OUR WORLD ACCELERATED

COVID-19 AND THE IMPACT ON OUR DIGITAL ECONOMY

MIT INITIATIVE ON THE DIGITAL ECONOMY
From pizza parlors to platform giants, frontline workers to CEOs, the COVID-19 pandemic struck the economy a devastating blow.

In the U.S., when the economy ground to a halt last spring, the digital economy boomed while the brick and mortar economy suffered tremendously. Nearly all businesses not only had to pivot, but make critical, unprecedented decisions. In the midst of the crisis, researchers at the MIT Initiative on the Digital Economy (IDE) went to work analyzing data and mapping trends to guide business leaders and policymakers alike—with facts. What would be the impact of massive work-from-home employment? How can supply chains be improved? Is the shift to telehealth now entrenched? And what role do social media platforms play in how the world has responded to vaccination and the overall crisis?

Over the last year, our world-renowned research team worked tirelessly to provide timely, accurate, and data-informed analysis of the pandemic and its effects. Our researchers have analyzed the vast impact of COVID-19 on society, technology, and the global economy to provide actionable solutions for policymakers, business leaders, and citizens. We collaborated with the World Health Organization, Facebook, Safegraph, Praekelt, and Graphika Inc. to analyze millions of data points to help stop the spread of the coronavirus and to advise local and global leaders on critical next steps. What follows are highlights of our year-long efforts.

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8 Key takeaways

MIT IDE COVID-19
Rapid Response Hub
Research Areas

- Impact of government interventions and social distancing on the pandemic
- Economic fallout and business implications of COVID-19, and post-pandemic planning
- Fighting coronavirus misinformation and bias, and the role of social media
- Digital technology and COVID-19
- Vaccine acceptance
What affects people’s choice to accept or seek out safe and effective COVID-19 vaccines? Eckles and his research team explore vaccine acceptance and specifically how social influence and the right public health messaging can influence people’s behavior regardless of their baseline beliefs.

In collaboration with Facebook and Johns Hopkins University, and with input from experts at the World Health Organization and the Global Outbreak Alert and Response Network, the team fielded the world’s largest survey on COVID-19 beliefs, behaviors, and perceptions. The team found that providing accurate information about how others in their country practice and accept vaccination, mask wearing, or social distancing positively influenced their beliefs and intentions to accept a vaccine. Providing this type of information can partially correct individuals’ underestimation of how many others in their network, community, and/or country will accept a vaccine.

KEY FINDINGS

- 34% of adults surveyed felt COVID-19 risk was very dangerous to their community
- 65% of adults surveyed said they would choose to get vaccinated if a vaccine for COVID-19 became available
- 55% of those surveyed felt it was extremely important to take preventative actions against the spread of COVID-19
- 31.5% of survey respondents felt that people in their community think it is extremely important to take actions to prevent the spread of COVID-19

The Cost of Uncoordinated Responses to COVID-19

Interdependence and the Cost of Uncoordinated Responses to COVID-19

THE WORLD’S LARGEST COVID-19 SURVEY TOUCHED 23 COUNTRIES

A sample of Facebook users were invited to respond to the survey from the United States, India, United Kingdom, Mexico, Argentina, Brazil, Colombia, Italy, France, Germany, Romania, Poland, Pakistan, Turkey, Bangladesh, Vietnam, Thailand, Malaysia, Indonesia, Japan, Philippines, Egypt, and Nigeria.

SURFACING NORMS IN HEALTH COMMUNICATIONS INCREASES VACCINE ACCEPTANCE

Dean Eckles, Sinan Aral, Alex Moehring, Avinash Collis, Kiran Garimella, and M. Amin Rahimian

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Surfacing norms to increase vaccine acceptance

Op-ed with Sinan Aral: Why public health messaging should emphasize vaccine acceptance, not hesitancy
IDE RELEASES FIRST COMPREHENSIVE EVALUATION OF U.S. COVID-19 REOPENING POLICIES
Sinan Aral and Michael Zhao

Aral’s 2020 research showed that a local government’s social distancing policies can impact the health outcomes of other communities, regardless of geographical proximity. Peoples’ behaviors are influenced by their local communities and their social connectivity, and their perceptions of the effectiveness of local policies can be substantially altered by their social connections. The data shows that individuals’ adherence to social distancing is impacted by the policies of the regions where their social network connections reside.

Sinan Aral is the David Austin Professor of Management at MIT Sloan and the director of the MIT IDE. He is a global thought leader on social media, social networks, and the impact they have on the digital economy. Aral’s research focuses heavily on the efficacy of government policies in response to COVID-19 and the impact that social media has had on the response. He also offers data-driven predictions of what lies ahead in a post-pandemic world.

KEY FINDINGS
- Counties under statewide shelter-in-place orders received 8%-14% less cross-state traffic compared to pre-pandemic levels.
- As expected, re-openings boosted travel to destination counties—and their bars, restaurants, and beaches—by 12%-13%.
- When a location reopened and another was still locked down, people from lockdown counties flooded to the reopened destination—by 11%-12% from nearby counties, and 24% from distant counties.
- If the origin location reopened but the destination was still closed, travel to both nearby and distant closed counties was curbed by 9%-17% and 21%-27% respectively.

ECONOMIC FALLOUT FROM COVID-19

GOING REMOTE
Previously a nice “option” for digital economy workers to consider working from home, the pandemic forced a paradigm shift that will likely make remote work the norm rather than the extreme. At the IDE, we are measuring it all.

WHAT HAPPENS TO INDUSTRY AND JOBS AFTER COVID-19?
Featuring Sinan Aral
Economic fallout and business implications of COVID-19 and post-pandemic planning

MIT Sloan’s Ideas Made to Matter spoke with Sinan Aral and four other experts at the MIT IDE to get their perspectives on how digital technology will impact the future of work in a post-pandemic world. Social media enabled researchers like Aral to collect information from people around the world that would help inform global policy and response to the COVID-19 pandemic.

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MIT IDE Director Sinan Aral offers a five-point plan of action to stave off a global meltdown. At the start of the pandemic, Aral offered advice to business leaders and policymakers in an effort to preclude a cataclysmic economic disaster. One year later, we reflect: How much of Aral’s advice was heeded? How is the economy faring?

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FULL BIO

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WHAT HAPPENS TO INDUSTRY AND JOBS AFTER COVID-19?
“What is social media’s impact on society—and how do we regulate it, use it, design it, and harness it to create positive outcomes rather than peril? COVID-19 put this question front and center because everyone was forced into remote socialization.”

Sinan Aral, What Happens to Industry and Jobs After COVID-19?
David Rand, Gordon Pennycook, Jonathon McPhetres, and Bence Bago

In a two-wave study completed early and later in the pandemic, Rand and his team found that political conservatism in the U.S. contributed to a greater polarization around beliefs about COVID-19 than in the U.K. and Canada. COVID-19 skepticism in the U.S. was strongly correlated with distrust in liberal-leaning mainstream news outlets and trust in conservative-leaning news outlets, suggesting that polarization may be driven by differences in information environments.

How is race associated with perceptions of future COVID-19 vaccines?
David Rand and Charles Senteio

Vaccine acceptance
There is no denying that COVID is a global health and economic crisis, but communities of color continue to experience higher infection and mortality rates and financial strain. Coupled with the preexisting issue of persistent mistrust of the healthcare system, this has created a widespread issue with vaccine acceptance among minority populations. Rand and his fellow researcher at COVID-19 and Race, Charles Senteio are actively studying this issue to offer data-driven recommendations and analysis.

COVID-19 and Race
“COVID-19 presents a unique opportunity to test psychological theories about political polarization and science beliefs in the context of a novel test case.”

DON’T GET IT OR DON’T SPREAD IT? COMPARING SELF-INTERESTED VERSUS PRO SOCIOALLY FRAMED COVID-19 PREVENTION MESSAGING
David Rand, Jillian Jordan, and Erez Yoeli

Impact of government interventions and social distancing on the pandemic

Should public health messaging focus on the benefits of prevention to individuals, society, or both? How can we motivate preventative actions? Rand and his team of researchers found strong evidence for the power of prosocial framing. The results of their study suggest that emphasizing the public benefits of prevention efforts may be an effective pandemic response strategy.

ENCOURAGING THE RESUMPTION OF ECONOMIC ACTIVITY AFTER COVID-19: EVIDENCE FROM A LARGE SCALE FIELD EXPERIMENT IN CHINA
David Rand, Juan Palacios, Yichun Fan, Erez Yoeli, Jianghao Wang, Yuchen Chai, Weizeng Sun, and Siqi Zheng

Economic fallout and business implications of COVID-19 and post-pandemic planning

As the spread of the COVID-19 pandemic diminishes, governments find themselves facing a new challenge: motivating citizens to resume economic activity. Rand and his team investigate this issue using a field experiment in the city of Zhengzhou, China, immediately following the end of the city’s COVID-19 lockdown.

TURKING IN THE TIME OF COVID
David Rand and Antonio Arechar

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Amazon Mechanical Turk, or MTurk, is a crowdsourcing website for businesses to hire remotely located “crowdworkers” to perform discrete on-demand tasks that computers are currently unable to do. Rand and his research team studied the effects that government shutdowns and strict social distancing protocols had on the job market, and specifically, how the pandemic is affecting online labor markets like MTurk. These online labor markets play a significant role in social science research, and they explore whether the pandemic has had any effect on the subject pool available on crowdsourcing marketplaces.

Don’t Get It or Don’t Spread It?

MESSAGING MATTERS After subjects finished reading the text in the experiment, they were asked to carefully read a flier about COVID-19. This flier varied across treatments, again by emphasizing threat to the subject, their community, or both.

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The impact of government interventions and social distancing on the pandemic is critical. The lack of a coordinated, national government response to the pandemic had varying effects on the population’s response to social distancing measures. The IDE research team analyzed the data and explored the varying degrees of effectiveness in controlling the spread of the virus.

Post-pandemic planning is key to the economic fallout and business implications of COVID-19. The pandemic will have lasting effects on the world’s economy. IDE researchers explore everything from reopening strategies and the resumption of economic activity, to industry trends and jobs in our new reality.

Social media has a huge role in creating and fighting coronavirus misinformation and bias. IDE researchers investigate the science behind the spread of misinformation, the influence social media has on people’s beliefs about the pandemic, and why people are prone to believing and spreading false news.

Digital technology helped track COVID-19 and transformed the nature of work. The pandemic has spurred rapid developments in the technology space. Researchers at the IDE explore the role that digital technology—such as AI and remote access—has played in healthcare and business, and how it’s helped governments track pandemic patterns.

Vaccine acceptance is still unfolding but there are remedies for improvement. The IDE is on the cutting edge of vaccine acceptance research. Researchers have conducted the world’s largest survey on vaccine acceptance and are actively studying the effects of messaging and misinformation on peoples’ beliefs and biases regarding the COVID-19 vaccine.

Digital technology has been a balm to the wounds of the pandemic. From data analytics to newly created platforms, IDE researchers are contributing solutions with long-lasting impact to the enormous problems caused by COVID-19.

Our researchers are global thought leaders at the forefront of the conversations surrounding COVID-19. Their groundbreaking and ongoing work continues to aid policymakers in creating actionable solutions to this health and economic crisis.

The focus of our research continues to evolve at the same rapid pace of the pandemic. To stay abreast of the important work we’re doing on this timely topic, visit our COVID-19 Rapid Response Hub for additional resources and further reading.

Learn about future events, research projects, book releases, and other noteworthy happenings at the IDE.

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