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A history lesson on the future of cities

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Abstract

In this book review, the author explores key lessons from Anthony M. Townsend's Smart cities: Big data, civic hackers, and the quest for a new utopia. Although Smart Cities was published in 2013, the author suggests that it contains rich and timely wisdomfor professional communicators seeking to integrate data science into their practice. Through the history of urban development and technology, Smart Cities highlights how thoughtful data collection, measurement and analysis can enhance stakeholder engagement.

Imagine this: A city without gridlock. A city in which cooking appliances are all automated. A city that turns on lights and dispenses water precisely when they are needed. A place where millions of sensors are collecting data, creating a digital "nervous system" that connects civilians across an urban landscape.

This futuristic city isn't ripped from a sci-fi novel or Elon Musk's dream journal — it is a $40 billion experiment in urban automation created by multiple public and private partners, including tech giant Cisco Systems. Songdo, South Korea is a city built from scratch on reclaimed land just southwest of Seoul. But for all of its predictive abilities and its sophisticated data centres, Songdo has few cultural or social touchpoints. In early 2018, a disappointed resident told This Week in Asia that Songdo has a "Chernobyl-like emptiness" (White, 2018, para. 7).

On paper, Songdo has all the hallmarks of a smart city. However, as Anthony M. Townsend writes in his book, *Smart Cities: Big Data, Civic Hackers, and the Quest for a New Utopia*, "Songdo's 'smart' face is invisible," and the result of too many private interests dictating how modern cities should operate (2013,

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p. 28). By 2050, it is expected that 80 per cent of the global population will live in urban areas, leaving, as Townsend says, "few cities left to build" (p. 284). Rather than build a utopia that does not serve the needs of real people, Townsend encourages all of us to consider how technology could augment our reality, rather than automate it. An internationally renowned expert on the future of cities and information technology, Townsend provides historical context to situate the reader and help them to understand the urban planning choices we must make today. From the 20th century 'garden city movement' to the rise of smartphone ownership, Townsend recounts the successes and failures of how we have built our cities.

In sharp contrast to Michael Batty's (2013) *The New Science of Cities*, Townsend makes the argument that modern city design should be as much a science as it is an art form. Through engaging vignettes, Townsend shows that a real smart city does not hand over the keys to an army of robots; instead, it arms citizens with the technology to improve city services and social interactions. While Batty speaks directly to data scientists and urban planners, Townsend addresses all of us in a gripping call to action.

Each sentence, Townsend packs an informational punch, artfully reminding the reader that technology has the ability to feed the spontaneity and creativity of urban life. For example, Dontflush.me is a grassroots app that sends a light signal to avoid flushing during storm surges (Townsend, 2013, p. 139). By placing Arduino-programmed sensors above outflow pipes, the creators of Dontflush.me are reducing raw sewage sent into the New York Harbor. Townsend also sings the praises Foursquare, an app that allows users to make recommendations to friends about a neighbourhood's best hangouts and restaurant gems. Unlike Songdo's paternalistic monitoring, Townsend sees Foursquare and Dontflush.me as technology that enhances his experience of urban life. Following the publication of Smart Cities, Foursquare abandoned its check-in feature in 2014 to focus solely on a new iteration of that app that provides a local search-and-discovery service (Hamburger, 2014).

Townsend (2013) also shows how tech titans of Silicon Valley are infiltrating the developing world. Similar to Songdo, he reviles Rio de Janiero's "Orwellian" data operations centre. Townsend contrasts Rio's rigid IBM software with Projecto Morrinho, based outside of a favela called Pereirão. The boys of Pereirão have built an evolving model of their community for over a decade using cinder blocks, LEGOs, and mud. The model is a home for these community members to act out the stories of their community. As Townsend notes, "IBM's model senses from a distance, [whereas] the boys' model is driven by observations on the ground" (2013, p. 91). While Projecto Morrinho is not powered by large-scale mobile-sensing and predictive analytics, Townsend

(2013) suggests that the favela boys are collecting far more useful data points about Rio. In fact, he goes as far as to say that the poor were merely "a problem to be measured and managed with IBM's software" (p. 173).

As leading urban thinker Richard Florida has been widely criticized for disregarding lower-income citizens, Townsend believes that taking an inclusive approach is vital (Wainwright, 2017). Perhaps the most prominent example of Orwellian data collection since the publication of Smart Cities is the Chinese state's new social credit system (Ma, 2018). Established in 2018, the pilot program moves the social credit of each citizen up or down, depending on their actions. For example, citizens who "post fake news online" or "buy too many video games" would receive a lower social credit score (Ma, 2018, para. 5).

If corporate interests and paternalistic governments stand to create inequality, Townsend argues that smartphones have the ability to do just the opposite. Unlike the landline system that came before it, Townsend writes that "wireless is the infrastructure of inclusion," with low costs and high speed (2013, p. 178). For example, India's widespread use of mobile apps for traffic and employment opportunities have stimulated the economy and reduced gridlock (Townsend, 2013). Building on Clay Shirky's (2008) assertion that mobile phones change the way we organize, Townsend shows how these devices level the playing field for the disenfranchised.

Yet, despite the vast amounts of data at our fingertips, Townsend laments that there will always be "crucial bits of data" still missing—what he refers to as "slow data" (2013, p. 316). Whereas Batty (2013) might see these data as the missing piece to complete a definitive smart city blueprint, Townsend sees slow data as a force of good. Imperfect data allows us to retain some spontaneity in an automated, precise environment. By grounding civic hacker dreams in the reality of urban planning politics, this book acts as a guide for data scientists who want to move their ideas forward.

Townsend's digestible history of the relationship between urban planning and technology also makes it a must-read for professional communicators. Woven together, the collective threads of Smart Cities suggest that better understanding a city's people and their challenges could avoid large-scale development mistakes. Projects such as Songdo reveal a poor understanding of what citizens want, while apps such as Dontflush.me show a deep understanding of the given problem and its intended beneficiaries. Communicators should read this book with a notepad in hand, to mark down all the urban planning failures that could have used an injection of two-way symmetrical communication (Grunig, 2001).

Perhaps most importantly, Townsend shows the reader that data is only useful if we know what we are measuring and why—a highly relevant message for communicators in this data-rich world. The chaos and frenzy of a growing urban population is not conducive to carefully developing a data science program that serves the needs of a citizenry long-term. It will be politically popular for municipalities to commit to expensive smart city plans to show voters they are 'doing something' to prepare for the future. However, as Townsend argues, unless we tangle with the risks and unintended consequences of these prototypes, we might end up with our own version of the failed garden city (March, 2004).

Today, governments around the world continue to invest in corporate smart city projects. For example, Sidewalk Labs, an Alphabet company, is working to build a neighbourhood "from the Internet up" on 12 acres of Toronto's waterfront (Barth, 2018, para. 2). While the Canadian government sees this as a forward-looking initiative, critics, such as Tech Reset Canada Co-Founder Bianca Wylie, argue that the city needs to understand pain points before automating a solution (Barth, 2018). Reminiscent of Cisco's Songdo opponents, Wylie suggests that consulting with the people who actually live there is an important first step before a shiny, technological solution is prescribed.

By anchoring a discussion of the future in the past, Townsend arms all of us—hackers, Silicon Valley techies, urban planners, communicators, and citizens—with the knowledge to write the next chapter of urban life. Through the entertaining lens of urban innovation, public relations practitioners will learn terminology and concepts that allow them to better engage and collaborate with technologists and data scientists. At face value, Smart Cities is about the history of urban planning, but it is also about the value of authentic communication during times of disruption and change. From Songdo to IBM's Rio Operations Center, Townsend provides communicators with countless case studies that highlight the importance of engaging strategic publics before committing to a large-scale solution.

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