Mobile Phones: Sick of Your Phone yet? The Infectiousness of Mobile Phone Usage During the Pandemic and the Generational Divide

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Mobile phones are, without a doubt, one of the cornerstones of modern life and society. Over the last two decades, mobile phone usage has increased all across the globe; these tiny computers have provided billions with tools for communication, access to information and sources for entertainment. During the COVID-19 crisis, mobile phones added yet another role to their hefty repertoire: that of pandemic-management tools through the use of contact-tracing apps.

The COVID-19 pandemic was undeniably critical in catalysing society's adoption of mobile phones and digitalisation at large (Amankwah-Amoah *et al.*, 2021). The mass uptake of mobile phones and the attendant technologies arose because it was, if not impossible, at least extremely difficult to exist in and understand the virus-riddled world around us without a mobile phone. Scanning QR codes to enter buildings, paying for goods and services through electronic wallets and internet banking, contacting loved ones while under lockdown – many, if not all, of these were facilitated through smartphones. Phones were the avenue by which people all across the world consumed news media and public health information, such as directives put out by their governments. Our paper therefore imagines this viral adoption of mobile phones as an infection of its own, spreading alongside and existing symbiotically beside COVID-19, fomenting a pandemic of its own. This digital infection, much like its physical counterpart, has been indelibly shaped by corporate and political interests and policymaking – which are, in many ways, entrenched in neoliberal rationalities (Mair, 2020).

The acceleration of digitalisation, however, has not disseminated uniformly across all levels of society. Just as the physical pandemic has exposed the ways modern society is organised and reproduces and entrenches inequalities, so too does our digital pandemic. Digital exclusions both influence and reinforce existing structural inequalities (Helsper, 2012), including those of race, gender, wealth and class, and access to healthcare (Robinson *et al.*, 2015). This paper looks at, specifically, the inequalities that exist between different age groups, as this was one of the dominant themes that emerged repeatedly in narratives of the pandemic.

Research in International Political Economy has sought to analyse the influence and dominance of large technology companies in digital product and solution markets and/or the effects of these technologies on daily lives and the emergence of new forms of social inequality (Atal, 2020; Shibata, 2020). In this paper, we aim to contribute to this body of literature by focusing on how these technologies impact everyday lives and create new forms of social inequality. We do so by asking the following questions: (1) how have businesses both spearheaded and capitalised upon increased usage of mobile phones? and (2) how did the dynamics of monetising increased mobile phone usage and digitalisation play out differently across older and younger generations during the pandemic? We will answer the above by focusing specifically on the concept of the 'digital divide' and how it relates to the limited access to digital technologies among certain social groups – older adults (OAs) and children from socio-economically disadvantaged educational backgrounds.

Tech firms and the pandemic

During the pandemic, tech companies were able to enter en-masse into the space of public health policymaking, bringing with them their promotion of digitalisation and digital technologies (Storeng and Puyvallée, 2021). Big Tech giants and entrepreneurial start-ups alike seized upon contact-tracing applications as The Next Big Thing. The mass rollout and mandated use (in some countries) of contact-tracing apps also meant that mobile phone usage increased in tandem.

Government officials across the world looked to private businesses – including technological and telecommunications firms – to help ease the sting of the pandemic. Business executives were looped into policy decisions in the United Kingdom and European Union (Storeng and Puyvallée, 2021), and Australia collaborated with Amazon on its national contact-tracing app (Barbaschow, 2020). As government budgets buckled and funding grew scarce, large companies began to take on roles typically regarded as being under the purview of the state. Public–private partnerships (PPPs) were floated as solutions for education (Mitra, 2020), healthcare (Baxter and Casady, 2020), COVID-19 testing (Krijger *et al.*, 2021) and vaccine distribution (Von Achenbach, 2023) – all of which rested upon a bedrock of increased digital connectivity and technological innovation (Klein, 2020). Certain PPPs formed during the pandemic, however, have been scrutinised (Storeng and Puyvallée, 2021) for their alleged lack of transparency and limited oversight. Another critique relates to the undemocratic nature of permitting unelected actors such power within national and international governance. 'States and Markets' (Strange, 1988) boils down the fundamental premise of International Political Economy in asserting that:

It is impossible to have political power without the power to purchase, to command production, to mobilise capital. And it is impossible to have economic power without the sanction of political authority, without the legal and physical security that can only be supplied by political authority.

While tech companies certainly helped drive increasing mobile phone use – with their mass promotion of digital and technological solutions to pandemic-era problems – once the phenomenon of digitalisation took on a life of its own, these companies were in turn able to capitalise upon this teeming market. One such example is the expansion of 'surveillance capitalism', spearheaded by Big Tech, wherein user information is systematically mined, sold and analysed in order to better convert users into consumers (Zuboff, 2019). Such a practice can only be bolstered by the mass adoption of mobile phones and digitalisation, wherein increasing numbers of users on digital platforms provide a wealth of data and information. However, potentially problematic practices are shrouded in narratives of tech solutionism (Garrett, 2022); there is an increasing use of technologies that are depicted as 'magic bullets' and lauded, while their shortcomings and blind spots remain unmentioned. This narrative further solidifies the power and influence of Big Tech companies as they position themselves as key drivers of progress and solution. As tech companies increasingly accrue presence and credibility within the realm of public governance, it seems likely that the balance of what Strange (1988) names 'structural power' – the ability to determine 'how things should be done' and to 'shape frameworks within which states relate to each other, relate to people or relate to corporate enterprises' – is likely to tip in corporations' favour.

Figure 1: Apple iPhone 14 Pro.

COVID-19 and the elderly

Older adults with limited access and proficiency in digital technology are often overlooked by app developers and businesses, leaving them unable to benefit from digitalisation and disproportionately affected by social isolation. Due to the implementation of social distancing measures across the globe, various social domains that OAs occupy – such as community and senior centres – were closed (Yang *et al.*, 2022). Because of their heightened vulnerability to COVID-19, OAs have been encouraged to reduce their physical contact and depend upon smartphones to compensate for the loss of these in-person spaces for social and economic contact. The rapid advancement of information and communication technology has allowed us to compensate for this loss of physicality, from online shopping (Amazon and Woolworths) to instant communication (WhatsApp) and video entertainment (YouTube). Although these digital interventions have the potential to improve quality of life for OAs during a pandemic (Yang *et al.*, 2022), the reality is that many OAs encounter numerous barriers to accessing such government, social or business applications, websites and services (Adams *et al.*, 2022; Centre for Social Impact, 2020; Seifert *et al.*, 2020; Siette *et al.*, 2021). People aged 65+ are among the least digitally included groups (Centre for Social Impact, 2020), substantially elevating their risk of negatively impacted social and economic ties to community, businesses and family resulting from alterations to routine (Adams *et al.*, 2022; Centre for Social Impact, 2020; Seifert *et al.*, 2020; Siette *et al.*, 2021).

OAs face unique obstacles that set them at a distinct disadvantage when accessing smartphone services due to age-related health decline (Yang *et al.*, 2022). Declines in health create physical barriers, including musculoskeletal conditions such as arthritis, which impedes fine motor skills and strength, complicating handling of phones; vision and hearing loss, which hinders virtual communications and navigation of phone, and reading information; or cognitive impairment, especially dementia, which makes it necessary for OAs to receive personalised assistance – be it from family members or healthcare workers – to engage with digital services and communication (Dykgraaf *et al.*, 2022; Guo and Ling, 2022; Vahia *et al.*, 2020; Wilson *et al.*, 2021; Yang *et al.*, 2022). The majority of apps lack elderly-friendly features such as larger fonts, multimedia or easy navigation (Yang *et al.*, 2022). Smartphones themselves are frequently changing, which is ideal for attracting and retaining a younger audience, but discourages OAs who struggle to relearn how to navigate their phones. These factors both reinforce negative stereotypes of OAs and frame them as 'burdens' on family and society for not being as comfortable or as literate as young people in smartphone technology (Guo and Ling, 2022). OAs who find themselves asking for assistance can lead to some to deny their self-worth and can create disconnect between younger and older generations, reducing OAs ability to relate and communicate

with family members. This can negatively affect their quality of life, family life and mental health outcomes (Siette *et al.*, 2021; Yang *et al.*, 2022).

OAs' attitudes regarding smartphone use are often influenced by personal competence (Yang *et al.*, 2022). Their willingness to use smartphones can correlate to their level of technological literacy, which in turn is influenced by their education level and socio-economic status. OAs with lower education and socio-economic status, for example, tend to generally have lower self-efficacy and encounter more significant age-related decline, subsequently retrieving far fewer benefits from mobile app usage (Yang *et al.*, 2022). Hence, many businesses did not capitalise on OAs like they did with youth. In fact, OAs have been largely omitted in digitalisation – widening digital inequality indefinitely. Their relationship to smartphone technology is characterised by exclusion as app developers and businesses fail to make accommodations and considerations for OAs, particularly regarding physical ability, resource access and education level, meaning their relationship to these apps during the pandemic differed greatly to that of the relationship that younger users had.

Furthermore, as OAs grapple with the aforementioned barriers to digital inclusion, companies are presented with a unique opportunity to close the divide by developing accessible applications and products tailored to the specific needs of OAs. By recognising this vast, untapped market and investing in solutions to accommodate their challenges, increased private investment from technology companies can not only contribute to reducing social inequality in the online realm, but can also capitalise on an underserved demographic.

Figure 2: Older man with smartphone.

The generational divide

It could be mistakenly assumed that those who are young, or middle and working aged – being the predominant target market for Big Tech companies – are exempt from exclusion to the digital realm. This would be untrue. While mobile phones can provide people with convenience and connectivity, there is still the pervading issue of accessibility as well as inappropriate usage of mobile devices, which has the potential to be detrimental towards widening the 'digital divide' and financial disadvantage. Countrywide school closures were implemented in over 191 countries worldwide in response to the pandemic, affecting 91.3 per cent of enrolled students, totalling more than 1.5 billion students globally (Drane *et al.*, 2020). Of this, countries that have made the transition to online learning have encountered mass public concern regarding its potential to exacerbate existing financial inequalities and heighten mental health adversities due to social isolation and physical distancing measures (Drane *et al.*, 2020). Despite children being more susceptible to experiencing (or reporting) mental health issues more generally, the disruptive effects of online learning towards youths' mental health were disproportionately felt by students from low-income households and/or who possess low levels of digital access and literacy (Drane *et al.*, 2020). In Australia, despite internet connection being possessed by much of its population, approximately 2.5 million people were without internet access in 2018, indicating notable limitations in access, digital ability and affordability for its 3,948,811 enrolled students nationally. In remote regions, the absence of adequate infrastructure, such as limited fibre optic networks or outdated telecommunications systems, creates a technological disparity that impedes the provision of reliable and high-speed internet (ACCAN, 2021 as cited in Dulfer *et al.*, 2022). Consequently, Big Tech companies face considerable challenges in terms of investing in digital infrastructure, as they often prioritise urban areas that offer more immediate economic returns, leaving remote regions underserved (Blackburn *et al.*, 2021). This lack of access for many meant exclusion from the digital world, although this exclusion has larger implications towards maintenance of crucial social ties to loved ones and community members due to social distancing measures (Drane *et al.*, 2020).

Some 30.7 per cent of Australians relied solely on mobile-only internet plans as opposed to fixed-line services, meaning that, for some low-income earning families, reliance on their mobile phones for internet was increased during lockdown in order to remain digitally connected for work and school (Drane *et al.*, 2020). It is also important to note in these contexts that exceeding mobile-only plans incurs additional costs, meaning opportunities for youth to experience digital connection outside of school may have been heavily restricted if not entirely financially unaffordable. In low-income areas, it is not uncommon to find young people and adults alike using flip-phones or older phones that do not possess the capacity to carry out video calls, or even audio calls through phone apps such as WhatsApp and Facebook Messenger. Mobile applications often require phones to have the latest software updates and cannot be used on earlier versions effectively, if at all. With this, socio-economic disparities became increasingly visible as those in remote areas struggled to access and afford internet services – the costs of internet plans and the availability of affordable devices posing significant barriers to digital inclusion for these groups. The Australian case thus demonstrates how, to act as a 'developmental state', states must address vast socio-political interests requiring allocation of funding, development of targeted policies and – perhaps most importantly – encouragement of private sector investment to ensure that remote areas receive equitable access to digital technologies in the future.

On the other hand – because it is generally well understood by media industries and tech companies alike that many young people possess both disposable income and the time – these industries aim to cultivate youth audiences; however, this makes them vulnerable to a unique set of challenges with effects not yet fully

understood (Wee, 2017). The excessive use of mobile phones during the pandemic has been linked to adverse psychological and neurological effects on young people (Drane *et al.*, 2020; Dulfer *et al.*, 2022). Students worldwide have been confined to studying in their homes or in isolation in school residences, increasing their online time. There is evidence to indicate that screen over-exposure exceeding 4 hours per day can be a precursor for developing psychological conditions such as major depressive disorder and social phobia in young people (Kim *et al.*, 2020 as cited in Mesce *et al.*, 2022). Yet, at least one study suggests that the mobile phone usage of university-level students averaged at least 7.39 hours each day during lockdowns (Xu *et al.*, 2022). Such substitution of face-to-face social interaction with social media and virtual communication platforms has generally resulted in poorer sleep quality, irregular eating patterns, anxiety and depression (Xu *et al.*, 2022; Youth Affairs Council of Western Australia, 2022). However, this upward trend between mobile phone usage and development of mental health problems does not appear to be any closer to stopping since the release of lockdown restrictions in many parts of the world (Drane *et al.*, 2020). This is because many mobile applications have smartly capitalised on social distancing measures and developed features in response to reduced in-person interaction (Teleparty for Netflix, YouTube, HBO Max, etc., and FaceTime introducing virtual minigames) to encourage usage of mobile phones long after restrictions have been lifted. People – not just the youth – have come to favour the convenience of being able to connect with loved ones at any time, any place. Hence, for many, excessive screen-time on mobile phones has persisted after lockdown, as time spent in isolation has drastically altered learning and lifestyle routines and habits, suggesting long-lasting phone dependence will pervade well into post-pandemic life (Drane *et al.*, 2020).

Neoliberalism's influence may be partially responsible for these developments. Its emphasis on market-driven solutions and private sector investment has enabled the marketing of digital media (that is easily accessible via the convenience of mobile phones) to younger generations (Holborow, 2013). According to Veronica Wee (2017: 138), 'commitment to engagement and interaction also motivated the adoption of digital and social media to cultivate youth audiences' perceptions (and expectations) of directly interacting with creative personnel and celebrities'. With neoliberalism's focus on technological innovation and competition, corporations were incentivised to capitalise upon the increased mobile phone dependency of young people during COVID-19 lockdowns, disposable income, and time to capture and maintain these users' attention and engagement with their product and/or services (Holborow, 2013).

While the pandemic unveiled the digital disparities endured by OAs, it also illuminates missed opportunities for businesses to capitalise upon such demographics. Neoliberal principles of market-driven innovation have greatly influenced the way technology developed and was utilised in societies during COVID-19, often to the exclusion of older generations. Undoubtedly, corporations have exacerbated a widening disconnect between generations by encouraging wider societal trend towards digitalisation and capitalising upon pandemic-era reliance on smartphone technology without providing accessories to promote equal access for OAs. Hence, disconnect within family units and between businesses, societies and OAs is going to become increasingly prevalent. Recognising the opportunity for market expansion presented by this challenged demographic is perhaps an area requiring further research and attention from companies who seek to deftly navigate the evolving landscape of digitalisation in post-pandemic societies. Societies will also likely see increased growth in mental health concerns as our current generation of youth transition into adulthood and corporations omit consideration of the mental impact smartphone dependence causes. This research finds that this trend does not appear to be stopping anytime soon as smartphone technology embeds itself within our post-pandemic lifestyles, routines and habits, permanently shaping how we give and receive information as well as interact with others.

Figure 3: Young women taking selfies.

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Figure 3: Young Women Taking Selfies available at: https://pixabay.com/photos/women-friends-selfie-girls-8279447/ under Pixabay Content License.

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