16th June 2020

Contact Tracing Application – Written Submission to the Special Committee on Covid-19

Dear Committee Members,

Thank you for the invitation to make a written submission. I assume that technical questions regarding the functionalities of the app are addressed by the technical experts and the important concerns on privacy are addressed by the stakeholder groups ICCL and Digital Rights. I therefore focus on matters of my expertise on users of technologies and information systems, and examine three factors that need to be considered for the effective deployment of this application and its contribution to controlling the spread of COVID-19. These concern the matter of digital inequalities, which may hinder access to this application; the question of digital literacy, which may affect the effective and correct use of the application; and the question of 5G conspiracy theories and techno-scepticism, which may have an impact on the decision to adopt this application. I conclude by proposing potential mitigating measures. I hope the submission will be of use to the Special Committee.

Yours sincerely,

Eugenia Siapera
Professor
Head of Information and Communication Studies
Director of UCD Centre for Digital Policy

Submission on Covid-19 contact tracing applications - Eugenia Siapera, Professor and Head of School of Information and Communication Studies, UCD, Director of Centre for Digital Policy, UCD. eugenia.siapera@ucd.ie – 16 June 2020

Introduction

My expertise is in digital media and technologies, with a focus on user practices, information behaviour, and digital inequalities. The focus of this written submission is on the potential users of contact tracing applications, and especially on the identification of barriers and obstacles in the uptake of the application, which in turn may hinder its overall effectiveness.

A UK-based study suggests that a minimum of **56% of the total population** or *80% of all smartphone owners* must use the application for it to be effective (Hinch...Fraser, 2020). The purpose of this submission is to discuss the extent to which this is realistic or feasible and the implications of a partial uptake of a contact tracing application. I discuss three inter-related issues: 1. Digital inequalities; 2. Digital literacy; 3. Rise of techno-scepticism and conspiracy theories. I conclude by presenting possible measures to mitigate these issues.

1. **Digital Inequalities**. There is strong evidence of a digital divide in Ireland. The main form the divide takes is in terms of internet access. While contact tracing apps do not require internet connection but bluetooth technology, it is only smartphones, or the recent generation of internet-enabled devices that have this technology. In Ireland, although smartphone use is high (72% in 2019, according to Statista) we have no evidence in terms of how this is distributed across the population, and especially, the extent to which people in low income households have access to smartphones. Evidence from the CSO indicates that only 56% of the bottom quintile ('very disadvantaged') have mobile internet access. We can use this number to infer smartphone access, that is, to infer that people from disadvantaged and very disadvantaged households may not have smartphone devices to the same extent as those in more affluent households. Additionally, it is not only smartphone access that is necessary for contact tracing apps to work, but also wireless chips and software that is not present in devices that are over five years old, effectively excluding 2 billion mobile phone users globally, according to recent estimates. We are lacking concrete evidence of the older devices in use in Ireland, but it is likely that these are owned by those who cannot afford the more recent models.

In parallel with the income divide in smartphone use, there is a **generational divide**, as people over 65 are less likely to own and use smartphones. Again, we lack detailed information for Ireland, but evidence from the US shows that only 53% of those aged 65 and above own a smartphone, compared to 92% of those in the 30-49 age bracket (Pew Research, 2020). A smartphone use divide also correlates with educational attainment, as evidence from the US shows that 66% of those with attainment below high school graduation own a smartphone device compared with 91% of college graduates. Access and use divides therefore correlate with income, education, and age.

In relying on a smartphone application for contact tracing we have to be mindful firstly of who are excluded from accessing it and secondly of the implications of this exclusion, which adds to, and potentially exacerbates, inequalities. While the UK study by Hinch et al. cited above claims that the app can be effective if 56% of the population uses it, we have to question the implications for those who haven't. Some of these implications may include, for example, the inability to trace any contacts among those without smartphones; an increase in stigmatisation and possibly in discrimination as the app may be used as a proxy for safe contact with others or even as a condition for casual employment. The effects of this exclusion have to be seen as cumulative, that is, as additional to other disadvantages and exclusions suffered by these categories of people.

2. **Digital literacy skills** are crucial for users to be able to use effectively a smartphone device. The 2020 EU Digital Economy and Society Index (DESI, 2020) shows that while Ireland is ahead of the EU average across many indicators, it is still behind in terms of the number of people who have at least basic digital skills. In Ireland, only 53% have at least basic digital skills, compared to 57% EU average. By basic digital skills, we mean the necessary skills to "use digital devices, communication applications, and networks to access and manage information" (UNESCO, 2018). To reiterate this point, even we assume access, only 53% of Irish users has at least the basic skills needed to be able to use digital devices – meaning that a sizeable part of the population cannot use digital devices effectively because they lack the necessarily skills.

A contact tracing app requires that the user turns on the Bluetooth function, and check regularly to see its connectivity; that the user can find, download and navigate the app environment; that in case of an infection, the user is able to send the data to the relevant authorities to begin the tracing. The lack of basic digital skills among a sizeable part of Irish people generates significant doubts as to whether all users are capable of going through all these steps.

In connecting the issue of digital literacy to digital inequality it is likely that those in disadvantaged groups, including not only those in low income households, but also those with some kinds of disabilities may have lower digital skills.

The lack of basic digital skills further alludes to another point: even if users are guided to download the app and assisted in sending data to health authorities as necessary, there is no certainty of their understanding of the implications of the app for their privacy. This effectively breaks the rule of informed consent and there are important ethical considerations arising from this. While there is survey evidence (from the UK) on user acceptance of the app, given the issue of digital literacy, there are important questions concerning the extent to which these opinions are informed and taken with full cognizance of what Is involved. The ethical question that is arising here is: if a sizeable percentage of users cannot make an informed choice regarding the contact tracing app, is it ethical to install and use it?

3. **Conspiracies, techno-scepticism and public trust**. A final issue that I want to bring to the attention of the Committee concerns the spread of various conspiracy theories and in particular, the one connecting 5G to COVID-19. In late March-early April 2020, unfounded claims on a connection between 5G technology and the emergence and spread of the virus.

There are at least four false claims linking the 5th generation mobile technology to COVID-19: the first is that 5G technology was trialled in Wuhan when the virus emerged; the second is that 5G technology weakens the immune system and makes people more susceptible to the virus; the third is that the virus was spread deliberately to keep people at home so that engineers could install 5G; another one is that 5G directly transmits the virus. None of them has any basis in fact, and all of them are variations of previous conspiracy theories in circulation (Tuters and Knight, 2020). These theories offer simple explanations, solutions, and courses of action which are entirely false but provide solace and make some people feel they have more control over situations that are complex and uncertain. The specific linkages of 5G with COVID-19 united disparate groups, such as the far right with the so-called anti-vaxxers (those who believe that vaccinations are harmful), but the plausibility of some arguments (for example the still unresolved issue of 5G radiation and related health concerns) along with the informational uncertainty around the virus, led to a wider than usual public becoming aware of these theories.

Conspiracy theories typically operate through creating a division between Us and Them, where the former refers to 'the people' and the latter to elites or the 'deep state' or some other hidden figure who are taken to act against the people. The circulation of these theories is problematic for two main reasons: the first is that it contributes to the erosion of trust in public institutions and creates an environment of generalised uncertainty, disbelief and polarisation; and the second is that it contributes to the delegitimation of potentially valid public critiques. The problem with conspiracy theories is that it is enough to cast a few doubts, and they need not be widely accepted, to lead to distrust.

While we have no concrete evidence regarding the spread of 5G theories in Ireland, the [destruction of two (4G) telecommunication masts](#) in Donegal in April shows that they are present in the Irish public sphere and they have real consequences. In Ireland, almost 11% of people say that they have no trust in politicians and political parties ([O' Connell, 2020](#)), indicating that if initiatives such as the contact tracing app are linked to the political establishment they are likely to be faced with scepticism at least by part of the population. The association of the contact tracing application with mobile technology and with a government-led health-related initiative may be enough for some to view it as part of a conspiracy, thereby contributing to a lower uptake.

At the same time, there are legitimate concerns regarding user privacy, generalised surveillance beyond the pandemic, and the possibility of malicious interference with people's phones through the contact tracing app. These are the main concerns that emerged in the UK-based [user acceptance survey](#) and discussed in the [ICCL intervention](#) and by other experts ([Barry, 2020](#)). Such concerns can contribute to a public sentiment of techno-scepticism, that needs to be taken seriously and addressed.

Conclusion

This written submission covered three issues concerning the contact tracing application from the perspective of users: digital inequalities, digital literacy, and conspiracy theories and techno-scepticism. All these are presenting obstacles and barriers in the uptake of the app, and therefore compromising its effectiveness, since it must be adopted by a significant number of people. Cumulatively, these issues show that the contact tracing app may not be adopted by the minimum necessary 56% of the population. It may exacerbate inequalities; it may not be used effectively or ethically; it may not be adopted because of conspiracy theories; and it may not be adopted because of legitimate concerns regarding privacy and surveillance.

In the concluding part of the submission, I want to offer some possible mitigating measures that could in part address these obstacles. It is very difficult to mitigate for **digital inequality** without addressing the broader parameters of social inequality. However, for the purposes of the contact tracing app, knowing that some people are going to be excluded, and that these people tend to belong to marginalised groups, implies that specific measures have to be developed to address and cater for the needs of these groups, taking into account that contact tracing within these groups cannot take place exclusively or primarily through a mobile phone app. Parallel measures must therefore be developed and applied for contact tracing among these communities.

To the extent that **digital literacy** correlates with digital inequality a similar approach could be useful: to consider the needs of people lacking basic digital skills and target them specifically. This could be either through accepting that some groups cannot use mobile phone apps and develop new techniques for contact tracing; and/or through organising face to face demonstrations of the app, and providing detailed explanations as to how it works and what its implications may be.

Finally, the question of public trust that is evoked through misinformation and techno-scepticism could be mitigated by taking steps to limit the privacy intrusion and shelf-life of the app (the so-called sunset clause), preventing mission creep. Transparency, accountability, oversight, and human centred design of the app can all be used to build public trust and the uptake of the app.

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