To app or not to app

Understanding public resistance in using COVID-19 digital contact

BACKGROUND AND CONTEXT

Data driven technologies are increasingly automating key policy decisions in public and private sectors and the public acceptance of these technologies is crucial for adoption. Reportedly, public confidence and trust in the protection of privacy are amongst the social factors that have led to growing public resistance and criticism of tracing apps, including the NHS tracing app in England and Wales, with the consequence that their scarce use has made them relatively ineffective.

There are no current standards for the development of COVID-19 tracing apps and this has raised security concerns pivoting around the risk of minority groups targeting, violations and mismanagement of personal data, and unwanted surveillance.

Opportunities to develop well adopted technologies have been generated by technology design studies which have drawn attention to the importance of real-life testing and user input in the design of applications. These issues interrelate with a key socio-criminological concern, which is resistance to official technologies. Indeed, official technologies like the NHS tracing app involve social mechanisms underpinning public resistance, thus their understanding is key. Within this context, our research brought together criminology and computer science expertise to analyse people's resistance to using the NHS tracing app. We used mixed method and cross-disciplinary approaches to explore strategies for developing technologies that recognize the sociocultural contexts of tech design and adoption.

KEY FINDINGS

1. **Conversation drivers**
   Our results provide evidence of the types of social media actors setting the tone of the conversation around the NHS tracing app; these were mainly journalists and prominent politicians and they had the most network interactions. Conversely, there was a notable absence of health organizations and professionals in the online conversations we observed: overall, it appears that health organizations were not participating significantly in Twitter debates about the use of the NHS app.

2. **Frames and mechanisms of resistance**
   When unpacking the key social dynamics, we identified two main narratives (lack of trust and negative liberties) at the basis of people's resistance to the NHS contact tracing app.

   (Lack of) Trust was defined in several ways: towards the Conservative government, towards a private company considered to be involved in the NHS app, towards the security and/or the effectiveness of the app, towards the societal trends increasing datafication. Also, algorithm distrust seemed to play a key role. In this context, the value of privacy, and more generally, the importance of

ABOUT THE STUDY

The policy brief is based on the study "To app or not to app? Understanding public resistance in using COVID-19 digital contact tracing", led by the University of Southampton (Department of Sociology, Social Policy and Criminology and Department of Electronics and Computer Science). The project has been supported by the Web Science Institute (WSI Stimulus Fund 2020). It employed a mixed method design including online computational, qualitative and visual analyses.

Twitter data, as many other comparable social media data, can be seen as qualitative data but on a quantitative scale; novel methodological approaches can be used alongside the traditional tools of social science researchers to make better, more comprehensive sense of such data. The interdisciplinary approach adopted in this study proved useful to ethically study online networks and their discourses at both sufficient breadth and depth.

protecting personal data seems to be important matters of concern, with dimensions of vertical (institutional) privacy being of much more concern in the tweets we observed than dimensions of horizontal privacy (that is, privacy between users of social media platforms).

So-called negative liberties – that is, a specific type of individualistic freedom which manifests itself in resistance to constraints – were identified as having a core role in the opposition to preventive measures such as lockdowns, limitations to travelling and gathering, and the use of masks, which are here seen as an undue interference.

Besides the narrative frames informing people's resistance in using the NHS contact tracing app, we identified three main mechanisms of resistance shedding some light on the factors that are breeding high levels of public distrust:

→ polluted information, which facilitated a wealth of misleading health-related information and fostered COVID-19 denialism

→ conspiratorial thinking, the main driving force behind the idea that the app is part of a clandestine plan for mass control

→ reactance, a psychological mechanism through which people reject evidence that is perceived as a threat to their ability to act, or do not act, in a certain way.

THE PROJECT'S CONTRIBUTION

This project has provided new insights on the factors contributing to public resistance towards official data driven technologies, with a focus on the NHS tracing app. We have identified the key actors dominating conversations and information about the app and we have shown that the following are all linked to public resistance:

→ Lack of trust

→ Negative liberties

→ Polluted information

→ Conspiratorial thinking

→ Reactance

Strategies that can address these problems are required. Broadly, these insights from the project should inform the efforts of the government to promote public trust and compliance with official technologies.

POLICY RECOMMENDATIONS

1. **Better social media engagement by the health sector, journalists and politicians** to prompt better informed decisions. This should include health organizations engaging in more active participation online by entering Twitter conversations. Media outlets and journalists efforts to avoid online polarizations on health sensitive topics by focusing on engaging with the purpose to inform.

2. **Insights and application of sociocultural mechanisms of resistance to new digital technologies.** The recognition of sociocultural dynamics across different contexts should inform tech design and adoption strategies aiming to address resistance. A sustained and multi-layered effort between a wide range of institutions is encouraged in mitigating other resistance mechanisms like polluted information and conspiratorial thinking. Efforts to focus on restoring public trust by improving effectiveness and institutional, political and algorithmic transparency should be strengthened.

3. **Development of socio-technical frameworks.** It is pivotal to make the most of sociological and computational expertise. A socio-technical approach to designing technology results in complex systems, like digital tracing apps that involve multi-layered networks that represent different social structures to have far more performance potential. Social requirements are an important part of computing design and this should be reflected in the digital applications that target human behaviour. A socio-technical response encourages a careful impact evaluation before any tech deployment, including impact on the citizens, how the tech works and governance.

4. **Accountability for social media platforms and misinformation.** The role these platforms have played in crises like COVID-19 and the (lack of) response in handling misinformation pushes for some kind of accountability guidelines. In a business model that rewards the loudest, most extreme voices and fails to address how the public have been drawn into conspiracy theories online needs some form of oversight. The key point here is not about free speech and what individuals post on these platforms but about what platforms choose to do with that content, which voices they decide to amplify, which groups are allowed to thrive and even grow at the hand of the platform's own algorithmic help. It is pivotal to acknowledge that these platforms are not neutral; their algorithmic recommending systems must be examined and kept accountable.

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