

INTRODUCTION

The 2015 Brookings Blum Roundtable was convened to explore how digital technologies might disrupt global development.

Our intention was to imagine a world 10 years from now where digital technologies have become ubiquitous. In this world, how would we expect digital trends and innovations to affect the work of business and development organizations? What policy challenges and risks will the new digital economy pose? And what are the constraints on making digital innovations fully inclusive and scalable?

In 10 years, the world will look very different from today. The number of people worldwide who own a telephone, have access to the Internet, have registered their biometric identity, and own a bank account is rising by between 200 million and 300 million a year.¹ These technologies are spreading at such a high speed that an era of digital inclusion beckons, characterized by universal connectivity and the frictionless movement of money and information.

¹ Laurence Chandy, "Connecting the poor is the best hope for ending poverty," *WIRED* 104, no. 1 (2014): 183–223, <http://www.wired.com/2015/11/connecting-worlds-poorest-the-best-hope-for-ending-poverty/>.

History attests to the transformative effects of technology. And there is every reason to believe that the impact of digital technologies will be especially profound. The spread of mobile telephones already represents perhaps the most conspicuous change for life in the developing world over the past generation. However, the impact of digital technologies on people's well-being can be both positive and negative. The onus is on developing countries and the broader global development community to maximize the upside of digital inclusion, while managing its downside, in navigating this exciting future.

One unambiguous upside of digital technologies is to diminish the marginalization faced by many lower-income people, especially the world's poorest. Poor people have traditionally lived on the



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fringes of society with only limited connections to other people, markets, and governments. The networks they depend on tend to be informal and small, and to comprise people who are similarly deprived of income, information, and power—and who are thus vulnerable to the same shocks, such as droughts.

With universal digital inclusion, however, poor people are empowered to participate in formal networks that enable them to communicate, to transact and access basic financial services, to obtain information, and to claim rights and recognition. This participation in turn creates new possibilities for poverty reduction. Today, poor people are becoming more capable of navigating their own way out of poverty because they have growing access to markets and information and can assert their identities. For instance, evidence from Kenya shows that individuals with access to mobile money networks have received remittances of greater value and from a more diverse pool of friends and family than those without access.²

Additionally, in the new digitally inclusive world, governments, charities, and international donors are better able to target the poor and determine their needs, thus broadening the scope of what anti-poverty programs can hope to achieve. Recognition is dawning among members of the global development community that digital inclusion and digital technologies demand a fundamental reevaluation of much of their work.

Granting marginalized populations access to economic markets provides them with benefits as consumers, producers, and workers. Their inclusion also expands and benefits the economy as

² William Jack and Tavneet Suri, "Risk Sharing and Transactions Costs: Evidence from Kenya's Mobile Money Revolution," *American Economic Review* 104, no. 1 (2014): 183–223, https://www.poverty-action.org/sites/default/files/publications/jack_suri_aer_.pdf.

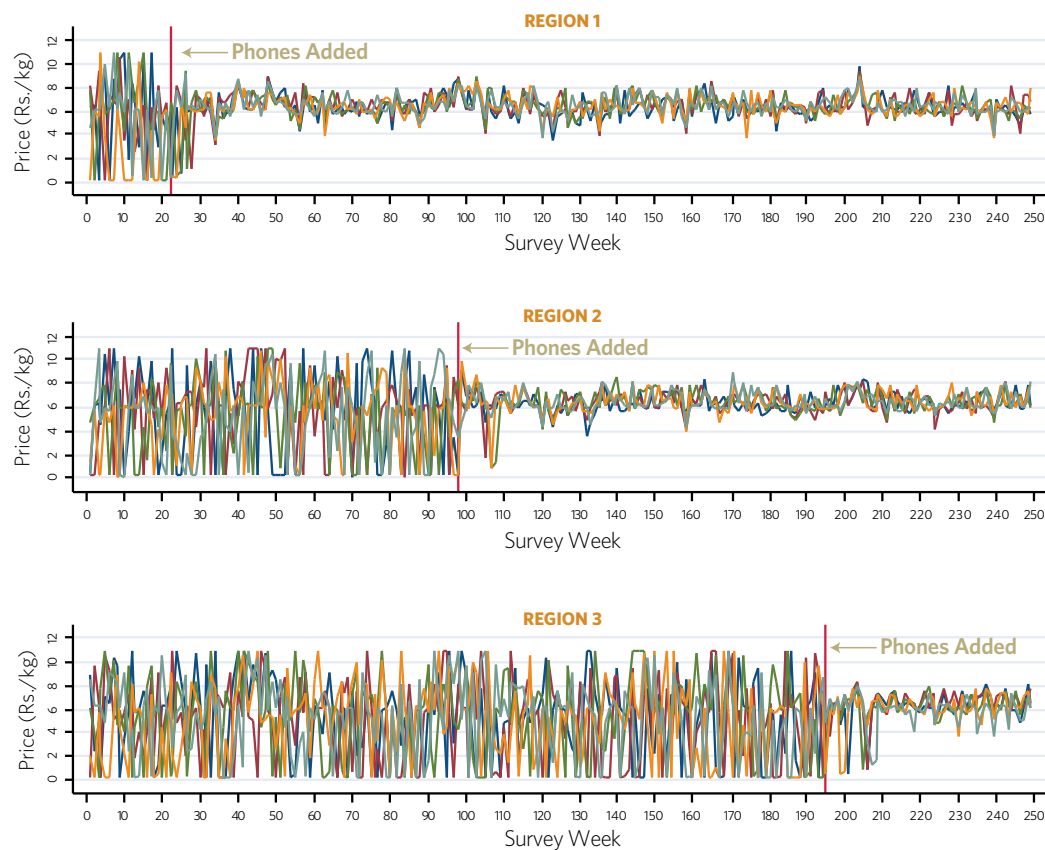
a whole. This is what C. K. Prahalad had in mind when he wrote about the fortune at the bottom of the pyramid.

Yet this is just part of the broader economy-wide benefits that digital inclusion promises to usher in through market deepening. High transaction costs are a defining characteristic of developing economies and a direct result of the poor quality of their infrastructure and institutions. They impose penalties on consumers and businesses in money, time, and uncertainty—whether searching for a

fair price, obtaining information on the quality of a good or service, bargaining over a transaction, or enforcing market agreements. The overall effect of digitalization is to reduce these costs across the economy, unleashing new market opportunities and more efficient market outcomes.

For instance, when sardine fishermen in Kerala, India gained access to mobile telephones in the late 1990s, they were able to determine where to sell their catch for the best price by making a single call, rather than expending fuel journeying up

Figure 1. The introduction of mobile telephones across three regions in Kerala, India, led to a dramatic reduction in price dispersion for sardine fishermen³



³ Jensen, Robert. "The digital provide: Information (technology), market performance, and welfare in the South Indian fisheries sector." *The quarterly journal of economics* (2007): 879-924.

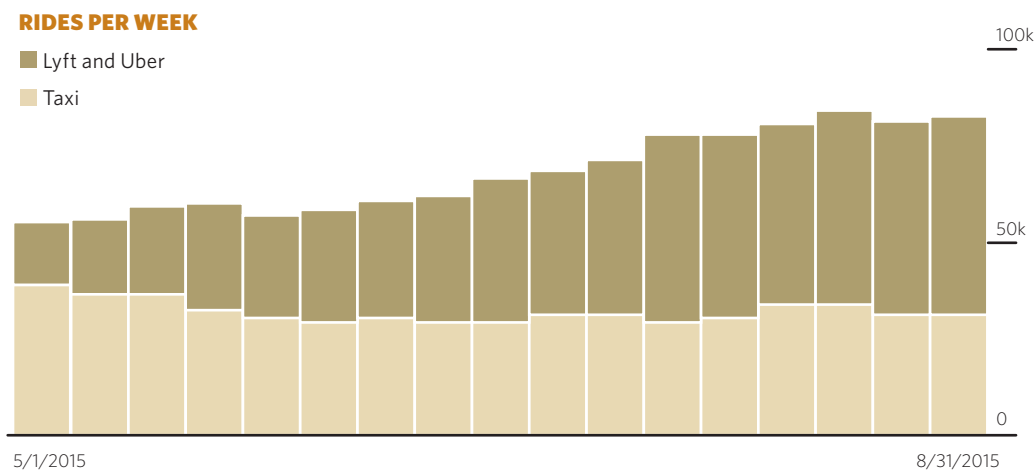
and down the coast to different markets, or randomly choosing a single market and risking having to throw away their catch if that market was saturated. The result was a virtually instantaneous equalization of prices faced by fishermen (figure 1). Moreover, fishermen enjoyed an 8 percent rise in their profits, while consumers saw a 4 percent fall in sardine prices.

The promise of improved market outcomes is reflected in the emergence of new digital platforms. These serve as market makers by bringing together different actors in an economy and enabling them to make transactions. In some cases, these platforms replace a less-efficient and more localized traditional physical marketplace (e.g., the Amazon and Alibaba online retail sites). In others, they create entirely new markets (e.g., Airbnb and similar sharing platforms). Both result in a growing economy. For instance, the introduction of digital platforms for finding taxis in Portland, Oregon, led

to a rise of more than a third in the total number of rides taken within just four months of their launch (figure 2). At the roundtable, pioneers of digital platforms, including an online payments firm and a logistics firm, gave concrete examples of how these new digital platforms can be a game-changer for developing countries.

Given this promise, and the extent to which digital products and platforms are already reshaping large sections of the global economy, it is something of a puzzle that the medium-term prospects for economic growth in both developing and developed countries remain weak. The only definitive evidence for the impact of digitalization on macroeconomic performance is a short-lived productivity boost in the United States in the 1990s. Opinions are divided as to whether the impact of the digital economy has been overhyped or whether its full impact will need more time to fully reveal itself.

Figure 2. The introduction of digital platforms for taxis in Portland led to industry growth



DATA: PORTLAND BUREAU OF TRANSPORTATION

What is more alarming is that some of the negative economic effects of digitalization have quickly surfaced. One of the historical effects of technology has been to disrupt and displace jobs in specific sectors of the economy. Though these effects are undoubtedly damaging for those who bear their brunt, history attests that more productive jobs have simultaneously been created. Overall, technology's net impact has been more as a complement than a substitute for labor. By contrast, it is feared that the net impact of the digital economy on the world of work could be pernicious. There is already evidence of the hollowing out of middle-skilled occupations in developing economies, emulating the same polarizing pattern that has played out in Western economies since the early 2000s—although the larger trend of a rapid growth in middle-class populations in developing countries remains intact.

Other downsides of the digital economy point to the importance of policy and regulation. Digital innovations, such as biometric and block chain technologies, have the potential to bolster the security of identification, asset ownership, and transactions, yet the vulnerability of entire digital networks to cyberattacks remains a major concern. The digital economy has led to an evolution of norms regarding trust, sharing, and community, but arguably its most contentious impact has been to violate standards of privacy. Finally, despite the equalizing effects implied by universal digital inclusion, digital technologies have the potential to reinforce existing inequities in income, gender, and age.



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