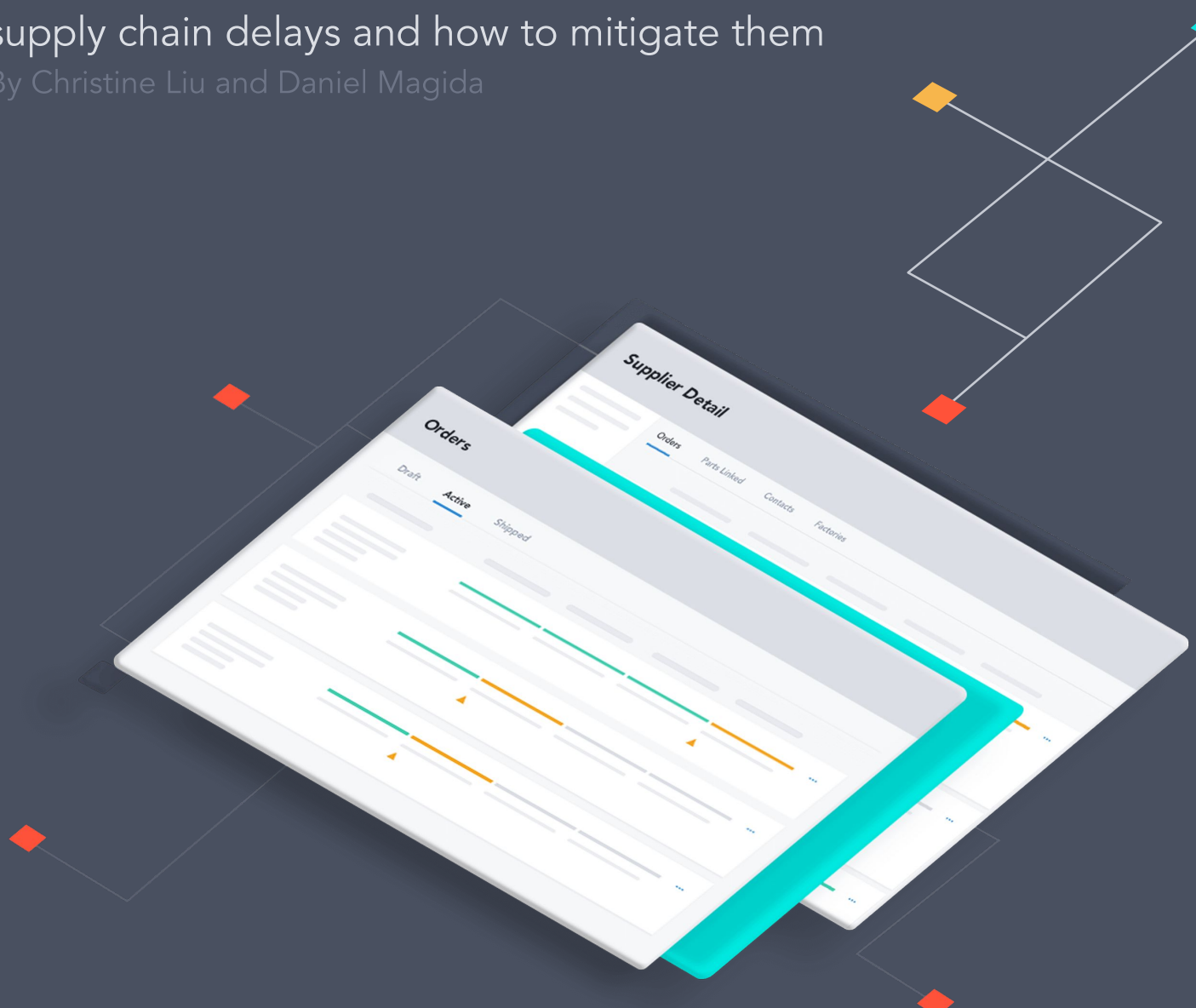



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Introduction



No matter how streamlined your supply chain is, delays are bound to happen. Unforeseen circumstances are unfortunately a part of life. Based on what we've experienced in 2020, supply chain delays among many other economic factors have crippled businesses. It's now more important than ever to understand the biggest impact on your operations and manage supply chain relationships with a closer attention to detail.

In this data report, we will dive into the longest and most common delays we've seen in 2020, and offer recommendations on how to decrease any negative effects from said delays.



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The study

The Anvyl platform stores all buyer-supplier communication within the supply chain, from order to delivery. For this analysis, we focused on understanding how lead times negatively impact delays by investigating the content of written responses. The data set we used included order delays during the months of January to December 2020, with suppliers from the following regions:



China



USA



Others

Based on a random, anonymous sampling of orders that were delayed on Anvyl, we extracted the words from 2,500 delay reasons and applied machine learning techniques to arrive at unique themes of why purchase orders were delayed. With this study, we determined the top 5 themes that impacted an order most severely.

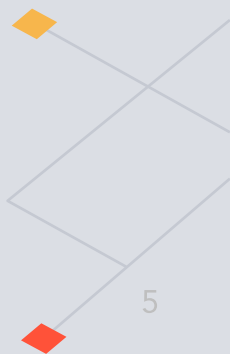
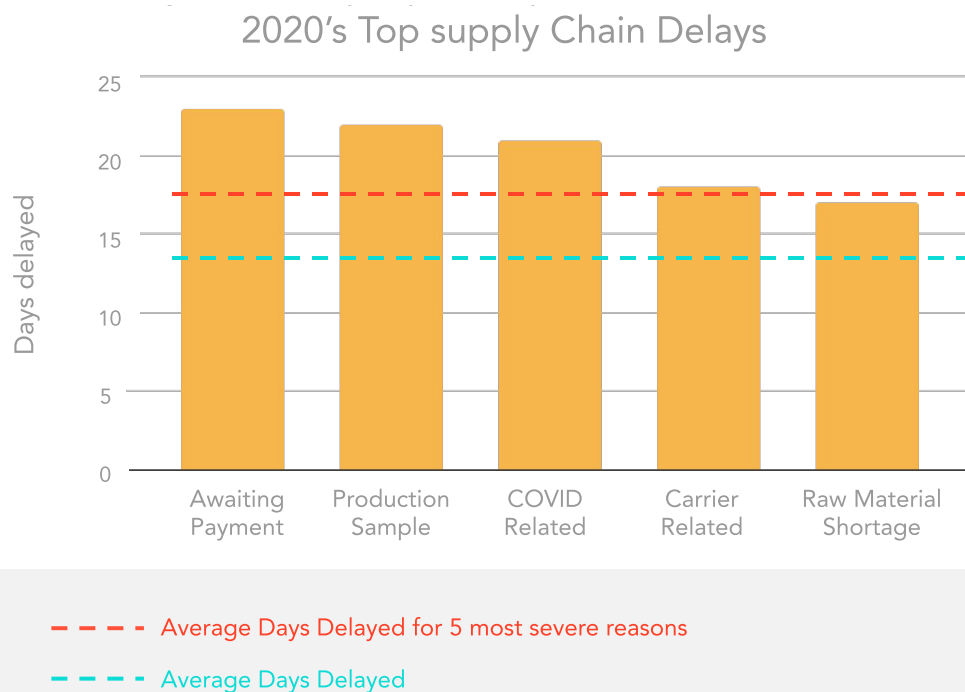


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Our findings

In the graph below, you can see the average number of days that an order is delayed and its associated theme. For our data set of randomized delayed reasons, a purchase order has an average delay of 14 days on top of its original lead time.

Certain delay types **DOUBLED** the original lead time at the order onset.



Our findings

Delay reason	Added delay time	Example messages
Awaiting payment	23 days	<ul style="list-style-type: none">• Did not receive the payment yet• Pending payment release• Please kindly arrange the payment asap
Production samples	22 days	<ul style="list-style-type: none">• Need additional revision on sample• Sample will be ready on...• Need to remake samples• Artwork to be confirmed• Artwork delay• Still waiting for new design artwork
COVID-related	21 days	<ul style="list-style-type: none">• Covid related short staffing• Delays due to Covid 19• Reopening phase due to covid 19
Carrier-related	18 days	<ul style="list-style-type: none">• Still waiting for carrier to release S/O to us and pick up goods• Still waiting for carrier to book space• Still waiting for carrier to pick up goods
Raw material shortage	17 days	<ul style="list-style-type: none">• Material shortages on prior order• Material delays• Raw material shortage

Recommendations to mitigate delay impact

Every supply chain is slightly different, and therefore, may have varying strategies for reducing delays, based on the industry or location of suppliers. With this in mind, we put together some overall recommendations that address the most impactful delays.

Delay reason	Recommendation
Production samples	Finalized artwork and color standards
Awaiting payment	Operational process improvement
COVID-related	Redundancy by region and supplier diversification
Carrier-related	Document verification and vendor relationship management
Raw material shortage	Proper planning and supplier relationship management

Awaiting payment from buyer

Depending on the payment terms, there are two types of unpaid payments that could cause a delay.



Because payments come down to a misalignment between the supply chain manager who controls the orders and the finance manager who controls the payments, it is important to regularly sync up with the appropriate team members to ensure payment will not be delayed.

To reduce the number of necessary meetings that pertain to delayed payments, we recommend using the collaboration features on the Anvyl SCRM platform. The software lets buyers invite finance collaborators to appropriate purchase orders, house all messages and tasks related to them, and follow up on specific details like payments.

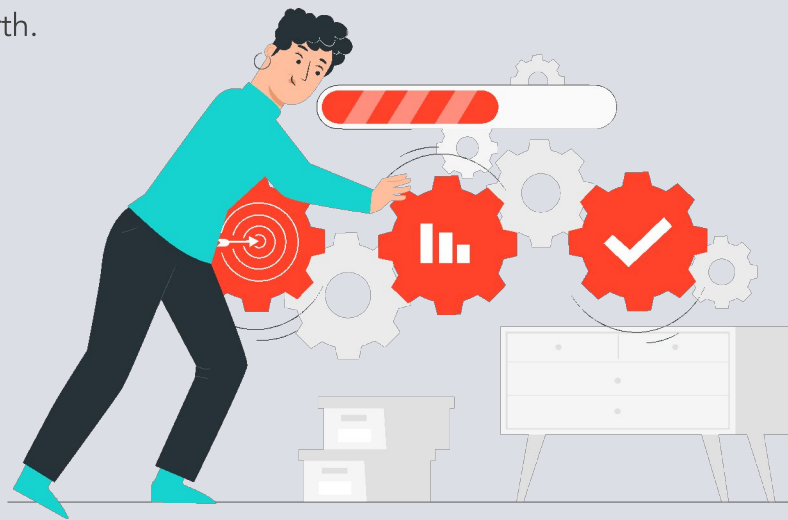
Production samples

For first ever production runs that include artwork, the buyer must send an approved, signed sample or take a photo and digitally sign and scan the version to the supplier. Suppliers prefer to have a retain that establishes a color and print standard for all production runs to be measured against. Most commonly, production samples could delay the first run when the artwork is not ready. In order to reduce the number of iterations for the sample, we recommend developing a color board that clearly states tolerance levels for color matching.

Production samples or mass production can be delayed when designs have not been submitted to the supplier. If the artwork is still going through iterations, ensure to factor this into your desired delivery date, as this will push back the production start date.

If, however, the artwork is ready and you are backed up on other tasks, you can use software tools like the Anvyl SCRM platform, and invite collaborators to upload the final artwork files to move the process along faster.

When needing to send the physical samples back to the factory, there are rare instances when the production sample gets lost in transit. To combat this, request at least 3 to 5 pre-production samples and take a photo of the approved sample before mailing it back. In addition, ensure there is shipment tracking for every production sample that is sent back and forth.



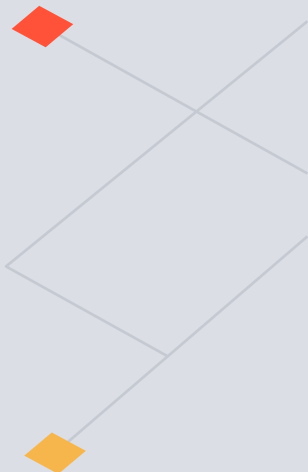
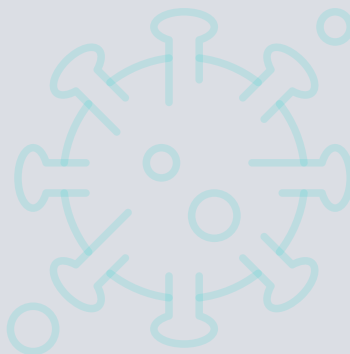
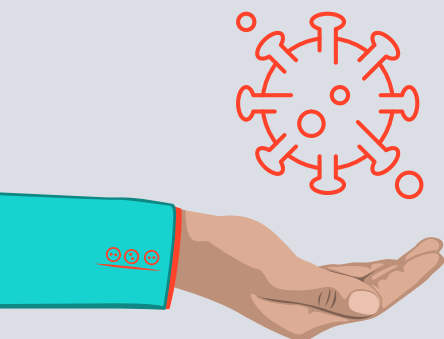
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COVID-Related

COVID-19 is a rare occurrence that sheds light into how important supplier diversification is. As we start off 2021, the global impact of COVID-19 has not completely recovered back to pre-COVID times, so it is important to understand what region your delays are still occurring in and source suppliers in other areas of the world to reduce the impact.

For example, during December 2020 the China manufacturing PMI came in at 51.9, which continues to suggest that recovery for the past ten months remains strong, but it remains above the 50% threshold which is used indicate expansion or contraction. As for the US, their PMI ended at a 6-year high but notably saw a loss of 21,000 positions during that same time.

Going forward, rather than plan for another virus, focus on creating redundancy for goods that are made by suppliers in the same region. Ensure you have multiple quotes and suppliers available in other regions of the world who you can order from if you cannot receive your goods in a timely manner from your primary supplier. As you plan for growth, you face the possibility of natural disasters, geopolitical turmoil, factory strikes, and other regional issues. Having a backup supplier with comparable lead times and performance allows you to pivot orders and production quickly without the need to scramble.



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Carrier-Related

There are a number of reasons why a carrier issue could cause a delay. Delays could stem from a number of external factors, like port congestion, or a backed-up sailing schedule. In these scenarios, so it's important to work closely with your supplier, freight forwarders, and/or third-party logistics vendors to understand what factors, if any, could affect a timely shipment of goods.

On the other hand, many delays with a carrier can be controlled and/or mitigated. For example, not adhering to the listed payment terms with the supplier, packing list not being shared, providing the wrong incoterms, or a mismatch in the packing list and commercial invoice can impact a leg of freight forwarding. Ensuring these documents are accurate prior to shipment will reduce the risk of additional delays.



Raw material shortage



In many situations, raw materials will not be sourced by a supplier until a purchase order has been issued or a binding forecast is provided to the supplier. For that reason, a buyer should understand the process of producing each component and plan purchase orders based upon the longest lead time of the raw materials.



Because 2020 experienced a shortage of many types of materials, such as hand sanitizer, pumps, bottles, and tubes, the normal lead times increased and therefore should be factored into the ordering schedule.




In 2021, take the opportunity to build stronger relationships with suppliers, and implement a supply chain relationship management (SCRM) platform like Anvyl to enable everyone within the supply chain with the most accurate information on raw materials and supply chain delays.




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Conclusion



2020 was a transformative year which introduced us to elements that not only altered life in so many ways, but also catalyzed and widened the digital era for businesses, politics, education, and media. Like many business operations, supply chain has to evolve with the times.

For supply chain operators and demand planners that wish to reduce the impact in 2021 and beyond, it is important to continuously analyze and pinpoint areas for optimization within the process. If you'd like a digitized audit trail of all of your supply chain delays, please get in touch with Anvyl to learn more about the software capabilities at hello@anvyl.com



Appendix: The methodology

To derive the delay themes from 2,500 random delay reasons, we first cleaned the text data. This includes removing stop words (i.e. "the", "to", etc.), punctuations, and any extra space. We then extracted the dictionary form of each word. For example, the words "confirming", "confirmed", and "confirms" will be converted to "confirm". (extracting the dictionary form of the root word)

The words were then transformed to be featured in our model through a process of vectorization. We applied the unsupervised learning techniques of LDA and K-Means to group the 2,500 delay reasons and extracted the optimal amount of common themes. The 5 themes that led to the most detrimental delays were surfaced and analyzed.



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About Anvyl



At Anvyl, we believe that a fully digital and transparent supply chain is as important to a brand's success as the business model itself. Anvyl is a supply chain relationship management (SCRM) platform that allows companies to oversee production, streamline collaboration between teams, and automate manual tasks. Our production hub houses historical supply chain data, integrates with most ERPs, and offers collaboration across both internal and external counterparts.

End-to-end, Anvyl provides greater visibility into their supply chains, helping companies achieve operational efficiencies, cut costs, and lower risk in an agile supply chain. The cloud-based software lets users work from anywhere in the world, and customers are up and running within 24 hours.

We are a global operation with teams in New York and China.

Connect with us at hello@anvyl.com

