How digital platforms are helping us manage through the coronavirus

In our past signal posts, we've highlighted many ways that digital platforms are growing and impacting our everyday lives. In this signal post, we're highlighting how those same platforms have increased our resilience and ability to adapt to these extraordinary times of the novel coronavirus Covid-19 outbreak. Although our world is currently being turned upside down, in the age of the internet and the platform economy we have many options available.

Early detection and tracking

One of the key aspects to control a virus outbreak is to discover and track it as early as possible. Artificial Intelligence-based (AI) platforms are capable of seeing patterns in large volumes of data and raising early warning flags. China informed the World Health Organization (WHO) about the Covid-19 outbreak on January 9th. However, **BlueDot's AI-driven platform** analysed foreign-language news, animal and plant disease networks, and official announcements and notified its customers of the outbreak on December 31st. **Other AI platforms** have been developed to predict outbreaks of viruses like Ebola and Dengue fever and suggest ways to contain the outbreaks quickly.

A fast-spreading virus with a long contagious period means people may be spreading the virus across a large network of contacts, who in turn unknowingly spread it to their networks. Several mobile phone-based contact tracking apps have been developed to help health authorities isolate an infected person's network of contacts. **Singapore's TraceTogether app** uses Bluetooth to allow a user to store identifiers from other mobile phones they've been in close proximity with. The data is encrypted and stored locally for 21 days. If a user becomes a suspected Covid-19 case, they can release their contact data to health authorities.

Dissemination of information and misinformation

Social media platforms and online news sites are common places where people look to find out what's happening in their network of friends, their city and country, or the world. Trusted news outlets, governments, international agencies, and local businesses have used online platforms to communicate information quickly to many people. This "rapid and broad" communication has kept people informed about the spread of the virus, steps they can take to slow the spread, and where they can turn if they need assistance.

While they are sources for valuable information about Covid-19, they can also be a source of misinformation. In some cases, the 24/7 news cycle is constantly looking for headlines that will make people "click" and they emphasize sensational new content. This was also an issue in the era of non-digital news, but there is a risk that the never-ending online news cycle contributes to people's sense of panic. Misinformation and "Fake News" can also be rapidly propagated through social media networks. People witness panic buying in Hong Kong or Australia and within 24 hours there is a global shortage of supplies like toilet paper!

Distant socialising, working and learning

In these days of "distancing" and "shelter in place" orders affecting about half of the world's population, platforms are now essential for daily life. Physical distancing does not have to mean social distancing since social media and free video chat services allow people to maintain contact with friends and family. They also allow local groups to organize and provide support to the most vulnerable and at-risk people in their area.

With many people remaining in their homes as much as possible to help slow the spread of the virus, e-commerce platforms, as well as food and grocery delivery platforms, are invaluable lifelines. These platforms are also helping businesses generate some revenue while their "bricks and mortar" locations have been ordered to close.

With gyms, fitness classes, swimming pools, and tennis courts closed, people are turning to exercise platforms like **Tonal**, **FightCamp**, **Mirror**, **Peloton**, **Fressi**, and **Elixia**. They offer fitness routines or live-streamed fitness classes to keep healthy and fit while staying in your home. Usage of streaming audio, video and online multi-player games is surging. Some platforms have offered new services to help housebound people simulate familiar group activities like getting together to watch a

movie. **Netflix Party** allows friends to get together virtually to watch the same show with an online chat stream scrolling beside the video so friends can interact with each other.

As companies were told to close their physical locations and workers were told to remain in their homes, many companies accelerated their rollout of cloud-based platforms and virtual workplace platforms like **Slack**, **Microsoft Teams**, and **Zoom**. While not every job can be done remotely, these platforms are allowing many companies to keep operating during these unprecedented times.

While e-learning platforms have been changing the way education is delivered over the past decade, change has been slow and eLearning tools have typically augmented traditional approaches to education at most schools rather than replacing them. With schools from kindergarten to university closed in many countries, **e-learning** is quickly becoming the primary means of education.

The race for treatment and prevention

While the treatment of the virus and the development of a vaccine require a lot of hands-on work, AI and crowd-sourcing platforms are supporting the effort. Because every country on the planet requires large amounts of masks, gloves and other personal protective equipment there are widespread shortages. **Crowd-sourcing platforms** are being used to organize donation drives from businesses and individuals to quickly gather much-needed supplies.

Maker platforms, like **Thingiverse**, are encouraging makers to "Hack The Pandemic" and come up with ideas to help manage during the crisis. **NordicBaltic.Tech** is a new platform created by the Nordic Council of Ministers and GovTech venture company PUBLIC to showcase organisations and entrepreneurs that are developing technology responses to COVID-19.

Crowdsourcing is also being used to support the development of treatments and vaccines. Individuals are donating their home computer's idle time to platforms like **Folding@Home** so they can perform complex analysis on the proteins in the Covid-19 virus in the search for better treatment options.

The ability of AI to make sense of large amounts of data is being used in several ways. Researchers are using AI to analyse protein structures, develop 3D models, and look for areas of weakness so new treatments can be developed. The effort to fast-track the **development of a vaccine is using AI** to determine the best way to safely trigger an immune response and build immunity to future infection. Finally, AI is being used to sort through the thousands of Covid-19 research papers that have been published since January. The Covid-19 Open Research Dataset (CORD-19) has over 44,000 articles and papers in machine-readable format so natural language processing AI platforms can connect the dots between studies to suggest hypotheses and areas for future research that might otherwise have been missed.

What does the future look like?

The platform economy and digitalisation have been growing so rapidly and changed how we live our lives in fundamental ways that it's easy to take it for granted. Imagine if the Covid-19 crisis happened only 25 years ago. In 1995, there were **less than 50 million internet users** in the world, Amazon was barely getting started, Google was still several years away, and smartphones and social media platforms like Facebook and Twitter were about 10 years away.

The impact of the Covid-19 crisis will be severe, but digital platforms have introduced enough resiliency into our economy that large portions of it are continuing to function.

Past Signals

Below is a selection of past signal posts that highlight digital platforms helping us deal with the Coronavirus pandemic:

Deep learning and neural networks (2016-11-30)
Platforms for education and learning (2017-12-08)
Food in the platform economy: Consumer apps, production chain management and visionary ideas (2018-06-07)
Tackling fake news and misinformation in platforms (2018-04-04)
Platforms for active transport, fitness and exercise (2019-06-11)

Selected articles and websites

An AI epidemiologist sent the first warnings of the Wuhan virus
AI joins the fight against diseases like coronavirus
Singapore says it will make its contact tracing tech freely available to developers
Online learning gets its moment due to COVID-19 pandemic
Can The U.S. Crowdsource Its Way Out Of A Mask Shortage?
Folding@Home – Coronavirus – What we're doing and how you can help
AI can help scientists find a Covid-19 vaccine

Phill White
Research Scientist

Global X-Network