

talk

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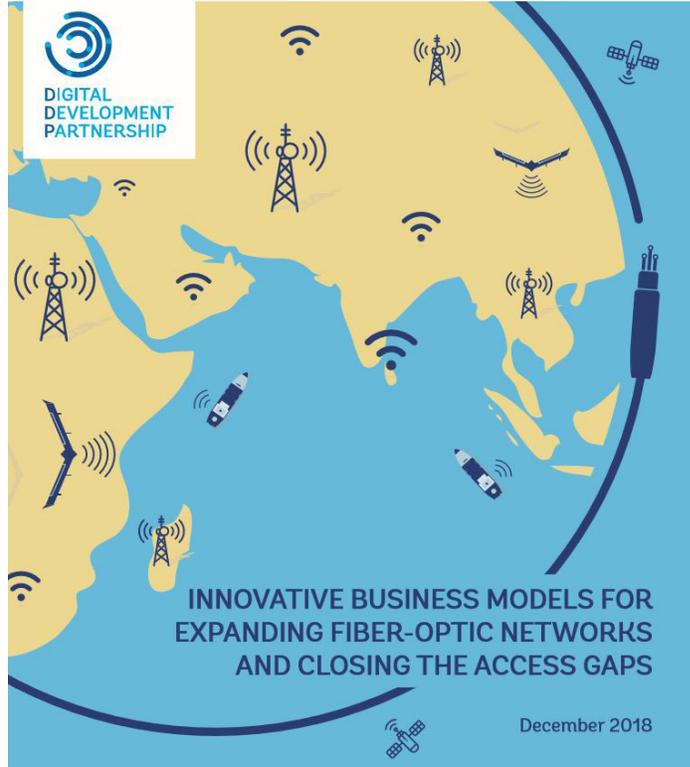
INNOVATIVE BUSINESS MODELS FOR CLOSING THE INTERNET ACCESS GAP: LESSONS FOR POLICY MAKERS

There are over **3 billion citizens** of the world who cannot access the internet. As digital development specialists, this is the challenge of our time. To make this happen we must create the Safest, Affordable, Sustainable and Inclusive (i.e. SASI Access) means to access the internet for those left behind.

So, imagine you are a Minister or Secretary of Digital Technology in your country, and you are being bombarded by offers from private sector companies to solve the internet access gap, one promising solution after another. Your technical and regulatory teams are under stress to keep up and enact the enabling legislation and rules to bring in the new technologies, and your citizens are at risk of falling further behind in the digital age. Or you are a young, tech savvy entrepreneur, who has found ways to connect the unconnected, but can't do anything because of legal, regulatory and financial roadblocks. How can we help?

To address these questions, we created a body of case studies, lessons, and decision tools to assist both government and industry to come together and close the digital gap. This body of knowledge and tools is captured in a single report and e-learning modules titled, "Innovative Business Models for Expanding Fiber-optic Networks and Closing the Access Gaps." The report is a reference tool to help policy makers assess alternatives for infrastructure deployment and adopt decisions tailored to their country circumstances and needs. It does not offer a cookie-cutter approach to these problems. The case studies and menu of solutions are not static as technology evolves constantly, generating new opportunities and undermining traditional business models.

To help clients understand the internet value chain and the greatest risks and challenges, the report also provides a



The report was prepared under the framework of the Digital Development Partnership (DDP) and was led by a team of the World Bank Group in partnership with Telecommunications Management Group and Saliency Consulting.

description of the supply chain from first mile to last mile access. Gaps may appear anywhere in the value chain.

As you move down the chain to the last mile, the technological solutions become more diverse, and you will learn that the last mile segment of the value chain is one of the most economically challenging to deliver in rural areas. You will also learn that different technologies, have different cost characteristics, depending on the type of geography served. The challenges of deploying the last mile have led to a wide number of technological solutions, and efforts to lower costs of particular types of solutions, e.g. satellites, fixed-wireless backhaul, balloons, HASPs, among others.

In reading the report and using it as a decision tool, you will find the biggest challenges in the middle mile and last mile access segments. There you will see many different approaches using very different technologies and business models, some with great success and others not so much (read the lessons learned section of this report as we must also learn from failures): 70 case-studies - geographically dispersed, but mainly in developing markets.

The decision tool is provided to help you evaluate the type of government involvement that is appropriate to help resolve the lack of broadband access. The first step is to figure out whether governments should even be involved, in particular, if there is no market failure or regulatory failure. There are two main types of market failure in broadband infrastructure deployment: abuse of dominance; and missing markets due to scarcity of capital, excessive uncertainty and/or undervaluation of benefits. Regulatory failures are cases where the government is either limiting commercial activities (e.g., heavy taxation, exclusive licensing) or has a laissez-faire attitude when it comes to enforcing legal standards.

If government intervention, beyond standard regulatory action, is justified, the next step is to determine what kind of intervention is most appropriate. A key initial question is whether the infrastructure gap can be addressed while at the same time creating competition.

In summary the report provides infrastructure-specific recommendations as follows:

- **Private sector participation.** Government intervention in infrastructure deployment should involve the private sector wherever possible. The advantages of private-sector participation include the sharing of costs

and risks, building expertise, and adding critical financial insight and caution that might not exist without it.

- **Structural changes should be considered as part of the overall national plan.** If the government-owned incumbent operator is part of the solution, then some sort of restructuring of the operator will be necessary to better position the incumbent to meet the broadband deployment goals.
- **Utilities collaboration and enabling reuse.** Public utilities have valuable assets for broadband deployment purposes, such as ducts and poles, buildings, land rights, and even fiber networks that could be leveraged for cost-effective deployment of new broadband infrastructure. Particularly with a limited budget, the more infrastructure that is reused, the more homes and businesses could be covered.
- **Justification should be based on a realistic business case and socioeconomic cost-benefit analysis** with a view to local, national, and regional trends in the future. Governments should intervene with the objective of mimicking risk-adjusted, externality-adjusted market outcomes. In other words, economic net present value (ENPV) should be calculated and the initiative abandoned if not positive.
- **One business model's failure can lead to another's success.** There are many examples of overbuild, asset stranding, underutilization, and failed commercial endeavors. While some projects may be wasteful in the short run, long-lived assets can often be repurposed, commercialized, or otherwise brought back into productive use and facilitate new entry for the benefit of all. Policy makers can act to reduce the time that assets lay idle by (re) commercializing and reducing barriers to cross-sectoral engagement.

Finally, the business models reviewed provide a rich collection of lessons for policy makers seeking to intervene to deploy broadband in underserved areas. While most successful initiatives have been driven by the private sector, the report shows that public agencies have a crucial role to play by implementing effective sector regulation, addressing potential markets failures, and creating the conditions for an open, competitive broadband sector.

To read the full report, click here: <http://documents.worldbank.org/curated/en/674601544534500678/pdf/132845-7-12-2018-17-20-11-InnovativeBusinessModels.pdf>