

# THE DIGITAL SPRINTERS: THE CASE OF BRAZIL

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BRAZIL COULD UNLOCK AN ADDITIONAL USD617 BILLION OF ECONOMIC IMPACT FOR 2030 THROUGH SUPPORTIVE POLICIES THAT ENABLE FULL UTILIZATION OF DIGITAL TECHNOLOGIES.

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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 Brazil has successfully brought an additional 30 percent of its population online.<sup>1</sup> Initiatives likely to have contributed to this include the Brazilian Government's National Broadband Plan (PNBL) launched in 2010 which consisted of expanding its fibre network throughout the interior regions to ensure that internet access is available to low-income households.<sup>2</sup> Going forward however, more than providing access to the internet may likely be required to leverage digital technologies for economic development to the fullest potential. Brazil could capture a potential annual (year-on-year) economic impact of up to **USD617 billion in 2030** through innovative digital policy.<sup>3</sup> 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 Brazil and are summarized in this document. More details can be found in the full report.<sup>4</sup>

1. Based on World Bank, World Development Indicators.

2. InfoDev, World Bank Group, “Broadband in Brazil: A Multipronged Public Sector Approach to Digital Inclusion”.

Available at: <http://www.infodev.org/articles/broadband-brazil-multipronged-public-sector-approach-digital-inclusion>

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 Brazil, 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 Brazil has not kept pace with internet adoption. For example, since 2013, Brazil's internet population has grown by 8.1 percent annually, but real GDP has actually declined 0.9 percent annually.<sup>5</sup> Labor productivity has also declined by 0.5 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 Brazil.

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 Brazil could reach up to **USD617 billion in 2030**, which is about 25 percent of the country's estimated GDP in 2030 (see Exhibit 1). About 35 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 Brazilian context, a number of innovative policy levers could be considered.

#### POLICY LEVEL 1:

##### INTEGRATING DIGITAL TRANSFORMATION INTO TRADE NEGOTIATIONS

Countries should work with their trading partners to mutually support their digital transformation. They should incorporate key concerns such as cross-border data flows, non-taxation of electronic transmissions and intermediate liability issues into trade negotiations, for example, by participating in digital trade agreements, like the Digital Economy Partnership Agreement (DEPA), a deal inked between Chile, New Zealand and Singapore.<sup>6</sup>

#### POLICY LEVEL 2:

##### IMPLEMENT TARGETED TRAININGS, SOCIALIZATION AND BEHAVIORAL LEVERS FOR TECHNOLOGY ADOPTION

Targeted training initiatives can be effective at exposing MSMEs to new sector-relevant digital technologies, as well as developing their skills, and driving adoption. Trainings can be developed in partnership with solution providers. For example, "Gapura Digital", a company supported by Google, aims to train about 1.47 million MSME workers in Indonesia by 2020 on how digital platforms such as digital marketing channels could be leveraged to scale up their businesses.<sup>7</sup>

#### POLICY LEVEL 3:

##### 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 home-grown innovations to leverage digital innovation to solve policy problems.<sup>8</sup> 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).

#### POLICY LEVEL 4:

##### LEVERAGE CLOUD COMPUTING AND BIG DATA ANALYTICS TO IMPROVE TAX COMPLIANCE

Tax fraud and evasion is costing governments billions in lost revenue each year<sup>9</sup> and in response, many countries have begun to use sophisticated analytics powered by cloud computing. Big data analytics could be used to detect tax fraud and evasion more effectively than traditional methods of transaction monitoring, anti-money laundering (AML) or due diligence (DD).<sup>10</sup> Brazil has already emerged as a leader in the use of big data for corporate tax audits with its digital bookkeeping system, SPED, which analyzes large business-to-business transactions for inconsistencies and flags potential shell company networks.

**TO BE CONTINUED ON PAGE 4**

5. Based on World Bank, World Development Indicators.

6. Asian Trade Center, "Unpacking the Digital Economy Partnership Agreement (DEPA)". Available at: <http://asiantradecentre.org/talkingtrade/unpacking-the-digital-economy-partnership-agreement-depa>

7. Google (2020), "Gapura Digital". Available at: <https://gapuradigital.withgoogle.com/stories>

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

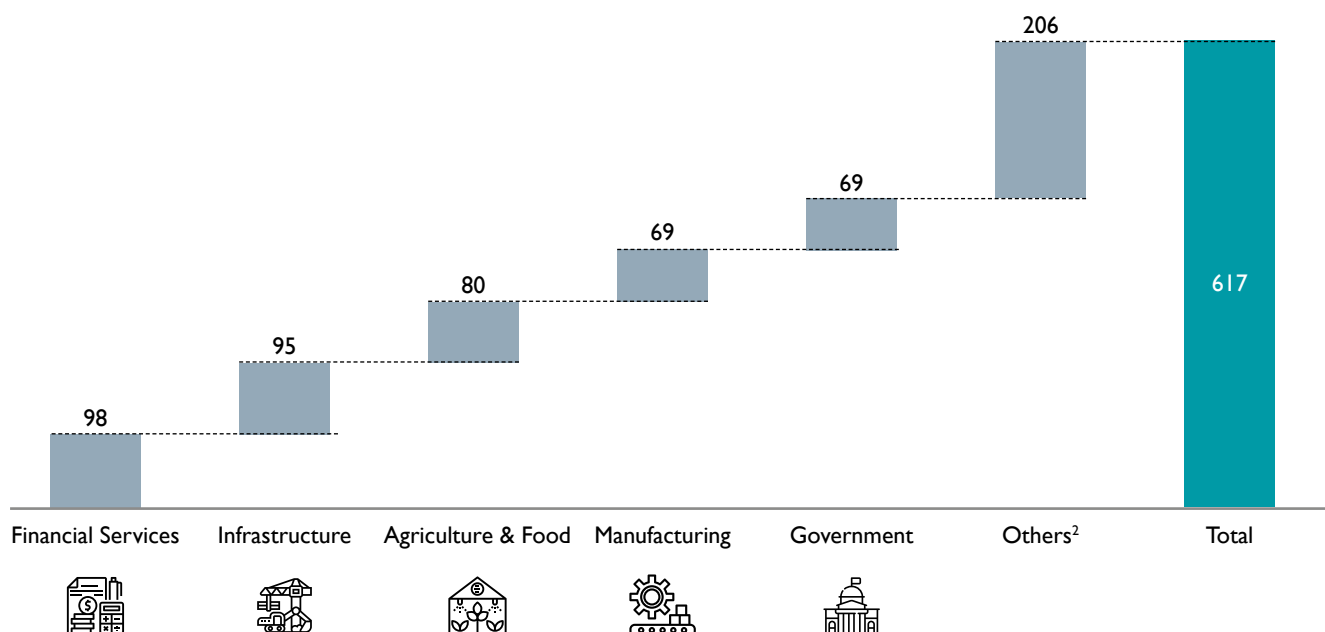
9. World Economic Forum (2017), "Which countries are worst affected by tax avoidance?" Available at: <https://www.weforum.org/agenda/2017/04/which-countries-are-worst-affected-by-tax-avoidance/>

10. OECD (2016), Technologies for better tax administration: A practical guide for revenue bodies.

Available at: <http://www.oecd.org/publications/technologies-for-better-tax-administration-9789264256439-en.htm>

## EXHIBIT 1: THE VALUE OF DIGITAL TECHNOLOGIES

## POTENTIAL ANNUAL ECONOMIC IMPACT IN THE FULL ADOPTION SCENARIO

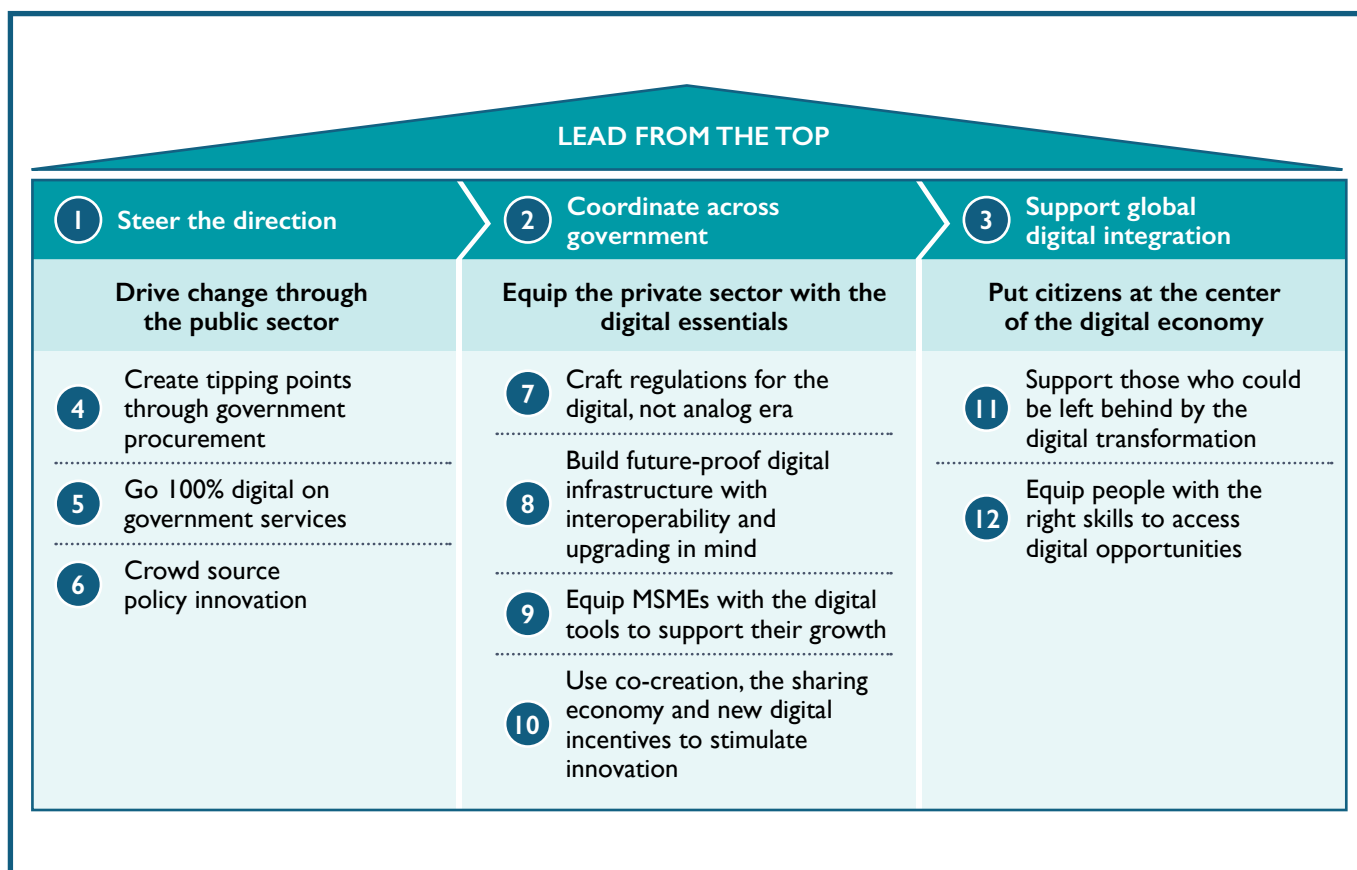
USD BILLION, 2030 (HIGH-END ESTIMATES)<sup>1</sup>

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 Consumer, Retail & Hospitality; Education & Training; Health; Mobility, and Resources.

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 Brazilian context, a number of innovative policy levers could be considered.

#### **POLICY LEVER 5:**

##### **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.<sup>11</sup> 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.

#### **POLICY LEVER 8:**

##### **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 the development of security frameworks, but also provides comfort and reassurance to organizations. Further, it decreases the barriers for domestic firms to export, as their security standards are likely to already comply with international markets. Conversely, it could also be of importance to Brazil in engaging with global stakeholders in creating standards in areas such as 5G to ensure they are relevant to its infrastructure and consumer market.<sup>13</sup>

#### **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. Third party payment providers such as Google Pay, PhonePe and Paytm can also leverage the gateway by helping customers with bank accounts transact with those without.

#### **POLICY LEVER 9:**

##### **ENCOURAGE A SHARING ECONOMY FOR NON-SERVICES SECTORS**

Sharing of fixed assets (e.g. equipment, warehouses) that reduces fixed costs by transforming them into ongoing variable costs is enabled by digital technologies such as the Internet of Things. However, much of the innovation to date has been in service sectors (e.g. car sharing, home sharing), with limited traction in traditional sectors such as manufacturing and agriculture. An example is Hello Tractor which works with smallholder farmers in Africa by aggregating smallholder farmers' requests for tractor service on behalf of tractor owners, while providing enhanced security through remote asset tracking and virtual monitoring.<sup>14</sup>

#### **POLICY LEVER 7:**

##### **LEVERAGE DIGITAL SERVICES FOR ACCESS TO ECONOMIC NECESSITIES**

Providing a tangible service (such as access to energy) that requires customers to start using a digital platform (for example e-money, i.e. mobile money and prepaid cards) can demonstratively drive digital inclusion. Nigeria's pay-as-you-go solar scheme provides one such example. Another example is from the Ivory Coast where in 2011 the Ministry of National and Technical Education (MENET) began collaborating with mobile money and digital payment providers to digitalize annual school registration fee payments.<sup>12</sup>

#### **POLICY LEVER 10:**

##### **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.<sup>15</sup>

11. 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>

12. GSMA (2017), *Embracing the Digital Revolution – Policies for Building the Digital Economy*. Available at [https://www.gsma.com/publicpolicy/wp-content/uploads/2017/02/GSMA\\_DigitalTransformationReport2017\\_Web.pdf](https://www.gsma.com/publicpolicy/wp-content/uploads/2017/02/GSMA_DigitalTransformationReport2017_Web.pdf)

13. Deloitte (2019), "Insights about Digital Transformation and ICT Opportunities for Brazil". Available at <https://www2.deloitte.com/content/dam/Deloitte/br/Documents/technology-media-telecommunications/ICT-insights-report-eng.pdf>

14. Hello Tractor, Available at: (<https://www.hellotractor.com/about-us/>)

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

FOR MORE DETAILED INFORMATION ON THE RESEARCH,  
PLEASE REFER TO THE FULL REPORT AT:

<https://alphabetabeta.com/our-research/the-digital-sprinters-capturing-a-us34-trillion-through-innovative-public-policy/>

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