Pandemic-Driven Technology Adoption:
Public Decision Makers Need to Tread Cautiously

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ABSTRACT

During the first six months of the COVID-19 pandemic, around the world, evidence is mounting as to the unevenness of impacts across communities. There are disproportionately more impacts on people who are elderly, economically marginalized, immunologically compromised, and members of racialized and equity-seeking communities. As part of the COVID-19 response, virus transmission mitigation efforts including the use of new technology tools like contract tracing apps are being explored. There are significant implications to the use of these tools, including how they impact different community members and exacerbate digital divide, exclusion, and surveillance issues. This article brings forward a citizen participation framework that is instructive for decision-makers charged with pandemic-driven technology adoption.

KEYWORDS

1. INTRODUCTION

Governments around the world are currently making decisions in a pandemic environment highlighted by rapidly changing on-the-ground conditions, and profound future uncertainties. Given the significant human and economic costs of the COVID-19 pandemic, government performance will be under increased scrutiny, including actions taken, warnings heeded, and those ignored. And as the pandemic progresses, one glaring reality is coming into clear relief: the impacts and challenges of the pandemic are not equitably or evenly distributed across society.

As schools closed overnight and governments sent their staff to work remotely from home, students and citizens had no alternative but to use technology platforms to interact with their teachers, city hall staff, and public officials. With the closure of schools, public libraries and other local businesses, people sheltering in place suddenly had their access to communal technology and free public wifi disrupted. Overnight, people were suddenly restricted to working and learning via the technology and internet access they had at home. Family members had to share devices. Work and school were being completed on tablets and mobile phones often using technology platforms instead of software and access to data had to be rationed. The COVID-related measures to impose social distancing deepened the digital divide.

The impacts and outcomes of the COVID-19 pandemic will drive research agendas for the next decade, particularly for those disciplines studying how government and citizens work together to make decisions and implement actions. While many researchers are shifting their focus to examine COVID-19, for our research team, the government response to this pandemic adds a new dimension to our existing work. Over the past decade, we have examined the impacts of technology on civic participation, and forms of technology adoption by governments. More recently, our team has tracked how smart city technology platforms are introducing new dynamics into the ways that local governments work with their residents. Given the rapid push for governments at all levels to adopt technology to respond to COVID-19 and to better connect with citizens and deliver critical services via technology, we draw on past and current research to highlight the challenges governments may face, and propose key considerations that must not be discarded in the name of speed or efficiency. In particular, we note that the COVID-19 pandemic places greater impact on equity-seeking and racialized groups, and that technology adoption and implementation by government should robustly consider these impacts.

2. SMART CITY TECHNOLOGY CHALLENGES APPARENT BEFORE COVID-19

Drawing on our recent work on government technology adoption, several key themes have emerged through close work with Canadian local government partners that shed new light on how these technologies impacted communities. We found that new technology adoption often comes bundled with the expectations that there will be a positive change or improvement in how citizens relate to governments (Robinson & Johnson, 2016; Sieber, Robinson, Johnson, & Corbett, 2016). These expectations are often based on technology vendor hype, limited real-world testing, and often do not take into account complex implementation environments (Johnson et al., 2015). The high level of enthusiasm behind many civic technology projects underscores the lack of understanding that many technology vendors have of the challenging processes of government. For example, in formal planning situations, local governments have a duty to consult the public and meaningfully involve the public in decision making, through a variety of channels (Johnson & Robinson, 2014). This assumption that technology will solve whatever situation, whether it is the typical challenges of consultation, access to information, or better connecting government to the needs of its citizens, has long been critiqued in technology adoption literature (Rogers, 2010; Janssen, Charalabidis, & Zuiderwijk, 2012). The unintended consequences of technology implementation within planning have been demonstrated for decades, notably by Lee's (1975) "Requiem for large-scale models", that presented how the promised transformation of technology failed to materialize, and even created additional challenges to planning. Unfortunately, even as technology has progressed, the process of implementation and adoption remains fraught with challenges, and often goes poorly acknowledged by those innovators proposing new technologies for sale (Robinson & Johnson, 2016; Graham, 2020).

Our recent work interrogates the use of technology as a conduit for government-citizen interactions. With the Sidewalk Labs Quayside project in Toronto (2017 to 2020) and the Government of Canada's Smart Cities Challenge (round one winners announced May 2019), there have been numerous opportunities to explore the kinds of smart city technologies available to communities (Johnson, Acedo, & Robinson, 2020; Infrastructure Canada, 2019; Robinson and Coutts, 2019). The pitch to adopt these technologies is familiar. Vendors propose that the use of their technologies will make communities more efficient, inclusive, accountable, democratic and sustainable. But the same cautions apply to new smart cities technologies as did to earlier digital technology innovations including the geoweb and open data. When we move beyond the surface of the vendor pitch to explore the kinds of technologies being used and the ways in which these tools mediate relationships between citizens and local governments, instead of enabling transformation, instead the relationship may become more transactional (Johnson, Robinson and Philpot, 2020). We are concerned about the emergence

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