

Coronavirus

Second Order Effects



Failing to consider second- and third-order consequences is the cause of a lot of painfully bad decisions... Never seize on the first available option, no matter how good it seems, before you've asked questions and explored.

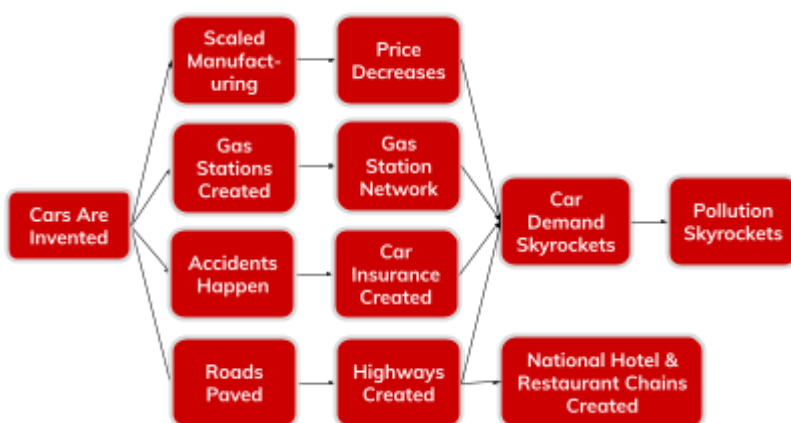
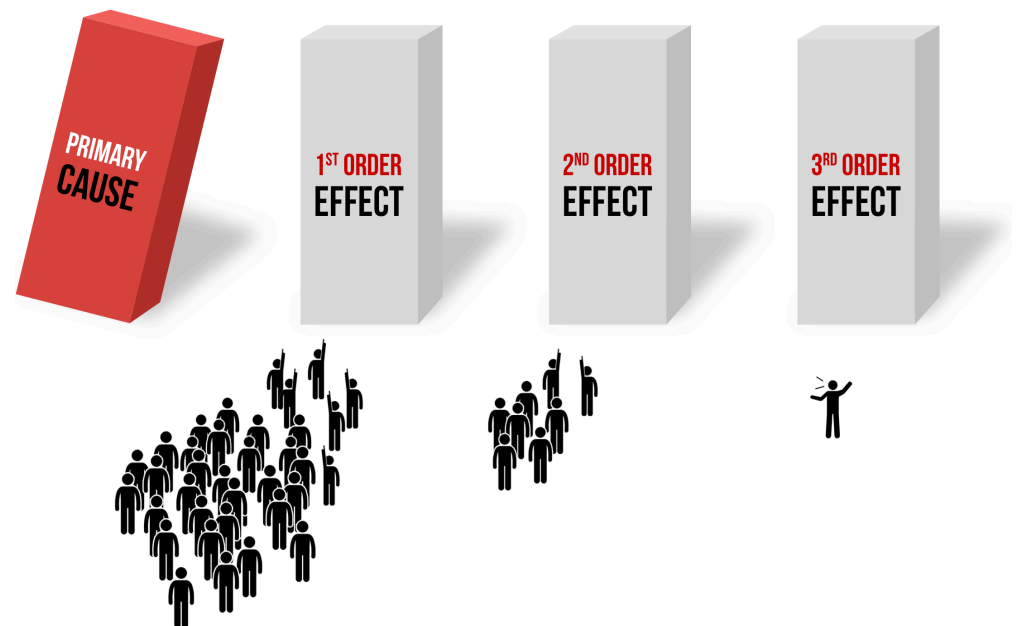
—Legendary Investor Ray Dalio

Second-order effects is a mental model that helps you make better decisions. It is particularly important now during the Coronavirus crisis.

When we think of the future, we tend to think of obvious and immediate consequences. As a result, we tend to ignore the domino chain of effects.

In life, the more you consider second-order effects, the more successful you become...

When you see future challenges, you can avoid them. When you see future opportunities first, you can capitalize on them first.






Second-order effects are often surprising.

Who would've thought that cars would eventually lead to hotel and restaurant chains.

Learn More Mental Models You Should Have In Your Arsenal



About This Doc	About The Creators		
<p>This document helps map the possibility space of Coronavirus effects. It helps us understand how it could transform our lives as individuals, workers, volunteers, entrepreneurs, and citizens.</p> <p>It was developed via a combination of listening to podcasts, reading reports, and consuming articles; talking to friends in different sectors; and personal reflection. Hat tip to @balajis and @chamath.</p>	 <p>@EmersonSpartz</p> <p>Middle school dropout. Antifragility signaling. Founder (@Dose, @OMGFacts, @MuggleNet). NYT Bestselling Author.</p>	 <p>Michael Simmons</p> <p>Serial Social Entrepreneur / Learning How To Learn Teacher / Contributions: Inc, Harvard Business Review, Forbes, Fortune, Entrepreneur, & Time</p>	 <p>Camille Ulmer</p> <p>Visual Architect. Direct Response Designer. Storytelling Believer. Chess Nomad Converted to Existentialist Philosopher</p>

This is a Collaborative Project		Top Contributors				
<p>We originally created the table for ourselves. After sharing it with a few friends, we decided to make it a collaborative project where anyone could contribute. We want more diversity.</p>	<p>If you'd like to be a contributor, fill out this short form.</p> <p>You can be listed as a contributor in this document, by making a lot of high-quality additions.</p>	<ul style="list-style-type: none"> • Mark Ingles • Charlie Graham 	<ul style="list-style-type: none"> • Shayna Englin • Tara Demren 	<ul style="list-style-type: none"> • Annie Lalla • Ben Clarke 	<ul style="list-style-type: none"> • Sawyer Trice • Eben Pagan 	<ul style="list-style-type: none"> • Daniel Koff

Navigate

Personal	Business	Investing	Education	Government	Other
Click & Go to Section	Click & Go to Section	Click & Go to Section	Click & Go to Section	Click & Go to Section	Click & Go to Section
<ul style="list-style-type: none"> • Marriage • Dating • Home • Pets • Funerals • Religion • Geography • Money • Physical Health • Mental Health • Time Management 	<ul style="list-style-type: none"> • Manufacturing & Supply Chains • Deliveries • Consumer Behavior • Fashion • Entertainment • Entrepreneurship • Travel • Energy • Retail • Insurance • Work • Education • Employment 	<ul style="list-style-type: none"> • Stock market returns • Buybacks • Dividends 	<ul style="list-style-type: none"> • Online learning field grows • Homeschooling grows • Higher ed • Professional education 	<ul style="list-style-type: none"> • Taxes • Policies • Structure • Elections 	<ul style="list-style-type: none"> • Climate • Safety • Cultural change • Volunteering

Personal

Category	Second-order Impact	Third-order Impact	Opportunities
Family	Husband, kids, and wife spend 10x as much time together	<ul style="list-style-type: none"> • More arguments • Divorce rates increase 	<ul style="list-style-type: none"> • Couples counseling • Divorce lawyers
		<ul style="list-style-type: none"> • More sex (Condom shortages) • More babies • Overwhelm of hospitals starting in 9 months • Increase in home births 	<ul style="list-style-type: none"> • Virtual midwives • Increase in baby clothing demand in 9m?
		<ul style="list-style-type: none"> • Less Sex (closeness kills erotics as studies show) 	<ul style="list-style-type: none"> • Demand for sex toys or stimulating content goes up
		Deeper understanding of each other. (i.e., deeper understanding of kid's school work. Seeing spouse during workday.)	
		Increase in child abuse / spouse abuse	

	More attention is paid to elderly family members than under normal circumstances	<ul style="list-style-type: none"> Improved mental (and perhaps physical) health among elderly 	
Dating	Seeing someone in-person during a quarantine becomes a sign of the level of commitment in the relationship	Culture shifts around non-hetero/non-monogamy, as dating and relationships move to the privacy of digital connection versus in public	Dating apps evolve to include video date add-ons, guided conversations, other virtual relationship-building
	Less cheating (at least in-person cheating or one-night stands)		
	Less dating overall as there are less opportunities to meet in-person.	Decline in "hookup" culture	<ul style="list-style-type: none"> Expanded virtual/online sex industry Sex toy sales boom
Home	Innovation in "home storage" industry	More competition in home storage industry	
	<p>Work from home:</p> <ul style="list-style-type: none"> More desks are bought (standing desks) More computer peripherals are purchased (webcam, microphone, mouse) More purchases of comfortable office chairs More "artwork" to make your office look better More noise cancelling headphones purchased More collaboration services used (Zoom, Houseparty) Upgrade to people's Internet speed to support video conference calls 	<ul style="list-style-type: none"> Streaming services reduce resolution in order to handle bandwidth. Increased pain due to work stations that are not ergonomic (back, carpal tunnel syndrome, neck) Internet backend infrastructure needs for SOHO. New attack vectors due to unproven software that is quickly rushed out 	<ul style="list-style-type: none"> More apps in the collaboration ecosystem (zoom and teams marketplaces) Home remodels from the currently popular open plan to more smaller rooms to be able to work from home and close the door from the office
	Home heating and cooling bills are higher because people are home all of the time		
	More people begin to grow food in home gardens.	Seed shortages. People buy gardening tools.	
	People desire larger homes as they spend more time there, and may want a dedicated home office	People move out of cities	
Physical Health	Exercise	<p>Increase in obesity: Some people are less fit because they lost their gym membership and routine that it took them probably years to develop</p>	
		<p>Decrease in obesity: Some people are more fit because they have more time to exercise.</p>	
		<p>Increase sales of home exercise equipment:</p> <ul style="list-style-type: none"> Resistance bands Dumbbells 	Gyms go out of business as customers who have been exercising at home during lockdown, or given up exercise, don't renew memberships
		Innovation in the home exercise industry	<ul style="list-style-type: none"> Virtual Group Classes (like Peloton) really catch on Virtual/remote personal trainers. Virtual coaching on helping people set up an ergonomic workspace

	People put off elective surgeries and treatments	Certain hospitals that haven't been impacted by Coronavirus having less demand as people avoid hospitals.	
	People hoard drugs that are purported to work (e.g., hydroxychloroquine)	There is a shortage of specific drugs, which then impacts patients who depend on that drug (e.g., Lupus patients depend on hydroxychloroquine)	
	People lose access to/can't afford actual healthcare.	Alternative/folk therapies explode	
	People feel more anxious and don't have in-person gathering as a coping mechanism.	<ul style="list-style-type: none"> • People get less sleep • Alcohol consumption increases [1] 	
	Fewer children are getting normal vaccinations	Increased risk of a Measles outbreak.	
	People catch up on sleep		
	People eat more due to more time spent at home / less routine	<ul style="list-style-type: none"> • Weight increase 	
Funerals	Loved ones can't have in-person funerals for those who pass away		Virtual funerals [1]
	Not enough capacity to bury and cremate those who pass away in a timely manner	Mass graves	
		Change of human behaviour— not needing a funeral?	
Religion	<p>Increase in religious participation (often increases in times of chaos)</p> <p>OR</p> <p>Decrease: in-person community is a major reason for participation</p>	Increase in sales of Bible, Quran, and other religious texts	Virtual religious communities
Pets	People spend more time with pets	<ul style="list-style-type: none"> • Pets are happier • Pets more fit 	<ul style="list-style-type: none"> • Create more pet toys
	Pets are surrendered because people have trouble paying for their food	Shelters are overwhelmed	
	Increase in adoption rates, as people are now home to train dogs?		Virtual dog training
	Neighbors loan dogs to each other in order to be allowed to be outside of their home and get a breath of fresh air (for areas where you aren't allowed to leave home unless it is for essentials or walking their dog)		
Geography	Virus spreads faster in cities.	Cities become less popular. Suburbs and rural become more popular	Purchase real estate in suburban areas
	Cities have more social unrest.		Increase in real estate demand in "lifestyle geographies"
	Decrease in local geographic network effects (ie - Silicon Valley)		Increase in demand for stable, high-grade internet.
	Pent up demand for travel and social experiences		
	Viruses typically enter countries through major cities		

	People get used to working and living at home, so location becomes less important.		Growing ease of informal, ad-hoc global collaborations (esp. In face of poor gov response)
Time Management	Increase in content consumption and gaming	<ul style="list-style-type: none"> ● Events move online ● Reading ● Watching ● Creating ● Internetting ● Social media ● VR ● Porn ● Creates of offline experiences create online versions ● Conferences -> Virtual Events ● Virtual Museum Tours 	<p>Streaming TV providers have higher retention rates.</p> <ul style="list-style-type: none"> ● Creating ● Internetting ● Social media <p>AR/VR to replicate sports and outdoor recreation</p>
	People pursue hobbies more	<ul style="list-style-type: none"> ● Painting ● Crafts ● Knitting ● Meditation ● Board games ● Drawing ● Musical instrument ● Poker ● Decluttering 	<ul style="list-style-type: none"> ● Reinvention ● Side hustle ● Increased donation of home items that are decluttered ● Arbitrage of decluttered items
Money	Many people have less money and start putting off all of their bills	<ul style="list-style-type: none"> ● Mortgage default ● Mortgage refinancings ● Rent/lease defaults 	<ul style="list-style-type: none"> ● More stringent lending requirements (again) in future ● Foreclosure purchases ● Property management companies go out of biz
	Bankruptcy of highly leveraged businesses		<ul style="list-style-type: none"> ● Bankruptcy filing services and bankruptcy recovery services (credit counseling)
	People reduce discretionary expenses	<ul style="list-style-type: none"> ● Credit Card companies seeing reduced portfolios ● People with steady incomes during this time will end up with more discretionary money later in the year. 	<ul style="list-style-type: none"> ● Burst of discretionary spending once things reopen?
	Increased usage of wireless payment methods (e.g., Apple Pay)		
	Shopping both online and offline is difficult. Offline leads to lines and risk of infection. Online has more items out of stock and deliveries taking longer.	<ul style="list-style-type: none"> ● Consumerism decreases ● DIY increases 	
	Decreased usage of cash		
	Everyday people lose jobs and need income fast	See government policy section below	
Mental Health	Improvement because people are relaxing and getting more sleep and gratitude for what they do have and realization of what's important		
	Stress and anxiety every time you go out because you might catch it. Stress and anxiety of being cooped up with people all day (especially if you are an introvert). Stress from uncertainty and/or losing income or loved ones.		
	People who already live alone feel more lonely	<ul style="list-style-type: none"> ● Depression ● Increased use of drugs and alcohol 	More personal development online workshops

		<ul style="list-style-type: none"> Increased suicides 	
	People miss face-to-face interactions	Rise of niche online communities	
	Depression because of joblessness	Increased use of drugs and alcohol	
	More attention being paid to mental health, de-stigmatization of loneliness, depression and anxiety	<ul style="list-style-type: none"> Increased help-seeking behaviour 	
	Therapies move online	Sites like Betterhelp.com grow	

Business

Category	Second-order Impact	Third-order Impact	Opportunities
Manufacturing & Supply Chains	Dramatic reduction in just-in-time inventory practices	Complex goods (electronics) rise in price	
	Certain factories are closed or have less demand	Missing component can halt an entire supply chain	Shortages of certain products
	Certain products suddenly have huge-demand	Digital <ul style="list-style-type: none"> Cloud services Zoom Slack Semiconductors Consumer <ul style="list-style-type: none"> Toilet paper Puzzles Board games Game consoles Non Perishable food items Health <ul style="list-style-type: none"> ICU beds Ventilators Masks Gowns 	<ul style="list-style-type: none"> In-demand products have shortages and/or price increases. Other manufacturers stop manufacturing their own products and produce products for healthcare industry (New Balance creating masks, Tesla creating ventilators) Plumbers are incredibly busy with cleaning drains because people are flushing non-flushable items, because they lack or are conserving toilet paper
	Increased usage of robots and automation (avoid integrating humans who could be infected)		
	Development of alternative supply sources outside of China	Trend toward insourcing and proximity-based manufacturing	Costs of many goods increases
	Growth of grocery delivery		<ul style="list-style-type: none"> Local-to-local delivery services, very small product list for local-to-local purchasing (the anti-Amazon?) Growth of sanitary delivery and storage solutions for consumers and businesses (e.g. UV delivery bins)
Deliveries	Growth of farm-to-home delivery and farm-to-trunk delivery		
	Growth of Amazon	Amazon becomes more of a target for not having a safe enough working	

		environment or not compensating workers enough for “hazard pay”	
	Growth of Uber eats / Grubhub / etc.	Growth of usage of plastic containers	
Consumer Behavior	Increase sale of lysol and wipes	Increase sale of moisturizers because people have dry hands	
		A generation of kids with low immunity due to all the hand washing and sanitizing	
		More resistant strains of viruses evolve	
		Less communicable disease infection in the short-term because people are more sanitary	
	Increase in staycations (vacations that are driving distance away)	Increase usage of RV parks	Increase in RV Services (Repair, Rehab, Furnishings, Service)
	<ul style="list-style-type: none"> Wearing a personal health tracker becomes standard current devices enabled to track more biometric data 	<ul style="list-style-type: none"> Fitbit, Oura Ring, Apple Watch, and other trackers see increased demand. Privacy violations by big tech and governments Increase of invasive data collection (trade-off between privacy and safety). 	<ul style="list-style-type: none"> Biometrics incorporated to tell body heat Daily “certificate” given for tested and unsick individuals enabling them to attend events, rideshare, the office, etc.
	Many people who avoided technology take more time to understand it better		
	Fewer “wet” markets (animals/perishables)		
Fashion	People care less about their appearance that isn’t on camera	Less fashion purchases: <ul style="list-style-type: none"> Shorts Pants Socks Skirts Perfume Heels 	<ul style="list-style-type: none"> Fashion businesses have to pivot / evolve their marketing etc. Live filters that make people look more professional and beautiful (like ones that already exist on Tik-Tok and Instagram) New category DIY beauty Youtubers (ie, how to dye and cut your hair)
		Fewer haircuts	
	Wearing masks in public if sick will be regarded as a politeness like in Japan	<ul style="list-style-type: none"> Shortage of masks 	<ul style="list-style-type: none"> People sew their own masks New consumer mask companies emerge providing fun stylish masks.
	New fashion styles emerge	<ul style="list-style-type: none"> Longer hair Beards More casual style endures even when people go back to work Fashion-based face masks will be popularized. Even advanced tech masks that reduce the appearance of a traditional mask. 	
Events	No more one-on-one meetings		<ul style="list-style-type: none"> Telemedicine Webcam dating
	No more in-person events / gatherings		<ul style="list-style-type: none"> Virtual birthday parties Virtual museum tours Virtual funerals

			<ul style="list-style-type: none"> Virtual summits Virtual concerts Virtual dance parties Virtual happy hours Virtual wine tasting Virtual watch parties
Entertainment	Boom in esports		
	New movies premiere in homes, not just theaters	<ul style="list-style-type: none"> Remote watch parties become more mainstream 	
	Increased interest in linear broadcasts (live streams and curated content broadcasts)	Creators from multiple verticals experiment with live streams and linear broadcasts (IPTV) that are digital-first	Services around being able to manage linear streams will be an opportunity for many to capitalize - content, tech, production, etc.
Entrepreneurship	Companies that are promote too much or too hard are criticized	<ul style="list-style-type: none"> Companies increase length of trial periods. Companies offer their products for free. Companies improve the functionality of their free products 	Teaching companies how to do corona-virus sensitive marketing.
	Increasing interest in business opportunities that are less impacted by pandemics	<ul style="list-style-type: none"> Digital Virtual Training 	Shorter interview periods, greater use of trial periods, starter projects and contract work
Travel	Increase of healthy testing at airports and other places	Increase of smart devices that track in real-time	
	Travel insurance price increase		
	Air travel decreases		
Energy	Less demand for gas	Lower price of gas	
	Low oil prices	<ul style="list-style-type: none"> Many companies in the oil industry take on massive debt, get sold, or go out of business. 	
	More energy consumed at home	Alternative energy demand for home increase	
Retail	Small retailers stop paying rent	Malls get decimated	
	A large percentage of retailers go out of business. (Owners don't feel like fighting. Business was already in a precarious position. Not enough demand. Too much debt)	<ul style="list-style-type: none"> Dramatically lower commercial rents Strip plazas are razed for other uses Millions of hourly workers permanently out of jobs and need new opportunities. 	
	Self checkout becomes more common		
	Amazon's checkout product where people don't have to even do a checkout goes mainstream		
Insurance	Certain premiums skyrocket - others plummet - personal auto drops due to 75%+ drop in personal auto claims	Cost of doing business increases for some: <ul style="list-style-type: none"> Auto Insurance will dramatically increase for delivery drivers (who will be a much larger segment) 	
	Demand for pandemic insurance	Government creates a complement to TRIA	Creates path for national insurance programs

	Insurance companies become responsible for helping customers deal with pandemics	Loss control expands to deal with pandemics - new companies - new skills required for actuaries	
	Event insurance no longer offered	Harder to finance large events	Fewer large scale events (SXSW)
Work	Older people disproportionately impacted	Senior position in companies and organizations open up	Create a way to capture institutional knowledge
	Dramatic decrease in popularity of open office environments		
	People with disabilities find it easier to participate in the workforce		
	Workplaces become more flexible with childcare policies	Office buildings become more vacant	<ul style="list-style-type: none"> • Lower price commercial real estate • Office buildings repurposed?
	Lack of in-person meetings decrease dealmaking around complex and trust-driven transactions (M&A in particular)		
	Working from home dramatically increases even after virus	<ul style="list-style-type: none"> • Less traffic on commute • Commercial real estate goes down • Fewer car accidents • Employment at companies goes more global 	
Real Estate	Office space demand plummets as companies realize the amount of people that can work from home + recession	Cyclical demand changes for awhile companies waiting for freefall to stop before addressing their staffing needs	Properties will need to be "bio-safe" - early adapters to this will retenant more quickly
	Open-floor plans become less popular	Co-working spaces offer more personal offices.	
	More real-estate is needed per per workspace	Demand in sectors of commercial real estate where working from home is not an option increases.	
	Many hotels go out of business	Even after air travel resumes, there is large amounts of vacancy with limited travel	Adaptive reuse of properties such as affordable housing & student housing and health care pop ups
Employment	Immediate layoffs and furlough of employees	<ul style="list-style-type: none"> • Poverty increases • Less disposable income • Bankruptcies increase 	Charity impact Pawnshop business Loan Sharks Apartments
	Employees seen as liability in crisis	Further increase in contract workers, temps, outsourcing	Providers of contract and temps workers or those that facilitate outsourcing

Investing

Category	Second-order Impact	Third-order Impact	Opportunities
Stock Market	Backlash at public companies that seek bailouts	<ul style="list-style-type: none"> • Stock buybacks become restricted • Dividends switch from shareholder right to being viewed as irresponsible 	<ul style="list-style-type: none"> • Lower stock valuations • Harder to retire on fixed income

	Companies conserve cash	<ul style="list-style-type: none"> • Stock buybacks reduced or eliminated • Dividends reduced or eliminated 	<ul style="list-style-type: none"> • Lower stock valuations
	Looking for scapegoats leads to attacks on major hedge funds	<ul style="list-style-type: none"> • Short sellers get vilified 	<ul style="list-style-type: none"> • More volatility/bubbles in short-heavy stocks
	New financial instruments created to profit from pandemics	Pandemic ETFs, ETNs	
	Flight to safe haven assets	Return of gold Bitcoin gets more legitimized	
	Unustainable levels of corporate debt.	Downgrades & inability to raise more capital leads to inability to continue share buybacks leads to loss of a major driver of broad stock market appreciation.	Active investment management is optimal for identifying value and managing risk effectively.
	As a period of financial engineering comes to an end actual engineering becomes key to creating value.	Merit based business models that can harness true innovation in key economic sectors outperforms & sees increased flow of capital. Process innovation takes over the quest for novel innovation.	Opportunity and value can be found around the edges of things in more mundane sectors that solve key problems for the majority as opposed to enabling us to simply consume in increased leisure.

Education

Category	Second-order Impact	Third-order Impact	Opportunities
	<ul style="list-style-type: none"> • Coding • Design • Content creation (Writing, Youtube) • Coaching • Teaching • New language 	<ul style="list-style-type: none"> • Former service workers become knowledge workers 	<ul style="list-style-type: none"> • Create training for retooling of service workers
	Most people work as specialists but are repressed polymaths - they have little free time/energy to explore diverse interests. Many will use their new free time to become generalists.		
Online learning field grows	Homeschooling increases. Parents realize that online learning can work under the right conditions and with the right resources.	<p>This new education paradigm:</p> <ul style="list-style-type: none"> • Offers better outcomes for many students • Brings an increase in mental-health issues in adolescents as a result of decreased socialization and exposure to social adversity. • Software that helps parents understand their child's talents and desired learning outcomes. The software then designs a learning curriculum tailored to the child. Software also matches the child to the best teachers. • Alternative educational styles as parents select the curriculum and teachers best suited to their child. 	<ul style="list-style-type: none"> • Education startups and/or top private schools begin offering curriculums for elementary and high school students and recruit the best online teachers. • New technologies emerge for online teachers to monitor and discipline students (eye tracking technology, etc). • The best grade school teachers, who were previously limited to teaching students in

			their school districts, gain large online followings.
	Low income students without Internet or computer have trouble accessing the Internet	Community hubs develop as a place for low-income students to access learning infrastructure.	<ul style="list-style-type: none"> Branch Libraries with full technology capabilities
	Increased learning divide based on financial class	Rich parents can afford access to the best online teachers.	
Rise of homeschooling	<ul style="list-style-type: none"> Parents realize that their kids are not being challenged Parents get overwhelmed by kids. 	<ul style="list-style-type: none"> Teacher appreciation grows 	<ul style="list-style-type: none"> New online activities to challenge kids. New sites to organize all of the online activities that emerge.
	Teachers scramble to figure out teaching online		<ul style="list-style-type: none"> Curriculum designed to be taught online that actually works. New trainings for teachers
Family Budget for Education Decreases	<ul style="list-style-type: none"> Need For Alternative Education Fewer people willing to pay a high fee to go to college because they have less money and because online learning is increasingly good Enrollment in higher ed decreases 26% of families with prospective college students reconsidering their choice of college (fear of coronavirus exposure), 12% may defer altogether. Source 		

Government

Category	Second-order Impact	Third-order Impact	Opportunities
Government Policy	Many of the issues that were the top issues suddenly fade into the background and make little progress in legislative bodies		
	Universal basic income	Current and future presidential candidates run a platform of UBI	
	Super profitable businesses will be taxed at a higher level in order to make up deficits	Companies will be valued lower	
	Loans to businesses		
	Fed cuts rates	Less ability to act in a future crisis	
	Tax holiday	Tax revenue plummets	Increased government debt at a national, state, and local level
	Tax revenue plummets	<ul style="list-style-type: none"> Increased government debt at a national, state, and local level Local, state, and national governments look for ways to increase tax revenue 	

	Realization that eating too much sugar and smoking make populations more susceptible to pandemics	More sin taxes, stigmas, or pressure to reduce unhealthy behavior	
	Creation of a nationalized insurance program (similar to TRIA for terrorism)		
	Creation of a large public works initiative started to repair and rebuild roads, bridges, and tunnels in order to put people to work and to take advantage of fewer cars being on the road.		
	Public transit loses appeal in emerging cities like Austin and Denver		
	Citizens accept less freedom (movement) and privacy (movements, health data) in order to combat the spread of the virus	Some govts retain these “war time” powers after the crisis (like the Patriot Act)	
	Company bailouts	New laws try to prevent bailouts -- create huge cash balances	Large sums of money in-inefficiently allocated
	New Taxes	Taxes on commercial insurance products to pay for pandemics (similar to terrorism) Industry specific taxes to fund bailouts - which will become acceptable BAU (similar to China)	
	Huge investment in resources to tackle future pandemics.	Humanity is “vaccinated” against even-more-lethal pathogens in the future	<ul style="list-style-type: none"> • Medical suppliers have a sustained increase in demand.
	Government prints money	Inflation increases	<ul style="list-style-type: none"> • Infrastructure projects, including connectivity upgrades to trusted brands (away from Huawei, ZTE) • Gold and BTC prices rise, drives digital currency race
	Government relaxes regulatory requirements and speed-up approval processes for startups and technologies that are needed urgently. For example FDA approvals for MedTech startups working on vaccines		
	Governments engages startups, innovators, and tech communities seeking help in areas such as modeling, data analytics		<ul style="list-style-type: none"> • MedTech startups working on areas related to vaccines and testing. • Self driving trucks and delivery automation is likely to get accelerated approval
Military	The virus causes aircraft carriers to dock	<ul style="list-style-type: none"> • Navy is more vulnerable. • Countries with a robust navy have an even larger advantage • Military projection capacity decreases. 	- Broader use of drones
Government Structure	Government(s) mishandles crisis	<ul style="list-style-type: none"> • Regime change • Riots 	

		<ul style="list-style-type: none"> • Push for decentralized innovations 	
	Elections have fewer voters	Strong push for mail-in ballots	
	Court cases occur online and are live-streamed		
	Handling of the pandemic becomes the major issue in political elections	More awareness drawn to health initiatives.	
	Authoritarian governments are more successful at flattening the curve	More authoritarian policies become more palatable.	
	Policies that would have previously been considered socialist bail countries out	Socialism becomes more widely accepted	
	E-Government model (Akin to the setup in Estonia) becomes prevalent at all levels to ensure functionality in times of crisis and for government to have increased visibility and control of data for analysis via AI big data solutions.	This raises productivity and creates savings from the operation of government. It will ensure a broader and simpler ability to vote that may eventually lead to representative democracy akin to the Swiss model. It will also bring questions of data privacy, rights and security. Big government may bring Big Brother along with it.	Innovation in software solutions and secure cloud offerings as well as broader cyber security solutions will be crucial. Entrepreneurs and investors in these areas will do well.

Others

Category	Second-order Impact	Third-order Impact	Opportunities
Climate	Reduction in CO2 emissions	<ul style="list-style-type: none"> • Better health in some capacities. Tens of thousands of lives saved. • Reduction in political will to fight climate change in the short-term as focus shifts to pandemic response. 	<ul style="list-style-type: none"> • Global pandemic response sets the foundations for future global collaborations
Driver Safety	<ul style="list-style-type: none"> • Fewer cars on the road • Fewer trips 	Fewer car accidents	<ul style="list-style-type: none"> • Increased deer population • Fewer deaths and injuries
Food	Risk of infection at grocery stores	More people raising chickens	<ul style="list-style-type: none"> • Online cooking classes - interactive and performative (i.e. IG live), where signup comes with delivery of supplies and ingredients. • Number of home-made recipes explodes • Increasing in cookbook sales
		More people making their own bread	
		More people cooking	
		Increase in gardening	
		More online shopping	
Safety	More ammo and gun sales		
	More people are desperate to make ends meet	Crime rate increases	
	Because police force gets infected is overwhelmed, its stops pursuing non-violent crime	Crime rate increases	

	People with low incomes will be hardest-hit by social-distancing measures, and most likely to have the chronic health conditions that increase their risk of severe infections.		
Culture Change	People become more sensitive to large, but rare risks in their lives	Growth of certain insurance markets in the future	
	Generational conflict	<ul style="list-style-type: none"> Continued social mingling/gatherings by young people deemed “careless” by older generations more impacted by Covid Younger generation turns that narrative in reverse, making clear that older generations are being careless with the future lives of the youth 	An opportunity for collective (and understanding of the lag effect and irreversible change of exponential change) will emerge, which enables demand for carbon pricing to fairly allocate change
	Increased nationalism		
	Many healthcare workers risk their lives going to work everyday and also become burned out.	Celebration of healthcare workers	
	New words created	<ul style="list-style-type: none"> Quarantine and chill Doom-scrolling Covidiot Qurantini Zoom-bombing Virtual happy hour Coronials Quaranteen Covidivorce Coronacation 	
	Hugs, handshakes, and cheek kissing become less common as a social norm	New distance greeting innovations - e.g. the “Corona (Elbow) Bump” or “Wuhan Shake” [1]	
	Decrease in smoking behavior and increased stigmatization of smoking		
	China criticized by US government for “wet” markets and hiding information at the beginning of pandemic		
Volunteering	Creation of a Peace Corps equivalent (“Immune Corps”) for volunteering at hospitals during times of need (i.e. the new “ Candy Stripers ”)		

Technology

Category	Second-order Impact	Third-order Impact	Opportunities
Technology	Companies rush to create vaccines and treatments for Coronavirus	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Vaccines Creating new treatment drugs Repurposing existing drugs for Coronavirus Testing antibody therapies

	Companies rush to create cheap, scalable continuous testing solutions	●	
	The pandemic exposes areas of the economy and life that can benefit from automation technology especially in crisis	Labour and employment less likely to go back to original levels	<ul style="list-style-type: none"> ● Self driving and automated delivery vehicles ● Automated warehouse fulfillment technology becomes more critical

Appendix: Top 100 Fastest Growing & Declining Categories in E-commerce

March 2020 vs March 2019

[Stackline](#) reviewed E-commerce sales across the U.S. and compiled the amazing list below. Stackline is a retail intelligence and software company. Their software helps thousands of the world's largest brands manage and grow their e-commerce businesses

Top 100 Fastest Growing Categories

1 Disposable Gloves +670%	26 Chips & Pretzels +186%	51 Incontinence & Tommy +129%	76 Jams, Jellies & Spreads +102%
2 Bread Machines +652%  <i>Bread is one of the many items people have been stockpiling for their time at home, resulting in a shortage at grocery stores and a rise of bread machine sales.</i>	27 Crackers +184%	52 Multivitamin +126%	77 Coffee +101%
3 Cough & Cold +535%	28 Health Monitors +182%	53 Cat Litter +125%	78 Spices & Seasonings +100%
4 Soups +397%	29 Popcorn +179%	54 Training Pads and Trays +125%	79 Skin Care +99%
5 Dried Grains & Rice +386%	30 Computer Monitors +172%  <i>Many businesses have implemented a mandatory work from home policy, causing a surge in computer monitor sales as consumers purchase items for their home office.</i>	55 Juices +125%	80 Pain Relievers +99%
6 Packaged Foods +377%	31 Fitness Equipment +170%	56 Smoking Cessation +122%	81 Cooking Vinegars +98%
7 Fruit Cups +326%	32 Single Vitamins +166%	57 Dried Fruit & Raisins +120%	82 Air Purifiers +97%
8 Weight Training +307%  <i>Gyms and fitness studios are temporarily closed, forcing a shift in people working out from home and an increase in weight training equipment sales.</i>	33 Nut & Seed Butters +163%	58 Salt & Pepper Seasoning +118%	83 Granola & Nutrition Bars +97%
9 Milk & Cream +279%	34 Cat Food +162%	59 Craft Kits & Projects +117%  <i>With most events and activities canceled, consumers have an increased need for activities to keep them busy at home, including craft kits & projects.</i>	84 Pudding & Gelatin +97%
10 Dishwashing Supplies +275%	35 Fruit Snacks +162%	60 Batteries +116%	85 Toy Clay & Dough +95%
11 Paper Towels +264%	36 Baby Care Products +162%	61 Trash Bags +116%	86 Single Spices +95%
12 Hand Soap & Sanitizer +262%	37 Refrigerators +160%	62 Nuts & Seeds +116%	87 Bird Food & Treats +91%
13 Pasta +249%	38 Baking Mixes +160%	63 Hair Coloring +115%  <i>Trips to the hair salon are on hold, so consumers have shifted to purchasing hair coloring kits to maintain their hair color at home.</i>	88 Lab & Science Products +90%
14 Vegetables +238%	39 Toilet Accessories +160%	64 Sauce & Gravy +115%	89 Eczema & Psoriasis Care +90%
15 Flour +238%	40 Dog Food +159%  <i>Pet owners who are avoiding going into brick-and-mortar retail stores have shifted a larger share of their spending online.</i>	65 Deli Foods +114%	90 Ping Pong +89%  <i>Ping Pong sales have increased as consumers look for fun, indoor activities suitable for all ages.</i>
16 Facial Tissues +235%	41 Diapers +154%	66 Syrups +114%	91 Chocolate +86%
17 Allergy Medicine +232%	42 Yoga Equipment +154%	67 Breads & Bakery +114%	92 Baking Ingredients +84%
18 Women's Health +215%	43 Bottled Beverages +153%	68 Minerals +113%	93 Energy Supplements +84%
19 Cereals +214%	44 Baby Meals +153%	69 Condiments +111%	94 Respiratory +82%
20 Power Generators +210%	45 Cookies +147%	70 First Aid +108%	95 Office Desks +89%  <i>Consumers have an increased need for home office furniture as they shift to working from home full-time, causing sales of office desks to surge.</i>
21 Laundry Supplies +200%	46 Digestion & Nausea +144%	71 Nail Care +108%	96 Potty Training Supplies +82%
22 Household Cleaners +195%	47 Snack Foods +141%	72 Humidifiers +105%	97 Herbs, Spices & Seasoning +82%
23 Soap & Body Wash +194%	48 Herbal Supplements +136%	73 Art Paint +104%	98 Keyboard & Mice +80%
24 Toilet Paper +190%	49 Cooking Oils +135%	74 Office Chairs +104%	99 Body Lotion +79%
25 Jerky & Dried Meats +187%	50 Water +130%	75 Deodorant +103%	100 Safes +69%

Top 100 Fastest Declining Categories

1 Luggage & Suitcases -77%	26 Automotive Mats -50%	51 Wine Racks -40%	76 Girl's Active Clothing -34%
2 Briefcase -77%	 Shelter-in-place orders have been implemented across the country and, except for the occasional grocery store trip, consumers not driving their cars have fewer needs for automotive parts and accessories.	52 Men's Shoes -40%	77 Women's Tops -34%
3 Cameras -64%	27 Men's Outerwear -49%	53 Clocks -39%	78 Braces, Splints & Supports -34%
 Camera sales are declining rapidly since many travel plans, weddings, sports activities and other events have been postponed.	28 Watches & Accessories -49%	54 Baby Girl's Shoes -39%	79 Car Anti-theft -34%
4 Men's Swimwear -64%	29 Cargo Bed Covers -48%	55 Bracelets -39%	80 Rings -34%
5 Bridal Clothing -63%	30 Track & Field Equipment -48%	56 Men's Boots -39%	81 Blankets & Quilts -33%
6 Men's Formal Wear -62%	31 Ceiling Lighting -47%	57 Tapestries -39%	82 Women's Athletic Shoes -33%
7 Women's Swimwear -59%	32 Camera Lenses -47%	58 Camping Equipment -39%	83 Kitchen Sinks -33%
8 Rash Guards -59%	33 Girl's Coats and Jackets -47%	 Many public parks, hiking trails and campsites are closed, resulting in a decreased demand for new equipment.	84 Golf Clubs -33%
9 Boy's Athletic Shoes -59%	34 Women's Hats & Caps -47%	59 Men's Bottoms -38%	 While spring and summer are typically popular times for golf, courses are closed and consumers are seeking new indoor activities, rather than a new set of golf clubs.
10 Gym Bags -57%	35 Women's Outerwear -47%	60 Cell Phones -38%	85 Equestrian Equipment -33%
11 Backpacks -56%	36 Video Cameras -46%	61 Tool Storage & Organizers -38%	86 GPS & Navigation -32%
12 Snorkeling Equipment -56%	37 Wheels & Tires -46%	62 Necklaces -38%	87 Recording Supplies -32%
13 Girl's Swimwear -55%	38 Motorcycle Parts -45%	63 Swimming Equipment -37%	88 Home Audio -32%
14 Baseball Equipment -55%	39 Women's Wallets -45%	64 Men's Hats & Caps -37%	89 Boys Accessories -32%
15 Event & Party Supplies -55%	40 Shocks & Struts -44%	65 Girl's Shoes -37%	90 Earrings -32%
 Without birthday parties, graduations and other large events, there is a reduced need for supplies, resulting in a decline of event & party supplies sales.	41 Transmission & Parts -44%	66 Industrial Tools -36%	91 Dining Sets -31%
16 Motorcycle Protective Gear -55%	42 Girl's Athletic Shoes -44%	67 Juicers -36%	92 Calculators -31%
17 Camera Bags & Cases -54%	43 Women's Shoes -44%	68 Desktops -35%	93 Boys Shoes -31%
18 Women's Suits & Dresses -53%	44 Telescopes -44%	69 Classroom Furniture -35%	94 Volleyball Equipment -31%
19 Women's Boots -51%	45 Sunglasses & Eyeglasses -43%	 Classroom furniture sales are declining as schools close and students take classes virtually from their home.	95 Strollers -31%
20 Cargo Racks -51%	 Demand for sunglasses has declined, since many family vacations and other outdoor activities have been delayed.	70 Bar & Wine Tools -35%	96 Coolers -30%
21 Women's Sandals -50%	46 Men's Tops -41%	71 Glassware & Drinkware -35%	 Many parks and public beaches are closed, so consumers no longer have a need to buy new coolers.
22 Drones -50%	47 Video Projectors -40%	72 Musical Instruments -34%	97 Sanders & Grinders -30%
23 Boy's Active Clothing -50%	48 Men's Athletic Shoes -40%	73 Power Winches -34%	98 Men's Active-wear -29%
24 Lunch Boxes -50%	49 Marine Electronics -40%	74 Home Bar Furniture -34%	99 Living Room Furniture -29%
25 Store Fixtures & Displays -50%	50 Hand Tools -40%	75 Office Storage Supplies -34%	100 Climbing & Hiking Bags -28%

Stackline

Stackline is a retail intelligence and software company founded by a group of industry veterans and headquartered in Seattle, WA. Our technology helps thousands of the world's largest brands manage and grow their e-commerce businesses. For more information, visit www.stackline.com.