

THE DIGITAL SPRINTERS: THE CASE OF MEXICO

“ MEXICO COULD UNLOCK AN ADDITIONAL USD316 BILLION OF ECONOMIC IMPACT FOR 2030 THROUGH SUPPORTIVE POLICIES THAT ENABLE FULL UTILIZATION OF DIGITAL TECHNOLOGIES. ”

Globally, there has been a large increase in policy focus on the digital transformation of economy, society and government. This has led to significant uptakes in internet penetration (as evidenced by rising internet use). For example, from 2010 until 2018 Mexico has successfully brought an additional 34 percent of its population online.¹ Initiatives likely to have contributed to this include the Mexican government's telecommunication industry reform in 2013 which contributed to new players entering the market and 50 million new mobile broadband subscribers between 2012 to 2016 due to price decreases.² Going forward however, more than providing access to the internet may likely be required to fully leverage digital technologies for economic development. Mexico could reach a potential annual (year-on-year) economic impact of up to **USD316 billion in 2030** through supportive policies that enable full utilization of digital technologies.³ Given the need to rebuild economies following the impact

of COVID-19, the importance of capturing this potential digital dividend becomes ever more crucial. This research by economic strategy firm AlphaBeta (commissioned by Google) aims to understand how emerging economies can fully take advantage of digital technologies to achieve gains in economic development. The report focuses on 16 important emerging economies (which we dub the “Digital Sprinters”). These economies are Argentina, Brazil, Chile, Colombia, Egypt, Israel, Kenya, Mexico, Nigeria, Peru, Saudi Arabia, South Africa, Russia, Turkey, the United Arab Emirates and Ukraine. Together, these “Digital Sprinters” account for 13 percent of GDP, 16 percent of population and 19 percent of internet users globally.

Based on this research, a number of insights across the Digital Sprinters emerged, that are of relevance to Mexico and are summarized in this document. More details can be found in the full report.⁴

1. Based on World Bank, World Development Indicators.

2. OECD (2017), “OECD Telecommunication and Broadcasting Review of Mexico 2017”

3. These estimates refer to the value generated by 39 technology applications across 10 sectors in 2030, quantified based on a “Full adoption” scenario (i.e. 100 percent adoption). This implies that these ten sectors will become “Digital leaders” with significant leap-frogging. A “Full adoption” scenario is unlikely to be realistic but useful as a thought experiment and to frame the total opportunity.

Estimates do not represent GDP or market size (revenue), but rather a combination of economic impacts such as productivity gains, increased revenues and cost savings. The relevant technology applications by sector and their sources of value (e.g. reduced wastage in production, enhanced consumer offerings) were identified based on a detailed review of the academic literature. The exact sizing methodology is unique to each of the 39 technology applications, but estimates use a series of international and country-specific case studies for each technology application to quantify estimates. Across the 39 estimations economic indicators sourced from international organizations such as the World Bank, International Labor Organization, OECD and national statistics offices were used.

Detailed data sources and estimation methodologies for each of the 39 applications are listed in the Appendix to the main report, linked here <https://alphabeta.com/our-research/the-digital-sprinters-capturing-a-us34-trillion-through-innovative-public-policy/>

4. This research was prepared by AlphaBeta for Google. All information in this summary and the main report was derived from AlphaBeta analysis using both proprietary and publicly available research, data and information. Google does not endorse any estimates. The full report can be found here <https://alphabeta.com/our-research/the-digital-sprinters-capturing-a-us34-trillion-through-innovative-public-policy/>

In Mexico, as in most of the Digital Sprinters, fast growth in internet penetration has not translated into a faster pace of economic growth.

Historically, economic growth in Mexico has not kept pace with internet adoption. For example, since 2013, Mexico's internet population has grown by 9.9 percent annually, but real GDP has only increased by 2.7 percent annually.⁵ Labor productivity has also only risen by 1.0 percent annually during this same period.

If the transition from digital penetration to economic growth could be fully leveraged, digital technologies could transform economic development in Mexico.

The research identifies eight groups of digital technologies with significant potential to enhance economic development. In the hypothetical scenario where applications based on the eight digital technologies in ten sectors are fully adopted, the combined annual economic impact in Mexico could reach up to **USD316 billion in 2030**, which is about 20 percent of the country's estimated GDP in 2030 (see Exhibit 1). About 52 percent of the **potential benefits of digital technologies accrue to traditional sectors, namely resources, infrastructure, and agriculture.**

12 policy levers linked to four strategic imperatives are crucial to go beyond digital penetration and capture the digital benefits linked to economic development.

A review of impactful, innovative and practical digital policies identified a number of important levers for capturing the digital-led economic development opportunity (see Exhibit 2).

While it is unlikely that all 12 policy levers will be applicable to the Mexican context, a number of innovative policy levers should be considered.

POLICY LEVEL 1:

COOPERATE ON STANDARDS

Standards are crucial to not only ensure some minimum safeguards for safety and security, but also to ease the ability to transact. For example, adopting international legal security standards not only assists governments in the development of their own security frameworks, but also provides comfort and reassurance to organizations. Further, it decreases the barriers for domestic firms to export their operations abroad, as their security standards are likely to already comply with international markets.

POLICY LEVEL 2:

REPURPOSE EXISTING PUBLIC INFRASTRUCTURE TO PROVIDE DIGITAL ACCESS

Public infrastructure can be repurposed to provide access to the internet for underserved communities. This requires a network of public infrastructure (e.g. public buildings, transport, utilities or ICT infrastructure) that can be leveraged for people to access the internet. Biblionet is a national program which tackled Romania's "broadband divide" between urban and rural areas by providing hardware, software and IT support for 2280 public libraries which have well established infrastructure and geographical coverage.⁶ Replicating such approaches in Mexico would require updated regulations and policies that could facilitate private party access to such former public infrastructure (e.g. purchase or leasing agreements) to allow private companies to use and develop the digital infrastructure.

POLICY LEVEL 3:

CREATE ONE STOP-SHOPS FOR OPEN DATA

Open data—machine-readable data that is made available to others—has generated a great deal of excitement around the world for its potential to drive innovation through Research and Development (R&D) in the private and academic sectors. One of the key complexities of using existing open data is that it can be housed in multiple locations. Having a single portal to access information can play a crucial role in disseminating data. Colombia, for example, operates an open data resources portal ("Datos Abiertos Colombia") that provides access to an array of government data from over 1200 public agencies, developer support and special sub-portals for niche data from government entities.⁷ This could be fostered by the Open Data Law that is to be proposed in Mexico in the near future.

POLICY LEVEL 4:

ESTABLISH PLATFORMS TO INTERACT AND CROWD-SOURCE INNOVATION

Innovations to improve government services can come from anyone and anywhere; governments should engage and empower citizens to participate in this process. One such example is Bangladesh's "Innovation for All (a2i)" fund. The fund provides financing for low-cost, user-centric, home-grown innovations to leverage digital innovation to solve policy problems.⁸ Projects have included initiatives to improve livestock information in real-time, a mobile app to promote good agricultural practices, and digitizing government services (e.g. driving license).

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5. Based on World Bank, World Development Indicators.

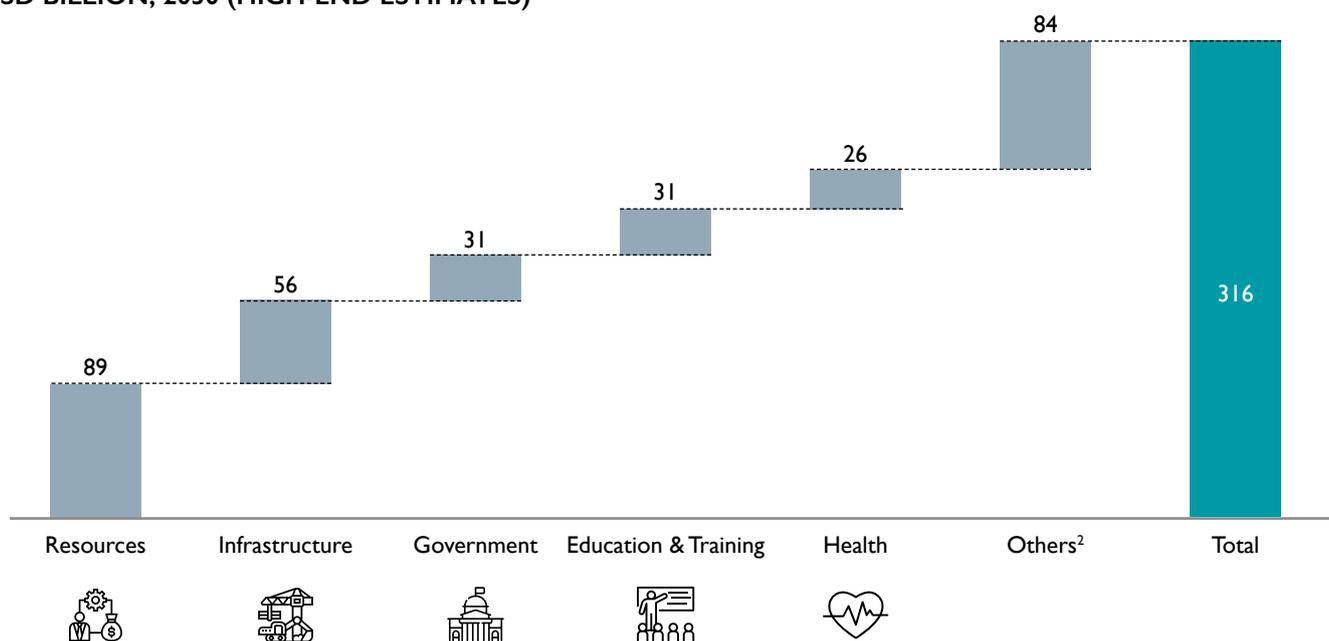
6. European Union (2018) "Biblionet", Shaping Europe's digital future – Projects. Available at: <https://ec.europa.eu/digital-single-market/en/content/biblionet>

7. See Datos Abiertos Colombia. Available at: <https://www.datos.gov.co/en/>

8. A2i "Innovation Lab is changing the scenario," Available at: <https://a2i.gov.bd/innovation-lab/>.

EXHIBIT 1: THE VALUE OF DIGITAL TECHNOLOGIES

POTENTIAL ANNUAL ECONOMIC IMPACT IN THE FULL ADOPTION SCENARIO

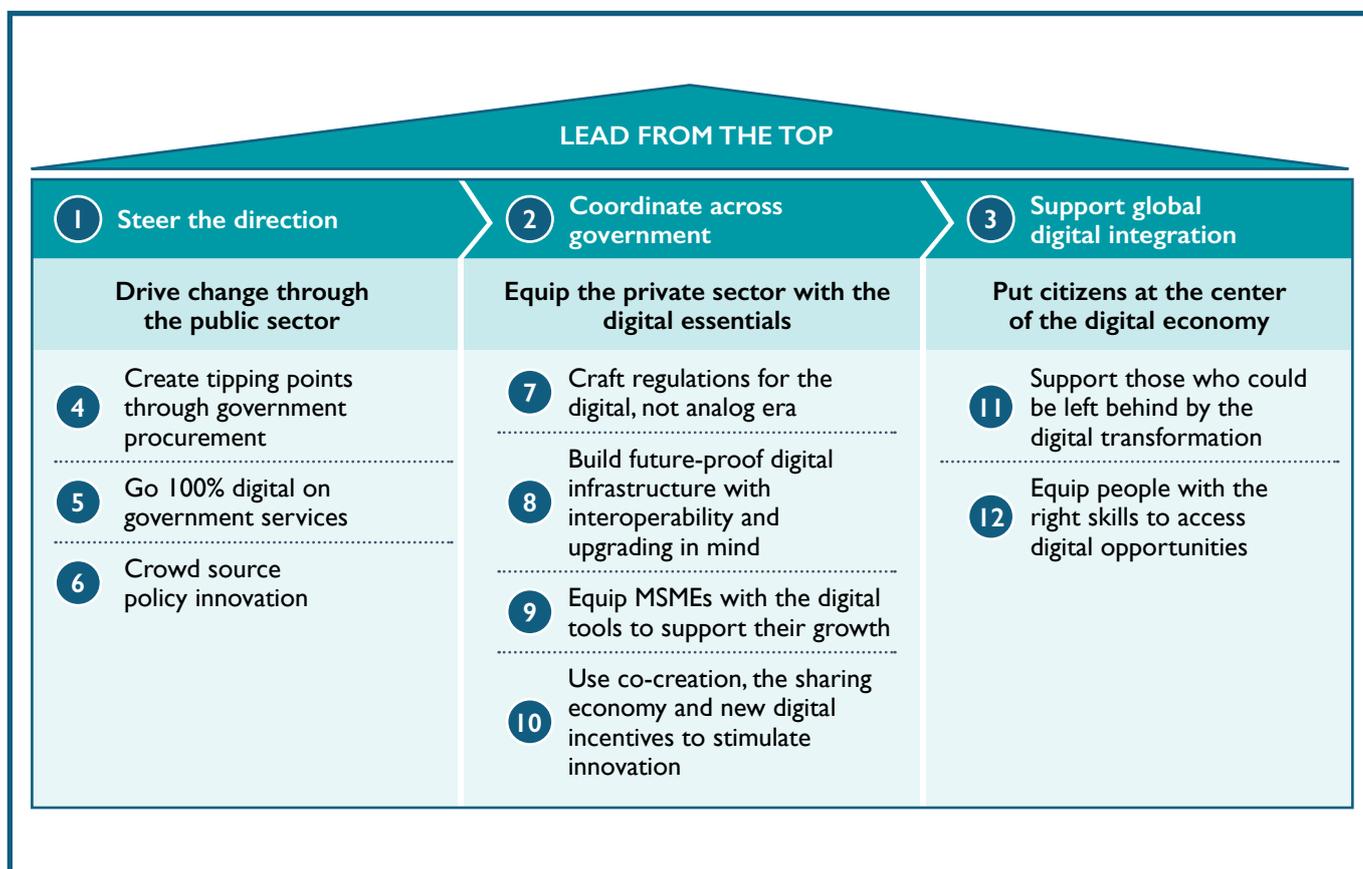
USD BILLION, 2030 (HIGH-END ESTIMATES)¹

1. These estimates do not represent GDP or market size (revenue), but rather economic impact, including GDP increments, productivity gains, cost savings, time savings, increased revenues, increased wages and increased tax collection.

2. Others include Agriculture & Food; Consumer, Retail & Hospitality; Financial Services; Manufacturing, and Mobility.

SOURCE: AlphaBeta analysis

EXHIBIT 2: POLICIES TO CAPTURE THE VALUE OF DIGITAL TECHNOLOGIES



While it is unlikely that all 12 policy levers will be applicable to the Mexican context, a number of innovative policy levers should be considered.

POLICY LEVER 5:

DEVELOP DIGITAL TRANSFORMATION (INNOVATION) CENTERS AND MODEL (LEARNING) FACTORIES

These refer to physical places where entrepreneurs, business owners, researchers and innovators can come to try their hands at new technologies and digital applications. Often such places also provide training and skills development. For example, Turkey has rolled out digital transformation centers where MSMEs can receive experimental training and consultancy services in real production environments.⁹ Successfully implementing such initiatives requires strong industry engagement to ensure they see the benefits of the collaboration, adopting a rigorous approach to identifying the key technologies and sectors to focus (not neglecting traditional sectors such as textile manufacturing), and ensuring there are clear frameworks governing the use of the intellectual property generated.

POLICY LEVER 6:

BUILD FUTURE-PROOF DIGITAL INFRASTRUCTURE WITH INTEROPERABILITY AND UPGRADING IN MIND

In the fast-evolving technology landscape, challenges arise when digital infrastructure is created with a specific technology in mind that could potentially end up obsolete in the future. Similarly, if infrastructure is built with providers in mind, it could lead to interoperability issues that can drive fragmentation, transaction costs and give rise to competition issues. India has had great success with the development of its Unified Payments Interface (UPI) that facilitates inter-bank transactions. The payment gateway allows customers of different banks to transfer funds between each other in a seamless fashion. When it comes to government procurement of technologies, Mexico should comply with its international obligations, for example with the United States–Mexico–Canada Agreement (USMCA), in this matter in order to ensure these processes are competitive and avoid inefficient technologies to be selected.

POLICY LEVER 7:

DIGITIZE PAYMENTS TO CREATE INCENTIVES FOR ADOPTION AND PLUG LEAKAGES

Governments around the world are increasingly allowing for online and mobile payment methods for government services and distributions. Doing so can drive top-down adoption of FinTech products in the population which can reduce the cost of and handling carrying cash. It is also a direct channel for financial inclusion as individuals often have their first accounts within digital financial services such as mobile wallets. Finally, using digital payments allows for better tracking and more efficient collection of payments which can reduce leakages. One example is how Mexico introduced mandatory e-invoicing for all businesses in 2015 where businesses were required to issue electronic invoices to customers and retain digital records. The Monterrey Technology Institute estimates that this has led to growth in income tax collected, 6 percent for collections from businesses and 21 percent from individuals.¹⁰

POLICY LEVER 8:

BE CLEAR ON WHO IS THE LEAD AGENCY IN EACH STRATEGY

It is important that there are clear government agency leads for different aspects of the digital agenda. Some of the common success factors include clear leadership from the highest levels of government and finding ways for different departments to lead relevant elements. In Chile, the governmental organization Production Development Corporation (CORFO) leads the implementation of the national 14.0 strategy, known as the 'Programa Estrategico Industrias Inteligentes 2015-2025'. As part of this, CORFO undertakes all coordination efforts with different government bodies overseeing the different industry sectors prioritized for 14.0 implementation.¹¹

POLICY LEVER 9:

LEVERAGE CLOUD COMPUTING FOR EFFICIENCY GAINS ACROSS THE GOVERNMENT

Cloud technology, in particular cloud storage and cloud computing power, is an enabling technology that could be utilized for different applications. Cloud computing technologies across government could lead to significant efficiency gains and cost savings for governments' ICT budgets. Cloud computing has also been leveraged in the planning and running of cities, often referred to as Smart Cities.¹² For example, Rio de Janeiro has begun to implement smart solutions to improve urban planning and operations such as using data applications and technology to help improve transport flows and allow fleet vehicles to communicate with headquarters when it is time for maintenance checks. Implementing such cloud computing solutions should be aligned to international best-practices.

9. Gunes and Sahin (2018), "Turkey to establish digital transformation centers", Anadolu Agency. Available at: <https://www.aa.com.tr/en/economy/turkey-to-establish-digital-transformation-centers/1258349>

10. OECD (2017), Technology tools to tackle tax evasion and tax fraud. Available at: <https://www.oecd.org/tax/crime/technology-tools-to-tackle-tax-evasion-and-tax-fraud.pdf>

11. UNIDO (2018), You say you want a revolution: Strategic Approaches to Industry 4.0 in Middle-Income Countries.

Available at: <https://www.unido.org/api/openext/documents/download/110031392/unido-file-110031392>

12. IDB (2018), Cloud Computing: Opportunities and Challenges for Sustainable Economic Development in Latin America and the Caribbean.

Available at <https://publications.iadb.org/en/cloud-computing-opportunities-and-challenges-sustainable-economic-development-latin-america-and>

FOR MORE DETAILED INFORMATION ON THE RESEARCH,
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