

MANAGING ORGANIZATIONS IN A TIME OF CRISIS

Broadband Availability Affects Working from Home

Date: April 24, 2020

Authors: [Derrick Choe](#), PhD Student, Department of Management & Organizations, NYU Stern and [Robert Seamans](#), Associate Professor of Management & Organizations, NYU Stern

Key Takeaways: The shift to working from home places a spotlight on Americans' unequal access to broadband. During the crisis, managers should respond with inclusive policies such as "low tech" options to access meetings and subsidies to help employees pay for broadband at home. Given broadband's demonstrated economic benefits, policymakers should expand broadband access via measures that address both demand-side and supply-side issues.

Broadband Access and Working from Home

The nature of work has been changing in many ways over the past several decades (see Barley, Bechky and Milliken (2017) for a review). The coronavirus pandemic is likely accelerating some of these changes. In order to reduce the spread of the coronavirus, many people around the world are now working from home. [Brookings Institution estimates](#) that in the U.S. roughly half of the workforce is now working from home. According to Brookings, the probability of working from home varies greatly by income, with the top income quintile almost twice as likely to have switched to working from home than the bottom income quintile. There are likely many reasons for this heterogeneity across income, including the nature of work performed in different jobs and the availability of broadband.

The massive shift to working from home puts a spotlight on the importance of broadband access. Without access to broadband, many Americans would find it difficult if not impossible to do their jobs from home. [Comcast](#) has seen over a 200 percent increase in video conferencing since early March. Additionally, broadband access has been associated with a number of economic benefits, with [studies](#) linking Internet access to improved labor market outcomes, access to better health care, more civic participation and more regional economic growth.

However, many in the U.S. still lack access to broadband, which the [FCC defined in 2015](#) as having minimum 25 Mbps download speed and minimum 3 Mbps upload speed. [According to the FCC](#), as of 2017 only about 60% of U.S. households had broadband at these speeds. In Figure 1 below, we use census-track level data from the FCC to show differences across the U.S. in residential access to broadband. The darker areas show greater numbers of broadband connections per household; the lighter areas show fewer connections. Similar FCC data has been used in other papers such as Xiao and Orazem (2011) and Skiti (2020).

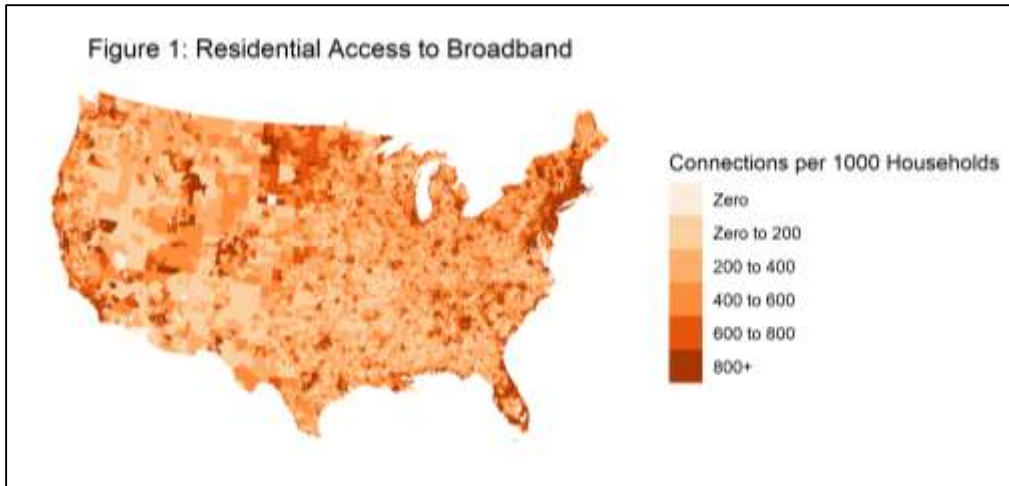


Figure 1 indicates that access to digital and communication technology varies across the U.S.: some areas have many connections, others very few. The Council of Economic Advisers (2015) highlights that this digital divide varies by urban-rural status, income, race, and education. In recent years, there has been bipartisan support for addressing this issue. President Trump announced two executive orders designed to spur investment in rural broadband. President Obama also led a number of efforts to increase broadband access and reduce the digital divide.

There is some debate about how to best increase broadband access and reduce the digital divide. Some have argued for “demand-side” policies, for example by subsidizing computer purchases and broadband access. Others have argued for “supply-side” policies, for example by subsidizing the deployment of broadband where none exists, or by encouraging competition between providers. Kolko (2010) shows there is a strong positive correlation between the number of broadband providers and the percent of households using the Internet. Academic research on the topic suggests that this relationship is likely causal—that more providers leads to competition, resulting in lower prices, or higher quality service. For example, Seamans (2012) shows that cable providers (many of which offer broadband) invest in upgrading their networks in response to potential entry from competitors and Seamans (2013) shows that cable providers reduce price in response to potential entry from competitors.

Implications for Managers

The results reviewed above and displayed in Figure 1 have implications for managers and policymakers. Policymakers should prioritize policies that increase broadband access to all Americans, including both demand-side and supply-side policies.

Managers should be aware that their employees may not all have the same access to broadband. The implications of this differential access are two-fold. First, managers should limit the amount of meetings that require bandwidth-hungry applications and should make accommodations for phone calls or other “low tech” access to meetings. Second, managers should consider subsidizing their employees’ broadband access. In most cases, employees are not expected to purchase equipment used in the workplace. The same should hold now that more employees are working from home.

References

- Barley, S. R., Bechky, B. A., & Milliken, F. J. (2017). The changing nature of work: Careers, identities, and work lives in the 21st century. *Academy of Management Discoveries*, 3, 111-115.
- Council of Economic Advisers. (2015). Mapping the Digital Divide. Available: https://obamawhitehouse.archives.gov/sites/default/files/wh_digital_divide_issue_brief.pdf
- Kolko, J. (2010). A new measure of US residential broadband availability. *Telecommunications Policy*, 34(3), 132-143.
- Seamans, R. C. (2012). Fighting city hall: Entry deterrence and technology upgrades in cable TV markets. *Management Science*, 58(3), 461-475.
- Seamans, R. C. (2013). Threat of entry, asymmetric information, and pricing. *Strategic Management Journal*, 34(4), 426-444.
- Skiti, T. (2020). Institutional entry barriers and spatial technology diffusion: Evidence from the broadband industry. *Strategic Management Journal*, forthcoming.
- Xiao, M., & Orazem, P. F. (2011). Does the fourth entrant make any difference? Entry and competition in the early U.S. broadband market. *International Journal of Industrial Organization*, 29(5), 547-561.