

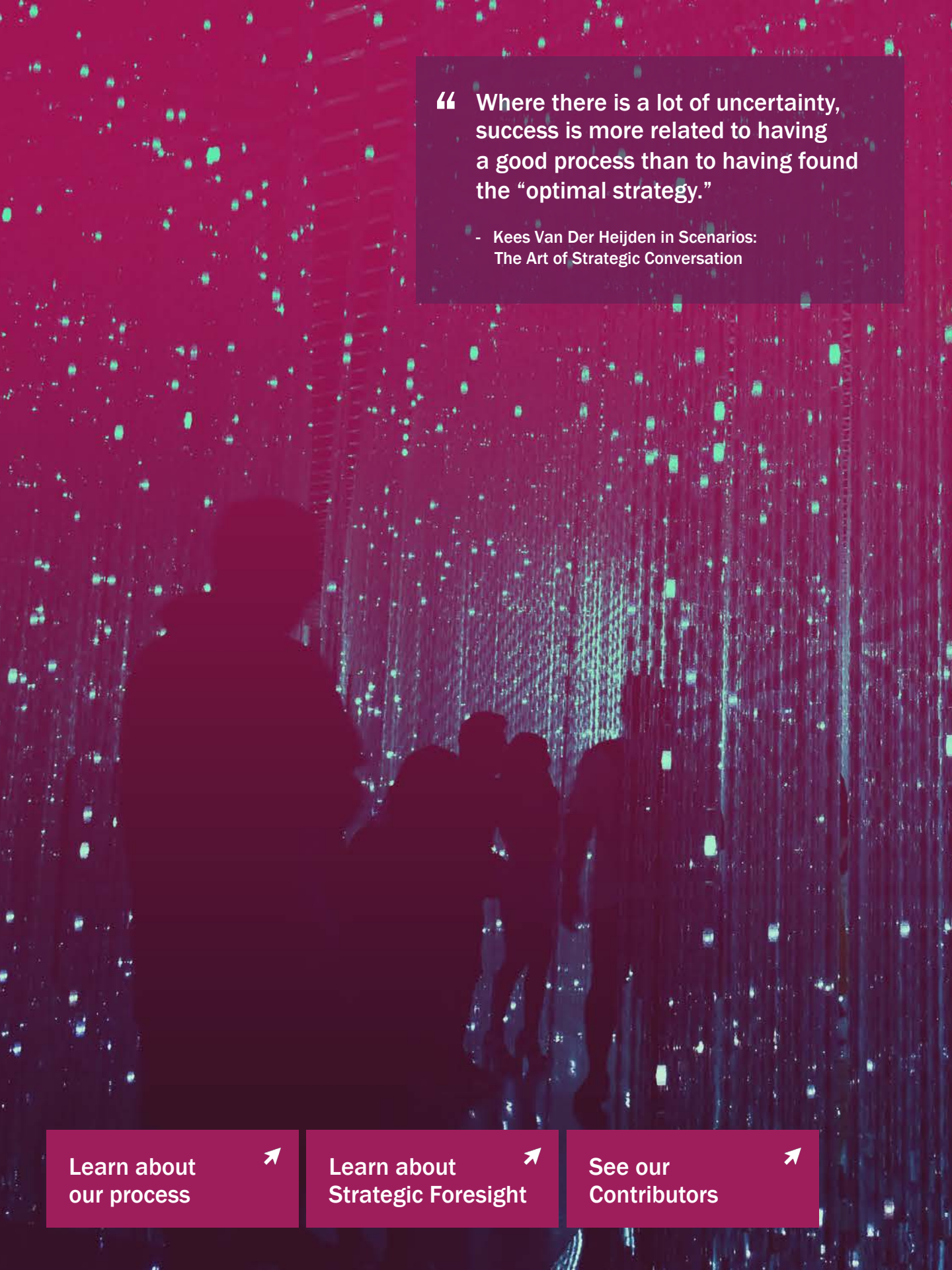


KALYPSO

A ROCKWELL AUTOMATION COMPANY

2025 Post-Pandemic Futures

Developed for the Consumer and
Retail Footwear & Apparel Industries



“ Where there is a lot of uncertainty, success is more related to having a good process than to having found the “optimal strategy.”

- Kees Van Der Heijden in Scenarios:
The Art of Strategic Conversation

Learn about
our process



Learn about
Strategic Foresight



See our
Contributors



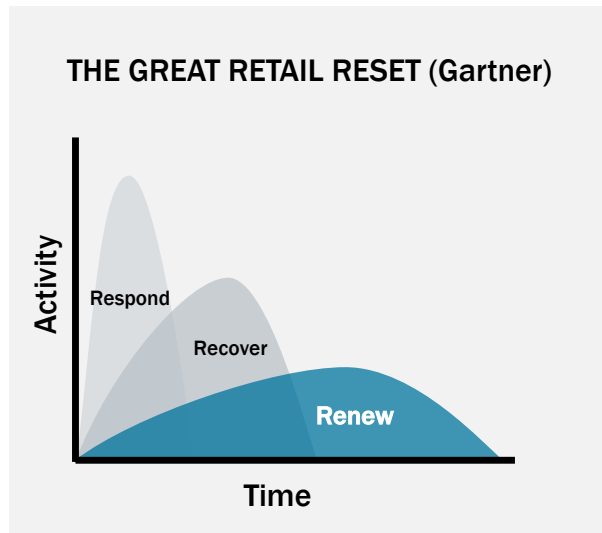
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Introduction

Product creation leaders have focused on their immediate response to COVID-19. Now, they are uncertain about its implications for the future.

In April 2020, Gartner Research published the Great Retail Reset¹ — a framework to capture three horizons of change leaders should consider when designing their pandemic response.



While seeking to stabilize operations in the early stages of the pandemic, many leaders were consumed with **respond** and **recover** activities.

As we enter the next stages of the recovery, product leaders should turn their attention towards **renew** activities.

Leveraging learnings from the prior phases, leaders should seek to take a long-term view to analyze or reset their operating models for resilience.

In a quest to provide our clients with the confidence to respond today, tomorrow and beyond, Kalypso brought together our consumer industry leaders to leverage over one hundred years of combined experience.

Using the latest foresight methods, we developed four alternative future scenarios to help our clients define their strategies for the **renew** phase of their response to the pandemic.

1. "The Great Retail Reset and the New Normal." *Thomas O'Connor*, Gartner Research, 20 Apr. 2020, blogs.gartner.com/thomas-oconnor/the-great-retail-reset-thinking-across-multiple-time-horizons-as-we-look-towards-our-next-normal/.





Executive Summary

In this report, you'll learn about the four scenarios developed for the post-pandemic futures of retail, footwear and apparel (RFA)¹ and the consumer-packaged goods (CPG)² industries.

We explored scenarios around the question:

How might the value chain for the consumer industries for North American and European markets evolve and shift in the next five years?

Our intent is to share these scenarios with product creation leaders to help brands and retailers build more resilient operating models and refine their product strategies in the face of uncertainty.

V - S H A P E D Flourishing Communities	The pandemic's disruption influences the public to temporarily embrace new behaviors, while remaining intentional about their values and spending.	
W - S H A P E D Big Brother is in Control	Privacy is a pre-pandemic luxury and corporate-backed big government has a hand in nearly all aspects of life. Mistrust towards China persists.	
C H E C K M A R K S H A P E D Regenerative Systems	The world is renewed post-pandemic. Societal norms are redefined, the economy is reshaped, and sustainability is rejuvenated.	
L O N G - U S H A P E D Divisive Terrain	Growing infection rates contribute to the collapse of social and economic structures, resulting in a prolonged recovery defined by high uncertainty.	

For each scenario, we explore the implications these recovery scenarios have on **what** product creation leaders might make (in the form of artifacts from the future) and **how** products are made (in the form of value chain enablers).

1. Retail, Footwear and Apparel (RFA) inclusive of fashion, apparel, footwear and accessories; hardline and appliances; and general merchandise.
2. Consumer-packaged goods (CPG) inclusive of food and beverage, home essentials, toys, electronics, health aids, haircare/skincare/cosmetics, feminine care, baby, and pet care.

For retailers and brands, the industry's pace of change and transformation is rapid—and only accelerating. **Where will we be in 2025?** There are many plausible, provocative views of the future, like the ones included in this report. **And while we're not sure exactly what will happen, it's likely that the future will be different than our expectations.**

What will the impact of the pandemic be on the pace of change? What will the impact be on products and the processes that retailers and brands use to discover, create, make and sell them? What will the impact be on consumers, employees and communities? How should retailers and brands respond and prepare?

The scenarios and analysis in this report help answer these questions.

Cross-scenario Opportunities

Across all four scenarios, the following capability areas arose as opportunities where brands and retailers can invest in product development capabilities, with the goal of reducing near-term risk and building towards a resilient future.

- **Faster:** Bring new products to market 50-70% faster than current processes, in order to design and develop closer to the moment of demand and lower the risks of a mistake
- **Smarter:** Design, develop and source with predictive and prescriptive analytics applied to development ratios, assortment decisions and order quantity decisions
- **More Virtual:** Design and develop with digital product creation tools, collaborating virtually to make many more decisions *before* committing to binding physical inventory
- **Globally Distributed Sourcing:** Source via a globally distributed network of more innovative, automated suppliers and factories, located on-shore, near-shore and offshore, based on segmented product development paths

Transforming Organizations for the Future

Scenario planning provides a framework for organizations to consider a variety of ways that the future might unfold. **But for scenario planning to be effective, leaders must move from a place of awareness towards continuous strategic action.** To increase resilience, product creations leaders should:

1. Build internal capacity for strategic foresight
2. Transform product innovation through the digital thread
3. Appoint a clear sponsor and leader for the two actions above

How Should I Read these Scenarios?

Scenarios are plausible, provocative alternative views of the future.

Since the 1950s, scenarios have informed defense, public policy, transportation and land use. For over 50 years, Royal Dutch/Shell has leveraged scenario planning to anticipate shifts in the energy sector—including the oil crisis in the 1980s. The World Economic Forum has developed scenarios to explore the future of work, construction, and global food systems.

Scenarios are meant to magnify change happening today and challenge our assumptions about tomorrow. Because **no one can predict the future**, we can say with certainty that it will be different than our expectations. Scenarios then help us look beyond our assumptions to reveal the blind spots we may have about the future.



Keep an open mind

These scenarios were developed collaboratively, and are meant to spark discussion. They are not predictions.



Be aware of instances in a scenario where you disagree with the content

Recognize when ideas challenge your current assumptions. In some places they may confirm ideas you have about the future, while in others they may contradict what you expect to happen.



Place less emphasis on *when* something may occur

Some of the developments in the scenarios may happen faster or slower than forecasted while others may already be occurring, but in isolated and subscale examples or applications.



Strive to hold competing visions of the future in your thoughts at the same time

One lesson of scenario planning is that having multiple views of the future can prevent us from being blinded by our assumptions, help us recognize change faster and be prepared to act sooner.

Four Alternative Future Scenarios

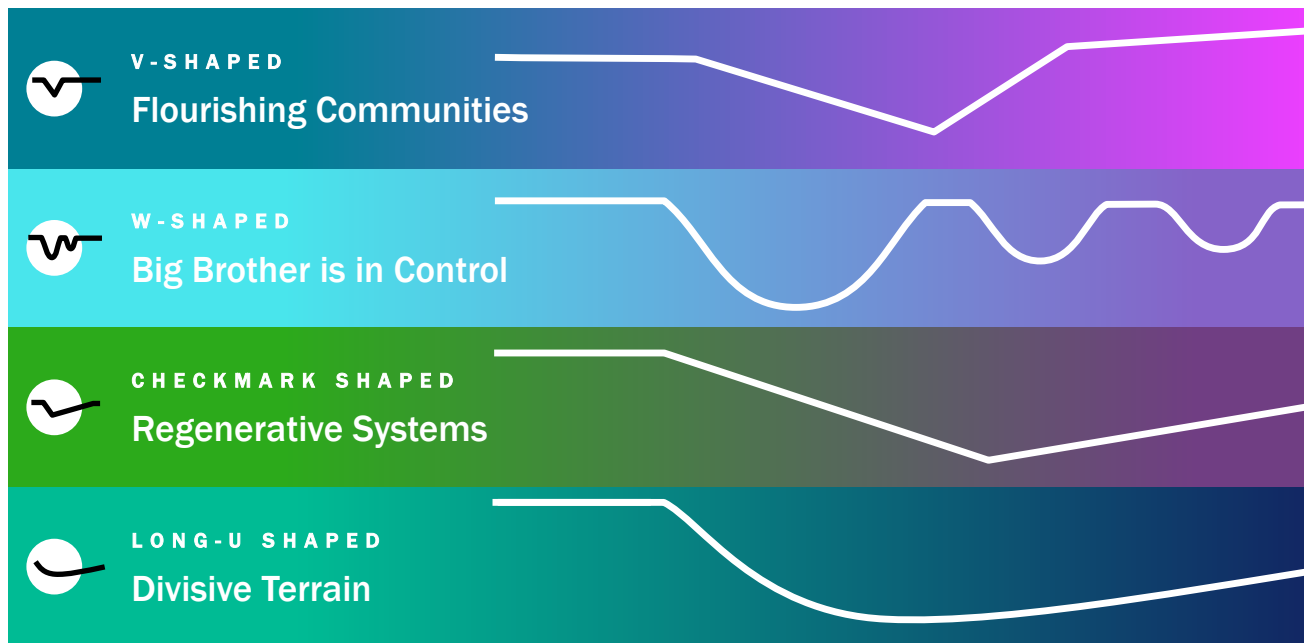
“ Scenarios are devices for improving our perception. They fit into a different thinking paradigm, which defines strategy making not as a one-time decision, but as an ongoing process.”

- Kees Van Der Heijden in *Scenarios, Strategy, and the Strategy Process*

Economic Recession Recovery Scenario Timelines

Each scenario is modeled after a plausible economic recovery scenario. The economic recovery timelines are an **abstract representation** of the trajectory of real GDP, real income, employment, industrial production, and wholesale-retail sales from 2020 to 2025.

With the scenarios we outline, it's *less* important to focus on exact timing and *more* important to **assess the impact** of the recession recovery pattern on society and the consumer industries. The scenarios will be **unevenly distributed**. Across and within regions, patterns from more than one scenario may even play out simultaneously.



Each scenario includes the following components

Narrative

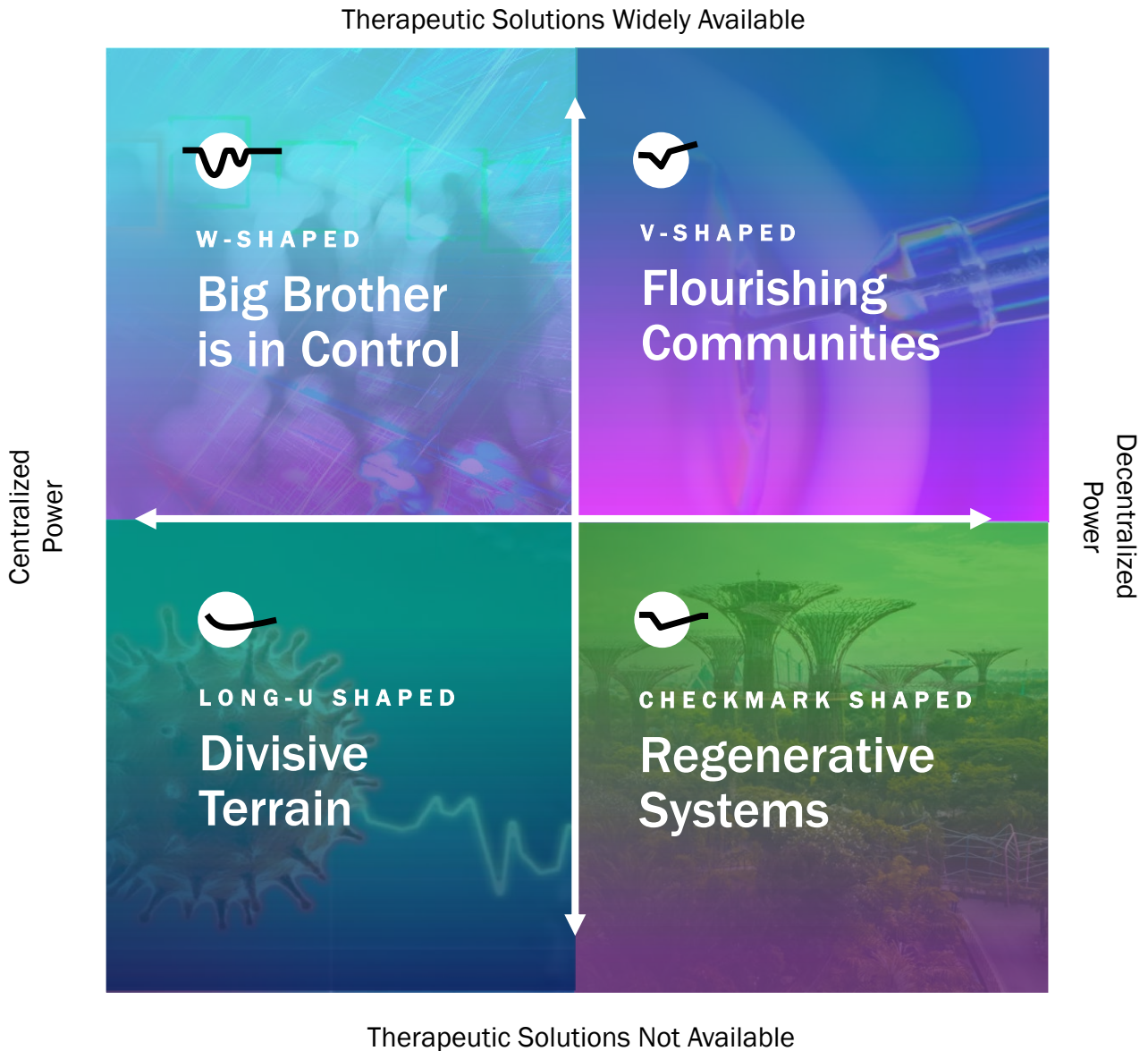
Scenarios are not predictions. They are meant to be provocations that inspire alternative points of view. Each scenario includes a narrative that illustrates the *potential* effects of changes across society, technology, economy, the environment, and politics.

Attributes

Each scenario is distilled into a set of characteristics across Economy, Consumer Values, Social/Civic & Workplace Worlds, Shopping Behavior, and Retail Behavior. These attributes help the reader differentiate each scenario at a glance.

Four Alternative Future Scenarios

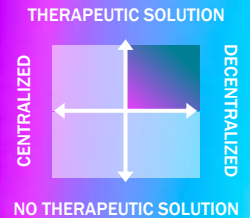
Although each scenario is different, they also share common elements. Illustrated by the 2x2 grid below, we explore the implications of the **availability of therapeutic solutions** (antiviral medications and vaccines) as well as the **distribution of power** from centralized decision-making and hierarchy to more distributed models of shared information and participation.





V-SHAPED RECOVERY

Flourishing Communities: 2025



The pandemic's disruption influences the public to temporarily embrace new behaviors, while remaining intentional about their values and spending.

A Harmonized Societal Response

After enduring shelter-in-place orders and social distancing, antiviral treatments arrive in late 2020 while vaccines roll out in 2021. Despite a steep downturn, much of society returns to pre-COVID living and most businesses reopen, resulting in the economy returning to a growth trajectory by 2021.

The economy's recovery is facilitated by local governments and community support of small businesses. The pandemic reinforces the importance of community reliance and connectedness. Immediately after the pandemic, people are more inclined to spend time within their communities but gradually, pre-pandemic behaviors return. Some continue their heavy community involvement, while others become preoccupied with the expectations of work and family.

Every Company Gets a Dr. Fauci

As a result of the preeminent role of scientific research as the 'hero' in overcoming the crisis, business and regulatory leaders create more seats at the table for scientists. Chief Medical Officers and Chief Science officers leverage their expertise in processing complex technical information to chart a strategic path forward and help their organizations thrive in a post-pandemic world. This increased public appreciation for scientific expertise in addressing systemic issues translates to better openness to climate action and sustainability.

As a consequence of the pandemic response, regulatory frameworks for pharmaceutical and medical device development are dismantled, giving health and wellness brands unparalleled permissions to explore new products in the quasi-medical space. Bouncing back from the downturn, brand and retail leaders invest in getting non-digital natives up-skilled rapidly to work in North America and Europe. Laser-focused on increased productivity, leaders set ambitious revenue targets for 2021 and beyond.



Reduced Office Volumes

"Facebook CEO Mark Zuckerberg said he expects half of Facebook's workforce to take him up on the offer over the next five to 10 years."
(Reuters, 2020)

WFH is a Genie Out of the Bottle

As the economy reopens in 2020, vulnerable populations experience increased death rates. This leads to permanent shifts in workforce expectations as individuals seek to manage risk and exposure. Once a society defined by 9-5 and commuting, many knowledge workers now enjoy the peace of mind and benefits of working from home. Company leaders recognize the operational advantages of WFH, and for many businesses, **office volumes** remain low.

Initially, it is difficult for employees to separate their home and work lives because they occur in the same space. Many workers adapt to ensure clear boundaries are set between work and life to make time for family, hobbies and rest. Some individuals adopt a Lifestyle Balanced Scorecard mindset to stay attuned to material, physical, and spiritual needs. Consumers also permanently shift from paying for physical gym access to investing in virtual classes and purchasing personal equipment outright.

Companionship is key to surviving the time of isolation. In the initial weeks and months of the pandemic lockdown, a massive upswing in acquiring dogs and cats through adoption, fostering and purchasing is recorded—leading to a spike in demand for pet products. Yet as new pet owners return to their pre-COVID habits and social calendars fill up, many struggle with the guilt and inconvenience of pet separation anxiety. As a result, many of these impulsive 'lockdown' pets are abandoned.

The Great Gaslight

In pockets, political polarization threatens to dismantle the 'in this together' mindset that takes hold of the country during the pandemic. News outlets champion different political parties as 'the nation's savior from COVID,' enhancing the already growing divide. Due to high dissension, Congress struggles to pass post-pandemic policy to support the sectors of the economy that were most severely impacted—like leisure and restaurants. Temporarily, the public is left with feelings of uncertainty about the future of social and economic policy, and their long-lasting impact from a domestic and global perspective.

Accuracy is top of mind. At the onset of the pandemic, rapid change leads to an influx of false information that takes time to disprove. People quickly lose their trust in news outlets and companies that spread inaccurate information without verification from the WHO and CDC. They are uncertain about how to adapt to the changing landscape, and often feel unprepared and underinformed. As the country emerges from the crisis, the public demands logic-based and data-driven information, as opposed to alternative facts based on feelings and beliefs. In response, corporations create crisis preparedness communications and actively increase their efforts to block and remove false claims from their websites while supporting the prosecution of offenders by government agencies. Health agencies also respond to the need for accurate information, publishing guides for safe public interaction and cleanliness.

The public no longer embraces once-aspirational celebrities and influencers. At a time when many are reliant on stimulus checks and community support, casual displays of wealth and privilege reinforce the disconnectedness of the rich. Celebrities and influencers that take active rolls in the post-pandemic relief efforts are celebrated. The public appreciates those who are transparent about their experiences and struggles during isolation, while also remaining cognizant of the role their wealth played in comparison to the average American. For a period, the ultra-rich tone down displays of affluence in favor of inconspicuous consumption.



The pandemic's disruption influences the public to temporarily embrace new behaviors, while remaining intentional about their values and spending.



E-Commerce Accelerated

In the US, e-commerce jumped 49% in April, compared to the baseline period in early March before shelter-in-place restrictions went into effect. (TechCrunch, 2020)

Seamless eShopping, at a Cost

Steadily rising before COVID-19, shelter-in-place requirements accelerate the use of **e-commerce** with home delivery services supplying anything from fast food and grocery to home improvement projects. Online buying becomes more seamless for consumers with secure one-click buying and improved fit confidence, while brands and retailers leverage targeted marketing and predictive supply chains to drive scale and speed. As a result, brands and retailers are expected to offer 3D renderings of their products in a contextual setting. Whether creating platforms to build complete outfits within a product line or the tools to build a virtual room with home furnishings across multiple brands, product leaders that participate in fully digital shopping experiences are able to maximize sales value per purchase.

With the rise of convenience, consumers become increasingly aware of the ethical implications of purchasing goods on-demand, particularly from major online marketplaces. News headlines citing the unfair level of risk placed on vulnerable warehouse and delivery workers sparks outrage in the public. Influencer-led boycotts emerge.

Local, Loyal Learned Behavior

During the pandemic, people turn to their communities, immediate family and close friends for support and relief. During recovery, individuals continue to rely heavily on one another, and experience an increase in connectedness. They also demonstrate a wariness towards new-comers and cautiously allow them into social circles.

The pandemic leads to a brief disruption to normal shopping behaviors, but consumers quickly return to their pre-pandemic habits. Many shoppers intentionally support small businesses during and after the pandemic, encouraging others in their social circles to visit smaller mom and pop stores and restaurants to supplement governmental support. Local business loyalty is a defining characteristic of post-pandemic consumers. Consumers champion businesses that adapt to COVID restrictions with easy access, pick up options, and increased care for the safety of their employees. Those that don't adapt are forgotten.

Personal time and the importance of home projects—such as gardening and finally cleaning out the gutters—are emphasized. For households with no kids, the sudden abundance of time during the pandemic turns people to backburner projects and hobbies so they can feel reminded of their resilience and hardworking nature.

After witnessing the devastating effects of the virus on friends, family members and coworkers before vaccines, healthcare remains top of mind. People want real-time information on their health and rely on wearable devices to identify fluctuations in sleep quality, blood glucose levels, hydration, and heart strain. **Telehealth** takes on a heightened role, with many preferring virtual visits to traditional in-person checkups. As viral testing expands from hospitals to living rooms, people expect that at-home tests for other diseases and health symptoms will come next.

Heightened Role of Telehealth

In the US from March 14 to April 1, daily telehealth claims for upper respiratory infections from private insurance increased nearly 12 times from the daily average over the previous month. (Whitehouse – Council of Economic Advisors, 2020)



The pandemic's disruption influences the public to temporarily embrace new behaviors, while remaining intentional about their values and spending.



Advanced Manufacturing in China

China's Made in China 2025 plan includes goals to expand in areas such as blockchain technology, artificial intelligence, robotics, semiconductor and chip making technology, along with biotech. (Forbes, 2020)

Entrepreneurial Blip in How Goods are Made and Sourced

At the onset of the pandemic, a change in mix and surge in demand plays out across product categories, creating massive disruptions across the global supply chain. To meet urgent demand for personal protective equipment (PPE), sanitation supplies and essentials, companies large and small pitch in to free up manufacturing capacity. Even decommissioned factories and plants are reestablished to provide relief.

Meanwhile, Asia-based vendors unevenly feel the impact of the disruption as retailers and brands cancel their orders en masse and offload their inventory issues onto these partners.

In the recovery (and after years of poor treatment by trusted customers) many of these same vendors invent their own digital-native brands, set up ecommerce and sell abandoned product direct to consumers, competing directly with former customers. As the new normal sets in, China continues to be the world's leading manufacturer while also elevating the region as a technology-enabled powerhouse with **advanced manufacturing** in high-tech fields.

Consumers continue buying products from China with a renewed respect for the speed and efficiency in which the country was able to control and manage a sophisticated and complex disaster. Most people forget about the source of the pandemic by 2025.

PPE, But Make It Fashion

Coinciding with the pivot towards making PPE, apparel brands establish face masks and scarves as a standard accessory (like socks, hats and gloves) and differentiate through 'buy-one give-one' business models and luxe fabrics. Beauty products touted for their preventative and health-forward attributes see a sharp rise in demand during and following the outbreak.

Corporations Must Earn Consumers' Trust

Stores and quick-service restaurants encourage shopping by visibly demonstrating their commitment to the health and safety of their customers via sanitization of restrooms, in-store temperature monitoring, distance monitoring, and by making protective gloves and masks available to shoppers. Even scent is cited as a priority by discerning shoppers. Behind the scenes, advanced HVAC solutions are employed, and occupant monitoring systems are in place to track changes in facial expressions and gait.

Sustainability Meets Farm-to-X

The experience of the pandemic makes consumers more intentional about what they buy and more concerned with the environmental impact of their purchases and behaviors. Seeking reassurance for their choices, consumers pull back from retailers that fail to bring transparency to their supply chain.

A step change is made in sustainability regulations across North America with the introduction of carbon, water and energy pricing paired with strict recycling and raw material regulations. More scrutiny is paid towards the use of plastics in everyday goods.

Farm-to-X
A social movement to produce goods more sustainably and locally, shortening the distance from where the raw materials are sourced to the end consumer (e.g. farm-to-table food, farm-to-face beauty)



The pandemic's disruption influences the public to temporarily embrace new behaviors, while remaining intentional about their values and spending.



Scenario Attributes

Economy

- + Retail Sales Return to 90% Of Pre-pandemic Levels by Early 2021 and Continue to Grow
- + Local Governments Facilitate Growth

Consumer Values

- + Support Local Business and Those that 'Pitched In' During the Crisis
- + Sustainability is the 'Right Thing' to Do
- + Companies Earn Trust Incrementally

Social, Civic & Workplace Worlds

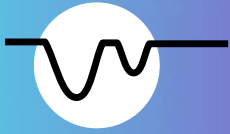
- + Science is the Hero
- + WFH Genie is Out of the Bottle

Shopping Behavior

- + Online Sales Double and Brick & Mortar Transforms to Persist with a Smaller Footprint
- + Indulgent Shopping & Insatiable Desire for Unique Experiences
- + Protective Fashion is the Norm

Retail Behavior

- + Most Large Brands and Retailers Survive, and the Weakest Finally Get Driven Out of Business; Digital-Native Brands Continue to Prosper
- + Preference for Seamless E-Shopping
- + Visible Protective Measures



W-SHAPED RECOVERY

Big Brother is in Control: 2025



The prolonged struggle with the virus through the fall of 2020 raises anxiety and concern across the globe. Social distancing measures are extended and prolonged. Strict border controls limit the movement of people and goods.

Domiciling

With the pandemic comes a pervasive level of uncertainty. As a result, the public now embraces more autocratic forms of government—leftist and rightist flavored. Herd immunity blunts the impact of COVID-19 until vaccines are made available in 2021, but subsequent mutations of the virus emerge and threaten to take hold of the population. Due to the delay in therapeutic solutions for COVID-21 and COVID-23, social controls are embraced long-term. Physical distancing is enforced in waves and shelter is deemed a human right. Underutilized hotels and office buildings are forcibly converted into dwellings for the homeless and other vulnerable populations. Even parking lots are reimagined and repurposed for entertainment (drive-in movies) or grieving (drive-by funerals).

Strict border controls for personal travel are intermittently applied as waves of the virus rebound throughout the globe. After the pandemic subsides, some regions enforce long-term travel bans on areas that failed to contain the virus effectively. As a result, CEOs and CTOs continue to accelerate IT spending on cloud-based products and services to maintain virtual global operations with limited on-site visits. Meanwhile, across the globe, many countries apply increasing scrutiny to nations like the US, Italy and the UK that failed to contain the virus early on.

Decoupling of the Global Supply Chain

Led by the US, governments blame China for the pandemic and leverage the crisis to step up taxes and tariffs, ultimately raising the stakes of trade wars. Legal practitioners drag the People's Republic of China to court over the effects of the Coronavirus outbreak on their jurisdictions and businesses. As a result, people who have recently travelled to China or appear to have Chinese heritage are treated with caution and hostility. Austerity caused by the pandemic also increases. The long-running trend of political figureheads and parties stoking the fires of fascism continues. 'Left behind' from a highly bifurcated economy, disenfranchised individuals flock to support alt-right groups and leaders.



Challenging the dominance of markets and exchange value, the US, Germany and Spain take steps to nationalize aspects of the economy, including supply chains for consumer products.

Federal leaders work with CPG manufacturers and retailers to retool supply chains for resilience and reduce reliance on globally sourced materials and production. This shift enables regulators to enact strict protocols for health, safety and transparency with mandatory product and raw material contact tracing enabled by smart connected devices and infrastructure. Consumers who see China as the root cause for the virus—as well as its proliferation—punish the purveyors of goods made in China by refusing to purchase them and alternatively seeking and supporting the revival of near-shore and on-shore suppliers—even at an increased price. The preference for ‘Not Made in China’ spreads rapidly.

Subsequent waves accelerate bankruptcy of struggling large retailers. Meanwhile, leading retailers form a coalition to develop products onshore with lower inventory levels. Governments work with these retailers to endorse private label brands and edge out competitors, touting ‘pandemic-friendly’ and patriotic messages.

In pockets, companies pursue smart connected manufacturing to create highly efficient modular factories with fewer workers. They add sensors to every surface, employ robotic process automation and supplement with analytics to reduce downtime. AI’s are granted the right to their own **IP and inventorship on patent filings**, reversing a decision in 2020. AWS-777X3, an Amazon-built bot that focuses on product innovation, is on track to become the highest-awarded patent owner. Federal and state governments continue to explore partial adoption of universal basic income to offset job losses from automation.

With the remote working culture and social distance limits in place, the workforce will never fully return to physical locations like pre-COVID times. RFA and CPG companies with investments in commercial real estate suffer considerable losses. Only 30-40% of the daily commute volume remains in the long-term, leading to a reduction in mass transit and automobile traffic.

Germ-Free, Conscious Living

Cleanliness and hygiene are extremely important for any kind of product brought into the home or handled personally. Showing promise as a sustainable offering in the 2010s, the sharing economy is dubbed the ‘germ-sharing economy’ and is no longer an appealing option for vacation rentals, clothing or tools.

Long periods of self-isolation result in new challenges and opportunities for public health. With limited exposure to the outdoors and other children in early development, youth from the ‘Quaranteen’ generation tend to have weakened immune systems. Discussing mental health is largely de-stigmatized across generations, but a fear of hospitals persists for those who need medical care for urgent, non-COVID-related health issues. CBD companies capitalize on this catch-22. Cannabis legalization goes nation-wide, and new products are developed for self-medication.

Artificial Intelligence and Inventorship

AI system called DABUS “invented” two new devices, but in April 2020, the United States Patent and Trademark Office determined only “natural persons” can do that. (Vice, 2020)

Privacy is a pre-pandemic luxury and corporate-backed big government has a hand in nearly all aspects of life. Mistrust towards China persists.



**Stocking up on Board Games**

The first week of Covid-19 lockdown saw a 240% leap in sales of traditional board games and puzzles, as consumers prepared for extended periods indoors.

(Essential Retail, 2020)

Risk of COVID-19 Outbreaks to Temporary Foreign Workers

At least 164 migrant workers at one farm in Ontario, Canada tested positive for COVID-19 during an outbreak in May 2020.

(CTV News, 2020)

Investment Boom in Home as a Super-Hub

After multiple waves of enforced social distancing, individuals spend more time than ever in their homes—and are coming to terms with both the benefits and limits of their living situations. Home appliances are highly utilized as consumers pare back on dining out and using dry-cleaning services. Early in the pandemic, many households stock up on **board games**, puzzles and video games for social activities, easing the burden on families and staving off feelings of isolation for those living on their own. For partners living with others - kids, parents, pets and more—the quality and quantity of sexual encounters has dipped. A small baby bust takes place in 2021, accompanied by more separations and divorces.

At the three-month mark, most empty nesters and minimalists feel the weight of downsizing regret. This desire for more internal and external space lasts through subsequent echoes of the virus, with many reversing their decision and searching for larger homes. Meanwhile, aging in place continues to grow as a preference for older Americans after COVID-19 unveils weaknesses in long-term care facilities for preventing the spread of infection. Retirees invest to ensure their homes are safe and secure for future lockdown scenarios.

Knowledge workers invest over several years to carefully fine-tune home offices with supplies and furnishings that enhance productivity. Once it is deemed safe to return to corporate campuses and workplaces, employers overhaul their facilities to comply with social distancing and sanitization policies. The open concept office is dead. Floor to ceiling plexiglass separators are now the norm and are maintained with daily cleaning services. Despite the improvements, some workers are still nervous about the risks of onsite meetings, preferring to teleconference whenever possible.

Food Chain Scrutiny

In 2020, travel restrictions limit farmers in the availability to staff temporary foreign workers to tend their crops. Food chain workers are subject to high **risk of COVID-19 outbreaks** while working in close quarters. Rising food prices and price gouging impact the nation's most economically vulnerable. CPG companies work quickly to produce the quantities needed for the growing demand of shelf-stable goods in factories retrofitted for social distancing. But this proves unsustainable. In anticipation of contamination risks, the USDA and FDA ramp up regulations as a preventative measure. In-store samples, buffets and salad bars are outlawed. New consumer packaging labels emerge (both legislated and brand-initiated labelling) showing a brand's commitment to the health of its employees and the cleanliness of its manufacturing procedures.

The Comfort Economy

As the population goes through the turbulence and uncertainty of the pandemic and the recovery, stress, anxiety and mental health issues are pervasive. Comfort goods in all categories rise, including foods with low nutritional value, home goods that provide an emotional escape from reality and self-care products and experiences to contribute to the holistic wellbeing of consumers. Restaurants and food delivery services evolve packaging for easy sterilization of delivered food in microwave safe containers that are free of plastic and metal. Packaging with antimicrobial and antiviral properties is highly adopted. Seeking greater assurance that the products are free of risk and meet high standards for quality, safety and efficacy, consumers expect to see certifications from approved cleaning products on the goods they purchase.



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Social Rating Systems

China's Social Credit System in development captures citizen's information through traceable data on the internet, voice samples, and facial recognition cameras implemented throughout the country.
(Smart City Lab, 2019)

Privacy is Over

The public chooses wellbeing over privacy. **Smart cities and social rating systems** begin to pop-up across the nation to capture and quantify data about the population. On a macro level, these tools enable corporations and municipal leaders to optimize cities to serve citizens, yet on the individual level, social rating systems are criticized for overstepping privacy rights.

Health and safety information is decentralized and accessible to everyday citizens with standardized labeling systems employed to track when surfaces were last cleaned or when consumers with active cases are in proximity. Product and raw material tracing is mandatory for all goods to monitor physical touch in the supply chain and reduce the risk of outbreaks. This data-driven information stops bad actors from skirting their responsibility to protect the public.

Being at home during the pandemic creates an intimate focus on one's self. Consumers now obsessively monitor sleeping patterns and mood fluctuations. Time for rest and meditation are highly valued and safeguarded. Many individuals become fixated on their physical shortcomings after months of relentless video calls. Fortunately, beauty brands quickly advance their digital e-commerce platforms to meet the demand with hair masks, skincare products and teeth whitening kits. For others, the pursuit of flawless beauty is abandoned as deepfake technology is used to superimpose their favorite headshot on their avatar in video calls.



Privacy is a pre-pandemic luxury and corporate-backed big government has a hand in nearly all aspects of life. Mistrust towards China persists.



Scenario Attributes

Economy

- + Retail Sales Fluctuate Greatly and Unpredictably with Subsequent Waves of Lockdowns
- + Decoupling of the Global Supply Chain
- + Hyperregulated Industries

Consumer Values

- + Domiciling and Germ-Free, Conscious Living
- + Destigmatized Mental Health
- + Home as a Super-Hub
- + Greater Desire for IoT-enabled, Traceable Products

Social, Civic & Workplace Worlds

- + Public-Private Partnerships Increase Involvement in All Aspects of Life
- + Privacy is Over
- + Strict Border Controls

Shopping Behavior

- + Frustrated Shoppers Start to Give Up On Stores and Begin to Favor Online More Frequently
- + Tailored Consumption Based on Wearable Insights
- + Rise in CBD and Shelf-Stable Goods
- + Distrust of Goods Made in China

Retail Behavior

- + Accelerated Bankruptcy of Large Retailers and Brands Struggling Pre-Pandemic
- + Waves of Bankruptcies (Chapter 11) will Lead to Waves of Fall-out, Particularly Impacting the Weakest
- + Many Small Businesses are Hard Hit and Close up Shop



Privacy is a pre-pandemic luxury and corporate-backed big government has a hand in nearly all aspects of life. Mistrust towards China persists.

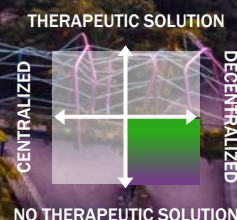
CPG Implications

RFA Implications



CHECKMARK-SHAPED RECOVERY

Regenerative Systems



Widespread antibody testing and contact tracing help to manage the spread of the virus. After a sizeable downturn, the economy begins to gradually reopen through 2025. The crisis catalyzes fundamental changes in the goals of society and the definition of success for economic systems. Degrowth is prioritized and individuals are incentivized to consume less and enjoy a slower pace to life. High quality goods are made locally with less emphasis on speed and agility.

Equilibrium & Stability Over Growth

Feeling pressure to open up the American economy in spring of 2020, leaders are devastated when weeks after eased restrictions, hospitals across the nation are completely overwhelmed—creating ethical dilemmas for hospital staff in determining which lives were worthy of saving. For months, local and state leaders struggle to build safety nets for their citizens as the wealth gap becomes increasingly apparent.

A collective recognition of the limits of capitalism is felt. Leading the charge for the post-COVID recovery, government leaders now champion the doughnut economics model to foster social and environmentally sustainable development that ensures no one gets left behind and that ecological limits are not exceeded. Wealth taxes and universal basic income are embraced by policymakers to bring stability to the economy. Spending is diverted from supporting major corporations towards healthcare, food security and affordable housing. Elites are vilified for insensitive displays of wealth. The 'builder' mindset prevails as individuals join forces towards a more sustainable, equitable future.

Green Transformation

Social and environmental sustainability is seen as part of the solution for rebuilding the economy. Citizens and governments acknowledge the risks of not taking the climate emergency seriously and planning accordingly.

The principle of cradle to cradle product design influences how products are envisioned and made. All products must be regenerative in nature—quickly recycled or repurposed for new uses. Governments impact behavior through increased taxation and regulation.



Restructuring through Chapter 11

In the first 3 months of quarantine, 16 major US brands filed for Chapter 11 bankruptcy, allowing them to reorganize and lean out operations for success in the future. (CNBC, 2020)

Less sustainable raw materials (animal products, certain oils) increase in price and are taxed. Strict regulation around proper disposal of unwanted garments is enforced to halt wasteful practices, such as putting usable garments in a landfill or burning them.

Retail Regression

Many notable retail names face existential threats and attempt aggressive **restructuring** to reduce fixed costs and provide cash flow for short-term survival. Huge headcount reductions are made in corporate, manufacturing and retail operations. Ultimately, the demand for brick-and-mortar sales never rebound and economic models of mall operators change significantly. Fewer major retailers, brands and digital-native brands remain.

The pandemic accelerates the trend away from a profit-first mindset where business leaders must serve only their shareholders. Now, corporations must play the role of corporate citizens and serve the communities in which their organizations operate.

There is increased scrutiny over how corporations pay employees and whether they slash executive compensation or buybacks if they take government bailouts.

With the transformative shift in values, the appetite for innovation is high and drives further proliferation of digitally-native brands. Older talent will need to retool or pair with digitally-native talent to survive in the new ways of working.

Advancing a Localized Circular Economy

Some clothing manufacturing returns to developed nations with a 'slow fashion' mindset as garments are locally cut, sewn, and recycled—lowering transportation costs and greenhouse gas emissions.

CPG companies invest in automation technologies to deliver the digital thread across the full value chain of a product: discover, create, make, and sell. Companies explore use cases in artificial intelligence, extended reality, and generative design to target opportunities to improve product circularity and lower carbon impact.

Innovation explodes as digital tools become easier for the public to use and everyday people engage in co-creating new solutions to old problems. For those with the means and access, these ideas are brought to life with 3D-printing-enabled digitized factories capable of small batch production and mass customization.

Financial Pressure

The early signs are already showing—the savings rate increase nearly 64% in March 2020 to 13.1%. (CNN, 2020)

Purposeful Shopping

Before the pandemic, US households were already in a **financially precarious** position, with household debt at record highs. Now, many households focus on fixing their balance sheets. Consumers carefully choose where and how to spend while building up cash reserves. Newness is no longer as relevant as consumers consider the usefulness of a garment by its price per use. Consumers value seasonless, durable and genderless clothing options. Brands stop labeling products online and in-store as men's and women's in favor of a more inclusive approach with a range of silhouettes and patterns. This shift is part of a broader movement for retailers and brands to stay relevant—knowing consumers will turn down companies with great products if their social and political messages do not align with personal values.

The world is renewed post-pandemic. Societal norms are redefined, the economy is reshaped and social and environmental sustainability is rejuvenated.





The pandemic brings to light the ethical challenges of meat consumption and the fragile supply chain in which meat-based products are produced. Plant-based diets become the norm, creating permanent shifts in demand for food production. In parallel, many consumers embrace growing their own food to become more self-sufficient. From aquaponics to vertical urban gardens, plant-based diets, and desktop 3-D food printers, many consumers focus spending on this area.

Consumers value and expect transparency and are willing to altruistically give up their data and personal information for the greater good. Citizens share their location history, purchases and personal details, including whether they have pre-existing health conditions. Organizations openly share details about their supply chain and the number of encounters a product may have had with humans from manufacturing through to shelf or home delivery. In aggregate, these datasets highlight hotspots including food desserts, concentrations of older and immunocompromised populations, and access to community services, helping regional leaders to address inequality in their communities.

Mapping tools become a standing remnant of the pandemic and are highly utilized to prevent further outbreaks (disease and contamination) and ensure vulnerable individuals do not slip through the cracks.

My Hobby is My Job

Remote working proves viable for many organizations. Companies consider increasing work-from-home arrangements to **reduce real estate costs** and release capital for other purposes. This provides a large benefit especially in areas with high real estate prices.

However, the labor pool does not resume in full force. With the introduction of a permanent universal basic income, many individuals willingly opt out of the workforce, reduce working hours or embrace volunteering. With a reduced workload, many individuals face an unprecedented amount of free time. From pursuing new or old hobbies, tending to home projects, learning new skills or bingeing TV series, individuals turn to new ways of maintaining mental well-being and staving off boredom while being cooped up indoors.

The In-Store Experience is Reimagined

Retail locations are completely redesigned to facilitate a new in-store experience. Permanent changes to the physical layout of stores are apparent with new fixtures and partitions, along with labeled walking paths. Wearable-enabled contactless payments and **self-checkout replace clerks** and germ-riddled card readers. Temperature checks are mandatory for all shoppers and technology-enabled contact tracing programs are widely adopted. The few that opt out of these programs are publicly-shamed and ostracized.

Instead of visiting physical stores to peruse leisurely with other shoppers, consumers choose the in-store experience to compare a final selection or privately try on pre-selected items from their basket. Seeking to transform and remain relevant for consumers, many department stores follow the lead of retailers and adopt a mixed use for patient and consumer services. The line between retail and healthcare is permanently blurred.

Commercial Real Estate Costs

Research firm Nielson is planning to decrease their footprint and real estate costs by converting offices into meeting spaces for employees to gather one or two times a week. (NY Times, 2020)

Self-Checkout Replaces Clerks

Recent research shows that 87% of shoppers prefer to shop in store with touchless or robust self-checkout options. (Bloomberg, 2020)



The world is renewed post-pandemic. Societal norms are redefined, the economy is reshaped and social and environmental sustainability is rejuvenated.



Scenario Attributes

Economy

- + Retail Sales Take Years to Fully Rebound
- + Decline of Capitalism and Adoption of Doughnut Economics
- + UBI, Wealth Taxes & Reduction of the Wealth Gap

Consumer Values

- + Individuals are Defined by their Hobbies
- + Consumers Focus on Saving
- + Focused on Green Transformation

Social, Civic & Workplace Worlds

- + Degrowth for a Green Transformation
- + Headcount Reductions
- + Adoption of Circularity

Shopping Behavior

- + Brick-and-Mortar Declines Significantly, New Business Models Emerge for DIY Products
- + Online Becomes the Dominant Channel while Brick-and-Mortar Declines Significantly
- + Less is More & Purposeful Shopping
- + Shopping Aligned to Personal Values

Retail Behavior

- + Mass Bankruptcy (Chapter 11 and 7) and Rebirth
- + Fewer Major Reinvented Retailers, Brands and Digital-Native Brands Remain
- + Local, Slow Manufacturing
- + Design for a Finite World



LONG-U SHAPED RECOVERY

Divisive Terrain



High infection (and reinfection) rates are recorded globally as the pandemic continues through 2021. After the virus subsides, an elongated period of weak growth is felt across the world economy. Socioeconomic structures fail as the crisis persists. Nations continue to turn inwards to stabilize and retain power. Consumption is limited to what's needed for basic survival. Brands and retailers struggle to stay afloat in turbulent times.

Paranoia Will Destroy Ya

The pandemic overturns the people's illusion of control, triggering fear and anxiety throughout the population. Everyday consumers are determined to become more self-sufficient. The increased fear of rationing and looting lead consumers to stock up on supplies, firearms, and ammunition. Many individuals spend most of their time at home with the people and things that bring feelings of safety, while larger distrust of neighbors and a desire to stay isolated increases in thought and deed.

Deepfake videos begin to fill social media, exacerbating the amount of fake news and threatening every leader globally, while also threatening social cohesion and government trust. This heightens tensions and prolongs the sense of instability.

Misinformation and distrust leads as many as one third of American to make poor choices regarding COVID-19 prevention. Typical victims are those who can least afford the price of copays and medical bills, or the missed paychecks due to illness.

End of 'First World Problem' Culture

As compounding crises emerge, leaders shift focus to the most acute problems and conditions to solve. Seen as the next generation's challenge, climate action does not make the cut. Sustainability is only considered when it lowers costs or hits other financial targets. Instead, product innovation is in favor of the new values consumers will pay for (including contactless, sanitization, antibacterial, antiviral etc.). Some retailers put their ethical trading and sustainability programs on hold while they try to fight for financial survival by offering deep discounts.



Direct-to-Consumer
DTC channels can offer increased margins, build brand loyalty by allowing brands to connect directly with consumers, and give the brand full control of the shopping experience from product discovery to packaging and delivery.
(Women's Wear Daily, 2020)

International Travel
In terms of spending, China is the single, largest outbound travel market in the world. In 2018 Chinese tourists spent \$277 billion in travels abroad.
(CNN, 2020)

Fewer Bigger Brands vs. Digital Natives

Online sales growth accelerates as more consumers make purchases across more categories on-line and in multiple delivery modes. Brands and retailers that can create a convenient, seamless, and safer channel to deliver products to consumers dominate as brick-and mortar sales plummet. In the near-term, local stores adapt by starting on-line channels using easy to use tools like Squarespace and Shopify and starting local delivery with these tools or other delivery providers. In the long-term, their survival depends on local conditions, such as infection and unemployment rates.

Larger retailers reduce brick-and-mortar operations, prioritizing rural and peri-urban locations where at-home delivery is unavailable. Brands are challenged both by emergent digital natives commanding premium prices with little established brand value and fast followers with inexpensive approximations of name brand products from overseas. The percent of sales through **direct-to-consumer (DTC)** channels increases during the crisis.

Brands and retailers differentiate with a reliable and seamless direct-to-consumer experience or risk becoming obsolete. Some of the smaller players grow, exit the market, or are acquired. Over time, a handful of eCommerce winners dominate the market.

Economic Bonfire

COVID results in unemployment rates of more than 20% in the US and Canada. In the US, retail accounts for nearly 30M jobs, and many of the job losses in this sector do not return. For much of the population, this leads to greater financial insecurity, a decrease in disposable income, and reduced spend on retail goods in favor of essentials. By 2025, the recession is still underway and significantly worse than what was experienced in 2008.

Sustained lack of demand pushes the economy into serious deflation. Spending enters 10-year decline. There is no retreat. Homes and land investments lose value while cash is king.

With alarmingly low pre-crisis savings rates, retirement for some seems to move further and further away. Many people over 50 postpone retirement and for some, the possibility of retirement is completely eliminated.

International leisure travel does not rebound. The Chinese—who have made up the largest set of international travelers—choose to stay more local to avoid the hassles of travel restrictions or a possible backlash toward foreigners.



Growing infection rates contribute to the collapse of social and economic structures, resulting in a prolonged recovery defined by high uncertainty.



Automation Investments

In a recent study of 600 businesses across industries, nearly 90% of respondents said they have plans to implement AI in their business, with Industrial Automation being the #1 use case. (IFS, 2019)

AI vs. Job Security

Businesses significantly increase investment in **automation**. One of the key use cases is within supply chain management—increasing shelf and warehouse optimization to manage supply chain and plan capacity.

As additional use cases are deployed, unemployment surges. Even in areas with a promise of increasing employment, such as onshoring factories, the unemployment rate does not return to 2019 levels for generations. Persistently high unemployment levels remain until industrial economy workers transition to information economy workers. This transition may include retraining, but most of the transition will be due to workers aging into retirement.

No Middle Ground

Prolonged economic recession increases the wealth gap as the have-nots are the most affected economically by the virus and struggle to recover. Many middle-class households join the have-nots as the recession leaves them vulnerable to multiple economic impacts, such as job loss and health care expenditures, without a chance to recover. Yet the wealthy indulge in exclusive 'comfort economy' luxuries, enjoyed proportionate to the widening income gap.

Early on, some governors open states before federal guidelines are met, allowing the virus to relentlessly target the weakest members of society; older Americans and those with underlying conditions. This type of social Darwinism results in an overall lower burden on society healthcare spend needed to support this weaker group. Many Millennials and Gen Z delay or choose not to start families due to health fears, economic trouble, anxiety or mental health issues, and the general instability in the world.

Continued economic and health instability results in terrorism, war and continuous threats of global revolution. New terrorist cells form by groups that feel they have been neglected. Disadvantaged geographical national or international groups begin to mobilize and rebel. Political polarization remains high.

China Pariah

Regulations and controls on international trade prevent the movement of non-essential goods across borders. Companies risk adjust their supply chain which requires diversification away from China and Asia to include onshore suppliers and vendors. Small batch on-shore or near-shore production is leveraged to de-risk inventory commitments amidst the turbulent economic environment. The failure of globalized supply chains during the COVID emergency fosters mistrust in globalized economy and society.

Product assortments change radically with more focus on essential products. Demand for apparel and footwear categories—as well as stores and restaurants—takes a huge hit that lasts while demand for household products, food and beverage, health and wellness categories increases. Retailers and brands **cancel orders with Asian vendors** and pack away inventory for future seasons. Some want to reverse course on going direct to vendors vs. sourcing through agents.

Order Cancellations

Antana Group, a manufacturer in China for brands such as Gap, Levi's, Zara, and H&M, estimated 40% of orders were held back in March 2020. (Vogue Business, 2020)



Growing infection rates contribute to the collapse of social and economic structures, resulting in a prolonged recovery defined by high uncertainty.



The Wealthy Retreat First
Roughly 5% of residents, or around 420,000 people, left NYC during the first two months of the quarantine. In the wealthiest NYC neighborhoods, population decreased by 40% or more.
(NY Times, 2020)

Utilitarianism & Post-Oil

The price of oil continues to fluctuate, ultimately reducing the economic viability of extracting hard-to-reach oil through fracking. Without an abundance of petrochemical based materials, assortments are streamlined to serve utilitarian purposes. Retailers reduce unsold goods by focusing developments on product likely to satisfy consumers and limiting production to items that pass multiple virtual product-review gates.

Urban Abandonment & Rural Backlash

As a lasting effect of the pandemic, individuals become much more aware of their health. Air and water pollution in urban areas are identified as an individual, personalized risk. Consumers are concerned about their exposure to toxic substances but feel conflicted by their need for cleanliness and products with antiseptic or antibacterial properties.

Retail and quick service restaurant leaders create differentiated experiences by enforcing strict occupancy limits and staggered schedules. Fear of in-restaurant dining remains. Immune-boosting, antibiotic and antiviral additives find their way into packaged foods.

Low density lifestyles persist. Spectator-free sporting events and concerts are here to stay and the allure of city-living in high-density condos fades. In the initial pandemic stages, cottage communities are overwhelmed by **wealthy weekenders retreating** to second homes, pleading for them to stay in the city to avoid disrupting local supply chains. During recovery, many urban residents permanently relocate to gated exurb communities on the outskirts of the suburbs. New slums form in urban centers across the US. Yet in parallel, individuals forced off their lands by drought or political upheaval seek refuge only to find that such sought-after safe havens are already fully occupied. Second order effects such as xenophobia and nationalism come into play in ugly ways.



Growing infection rates contribute to the collapse of social and economic structures, resulting in a prolonged recovery defined by high uncertainty.



Scenario Attributes

Economy

- + Retail Sales Reset at a Fundamentally Lower Level of Spending with Very Slow Growth (if Any)
- + Retreat of Globalism and Peak Oil
- + Wealth Gap Increases
- + Prolonged Instability & Population Plunge

Consumer Values

- + Deemphasized Sustainability
- + Safety, Hygiene, and Affordability are key

Social, Civic & Workplace Worlds

- + Urban Migration to Exurbs, Gated Communities & Rural Towns
- + Conspiracy and Misinformation
- + Heightened Tensions & Mistrust

Shopping Behavior

- + Online Becomes the Dominant Channel while Brick-and-Mortar Plummet
- + Fashion Replaced by Uniformity
- + Demise of Non-Essential Product
- + Buy it Online or Not at All

Retail Behavior

- + Few Major Retailers and Brands Versus Digital-Native Brands
- + Corporations Are Closely Tied to Government
- + Ethical Trade on the Backburner
- + Direct to Consumer Prevails
- + Automation is the Only Way



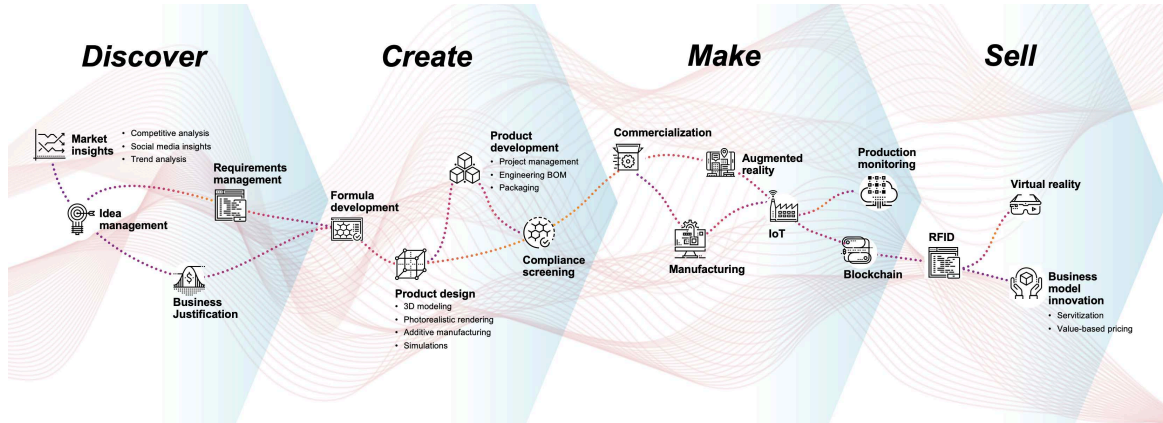
Consumer Packaged Goods*

CPG Implications

*Consumer-packaged goods (CPG) inclusive of food and beverage, home essentials, toys, electronics, health aids, haircare/skincare/cosmetics, feminine care, baby, and pet care.

Consumer Packaged Goods (CPG) Implications

In this section, we explore how product leaders in CPG should discover, create, make and sell new products in each scenario.



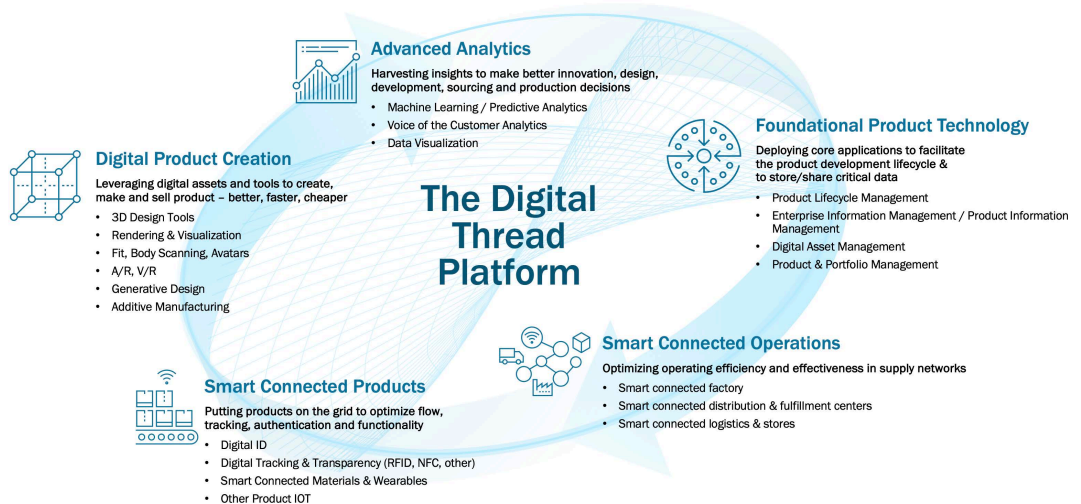
The CPG implications are presented in two sections, covering **what** product leaders make and **how**.

What - Artifacts from the Future

This subsection explores the long-term implications for product strategy by demonstrating products and experiences that could be available in 2025. Artifacts from the Future make the details of each scenario concrete and help the reader become more immersed in the scenario.

How - Value Chain Enablers

This subsection explores near-term and longer-term product development implications (including shifts to customer needs, business models, the product creation process, and the supply chain) and the relevance of five sets of technologies in the **digital thread** to enable transformation.





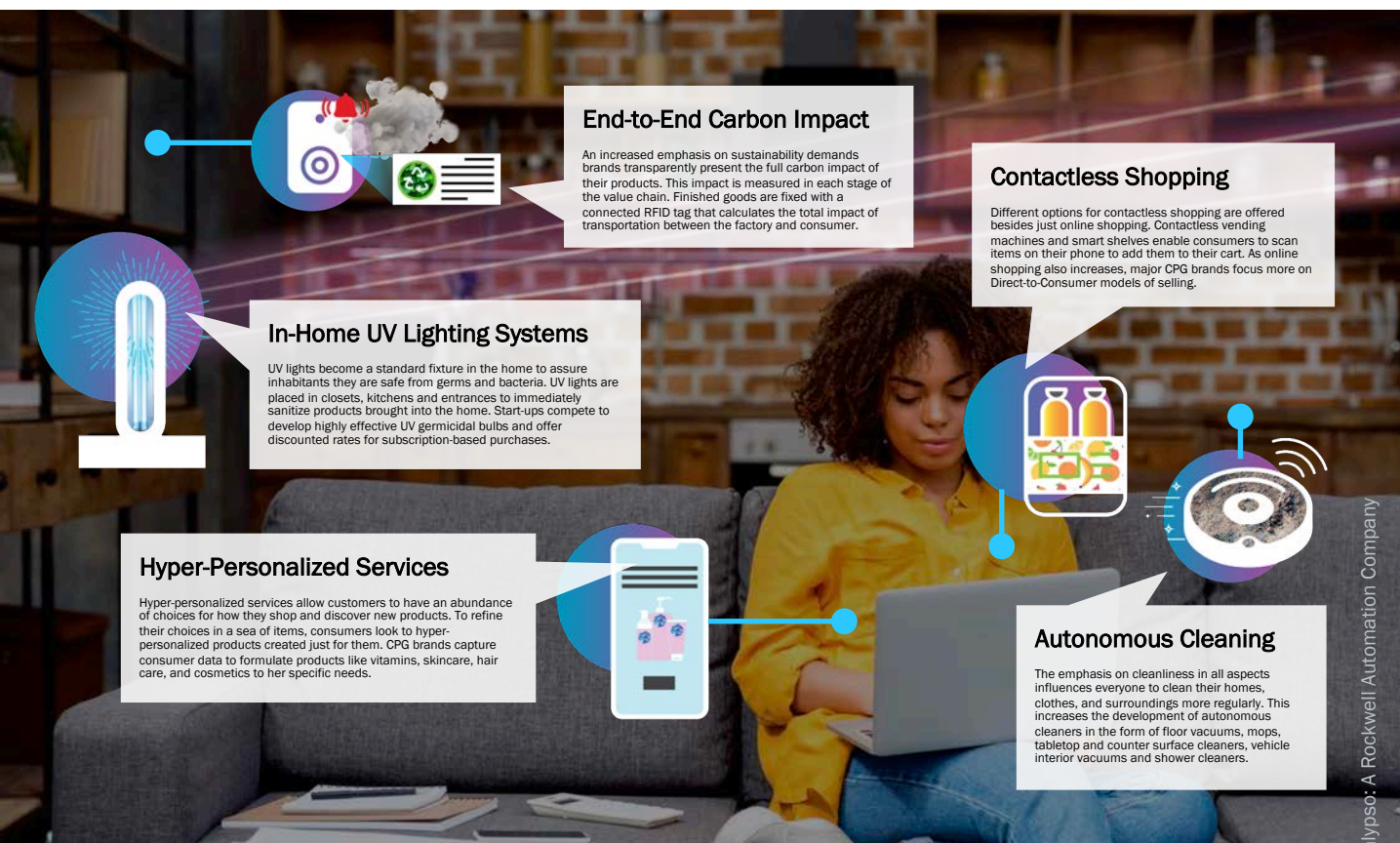
Consumer Packaged Goods (CPG) Artifacts from the Future

To lead in this scenario, brands will develop products with the following attributes.

Product Attributes

- + Automation
- + Personalization
- + Product Transparency
- + Convenience

In the Flourishing Communities scenario, we imagine consumer packaged goods (CPG) **products** that are designed for convenience and efficacy.





Consumer Packaged Goods (CPG) Value Chain Enablers

Brands who lead in this scenario will invest in the following capabilities.

The Future of Product Development	Critical Enablers for Product Leaders				
	DPC	AA	PLM	SCO	SCP
Consumers largely return to pre-COVID shopping habits; some will indulge but economic recoil still stunts spending—anticipate an uptick in DIY and personalized goods	●	●	○	○	○
Companies embrace a period of resilience; prioritizing efficiency, cost reduction, and producing high demand categories	●	●	●	●	○
Brand Management invests in product safety and traceability benefits for consumers	●	●	●	○	●
Product Teams adopt more efficient, flexible WFH & virtual collaboration models proven-out during lockdown	●	●	●	●	○
Insight Teams seek new channels for predictive consumer and product insight, as hindsighting diminishes in value	○	●	○	○	●
Ingredients/Materials Teams deepen partnerships to co-develop with suppliers for sustainable fit-for purpose benefits	●	●	●	●	○
R&D Teams work with Brand Management to create transparent products and packaging that put consumer values front and center	●	●	●	●	●
Supply Chain Teams rebuild fractured supply chains to provide visibility, mitigate risk and optimize for speed and efficiency; they build policies for contact tracing	○	●	●	●	○
Manufacturing retools to provide more geographically-dispersed, responsive and automated lines	●	●	●	●	○
Channel Teams create new complementary in-store and online experiences as DTC channel share continues to rise while the use of testers and samples is halted	●	●	●	●	●
Customers increase supply chain requirements for ecommerce and consumer values such as shippable, sustainable consumer unit packaging	●	●	●	●	○

Critical Enablers for Product Leaders: Digital Product Creation (DPC), Advanced Analytics (AA), Product Lifecycle Management (PLM), Smart Connected Operations (SCO) and Smart Connected Product (SCP).

Although consumers largely return to pre-COVID shopping habits, the economy stunts spending, driving CPG companies to prioritize efficiency, cost reduction, and getting high demand categories out to the door. Product teams' reliance on virtual collaboration during lockdown accelerates the adoption of digital product creation tools. For teams focused on consumer insights, brand management and supply chain, backward-looking projections give way to predictive analytics that more accurately model new consumer behaviors and complex, geographically dispersed supply chains. Meanwhile, channel teams encourage high-margin online consumers to continue to engage virtually. Retailers update their requirements to find efficiencies and sustainability in ecommerce.



Consumer Packaged Goods (CPG) Artifacts from the Future

To lead in this scenario, brands will develop products with the following attributes.

Product Attributes

- + Personalization
- + Traceability
- + Multi-remedy
- + Digital Capabilities
- + Natural Formulas
- + Health-Centric

In the Big Brother is in Control scenario, we imagine consumer packaged goods (CPG) products that provide data driven solutions for health and safety.



Privacy is a pre-pandemic luxury and corporate-backed big government has a hand in nearly all aspects of life. Mistrust towards China persists.



Consumer Packaged Goods (CPG) Value Chain Enablers

Brands who lead in this scenario will invest in the following capabilities.

The Future of Product Development	Critical Enablers for Product Leaders				
	DPC	AA	PLM	SCO	SCP
Consumers' new normal is defined by home life, social distancing and personal wellness with waves of stocking up	●	●	○	○	○
Companies transform end-to-end operations & business models for a socially-distant workforce and consumer	●	●	●	●	○
Brand Management anticipates portions of product portfolios directed by the state, adopt seasonless, flexible offerings	●	●	●	○	○
Product Teams abandon the office and adapt to a faster, seamless virtual collaboration modes	●	●	●	●	○
Insight Teams explore new channels for consumer insights as privacy wanes and personal data becomes ubiquitous	●	●	○	○	●
Ingredient/Materials Teams face disrupted supply chains and hyperregulation as ingredient and material sourcing goes on-shore	●	●	●	●	○
R&D Teams create products that innovate for personal wellness, visual simplicity and multi-seasonal consumer use	●	●	●	○	●
Supply Chain Teams rely on increasingly sophisticated models to forecast and react to stubbornly volatile market conditions	○	●	●	●	○
Manufacturing partners with public and private entities to vertically-integrate and automate domestic production and distribution, and they upskill local workforces using mixed reality (XR)	●	●	○	●	●
Channel Teams repurpose direct store delivery networks for DTC sales	●	●	○	●	●
Customers seek to integrate supply chains more closely to satisfy consumer needs and lower retail costs	●	●	●	●	●

Critical Enablers for Product Leaders: Digital Product Creation (DPC), Advanced Analytics (AA), Product Lifecycle Management (PLM), Smart Connected Operations (SCO) and Smart Connected Product (SCP).

Waves of economic recovery and COVID resurgence drive consumers to adopt a new *socially-distant* normal defined by home life. Physical product development is a pre-COVID relic as product teams abandon the office in favor of safer, faster, more virtual ways of working enabled by the digital thread. Volatility necessitates responsiveness as brand management turns to build resilience into their offering. As a result, product also becomes less seasonal, and more dependent on the materials available in this new domestic and hyperregulated market. Meanwhile, channel teams defund unsustainable brick & mortar in favor of enhanced online experiences, but CPG manufacturers and retailers collaborate to use the stores as direct to consumer sales sites.



Privacy is a pre-pandemic luxury and corporate-backed big government has a hand in nearly all aspects of life. Mistrust towards China persists.



Consumer Packaged Goods (CPG) Artifacts from the Future

To lead in this scenario, brands will develop products with the following attributes.

Product Attributes

- + Sustainability
- + Reusability
- + Validated Claims
- + Regionally Focused
- + Multi-purpose

In the Regenerative Systems scenario, we imagine consumer packaged goods (CPG) **products** that contribute to the health of individuals and the environment.

Zero Harm Products

In 2025, consumers are increasingly concerned with the harm that products present to both environment and person. Brands that rely on cheap off-shore labor face backlash from the public due to increased visibility to unhealthy and unsafe working conditions of employees. Corporate farms are forced to find new means for harvesting crops that don't negatively impact the workers and the soil. Zero harm products—those that have neither a harmful to the impact to the environment or people—grow in popularity and consumers demand that their favorite brands stock their shelves with these products.

EPA Certified Product Claims

Claims for sustainability are no longer enough to convince consumers that their favorite brands are concerned with environmental protection. In response to the rise in importance of sustainability, the government now mandates that all sustainability product claims displayed on packaging must be certified by the Environmental Protection Agency ("EPA Certified LED Lightbulbs"). Products that now lack this stamp of approval for their sustainability claims are questioned by the public for their authenticity.

Food Disinfectors

Traditional means for sanitizing food are now seen as practices of the past. Instead of relying on sprays, hot water and paper towels to clean foods, automatic fruit and vegetable cleaners are now available. Complete with touch screens, these cleaners communicate the percent of harmful bacteria and substances removed from food once the cleaning process is complete.

Single-Use Toy Packaging

Consumers are hyper vigilant about the ways in which they interact with their environment, particularly when shopping. To address the need for cleaner products, toy manufacturers begin incorporating single use packaging into their designs. This packaging protects against germ spreading on toys that traditionally lack packaging or experience high amounts of in-store use. Packaging designs also focus on maintaining the functionality of the toys for in-store testing purposes. These single-use packaging designs, which also align with sustainability trends, are made of recyclable materials.

Hyper-Localization of Products

Post-pandemic, the emphasis on local remains. National companies are now joining the trend and tailoring manufacturing and product formulas to meet the needs of communities, including seasonal changes, environmental considerations and population demographics. For example, communities that experience droughts annually tend to have self-care products in their local pharmacies that are non-water based.

Eco Packaging

In 2025, the trend of more sustainable packaging continues to grow. Use of plastics and Styrofoam are quickly rendered obsolete. Use of cardboard, glass and biodegradable materials grows in popularity due to reusability and positive impacts on the environment.



The world is renewed post-pandemic. Societal norms are redefined, the economy is reshaped and social and environmental sustainability is rejuvenated.



Consumer Packaged Goods (CPG) Value Chain Enablers

Brands who lead in this scenario will invest in the following capabilities.

The Future of Product Development	Critical Enablers for Product Leaders				
	DPC	AA	PLM	SCO	SCP
Consumers adopt less-is-more, values-first shopping behavior and dramatically reduce instances of retail shopping	○	●	○	○	○
Companies reduce centralized headcount, turning instead to abundant localized and remote labor pools	●	○	●	○	○
Brand Management focuses on fewer, highly effective products in essential categories, and invest in studies to support claims of natural, efficacious sustainable materials	○	●	●	○	○
Product Teams redefine what it means to work remotely as virtualization and simulation dominate product development	●	●	○	●	●
Insight Teams trade macro-market and global trends for highly localized or individualized insights	●	●	○	●	●
Ingredients/Materials Teams focus heavily on sustainability and enablement of circular design	◐	◐	●	○	○
R&D Teams adopt leading sustainable design methods and reduce reliance on harsh chemicals	◐	◐	●	○	●
Supply Chain Teams optimize for locally available, responsive buying, just-in-time manufacturing and minimized inventory on hand	◐	●	●	●	○
Manufacturing retools for small-batch, high-quality, automation-enabled, localized production	◐	●	◐	●	●
Channel Teams support the circular lifecycle with end-of-life repair and take-back DTC programs, or collaborate with retailers	◐	●	◐	●	●
Customers' power consolidates around a few reinvented retailers	◐	●	○	●	◐

Critical Enablers for Product Leaders: Digital Product Creation (DPC), Advanced Analytics (AA), Product Lifecycle Management (PLM), Smart Connected Operations (SCO) and Smart Connected Product (SCP).

COVID has changed consumers who now adopt more localized, less-is-more, values-first buying habits and curtail instances of retail shopping. Brand managers focus on fewer and more effective and sustainable products. Brands reduce central headcount, turning to lean teams of remote talent who rely on virtualization, simulation and automation capabilities to design and develop product efficiently and with minimal waste of scarce resources. Emphasis is given to developing sustainable materials and to local, no waste, just-in-time, automated manufacturing. CPG direct to consumer channels have an end-of life take back or repair strategy, many times in collaboration with retailers.



The world is renewed post-pandemic. Societal norms are redefined, the economy is reshaped and social and environmental sustainability is rejuvenated.



Consumer Packaged Goods (CPG) Artifacts from the Future

To lead in this scenario, brands will develop products with the following attributes.

Product Attributes

- | | | |
|--------------------|--------------|-----------------------------|
| + Anti-bacterial | + Accessible | + No Middle Ground on Price |
| + Health Conscious | + Affordable | + Safety/security |

In the Divisive Terrain scenario, we imagine consumer packaged goods (CPG) products that provide affordable solutions to sanitary lifestyles.

Online Groceries for All

The dangers of the pandemic drives consumers to turn to online channels for their shopping needs, including groceries. The ease and quickness of these online grocers is now extended to SNAP recipients. National chains partner with the US Department of Agriculture to ensure that SNAP recipients can meet their families' needs while also reaping the benefits of online grocery shopping.



Vending Machines of the Future

The need for quick access to products and contactless shopping contribute to the re-design of vending machines. Sensors inside the machines alert owners when supply is low and needs to be re-stocked. More local products are now offered inside, and products are not only limited to food. Vending machine designers have incorporated robotics into the machine design to avoid consumer-to-machine contact during transactions. Instead, robotic arms deliver the products to consumers.



Virtual Daycare

Parents are invested in finding safe ways for their children to interact post-pandemic. Toy manufacturers are now offering VR bundles headset and toys—that create safe playing environments. Using VR, children will be able to interact with their classmates, while also avoiding toys that have not been disinfected. Teachers can give clear instruction, as each bundle has identical toys based on class needs.



Facial Sanitizers

Consumers call for products that not only sanitize their hands, but their faces as well. New facial cleansers come equipped with bacteria-fighting properties to protect the face against common germs. This facial cleanser strengthens skin, building the skin's ability to act as a barrier against common illnesses. The disinfecting properties also draw consumers, as they desire a product that will protect them from germs while not harming their sensitive skin.



Growing infection rates contribute to the collapse of social and economic structures, resulting in a prolonged recovery defined by high uncertainty.



Consumer Packaged Goods (CPG) Value Chain Enablers

Brands who lead in this scenario will invest in the following capabilities.

The Future of Product Development	Critical Enablers for Product Leaders				
	DPC	AA	PLM	SCO	SCP
Consumers abandon retail outlets and dramatically reduce spending to essential products, bought online	●	●	○	●	●
Companies who survive consolidate, leveraging advanced operations and brand trust against torrent of new digital-natives and undergo SKU rationalization	●	●	●	●	●
Brand Management focuses on luxury or value price targets with no middle ground	●	●	●	○	●
Product Teams are entirely remote and leaner than ever, relying on virtualization and automation to support workflows	●	●	●	●	○
Insight Teams turn to social media to mine new consumer use cases and desired claims, eliminating in-person focus groups	●	●	○	○	●
Ingredients/Materials Teams deprioritize sustainability, focusing on developing new, affordable, local alternatives	●	○	●	●	○
R&D Teams focus on creating product with greater utility, with innovations in safety and affordability at their core	●	○	●	○	●
Supply Chain Teams optimize for resiliency, turning to on-shore operations that reassure consumers of safety	●	●	●	○	○
Manufacturing retools for just-in-time, high-quality, production using a combination of cheap, abundant labor and automation	●	●	○	●	●
Channel Teams abandon brick & mortar optimizing DCs & DTC channel operations for seamless online transactions	●	●	○	●	●
Customers struggle to stay afloat; many retailers lose their customer base to digital native brands	●	●	○	●	●

Critical Enablers for Product Leaders: Digital Product Creation (DPC), Advanced Analytics (AA), Product Lifecycle Management (PLM), Smart Connected Operations (SCO) and Smart Connected Product (SCP).

Consumers abandon retail outlets and limit spending to essential products, bought online. Channel teams react by divesting in brick & mortar and optimizing distribution centers and direct to consumer operations to minimize inventory and improve response times. Big brands consolidate to battle nimble new-world natives with leaner teams that run entirely remote operations powered by virtual and automated workflows focused on efficiency. Product teams deemphasize sustainability, focusing instead on consumers' utilitarian needs with simpler product that is designed, developed and manufactured for quality, durability, and affordability. In response, new domestic factories retool for just-in-time, high-quality production using cheap, abundant labor and automation.



Growing infection rates contribute to the collapse of social and economic structures, resulting in a prolonged recovery defined by high uncertainty.

Consumer Packaged Goods (CPG) Value Chain Enablers by Function

Each functional area within CPG will be faced with the need to transform and adjust to succeed in 2025, regardless of scenario.

Flourishing Communities	Big Brother is in Control	Regenerative Systems	Divisive Terrain
Consumers largely return to pre-COVID shopping habits; some indulge but economic recoil still stunts spending—anticipate an uptick in DIY / personalized goods	Consumers' new 'normal' defined by home life, social distancing and personal wellness with waves of stocking up	Consumers adopt less-is-more, values-first shopping behavior and dramatically reduce instances of retail shopping	Consumers abandon retail outlets and dramatically reduce spending to essential products, bought online
Companies embrace a period of resilience; prioritizing efficiency, cost reduction, and deploying assets to high demand categories	Companies transform end-to-end operations and business models for a socially-distant workforce and consumer	Companies reduce centralized headcount, turning instead to abundant localized and remote labor pools	Companies who survive consolidate, leveraging advanced operations and brand trust against a torrent of new digital-natives and undergo SKU rationalization
Brand Management invests in product safety and traceability benefits for consumers	Brand Management anticipates portions of product portfolios directed by the state, and adopt seasonless, flexible offerings	Brand Management focuses on fewer, deeper products in essential categories. Invests in studies to support claims of natural, efficacious sustainable materials	Brand Management focuses on luxury or value price targets with no middle ground
Product Teams adopt more efficient, flexible WFH and virtual collaboration models proven-out during lockdown	Product Teams abandon the office and adapt to faster, seamless virtual collaboration modes	Product Teams redefine what it means to work remotely as virtualization and simulation dominate product development	Product Teams are entirely remote and leaner than ever, relying on virtualization and automation to support workflows
Insight Teams seek new channels for predictive consumer and product insight, as hindsighting diminishes in value	Insight Teams explore new channels for consumer insights as privacy wanes and personal data becomes ubiquitous	Insight Teams trade macro-market and global trends for highly localized or individualized insights	Insight Teams turn to social media to mine new consumer use cases and desired claims and eliminate in-person focus groups
Ingredients/Materials deepen partnerships to co-develop with supplier for sustainable fit-for purpose benefits	Ingredient/ Materials face disrupted supply chains and hyperregulation as ingredient and material sourcing goes on-shore	Ingredients/Material focus heavily on the development of sustainable materials and the enablement of circular design	Ingredients/Materials deprioritize sustainability, and instead develop new, affordable, local alternatives
R&D works with brand management to create transparent products and packaging that put consumers values front and center	R&D creates products that innovate for personal wellness, visual simplicity and multi-seasonal consumer use	R&D adopts leading sustainable design methods and reduce reliance on harsh chemicals	R&D focuses on creating product with greater utility, with innovations in safety and affordability at their core
Supply Chain rebuilds fractured supply chains to provide visibility, mitigate risk and optimize for speed and efficiency; teams build policies for contact tracing	Supply Chain relies on increasingly sophisticated models to forecast and react to stubbornly volatile market conditions	Supply Chain optimizes for locally available, responsive buying, just-in-time manufacturing and minimized inventory on hand	Supply Chain optimizes for resiliency, turning to on-shore operations that reassure consumers of safety
Manufacturing retools to provide more geographically-dispersed, responsive and automated lines	Manufacturing partners with public and private entities to vertically-integrate and automate domestic production and distribution; upskill local workforce using mixed reality	Manufacturing retools for small-batch, high-quality, automation-enabled, localized production	Manufacturing retools for just-in-time, high-quality, production using a combination of cheap, abundant labor and automation
Channel Teams create new complimentary in-store and online experiences as DTC channel share continues to rise and the use of testers stop	Channel Teams repurpose direct store delivery networks for DTC sales	Channel Teams retool retail locations to support the circular lifecycle with end-of-life repair and take-back programs	Channel Teams abandon brick and mortar optimizing distribution centers & DTC channel operations for seamless online transactions
Customers increase supply chain requirements for ecommerce and consumer values such as shippable and sustainable consumer unit packaging	Customers want to integrate supply chains more closely to satisfy consumer needs and lower retailer costs	Customers' power consolidates around a few reinvented retailers	Customers (even some top customers) loose power to digital native brands



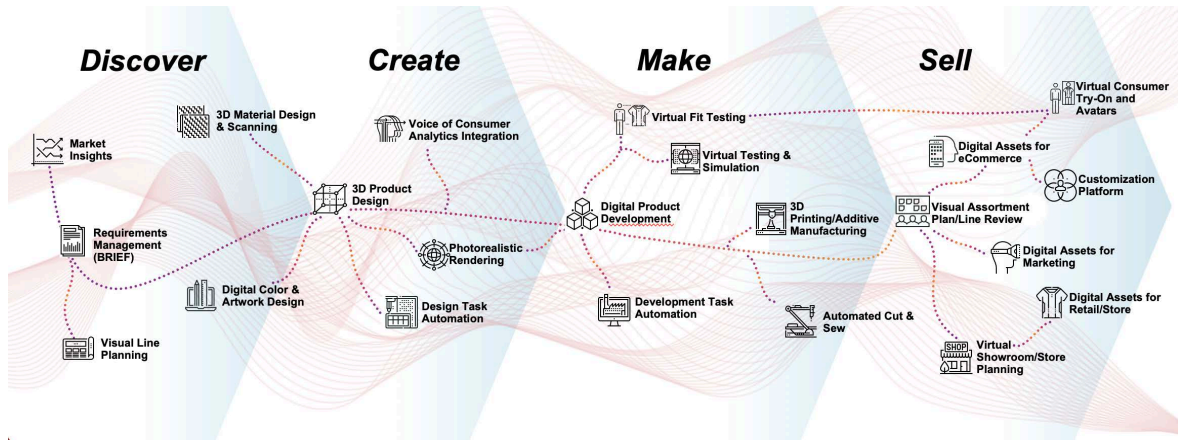
Retail, Footwear and Apparel*

RFA Implications

*Retail, Footwear and Apparel (RFA) inclusive of fashion, apparel, footwear and accessories; hardline and appliances; and general merchandise.

Retail, Footwear and Apparel (RFA) Implications

In this section, we explore how product leaders in RFA should discover, create, make and sell new products in each scenario.



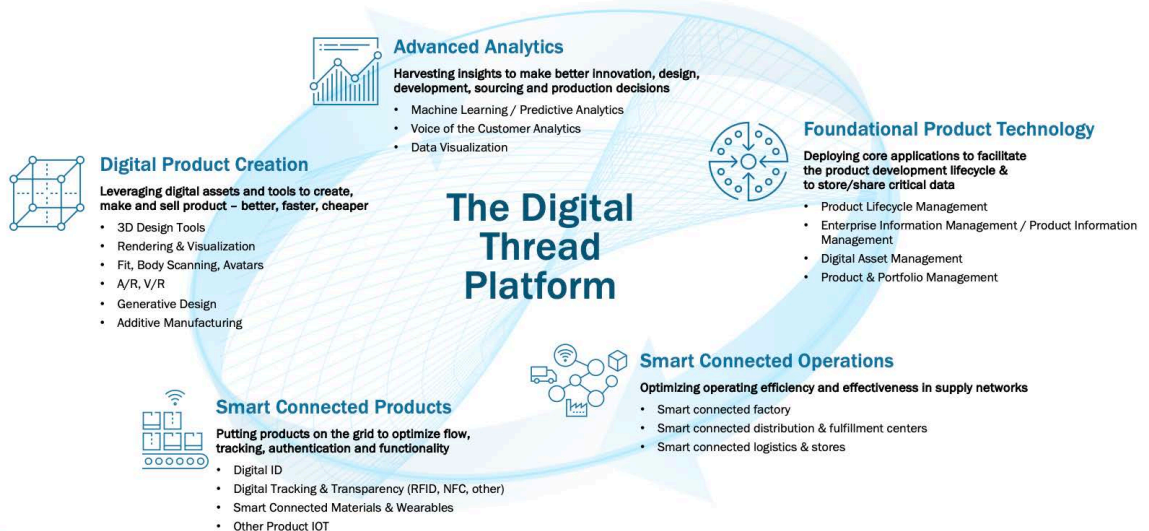
The RFA implications are presented in two sections, covering **what** product leaders make and **how**.

What - Artifacts from the Future

This subsection explores the long-term implications for product strategy by demonstrating products and experiences that could be available in 2025. Artifacts from the Future make the details of each scenario concrete and help the reader become more immersed in the scenario.

How - Value Chain Enablers

This subsection explores near-term and longer-term product development implications (including shifts to customer needs, business models, the product creation process, and the supply chain) and the relevance of five sets of technologies in the **digital thread** to enable transformation.





Retail, Footwear and Apparel (RFA) Artifacts from the Future

To lead in this scenario, brands and retailers will develop products with the following attributes.

High End

- + Exclusivity
- + Made-to-Measure
- + Climate Positive
- + In-Home Digitally-Enabled Circular Production

Mass Market

- + Commodity
- + Ready-to-Wear
- + Versatility
- + Timeless Pieces
- + Climate Positive
- + Genderless

In the Flourishing Communities scenario, we imagine retail, footwear and apparel **products** that empower consumers to optimize their home environments and express their values and personalities.

Consumers Demand Product-Level Impact

Widespread adoption of retail, footwear and apparel hangtags quantifying the resources and true cost to create the product. Beyond just capturing raw materials, these tags include metrics for water usage, miles shipped to store, and the total carbon footprint from cradle to grave. Consumers look to these tags before making purchases to buy new products.



Home Fitness Furnishings

Urban consumers seek to optimize their homes for living, working and maintaining overall health. Sleek dual-purpose fitness equipment emerges to bring added functionality to larger fixtures in the home.



Travel Safe Apparel

Fear of the spread of germs and bacteria while traveling causes travelers to be more conscious of travel attire. Brands have responded with a category of travel-safe clothing with anti-viral and hydrophobic properties built into the fabric. An example of this is travel leggings with an additional layer that kills germs and toxins in the environment.



Hyper-Personalized Footwear & Apparel

Brands are better able to hyper-personalize products from datasets that come from consumers' recent purchases, interests, hobbies and online behavior. Sizes become less applicable as consumers provide body scan data to brands to get apparel and footwear that fits their specific figure.



Boutique Down the Street

Shortly after the pandemic, consumers choose to shop at nearby clothing boutiques that primarily stock clothing from local brands or designed by local designers. These stores are hyper involved in their communities and many of them supported relief efforts during the 2020 crisis as much as they could.



The New Department Store

Eager to return to in-store shopping, consumers desire differentiated customer service, high quality products, and a beautifully designed environment. Department stores respond to this need by investing more into experiential shopping. They offer personalized shopping services and focus on creating an atmosphere that appeals to the consumer's preferences, taking them out of reality and into a shopper's paradise.





Retail, Footwear and Apparel (RFA) Values Chain Enablers

Brands and retailers who lead in this scenario will invest in the following capabilities.

The Future of Product Development	Critical Enablers for Product Leaders				
	DPC	AA	PLM	SCO	SCP
Consumers largely return to pre-COVID shopping habits; some will indulge but economic recoil still stunts spending	◐	●	○	○	○
Brands embrace a period of resilience; prioritizing efficiency, cost reduction and risk mitigation to offset sales slump	●	●	●	●	○
Product Teams adopt more efficient, flexible WFH and virtual collaboration models proven-out during lockdown	●	●	●	◐	○
Insight Teams seek new channels for predictive consumer and product insight as hindsighting diminishes in value	○	●	○	○	○
Merchants rethink assortments to balance desires for expressive, unique and personalized styles with societal values	◐	●	◐	○	◐
Material R&D Teams deepen partnerships with mills to more accurately forecast material needs and reduce yardage on hand	◐	●	◐	◐	○
Designers work with marketing to create transparent products and packaging that put consumer values front and center	◐	◐	●	●	◐
Tech Designers retool to optimize for remote fitting, virtual wear-testing and construction quality simulations	●	●	◐	◐	○
Sourcing Teams rebuild fractured supply chains to provide visibility, mitigate risk and optimize for speed and efficiency	○	●	◐	●	○
Vendors retool to provide more geographically-dispersed, responsive and automated lines	●	●	◐	●	◐
Channel Teams create new complimentary in-store and online experiences as DTC channel share continues to rise	◐	●	○	●	●

Critical Enablers for Product Leaders: Digital Product Creation (DPC), Advanced Analytics (AA), Product Lifecycle Management (PLM), Smart Connected Operations (SCO) and Smart Connected Product (SCP).

Although consumers largely return to pre-COVID shopping habits, the economy stunts spending, driving brands to prioritize efficiency, cost reduction and risk mitigation over innovation. Product Teams' reliance on virtual collaboration during lockdown accelerates the adoption of digital product creation tools, especially in material development, fit simulations and virtual line reviews. For consumer insights, merchant and sourcing teams, backward-looking projections give way to predictive analytics that more accurately model new consumer behaviors and complex, geographically dispersed supply chains. Meanwhile, channel teams encourage high-margin online consumers to continue to engage virtually even as they return to shopping in-store.



Retail, Footwear and Apparel (RFA) Artifacts from the Future

To lead in this scenario, brands and retailers will develop products with the following attributes.

High End

- + Smart Connected and Device Compatible
- + Versatile—Dress Up or Down
- + Protective

Mass Market

- + Smart Connected and Device Compatible
- + Multi-Purpose and Modular
- + Protective (Physical – Distancing/Antibacterial)
- + Patriotic
- + Controlled

In the Big Brother is in Control scenario, we imagine retail, footwear and apparel products that monitor health and provide a sense of security.

Modular Furniture

After extended lockdown periods, consumers desire to mix up their home environments with modular furniture sets that can be continuously reinvented and modified to meet space needs and disposable décor that can be purchased on a whim to accessorize the home.

Data Protection Clothing

Digitally-native startups emerge, specializing in accessories designed to help wary consumers evade facial recognition. New materials are also developed with a layer that obstructs digital scanning to protect body figure data and secure pockets to protect sensitive content stored in devices.

Not Made in China

The decoupling of the global supply chain and tight border controls lead more brands to start manufacturing products closer to consumers. Meanwhile, American consumers look to boycott products made in China as Western leaders blame the pandemic on the region. "Not Made in China" label is used to bring transparency to the supply chain.

Wellness Apparel & Footwear

Brands differentiate with smart fabrics that can detect body temperature fluctuations and shoes that use pressure sensors to determine changes in balance and weight as a signal for health risks. These products tie back to wellness apps to help wearers track their health and fitness goals. On top of this is a new category of 'helping to heal' clothing. This includes fabrics with infrared that activate in the specific areas to reduce inflammation and well as clothing with Electric Muscle Stimulations (EMS) that help muscle soreness and reduce tension.

Smart Glasses

Rapid advancements in IoT, augmented reality hardware and AI enable Smart Glasses to gain traction. These devices seamlessly integrate with the wearer's devices and profiles to understand and learn their behaviors and preferences. An AR component within these glasses provides the wearer with navigational maps, messages from contacts, entertainment with ease.

Virtual Fitting Rooms

Consumers use their body scan data to create their own personal avatars as a tool to 'try-on' their online purchases. Instead of fitting rooms, consumers instantly see how products would fit and look through the avatar on their device.



Privacy is a pre-pandemic luxury and corporate-backed big government has a hand in nearly all aspects of life. Mistrust towards China persists.



Retail, Footwear and Apparel (RFA) Values Chain Enablers

Brands and retailers who lead in this scenario will invest in the following capabilities.

The Future of Product Development	Critical Enablers for Product Leaders				
	DPC	AA	PLM	SCO	SCP
Consumers' new normal is defined by home life, social distancing and personal wellness with waves of stocking up	●	●	○	○	○
Brands transform end-to-end operations and business models for a socially-distant workforce and customer	●	●	●	●	○
Product Teams abandon the office and adapt to a faster, seamless virtual collaboration model	●	●	●	●	○
Insight Teams explore new channels for consumer insights as privacy wanes and personal data becomes ubiquitous	●	●	○	○	●
Merchants abandon rigid seasonal constructs in favor of more flexible, but complex, seasonless product capsules	●	●	●	○	○
Material R&D Teams face disrupted supply chains and hyperregulation as material sourcing and development turns stateside	●	●	●	●	○
Designers create products that innovate for personal wellness, visual simplicity and multi-seasonal consumer use	●	●	●	○	●
Tech Designers retool operations for mass modularization of product and re-use of existing componentry	●	●	●	○	○
Sourcing Teams rely on increasingly sophisticated models to forecast and react to stubbornly volatile market conditions	○	●	●	○	○
Vendors partner with public and private entities to vertically-integrate and automate domestic production and distribution	●	●	○	●	●
Channel Teams defund traditional brick & mortar in favor of enhanced online experiences as DTC channel dominates	●	●	●	●	●

Critical Enablers for Product Leaders: Digital Product Creation (DPC), Advanced Analytics (AA), Product Lifecycle Management (PLM), Smart Connected Operations (SCO) and Smart Connected Product (SCP).

Waves of economic recovery and COVID resurgence drive consumers to adopt a new socially-distant normal defined by home life. Physical product development is a pre-COVID relic as product teams abandon the office in favor of safer, faster, more virtual ways of working enabled by the digital thread. Volatility necessitates responsiveness as brands turn to ubiquitous data to frequently tweak slot plans, rebuild assortments, rapidly alter designs, reforecast orders, and remodel supply chains. As a result, product also becomes less seasonal, more modular and more dependent on the materials available in this new, domestic and hyperregulated market. Meanwhile, channel teams defund unsustainable brick & mortar in favor of enhanced online experiences.



Retail, Footwear and Apparel (RFA) Artifacts from the Future

To lead in this scenario, brands and retailers will develop products with the following attributes.

High End

- + Environmentally Conscious
- + Personalized Style & Designs
- + Made-to-Measure
- + 3D Printed on Demand

Mass Market

- + DIY at-home
- + Environmentally conscious
- + Inclusive

In the Regenerative Systems scenario, we imagine retail, footwear and apparel **products** that closely align to the wearer's values.

Biodegradable Garments

Designed to satiate consumers' need for novelty, climate-conscious biodegradable garments hit the market. Leveraging small-scale laboratory-based production, technical designers grow bacteria, fungi, algae, yeast or animal cells into textiles.

Genderless, Inclusive Fashion

With less emphasis on traditional menswear or womenswear, there is more freedom for consumers to wear what they want, regardless of gender. Clothing is designed to be inclusive and non-gender specific. Silhouettes that fit a range of sizes rise in prominence while bold patterns, colors and prints are introduced.

3D Printing for Garments

In response to the rise in DIY projects, retailers sell garment kits. Textiles are now available with codes for 3D printing. At home, 3D printing stations are readily available, allowing users to create full garments with minimal work. Sizing, garment shape and fit are all programmed into an application before printing.

Slow Luxury

The definition of luxury has transformed. Instead of traditional high-end brands, consumers flock to seamstresses abroad known for their locally sourced materials and older methods of crafting. Despite the longer time it takes to create these garments, consumer preference for these exclusive items grows.

Virtual Fashion Viewing

Extended time spent at home forces designers to find creative ways to showcase their upcoming styles to the public. Major fashion events, such as Paris and New York Fashion Week, have converted to fully virtual. Models are no longer needed, as designers rely on the latest 3D and digital technologies to showcase their clothing on the runways.



The world is renewed post-pandemic. Societal norms are redefined, the economy is reshaped and social and environmental sustainability is rejuvenated.



Retail, Footwear and Apparel (RFA) Values Chain Enablers

Brands and retailers who lead in this scenario will invest in the following capabilities.

The Future of Product Development	Critical Enablers for Product Leaders				
	DPC	AA	PLM	SCO	SCP
Consumers adopt less-is-more, values-first shopping behavior and dramatically reduce instances of retail shopping	○	●	○	○	○
Brands reduce centralized headcount, turning instead to abundant localized and remote labor pools	●	○	●	○	○
Product Teams redefine what it means to work remotely as virtualization and simulation dominate product development	●	●	○	●	●
Insight Teams trade macro-market trends and global fashion shows for highly localized or individualized insights	○	●	○	○	○
Merchants strip-down assortments and reduce product depth in response to decreased consumption	○	●	●	○	○
Material R&D Teams focus heavily on the development of sustainable materials and the enablement of circular design	◐	◐	●	○	○
Designers emphasize timeless, seasonless, genderless, functional product over novelty fast-fashion	◐	○	●	○	●
Tech Designers invest in building capabilities that support core brand foundations of fit, quality and durability	●	◐	●	◐	◐
Sourcing Teams optimize for locally available, responsive buying, just-in-time manufacturing and minimized inventory on hand	◐	●	●	●	○
Vendors retool for small-batch, high-quality, automation-enabled, localized production	◐	●	◐	●	●
Channel Teams retool retail locations to support the circular lifecycle with end-of-life repair and take-back programs	◐	●	○	●	◐

Critical Enablers for Product Leaders: Digital Product Creation (DPC), Advanced Analytics (AA), Product Lifecycle Management (PLM), Smart Connected Operations (SCO) and Smart Connected Product (SCP).

COVID fundamentally changes consumers, who now adopt more localized, less-is-more, values-first buying habits and curtail instances of retail shopping. Merchants strip down assortments in favor of long-lasting, high-quality, timeless, seasonless, genderless and sustainable product. Brands reduce central headcount, turning to lean teams of remote talent who rely on virtualization, simulation and automation capabilities to design and develop product efficiently and with minimal waste of scarce resources. Emphasis is given to developing sustainable materials and to local, no waste, just-in-time, automated manufacturing. Retail outlets are retooled to enable a circular product lifecycle with end of life repair and take-back programs.



The world is renewed post-pandemic. Societal norms are redefined, the economy is reshaped and social and environmental sustainability is rejuvenated.

Retail, Footwear and Apparel (RFA) Artifacts from the Future

To lead in this scenario, brands & retailers will develop products with the following attributes.

High End

- + High Performance
- + Bold
- + Trendy
- + Uniformly Unique
- + Seasonality

Mass Market

- + Commodity
- + Ready-to-wear
- + Utilitarian
- + Affordable

In the Divisive Terrain scenario, we imagine retail, footwear and apparel **products** that provide protection and comfort amid uncertain times.





Retail, Footwear and Apparel (RFA) Values Chain Enablers

Brands and retailers who lead in this scenario will invest in the following capabilities.

The Future of Product Development	Critical Enablers for Product Leaders				
	DPC	AA	PLM	SCO	SCP
Consumers abandon retail outlets and dramatically reduce spending to essential products, bought online	●	●	○	●	●
Brands who survive consolidate, leveraging advanced operations and brand trust against torrent of new digital-natives	●	●	●	●	●
Product Teams are entirely remote and leaner than ever, relying on virtualization and automation to support workflows	●	●	●	●	○
Insight Teams turn to social media to mine new consumer use cases and desired claims as trends give way to utility	●	●	○	○	○
Merchants reduce assortment complexity and evolve the go-to-market model around consumer end use and performance	○	●	●	○	●
Material R&D Teams deprioritize sustainability over making the most of available fabrics and developing new, local alternatives	●	○	●	●	○
Designers focus on creating product with greater utility, innovations in safety and affordability at their core	●	○	●	○	●
Tech Designers simplify patterns, reduce construction complexity and optimize for product quality and durability	●	●	●	○	○
Sourcing Teams optimize for resiliency, turning to on-shore operations that reassure consumers of safety	○	●	○	●	●
Vendors retool for just-in-time, high-quality, production using a combination of cheap, abundant labor and automation	●	●	○	●	●
Channel Teams abandon brick & mortar optimizing DCs & DTC channel operations for seamless online transactions	●	●	○	●	●

Critical Enablers for Product Leaders: Digital Product Creation (DPC), Advanced Analytics (AA), Product Lifecycle Management (PLM), Smart Connected Operations (SCO) and Smart Connected Product (SCP).

Consumers abandon retail outlets and limit spending to essential products, bought online. Channel teams react by divesting in brick & mortar and optimizing distribution centers and direct to consumer operations to minimize inventory and improve response times. Big brands consolidate to battle nimble new-world natives with leaner teams that run entirely remote operations powered by virtual and automated workflows that drive efficiency. Product teams deemphasize sustainability, focusing instead on consumers' utilitarian needs with simpler product that is designed, developed and manufactured for quality, durability, and affordability. In response, new domestic factories retool for just-in-time, high-quality production using cheap, abundant labor and automation.



Growing infection rates contribute to the collapse of social and economic structures, resulting in a prolonged recovery defined by high uncertainty.

Retail, Footwear and Apparel (RFA) Value Chain Enablers by Function

Each functional area within RFA will be faced with the need to transform and adjust to succeed in 2025, regardless of scenario.

Flourishing Communities	Big Brother is in Control	Regenerative Systems	Divisive Terrain
Consumers largely return to pre-COVID shopping habits; some will indulge but economic recoil still stunts spending	Consumers' new normal defined by home life, social distancing and personal wellness with waves of stocking up	Consumers adopt less-is-more, values-first shopping behavior and dramatically reduce instances of retail shopping	Consumers abandon retail outlets and dramatically reduce spending to essential products, bought online
Brands embrace a period of resilience, prioritizing efficiency, cost reduction and risk mitigation to offset sales slump	Brands transform end-to-end operations and business models for a socially-distant workforce and customer	Brands reduce centralized headcount, turning instead to abundant localized and remote labor pools	Brands who survive consolidate, leveraging advanced operations and brand trust against a torrent of new digital-natives
Product Teams adopt more efficient, flexible WFH and virtual collaboration models proven-out during lockdown	Product Teams abandon the office and have adapt to a faster, seamless virtual collaboration model	Product Teams redefine what it means to work remotely as virtualization and simulation dominate product development	Product Teams are entirely remote and leaner than ever, relying on virtualization and automation to support workflows
Insight Teams seek new channels for predictive consumer and product insight as hindsighting diminishes in value	Insight Teams explore new channels for consumer insights as privacy wanes and personal data becomes ubiquitous	Insight Teams trade macro-market trends and global fashion shows for highly localized or individualized insights	Insight Teams turn to social media to mine new consumer use cases and desired claims as trends give way to utility
Merchants rethink assortments to balance desires for expressive, unique and personalized styles with societal values	Merchants abandon rigid seasonal constructs in favor of more flexible, but complex, seasonless product capsules	Merchants strip down assortments and reduce product depth in response to decreased consumption	Merchants reduce assortment complexity and evolve the go-to-market model around consumer end use and performance
Material R&D deepens partnerships with mills to more accurately forecast material needs and reduce yardage on hand	Material R&D faces disrupted supply chains and hyperregulation as material sourcing and development turns stateside	Material R&D focuses heavily on the development of sustainable materials and the enablement of circular design	Material R&D deprioritizes sustainability over making the most of available fabrics and developing new, local alternatives
Designers work with marketing to create transparent products and packaging that put consumers values front and center	Designers create products that innovate for personal wellness, visual simplicity and multi-seasonal consumer use	Designers emphasize timeless, seasonless, genderless, functional product over novelty fast-fashion	Designers focus on creating product with greater utility, with innovations in safety and affordability at their core
Tech Designers retool to optimize for remote fitting, virtual wear-testing and construction quality simulations	Tech Designers retool operations for mass modularization of product and re-use of existing componentry	Tech Designers invest in building capabilities that support core brand foundations of fit, quality and durability	Tech Designers simplify patterns, reduce construction complexity and optimize for product quality and durability
Sourcing rebuilds fractured supply chains to provide visibility, mitigate risk and optimize for speed and efficiency	Sourcing relies on increasingly sophisticated models to forecast and react to stubbornly volatile market conditions	Sourcing optimizes for locally available, responsive buying, just-in-time manufacturing and minimized inventory on hand	Sourcing optimizes for resiliency, turning to on-shore operations that reassure consumers of safety
Vendors retool to provide more geographically-dispersed, responsive and automated lines	Vendors partner with public and private entities to vertically-integrate and automate domestic production and distribution	Vendors retool for small-batch, high-quality, automation-enabled, localized production	Vendors retool for just-in-time, high-quality, production using a combination of cheap, abundant labor and automation
Channel Teams create new complimentary in-store and online experiences as DTC channel share continues to rise	Channel Teams defund traditional brick & mortar in favor of enhanced online experiences as direct to consumer channel dominates	Channel Teams retool retail locations to support the circular lifecycle with end-of-life repair and take-back programs	Channel Teams abandon brick & mortar optimizing DCs and direct to consumer channel operations for seamless online transactions



Conclusion

“ The future is already here – it's just not evenly distributed.”

- William Gibson

Conclusion

While one cannot predict the future in its entirety, scenarios challenge the mind to reassess conventional assumptions and personal biases to create glimpses of what is to come.

In the four scenarios developed for the future of the RFA and CPG industries, we depict a world where consumer values and preferences have shifted and brands and retailers transform the way they discover, create, make and sell products. Technology and data are tools for improving resilience.

Regardless of the scenario, four future state capabilities are required to move ahead and renew the model for product development:

Faster

Bring new products to market 50-70% faster than current processes, in order to design and develop closer to the moment of demand in order to lower the risks of a mistake

Smarter

Design, develop and source with predictive and prescriptive analytics applied to development ratios, assortment decisions and order quantity decisions

More Virtual

Design and develop with digital product creation tools, collaborating virtually to make many more decisions before committing to binding physical inventory

Globally Distributed Sourcing

Source via a globally distributed network of more innovative, automated suppliers and factories, located on-shore, near-shore and offshore, based on segmented product development paths

For leaders in creative industries like retail, footwear and apparel, these scenarios remind them to reframe strategic planning as well. It's important to avoid over-prioritizing near-term challenges and neglecting the long-term concerns that will become tomorrow's highest priority problems. **Resist the urge to file these scenarios away as another piece of industry literature and treat them instead as a valuable tool for planning and execution decisions.**

Think about how the scenarios are reflected in customer segments. Ask potential vendors and business partners how they are preparing for climate change, artificial intelligence, and other driving forces in the economy.

Transforming Organizations for the Future

Scenario planning provides a framework for organizations to consider a variety of ways that the future might unfold. But for scenario planning to be effective, leaders must move from a place of awareness towards continuous strategic action.

To increase resiliency, product creations leaders should:

- 1 Build Internal Capacity for Strategic Foresight**
Assess the implications of multiple scenarios on the organization and identify risks and assumptions. Design a set of strategic options to move from planning to execution. Continuously monitor the external environment and adjust assumptions and understanding about market conditions on a monthly or quarterly basis.
- 2 Transform Product Innovation through the Digital Thread**
The digital thread is a seamless flow of data that connects business processes across the value chain to deliver top-line growth, improve operational excellence and enable risk mitigation.
Leaders should map out their initial digital strategy, create digital proof points with measurable value, and define the capabilities needed to transform into a digital enterprise.
- 3 Appoint a Clear Sponsor and Leader for the Two Actions Above**
Digital transformation and strategic foresight programs require organizations to let go of aspects that no longer serve them and embrace new processes, paradigms and ways of thinking. Clear sponsorship and leadership will be essential to ensure success.

KALYPSO

A ROCKWELL AUTOMATION COMPANY



George H. Young
Managing Director
Kalypso

About Kalypso: A Rockwell Automation Company

Kalypso is a professional services firm with a broad set of services including consulting, digital, technology, business process management and managed services across the innovation value chain. Kalypso was founded in 2004 to radically alter the consulting landscape with a mission to help clients develop products that improve people's lives and deliver business results. The firm works for leading retailers and brands in fashion, apparel, footwear and accessories, helping them stay competitive in a digital world, Kalypso also serves clients in consumer goods, medical devices, industrial manufacturing and high tech.



Steve Riordan
Consumer
Practice Lead

How We Help Clients Build Value through Scenario Planning

As a Rockwell Automation company, Kalypso is uniquely positioned to support leaders in applying scenario planning across the complete product creation process (from discovery through to sale). We leverage a blend of strategic foresight tools and systems thinking to capture the complexity of changes in the external environment and adjust understanding as new information becomes available.

For more information about Kalypso's scenario planning process visit:
kalypso.com/scenarioplanning



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