Introduction

Historically, powerful, drastic events have caused a ripple effect on humanity: from quality of life and change of daily practices, to economic and financial adjustments and core societal habits. On March 11, 2020, the World Health Organization (WHO) officially labelled the COVID-19 outbreak as a pandemic[1] and nine months later, it is undeniable that this pandemic has completely altered lives across the globe. Regardless of when the pandemic will "end", we now know that life as we knew it will be altered for many years to come. This paper seeks to identify major consumer and business shifts that have occurred as a result of COVID-19, and to utilize these shifts in identifying potential consequences and opportunities post-pandemic. From e-commerce and the food industry to cybersecurity and the leadership climate, we analyze the new landscapes within these industries to see behavioral changes and their resulting impact on the future of business. We will start by diving deep into consumer behavioral shifts and discussing how we expect certain industries to evolve. Next, we will provide a brief discussion of prominent business behavioral changes and resulting impact on the future of business people should be aware of.
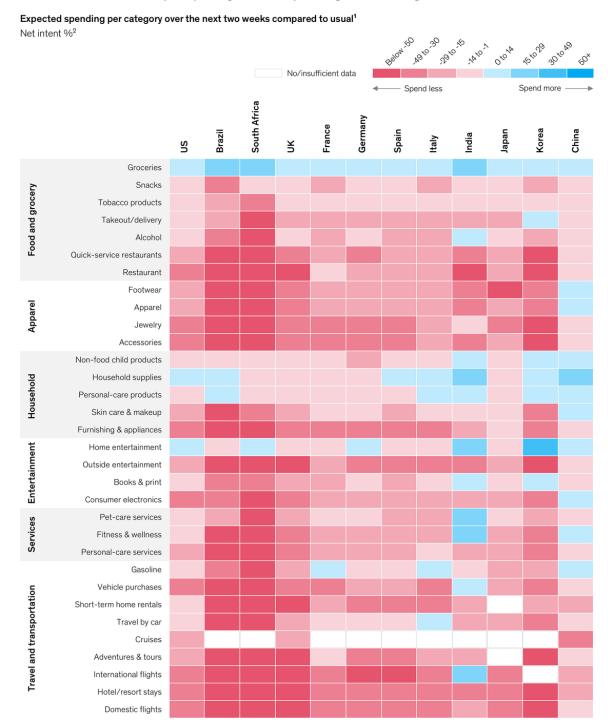
Consumer Behavioral Shifts

1. Consumers are making budget conscious purchasing decisions.(GRACE)

With over ten percent of Americans facing unemployment during the pandemic coupled with wage stagnation for those that remain employed, the collective financial strain has had profound effects on consumer behavior(2). McKinsey reports a 20-40% decrease in spending on non-essential, "discretionary" commodities(3). A recent KPMG study revealed that consumers are predicting an economic recovery within two years, but many are doubtful that the economy will bounce back to pre-COVID-19 growth. With low expectations for a full recovery, consumers are cutting back on non-essential purchases and increasing their spending on essentials.

A study of American consumers revealed profound effects of this new cost-sensitive trend on brand loyalty, as consumers' shopping habits change to meet the needs of bulk purchasing at the lowest prices possible(3). Current brand loyalties are also being disrupted by the shift to online shopping for products like groceries, clothing, and holiday gifts(3).

---

[1]
https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020

Global consumers anticipate pulling back on spending across categories.

Expected spending per category over the next two weeks compared to usual[1]
Net intent %[2]

No/insufficient data

Below -50 | -49 to -30 | -29 to -15 | -14 to -1 | 0 to 14 | 15 to 29 | 30 to 49 | 50+

← Spend less   Spend more →

		US	Brazil	South Africa	UK	France	Germany	Spain	Italy	India	Japan	Korea	China
Food and grocery	Groceries												
	Snacks												
	Tobacco products												
	Takeout/delivery												
	Alcohol												
	Quick-service restaurants												
	Restaurant												
Apparel	Footwear												
	Apparel												
	Jewelry												
	Accessories												
Household	Non-food child products												
	Household supplies												
	Personal-care products												
	Skin care & makeup												
	Furnishing & appliances												
Entertainment	Home entertainment												
	Outside entertainment												
	Books & print												
	Consumer electronics												
Services	Pet-care services												
	Fitness & wellness												
	Personal-care services												
Travel and transportation	Gasoline												
	Vehicle purchases												
	Short-term home rentals												
	Travel by car												
	Cruises												
	Adventures & tours												
	International flights												
	Hotel/resort stays												
	Domestic flights												

[1]Q: "Over the next two weeks, do you expect that you will spend more, about the same, or less money on these categories than usual?"
[2]Net intent is calculated by subtracting the percent of respondents stating they expect to decrease spending from the percent of respondents stating they expect to increase spending.

Source: McKinsey & Company COVID-19 Consumer Pulse surveys, conducted globally between March 15 and June 21, 2020. Source of data for South Africa and Brazil was from McKinsey & Company, COVID-19 Consumer Pulse surveys, conducted between May 15 and May 25, 2020.

McKinsey & Company

Figure 1: Expected shifts in spending per category over the next two weeks as of June 21

The data in Figure 1 was collected by McKinsey analysts, and portrays consumer-reported international spending behaviors throughout the pandemic. Countries with successful responses to the crisis, such as Japan and South Korea, are still experiencing a lull in spending in non-essential categories. Despite general declines in non-essential spending over the course of the pandemic, certain non-essential commodities have seen increases in sales as consumers adjust to their at-home lifestyles. Sales of kitchen appliances, personal care products, retail alcohol, fitness equipment, technological accessories, and at-home entertainment have seen precipitous rises(5). Entertainment companies such as Netflix and Nintendo have shown steadily improving market performance since March and have even surpassed their pre-COVID-19 stock prices(6,7).

As regulations on in-person activities and social gatherings ease, consumers still report uneasiness around the prospect of partaking in out-of-home activities. However, studies show that roughly one third of people have resumed their participation in "normal" gatherings and previously restricted activities. Even as consumers in recovering economies are expecting to broaden their spending as conditions improve, surveys indicate that consumers are not planning to increase their fashion purchases during these times. Assuming the United States follows a similar pattern as it reopens, it is important for businesses to be aware of which industries consumers will prioritize.

What does this mean for fashion?

As portrayed in Figure 1, fashion has been one of the most financially impacted industries. At the start of the pandemic, big name companies such as Kohl's, Old Navy, and Bloomingdales shut down their physical stores due to public health precautions.[2] While conditions have changed, consumers are cautious of going to clothing stores due to pandemic fears and lack of changing room options. Consequently, many retailers are resorting to shutting down some physical locations to cut costs or file for bankruptcy.[3] In the months of March, April, and May, brick-and-mortar clothing stores experienced a staggering 66.6% slash in sales.[4] Even though consumers have the ability to shop online,

---

[2]
https://www.nytimes.com/2020/03/18/style/coronavirus-clothing-beauty-stores-closed.html?auth=login-email&login=email

[3] https://www.cnbc.com/2020/07/25/list-these-are-the-retailers-that-have-filed-for-bankruptcy-in-2020.html

[4]
https://www.marketwatch.com/story/clothing-stores-not-bars-and-restaurants-took-the-biggest-sales-hit-from-the-coronavirus-2020-06-16

[5] https://www.aarp.org/home-family/friends-family/info-2020/hot-items-pandemic.html

[6]
https://finance.yahoo.com/quote/NTDOY/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAANYD58qyJ0LlLyLy5DIvrx5djeeJQpcTqhTZmUqwftTjRgN3Lbuy5HrGGNH9_JaTaYNF5eGejtmdBZ7eTSSNWyKrQRbt8NN2ZMd92duWSxa5sxjNomgr6-xYmmzhLTY9pm1zOf8ClflYzZEhXz43u4HAbXEIabQfm42gGvocRWm

companies such as Sketchers and Tommy Hilfiger have reported 10-30% drops in online sales since the beginning of the pandemic.[5]

Despite drops in sales, both in-person and online, a Heuritech report indicates that consumers still have a passion for fashion.[6] According to the report, fashion consumers have increased traffic on Instagram by 70% since the beginning of the pandemic. One quarter of posts relating to the pandemic on the platform tagged or referenced fashion. Instead of spending money on new items, consumers are getting creative with their closets, dressing more comfortably, and opting for eco-conscious options like thrifted items or sustainable clothing. Illustrating this trend, online second-hand clothing company, thredUP, reported a 20% jump in sales in the first months of the pandemic.[7]

The future of fashion
- Going forward, in a post-pandemic world, big retailers will need to develop new business models to bring up sales. This could mean scaling back inventory or selling clothing that displays a unique flare, instead of following fast-fashion trends, which are defined by Investopedia as clothing designs that move quickly from the catwalk to stores in order to meet new trends.[8] Fast fashion is criticized for its poor production methods and focus on short-term item use, both of which are essential to keeping up with fast changing styles.[9] Transparency and ethics are two things consumers want from big retailers, now more than ever. With the top two fast fashion companies (INDITEX and H&M) facing slow but steady declines in stock price since 2017(50)/(51) as well as the bankruptcy of the notoriously unethical brand Forever 21 in 2019(52), the market demonstrates that fast fashion is gradually declining.
- Small businesses can benefit from this decrease in mainstream fashion by finding ways to stand out as a business. After months in quarantine, fashion lovers will be looking for pieces that allow them to reflect their own unique style, and that provide them a creative outlet.
- With growing concerns for the climate crisis, it is likely that eco-conscious fashion choices will continue to grow. This lull in business creates a perfect opportunity to reevaluate supply chains and find areas for improvement. As the public becomes more educated on sustainable brands, companies guilty of "greenwashing" will find it harder to convince consumers that their products are actually ethical.

2. **Low-density activities are the new normal.(SIM)**
   McKinsey analysts have reported that 70% of consumers, across major portions of the globe, are uncomfortable resuming pre-COVID-19 out-of-home activities until medical

---

[5]

https://economictimes.indiatimes.com/industry/cons-products/fashion-/-cosmetics-/-jewellery/after-retail-stores-fashion-brands-online-sales-drop-too/articleshow/74724685.cms?from=mdr
[6] https://www.heuritech.com/blog/articles/consumer-attitudes-covid-fashion/
[7] https://www.marketplace.org/2020/07/01/secondhand-clothing-sales-are-growing-during-the-pandemic/
[8] https://www.investopedia.com/terms/f/fast-fashion.asp
[9] https://www.investopedia.com/terms/f/fast-fashion.asp

authorities have deemed the situation to be under control.[10] Even as restrictions ease, consumers will opt for activities in smaller social settings, such as someone else's home,[11] instead of large density environments (music festivals) or places with high-touch points (gyms and amusement parks) until a vaccine is created.[12] This new dynamic has resulted in a growth of at home hobbies and entertainment like crafting and ordering in,[13] leading to setbacks in the transportation and travel industry, of which will continue until global improvements are made.

What does this mean for the food service landscape?

Going out to eat is an integral part of social life for most people, but pandemic fears and restrictions have dramatically decreased consumers' desire and ability to eat out at restaurants in their free time. Due to a lack of customers, restaurant sales fell by nearly 30% in April, decreasing the industry's revenue by $32.4 billion.[14] Consumers attempting to compensate for out-of-home activities, in a low-density environment, are trying to emulate these experiences at home. Whether that is cooking dinners, ordering in, or setting up their own versions of a home restaurant, people are trying to find safe ways to enjoy the food they love.

Some innovative takeout options include:[15]
- Creative Coronavirus Specials from restaurants: Quarantine Kits, Lockdown Lunches, Social Distancing Desserts, and Stay Home Hors D'oeuvres. Some restaurants have taken it a step further by including toilet paper and other essential supplies with their orders.
- Heat-and-eat dishes: These can be frozen or refrigerated, prepared en-masse ahead of time, and sold via delivery or carryout.
- Meal Kits: They're deconstructing their favorite dishes, packaging the ingredients with instructions, and delivering them as meal kits to their hungry customers. Hello Fresh has increased its revenue by 122% this year.[16] Not only are meal kits a fun divergence from typical takeout fare, they're generally more cost-effective for the average family looking to feed four to five people.

[10] https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/a-global-view-of-how-consumer-behavior-is-changing-amid-covid-19

[11] Rankin, S. (2020, June 18). Consumer pulse survey report: COVID-19. Retrieved July 14, 2020, from https://advisory.kpmg.us/articles/2020/covid-19-consumer-pulse.html

[12] Rankin, S. (2020, June 18). Consumer pulse survey report: COVID-19. Retrieved July 14, 2020, from https://advisory.kpmg.us/articles/2020/covid-19-consumer-pulse.html

[13]

https://www.pwc.com/us/en/industries/consumer-markets/library/covid-19-consumer-behavior-survey.html

[14]

https://www.restaurantbusinessonline.com/financing/pandemic-cut-restaurant-sales-half-1#:~:text=Restaurant%20sales%20took%20a%20massive,the%20last%20half%20of%20April.&text=Since%20February%2C%20sales%20have%20dropped,year%2Dover%2Dyear%20basis.

[15] https://www.qsrmagazine.com/outside-insights/10-top-takeout-innovations-during-coronavirus

[16]

https://www.businessinsider.com/hello-fresh-raises-guidance-again-pandemic-spurs-home-meal-delivery-2020-8

- Carryout Cocktails: Alcoholic drinks are a high-margin menu item and generally represent anywhere from 20–30 percent of a restaurant's sales. [17]Due to this, many states have lifted their laws on alcohol delivery, allowing restaurants to serve sealed drinks to go. Restaurants have responded in varied and creative ways with Cocktail Kits.
- TamperSeal™ labels: DayMark Safety Systems offers labels/stickers as a way to secure delivered food and provide customers with peace of mind. They feature security slits that cause the label to lose its integrity if someone attempts to open the container. [18]
- Freshly for Business: Freshly just expedited their launch for a new B2B platform that allows businesses to support their remote employees with lunches and dinners. The meals cost 50-75% less than takeout delivery, making it an affordable solution for both small and large businesses. [19]

Food vendors are exploring new ways to reach their customers outside of the traditional restaurant structure. With prioritizing a smaller budget, to digitizing everything while maintaining the same components as the in person experience - more creative options are on the rise.

Ghost kitchens (also known as dark kitchens and virtual kitchens) trim the costs of real estate, labor, and menu innovation by condensing the restaurant model to accommodate off-premise food sales without a traditional dine-in space. Instead of seating guests indoors, deliveries made by the restaurant or by a third-party service are the mainstay. According to Technomic, sales via ghost restaurants in the United States will rise by a projected 25% each year for the next 5 years—an estimated $300 million in yearly sales.[20] Given this expected trend, operators would likely benefit by investing in the ghost kitchen model long-term.

Businesses that provide food experiences, which can be defined as food paired with an activity like a show, tour, or sensory experience, have also been affected by the pandemic and have been looking for ways to adjust to current restrictions. In Memphis, a food tour business partnered with local restaurants to create special meals that come with a video tour about the food, chefs, and city.[21]

Post-pandemic food landscape

---

[17]
https://www.forbes.com/sites/jesscording/2020/05/01/freshly-launches-new-b2b-program/#709381ca43af
[18] https://www.restaurantbusinessonline.com/operations/ease-customer-anxiety-tamper-evident-labeling
[19]
https://www.forbes.com/sites/jesscording/2020/05/01/freshly-launches-new-b2b-program/#709381ca43af
[20]
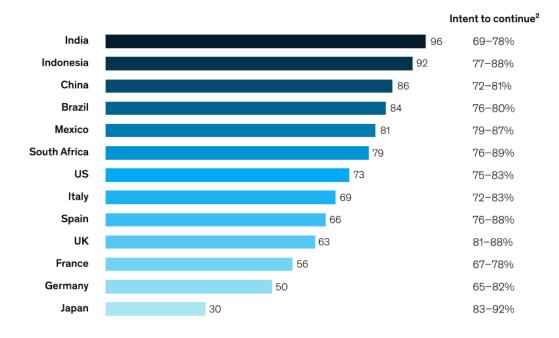https://www.restaurantbusinessonline.com/operations/ghost-kitchens-are-here-stay-heres-how-make-most-model
[21] https://www.nytimes.com/2020/04/23/business/coronavirus-small-businesses-adapt.html

- After suffering from losses due to COVID-19, it is likely that restaurants will be looking to cut costs and expand profit wherever they can even once everything clears. If food automation technology proves to be successful during the pandemic, restaurants may continue to invest in long term automation technology that can save them manpower costs.
- Some restaurants are realizing that they do not need a physical space, where people can visit, to make money. The rise of ghost restaurants is likely to remain in areas where rent is continuously high.
- Restaurants have worked hard to develop new strategies to help them stay afloat during the pandemic. Going forward they will likely leverage in-person dining along with successful take-out ideas from the pandemic to boost profits.
- Consumers have adapted to bonding over meals virtually. This opens up opportunities for entrepreneurs in the food space to expand on innovations that help those in long-distance relationships (family, friends, partners) create memories through food.

3. Consumer loyalty changes may extend past Covid

A study by McKinsey found that countries with large economic losses due to Covid-19 have customers altering their shopping behaviors.

Customers who have tried new shopping behaviors since COVID-19[1]
% of respondents

Country	% of respondents	Intent to continue[2]
India	96	69–78%
Indonesia	92	77–88%
China	86	72–81%
Brazil	84	76–80%
Mexico	81	79–87%
South Africa	79	76–89%
US	73	75–83%
Italy	69	72–83%
Spain	66	76–88%
UK	63	81–88%
France	56	67–78%
Germany	50	65–82%
Japan	30	83–92%

[1]Q: "Since the coronavirus (COVID-19) situation started (i.e., in the past ~3 months), which of the following have you done?" The chart excludes % of consumers selected "none of these."
[2]Q: "Which best describes whether or not you plan to continue with these shopping changes once the coronavirus (COVID-19) situation has subsided?" Possible answers: "will go back to what I did before coronavirus"; "will keep doing both this and what I did before coronavirus"; "will keep doing this and NOT go back to what I did before coronavirus." Intent to continue includes respondents who selected "will keep doing both this and that I did before coronavirus" and "will keep doing this and NOT go back to what I did before coronavirus."
Source: McKinsey & Company COVID-19 Consumer Pulse Surveys, conducted globally September 18–30, 2020

Figure 2: % of Consumers who altered their consumption habits[22]

Unsurprisingly, as the economy suffers consumers have become more price sensitive and have new additional considerations before purchasing such as Health/Hygiene. The main three reasons found for people altering their shopping habits in the United States is due to value, availability, and convenience[23]. Additionally, value has been found as the primary reason to change shopping habits from all countries in Figure 2. Consumers are increasingly more conscientious of price, safety, and brand, and these considerations are expected to continue past Covid.

The convenience of purchasing a product also extends to online shopping and customer loyalty programs. A study by Wharton Baker Retailing Center and WisePlum have found that online shopping has increased by 60% (37% increase from Q1), but loyalty damage due to convenience issues have also increased[24]. The most damaging problems consumers face is returning a product and having to pay for shipping, difficulty in navigating the website/app, and long problem resolution times.

In summation, small inconveniences pre-Covid have found to be exacerbated in damage during Q2, with many consumers willing to change their consumption habits.

How will the e-commerce and retail industry be affected by these shifts?

With store closures and health fears, consumers have increased their reliance on e-commerce platforms to get their essentials for the home. The Wharton/WisePlum study found that over 90% of online purchases were delivered, and a 7% increase in membership enrollment.

As online shopping continues to increase, consumers will expect better digital experiences and companies need to be cognizant of their needs. Price competitiveness and availability of products will be the key driving forces for customer conversion, while enhanced loyalty programs will reinforce repeat spenders. Companies who have strong digital presences (such as Amazon, Alibaba, eBay) have experienced significant increases in equity value since the official lockdown, and are expected to retain strong growth past Covid.

We also expect an increase in middle-man intermediary services, as not every company is fully capable of complete digital transformation. Smaller companies without a dedicated

22

https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/a-global-view-of-how-consumer-behavior-is-changing-amid-covid-19
23

https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/survey-us-consumer-sentiment-during-the-coronavirus-crisis#
24

https://bakerretail.wharton.upenn.edu/wp-content/uploads/2020/08/Wharton-Baker-WisePlum-Consumer-Loyalty-Study-2.pdf

IT-team will leverage companies that simplify their online presence. Squarespace founder Anthony Casalena shared in an interview with Yahoo that "[they]'ve actually seen two of the best quarters in the past half decade in terms of new website sign-ups on the platform" [25]. Consumers will also leverage browser add-ons such as Honey, which automates coupon searches upon checkout, to get the best prices available.

For retail companies to stay relevant in an increasingly digital landscape, they must have both a draw (either in value, rarity of good/service, or ethics/mission) as well as a reason to stay (simple navigation, loyalty programs, and rapid response time).

The Future of E-Commerce
- Consumers will enroll in multiple loyalty programs, but will prioritize spending based on rewards and convenience of the program
- Intermediary technology companies will experience exponential growth as more companies transition into having an online presence
- Customers will grow impatient with online platforms, with minor aggreviances hurting their relationship with the company more than pre-Covid times
- Smaller companies will specialize in their relative good/service, as it will prove increasingly difficult to compete with larger companies in terms of infrastructure and UI/UX
- An increase in spending for middleman or consulting companies/individuals to help with designing UI/UX, conducting data analysis, and automating technological competencies (SEO, Payment integration, delivery services)

4. **Online transactions, previously not available during the pandemic, are here to stay.(MITCH)**

Online sales of goods and services grew by 60% since February, and accounted for more than 20% of total sales in this period.[26] While skeptics are unsure if this trend will last, evidence shows that consumers are likely to continue purchasing goods and services digitally, even after the pandemic is over.[27] Researchers predict that consumers post COVID-19 will want a hybrid shopping experience, where deficiencies of online opportunities are solved in-person.[28]

---

[25] https://finance.yahoo.com/video/squarespace-ceo-covid-19-impacting-215915288.html

[26] https://www.forbes.com/sites/robsalkowitz/2020/07/08/cmos-report-massive-shifts-in-consumer-behavior-and-marketing-strategies-post-covid-19/#6149f88a40b8

[27] https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/a-global-view-of-how-consumer-behavior-is-changing-amid-covid-19

[28] https://www.tandfonline.com/doi/full/10.1080/08961530.2020.1771646?casa_token=ipPCbTy4aowAAAAA%3Ah5KW98A_K0qSVmSlEwbEsP0vkv93g2v7ryPZNwUYiQRXSGjS44sfKbdB3ietl3NEgHEIONh5xXeEew

How has this shift affected the fitness industry and its future?

A survey by Mindbody found that thirty-three percent of consumers in communities with continued COVID-19 restrictions report working out more[29]. They cite having more free time is the top reason they're getting their sweat on more often. Access to virtual content and mitigating stress were listed subsequently, too.

Due to the high-touch point nature of the fitness industry, health-conscious consumers have had to make adjustments in how they go about pursuing health related activities and purchases during the pandemic. Online engagement has been the number one way to market their new services and products, even for exercise related things. There has been a dramatic and swift adoption of virtual fitness—specifically live streaming—during shelter at home. In 2019, a mere 7% of consumers used live streamed workouts. During COVID-19, this increased to over 80%. In April, a whopping 85% of consumers reported live streaming on a weekly basis. Yoga and HIIT (high-intensity interval training)/Tabata/bootcamp were the most popular modalities. And many consumers don't plan to stop—43% expect to go back to their previous routines and add pre-corded videos and/or live streaming, post COVID-19.

A perfect example of this is Corepower which shut down their brick and mortar stores and studios and started offering free classes online exclusively. Corepower fans have been able to access a variety of different videos, geared towards different users. Influencers like Hanna Coleman have seen increased traffic on their at-home workout videos during this pandemic as well.[30]

With the closure of facilities, consumers have been investing in exercise gear for their homes, and companies who specialize in fitness for the home have benefitted from this shift. According to reports by the World Economic Forum, yoga mats are topping best-sellers lists for many major retailers in the US. In the UK, department stores like John Lewis have seen a significant increase in sales of home gym equipment. Peloton, who creates digitally connected cycles and treadmills for the home, has experienced stronger performance as a result of COVID-19 public restrictions,[31] with the company's stock jumping quadfold in 2020. Its guided workouts and virtual network of users gives Peloton a competitive advantage over other workout gear companies in the industry.[32] [33]

[29] https://www.mindbodyonline.com/business/education/blog/heres-how-covid-19-has-changed-fitness
[30] https://www.heuritech.com/blog/articles/consumer-attitudes-covid-fashion/
[31] https://www.cnbc.com/2020/03/31/peloton-much-stronger-after-coronavirus-analysts-say.html
[32] https://elemental.medium.com/the-peloton-effect-9ba2f996eae9
[33] https://www.cnbc.com/2020/03/31/peloton-much-stronger-after-coronavirus-analysts-say.html

Figure 3: Peloton share price has increased by more than 4x since lockdown

Fitness trends during and post-pandemic
- With an increased awareness of hygiene and a hefty investment in exercise equipment, individuals may continue to avoid the gym even after reopenings.
  - A survey by TD Ameritrade found that 59% of Americans don't plan on renewing gym memberships[34]. The main reason given by 56% of those surveyed is that the pandemic helped them find "more affordable" ways to get exercise and live a healthier lifestyle.
- Many people enjoy visiting the gym and attending fitness classes for the companionship aspect with instructors and classmates.
  - As consumers shift to home fitness, there is room for innovation in incorporating social aspects into virtual work-outs like Peloton has. This will help companies who specialize in home workouts maintain competitiveness even after gyms reopen.
- Fitness companies that are directly impacted by social distancing policies can offer hybrid options to improve flexibility.
  - For example, the annual StanChart marathon in Singapore has launched a Virtual Club Platform, which allows users to participate in the race virtually in an augmented reality course to adhere to governmental policies[35].

34
https://www.cnbc.com/2020/07/23/many-dont-plan-to-renew-their-gym-memberships-post-pandemic-survey.html
35
https://www.channelnewsasia.com/news/sport/stanchart-marathon-covid-19-virtual-participation-race-format-13047594
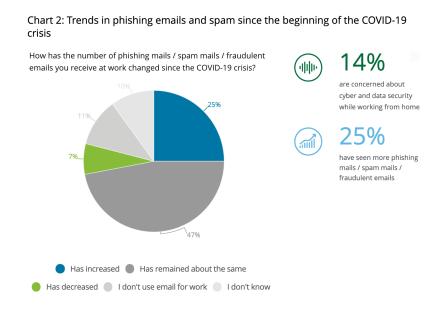
Business Behavioral Shifts

1. Decentralization has brought new threats to team relations and cybersecurity.(SIM)

Amidst the pandemic, work-from-home (WFH) rates are at an unprecedented high and for companies not accustomed to WFH, have been facing new challenges. As more people move towards work-from-home (WFH) models, companies are facing increased cybersecurity threats. Heightened use of video conferencing and collaboration tools opens up new opportunities for hackers to breach company information. UK researchers at Apricorn interviewed 100 IT decision makers and found that half of respondents could not guarantee that their company's data was adequately secured by people who WFH.[36] Companies are still learning how to improve security measures in a decentralized landscape. With the rise of phishing scams related to the virus, further education and security is suggested.

What does this mean for cybersecurity?

The abrupt quarantine resulted in every non-essential person remotely connecting to their company's database and accessing protected data. While working from home has been a popular convenient option, employees are noticing an uptick in the amount of phishing emails and spam that they receive, indicating potential threats to their accounts and data. A Deloitte study reflects this increasing trend in cybersecurity breaches. 14% of respondents agree that they are concerned about cyber and data security while working from home and 25% are noticing more unsolicited emails. [37]

Chart 2: Trends in phishing emails and spam since the beginning of the COVID-19 crisis

How has the number of phishing mails / spam mails / fraudulent emails you receive at work changed since the COVID-19 crisis?

- 25%
- 47%
- 7%
- 11%
- 10%

● Has increased ● Has remained about the same
● Has decreased ● I don't use email for work ● I don't know

14% are concerned about cyber and data security while working from home

25% have seen more phishing mails / spam mails / fraudulent emails

---

[36] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3568830
[37] https://www2.deloitte.com/ch/en/pages/risk/articles/covid-19-cyber-crime-working-from-home.html

Figure 4: Survey trends about phishing and spam emails for WFH employees.

The future of cybersecurity
- Utilize this information and create a robust cybersecurity infrastructure to tackle threats in a faster and more efficient manner that outlasts the pandemic
- Cybersecurity solutions now need to accommodate a wider range of access scenarios when protecting their data, keeping in mind that employees may not be working exclusively from the office anymore
- Companies must consider that even an employee's home may not suffice as a secure location due to the presence of Amazon Alexa, Google Assistant, Apple Siri, etc devices that actively listen in on a home. Training on setting up a secure workspace may be needed to account for these factors.

2. **Strong leadership is key to navigating the crisis.(MITCH)**

It is undeniable that COVID-19 has taken a large toll on the mental health of many Americans. While it may be a natural instinct for leaders to take control during vulnerable periods of uncertainty, a flexible organization will be able to navigate this crisis and come out with a healthy workforce.[38] Employees will continue to face new challenges while working from home so it is imperative that leaders listen to their needs and adapt accordingly.[39]

What should leaders prioritize in times of crisis?

Boris Groysberg and Katherine Connolly Baden interviewed 600 CEO's for the Harvard Business School Working Knowledge, and have found that the two main guidelines leaders should follow are "Protect the Core" and "Pivot to New Opportunities"[40]. In summary, they emphasize how companies should be continually looking to improve their core efficiencies while adapting to present trends. To achieve this, they emphasize leveraging cross-functional teams and agile methodologies. Co-author of leadership book"What Happens Now?", Mark Nevins also encourages leaders to overinvest in communication[41].

Additionally, a study by McKinsey found that Agile companies believed they reacted to the pandemic better than if they didn't use Agile methodologies.
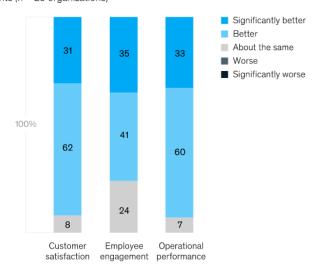
---

[38] https://www.gallup.com/workplace/310214/amid-covid-let-rethink-workplace-flexibility.aspx
[39] https://www.mckinsey.com/business-functions/organization/our-insights/tuning-in-turning-outward-cultivating-compassionate-leadership-in-a-crisis
[40] https://hbswk.hbs.edu/item/the-covid-two-step-for-leaders-protect-and-pivot
[41] https://www.forbes.com/sites/hillennevins/2020/03/19/leadership-in-the-time-of-covid-19/?sh=496ff2f35e4e

Business units that had fully adopted an agile model before the COVID-19 crisis outperformed units that hadn't.

Performance self-assessment of agile business units relative to nonagile units in same organization, % of respondents (n = 25 organizations)

Legend:
- Significantly better
- Better
- About the same
- Worse
- Significantly worse

	Customer satisfaction	Employee engagement	Operational performance
Significantly better	31	35	33
Better	62	41	60
About the same		24	
	8		7

Note: Figures may not sum to 100%, because of rounding.

McKinsey & Company

Figure 5: Self reporting of company performance due to Agile

Employee's are a company's primary resource, therefore companies with a communication centered operation model have yielded positive results during uncertain times. Diverse teams, both in competencies and backgrounds, will continue to outperform non-diverse teams and are better equipped to solve complex problems[42].

Leadership effects post-pandemic
- There will be an adjustment in leadership processes and trainings, with a focus on employee safety, both physical and mental, as workforces transition
- Honest and transparent communication will keep employee retention high, and help businesses find alternative solutions to their operational problems
- As mental health concerns rise, companies that offer mental health benefits and supporting their diverse teams will experience long term gains[43]

42
https://www.heidrick.com/Knowledge-Center/Publication/Why_diversity_and_inclusion_are_more_important_than_ever_during_the_COVID19_crisis
43
https://www.forbes.com/sites/ruthumoh/2020/04/15/how-chief-diversity-officers-are-steering-their-companies-through-the-covid-19-crisis/?sh=71e69c1465a9

3. **Surveillance technology is on the rise--but it may be more harmful than helpful.(GRACE)**

Companies, even before the pandemic, have been ramping up data collection for surveillance purposes to track employee productivity[44]. In the midst of COVID-19, employers are faced with growing uncertainty as their workforce moves to work from home. Surveillance technology is on the rise and it has the potential to erode trust between employers and employees. Workers have reported that excessive surveillance has increased their stress and exhaustion, negatively affecting their performance[45].

How has this affected remote workers?

With the rise of advanced surveillance software, employers now have low-cost options to monitor their employees in ways that seemed impossible before.An article by NPR illustrates how surveillance technology is doing more harm than good for the employees working from home(48).

An employee in Brooklyn was told to install an invasive surveillance system on her computer that can track her mouse movements and keyboard strokes and keep a running log of the web pages she visited. This type of extreme tracking is breeding distrust and resentment among employees while leadership is convinced that it will increase productivity and efficiency. The unprecedented work from home environment has facilitated the proliferation of "tattleware"--surveillance software that can report everything from your visits to Facebook or other non work-related sites to your keystrokes and personal conversations.[46]

While employers try to keep their employees accountable as they struggle to meet the demands of working at home, surveillance software companies have seen a rise in profit. A workplace surveillance company called Awareness Technologies has seen its business tripled (47). Common tracking software includes applications like tsheets, hubstaff and Time Doctor; where the software can capture screen recordings, use a worker's webcam to take a picture every 10 minutes or even send pop ups giving the employee 60 seconds to start working before a notification goes to their supervisor.[47]

It's clear that micromanaging to this extent has caused employees to feel overworked and underappreciated all at once. Though companies may have started to implement these processes of tracking to leverage punishments for a more protective workday, we can see how there may be

---

[44] https://hbr.org/2020/05/how-to-monitor-your-employees-while-respecting-their-privacy
[45] https://www.washingtonpost.com/technology/2020/04/30/work-from-home-surveillance/
[46]
https://www.npr.org/2020/05/13/854014403/your-boss-is-watching-you-work-from-home-boom-leads-to-more-surveillance
[47]
https://www.npr.org/2020/05/13/854014403/your-boss-is-watching-you-work-from-home-boom-leads-to-more-surveillance

long-term consequences of these tracking applications. As one worker tells NPR, "It has really destroyed morale for everyone," she said. "And everyone has since kind of taken a step back and said, 'All right, if this is how they're going to treat us, why go the extra mile?' Because clearly it doesn't matter to them."[48]

The effects of surveillance technology on worker morale are not new nor exclusive to the pandemic--TSA officers and those working in secure environments felt routinely dehumanized by camera surveillance, as workplace monitoring only tends to recognize and punish mistakes, while good work goes unnoticed (50). The officers felt they were incentivized to minimize punishable mistakes instead of actually applying themselves to their work, reporting a growing resentment for their jobs(50). In addition, workers' hostility and objection to the surveillance system only led employers to put in place more surveillance measures as a result. This feedback loop leads to a system that Harvard Business Review dubs *the coercive cycle of surveillance*--employees try to circumvent an unfair surveillance system, only to have their managers put more aggressive surveillance in place(50). This cycle fractures trust between employees and their supervisors and aggravates otherwise well-behaved, high-achieving workers.

Aside from keeping workers happy and protecting what little morale remains for the emotionally taxed remote workforce, choosing to not excessively monitor employees has been proven to benefit employers and managers as well. The proliferation of surveillance technology has been repeatedly shown to threaten the worker productivity it seeks to maximize.

> As remote work rises, we must see what the forecast is for surveillance technology after the pandemic.
>
> *The Future of surveillance technology*
> - Since micromanaging through surveillance technology feels justified during a pandemic where employees cannot be monitored in person, there may be continued use of this surveillance software after the quarantine if employers perceive increased productivity as a result.
> - Employees may rise up to combat this level of intrusion on their work. This will push for specified training around managing surveillance technology and establishing exact guidelines that allow appropriate tracking of remote employees.

4. **Businesses are looking towards agile methodologies as they rapidly adapt to new changes and downsize.**(SHANNON)
   With rapid changing business priorities and practices, companies have realized that their current team models are struggling to adapt. In addition, this period of economic downturn

---

48
https://www.npr.org/2020/05/13/854014403/your-boss-is-watching-you-work-from-home-boom-leads-to-more-surveillance
50 https://hbr.org/2018/04/why-monitoring-your-employees-behavior-can-backfire

has led to unfortunate downsizing across the board. In the United States, economists estimate that the true unemployment rate, including people who have exited the labor market, falls at 11 to 12 percent. Faced with these challenges, companies are looking towards agile teams and flexible employment as a solution[49].

What is agile and how has it been used during COVID-19?

Agile refers to a spectrum of methodologies designed to produce quality-consistent work efficiently, prioritizing strong productivity and quick adaptability to new problems/shifts. It strongly emphasizes consistent communication between cross-functional teams, ideating and optimizing solutions, and measuring productivity through a milestone-focused timeline. It was originally developed for software development projects, but agile has since vastly grown in popularity, being adopted by various organizations of all industries for project management. Companies like Spotify, IBM, and Vistaprint all use principles of agile methodologies to improve operations.

While agile methodologies are on the rise, companies are struggling to implement practices in a remote working world. As of May 2020, the 14th Annual State of Agile Report denoted a 33% percent increase in agile practices for the purpose of managing distributed teams, with over 55% percent of 40,000 respondents reporting a plan to begin employing agile within the next year to cope with the pandemic crisis.   Traditionally, agile teams function in co-located spaces, allowing for easy communication and close team relationships. Because many companies are working remotely, people are finding it harder to employ agile practices that rely on fast-paced decision making and comfortable frequent interaction. According to Harvard Business Review's survey of remote workers, 80% of respondents believed that more frequent communication would improve team relationships. 84% of respondents said that workplace challenges or concerns dragged on for a few days or more during remote working. With these direct challenges to the workflow of agile teams, companies need to reevaluate agile methodologies and adapt it to current working conditions.

Agile Methodologies Post-Covid
- Agile frameworks need to be reworked to adapt to mixed working environments in the future. Large corporations like Facebook and Microsoft have announced that employees permanently have the option to telecommute if they choose to. Experts predict that 25-30% of the workforce may choose to work from home at least

---

49

https://www.mckinsey.com/business-functions/organization/our-insights/revisiting-agile-teams-after-an-abrupt-shift-to-remote
(50) https://finance.yahoo.com/quote/itx.mc/
(51) https://finance.yahoo.com/quote/hm-b.st/
(52)
https://www.bbc.com/news/business-49874688#:~:text=Fashion%20retailer%20Forever%2021%20has,in%20Mexico%20and%20Latin%20America.

multiple days a week by the end of 2021. To ensure effective agile teams, companies should prepare infrastructure and guidelines to guide teams that consist of remote and in-person workers.

- Agile training is often required to successfully integrate it into team processes. Coaching and certificate programs that teach people how to adapt agile to their unique circumstances have the potential to be popular options. After the sudden nature of the pandemic, it is evident that corporations should be prepared to flexibly adapt frameworks to suit current needs.

Implications

- Companies need to go through a digital transformation in order to stay competitive
  - Investing in communication
  - Agile project management
- Customers are less patient and are primarily concerned with price and convenience
  - Increase in UI/UX development
  - Data Science occupations will also increase to stay competitive
  - Need alternative ways to foster brand loyalty
- Increase in intermediary services
  - Digital - Cybersecurity, UI/UX, communication
  - Financial - Transactions
  - Wholesale - Customers swapping from memberships and instead purchasing directly from source
  - Agile - Intermediary services