

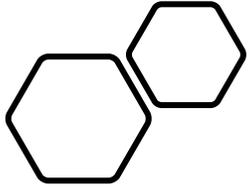
Coronavirus Infects Supply Chain

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Collaboratory Objectives

Outline

Outline overall impact of the Coronavirus on global supply chains, company performance and customer happiness

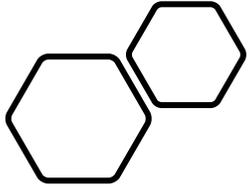
Describe

Describe measures being taken across companies and provide specific examples of company actions

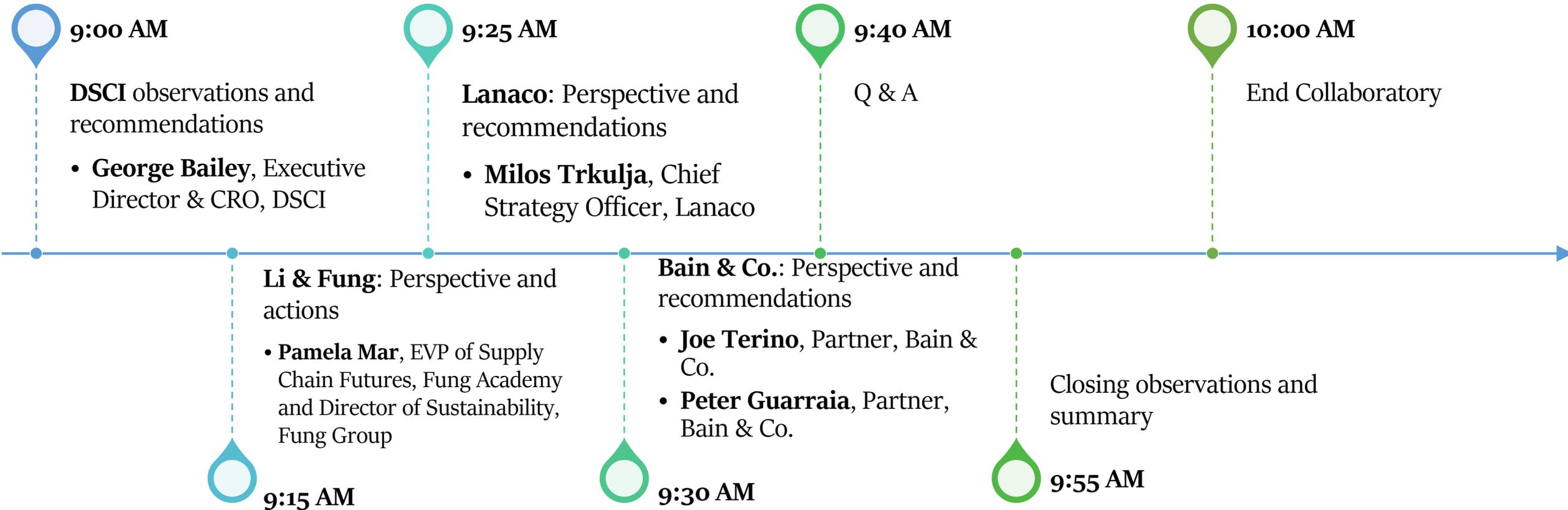
Develop

Develop recommendations that improve supply chain performance during these difficult times

- Signal changes that are needed to cope with future crises



Collaboratory Agenda





Companies are scrambling to preserve customer happiness and financial results

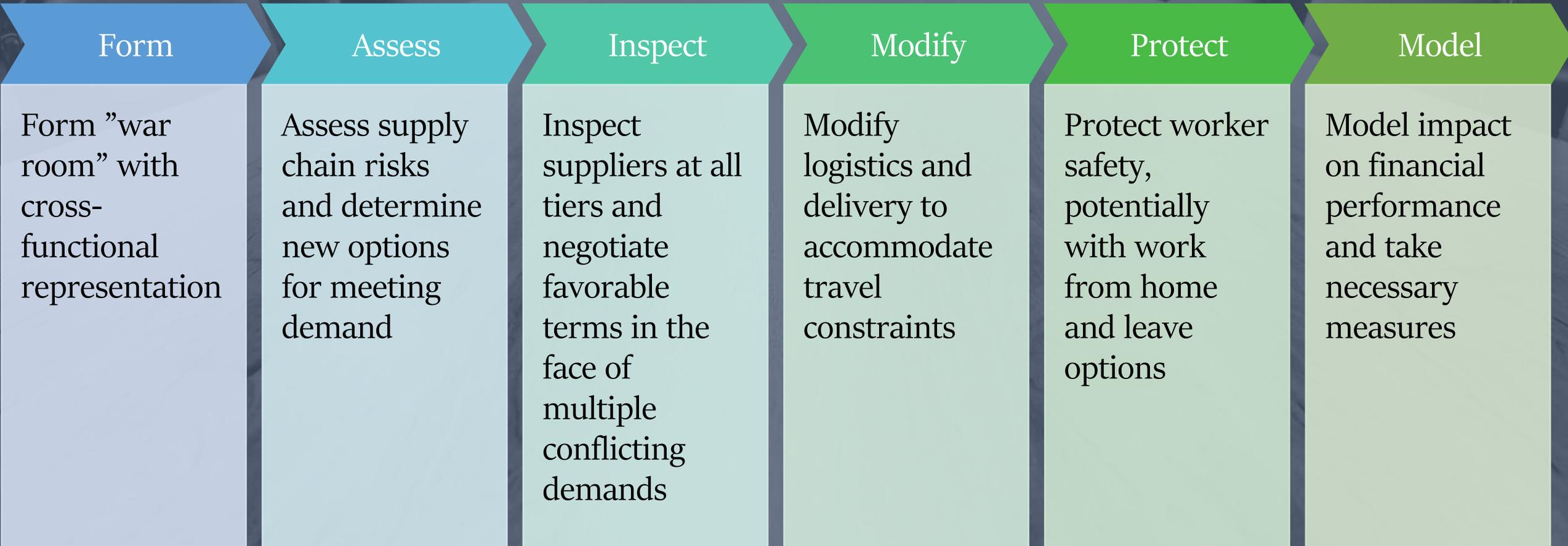
- Customers are just beginning to experience the impact of product shortages
- Widespread fear of global economic meltdown
- Supply chain importance is visible to customers and shareholders and current performance is very poor
- New Customers will not get what they expect, want and deserve unless radical action is taken
- Focus is on getting things to work in the short term, but most believe that a supply chain re-think is required mid term

Supply chain disruption examples

- More than 35 countries declared state of emergency which include closing most of the shopping centers, activities for next two weeks.
- Under Armour, Nike, Patagonia, Apple, and many others have closed all of their stores.
- Airbus and Fiat Chrysler suspend production in Europe.
- The National Retail Federation and Hackett Associates projects inbound container volumes at U.S. seaports in February will be down 12.9% from a year earlier and off 9.5% in March from a year earlier.
- The [airline industry](#), in one case, could take a huge hit of over \$113 billion in revenue in 2020 with a drop in travel because of worries over the coronavirus.
- Fiat Chrysler Automobiles NV [announced](#) on February 14 that “it is temporarily halting production at a car factory in Serbia because it can’t get parts from China.”
- Hyundai [said](#) that it “decided to suspend its production lines from operating at its plants in Korea ... due to disruptions in the supply of parts resulting from the coronavirus outbreak in China.”
- Apple [announced](#) it expected its quarterly earnings to be lower than previously expected. The company refers to two challenges, a constrained global supply of iPhones and significant drop in demand in Chinese markets.



Short-term actions



Mid-term actions

1. Develop multiple sourcing locations across geographies
2. Consider local production of key items such that supply and demand can be matched with minimal delay and logistical cost
3. Upgrade technologies such as 3D manufacturing that can operate with higher customer satisfaction and lower costs
4. Drive for new data model that develops a deep understanding of customers and enables demand management
5. Laser focus on the New Customer and how to tune the supply chain to create a happy baseline



Li & Fung: Perspective and actions



Lanaco: Perspective and recommendations



Bain & Company: Perspective and recommendations

CEO checklist:

We recommend organizing efforts around the following six urgent priorities

(Focus of these materials)



Protect Your Employees and Customers

- Implement the best known guidelines available for both employees and customers - overinvest
- Monitor global health guidelines, other companies - and continue to fine tune
- Over-communicate with full transparency
- Provide assistance to epidemic-limiting initiatives in any way possible (CSR)



Model your exposure; Stress test P&L and liquidity

- Outline macro scenarios by market, translate to revenue decline and P&L scenarios
 - Units, revenue, costs
 - Cap Ex, working capital, cash/liquidity
 - 13 week, 4Q outlook
- **Build extreme downside scenarios – this has the potential to be a “100 year” event**
- Outline major operational actions triggered
 - Do now ‘handbrake’ actions vs. do-later ‘break glass’ initiatives



Defend against revenue declines

- Take a customer centric view to this situation – how will you build trust, loyalty and market share through and beyond this crisis?
- Build specific revenue mitigation actions for core revenue stream declines
- Pivot resources to pockets of current and future growth, online and beyond



Stabilize operations to “new normal”

- Stabilize supply chain of physical goods from likely geographic and labor disruptions
 - Manufacturing, distribution, suppliers, suppliers to suppliers
- Build contingency operational plans for all aspects of business
 - Front line facilities, costs, variable labor staffing
 - Cross regional variations in utilization
 - HQ, IT



Plan urgent cost take-out to conserve cash

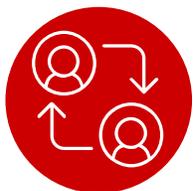
- Spend handbrakes
 - Immediate actions (e.g. hiring freeze, op ex, cap ex, working capital)
- Set aggressive ‘break glass’ cost actions triggered by more extreme revenue scenarios
 - This is (may be) about saving the company – no ideas are too extreme
- Mid-term, outline a plan to lean out the cost structure for the future – more automated, more variable, more shock resistant



Play Offense, not just defense

- Define how you will outperform competitors and take share through and beyond the crisis
 - M&A roadmap
 - Product/service/customer intimacy investments
- Prepare for ‘bounce-back’ and recovery
 - E.g. Marketing investment, leveraging macro trends for “if, then” moves
- Plan for and leverage a ‘leap-frog’ change in customer behaviors
 - Especially digital

These are the four critical things that you need to do



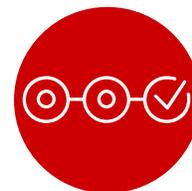
1 Establish emergency response team

- Stand up cross-functional command center
- Establish “hyper-care” cadence / structure / tools
 - Daily stand-ups for crisis assessment
 - Production and part level mitigation
 - Weekly prioritization of riskiest parts via scorecard



2 Understand your supply exposure

- Determine n-tier exposure
 - Outreach to suppliers to confirm tier-2 and tier-3 sources and risks
 - For affected parts, collaborate to assemble inventory and project FG production impact
- Assemble production fact-base
 - Affected components
 - Production burn rate
 - On-hand and in-transit inventory



3 Analyze and prioritize

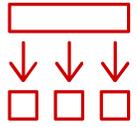
- Deploy core reporting and tracking mechanisms
- Conduct daily/weekly executive scorecard review
- Prioritize platforms / parts / customers at risk based on inventory and Finished Goods production schedule
- Keep open communication channels to keep a pulse on n-tier status



4 Drive on-going action and adjustments

- Coordinate actions to account for supply & demand driven shifts:
 - Pro-actively manage logistics, e.g., air freight for critical path
 - Adjust production schedules
 - Qualify or reactivate alternate parts / suppliers
 - Re-spec engineering or subst.
- Deploy internal/external communication plan
- Manage commercial risks
 - Partner with customers on a case-by-case basis for end-to-end inventory and POS data
 - Offload surplus / obsolete via substitutes where possible

In the longer-term there are capabilities that you should consider building to ensure a more automated and efficient response



Agile network structure: develop a flexible ecosystem of suppliers and supply chain partners with supply options e.g., an adaptable network with supplier alternatives, transport modes & partner options, alternative manufacturing & assembly nodes and partners, near-shoring & on-shoring leveraging Industry 4/5.0, capacity buffers



Connected visibility: implement a control tower to create timely visibility of supply chain information as far up and down the value chain as required e.g., leveraging IIoT and 5G to create real-time network visibility from n-tier suppliers to customers, using blockchain to enhance reliability, productivity and ensure provenance



Insight to action: using predictive and prescriptive analytics to anticipate and prevent, scenario simulation capabilities to engage optionality across the entire value chain, using advanced analytics and AI to predict and prevent with automated responses and early warning detection. Use big data and unstructured data to develop early insights and predict



Digitize with secure plug & play technology: Agile, cloud-based, light-weight supply chain technology, plug & play interfaces. Collaboration tools enabling information sharing and joint decision making up and down the value chain. High level of cybersecurity within the ecosystem



Empowered organization: an agile operating model with a problem solving culture that empowers decentralized decision making, deep skills/culture in collaboration, rapid recovery capabilities



Q & A

- **Question:** How will some of those heavily involved in supply chains.. be able to react to their MSMEs in these challenging times, especially when cash flow is severely affected, and P&L are putting pressure on the supplier?
- **Answer:** I think the question is about small business suppliers and how their business customers should work with them given the pressure of tight cash flow and diminished profits. Our answer is all about finding a win-win for both suppliers and customers. As a customer, you do not want to see your supplier go out of business. The right thing to do is to balance your needs for the products/components at the right price against the needs of the supplier to cover their cash flow. We anticipate that some suppliers will seek to increase their prices given short supply. Other suppliers will be faced with less demand and be willing to produce given a price that covers their marginal costs. The art and science of the relationships will require much better visibility into suppliers' viability. Pay what you have to, pay enough to keep the supplier motivated to cover the marginal cost, but strive to make sure you get what you need at the best price.
- **Questions:** What is the level of engagement with the government when enabling changes to the supply chain?
- **Answer:** Governments around the world will work to retain jobs for their citizens. Some will provide attractive tax breaks to keep elements of the supply chain within their territory. Close discussions with the government will enable companies to get the lowest costs while making needed changes. Government relations will be very important as jobs are reduced (or increased) and locations are selected.

- **Question:** How do you balance your recommendation that we have a “control tower” vs. the recommendation that the supply chain should exemplify an agile decentralized empowered organization?
- **Answer:** Being agile and decentralized is important. But driving results through a “control tower” is very important given that the goal is to optimize results for the entire company. Ideally, you want both the benefits of decentralization and the value of working across silos at a high level of performance.
- **Questions:** The literature on supply chain risk management is abundant, yet firms did not manage to face this global crisis? Are the classical strategies not effective to tackle this risk and new de-risking strategies should be developed? Or companies are more cost/profit-oriented and Don't care about proactive strategies?
- **Answer:** The Coronavirus has placed an unprecedented level of strain on global supply chains. This strain has taxed our supply chains and revealed areas where change is needed. Risk mitigation is important and has to be weighed against the cost of not taking certain actions. For example, if production costs are 30% lower in China can I produce a product at a competitive cost in my home country? Do I have to make additional capital investments to build plants or write new contracts with suppliers in other countries? Cost/profit orientation should drive proactive strategies to implement a Digital Supply Chain the meets the needs of the New Customer



Extra Slides

Company Questions for Supply Chain Self Assessment

- What are the challenges, your supply chain is facing, amid coronavirus health crisis? (None to low inventory, closed factories, labor and supply shortages in factories, public health requirements, a shortage of trucking capacity, closed borders, inbound congestion at airports and ports, reduced inbound and outbound transportation capacity on ocean carriers, etc.)
- What actions are you taking to tackle these unexpected challenges?
 - What is the short-term immediate action plan?
 - Have you set up any supply chain response team to handle this crisis?
 - Are you looking at different sourcing strategies?
 - Are you looking into 3D manufacturing to boost the supply?
 - Are you taking any steps to protect your current workforce?
 - What is the long-term action plan?
 - How are you planning to reduce the risk posed by any future health crisis?
 - Do you have any business continuity plans and protocols to tackle this?
- What are the ongoing challenges for your supply chain moving forward?
- How will this effect business results and how are you minimizing the negative impact on business results?
- Which aspect of supply chain management is most challenging – demand forecasting, logistics, manufacturing?
- What are you or your supply chain partners doing to reduce cybersecurity risk and IP loss during the rapid shift to remote work?