



DATA-POP
ALLIANCE



Vodafone Institute
for Society and
Communications

Using Data to Fight COVID-19

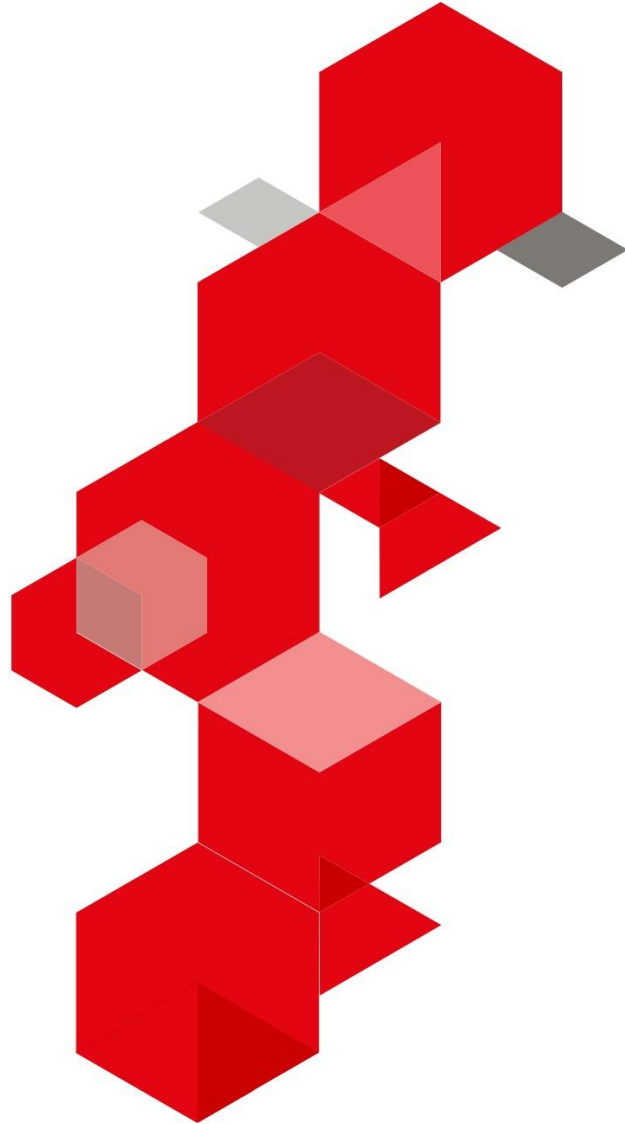
And Build Back Better

Webinar

December 10, 2020



Agenda



Welcome and Introduction

**Summary of the Paper:
Emmanuel Letouzé & Nuria Oliver**

Critical Review by Kenneth Cukier

Discussion + Q&A

Conclusion and Future Prospects

Housekeeping

You will have the chance to ask questions and discuss with our speakers after the summary and critical review of the paper.



Asking questions option 1 (audio)

Please raise your hand

You will be unmuted

Please share your name & org

Asking questions option 2 (text)

Via the Q&A/F&A function

Recording the webinar

(for internal documentation purposes only)

Please indicate via the chat function if you don't agree to a recording

How it all started: Data Sharing research





Using Data to Fight COVID-19 And Build Back Better

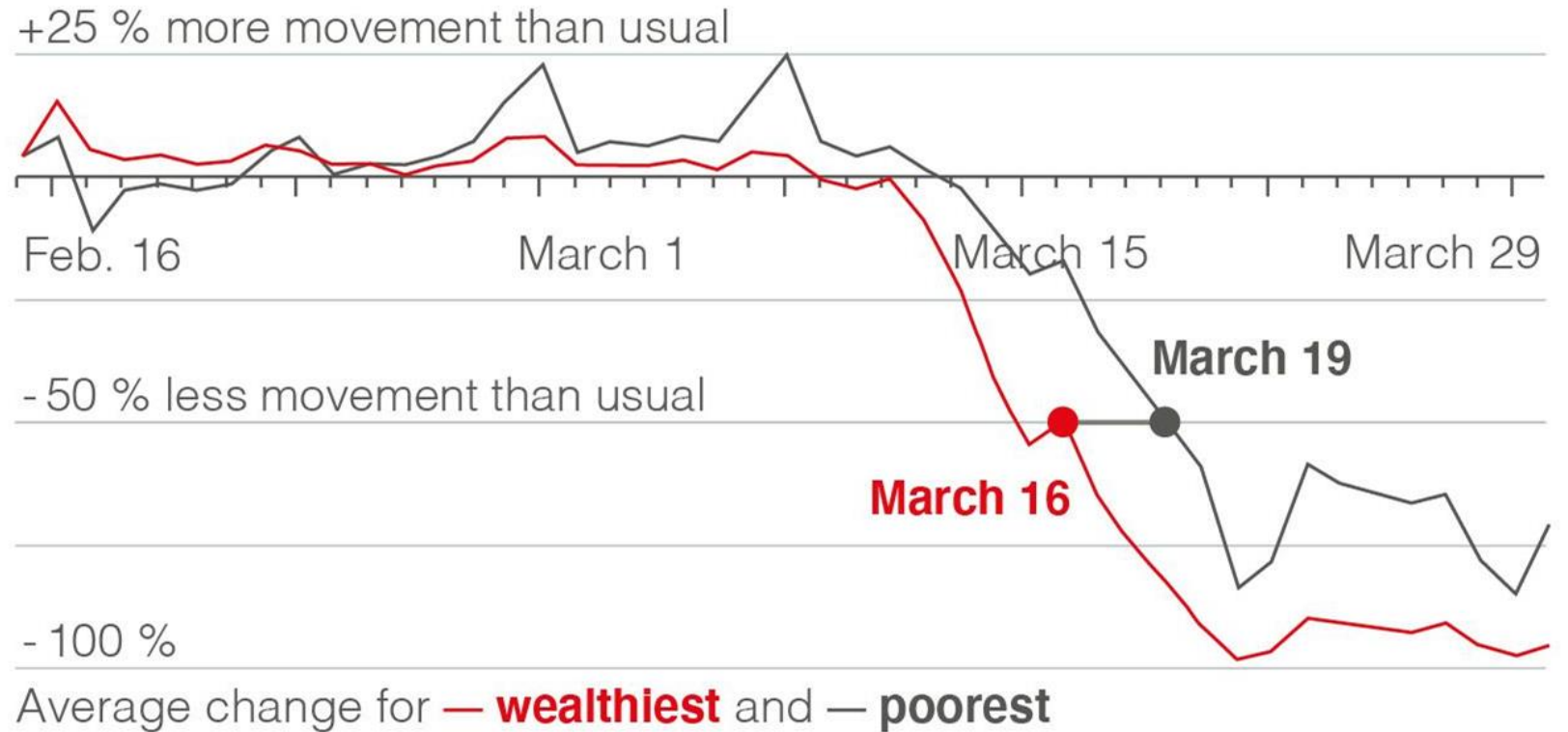
Paper Genesis and Synthesis
By Emmanuel Letouzé and Nuria Oliver

COVID-19 has exposed and exacerbated global systemic fault lines.



In the 2nd decade of the “Data Revolution” leading to 2030, will data help or hurt?

Location data says it all: Staying at home during Coronavirus is a luxury



Source: NY Times, 3 April 2020:

www.nytimes.com/interactive/2020/04/03/us/coronavirus-stay-home-rich-poor.html

Covered in report "Using Data to Fight COVID-19" 11/2020

**“The pandemic represents
a rare but narrow window
of opportunity to reflect,
reimagine, and reset our
world.”**

Professor Klaus Schwab
Founder and Executive Chairman,
World Economic Forum





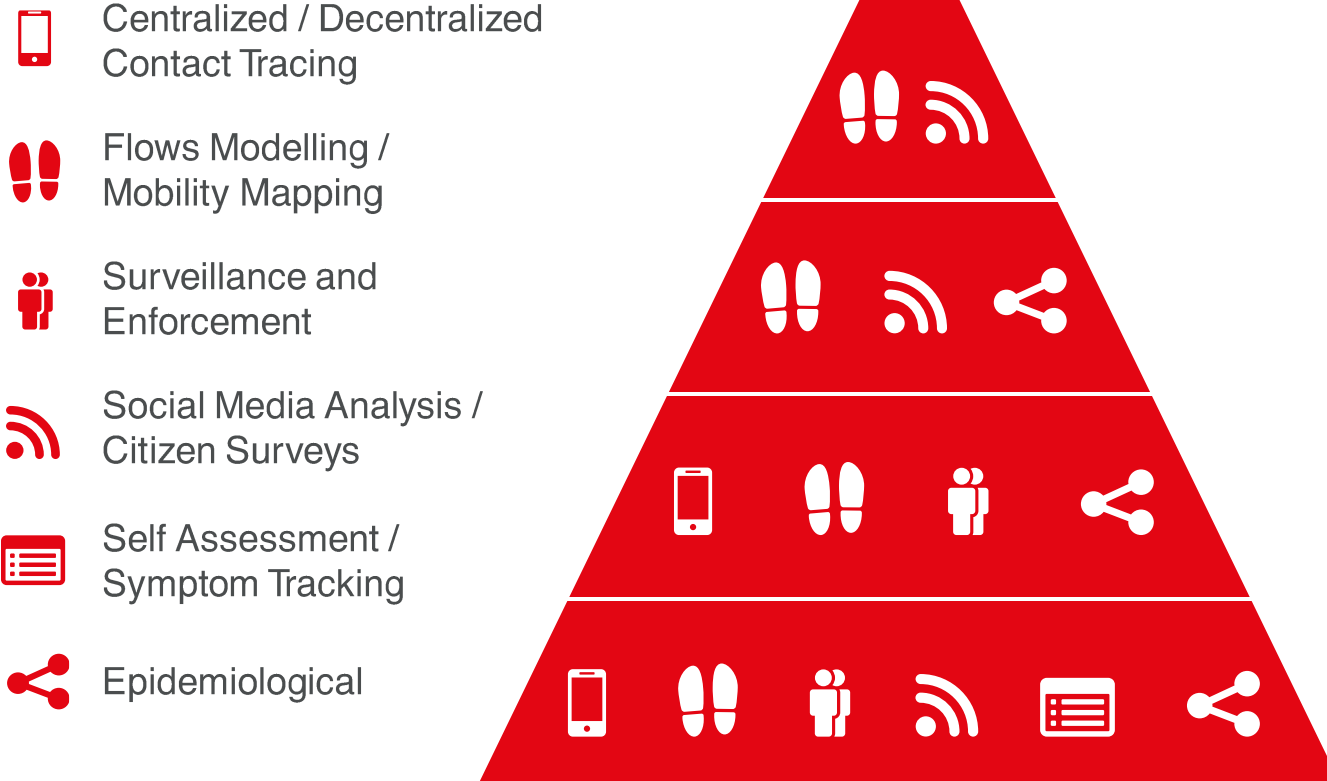
“COVID19 may be our once in a lifetime opportunity to push for systemic reset against excesses and injustices it has exposed and exacerbated, by leveraging some of the most powerful tools available to us: Digital data and technology. The time is now.”

Emmanuel Letouzé, PhD
Director and Co-Founder Data-Pop Alliance



1. COVID-19 digital initiatives

Purpose of digital technologies to fight COVID-19



Impact Assessment Determine the impact and barriers related to COVID-19 NPIs

Prediction Data-driven predictive models to assess future risks, needs and opportunities

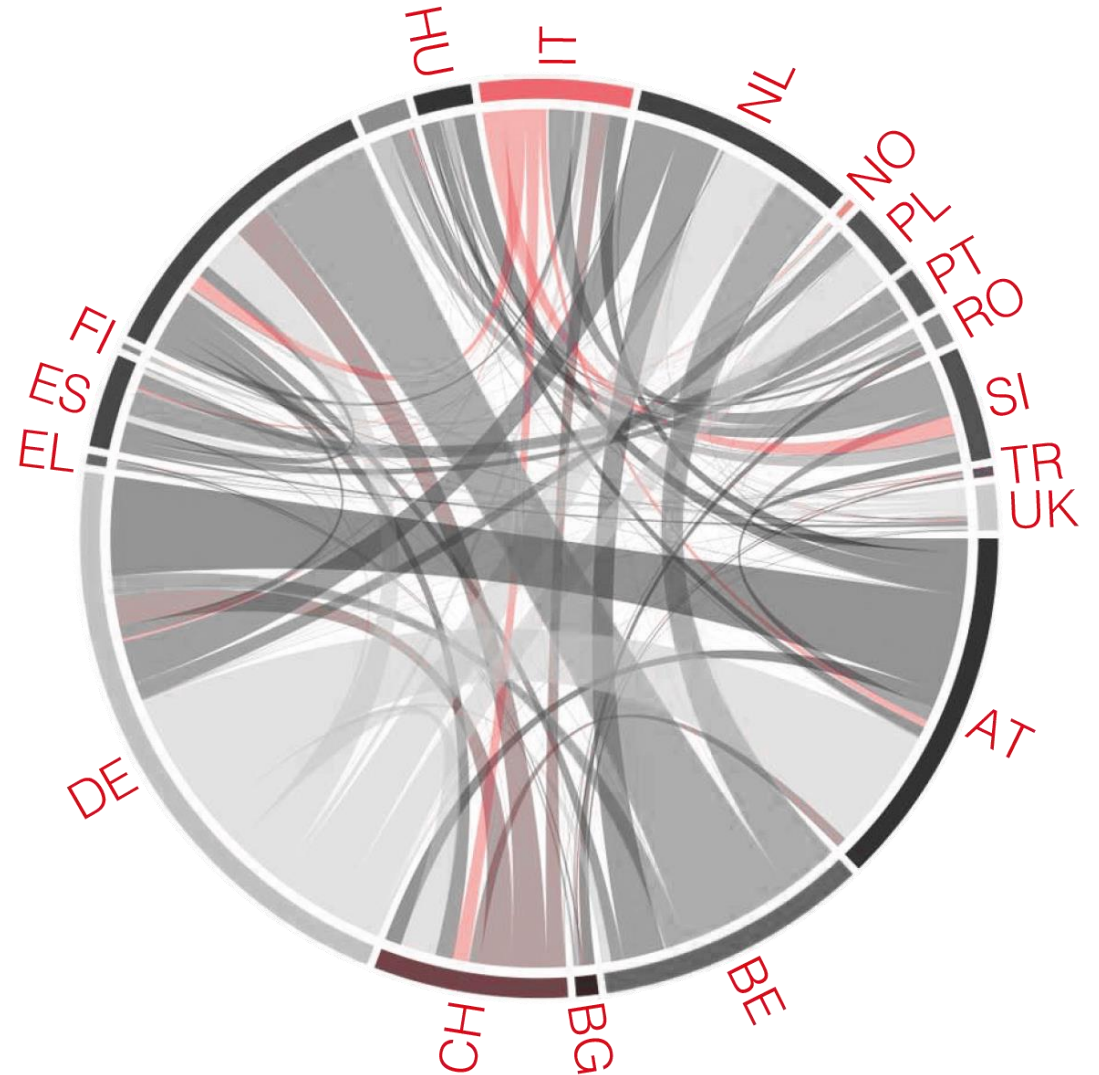
Cause and Effect Key drivers and consequences of implementing measures to contain the spread of COVID-19

Situational Awareness Trends and geographic distribution of COVID-19 impact

Impact Assessment: Mobility data to measure impact of confinement measures

Complementing epidemiological forecasting with mobility data

In epidemiological studies, mobility is a key factor to understand how diseases spread and what actions should be taken to minimize their impact on society.



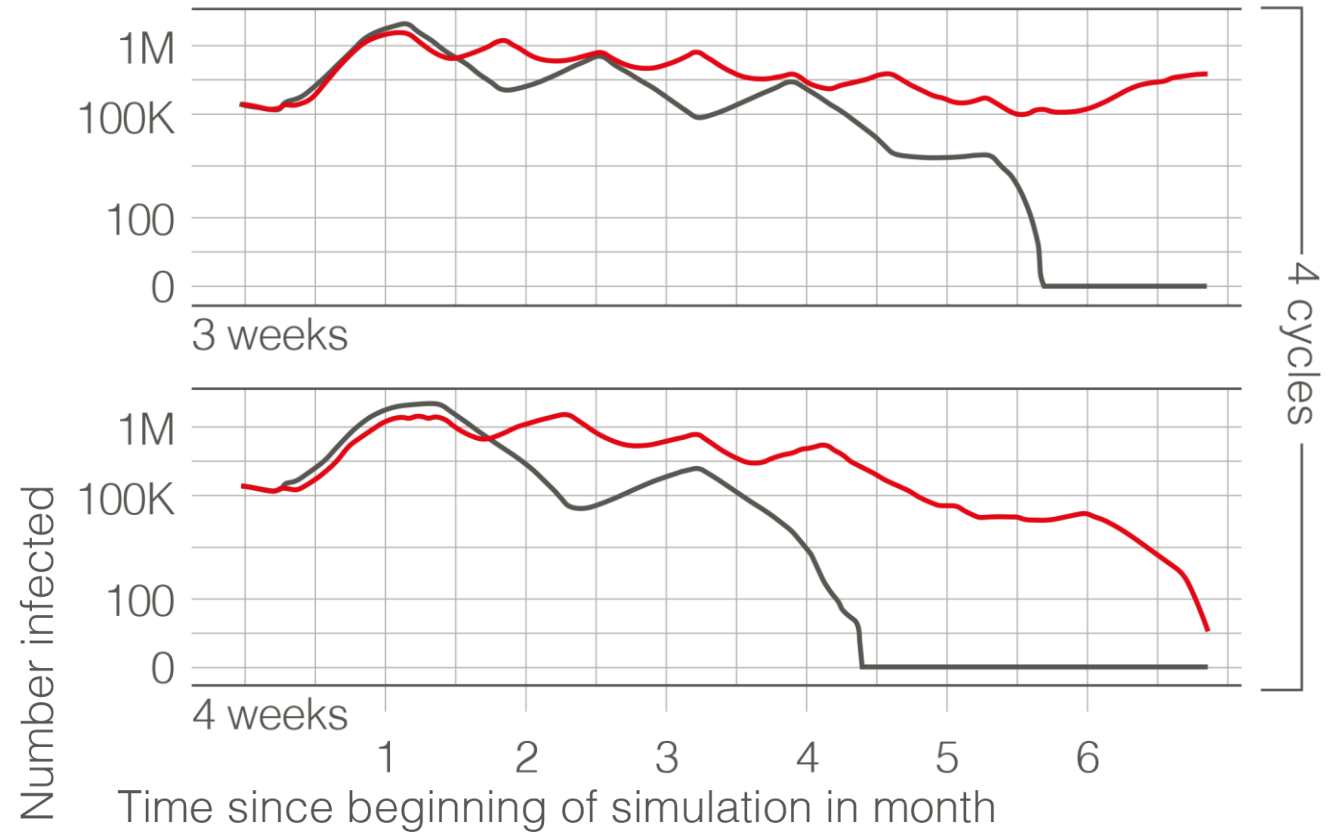
**How did mobility patterns in Europe
change during the pandemic?**

Source:

<https://science.sciencemag.org/content/sci/369/6510/1465.full.pdf>

Prediction: Epidemiological Modelling

Availability of reliable data for modelling the spread of the virus and public (lack of) transparency



Cases over time, when lockdowns are synchronized or unsynchronized across all European countries.

— **Asynchronous NPIs** (non-pharmaceutical interventions)
— **Synchronized NPIs**

Source: (N. W. Ruktanonchai, 2020)

<https://science.sciencemag.org/content/369/6510/1465>

Cause and effect:

Contact tracing

Debate over contact tracing apps: moving from centralized to decentralized approaches

Decentralized

John and Jane's phones generate a series of user-specific, anonymous IDs.

1 John and Jane don't know each other but chat for 10 minutes in a park.

2 Their smartphones exchange their anonymous ephemeral identities over Bluetooth LE.

3 A few days later John tests positive for COVID-19 and, via the app, consents to sharing his status as well as his test results.

4 John's phone sends his own anonymous identifiers (or a key that can derive them) to a central database.

5 Jane's phone downloads the entire central database and checks for matching identifiers.

6 Jane's phone alerts her that someone she met has tested positive.



Centralized

A central system generates a series of user-specific anonymous IDs and sends them to John and Jane's phones.

4 John's phone sends the anonymous identifiers of people he has met to a central database.

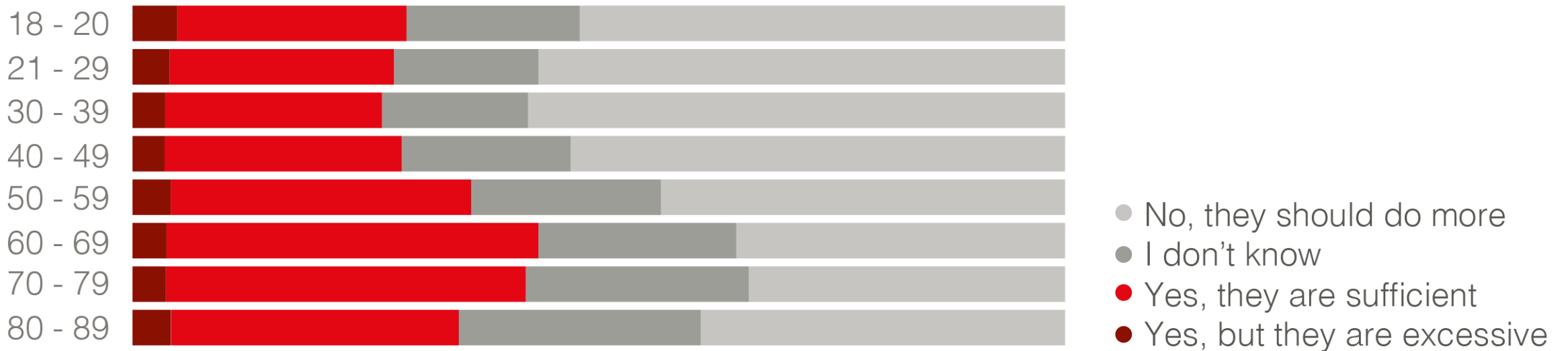
5 The central database matches the reported identifiers to John's contacts and sends them an alert.

Situational Awareness: Citizen Surveys such as COVID19impactsurvey



Situational Awareness:

Citizen Surveys such as COVID19impactsurvey



Do you believe that the measures the government has taken are enough to contain the spread of coronavirus?

Source: COVID19 Impact Survey, Oliver N, Barber X, Roomp K,
Assessing the Impact of the COVID-19 Pandemic in Spain: Large-Scale, Online, Self-Reported Population Survey J Med Internet Res 2020;22(9):e21319

Trade-offs in quick containment and digital rights



Only democratic nation in the world to require a majority of its citizens to download and use its tracking app with threats of fines, losing jobs, or jail if noncompliant.



Use of sensitive personal data to create a publicly available map to allow citizens to verify their potential contacts and the patterns of those infected as well.



Use of sensitive personal data; tracking infected individuals and their contacts to enforce individual quarantine measures.



2. Four sets of considerations and concerns

Technological and scientific

- If used in isolation, contract tracing apps need **adoption rates** of 60%, which is almost impossible to reach in most if not all countries
- A key factor of success is the **safety and interoperability** of devices, operating systems, applications and relevant institutions (e.g. hospitals)

Commercial and economic

- Big tech companies—along possibly with the pharmaceutical industry—may be some of the **few to benefit from the crisis**
- It may be the right time to look seriously at the workings of the data economy and enabling “**business models**” for safe data sharing



Ethical and legal

- Criticized for potentially hindering life saving innovations—which would raise deep ethical questions—the **GDPR has passed the COVID test**
- An ethical risk is that the current sense of urgency silence **concerns over long term harms and demands for the inclusion of data subjects**

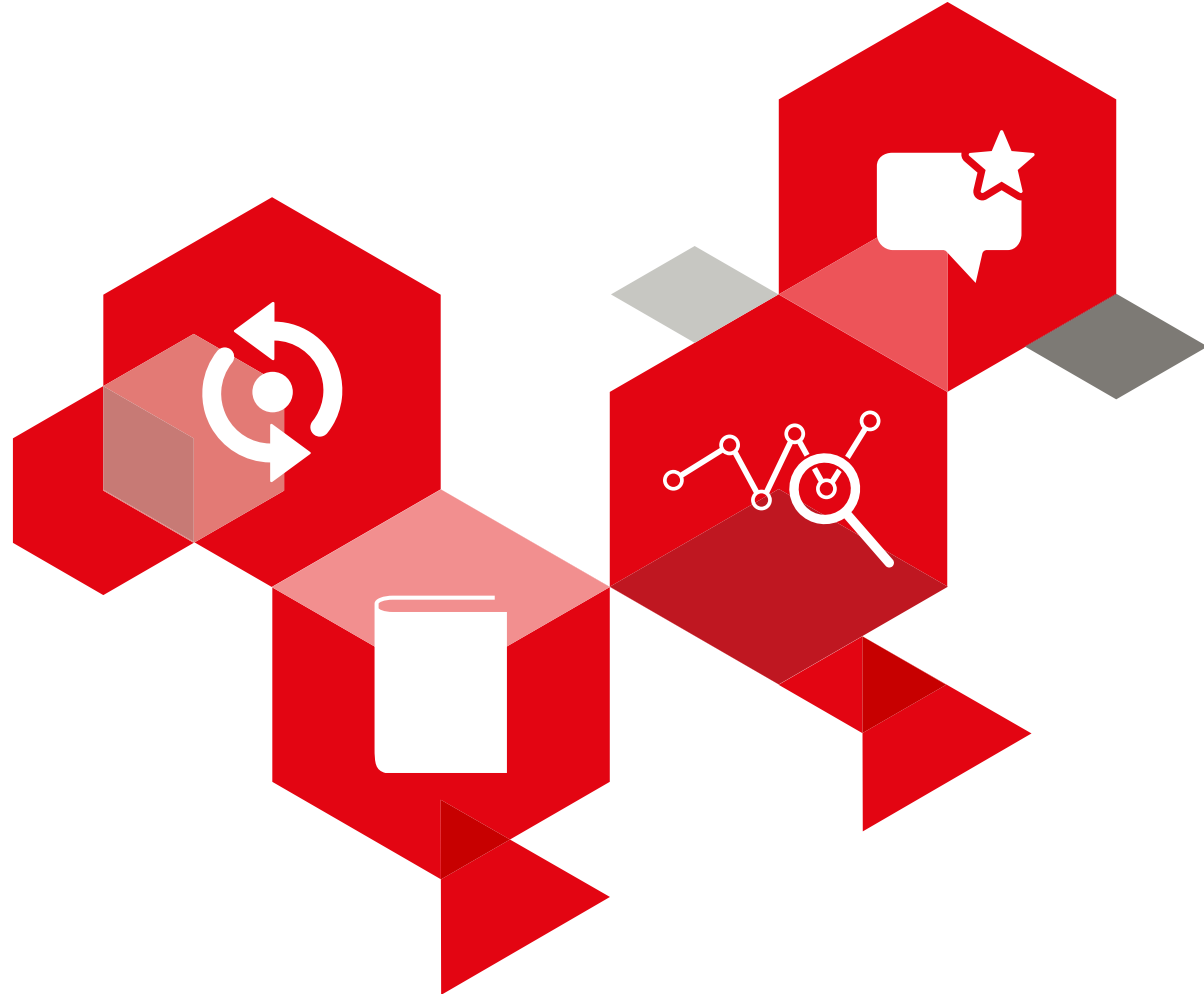
Social and political

- The crisis shows the strength of **data as a political tool** and offers governments, companies, and citizens a chance to put them to good uses
- To be successful, all data and tech solutions need to generate trust among societies through **regular, reliable and respectful interactions**

How to use data to fight COVID-19 and build back better

The 4 key elements:

1. Context
2. Education
3. High-quality data
4. Communication and trust



3. Key recommendations for a fairer post-COVID world



How to use data to fight COVID-19 and build back better

1. Think and act boldly and decisively
2. Deploy data and technology that are fit for purpose
3. Place people at the center at all times
4. Develop “data literate” humans and data systems
5. Test and scale sustainable business models
6. Consider and use regulation as an enabler





“Let’s work together – the public and private sectors together with citizens and civil organizations – on building back a fairer and healthier world through a human and planet-centric approach to technology development and data usage.”

Nuria Oliver, PhD
Chief Scientific Adviser Vodafone Institute

Thank You!

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