THE DIGITAL SPRINTERS: THE CASE OF SOUTH AFRICA

> " SOUTH AFRICA COULD UNLOCK AN ADDITIONAL USD116 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 to 2017, South Africa has successfully brought an additional 32 percent of its population online.[1] Projects likely to have contributed to this include the South African government's "South Africa Connect" strategy launched in 2013 which involved the creation of a broadband regulator as well as coordinating and investing in broadband infrastructure installation.[2] Going forward however, more than providing access to the internet may likely be required to fully leverage digital technologies for economic development. South Africa could capture a potential annual (year-on-year) economic impact of up to **USD116 billion in 2030** *through supportive policy that enables 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 South Africa and are summarized in this document. More details can be found in the full report.[4]

In South Africa, 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 South Africa has not kept pace with internet adoption. For example, since 2013, South Africa's internet population has grown by 6.4 percent annually, but real GDP has only increased by 1.1 percent annually.[5] 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 South Africa.

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 South Africa could reach up to *USD116 billion in 2030*, which is about 26 percent of the country's estimated GDP in 2030 (see Exhibit 1). About 46 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 South African context, a number of innovative policy levers could be considered.

POLICY LEVER 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. 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. For example, Australia's Information Security Registered Assessors Program (IRAP), Singapore's Multi-Tier Cloud Security Standards (MTCS), and South Korea's Cloud Security Assurance Program (CiSAP) have set up security frameworks for the public cloud that follow international best practice frameworks such as the ISO 27000 series.[6]

POLICY LEVER 2:

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. Peru's government, as an example, has used the cloud to increase citizen engagement by developing a cloud-native app that located the nearest polling station for voters. Some research has attributed a reduction of nearly 60 percent in voter absenteeism in 2016 compared to the 2011 presidential elections. In another example, to support the required mindset shift to a digital led approach, South Africa introduced performance rewards linked to the use of data in decision-making.[7]

POLICY LEVER 3:

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. For example, a severe challenge to Nigeria's fast growing mobile-money industry is a fragmented agent network. Modular and open source approaches to digital infrastructure and early integration of third parties can address these challenges. The Central Bank of Nigeria is amending the country's Agent Banking Guidelines to allow the TELCOS and any other interested entities to build and manage a Shared Agent Network (SAN) for the provision of mobile money services.[8]

5. Based on World Bank, World Development Indicators.
6. BCG (2019), Ascent to the cloud – How six key APAC economies can lift-off. Available at: http://image-src.bcg.com/Images/Ascent_to_the_Cloud_Report_21Oct_tcm9-231826.pdf
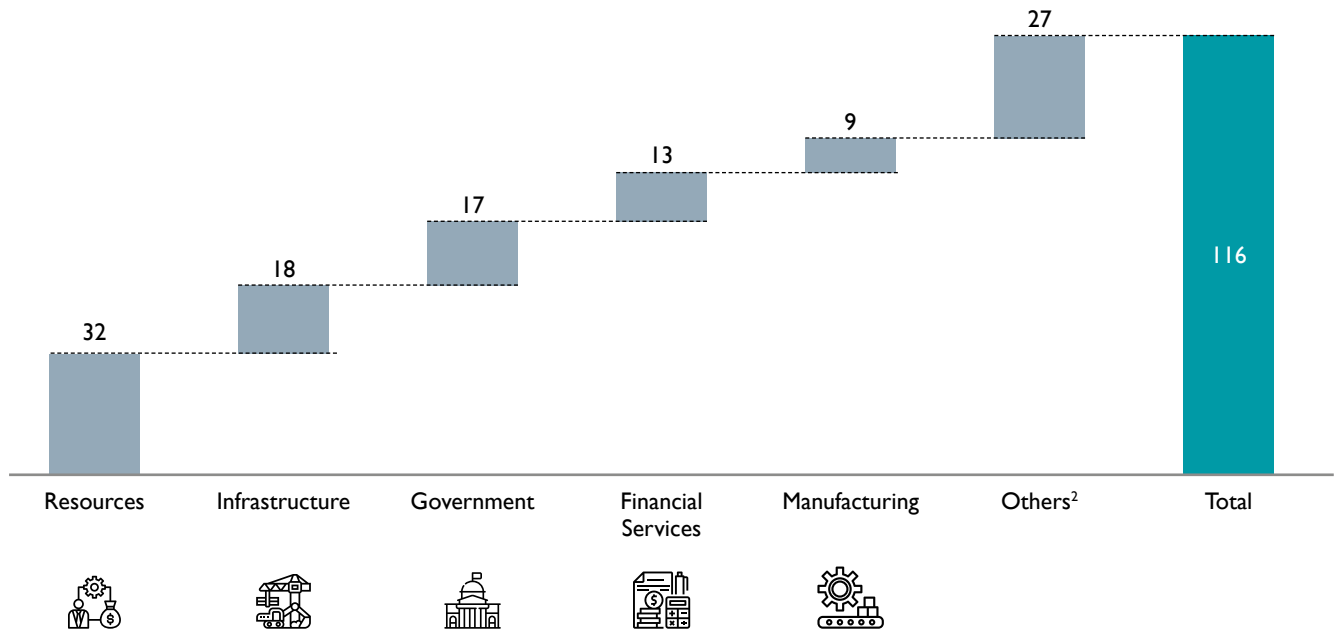7. AlphaBeta and the Bill & Melinda Gates Foundation (2018), Digital Innovation in Public Financial Management (PFM): Opportunities and implications for low-income countries. Available at: https://www.alphabeta.com/wp-content/uploads/2018/07/pfm-technology-paper-summary-version.pdf
8. Central Bank of Nigeria (2019), "Financial Service Providers". Available at: https://www.cbn.gov.ng/FinInc/finservproviders.asp

EXHIBIT 1: THE VALUE OF DIGITAL TECHNOLOGIES

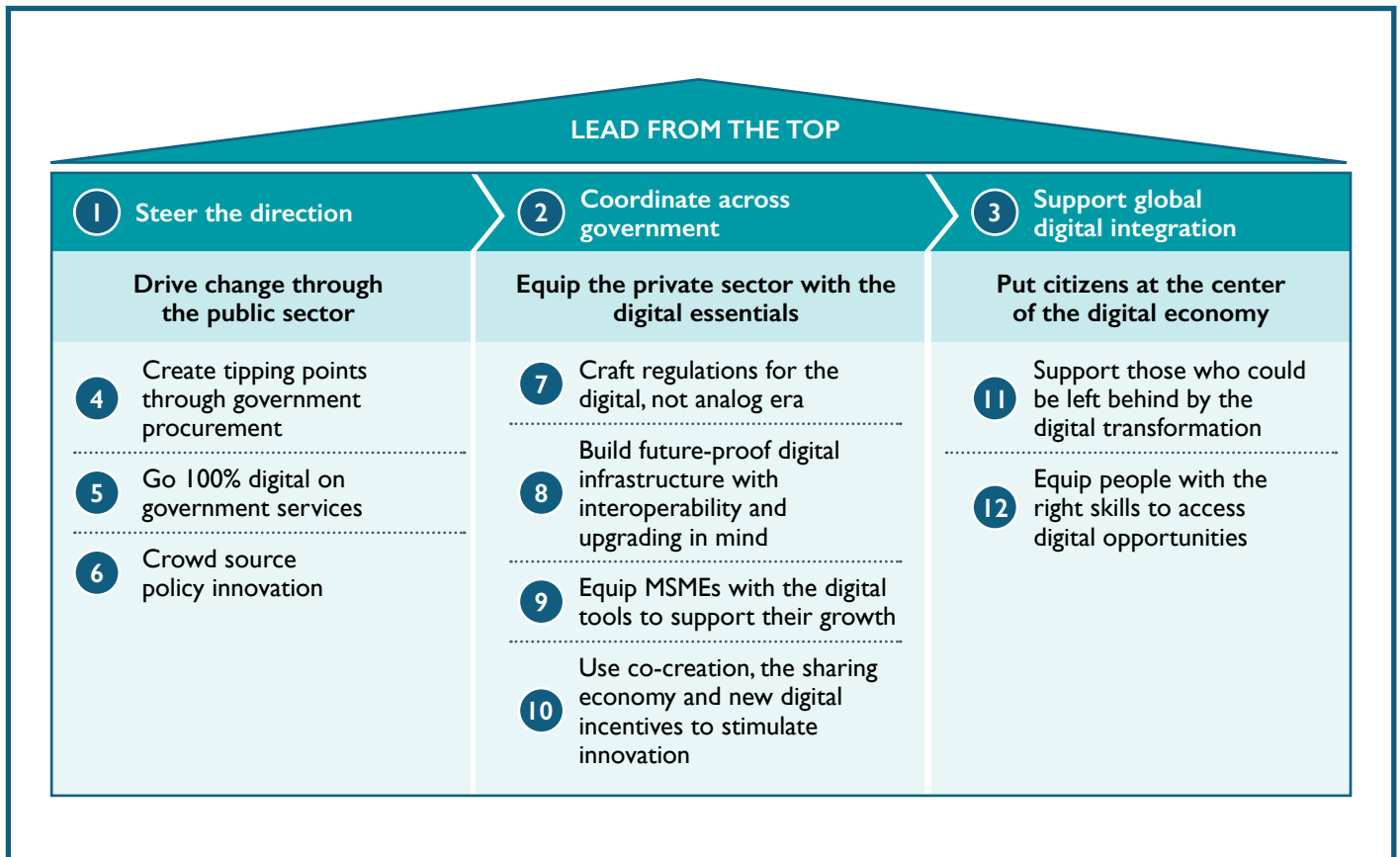**POTENTIAL ANNUAL ECONOMIC IMPACT IN THE FULL ADOPTION SCENARIO**

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; Education & Training; Health, and Mobility.

SOURCE: AlphaBeta analysis

EXHIBIT 2: POLICIES TO CAPTURE THE VALUE OF DIGITAL TECHNOLOGIES

LEAD FROM THE TOP

1 Steer the direction	2 Coordinate across government	3 Support global digital integration
Drive change through the public sector	**Equip the private sector with the digital essentials**	**Put citizens at the center of the digital economy**
4 Create tipping points through government procurement	7 Craft regulations for the digital, not analog era	11 Support those who could be left behind by the digital transformation
5 Go 100% digital on government services	8 Build future-proof digital infrastructure with interoperability and upgrading in mind	12 Equip people with the right skills to access digital opportunities
6 Crowd source policy innovation	9 Equip MSMEs with the digital tools to support their growth	
	10 Use co-creation, the sharing economy and new digital incentives to stimulate innovation	

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POLICY LEVER 4:

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.[9]

POLICY LEVER 5:

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.[10] 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 LEVER 6:

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. Successfully implementing such initiatives requires strong industry engagement to ensure stakeholders 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. Examples of such initiatives include Chile's Digital Extension Centers and Germany's Mittelstand 4.0 Competence Centers.

POLICY LEVER 7:

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. One example is Biblionet which is a national program that tackled Romania's "broadband divide" between urban and rural areas by providing hardware, software and IT support for 2280 public libraries with well-established infrastructure and geographical coverage.[11]

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 South Africa, the Department of Industry (DoI) and Department of Science and Technology (DoST) co-lead the national I4.0 policy, with contributions from the Economic Development Department (EDD), the Department of Defence (DoD) and the Department of Health (DoH).[12]

POLICY LEVER 9:

DIGITIZE PAYMENTS TO CREATE INCENTIVES FOR ADOPTION AND PLUG

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. In many regions, in particular in Africa, digital financial services, such as mobile wallets, are often the first type of accounts individuals hold meaning it is a direct channel for financial inclusion. When Sierra Leone faced severe pressure to pay healthcare workers on time during the Ebola crisis in 2014 the government decided to test digital payment through mobile wallets of salaries to healthcare workers. The government reported savings of USD10.7 million in avoided payroll leakages.

9. See Datos Abiertos Colombia. Available at: https://www.datos.gov.co/en/
10. A2i "Innovation Lab is changing the scenario,", Available at:, https://a2i.gov.bd/innovation-lab/.
11. European Union (2018) "Biblionet", Shaping Europe's digital future – Projects. Available at: https://ec.europa.eu/digital-single-market/en/content/biblionet
12. 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/opentext/documents/download/10031392/unido-file-10031392

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

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