



COVID-19: RECONSTRUCTING THE APPAREL VALUE CHAIN - TOWARDS RESILIENCE AND DIGITIZATION

Image: Renewcell

Executive Summary

In this report, we look at the implications of the COVID-19 pandemic on the apparel value chain. Furthermore, we explore the key themes and opportunities for the apparel industry to recover and rebound from this unprecedented crisis. This report consists of two sections. The first section looks at the overall impact and innovation trends for the apparel value chain; and the second section discusses four special topics that help bring about a renewed apparel value chain based on observed trends.

Overall Impact & Innovation Trends for COVID-19 recovery

The COVID-19 pandemic has exposed risks in the highly integrated global value chain of the apparel industry. A breakdown in any parts or components in the value chain can cause serious ripple effects from missing raw materials, cancelled production to strained partnership relations.

Building a resilient and digitized value chain is important to react to unexpected changes promptly. This can be enabled by automation, emerging digital platforms/ technologies and the use of alternative materials.

Likewise, digitization on the retail front with emphasis on omni-channel development is significant as consumers turn to e-commerce and adjust their ways of shopping under the pandemic.

Special Topics related to COVID-19 recovery

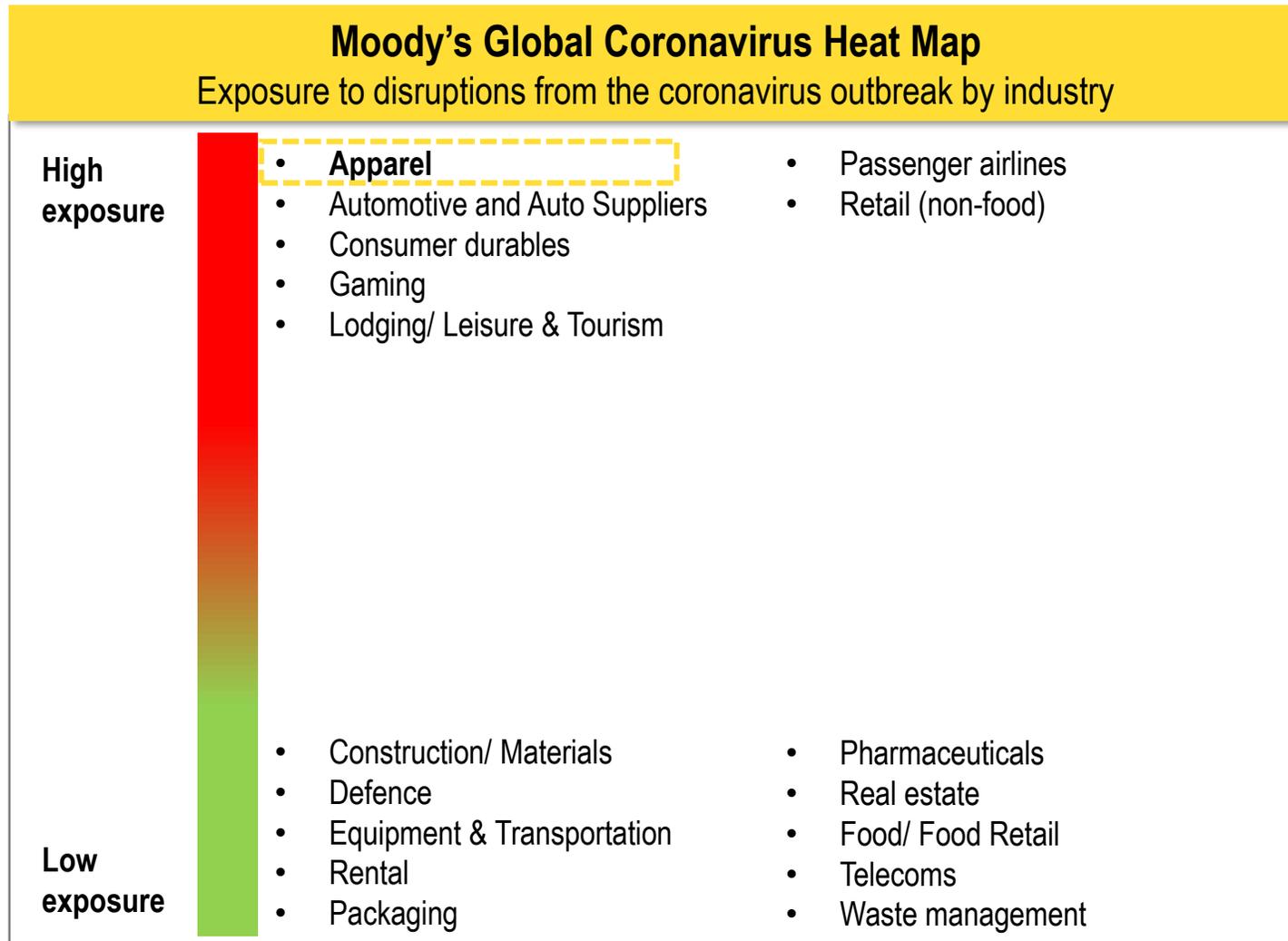
We observe four emergent/ accelerated trends under the pandemic that offer insights for the apparel space:

- The performance of plant-based meat and grocery e-commerce inspires the apparel sector to act in terms of considering alternative materials and enhanced services and technologies.
- An increased awareness of sustainability and near-term economic interests can accelerate/ hinder sustainable apparel development.
- Localized production gains interest, with potential adoption of automation and on-demand production.
- More brands and retailers attempt digitization, driving towards the New Retail experience.

OVERALL IMPACT & INNOVATION TRENDS FOR COVID-19 RECOVERY



Apparel is one of the most heavily affected sectors by COVID-19

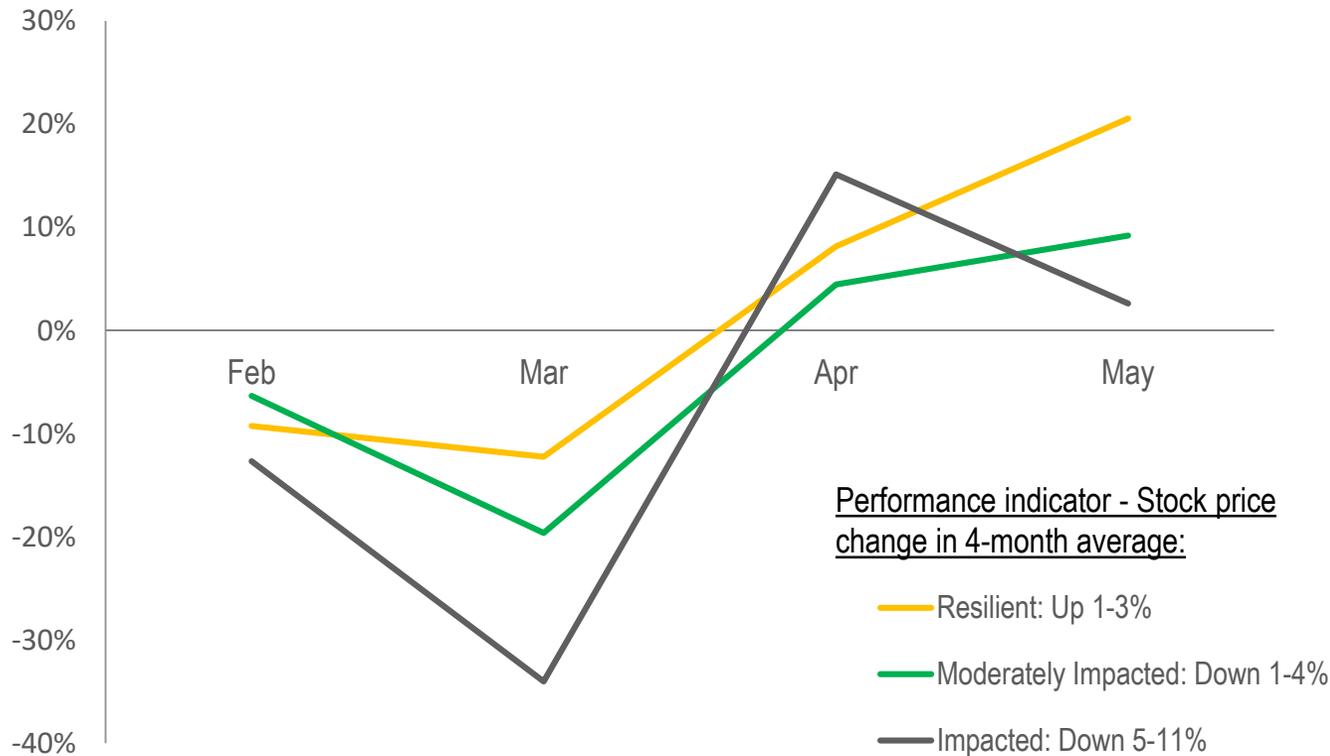


- The apparel industry has a **highly integrated global value chain**, and as a **non-essential consumer category**, was highly prone to disruptions from the coronavirus outbreak
- The textiles and apparel industry had an estimated export loss of **US\$1.5 billion** at the early stage of the pandemic (when only the disruptions at China are taken into account)

The entire value chain of the apparel industry is significantly hit by COVID-19 including top leading brands

Major global apparel/ luxury companies saw a plunge in stock price in March, with varying degree of rebound when commercial activities resumed gradually

% change in stock price of last monthly trading day over the month prior (average stock price change of 20 global apparel/ luxury companies*)



*Stock price movement of 20 global apparel/ luxury companies:



COVID-19 brings about trends of resiliency, through digitization & stakeholder/ ecosystem rebuilding across the value chain

1



Build resiliency in Supply Chain

Disruptions in supply chain leading to material shortage, cancellations, production shifts requiring new resiliency

2



Digitization of Retail

Declining traffic & sales from lockdowns leading to need to digitize retail

3



Connect Stakeholders with empathy

Potential strained relationships with employees & supply chain partners; need to re-look at stakeholders engagement

4



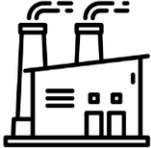
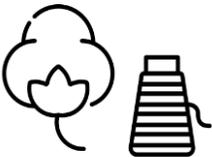
Rebuild Wider Ecosystem with trust

Wider ecosystem breakdown from closures & financial distresses; rebuilding of trust vital ahead

These 4 trends have led to implications & opportunities to be considered ahead for the industry

Themes	1 Build resiliency in Supply Chain	2 Digitization of Retail	3 Connect Stakeholders with empathy	4 Rebuild Wider Ecosystem with trust
Impact & Implications	<p>Disrupted supply chain</p> <ul style="list-style-type: none"> Shortage of raw materials Orders cancellations/ factory closures <p>Production transformation</p> <ul style="list-style-type: none"> Shift to produce PPE/ hand sanitizers 	<p>Decline in offline traffic</p> <ul style="list-style-type: none"> Closure, bankruptcy, acquisition of brands/ retailers Inventory pile-ups/ going seasonless <p>Decline in discretionary spending</p> <ul style="list-style-type: none"> Luxury, fashion seriously affected 	<p>Disrupted labour force</p> <ul style="list-style-type: none"> Underemployment/ unemployment Remote work arrangements <p>Strained relationship with suppliers/ brands</p> <ul style="list-style-type: none"> Cancelled orders/ delayed payments 	<p>Financial distress/ defaults/ bankruptcies of manufacturers/ brands/ retailers</p> <p>Increased awareness of sustainability and responsible practices</p>
Trends & Opportunities	<p>Digitized production</p> <ul style="list-style-type: none"> Digital sampling Blockchain/ traceability <p>Localized production/ nearshoring</p> <ul style="list-style-type: none"> Automaton/ robotics Material technology 	<p>Optimize inventory management</p> <ul style="list-style-type: none"> Predictive analytics Rental/ resale/ recycle <p>Digitized retail</p> <ul style="list-style-type: none"> Accelerated e-commerce Omni-channel solutions New Retail experience 	<p>Employee caring initiatives</p> <ul style="list-style-type: none"> Improve workplace safety E-learning/ training <p>Supplier-brand management</p> <ul style="list-style-type: none"> Step up transparency and efficiency of work processes 	<p>M&A opportunities: acquisition of struggling companies</p> <p>Growth of ESG measurement and green financing</p>

Supply chain unbundling: Global supply chain broken down with impacts on raw materials/ inventory, orders/ closures, production shift



Shortage of raw materials	Cancelled orders/ delayed payments	Production transformation
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Global lockdowns cut off access to important raw materials for productions.

- Indian factories lacked raw materials to make clothing as they source almost all silk, trims and elastics from China.
- China exports **~40%** of the world's fashion goods.

Sluggish demand strain cash flow, resulting in cancelled orders or delayed payments to factories; ripple effects in factory closures.

- Bangladesh garment manufacturers saw **US\$3 billion** orders cancelled or put on hold.
- Indian garment manufacturers faced prolonged payment period from 30 days normally to as long as **120 days** from retailers.
- **400** garment, footwear and travel goods factories in Cambodia suspended operations, leaving **150,000** workers unemployed.

Large brands shift to produce personal protective equipment/ hand sanitizers to keep their factories running.

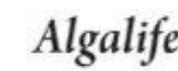


Gucci, Saint Laurent, Ferragamo shifted to produce medical face masks.



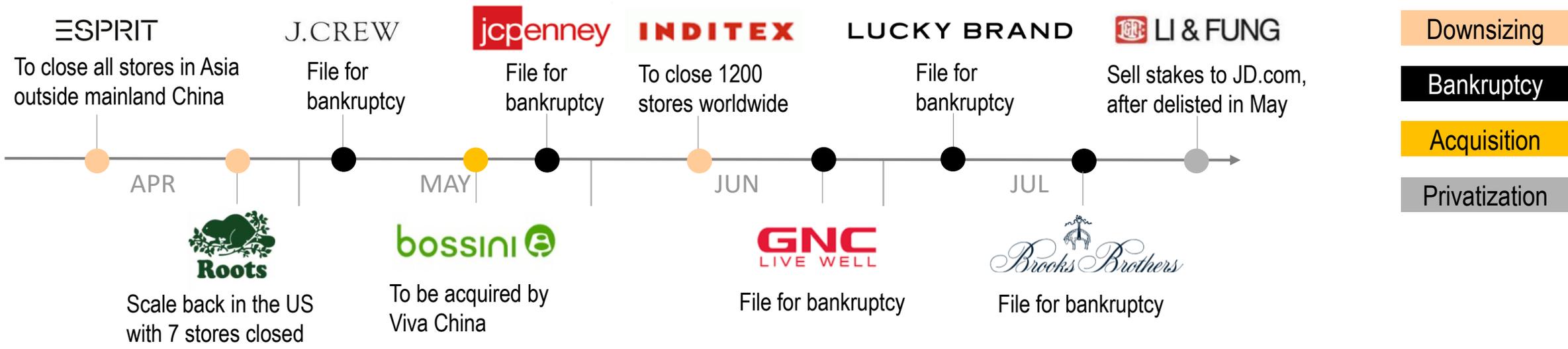
Dior, Givenchy, Hermès shifted to produce hand sanitizers.

Building resiliency in supply chain is key with localized materials, digitized production & nearshoring as enabling trends

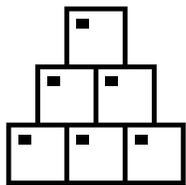
Key Trend	Description	Enablers + Examples of Startups		
Localized materials	Source new or alternative materials in local markets with the help of material technology for production purpose.	Bio-based/ Synbio		Recycling
		 	  	 
Digitized production	Enhance productivity, efficiency and transparency of supply chain through digitization.	Automation/ Robotics	Blockchain	3D design
		 	  	  
Localized production/ nearshoring	Shift production back to domestic markets or neighbouring regions to reduce risks and react to customer demand faster.	On-demand production		3D printing
		 		 

Retail decline: Falling footfall due to lockdowns and weakening discretionary spending contribute to offline retail decline

Brands and retailers scale back, go bankrupt or are acquired/ privatized



Inventory pile-ups cause margin pressure and prompt brands to go seasonless



INDITEX

Inditex wrote down the value of its Spring/Summer inventory by nearly €300 million

GUCCI

Gucci announced plans to cut the number of fashion shows from five to just two annual “seasonless” collections

Key Stats

- Discretionary spending declined **as much as 90%** for some retail categories in China at the peak of COVID-19 lockdowns
- Apparel consumption in China still **40-50% lower** than pre-pandemic levels even though the country has gradually reopened

Accelerating digitization of retail to optimize inventory management and enhance customer experience

Key Trend	Description	Enablers + Examples of Startups
Optimize inventory management	Efficiently manage inventory by grasping customer demand in advance and adopting post-consumer circular models.	<p>Predictive analytics Inventory management platform</p> <p> </p> <p>Rental Resale Recycle</p> <p> </p> <p> </p>
Digitized retail	Digitize retail through accelerated e-commerce, omni-channel solutions and New Retail experience.	<p>In-store tech Digital showroom</p> <p> </p> <p> </p> <p>AR/ VR/ Image/ Video</p> <p> </p>

Strained stakeholder relationships: Weakening supplier-brand relationships while others committed to longer term relationships

Brands and retailers cancelling goods pre-ordered or already made has caused serious ripple effects...

Not only was **supplier-brand relationship hurt**, employees were severely affected with lost jobs

However, some are **committed to responsible business conduct** to minimize impact on factory workers and manufacturers

Store closures on London's Oxford Street dealt a blow to garment manufacturers in Bangladesh, Vietnam and India, as some brands/ retailers invoked force majeure clauses to halt payments

Export of fashion goods represents over 80% of Bangladesh's total export value. The country's 3.6 million workers, mostly women, in the garment industry are severely affected with a weak social safety net

Brands recognized for purchasing completed orders:



Connecting stakeholders with empathy through enhanced employee support and supplier-brand management

Key Trend	Description	Enablers + Examples of Startups	
<p>Employee support</p>	<p>Ensure workers' wellbeing are protected. Provide training opportunities to upgrade skillsets of overall labour force.</p>	<p>Automation/ Robotics</p>  	<p>Online education</p>    
<p>Supplier-brand management</p>	<p>Enhance transparency and efficiency of work processes with business partners.</p>	<p>Supply Chain Software & Platforms</p>    	

Fragile Ecosystem: Systemic flaws exposed, while awareness of sustainability and responsible practices increased

The apparel industry uncovers its flaws amidst pandemic-inflicted disruptions...

1

Unfavourable positions of upstream manufacturers and factory workers in the supply chain

2

Tight liquidity put lower performing companies at the brink of defaults and bankruptcies

3

Excess inventory from fast and seasonal fashion means pressure on margins and potential wastage in landfills

On the other hand, companies became more aware of sustainability and responsible practices in the wake of COVID-19

NORDSTROM

NYSE-listed department store Nordstrom set 2025 Corporate Social Responsibility goals to halve the amount of single-use plastic by 2025.



Adidas put supply chain responsibility as its top priorities along with financial viability, health and safety under the impact of COVID-19. It will pay suppliers up to double-digit million euros for cancelled orders.

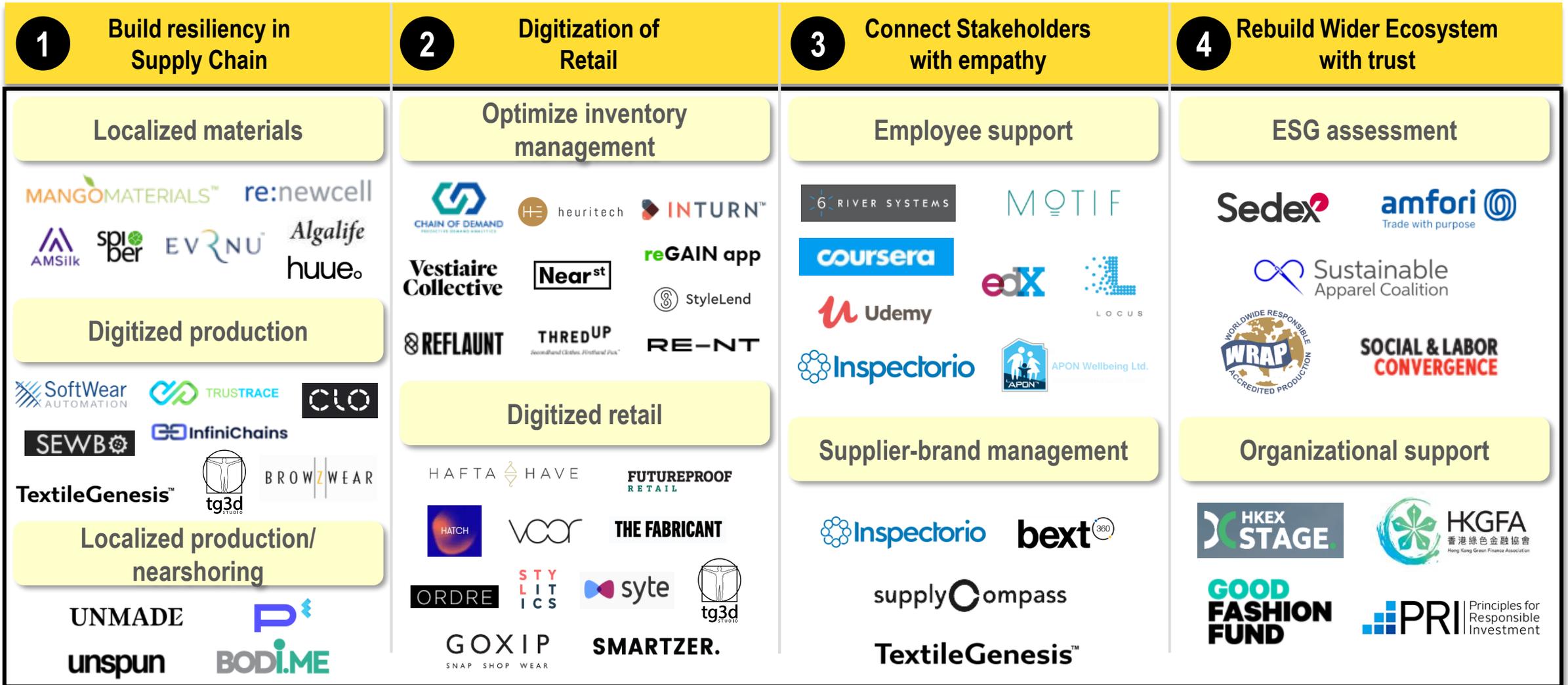
ASOS

Online fashion retailer Asos dropped fast fashion brand Boohoo from its site over concerns about workers' pay and lack of protection from the coronavirus in Boohoo's UK factories.

Rebuilding wider ecosystem is crucial with opportunities in ESG practices and green financing

Key Trend	Description	Examples of Sustainability Initiatives
<p>Increased awareness of sustainability and responsible practices</p>	<p>The pandemic has enhanced the awareness of a low-carbon economy and responsible practices amid an economic disorder. ESG measurements will gain traction.</p>	<p>ESG assessment</p>
<p>Green investments/ financing</p>	<p>Markets will further consolidate with acquisition of struggling companies. There are also opportunities in green investments/ financing.</p>	<p>Organizational support</p>

Innovation opportunities exist across the value chain



SPECIAL TOPICS RELATED TO COVID-19 RECOVERY

- LESSONS FROM FOOD
- SUSTAINABILITY AGENDA
- LOCALIZED PRODUCTION
- NEW RETAIL EXPERIENCE



4 special topics related to COVID-19 inspiring the recovery of the apparel value chain



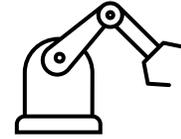
Lessons from food

The growth of plant-based meat and grocery e-commerce offers insights for apparel



Sustainability agenda

New trends in value chains plus concerns for economic growth can accelerate/ hinder sustainability



Localized production

Reshoring gains interest, yet with difficulties that prompts automation and on-demand production



New retail experience

Accelerated digitization of retail observed, with omni-channel development being the key

Lessons from food: Alternative materials act as a cushion against supply chain turbulence



Plant-based meat sales gained traction during the pandemic when the meat supply chain, with many middlemen in between, encountered a breakdown

Push factors – Reduced supply of meat

COVID outbreaks at meatpacking plants caused plant closures



Restaurant closures curtailed amount of wholesale orders



Overall demand for cattle fell; upstream farmers euthanized livestock

Pull factors – Increased interest in plant-based meat

Production processes more environmentally friendly, appealing to conscious customers

Demand growing in Asia: Chinese citizens worried about links between animal meat and coronavirus

More automated production, less reliant on labour

Lessons for Apparel

- Alternative materials are helpful when original raw materials are out of reach; some materials are also more eco-friendly
- Production processes can be more automated and transparent relative to traditional supply chain allowing for localization and reducing reliance on labour and third-parties and hence overall risks in supply chain



re:newcell

H&M launched a jacquard weave dress made of Circulose, a material recycled from used garments, for its SS20 Conscious Exclusive collection this year, by adopting startup *Re:newcell's patented recycling process.

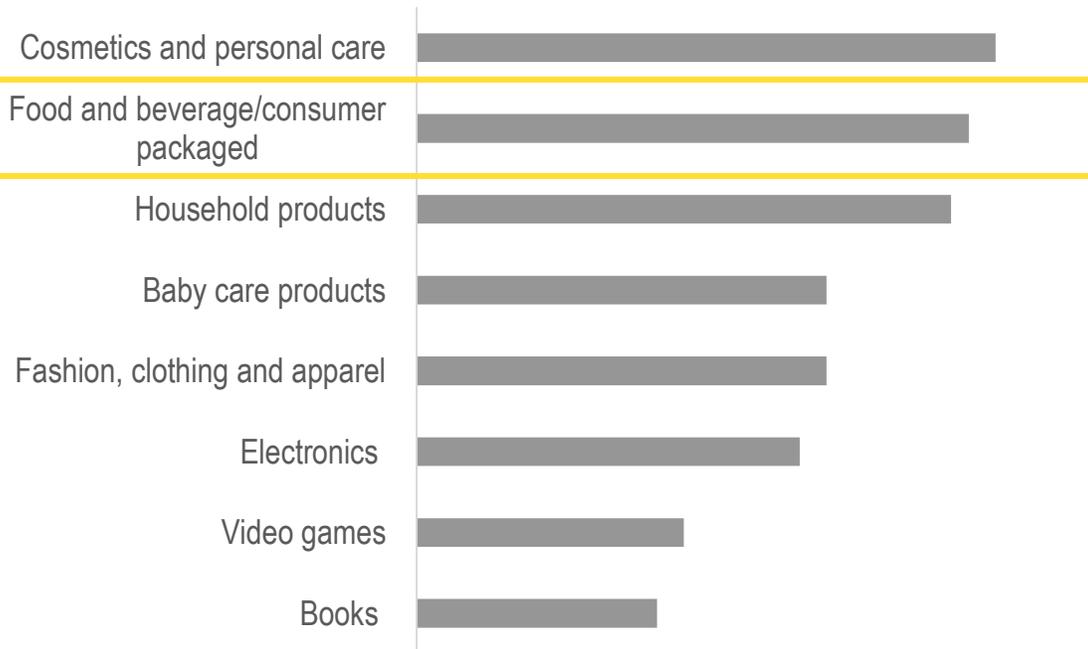
Lessons from food: Service improvements/ technologies help boost e-commerce performance



Grocery, traditionally less digitally penetrated, gained traction in e-commerce during the pandemic

Products US internet users are more likely to digitally purchase during the coronavirus pandemic % of respondents, March 2020

0% 10% 20% 30% 40% 50% 60% 70%



92% jump in online grocery sales in Q1



21% jump in online grocery sales from Feb to Mar



215% jump in online fresh food sales during the Lunar New Year period

Lessons for Apparel

- While delivery challenges for grocery/ fresh food e-commerce are addressed, the same can be resolved for apparel regarding fitting/ sizing matters
- Thoughtful packaging and returns policy increase consumers' confidence in online shopping

Towards sustainability: Drivers propelling sustainability development under the current crisis

Seasonless fashion/ slowdown in fast fashion

Retail decline and economic downturn shift emphasis to purpose-driven and pragmatic principles

Luxury brands Gucci and Saint Laurent already paused in joining seasonal shows. Smaller designer brands are having fewer designs in response to weaker demand.

Rising consumer interest in sustainability

The suspension of economic activities has reminded the public of the benefits of a low-carbon economy

The number of flights globally was down 80% compared to 2019 as of early April. The clearer skies have enhanced awareness of sustainable lifestyles.

Trends of localized production/ nearshoring

On-demand production and use of alternative materials in local markets to reduce needs for inventory and distant procurement

Activities of the fashion industry including logistics and travelling of personnel contribute to around 10% of all carbon emissions.

Digitization trend in production & supply chain

Digital sampling, predictive analytics and blockchain drive efficient production and effective monitoring with less wastage

Adidas saved around 1.5 million physical samples between 2010 and 2013 by using virtual samples instead.

Towards sustainability: Potential hinderance to sustainability development under the current crisis

Lower priority for sustainability

Downturns put sustainability at backseat compared to revenue recovering

Companies are focusing on restoring top line growth and digitization efforts over sustainable initiatives.

Radical business model change

For those without prior sustainability agendas, adopting new practices means an abrupt change of systems

Fast fashion has been adopted by many brands over the past two decades. Implementing sustainable practices requires radical measures.

Cost/ Health concerns might hinder sustainability

Consumers reverting to either cheaper options or safer options that might not be most sustainable

Some consumers reverted to using more disposable plastic bags or wrapping for worries of virus-containing objects.

Loosened policies to help business survive

Pressure on relaxing environmental regulations for economic interests increases

The Environment Protection Agency in the US has temporarily relaxed pollution enforcement to help companies survive.

Towards sustainability: Need to build resilient & digital value chains for recovery which will help drive sustainability

Drivers for & against Sustainability Agenda

FOR

Seasonless fashion/
slowdown in fast fashion

Rising consumer interest in
sustainability

Trends of localized
production/ nearshoring

Digitization trend in
production & supply chain

AGAINST

Lower priority for
sustainability

Radical business model
change

Cost/ Health concerns might
hinder sustainability

Loosened policies to help
business survive

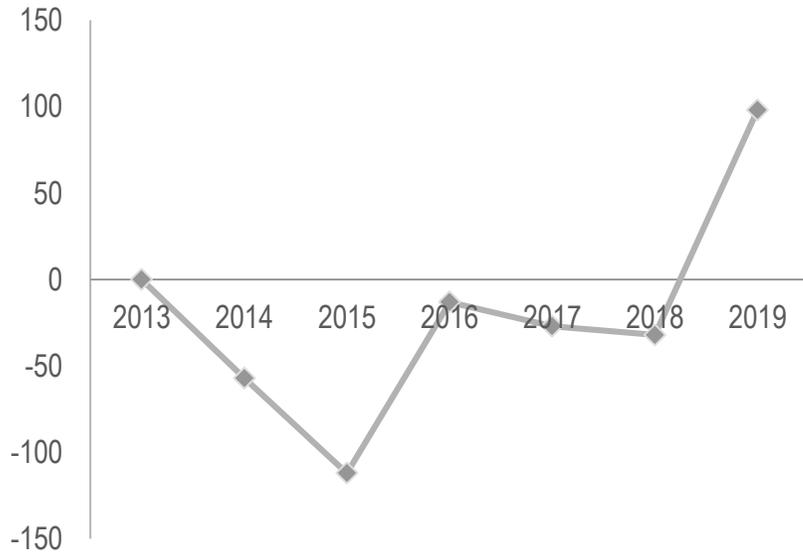
Implications

- In short term, some areas of value chain may indeed see sustainability taking a step back with immediate focus on survival be it for suppliers, brands or customers
- Longer term, COVID-19 has revealed importance to build **resilient** and **digital** value chains; these 2 structural trends will help enable greater sustainability be it in production or retail

Localized production: The dilemma of moving production back to domestic markets

Reshoring happening fast in the US after China-US trade war in 2019

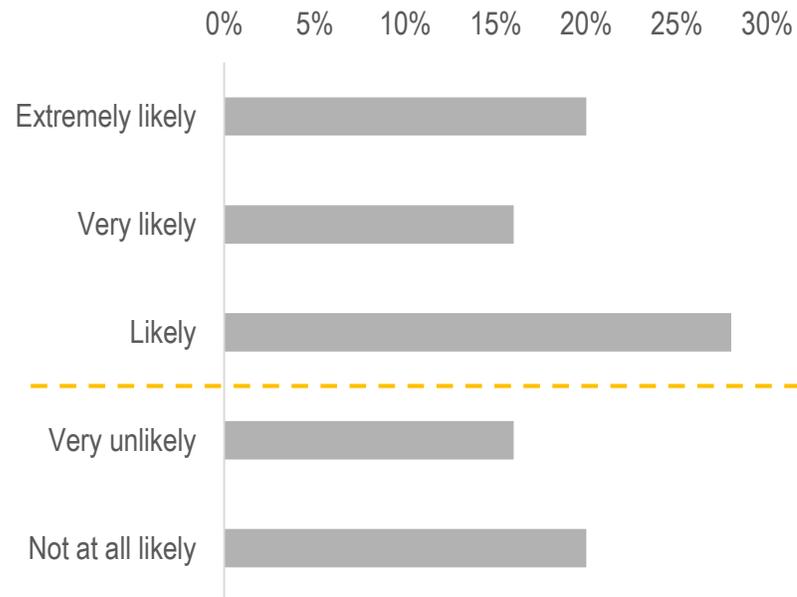
Year-over-year change in the US manufacturing import ratio (basis points), 2013-19: Kearney's US Reshoring Index[^]



[^]A positive number indicates net reshoring

64% of North American manufacturers said in April they are likely to shift production back home

Likelihood of moving production/ sourcing back to North America after the COVID-19 outbreak: Thomas Industrial Survey



Yet moving production back home faces challenges

Production costs

Wages and land rents are cheaper in offshoring countries in Asia than in the US and Europe

Lack of talent

There is a lack of skills and manpower to scale up production in countries with long-time offshoring practices

Lack of materials

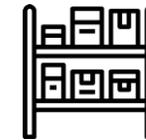
Not all materials can be sourced easily. For example, silk, trims and elastics are largely sourced from China

Localized production: Automation and on-demand production are potential trends

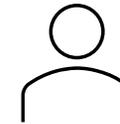
The pandemic has prompted using automation and on-demand production; both are potential trends for localized production

	Automation	On-demand production
Advantage	<ul style="list-style-type: none"> Robot price fell >50% but labour costs rose >100% on average in the last 30 years Automating work processes helps keep employees at safe social distance 	<ul style="list-style-type: none"> Short production lead-time Highly digitized and automated No need to keep stock inventory
Example	 <p>Gap purchased 73 robots from startup Kindred to install in its US distribution centers to meet increasing demand for online orders amid stringent social distancing policies</p>	<p>UNMADE</p> <p>When knitwear orders were put on hold in Indonesia during the pandemic, Unmade swiftly shifted orders to other diversely located manufacturers through its made-to-order software systems</p>

Points to note for on-demand production:



Sufficient inventory of raw materials still important to enable production on the spot



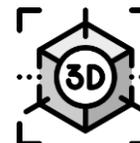
Training is required to have in-house expertise to work with machines such as 3D design software



Production costs can be high still due to smaller batch size production



High adoption of automation systems required to enhance overall production efficiency

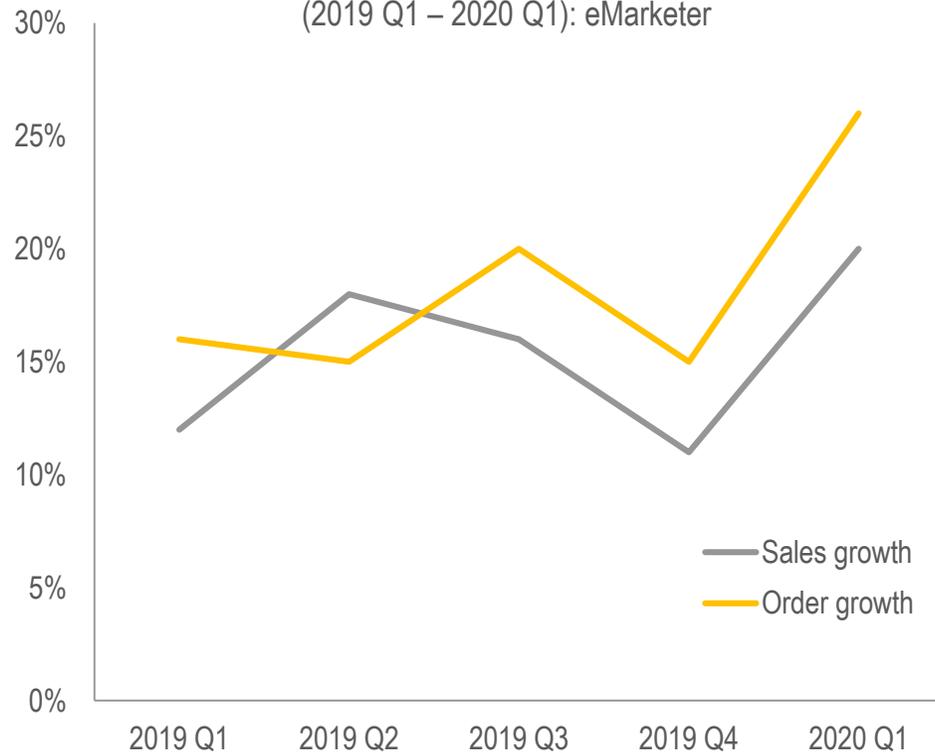


Requires mature & accurate 3D scanning technology for customization/ fit; factors such as lighting and indoor/ outdoor environments play a part

New Retail experience: Wider scope of digitized retail seen alongside thriving e-commerce activities

E-commerce further accelerated under the impact of COVID-19 pandemic

Worldwide Retail Ecommerce % Growth by Sales and Order (2019 Q1 – 2020 Q1): eMarketer



A variety of digitization efforts in retail were seen under the new normal



Amid wide-scale lockdowns where gyms closed, **Nike** made its premium version of Nike Training Club app free to let customers join **virtual workouts** to stay fit



Virtual shopping startup **HERO** helped partner brands sell to customers face-to-face through online chat and video call during lockdowns



Diesel launched a **digital showroom** that resembled its physical showroom in Milan for customers to view its products in 360-degree displays online

New Retail experience: Omni-channel development significant to building the ideal customer experience

WHAT'S HAPPENING

More brands set to boost e-commerce:
 Nike expects 50% digital penetration for its overall business in near term
 Inditex expects online sales to represent a quarter of its business within the next two years

Offline retail space has increasingly become fulfilment facilities for online orders. For example, as part of the reopening plan, retail stores in Los Angeles offered curbside pickup to customers.

 **lululemon**
MIRROR

Lululemon will acquire tech-enabled home exercise startup Mirror, underlying the at-home exercise trend sparked by the pandemic.

OMNI-CHANNEL ELEMENTS

Accelerated e-commerce

Redefined offline retail

Immersive & experiential technology

IMPLICATIONS

E-commerce as a starting point to meet changing consumer behaviour with extended participation by brands and retailers



Physical retail space continues to complement the online experience and serve more functions beyond sales and display



Continuous adoption of technologies to elevate customer experience under new trends/ constraints

Concluding Thoughts

Key Takeaways

Supply Chain

- The apparel industry has a highly integrated global value chain. Building resiliency in supply chain is important in navigating unexpected and abrupt disruptions.
- Food disruptions in COVID-19 and growth of plant-based meat has shed light on the use of alternative materials in enhancing resiliency. Digitized and localized productions also play a part, with automated and on-demand production as potential trends to adopt amid reshoring difficulties.

Retail

- Store closures amid lockdowns have shifted attention to e-commerce and awakened to the importance of digitization. The inventory pile-up problem was highlighted with apparel brands and retailers eager for ways to optimize inventory management.
- The increased digitization efforts during the pandemic has fueled acceleration of New Retail. Omni-channel solutions spanning the online and offline space are significant to building the ideal customer experience.

Stakeholders

- The pandemic has revealed the vulnerabilities of manufacturers and factory workers in a fragile ecosystem.
- Important to empathize with employees, suppliers and business partners in weathering the storm together through both supply chain initiatives and software.

Ecosystem and Sustainability

- The pandemic has seen widespread financial distress and bankruptcies of legacy brands and retailers. The apparel industry awaits rebuilding of trust and further market consolidation.
- There has also been an increased awareness of sustainability and responsible practices. The structural trends of resilient and digitized value chains are conducive to sustainability.



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