



DIGITAL ECONOMY FOR ZIMBABWE

Country Diagnostic Report

March 2021



THE WORLD BANK

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About The DE4A Assessment

A diagnostic assessment of Zimbabwe's digital economy has been launched as part of the World Bank Group's Digital Economy for Africa (DE4A) Initiative, which leverages an integrated and foundations- based diagnostic framework to examine the present level of digital economy development across Africa. The assessment maps the current strengths and weaknesses that characterize the national digital economy ecosystem in Zimbabwe as well as identifies the challenges and opportunities for future growth.

Digital transformation is rapidly re-shaping our global economy, permeating virtually every sector and aspect of daily life – changing the way we learn, work, trade, socialize, and access public and private services and information. In 2016, the global digital economy was worth some USD 11.5 trillion, equivalent to 15.5 percent of the world's overall Gross Domestic Product (GDP). It is expected to reach 25 percent in less than a decade, quickly outpacing the growth of the overall economy. However, countries like Zimbabwe are currently capturing only a fraction of this growth potential and need to strategically invest in the foundational elements of their digital economy to keep pace, and avoid being left behind.

The overarching analytical framework that shapes this assessment is guided by the premise that **five foundational digital elements** create the building blocks for unlocking digital transformation across the African continent and in Zimbabwe in particular, and thus determine the country's ability to build a robust digital economy:

1 

DIGITAL INFRASTRUCTURE

that provides the means for people, businesses, and government to get online, and subsequently access local and global digital services, thus effectively embedding users in the global digital economy. Broadly speaking, digital infrastructure consists of high-quality, accessible and affordable connectivity services, but also includes internet of things and data centers, as well as institutions and rules that foster a competitive telecommunications market.

2 

DIGITAL SKILLS

that support the creation of a digitally savvy workforce. These are critical to building a robust and competitive digital economy, where innovative services, industries and business-models can emerge. Broad-based digital literacy and basic skills acquisition are instrumental to supporting wide adoption and use of digital products and services by the average consumer, and hence critical to ensuring digital inclusion. However, the level of intermediate, advanced and highly specialized digital skills will determine Zimbabwe's ability to embrace digital innovation.

3 

DIGITAL PLATFORMS

that enable digital transactions and exchange, support new digital businesses and service delivery models. Related systems, applications and services thus have the power to transform the way people, government, businesses and civil society interact with each other in all aspects of life. Digital platforms help create economies of scale and leverage network effects to create value and support productivity gains.

4 

DIGITAL FINANCIAL SERVICES

(DFS) that provide individuals and households with convenient and affordable means to pay, as well as to save and borrow, using digital tools and platforms. Firms can leverage DFS to transact more easily with their customers and suppliers, as well as to build digital credit histories allowing access to finance. Governments can use DFS to increase efficiency and accountability in various payment streams, including for the disbursement of social transfers and receipt of tax payments. Digital payments are often the entry point for DFS and provide the "rails" through which additional products and use-cases can be developed.

5 

DIGITAL ENTREPRENEURSHIP

and innovation ecosystem that helps bring the digital economy to life and accelerate digital transformation – with both young ventures and innovators helping to generate new products and services that leverage technologies and digitally-enabled business models, as well as traditional industries adopting related solutions – contributing to net employment, enhanced competitiveness and productivity. Digital entrepreneurship thus helps expand products and services on offer but can also create new markets.

In addition, several cross-cutting themes or areas shape these foundational elements, which determine the country's ability of create an enabling institutional and policy environment. A clear strategy and strong leadership are both needed to spearhead the agenda at national level. Equally, the digital economy creates new legal and regulatory challenges, such as protecting consumers and their right to privacy, supporting cybersecurity and data protection, as well as effective taxation and competition, which need to be effectively addressed to ensure that innovative services continue to emerge, and guarantee their safe and affordable access. Moreover, for all Zimbabweans to reap the digital dividends associated with the digital economy, it needs to be inclusive to ensure that anyone, regardless of age, gender, income and geography has the ability to access digital tools and services.

The Digital Economy for Africa (DE4A) Initiative forms part of the World Bank Group's support for the African Union's Digital transformation for Africa, which aims for every African individual, business and government to be digitally enabled by 2030. The Digital Economy for Africa initiative is underpinned by five principles:

1 

COMPREHENSIVE

Taking an ecosystem approach that looks at supply and demand and defies a narrow silo approach in defining the digital economy elements and foundations.

2 

TRANSFORMATIVE

Aiming at a very different scale of ambition beyond incremental "islands" of success.

3 

INCLUSIVE

A digital economy for "everyone, in every place, and at all times" creating equal access to opportunities and dealing with risks of exclusions.

4 

HOMEGROWN

Based on Africa's realities and unleashing the African spirit of enterprise to have more homegrown digital content and solutions.

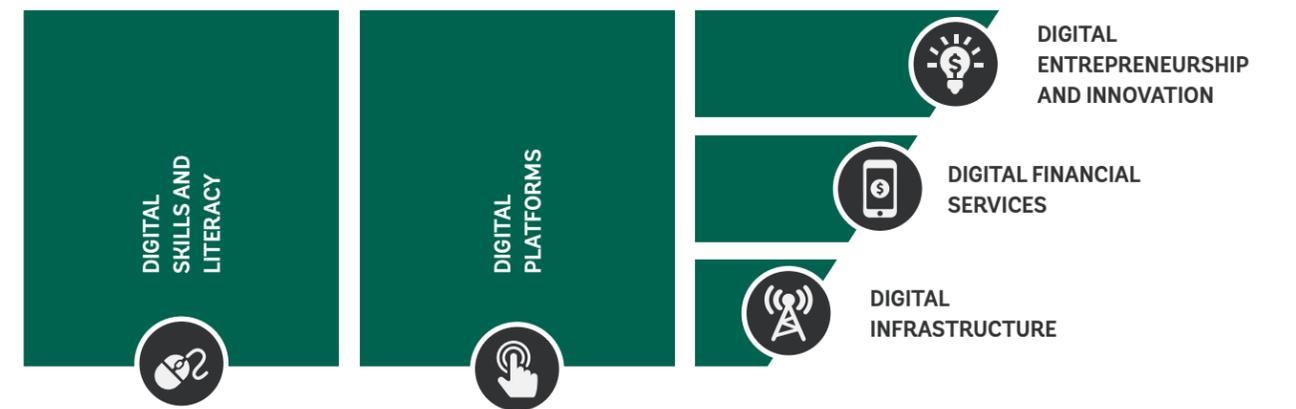
5 

COLLABORATIVE

Dealing with the digital economy requires a different flexible "mindset," collaborating among countries, sectors, and public and private players.

APPLICATIONS LIKELY TO DEVELOP ONCE THE FOUNDATION ELEMENTS ARE IN PLACE:

- GOVTECH applications
- E-COMMERCE
- OPEN BANKING: non banks offer tailored services
- DATA LOCKERS to access selected services



CROSS CUTTING AREAS:

- Strong regulatory frameworks to foster competition and MFD agenda
- Manage risks: data privacy, cyber security
- Opportunity to empower women and apply to FCV



The DE4A Initiative forms part of the World Bank Group's support for the African Union's Digital Transformation Strategy (DTS) for Africa.

As part of the DTS, ambitious, high-level targets have been established for all five foundational pillars of the digital economy, articulated in the DE4A assessment framework, as a way to define and measure success against the overarching goal of ensuring that every individual, business and government is digitally enabled by 2030. Many of these targets have in turn been embedded in the World Bank Group's IDA19 Commitments.

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The report also benefited from consultations with development partners in Harare, including DFID, UNDP, and International Telecommunications Union (ITU).



DM

Diagnostic
Methodology

This report is based on the standardized methodology that the World Bank developed for DE4A diagnostics.

Broadly, this includes a combination of a fact-finding mission, anchored in the existing dialogue with the authorities, and desk research, both preceding and following the mission. The preliminary results are then further consulted with a broader range of stakeholders.

A fact-finding mission took place in Harare, Zimbabwe in November 2019. During this mission, the cross- sectoral team including World Bank staff from four global practices (digital development; finance, competitiveness, and innovation; governance; and education) conducted consultations and preliminary data gathering for all five pillars of this report. Besides the discussions with the relevant interlocutors, the mission built on the existing dialogue and collaboration with the Government of Zimbabwe (GoZ), covering: biometric registration of civil servants; enterprise architecture for government systems; state enterprises and parastatals in the telecommunications sector; digital financial services; and the digital entrepreneurship ecosystem.

The mission met with ministries, departments and agencies (MDAs), regulators, private sector stakeholders, entrepreneur support associations, and other organizations relevant for assessing the level of digital economy development in Zimbabwe. This included: Office of the President and Cabinet, Public Service Commission, Ministry of Finance, Ministry of Information Communication Technology and Cyber Security, Ministry of Industry and Commerce, Reserve Bank of Zimbabwe, Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ), Ministry of Primary and Secondary Education, Ministry of Higher and Tertiary Education, Science and Technology Development, and numerous private sector stakeholders.

The quantitative and qualitative data collected during the mission have been complemented by publicly available global indicators. The analysis presented in this report also draws on regional and global benchmarking, based on standardized indicators that form part of the DE4A diagnostic methodology. Additional analysis was performed using government statistics and data shared by the private sector.

In light of COVID-19, additional consultations with the relevant parties were conducted remotely between March and July 2020. These included follow-up remote interviews with the stakeholders, as well as consultations on the preliminary findings of the report with the Government and development partners. The report contains the data current as of June 2020, and COVID-19 policy updates through December 2020.



Abbreviations

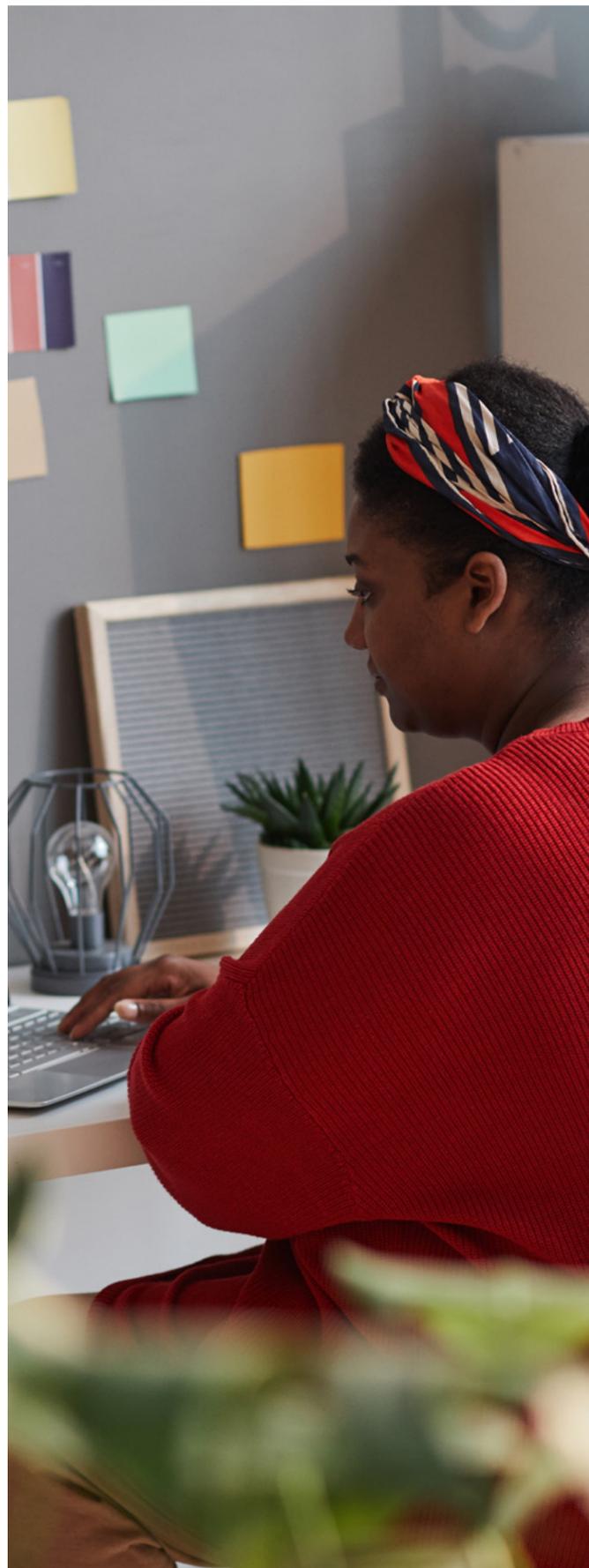
ACH	Automated Clearing House
ADTM	Automated Deposit Taking Machine
AFI	Alliance for Financial Inclusion
API	Application Program Interface
ASYCUDA	Automated System for Customs Data
ATM	Automated Teller Machine
B2B	Business-to-Business
B2C	Business-to-Consumer
BAZ	Broadcasting Authority of Zimbabwe
C2C	Consumer-to-Consumer
C2G	Citizen-to-Government
CAD	Computer-aided design
CAPEX	Capital Expense
CGAP	Consultative Group to Assist the Poor
CIC	Community Information Center
COVID-19	Coronavirus Disease 2019
CRB	Credit Reference Bureau
CZI	Confederation of Zimbabwe Industries
DE4A	Digital Economy for Africa Initiative
DFS	Digital Financial Services
DSL	Digital Subscriber Lines
EASSy	Eastern African Submarine System
ECD	Early Childhood Development
EFT	Electronic Funds Transfer
eLMIS	Electronic Logistics Management Information System
EMIS	Education Management Information System
FIU	Financial Intelligence Unit
FSDS	Financial Sector Development Strategy
FSP	Financial Service Provider
FTTx	Fibre to Premises
G2B	Government-to-Business
G2C	Government-to-Citizen
G2G	Government-to-Government
GCI	Global Competitiveness Index
GDP	Gross Domestic Product
GER	Gross Enrolment Ratio
GISP	Government Internet Service Provider
GNI	Gross National Income
GoZ	Government of Zimbabwe
GSO	Girls Speak Out
HCI	Human Capital Index
HRMIS	Human Resources Management Information System
ICT	Information and Communication Technology
IFC	International Finance Corporation
IMF	International Monetary Fund
ISP	Internet Service Provider
ITU	International Telecommunications Union
IXP	Internet Exchange Point
LTE	Long-Term Evolution

MDA	Ministry/Department/Agency
MHTESTD	Ministry of Higher and Tertiary Education, Science and Technology Development
MICT	Ministry of Information Communication Technology
MNO	Mobile Network Operator
MNP	Mobile Network Portability
MoFED	Ministry of Finance and Economic Development
MolCTPCS	Ministry of Information Communication Technology, Postal and Courier Services
MoPSE	Ministry of Primary and Secondary Education
MTO	Money Transfer Organization
MWCSME	Ministry of Women Affairs, Community and Small and Medium Enterprises
NBFIs	Non-Bank Financial Institutions
NPS	National Payment System
NUST	National University of Science and Technology
OPC	Office of the President and Cabinet
OPEX	Operational Expense
OSI	Online Service Index
PFMS	Public Finance Management Information System
POS	Point of Sale
POTRAZ	Postal and Telecommunication Regulatory Authority of Zimbabwe
PPP	Public-Private Partnership
PSC	Public Service Commission
PSP	Payments Service Provider
Q4	Fourth Quarter
R&D	Research and Development
RBZ	Reserve Bank of Zimbabwe
RTGS	Real-Time Gross Settlement
SACU	Southern Africa Customs Union
SADC	Southern Africa Development Community
SIA	Special Initial Allowance
SME	Small and Medium Enterprise
STEM	Science, Technology, Engineering and Mathematics
TDIS	Teacher Development Information System
TSP	Transitional Stabilization Programme
TVET	Technological and Vocational Education and Training
UN	United Nations
UNDP	United Nations Development Programme
USD	United States Dollar
USF	Universal Service Fund
VAT	Value Added Tax
VC	Venture Capital
WACS	West African Cable System
WBG	World Bank Group
WEF	World Economic Forum
WHO	World Health Organization
Zim ASSET	Zimbabwe Agenda for Sustainable Socio-economic Transformation
ZIMRA	Zimbabwe Revenue Authority



ES

Executive
Summary



The development of the digital economy in Zimbabwe must be understood in the context of the interlocking crises facing the nation and the world. Zimbabwe, once known as “the jewel of Africa” for its great prosperity, has been experiencing prolonged economic distress over the past two decades due to external shocks and internal instability. The COVID-19 pandemic has exacerbated the already difficult macroeconomic situation in the country, further worsening economic and social conditions. The Government of Zimbabwe recognizes that sound macroeconomic management and improved governance are key for setting the country back on the path to prosperity. The key issue going forward will be to combine short-term crisis management with longer-term structural reforms needed for the intended transformation.

The information and communication technology (ICT) sector, lying at the core of the digital economy, is recognized as central to turning around the Zimbabwean economy. It has a bearing on most business activities in the private and public sector and in the daily lives of individuals. In 2019, it was the fastest growing sector in the economy in Zimbabwe. The ongoing macroeconomic woes have provided both a challenge for the further development of ICT, but also an opportunity for innovation and urgent reform.

At the same time, the foundations for the digital economy are broader than just the ICT sector. The Digital Economy for Africa (DE4A) assessment methodology employed in this report relies on five foundational digital elements that create the building blocks for unlocking digital transformation: digital infrastructure, digital government platforms, digital financial services, digital entrepreneurship, and digital skills. These elements cut across different sectors of economy – telecommunications, finance, or education – and require participation of both public and private sectors. However, they must be taken holistically, with their interrelations duly considered, to determine the country’s ability to build a robust digital economy.

Digital infrastructure (DI) is one of Zimbabwe’s relative strengths, but regulatory roadblocks and macroeconomic conditions hamper its growth. Zimbabwe’s international connectivity infrastructure is relatively well-developed, and fiber backbone connects major cities and urban areas. However, large gaps remain in rural areas. The national fixed-line infrastructure is limited, and mobile networks remain the primary means for carrying retail data traffic in Zimbabwe. While the regulatory regime has significantly improved over the past decade, POTRAZ’s regulation of retail mobile voice and data tariffs distorts the market and is complicated to administer in a high inflation environment. Although macroeconomic conditions, limited competition among

operators, and low electrification rates create obstacles to the development of digital infrastructure, there are clear opportunities for the Government to improve the situation. These include a coordinated and strategic approach to broadband, regulatory reforms, as well as collaborative approaches to further develop rural coverage. This includes private sector participation in financing and development of infrastructure, such as ongoing discussions with telecommunication companies.

Digital government platforms (DGP) using modern GovTech tools can become a potential growth area for Zimbabwe, if coordination and interoperability improvements are given priority. Zimbabwe has the potential to create strong digital government. The country has established the building blocks for a digital ID system, developed core back-end systems, created an accessible government portal, and developed some innovative digital services. There are also established teams at the center of government to provide coherence and coordination. However, Zimbabwe is currently lagging behind its international peers, with limited gains made in recent years. Aging infrastructure and insufficient resourcing, combined with overall macroeconomic distress, electricity and connectivity issues, are major bottlenecks. At the operational level, lack of interoperability limits collaboration and data sharing; and the limited capacity to monitor compliance and quality of services is compounded by high ICT staff turnover and poor skills retention. The uptake of the existing digital services is lagging because they are atomized and not easily accessible through a unified one-stop shop portal. Despite the setbacks, the government has a clear opportunity to foster the digital government platforms by further strengthening coordination, adopting an interoperability framework, consolidating the digital services, and investing in institutional and human ICT capacity.

Digital financial services (DFS) are the strongest foundation for the further development of the digital economy in Zimbabwe, even at a time of macroeconomic woes. The country has a well-developed payment system, where 96 percent of all transactions in the country are through digital means and only 4 percent are cash-based. Government uses digital money almost exclusively. High-value real-time gross settlement (RTGS) platforms run by the central bank have been key in facilitating corporate payments. Zimbabwe has seen a revolution in mobile money, where there are currently about 7.1 million mobile wallet holders, covering most adults in a country of less than 15 million. However, there is still no interoperability among mobile money operators and the cost of transactions is high. The usage of internet banking in rural communities is low due to limited internet coverage.

International debit cards (Visa, Mastercard) cannot be widely used due to lack of liquidity in foreign currency. Currency reforms leading to de-dollarization have increased inflation and loss of value, especially for digitally stored currency. The Government has an opportunity to strengthen the DFS ecosystem through the new strategic approach (National Fintech Strategy), mandate interoperability among mobile money operators, and adopt a Southern Africa Development Community (SADC) Model Law on payments. In the COVID-19 era, DFS also provides a real opportunity to the retail sector and transacting public to comply with physical distancing guidelines.

Digital entrepreneurship (DE) is a nascent yet growing area in Zimbabwe, conditional on key regulatory reforms, improved coordination with the private sector, and at least some macroeconomic stabilization. Zimbabwe has good potential for the development of digital entrepreneurship, given its well-educated population, positive attitude towards entrepreneurial risks, presence of private sector actors keen to support entrepreneurship, and government commitment to improving the regulatory environment. However, challenges abound, including limited access to market data, onerous (if improving) regulations, limited access to start-up capital, and a complex tax regime for entrepreneurs. The deteriorating macroeconomic situation affects consumer and business demand, access to affordable finance, and access to skilled labor. Foreign exchange controls, unstable electricity access and coverage and declining business confidence create further obstacles for digital entrepreneurs. Despite these challenges, there are a significant number of innovative private sector ventures in the digital space in Zimbabwe. It is possible to do much more. The government has an opportunity to further foster digital entrepreneurship by: (i) clarifying entrepreneurship policy implementation frameworks to improve the regulatory and financing environment; (ii) strengthening the institutional ownership and capacity in government of the entrepreneurship agenda; and (iii) establishing a systematic dialogue between the public and private sector on how entrepreneurship can be accelerated.

Zimbabwe has a good foundation upon which digital skills (DS) could be leveraged, if training for both teachers and students is scaled up, and coordination and data flows improved. The country boasts a high literacy rate (about 90 percent), one of the best basic education access and enrolment ratios in Africa with an almost perfect gender parity, and the country’s workforce is well educated by regional standards. However, the rapid pace of innovation, together with a supply side failure to deliver the required digital skills, means that many businesses, service providers, and organizations

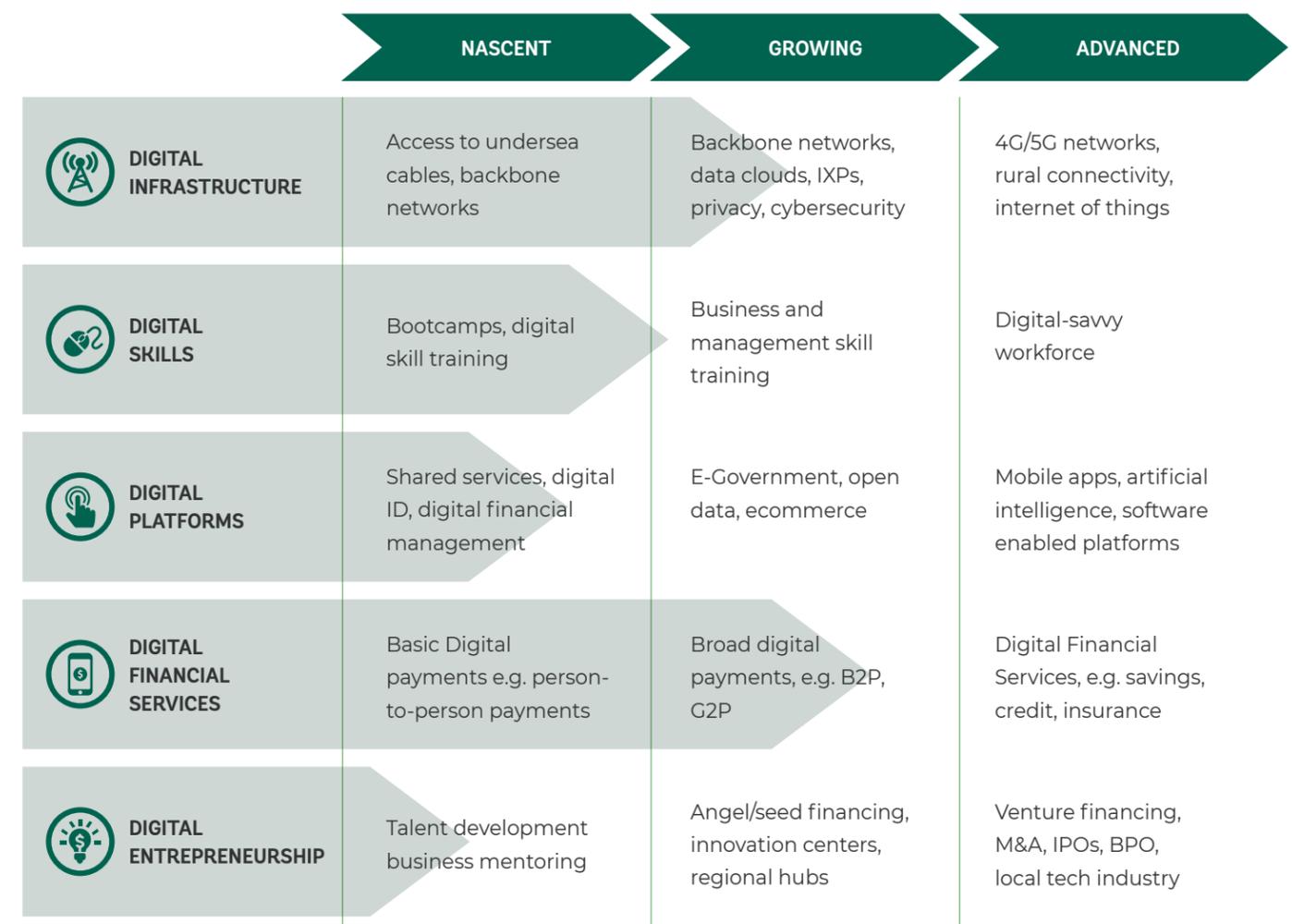
struggle to obtain employees with the right skills to harness technological opportunities. Serious investment by government and related players will be needed in basic and post-secondary education with a special focus on digital skills development. Key challenges include: limited infrastructure and enabling policy environment; limited financial support from central government; insufficient coordination between government and key private players; low skill levels among teachers; and poor data. These education-specific challenges are compounded by the economy-wide poor infrastructure (electricity coverage; internet connectivity; limited devices, especially in rural areas), and more generally rural exclusion and urban bias. With COVID-19 a key opportunity for building digital skills has arisen, where private entities are doing more innovating, including digital platforms for learning. The opportunities for the government to leverage the strengths and address the challenges include scaling up digital skills training for both students and teachers at all levels of education; establishing a multi-stakeholder coordinating group for digital skills; bridging the rural-urban divide in digital skills; and strengthening databases and information flows.

Figure ES.1 situates Zimbabwe's current level of development for each digital economy pillar on the "sliding scale," moving from the nascent phase to the growing and eventually advanced phase. The underpinnings for the figure are both quantitative and qualitative. The quantitative international benchmarking for each pillar is summarized in Annex 1. It includes available international rankings for each pillar (including World Economic Forum, UNDESA, Findex, World Bank, and others) as well as some of the POTRAZ's

own data, benchmarked against regional and international averages. This benchmarking exercise is further bolstered by extensive quantitative and qualitative analysis in each chapter. Despite the wealth of the underpinning analysis, numerous simplifications and generalizations are required to construct such a figure; it is not intended as a precise ranking but rather as a relative depiction of where Zimbabwe stands in its development of each foundational digital economy pillar. The results in the figure can be summarized as follows:

- **DIGITAL FINANCIAL SERVICES LEAD THE WAY** due to the pervasive use of mobile money and digital transactions in the economy. DFS are further growing and approaching the advanced phase.
- **DIGITAL INFRASTRUCTURE IN ZIMBABWE IS ALSO RELATIVELY WELL DEVELOPED** and is in the growth phase. DI's further advancement will be key for supporting the growing needs of all other pillars and will depend on de-bottlenecking the regulatory environment.
- **DIGITAL SKILLS ARE MOVING TO THE GROWTH PHASE** thanks to an excellent education foundation in country and the ability to reap the low-hanging fruit by scaling up the focus on digital learning. Similar to DI, DS are crucial for the remaining pillars to further develop.
- **BOTH DIGITAL GOVERNMENT PLATFORMS AND DIGITAL ENTREPRENEURSHIP ARE STILL NASCENT IN ZIMBABWE**, but both have a potential to grow if recommendations in this report are implemented and the macroeconomic situation allows.

▶▶ **FIGURE ES.1:**
SUMMARY OF ZIMBABWE'S CURRENT STATE OF DIGITAL ECONOMY DEVELOPMENT



The report concludes that to move the digital economy forward, Zimbabwe needs to make regulatory improvements as well as investments in four areas: policy and regulatory framework, resource management and coordination, governance, and capacity building. Innovating out of the crisis is not a panacea, and much work remains to be done both on fixing the macroeconomic fundamentals and on addressing the inherent weaknesses within each foundational pillar for the digital economy. The recommendations in this report identify several interconnected areas to be addressed across all pillars. Table ES.1 groups selected key recommendations of the report in these four interconnected areas, including whether they require regulatory or policy changes, and/or capital investments (Capex)¹. Addressing these, along with the external environment, will ease the binding constraints on the development of the digital economy in Zimbabwe.

►► **TABLE ES.1:**
SUMMARY OF ZIMBABWE'S CURRENT STATE OF DIGITAL ECONOMY DEVELOPMENT

PILLAR	OBJECTIVES/RECOMMENDATIONS	REGULATORY (R) OR CAPEX (C)
Policy and Regulatory Framework		
Infrastructure	Refine the regulatory framework with a view to improving tariff regulation and the licensing framework	R
	Review Universal Service Fund (USF) policies and strategy to accelerate infrastructure development in under-served areas	R
Platforms	Prioritize the finalization of outstanding legal and policy frameworks critical to digital platforms, in particular those relating to data protection and sharing, and cyber-security	R
Financial Services	Enforce mobile wallet interoperability amongst mobile money operators.	R
	Reduce costs of remittances at SADC level through increased collaboration by authorities.	R
	Enhance the digital options through which to receive remittances.	R&C
Entrepreneurship	Incorporate a start-up strategy for tech, service and manufacturing start-ups in the SME policy.	R
	Leverage the updating of the SME Policy.	R&C
	Initiate a regulatory review of public procurement regulation pertaining to entering joint ventures with foreign firms.	R
	Accelerate implementation progress on starting a business and insolvency reforms.	R
	Review how tax compliance for SMEs can be streamlined	R
Skills	Review incentives for business angels (i.e. tax credits for investments in start-ups)	R
	Track implementation of the ICT Policy for Primary and Secondary Education 2019-2023	R&C
Resource Management and Coordination		
Infrastructure	Make 700 MHz spectrum available for LTE and assign sufficient spectrum to the operators.	R
	Promote affordability of broadband-enabled devices and widen opportunities for individual access.	
Platforms	Establish shared systems and responsibilities at Line Ministry level for the regular collection of data about platform use and quality.	R&C
Skills	Bridge the rural-urban divide in digital skills through equity-based targeting of any digital skills training.	R&C

PILLAR	OBJECTIVES/RECOMMENDATIONS	REGULATORY (R) OR CAPEX (C)
Governance		
Infrastructure	Develop a National Broadband Strategy and strengthen coordination between the different agencies that govern ICT policy and implementation.	R
	Accelerate the rationalization of the portfolio of Government-owned telecommunications operators and privatize a substantial stake of these companies.	R
	Encourage commercial infrastructure sharing and open access to critical infrastructure to allow faster deployment and greater rural push in middle and last mile connectivity.	R
Platforms	Map the existing digital systems and services and agree an interoperability and interconnectivity framework across MDAs.	R&C
	Establish a clear coordinating mechanism across MDAs on digital platforms, under the leadership of the MoICTPCS in close collaboration with the e-government unit of OPC.	R
	Ensure all digital services are available via the government portal.	R&C
	Develop new and/or leverage existing information management systems to strengthen evidence-based decision-making in response to the COVID-19 crisis.	R&C
Financial Services	Identify and prioritise technical support to critical digital platforms and enhance remote access to the systems by critical staff who hold key responsibilities in the response to COVID-19 for Business Continuity within Government.	R&C
	Complete the development of a fintech strategy and establish the fintech department in the central bank.	R
Skills	Establish a multi stakeholder coordinating group for digital skills training promotion for improved coordination and focusing of effort.	R
	Strengthen Education Management Information System (EMIS).	C
Capacity Building		
Platforms	Strengthen the mandate and capacity of the MoICTPCS to monitor MDA compliance with agreed norms and standards for digital platforms.	R&C
	Strengthen the capacity of the Government Internet Service Provider (GISP).	R&C
Entrepreneurship	Explore the creation of a start-up academy.	R&C
Skills	Scale up digital skills training at the basic level.	R&C
	Improve the supply of digitally literate teachers at basic and post-secondary levels.	R&C
	Implement curriculum and pedagogical reforms in the post-secondary sector to meet current and future skills demand.	R&C

1. Full list of all recommendations in this report, organized by pillar, can be found in Annex 2.



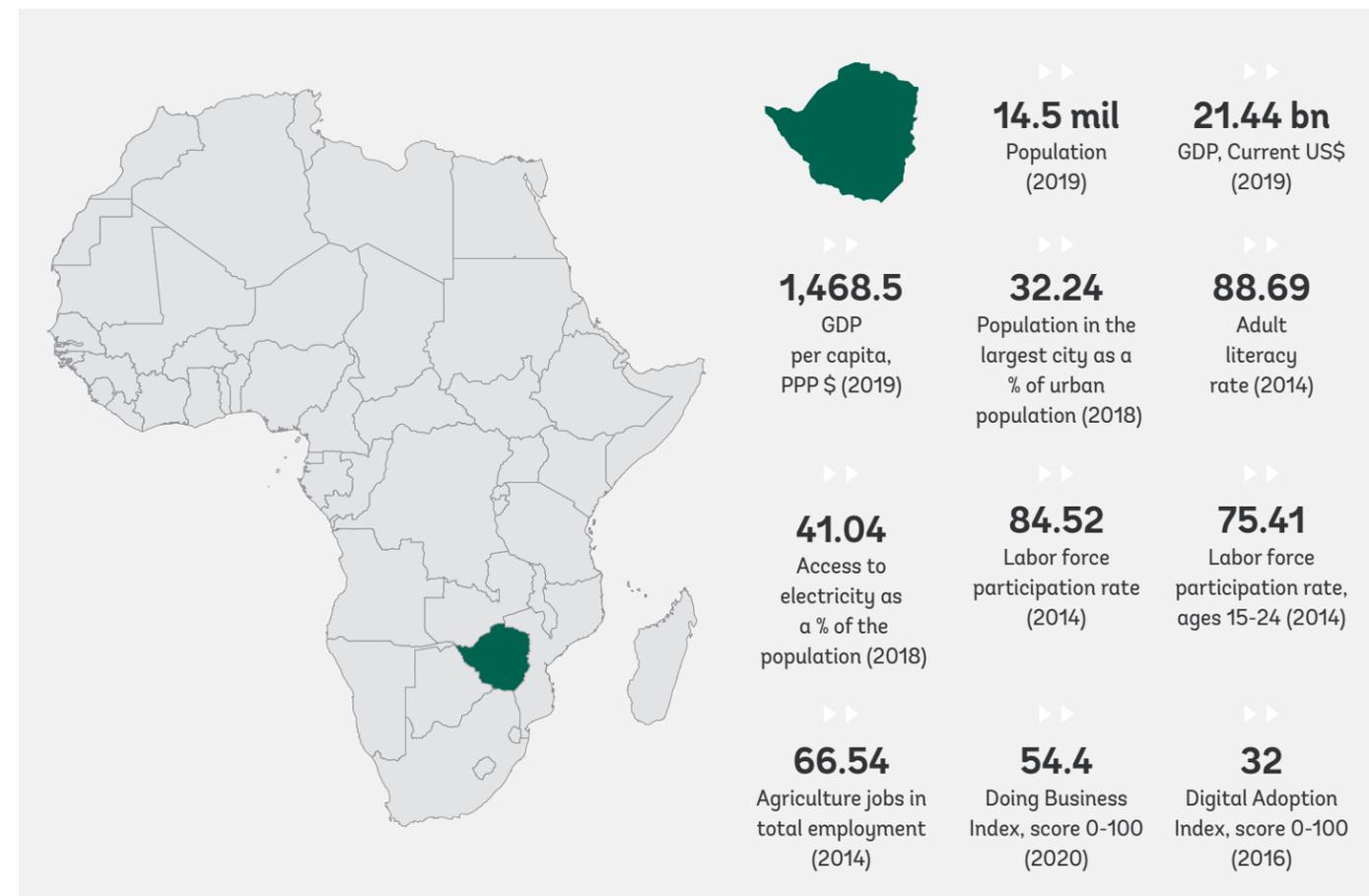
Introduction

1.1 Country at a Glance

Zimbabwe, a sub-Saharan nation of about 14.5 million people and once known as “the jewel of Africa” for its great prosperity², has been experiencing prolonged economic distress over the past two decades due to external shocks and internal instability. The share of the population in food poverty³ has reached 42 percent in 2019, up from 29 percent in 2017. The number of food poor has more than doubled since 2011, to 6 million in 2019. The gross domestic product (GDP) was USD21.4 billion in 2019, when it was estimated to have contracted by 8.1 percent – the largest contraction in Africa – due to climate and economic shocks. Year-on-year inflation as of December 2019 was estimated at 521 percent, the second highest in the world, leading to significant erosion of disposable income. Inflation has been increasing since

2018 due to monetization of the fiscal deficits of the past, depreciation of the local currency, price distortions, poor harvests, and reductions in the subsidies on fuel and electricity. Zimbabwe has a relatively educated and skilled labor force, but inadequate physical infrastructure. Land and natural resources are in abundance, with the natural resource extraction rising in the context of a decrease in manufacturing. Mining and agriculture are the key drivers of the economy. Zimbabwe has the 3rd largest platinum reserves in the world and is the third largest producer of tobacco. Most agricultural crops are produced for domestic consumption. Production of maize, a staple, fell by 27 percent in 2019 and is expected to decline further in 2020, which is likely to exacerbate food insecurity.

►► **FIGURE 1.1:**
ZIMBABWE AT A GLANCE: A HIGH-LEVEL SUMMARY

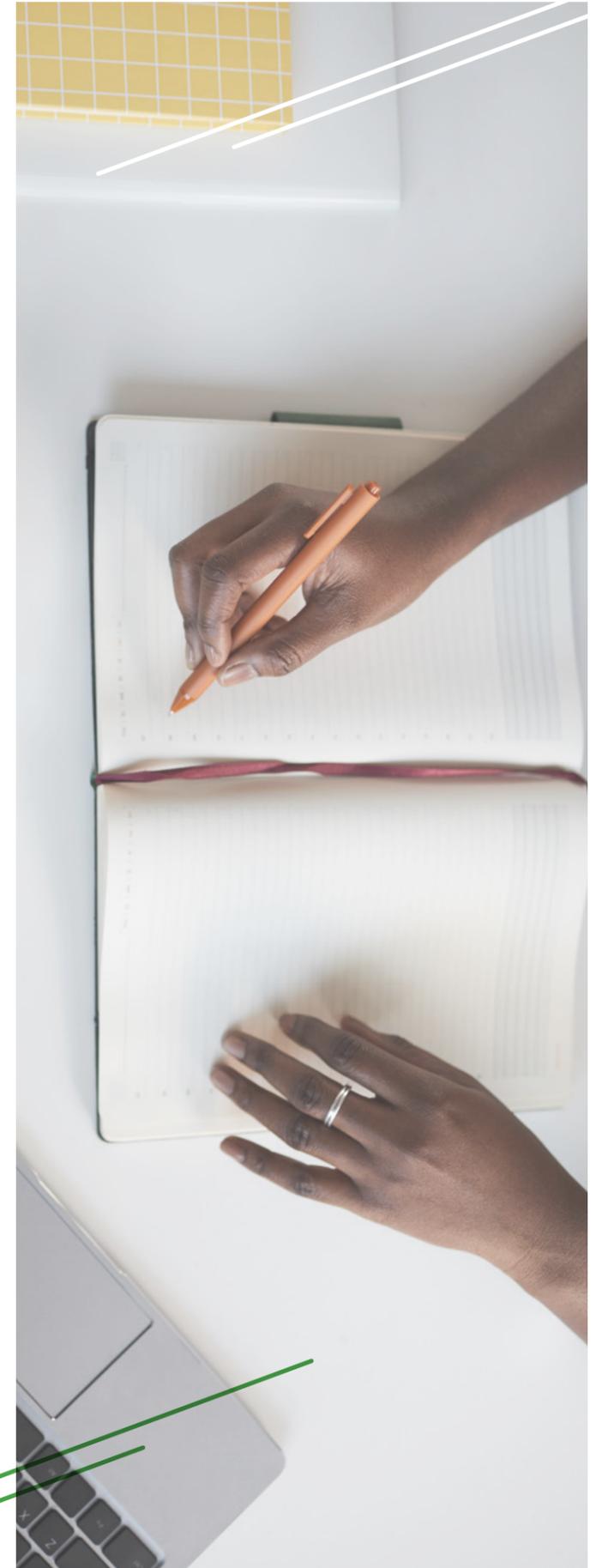


Source: World Bank World Development Indicators (WDI), 2020.

- See <https://www.nybooks.com/articles/2003/04/10/the-jewel-of-africa/> also <https://www.voazimbabwe.com/a/zimbabwe-economy-battered-over-the-years/2724325.html>
- The “food poor” are defined as those under the food poverty line of around USD30/person/month.

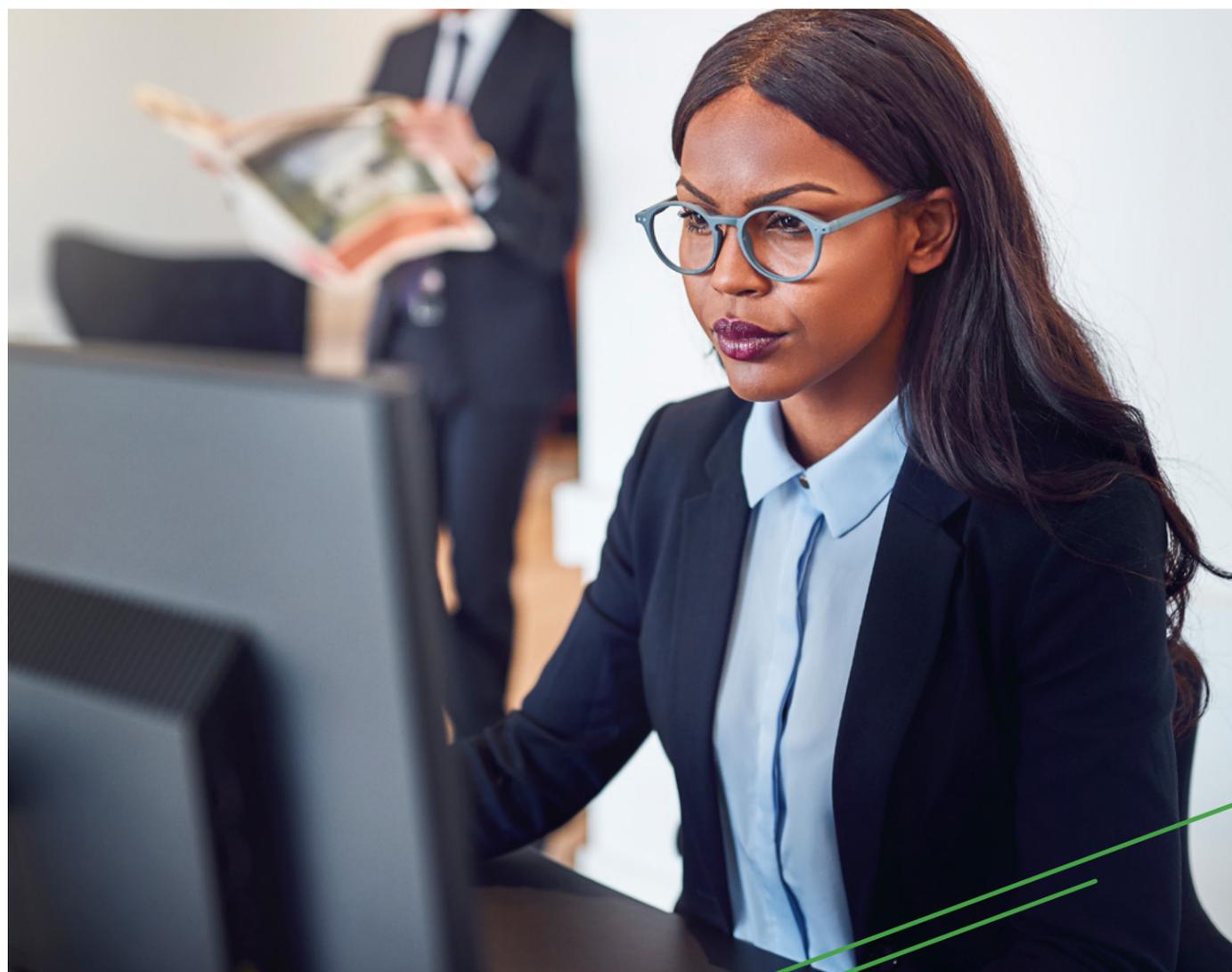
The Government of Zimbabwe recognizes that sound macroeconomic management and improved governance are key for setting the country back on the path to prosperity. Since the resignation of the former president Mugabe in November 2017, the new government elected in July 2018 has been trying to steer the country toward a political and economic transformation. The Transitional Stabilization Programme (TSP) for October 2018–December 2020 sets a bold vision of transforming Zimbabwe into a middle-income country by 2030. The TSP provides an economic transformation blueprint that prioritizes fiscal consolidation and economic stabilization, with a focus on stimulating growth, improving service delivery, and creating employment. It outlines the policies, strategies, and projects that are guiding Zimbabwe’s social and economic development. In particular, the TSP recognizes the information and communication technology (ICT) sector as one of the key pillars in the Zimbabwean economic recovery.

Yet after November 2017, slow reforms, policy missteps, and devastating climate shocks led to one of the deepest recessions in a decade and wiped out many of the improvements in social outcomes. Among the key policy missteps were the inconsistent and delayed foreign currency market reforms, including the introduction of the Zimbabwe dollar (ZWL\$) as the sole legal tender, which were not successful in de-dollarizing the economy. By the end of 2019, the currency had depreciated by 86 percent in a year and inflation surged to 521 percent year-on-year. Food prices were up by 725 percent, and this had enormous consequences for welfare overall and particularly for the urban poor. Following the currency crisis, a devastating drought, and a cyclone Idai, the economy entered into a recession in 2019. Climate shocks exacerbated existing structural deficiencies that have led to shortages of foreign currency, fuel, and electricity. Food insecurity increased, power outages reached 18 hours a day during the dry season, and water shortages became more frequent. These challenges reduced productivity, increased cost of production and weakened economic activity across the board. Coupled with volatile currency and prices, these challenges affected the tradable sectors the most, worsening further the shortage of foreign currency. As a result, Zimbabwe’s GDP is estimated to have contracted by 8.1 percent in 2019, after growing at 4.7 percent per year for almost a decade.



In 2020, the COVID-19 pandemic has exacerbated the already difficult situation in the country, further worsening economic and social conditions. While its severity and duration remain uncertain, the pandemic is expected to have dire economic consequences. Aside from the human toll, this will include further loss of output, jobs, external trade, and remittances, as well as higher prices, poverty, and food insecurity. More than two months of lockdown in the country, with reduced working hours and increased costs to contain the spread of the virus at the workplace, have resulted in unprecedented supply-side shocks that are affecting almost all sectors. Agriculture, manufacturing, mining, trade, tourism, and transport are the hardest hit. While supply shocks are subsiding with the easing of lockdown regulations, demand-side shocks are likely to persist. Household consumption, already weakened by soaring prices and poor returns from subsistence agriculture, is being hit by rising unemployment and income losses due to reduced working hours, unpaid leave, or reduced opportunities for informal sector activities.

The key issue going forward will be to combine short-term crisis management with the longer-term structural reforms needed for the intended transformation. Economic fundamentals and policy responses will have to be adequate to mitigate the negative impacts on lives and livelihoods, and eventually support economic recovery. At the same time, the crisis presents an opportunity to set the right course for the country's development. It also creates an opportunity to stimulate change faster than under normal circumstances, forcing a faster transformation process. Financing needs to prevent human suffering and further erosion of human capital are particularly significant in the context of fewer financing options, calling for bold economic and political reforms to reinvigorate growth and pave the way for increased international solidarity and reengagement.



1.2 Digital Economy in Zimbabwe: Key Opportunities and Barriers

The ICT sector lies at the core of the digital economy, and is recognized as central to turning the Zimbabwean economy around. It has a bearing on most business activities in the private and public sector and in the daily lives of individuals. In 2019, it was the fastest growing sector in the economy in Zimbabwe; some estimates suggest that the ICT sector has the potential of creating 40,000 jobs.⁴ The sector is viewed as a serious economic driver and an important contributor to the country's revenues. In the 2018 national budget, the Government of Zimbabwe (GoZ) focused on deepening the use of ICT in the economy. This was supposed to be achieved by targeting e-government and e-learning programs and expanding the coverage of the fiber backbone infrastructure.

Encouraging growth in the ICT sector in Zimbabwe in recent years is attributable to several developments, including the adoption of the National ICT Policy in 2016. Further positive developments include liberalization of the telecom, postal and courier services sector, as well as the establishment of regulatory bodies: Postal and Regulatory Authority of Zimbabwe (POTRAZ), Zimbabwe Media Commission, and Broadcasting Authority of Zimbabwe (BAZ). In addition, a dedicated Ministry of ICT, Postal and Courier Services (MoICTPCS) has been established. The government also adopted a policy that suspended duty on the importation of ICT equipment and launched a computerization program.

Zimbabwe is among the leaders on the continent in the use of mobile money. Zimbabwe boasts 7.67 million subscribers with mobile wallets, in a country with a population of 14.5 million including just over 7 million adults, reflecting the pervasiveness of mobile money adoption.⁵ Among the telecoms providing mobile wallets, Econet is the leading operator with a market share of 70 percent; NetOne and Telecel, owned by the government, occupy second and third place, respectively.

Yet the ICT sector faces significant challenges. The National ICT Policy cites the most important binding constraints on the development of the sector as inadequate infrastructure; the shortage of electricity and the limitations of the national power grid; inadequate ICT skills and a shortage of ICT skilled manpower to roll out ICT programs; fragmented institutional arrangements; inadequate capital investments in the country; absence of a cybersecurity framework; limited local ICT innovation, research and development; and underdeveloped entrepreneurship. In addition, like all other

sectors in Zimbabwe, the ICT sector has been affected by the economic crisis of the past two decades, most significantly by the lack of foreign currency to expand and modernize the sector. As a result, the country has missed out on many benefits from harnessing ICTs, such as employment creation, improved business efficiencies, and access to information and knowledge.

GoZ plays an important role in the ICT sector. The ICT regulatory agencies and commissions, including POTRAZ, BAZ, and the Zimbabwe Media Commission, set the rules of the game. At present, regulation of the ICT sector is divided between POTRAZ and BAZ, with POTRAZ reporting to MoICTPCS, whilst BAZ reports to the Ministry of Media. The government controls some of the dominant service providers on the market, including TelOne, NetOne, and ZBC, all of which fall under MoICTPCS. However, the government itself is lagging behind in e-government, ranking 126 out of 193 countries (UN Government Development Index 2020). Some of the root causes of the underdevelopment of digital government in the country include the failure to embrace the benefits of open source and cloud technology, inadequate skills, and strategic leadership.

GoZ has embarked on an ambitious set of reforms to address these challenges and foster the use of ICT technologies. In particular, GoZ has adopted a policy to encourage infrastructure sharing with a view to increasing efficiency in the use of national resources and reducing duplication. It is now in the process of establishing a national data center, which will centralize information storage, management and protection, as well as take advantage of cloud computing. Zimbabwe is also developing a national strategy and blueprint for planning, design, and implementation of e-government infrastructure and services. This will reduce fragmentation and duplication in the ICT sector. In addition, GoZ has put in place a number of initiatives aimed at building public interest in spurring development in the ICT sector. In 2018, POTRAZ launched an ICT innovation drive, which seeks to fund innovations in various sectors. In the digital finance space, GoZ has an opportunity to strengthen the ecosystem through the new National Fintech Strategy, mandate interoperability among mobile money operators, and strengthen the legal framework for digital payments to prioritize safety, security, and efficiency for all its market participants.

4. See <http://zimtechreview.co.zw/index-id-News-story-4160.html>

5. See Government of Zimbabwe, POTRAZ "Abridged Postal and Telecommunications Services Report," 1st quarter 2020.

1.3 Structure of the Report

To flesh out this overview of digital economy challenges and opportunities, the chapters that follow present a summary of key diagnostic findings across the five foundational pillars of the digital economy that form part of the DE4A diagnostic methodology. The second chapter discusses the current access, quality and resilience of *digital infrastructure*, as well as the availability and affordability of connectivity, which are essential for bringing more people online. The third chapter looks at the presence and use of *public sector digital platforms* that can support greater digital exchange, transactions, and access to public services online. The fourth chapter examines the current state of the digital financial services, while the fifth chapter turns to the *digital entrepreneurship* ecosystem. The sixth chapter examines the current state of digital skills attainment and coverage, in relation to the basic, advanced and e-business skills needed to support further uptake of digital services and the application of digitally enabled solutions. The seventh and last chapter concludes with recommendations in four key thematic areas that cut across all pillars: policy and regulatory framework; resource management and coordination; governance; and capacity building.

Each chapter describing the foundational pillars of the digital economy follows a common structure. It begins with the importance of each pillar, followed by detailed diagnostic findings and an outline of the challenges for further development of the digital economy. It then summarizes the findings in a Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis. The SWOT analysis summarizes the factors in the generic *external environment*, i.e., Opportunities and Threats, and the factors in the generic *internal environment*, i.e., the Strengths and Weaknesses, for the development of each foundational pillar of the digital economy. The SWOT summary, in turn, yields recommendations and next steps for each pillar. The recommendations are grouped by the key objectives to be achieved. Each recommendation identifies the responsible Ministry/Department/Agency (MDA), the indicative timeframe, and level of priority.





Digital Infrastructure

Key messages

- ▶▶ *Zimbabwe's international connectivity infrastructure is relatively well developed. Fiber backbone connects major cities and urban areas, but large gaps remain in rural areas.*
- ▶▶ *The national fixed-line infrastructure is limited, and mobile networks remain the primary means for carrying retail data traffic in Zimbabwe.*
- ▶▶ *While the regulatory regime has significantly improved over the past decade, POTRAZ's regulation of retail mobile voice and data tariffs distorts the market and is complicated to administer in a high inflation environment.*
- ▶▶ *Although macroeconomic conditions, limited competition among operators, and low electrification rates create obstacles to the development of digital infrastructure, there are clear opportunities for the Government to improve the situation. These include a coordinated and strategic approach to broadband, regulatory reforms, as well as collaborative approaches to further develop rural coverage.*

2.1 Importance of Digital Infrastructure

High-speed internet, or broadband, has the potential to accelerate Zimbabwe's socioeconomic development. An extensive body of research confirms the impact of increased investment in broadband on economic growth. World Bank research estimates that a 10 percent increase in broadband penetration in developing countries is associated with a 1.4 percent increase in GDP (Kim, Kelly, and Raja, 2010).

Connectivity can shape a country's development path through several interrelated channels:

- i. Bridging the information gap, alleviating asymmetry problems, and improving communication;
- ii. Connecting all citizens, especially those living in remote areas, to markets and services in the fastest and most cost-effective way; and
- iii. Increasing productivity, lowering transaction costs, and optimizing supply chains (Aker and Blumenstock, 2015).

Development of broadband infrastructure in Zimbabwe is urgently needed because broadband is a key enabler to harness the digital economy transformation. Digital economies are creating unprecedented opportunities for countries to grow their economies, create jobs, and transform people's lives. Fast internet provides a platform for innovation that is used as a key input across sectors, reverberating throughout the entire economy. It enables entrepreneurship, with businesses and individuals using fast internet to create new applications and services in areas such as e-commerce and financial services. It also enables game-changing digital service delivery in sectors critical to inclusive growth, such as education, health and agriculture. Likewise, it allows the public sector to deliver services to citizens and businesses more effectively and more inclusively. For these reasons, broadband has the potential to transform Zimbabwe's economy and help the country leapfrog development stages, provided effective policies are put in place to encourage its use as an essential input by all sectors of the economy.

The Government of Zimbabwe recognizes the importance of ICT as a driver of social and economic development. ICT is one of the key drivers for growth and employment creation identified in the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zim ASSET), which clearly spells out ICT as one of the pillars for national socio-economic development. ICTs have a key role in enabling all sectors of the economy to leapfrog in their development.

The objectives of the Zimbabwe National Policy for ICT, approved in 2016 are:

- i. **Transformation.** Facilitate delivery of Zim ASSET and other national developmental goals;
- ii. **Growth.** Enable and foster access to and increased use of ICTs in all spheres of life (e.g., e-Government, e-Commerce, e-Employment, education, health, science, agriculture);
- iii. **Leadership.** Achieve ICT leadership in Africa;
- iv. **Inclusiveness.** Bridge the digital divide and provide broadband for all;
- v. **Sustainability.** Manage the challenges resulting from ICT development; and
- vi. **Innovation and partnership.** Lead, improve, and adapt to the changing ICT environment.

The global COVID-19 pandemic is expected to seriously impact Zimbabwe's economy, requiring a greater focus on digital technologies to increase resilience. High reliance on tourism and commodity exports makes the country vulnerable to large swings in global demand. Since the pandemic is demonstrating that Zimbabwe's economic model is highly vulnerable to the risks posed by global pandemics, there is a need for interventions that support business continuity in the face of related shocks. In this setting, digital technologies offer a means for governments, individuals and businesses to cope with social distancing, ensure business continuity, and prevent service interruptions.

2.2 Diagnostic Findings: Current State of High-Speed Internet Development

This section provides diagnostic findings on the state of development of high-speed internet in Zimbabwe. First, the scale of internet services available in the country is reviewed, in terms of *access, affordability, and institutional framework and market structure*. This is followed by a discussion of the deployment of broadband infrastructure in Zimbabwe.

2.2.1 SCALE OF INTERNET SERVICES AVAILABLE

ACCESS

Since national fixed-line infrastructure remains limited, mobile networks are the primary means for connecting to the Internet in Zimbabwe. According to the International Telecommunications Union (ITU), in June 2018, there were 41.3 active mobile broadband subscriptions per 100 inhabitants in Zimbabwe. Overall, 27.1 percent of Zimbabweans reported using the Internet, above the average of 22.1 percent for Africa (ITU, 2018).

Fixed broadband penetration in Zimbabwe is low. With 1.1 fixed broadband subscriptions per 100 inhabitants in June 2018, Zimbabwe is slightly above the African regional average of 0.6 percent but well below the world average of 13.6 percent (ITU, 2018). Although fixed broadband is capable of delivering faster internet speeds than 4G with lower latency, it remains a "niche" service used by public institutions and some businesses, as well as a few privileged households.

Mobile broadband has become the most common and popular way through which people in Zimbabwe access the Internet. According to ITU, 3G coverage reaches 78.2 percent of the population and LTE/WiMAX 34.7 percent. These figures are above the regional average for Africa of 62.7 percent and 28.4 percent, respectively (ITU, 2018).

AFFORDABILITY

Demand for broadband is held back due to poor affordability of data plans. Zimbabwe has one of Africa's most expensive telecommunications markets. For example, TelOne increased its broadband tariffs by 199.35 percent with effect from 06 November 2019 (Telecom.com, 2019). In March 2020, POTRAZ approved an upward revision to the tariffs for voice, data and SMS by 55.64 percent, this being the third consecutive increase in the telecom tariff. The high cost is caused by a combination of many different factors, including the macroeconomic conditions, underinvestment in infrastructure, and the market structure. The high cost has resulted in relatively low internet usage.

BOX 2.1: BENCHMARKING ZIMBABWE'S DIGITAL INFRASTRUCTURE DEVELOPMENT

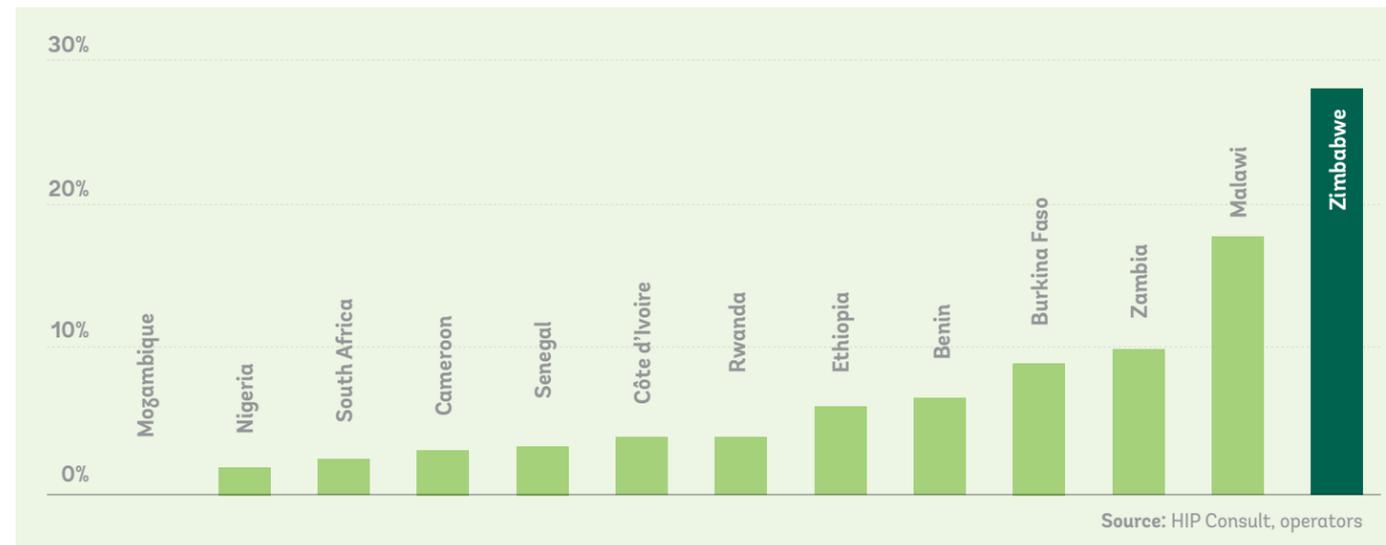
Zimbabwe's 2017 ranking of 136th out of 176 countries in the ICT Development Index (IDI) reflects its limited broadband subscriptions. The ITU's IDI is a composite index combining 11 indicators to monitor and compare development in ICT. Measuring the country's ICT readiness, intensity, and impact, the model correlates directly to the enabling environment for a growing digital economy.

Zimbabwe's rank of 136th highlights the low number of broadband subscriptions (especially fixed) and internet users in the country. The low ranking also reflects the limited usage of the broadband infrastructure and internet in Zimbabwe.

Source: Authors



►► **FIGURE 2.1:**
1 GB OF PREPAID DATA AS A PERCENTAGE OF AVERAGE MONTHLY INCOME, 2019



INSTITUTIONAL FRAMEWORK AND MARKET STRUCTURE

The Zimbabwean ICT sector operates under the **Post and Telecommunications Act of 2000** and relevant amendments. Its main tenets are to: (i) ensure the provision of sufficient domestic and international telecoms services throughout the country; (ii) promote fair tariffs for telecoms services; (iii) promote the development of telecoms services in accordance with demand; and (iv) maintain and promote healthy competition in the market. In 2009, the Ministry of Information Communication Technology was given oversight of policy for the development of the sector. The Ministry was renamed Ministry of ICT, Postal and Courier Services (MoICTPCS) in 2013. The Ministry is working on a SMART Zimbabwe 2030 Master Plan in order to drive the digitization of the Government, economy and society. The Ministry recognizes the need to develop a national broadband strategy.

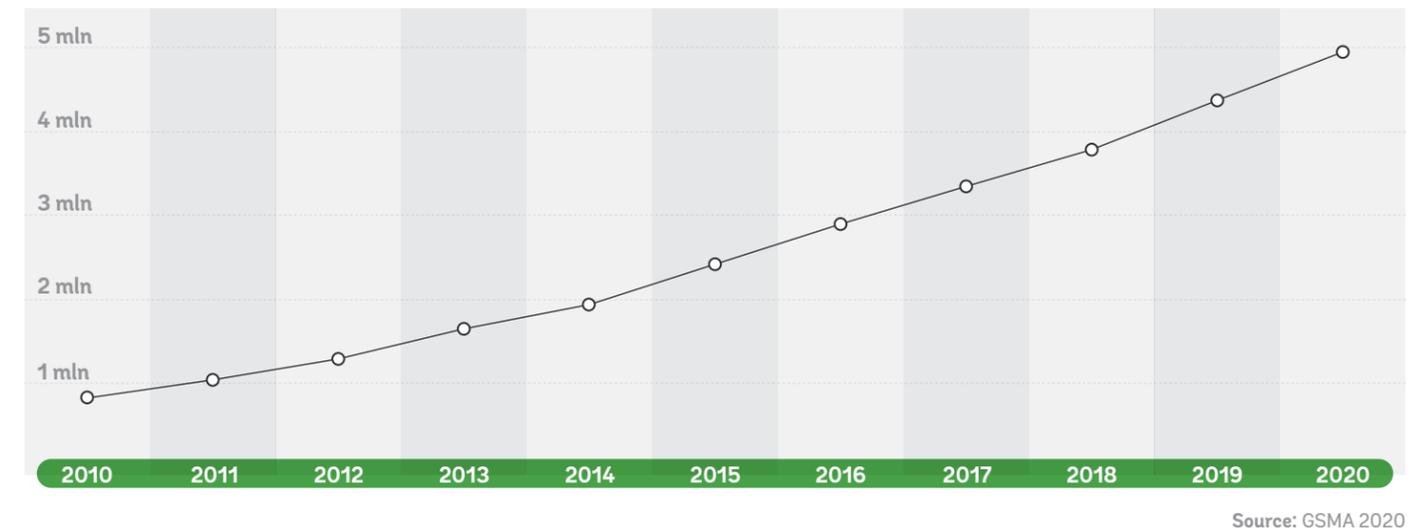
The **Office of the President and Cabinet (OPC) governs the use of ICTs within the Government.** The Government Internet Service Provider (GISP), mandated to be the sole provider of internet services to all government ministries, departments and parastatals, reports to OPC. OPC and MoICTPCS appear to have overlapping authority in regard to the management of government data, enterprise architecture and interoperability, and the linking of the ICT units of the different MDAs. This situation is complicated by a lack of adequate coordination.

POTRAZ was established by the Post and Telecommunication Act of 2000 to operate as an independent regulator and licensing body. In April 2018, the Government approved plans to merge POTRAZ with BAZ in order to improve the regulation of converged ICT and media services. However, no timeframe for the merger has been given.

Mobile telecommunications technologies have been instrumental in delivering modern telecommunications services to Zimbabweans. Zimbabwe's total telecommunications market revenues in 2018 were about \$1.56 billion (according to POTRAZ). Most of the revenues (about 74 percent) were generated by mobile services. The number of unique mobile subscribers has been growing since 2008 despite stagnation in total mobile connections after 2013. By the end of 2019, total mobile penetration was 90.6 percent and unique mobile subscriber penetration was 49.9 percent (according to GSMA Intelligence).⁶ State-owned fixed-line incumbent TelOne is Zimbabwe's sole fixed telephony provider and operated 274,408 fixed lines in the second quarter of 2019 according to POTRAZ.

Apart from fixed lines, a private sector operator, Econet, dominates the market, competing with several government-owned operators in various market segments. The government operators compete against each other, as well as the private sector, in some of the same market segments. Three mobile operators are licensed and operating

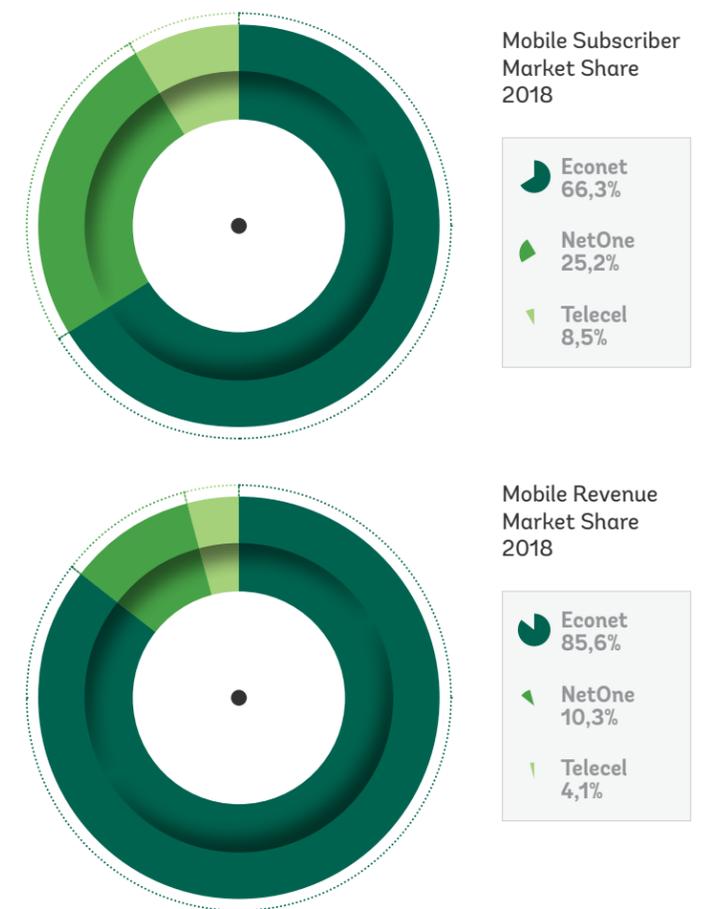
►► **FIGURE 2.2:**
UNIQUE MOBILE INTERNET SUBSCRIBERS



in Zimbabwe: one private (Econet Wireless Zimbabwe) and two government-owned (NetOne and Telecel Zimbabwe). The government-owned fixed-line operator TelOne focuses on fixed voice and broadband. The market is complemented by a few Internet Service Providers (ISPs) including Liquid Telecom (same corporate group as Econet) and government-owned Powertel, Zarnet, and Africom. The inefficiencies of the management and operation of the relatively large number of state-owned companies, as well as restrictions on Telecel's investments in previous years, have enabled the emergence of a private company with the largest market share of mobile subscribers – Econet with 66.3 percent. Econet's 85.6 percent market share of mobile revenues makes it the largest operator in Africa. (Figure 2.3)

The fixed broadband market has experienced customer growth; however, uptake has been relatively sluggish as users opt instead for cheaper and more widely available 3G and 4G wireless alternatives. There were just 176,280 fixed broadband subscribers in Zimbabwe at the end of June 2019 compared to 8.17 million mobile broadband subscribers, according to POTRAZ. Digital Subscriber Lines (DSL) is the most common fixed broadband technology with 101,909 subscriptions, followed by fiber (39,863) and CDMA (25,658). Liquid Telecom, a subsidiary of Econet, operates the largest fiber network in Zimbabwe and had an ISP revenue market share of 56 percent in 2018, followed by TelOne (26 percent) and Powertel (10 percent).

►► **FIGURE 2.3:**
MOBILE SUBSCRIBER AND REVENUE MARKET SHARE 2018



6. The GSM Association (commonly referred to as 'the GSMA' or Global System for Mobile Communications) is an industry organization that represents the interests of mobile network operators worldwide.

2.2.2 DEPLOYMENT OF BROADBAND INFRASTRUCTURE

This subsection assesses the digital infrastructure value chain in Zimbabwe, from the *First Mile* (international connectivity), through the *Middle Mile* (the fiber optic backbones and inter-urban networks), to the *Last Mile* (local access networks reaching the end users) and the *Invisible Mile* (invisible elements of the chain such as access to frequencies and enabling environment).

FIRST MILE

Zimbabwe's international connectivity infrastructure is relatively well developed, despite the country being landlocked and reliant on terrestrial connectivity via neighboring countries. Since 2010, several private and government-owned operators have rolled out cross-border fiber optic links connecting Zimbabwe to several international fiber-optic submarine cables via neighboring countries, ending a long dependence on expensive and limited satellite bandwidth. The connections include:

- TelOne's fiber backbone, providing indirect access to the Eastern Africa Submarine System (EASSy) via Mozambique and to several submarine cables via South Africa and Botswana;
- Liquid Telecom's fiber backbone connectivity to EASSy, SEACOM, and the West African Cable System (WACS) via South Africa, Zambia and Botswana;
- PowerTel's access to international fiber networks via the borders with Botswana and South Africa, and to SEACOM via Mozambique;
- Dandemutande's fiber connection to SEACOM via Mozambique; and
- Africom's connection via Mozambique.

Multiple international links provide sufficient redundancy and have significantly reduced constraints in terms of international bandwidth. Total available international bandwidth has been increasing rapidly, reaching a total equipped international incoming internet bandwidth of 124,995 Mbps in the third quarter of 2019 according to POTRAZ. Liquid Telecom has 86 percent market share of equipped international internet bandwidth capacity. Based on interviews with the operators, used incoming international internet bandwidth capacity reached 107,975 Mbps in the third quarter of 2019. The price of international bandwidth has decreased significantly to about \$100 per Mbps per month for an STM1 circuit to London (from as high as \$5000 per Mbps). In November 2017, GoZ opened the country's first internet exchange point (IXP), the Zimbabwe Internet Exchange, with the goal to cut the cost of internet. There is also a second private, not-for-profit IXP, the Harare Internet eXchange Point. The IXPs allow local networks to interconnect

directly rather than via more expensive third-party networks in other countries. Several local operators have signed up to use these IXPs, including TelOne, Liquid Telecom, Africom, Dandemutande, and PowerTel.

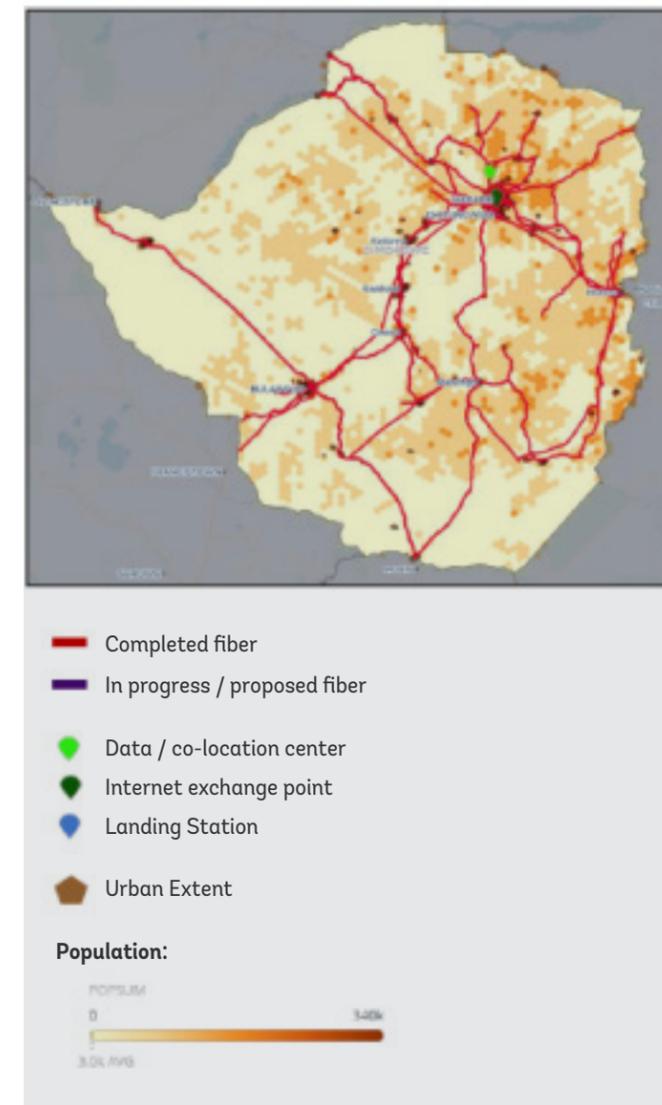
MIDDLE MILE

Zimbabwe's fiber backbone connects major cities and urban areas, but large gaps remain in rural areas. Zimbabwe fares averagely well on fiber deployment indicators compared to its African peers. While there is decent coverage on a population basis, it ranks much lower on fiber density relative to its land mass. As of September 2019, the combined fiber deployment of all the operators is about 25,000 km (includes metropolitan networks in Harare and other cities). Liquid Telecom has by far the most extensive fiber network followed by state-owned TelOne, PowerTel, Africom, and Telecel. The backbone provides for redundancy on the major routes due to the use of diverse rights of way (roads, railway, power lines, etc.) and is a mix of trenched and aerial fiber. About 43 percent of Zimbabwe's population lives within fiber reach (within 5 km). Beyond major cities, Zimbabwe's population is more evenly dispersed compared to other countries, with a very sparse population in rural areas, resulting in large coverage gaps for Zimbabwe's rural population. Further investment in network deployments could bolster Zimbabwe's digital economy and allow it to realize its full fiber potential, especially in badly under-connected rural areas.

LAST MILE

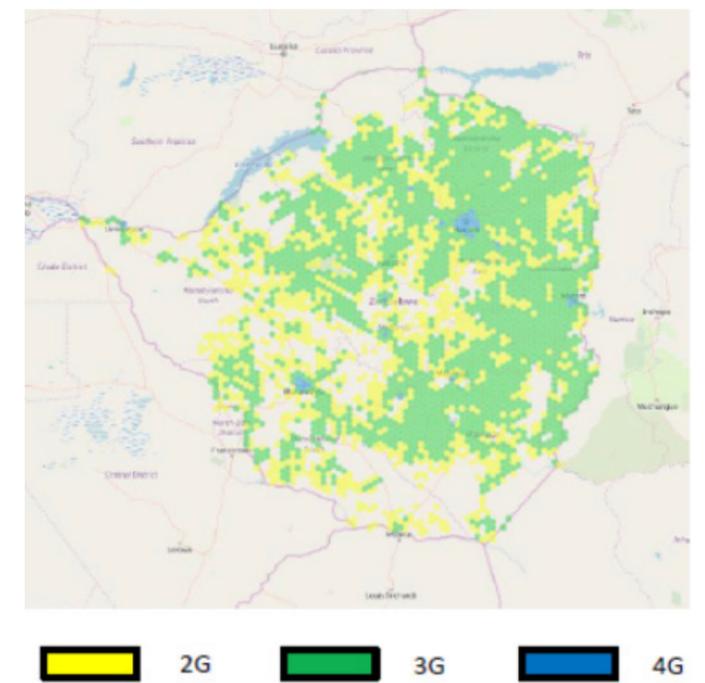
The national fixed-line infrastructure is limited, and mobile networks remain the primary means for carrying retail data traffic in Zimbabwe. Fixed broadband with high construction costs is limited to the major cities and towns (including Harare, Victoria Falls, Bulawayo, Mutare, Kwekwe, Gweru, Marondera, Norton, Chegutu, and Kadoma). DSL and fiber-to-the-premises (FTTx) are the most commonly available fixed broadband technologies. Last-mile fixed infrastructure deployments to end-user premises remain limited to around 200,000 with a focus on public institutions, some businesses, and privileged households. Therefore, mobile networks remain the primary means by which most of the population and businesses access the internet.

►► FIGURE 2.4:
FIBER OPTIC BACKBONE, 2019



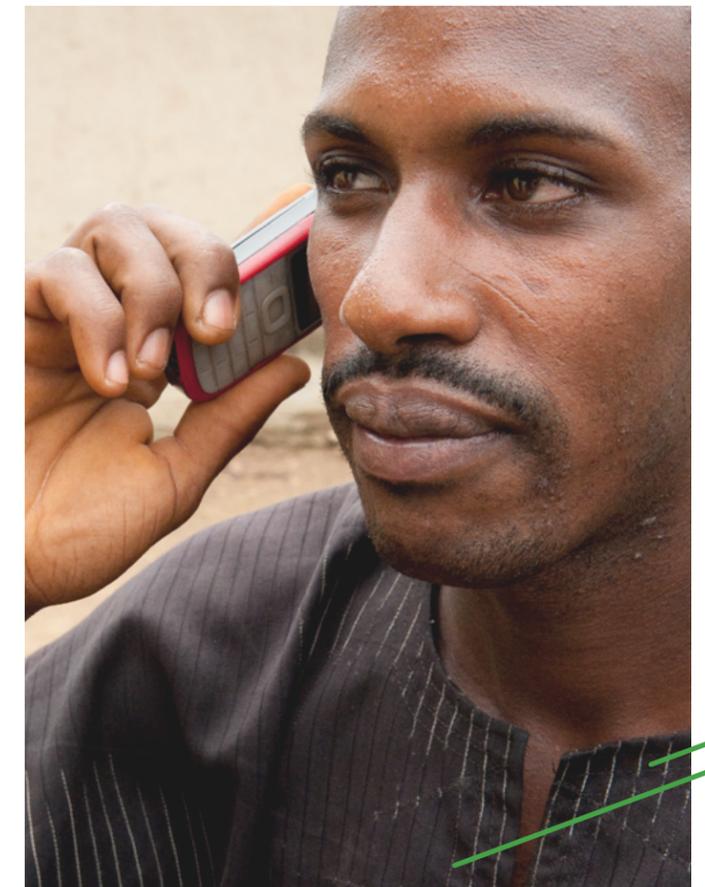
Source: HIP Consult, InfaNav, HRSL, operators

►► FIGURE 2.5:
ESTIMATED MOBILE NETWORK COVERAGE, 2019



Source: HIP Consult, InfaNav, operators

Mobile operators, which have the advantage of scale and coverage, are the main providers of broadband connections in Zimbabwe through 3G and Long-Term Evolution (LTE) technologies. At the end of 2018, the estimated combined population coverage was 93.4 percent for 2G mobile networks, 83.9 percent for 3G networks, and 34.9 percent for LTE networks, according to POTRAZ. There is limited LTE coverage outside of major cities, with a significant gap between 3G and LTE coverage. There are about 3,500 base station sites/towers in Zimbabwe; the majority are owned and managed by the mobile operators with limited sharing. About 600 sites are connected by fiber optic cables.



INVISIBLE MILE: ENABLING ENVIRONMENT

While the regulatory regime has significantly improved over the past decade, Zimbabwe's regulatory rankings remain relatively weak when benchmarked with peer markets. Zimbabwe ranks 99th in the ICT Regulatory Tracker 2018 (<https://www.itu.int/net4/itu-d/irt/#/tracker-by-country/regulatory-tracker/2018>) out of 193 countries, with the lowest scores under Cluster 3: Regulatory Regime, and Cluster 4: Competition Framework.

POTRAZ proposed a new Converged Licensing Framework in October 2015, in an effort to break down entry barriers for new players. The new licensing framework would provide for a Unified License combining the Network Facilities License, the Network Services License and the Application Services License into one, allowing the holder to construct, install, own and maintain network facilities and provide network and application services under the same license. Consultations on the new licensing effort were conducted in 2015 but no further action has been taken.

License fee payments are delayed by most of the operators except Econet and Liquid Telecom. It has been reported that POTRAZ allowed some of the telecom operators to renew their licenses using long-term annual payment plans. Administrative issues have also impeded the assignment of spectrum in the 700 MHz band to mobile operators. In addition to license fees, the operators are required to contribute to the Universal Service Fund (Box 2.2).

POTRAZ regulates retail mobile voice and data tariffs based on a long-run incremental cost model, which takes a forward-looking approach to tariffs. This has resulted in significant tariff cuts between 2015 and 2017. However, in August 2019, in response to the country's worsening economic situation, POTRAZ approved an increase in tariffs of more than 180 percent. At the time of the move, the value of the local currency had plummeted against the dollar, leading to vastly increased costs for operators, which must pay for

international bandwidth and network equipment in foreign currency. Furthermore, the country was suffering chronic power shortages, which meant that mobile operators had to keep their infrastructure running using expensive diesel-run backup generators.

POTRAZ issued a notice to all mobile network operators (MNOs) in Zimbabwe in October 2013 informing them that mobile number portability (MNP) would be introduced in 2014. The regulator claimed that the inability of subscribers to retain their respective mobile telephone numbers when they change service providers presents an obstacle to competition and an inconvenience to the customers. There has since been little development on the issue, however, with the regulator citing cost considerations as the main reason behind the delay. No new date has been announced for the implementation of MNP.

POTRAZ implemented a stand-alone Telecommunications Traffic Monitoring Assurance System in August 2016. It is used to monitor the traffic and revenues of the country's telecom operators, including their mobile money transactions, and incorporates fraud detection facilities to detect illegal re-routing of international calls designed to avoid payment of termination fees.

BOX 2.2: THE UNIVERSAL SERVICE FUND

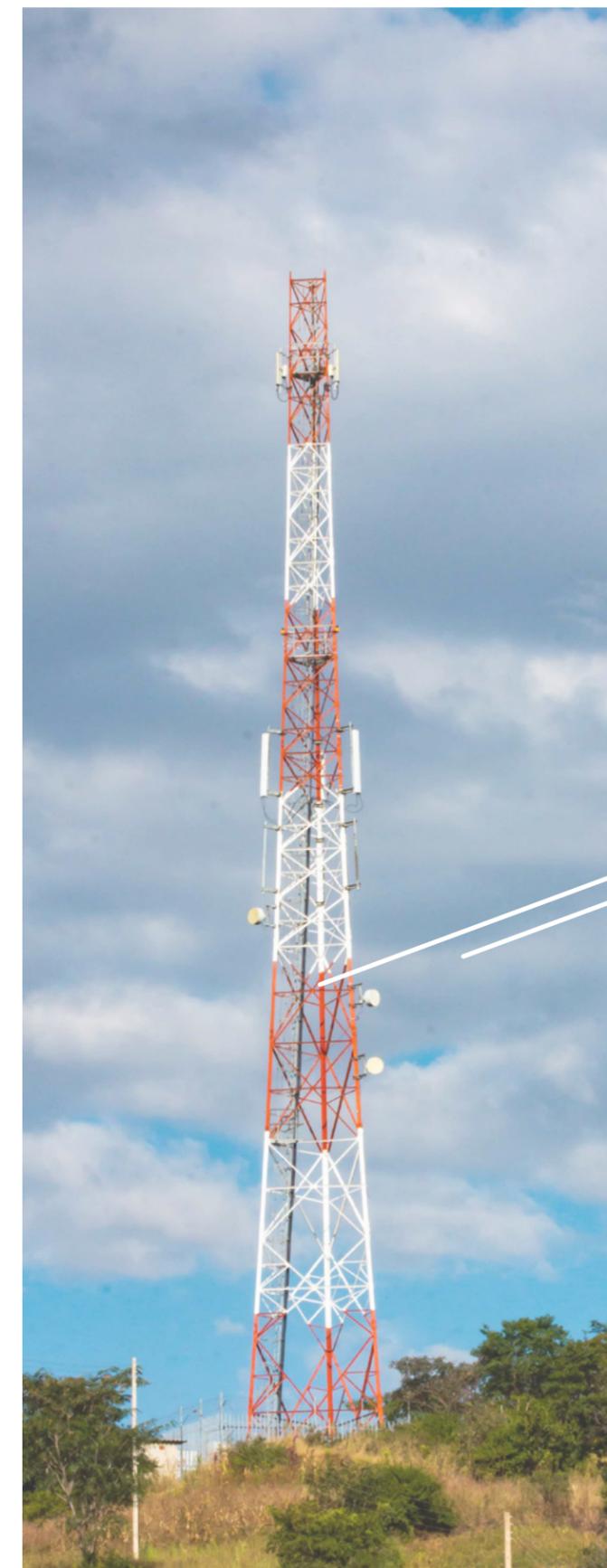
The Universal Service Fund (USF) was established under the Post and Telecommunications Act of 2000 with the intention of providing funding for extending communication networks beyond the borders of economic viability to reach marginalized communities in rural areas throughout Zimbabwe. USF intends to provide everyone with basic access to voice and postal services, irrespective of their geographical location. USF has focused on installing shared passive base station infrastructure throughout Zimbabwe. USF also supports the provision of post buses, back-haul transmission networks to rural ICT centers at post offices, and mobile internet connectivity for rural schools.

All operators are required to contribute to USF; at the start of 2016, the Government raised the required level of contributions from 0.5 percent of a telecom operator's gross annual turnover to 1.5 percent. Econet has been the biggest contributor so far, contributing over \$53 million of the \$67 million total payments since 2009. POTRAZ reported in 2016 that all three mobile operators were behind with their payments to USF; it is not clear if any operators still owe to USF.

The first subsidies from USF were awarded by POTRAZ in 2009 to help finance network expansion in underserved areas. This was the first time that operators had received funds for projects from their joint contributions since the creation of the USF; due to hyperinflation and the resulting switch to a multicurrency system, contributions prior to 2009 had been rendered virtually worthless.

POTRAZ reported in October 2015 that several USF projects had been completed that year, including a \$14 million scheme to connect 60 schools in eight rural provinces and a \$6 million deployment of rural communications towers. The regulator spent \$7.3 million from the USF in 2017, up from \$4.0 million the year before. The investment went towards projects such as the geographic expansion of mobile networks to more rural areas, the deployment of a microwave radio backhaul network to transmit traffic between sites back to the switch, telemedicine, internet connectivity for schools, e-learning, and the building of Community Information Centers. Another USF-financed project to deploy 100 base stations in remote areas was announced in August 2019.

Source: Authors



2.3 Challenges

In order to further develop the country's digital infrastructure, the Government will need to address a number of challenges. These include:

- 1. Macroeconomic conditions.** Challenges in macro-economic management over several decades have led to structural difficulties including high inflation, limited access to foreign exchange, and electricity load shedding. These are inhibiting growth and suppressing investments.
- 2. Institutional arrangements.** Overlapping mandates within the Government in the ICT area are resulting in duplication and uncoordinated actions.
- 3. Limited competition.** Econet and Liquid Telecom with a strong market position, access to capital, and competent management are competing against an unusually large number of Government-owned telecommunications operators, which have overlapping mandates, compete directly with each other in various market segments, and have limited access to capital. Limited competition in the mobile sector has contributed to high prices and low rural access.
- 4. Market failure in rural areas.** Zimbabwe is still a long way from achieving widespread use of broadband because of major infrastructure challenges and market failure, particularly in rural areas. High capital and operational costs, low disposable income, and the lack of a reliable grid electricity supply render services commercially unviable and induce a lack of interest from operators and ISPs in deploying infrastructure in rural areas. Accordingly, network operators have focused on the most profitable geographical areas, primarily major urban areas and intercity routes, to the disadvantage of the population that lives outside those areas. Significant further investments will be needed to provide universal and affordable access to broadband, especially in rural areas.
- 5. Regulation of retail tariffs.** POTRAZ's regulation of retail mobile voice and data tariffs is contrary to the principles of a competitive retail market, distorts the market, and is complicated to administer in a high inflation environment. The regulation is likely to translate into reduced investments and roll-out of infrastructure.

- 6. Electrification rate in rural areas.** The low electrification rate in rural areas limits demand for broadband. Only 19 percent of the rural population has access to electricity, which is a major constraint on the use of broadband. Current battery technology does not allow for the sustained use of broadband without access to a reliable power supply.
- 7. Limited infrastructure sharing.** Effective infrastructure sharing and wholesale open access could bring broadband to rural areas more quickly by limiting duplication of infrastructure and redirecting resources to under-served communities. Optimally, infrastructure sharing should be market based and commercially agreed between the operators, but it can be mandated in certain situations. However, infrastructure sharing should not eliminate infrastructure-based competition, which has been critical for the development of the ICT sector in recent decades.
- 8. High costs, limited skills and lack of relevant internet content.** The cost to acquire a broadband-enabled device, digital illiteracy, and lack of local content are other major barriers to the use of broadband in Zimbabwe. There is an urgent need to develop policy and regulation that will increase the affordability of smart devices and develop awareness of the internet as well as the skills to access and use it. This is critical to achieve a significant reduction in digital inequality. Availability of locally relevant content could drive demand for internet services.
- 9. Low investment.** The difficult macroenvironment has made it difficult to attract further investment for development of digital infrastructure. The low investment in digital infrastructure has resulted in limited potential for enhanced growth; hence Zimbabwe remains largely underdeveloped in comparison to other Southern Africa countries. Attracting further investment is critical for growth of the sector and to keep up with the fast changing digital technologies such as 4G and 5G.



2.4 Recommendations & Next Steps

The findings from the assessment of the current state of Digital Infrastructure in Zimbabwe can be used to identify the factors in the macro- and micro-environment that influence the behavior of companies and individuals. These in turn help in the identification of the factors both in the generic external environment, i.e., Opportunities and Threats, and in the generic internal environment, i.e., the Strengths and Weaknesses, needed to construct the final SWOT Matrix as indicated in Figure 2.6 below.

►► **FIGURE 2.6:**
DIGITAL INFRASTRUCTURE SWOT MATRIX



Source: Authors

The COVID-19 emergency has illustrated the role that digital tools can play in boosting economic resilience. Box 2.3 below illustrates how the country is utilizing digital infrastructure in the fight against COVID-19. During the pandemic, digital technologies have offered solutions to governments, individuals and businesses to prevent service interruptions and allow online learning for children. In particular, access to mobile money was an advantage that helped Zimbabweans cope in the early days of the pandemic (see the subsequent chapter on Digital Financial Services). Expanding connectivity will help the government to prepare for similar situations and support economic resilience through digital technology.

Spurring the adoption and use of broadband networks and services by users will also require government policy and private sector investment to focus on driving demand for broadband services. Specific interventions should be designed to carry through demand-side strategies to stimulate broadband use, e.g., by promoting the use of services that are attractive to potential consumers. Similarly, it is of paramount importance to educate users about the benefits of broadband and develop the user skills needed to use broadband services effectively, targeting women and vulnerable households in particular (see subsequent chapters on Digital Platforms and Digital Skills).

BOX 2.3: LEVERAGING DIGITAL INFRASTRUCTURE AS PART OF THE COVID-19 RESPONSE AND RESILIENCE

In the unprecedented fight against COVID-19, digital technologies offer an opportunity for governments, individuals and businesses to access financial resources, ensure business continuity, prevent service interruptions, allow for continuous education of children via distance learning and help cope with social distancing. With the significant increase of data traffic, financial transactions, and voice calls during the pandemic, there is a need for robust digital infrastructure and increased reliance on secure online services.

As social distancing measures are imposed, closing the digital divide is of paramount importance to ensure economic interactions continue happening, without physical interaction. Connecting government and equipping public, health and academic facilities with the right digital infrastructure and solutions would enable remote work at scale, support business continuity, and lay the foundations for digital service delivery (e.g., e-learning).

Short-term interventions that could be considered to aid the emergency response include the following:

- Supporting the telecoms sector in increasing bandwidth and managing congestion to keep the Internet from breaking, through initiatives such as a temporary reduction in spectrum fees;
- Temporarily eliminating taxes/fees for broadband services and digital devices, to promote remote working and remote learning;
- Pre-purchasing broadband internet access for government officials to support home-based work;
- Implementing infrastructure sharing and open access to critical infrastructure to allow faster deployment of middle and last mile connectivity in rural areas; and
- Updating the rules for the use of Zimbabwe's USF policies to accelerate development in under-served areas and in turn connect more people for remote work and distance learning by easing both operational expense (OPEX) and capital expense (CAPEX) constraints for service providers.

Source: Authors

In light of the analysis in this chapter, Table 2.1 lists key recommendations. These are organized across key objectives that would unblock binding constraints on further development of this digital economy pillar.

The table identifies responsible agencies as well as an indicative time frame, where short-term denotes within the next 12 months. Highest-priority recommendations are highlighted.

►► **TABLE 2.1:**
DIGITAL INFRASTRUCTURE RECOMMENDATIONS

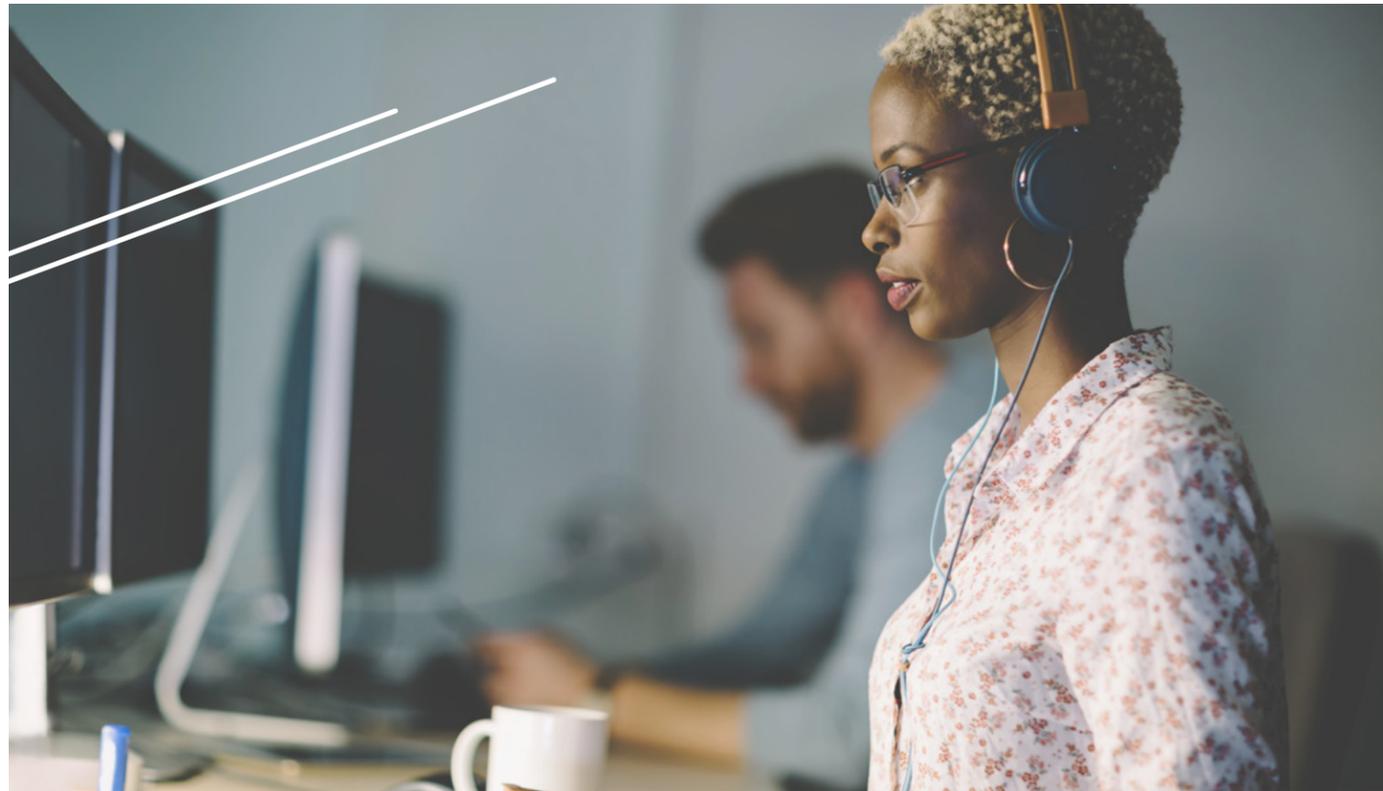
		RESPONSIBLE AGENCY	TIME FRAME	PRIORITY
OBJECTIVE DI1: Improve access to existing digital infrastructure and incentivize new investments				
R1.	R1. Develop a National Broadband Strategy and strengthen coordination between the different agencies that govern ICT policy and implementation to avoid overlaps and better coordinate future interventions.	POTRAZ	Short-term	HIGH
R2.	Accelerate the rationalization of the portfolio of government-owned telecommunications operators and attract private investments to secure policy objectives.	MoICTPCS	Medium-term	HIGH
R3.	Utilize USF funds to leverage private sector investments in broadband infrastructure through public finance mechanisms such as PPPs or competitive awards of subsidies to private operators to support infrastructure development in areas where market forces alone are insufficient to provide adequate broadband coverage (instead of funding full CAPEX).	POTRAZ	Short-term	HIGH
R4.	Consider establishing a 'Pay or Play' mechanism, whereby operators can choose if they want to contribute financially to the fund or invest directly in projects themselves and guarantee specific universal access targets in exchange for relief from USF-levies.	POTRAZ	Medium-term	MEDIUM
R5.	Promote transparency and accountability, through the involvement of operators in project selection and annual reporting on accounts and performance.	POTRAZ	Short-term	MEDIUM
OBJECTIVE DI2: Refine the regulatory framework				
R6.	Reconsider the current practice of mobile retail tariff regulation, which should be used only as a last resort in markets where competition exists.	POTRAZ	Short-term	MEDIUM
R7.	Implement a modern converged licensing framework to further sector growth anchored on innovation, fair competition, affordability, and good quality of services.	POTRAZ	Short-term	HIGH
OBJECTIVE DI3: Enable faster deployment of infrastructure and greater rural push in middle and last mile connectivity				
R8.	Address administrative issues impeding assignment of LTE in the 700 MHz band services to mobile operators.	POTRAZ	Medium-term	MEDIUM
R9.	Enforce harmonized rights-of-way policies between local authorities for accessing public infrastructure, taking advantage of future civil works projects for cross-sector infrastructure sharing. Implementing a "dig once, build once" approach to infrastructure development will pass on savings to operators who could in turn extend services faster.	POTRAZ	Medium-term	MEDIUM
OBJECTIVE DI4: Promote affordability of broadband-enabled devices to widen opportunities for individual access				
R10.	Subsidize or offer low- or zero-interest loans for the purchase of broadband-enabled devices. Subsidies could be further targeted toward women and marginalized populations to reduce digital access gaps.	MNOs	Medium-term	MEDIUM
R11.	Provide broadband equipment to educational institutions at cost or via subsidies.	MoICTPCS	Medium-term	MEDIUM

Digital Government Platforms

Key messages

- ▶▶ Zimbabwe has the potential to create strong digital government. The country has established the building blocks for a digital ID system, developed core back-end systems, created an accessible government portal, and developed some innovative digital services. There are also established teams at the center of government to provide coherence and coordination.
- ▶▶ However, Zimbabwe is currently lagging behind its international peers with only limited gains made in recent years. Aging infrastructure and insufficient resourcing, combined with overall macroeconomic distress and electricity and connectivity issues, are major bottlenecks. At the operational level, lack of interoperability limits collaboration and data sharing; and the limited capacity to monitor compliance and quality of services is compounded by high ICT staff turnover and poor skills retention.
- ▶▶ Despite the setbacks, the government has a clear opportunity to foster the digital government platforms by further strengthening coordination, adopting an interoperability framework, consolidating digital services, and investing in institutional and human ICT capacity.

3.1 Importance of Digital Government Platforms



Public sector digital platforms help drive efficiencies in core government operations and delivery of services, close down opportunities for fraud and corruption, improve civic engagement, and increase accountability. In Zimbabwe, there are many operational digital platforms in the public sector. These include back-office systems, such as the Public Finance Management System (PFMS) and the government payroll, used to manage public finances. There are also digital services such as company registration, e-visas, e-services in health, licensing, transport, and tax payments, among others, which serve to enhance service delivery, and thereby promote better outcomes for the public.

Digital government platforms are part of the new GovTech approach. The first generation of e-government approaches in the 1990s viewed technology as a means to make government more effective, efficient and transparent. E-Government was associated with foundational technologies, both for back-office systems and providing digital solutions for service delivery. The new GovTech approach, associated with disruptive technologies, focuses on development problems and digital solutions in the public sector – data, services, and

policies – and boosting the digital economy through the GovTech eco-system. GovTech brings together Open data, Open Source, CivicTech, RegTech, Smart Cities, and similar approaches. This chapter assesses some of the building blocks for strong GovTech solutions in Zimbabwe and makes recommendations on how to advance them.

During the current global COVID-19 pandemic, the relevance of digital government platforms is particularly apparent, not only for the response and recovery period, but for building longer-term resilience. Digital government platforms are critical, for example, in improving information dissemination, enhancing accountability, maintaining core systems to keep salaries paid and public spending accountable, as well as for citizens to be able to access public services remotely during a crisis. Improving the utility and effectiveness of existing platforms is critical. This includes such foundational government infrastructure as public financial management systems, which would benefit from expanding their reach, ensuring their utilization across levels of government, reducing inefficiency by fully deploying their accounting functions, and linking them to other key tools.

3.2 Diagnostic Findings: Current State of Digital Government Platforms

The data available to help benchmark Zimbabwe's progress in this area over time, or in comparison to its regional peers, is fairly limited. The two most relevant sources of data are the 2020 UN e-government development index (EGDI), and the 2019 Freedom on the Net report. The data from these sources provides a snapshot of Zimbabwe's progress against relevant indicators, thus offering a sense of the country's overall trajectory over time and as compared to others. However, the data reflects a narrow thematic focus, and should be interpreted in the context of the overall report.

The development of digital government in Zimbabwe has accelerated in recent years, albeit from modest levels. Zimbabwe is one of 8 African countries that moved from middle to high EGDI in 2020. In the UN 2020 EGDI, Zimbabwe was ranked 126th out of 193 countries, up from a rank of 146th in 2018 (Table 3.1).⁷ The index is a composite indicator that measures “the readiness and capacity of national institutions to use ICTs to deliver public services”. This is based on the weighted average of three indices: (1) the Telecommunications Infrastructure Index (TII), (2) the Human Capital Index (HCI), and (3) the Online Service Index (OSI). Zimbabwe is ranked fairly well when compared to its regional peers. Its overall score improved significantly from 0.37 to 0.50 between 2018 and 2020, with its ranking improving significantly by 20 places.

►► **TABLE 3.1:**
EGDI: COMPOSITE AND DISAGGREGATED SCORES

Country	Rank		TII		HCI		OSI	
	2018	2020	2018	2020	2018	2020	2018	2020
Zimbabwe	146	↑ 126	0.21	↑ 0.37	0.57	↑ 0.61	0.33	↑ 0.52
South Africa	68	↓ 78	0.42	↑ 0.58	0.73	↑ 0.74	0.83	↓ 0.75
Botswana	127	↑ 115	0.40	0.56	0.67	↑ 0.69	0.21	↑ 0.36
Nigeria	143	↑ 141	0.19	↑ 0.35	0.43	↑ 0.45	0.53	↑ 0.52
Kenya	122	↑ 116	0.19	↑ 0.34	0.55	↑ 0.58	0.63	↑ 0.68

7. UN E-Government Development Index 2020 [https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20\(Full%20Report\).pdf](https://publicadministration.un.org/egovkb/Portals/egovkb/Documents/un/2020-Survey/2020%20UN%20E-Government%20Survey%20(Full%20Report).pdf)

However, internet freedom in Zimbabwe seems to be on the decline. A 2019 report by Freedom House on internet freedom scored Zimbabwe 42/100 ('Partly Free'), a decline from the previous year's score of 47/100 (Table 3.2).⁸ The decline is attributed to a range of factors, including an increase in the cost of living making internet less affordable, network and social media shutdowns in early 2019, and the Government's consideration of new legislation to tighten regulation on social media use. Regionally, this is also a relatively low score, with neighboring countries like Malawi scoring 57, Zambia 58 (both assessed as 'Partly Free'), and South Africa 72 (assessed as 'Free'). The score is based on an assessment against three primary indicators of internet freedom: obstacles to access, limits on content, and violation of user rights.

Thus, the available data shows a mixed picture: a country performing fairly well on digital government development, but not so well on internet freedom and hence the ability of its citizens to benefit from digital government services. The subsequent sections of the report give an up-to-date assessment of the current state of digital public sector platforms in Zimbabwe. They briefly describe the platforms and policy frameworks currently in place and provide a flavor of the country's ambitions and priorities in this space in the coming years.

►► **TABLE 3.2:**
FREEDOM ON THE NET SCORES

Country	Obstacles to access	Limits on content	Violation of user rights
Zimbabwe	7/25	19/35	16/40
South Africa	17/25	28/35	27/40
Zambia	14/25	24/35	20/40
Nigeria	17/25	26/35	21/40
Kenya	17/25	28/35	23/40

Source: Authors

8. Note that in this index, 100 is a perfect score, so the closer to 100, the higher the internet freedom. Freedom House, Freedom on the Net report 2019 <https://www.freedomonthenet.org/country/zimbabwe/freedom-on-the-net/2019>

3.2.1 INSTITUTIONAL ECOSYSTEM AND POLICY FRAMEWORKS

Although two government institutions are responsible for ICT coordination, many line ministries have established their own digital platforms, leading to fragmentation and difficulties in sharing data. The key institutions driving public service digitization in Zimbabwe are the e-Government Unit in the Office of the President and Cabinet (OPC), and the Ministry of Information Communication Technology, Postal and Courier Services (MoICTPCS). These two institutions provide guidance and coordination on ICT use across the Government of Zimbabwe (GoZ). However, there is no uniformity in the designing, commissioning, and managing of digital platforms by line ministries. Whilst some line ministries receive technical support from the MoICTPCS, others operate independently. This has led to an impressive range of digital platforms across MDAs, but also a quite fractured landscape of digital systems and services, and a culture of silo working, making interoperability and data sharing difficult.

These two institutions have clearly defined roles and responsibilities:

- **The e-Government Unit, established in November 2018, derives its mandate from a Presidential directive.** It coordinates e-government in the public service, which includes setting common data standards for application across government. The Unit has limited human resources capacity (8 officers) for the effective implementation of its mandate but has recently received approval to increase its complement to 30 officers.⁹
- **MoICTPCS is responsible for the development and implementation of the national ICT policy.** With regard to public sector digital platforms, this largely involves providing technical support and advice to line ministries in the design and management of their individual platforms. The Ministry also plays a coordinating role. It facilitated the establishment of an inter-ministerial coordination committee to provide oversight of each ministry's ICT portfolio, and to help troubleshoot common challenges. However, the MoICTPCS reports that coordination continues to be a challenge, and the problem of uncoordinated projects and silo working remains.

In addition, the Ministry of Industry and Commerce chairs a newly formed National Committee for the Digital Economy. The committee brings together a range of ministries to make recommendations to the Trade Facilitation Committee.

While GoZ has established central institutional coordination mechanisms on ICT, more could be done to unite all MDAs behind a common vision for the future of ICT and ensure its implementation. One option that the Government could consider for achieving this would be to strengthen the leadership mandate of the MoICTPCS for ICT direction setting and coordination, and to clarify the areas in which OPC would play a leading role.

A broader challenge is how to change existing norms and incentives to promote and reward closer collaboration and sharing across MDAs. This is particularly challenging as there are incentives for some MDAs to want to remain the gatekeepers of their own systems and data. There also seems to be a tacit perception that opening up access to others would reduce their legitimacy and value.

The primary policy relevant to the development of digital government platforms is the National ICT policy, which has served as the basis for most MDAs to develop their own internal policies. The e-Government Unit has produced a series of guidelines for application across government, e.g. on data standards. However, the Unit has limited capacity to monitor compliance, so there is little information on the extent to which MDAs are following these guidelines and standards.

There are a few critical legal and policy gaps, which GoZ is currently addressing. In particular, laws are being developed or updated on cybersecurity, data privacy and protection, and data sharing. These new or revised statutes will enable the appropriate use of personal and sensitive data currently held by the Government. Some of these are already highlighted as priorities in the national Transitional Stabilization Programme (TSP) towards achieving the Government's Vision 2030 and in pursuit of effective e-government.

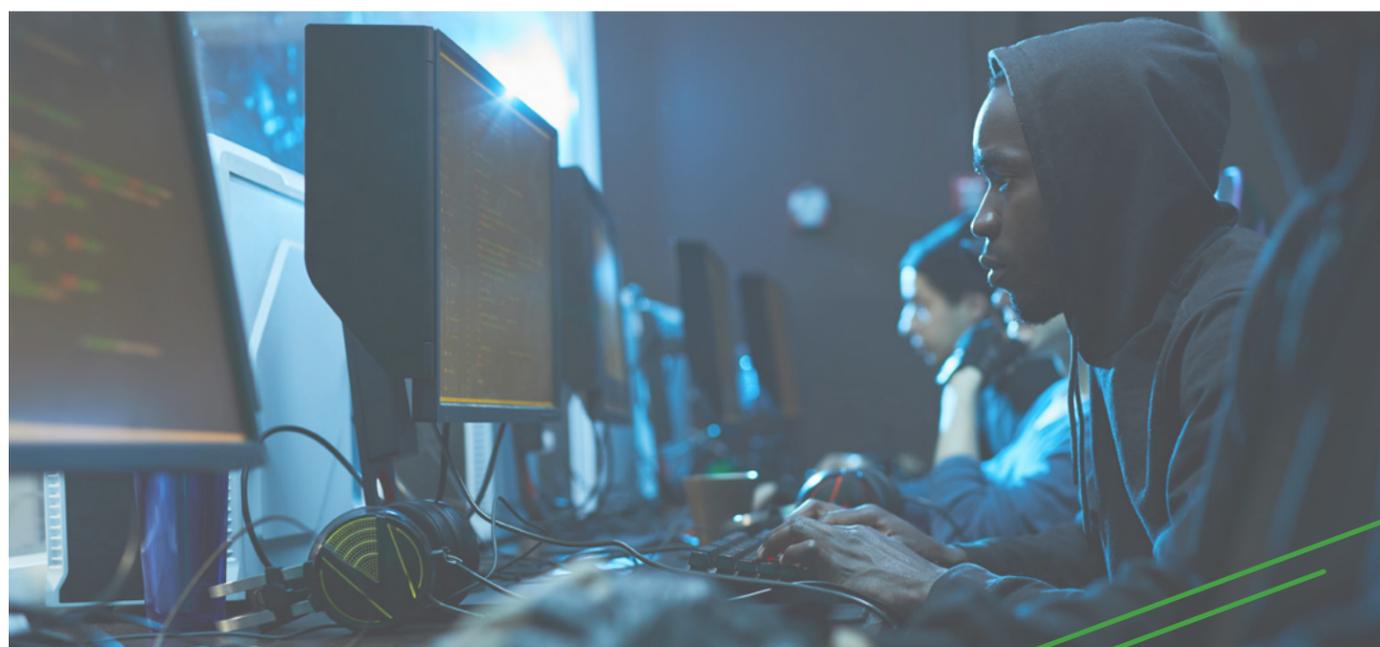
Strategic planning is also underway to help deliver GoZ's digital ambitions. In particular, the OPC is working on an e-government strategy to offer a shared vision and roadmap for delivering digital reforms in the public sector. Likewise, MoICTPCS is developing a refreshed ICT 'masterplan' called 'Smart Zimbabwe,' which outlines its ambitions for both public sector-wide and sector-specific reforms. An interoperability framework and enterprise architecture strategy are also envisioned. Figure 3.1 shows the current status of the policy, legal and regulatory framework for Digital Platforms in Zimbabwe.

9. At the time of the diagnostic, the Unit was headed by a Permanent Secretary supported by two engineers, two technicians and three administrative staff.

►► **FIGURE 3.1:**
CURRENT STATUS OF THE POLICY, LEGAL, AND REGULATORY FRAMEWORK FOR DIGITAL PLATFORMS

 Approved	 National ICT policy
 In development	 Smart Zimbabwe Masterplan
	 E-government strategy
 With Attorney General's Office	 E-transactions bill
 Awaiting Presidential assent	 Cybersecurity and data protection bill
 Planned	 Interoperability framework
 Not planned	 Open data policy / information sharing policy

Source: Authors



3.2.2 PROCESS DIGITIZATION AND AUTOMATION

BACK-OFFICE SYSTEMS

The most commonly used back-office system is the **Public Financial Management System (PFMS) under the Ministry of Finance, which has been decentralized to MDAs across the country.** The World Bank-funded PFM Enhancement Project activities are supporting the (i) expansion of PFMS capabilities (Budget Planning and Consolidation; Business Intelligence; and Web Portal for providing access to all districts), (ii) establishment of kiosks in 63 districts (shared service centers for providing access to all district MDAs and Councils through the government network), (iii) enhancement of data centers, and (iv) development of interfaces with other government systems. More recently, the PFMS system is being expanded to allow a government conferencing platform to be added. In addition, a .gov email address will be created for government officials currently using gmail addresses.

Other commonly used systems are the **Human Resources Management Information System (HRMIS), and the payroll and pensions systems under the Public Service Commission (PSC).** The PSC is in the process of decentralizing HRMIS to provinces and districts, and decentralization of pensions and payroll is already quite advanced. Efforts are underway to interface the payroll system with the biometric national registry, with support from the World Bank Group, in order to verify the identity of employees. As a result of this effort, all government employees now have biometric IDs. Previously, the information was manually passed from one system to the other, which increased the risk of error and fraud.

In addition to these shared systems, many MDAs also operate their own back-office systems, often resulting in duplication and a lack of collaboration. Management Information Systems (MIS) are the most common. For example, an MIS for education records a comprehensive dataset about schools; an MIS in transport records vehicle data about licensing, registration and ownership. These systems all operate largely in isolation from each other and from the center. This, in some instances, leads to duplication. For example, company, SME and cooperative, and tourism operator registration data are all held separately. It also leads to missed opportunities for collaboration; e.g. the border management database is not yet connected to the customs, tourism, or police databases.

There are, however, a few cases where back-office systems are interfacing and sharing relevant information. For example, the vehicle registration system is connected to licensing and insurance providers, which are necessary conditions for vehicle registration and licensing, though it is not yet connected to PFMS for declaration of revenue. Likewise, the Ministry of Transport's Vehicle Registration database is linked to the Zimbabwe National Roads Authority and police vehicle theft squad, though it is also not yet linked to PFMS. The Zimbabwe Revenue Authority (ZIMRA) has a series of systems for tax and revenue management for which they are piloting PFMS data integration to move away from manual daily reporting.

Table 3.3 provides a list of the most important back-office systems that are currently operational across the Government of Zimbabwe. The list is not exhaustive and does not include the numerous systems in development.



▶▶ **TABLE 3.3:**
BACK-OFFICE SYSTEMS IN THE GOVERNMENT OF ZIMBABWE

Name	Description	Year commissioned	Funding source
Public Service Commission			
Human Resources Information Management System (HRIMS)	Shared system for managing HR for PSC employees	2014	GoZ
Payroll	Payroll management system across GoZ	1991/92	GoZ
Pensions	Pensions management system	1991/92	GoZ
Office of President and Cabinet			
e-Cabinet system	Intranet system for Cabinet Office and Ministers	2020	GoZ
Ministry of Finance			
Public Financial Management System (PFMS)	Shared system for managing GoZ- wide central government payments and revenue	1999	GoZ and donor
Ministry of Women Affairs and SMEs			
Database on SMEs and Cooperatives	District-level data repository on SMEs	2017	GoZ
Business linkages program	Offline database to match suppliers with potential buyers	2018	GoZ
Ministry of Primary and Secondary Education			
Education Information Management System (E-MIS)	Schools database, used to produce an annual statistics report	2008	Donor
Teacher Development Information System (TDIS)	Record of teacher qualifications at district level	2015	Donor
Ministry of Transport			
Tollgate computerization	Tollgates managed and monitored via a central control center	2013	GoZ
Zimbabwe Transport Information System (ZIMTIS)	Management system for transport bringing together data from e-services (e.g. license payments) and the vehicle registration system (car details and ownership record)	2009	Public-private partnership

Name	Description	Year commissioned	Funding source
Ministry of Home Affairs - Registrar General's Office			
National Identity System	Biometric database for citizens	2004	GoZ
Ministry of Home Affairs - Immigration Dept			
Citizen Manage	Border management system	2010	GoZ and donor
Ministry of Health and Child Care			
Electronic Patient Management System	Tracking HIV patients	2014	GoZ
District Health Information System (DIHS2)	Aggregated district level patient data	2010	Donor
DIHS2 tracker	Tracking malaria patients	2016	Donor
LABS	Tracking logistics of laboratory samples	2016	Donor
e-Pharmacy	Automated e-logistics management system for pharmaceuticals	2019	Donor
Ministry of Justice, Legal and Parliamentary Affairs – Department of Deeds, Companies and Intellectual Property			
Oracle Database	Companies Registration	2000	GoZ
SAP Customer Relationship Management (CRM)	Information Management	2012	GoZ
Zimbabwe Revenue Authority			
Tax and revenue account client	Internal information management and accounting system	2013	GoZ
e-Cargo tracking system	Tracking cargo to reduce transit fraud	2016	GoZ
Invoice management system fiscalization	Management of VAT payments	2015	GoZ

Source: Authors

In the face of the COVID-19 pandemic, government continuity and effective response to the crisis depends on how well back-office systems can be operated remotely and how they can harness data for evidence-based decisions. Box 3.1 highlights examples of such systems in Zimbabwe. Box 3.2 summarizes key recommendations for the steps to be taken for continued crisis preparedness, as the pandemic ebbs and flows.

BOX 3.1: EXAMPLES OF BACK-OFFICE SYSTEMS FOR THE RESPONSE TO COVID-19

1. Aid Tracking System

The platform is being developed at the Ministry of Health, with World Bank assistance, to assist the Government in managing donor funding for the fight against COVID-19.

2. Electronic Logistics Management Information System (eLMIS)

The purpose of the system is to enhance tracking of COVID-19 commodities distribution. The system is partially functional. It is being developed with assistance from the Clinton Health Access Initiative (CHAI) to ensure COVID-19 material resources reach the targeted beneficiaries. The CHAI piece will be linked in to a broader eLMIS for long term management of the health sector commodities distribution system, supported by UNDP. There is also work ongoing to track commodities using geo-tagging and tracking systems being developed by the WB.

3. District Health Information System Tracker for COVID-19

The system will help the MoH in tracking COVID-19 cases in all districts across the country. Resource constraints are stalling the development of the tracker.

Source: Authors



BOX 3.2: KEY ACTIONS FOR GOVERNMENT DIGITAL PLATFORMS IN RESPONSE TO COVID-19

Ensure business continuity within government

- ensure internet access and airtime to key staff in the Ministry of Finance and Economic Development (MoFED) and elsewhere who hold key responsibilities in the response to COVID-19.
- enhance remote access features/facilities for critical systems like PFMS, for example a rapid content management/workflow automation application, leveraging on the existing Zim-connect platform.
- prepare separate financial guidelines for emergency operations that shift controls from ex-ante to ex-post;
- simplify fund transfer mechanisms by reducing layers and making direct transfers to service delivery levels while ensuring traceability of funds;
- adjust security features and accountability mechanisms to respond to the increased risks that remote access and emergency procedures can introduce to system integrity; and
- identify and ensure adequate technical and financial support for the critical digital services that should be prioritized during the crisis, e.g. to ensure continuity of revenue streams, reporting of gender-based violence, and better tracking of cross-border movement of goods, services, and people.

Develop new and/or leverage existing information management systems to strengthen evidence-based decision-making in response to the crisis

- ensure relevant data is collected and fed to the GoZ COVID-19 Task Force, including a real time dashboard to manage the public health crisis; and
- develop an integrated platform for aid tracking, intervention compliance and predictive analytics to disseminate the status of the response, financing gaps and progress.

Source: Authors

INTEROPERABILITY AND INTERCONNECTIVITY

Zimbabwe currently does not have an overarching interoperability or interconnectivity framework in place. However, there is a general consensus amongst key stakeholders about the importance of enhancing data sharing and collaboration across digital platforms. The e-Government Unit is already planning work to design a more coherent public sector enterprise architecture and strengthen interoperability standards.

Some of the key challenges facing interoperability and interconnectivity across digital public sector platforms in Zimbabwe include:

- i. **Siloism across MDAs.** Most digital platforms have been developed in isolation from each other and are not set up in such a way as to enable data sharing and collaboration. In some instances, this has also led to duplication of functions.
- ii. **Institutional arrangements.** There is limited information sharing and collaboration among ICT staff across GoZ, so MDAs are not often aware of the platforms that their colleagues in other parts of the Government are developing. There is no central registry of all public sector digital platforms held by either OPC or MoICTPCS. All stakeholders agree that this is a serious constraint for interoperability and interconnectivity of systems, and for data sharing. There is no government service bus¹⁰ that can be used to connect government systems through secure web services or Application Program Interfaces (APIs) to automate data exchange.
- iii. **Policy and legislative gaps around data protection and sharing.** At present there is no single legislation that governs data privacy and security. A data protection bill is yet to be enacted. In an effort to bridge the gap, the current laws on privacy and security are the only ones in force. As a result, some MDAs are nervous about sharing their data, and there are incentives for some agencies to remain the gate keepers of data. Data sharing remains optional and under the control of individuals rather than institutions.

Development of a shared, strategic vision across GoZ for how to connect and share data between existing and pipeline systems will help strengthen collaboration. It will also promote more strategic government-wide choices on the procurement and resourcing of systems. In addition, it will help ensure that any data collected is both accessible and relevant to the strategic decision-making needs of GoZ. Ideally, such a vision would be developed with the citizen in



mind as the end-user. This would also communicate a clear framework to donor partners, with which any future digital projects should align.

The enhancement of the national data center in Harare and backup data center in Bulawayo is anticipated by the end of 2020, further paving the way for increased interoperability. Most of the critical government systems and all databases in government will thus be hosted under one roof. These data centers could also be converted to a government cloud with additional investments in virtualization, clustering, load sharing, active-active replication, shared services, and more.

BOX 3.3: PUBLIC SECTOR DIGITAL SKILLS

While Chapter 6 of this report reviews digital skills for the entire digital economy, this chapter finds that ICT skills retention in the Zimbabwe public service is a critical challenge across almost all MDAs. After training, skilled staff often leave the service in pursuit of more competitive private sector salaries. And as their knowledge and experience is rarely recorded anywhere, that institutional memory also leaves with them.

Another consequence of this limited technical capacity within GoZ is that many MDAs outsource ICT development and maintenance to private providers. This is costly and poses challenges for interoperability.

Although other MDAs operate using government infrastructure and have developed their own platforms in-house, this has given rise to several challenges. While such platform development is more cost-effective in some respects, MDAs report connectivity problems, and challenges with receiving timely technical support. The MoICTPCS Central Computing Services (CCS) offers some support, alongside technical teams within parent ministries for certain systems, e.g. PFMS. However, these teams are limited in number, and generally not decentralized. Therefore, issues encountered at the local level are much slower and more costly for these teams to resolve. The impact of this is that the systems are not utilized as intended and, in some cases, teams stop using them altogether out of frustration and resort to manual reporting.

Data analysis is another common digital skills gap in the public sector. The real value of public sector data collection lies in how it is used. At the MDA level, some teams do harvest data from their systems in order to inform policymaking and budgeting, but most do not. There is also currently no central system for collecting data about the use and quality of public sector platforms. This limits the ability of GoZ to be able to monitor and strengthen the effectiveness of its ICT investment.

Source: Authors

Though most MDAs are operating back-office systems and e-services separately from one another, there are a few positive examples of where linkages between systems are being established to help enhance efficiencies. The Public Financial Management System (PFMS) is one example, which is expected to be linked to other systems, such as those used by the Zimbabwe Revenue Authority, Debt Office, and Reserve Bank of Zimbabwe in 2020. Other interfaces with the Department of Deeds, Registry of Companies and Intellectual Property, and the Immigration Department may be possible in future.

However, structural gaps persist. For example, PFMS still relies on manual input from the public service payroll and pension systems managed by the PSC. Representing public employment costs, the two systems constitute a significant part of budgetary expenditure. Interfacing them with PFMS would greatly enhance budgetary control. The World Bank has been providing technical support on interfacing the PFMS with other systems including the payroll, but this has not yet been achieved. The payroll system is also expected to be connected to the national ID database to allow for verification of employees' identities.

10. A government service bus is the central platform of integration and services for the provision of government electronic services and transactions.

3.2.3 DIGITAL SERVICES

A wide variety of digital services is offered by different MDAs. These services range from an e-visa system to online license payments, online liquor licensing, and company registration.

GoZ has taken steps to improve the accessibility and use of digital services to enhance service delivery and the ease of doing business. In particular, it has established ZimConnect, which is a government portal managed by the Government Internet Service Provider (GISP). It serves as a central online hub, linking the user to a menu of available services. While not all services are currently hosted on the site, it is an important step toward designing the platform architecture around the user experience. This has also been the approach of a number of MDAs. For example, ZIMRA is developing a 'single window' one-stop shop platform for its users to access its various services; similarly, the Ministry of Tourism brings together registration, designation and regulatory services onto one platform.

Much like the back-office systems, the majority of the available digital services currently operate independently of one another. This poses various challenges. For example, almost all services that generate revenue are not connected to PFMS; yet it is recognized that manual reporting of service revenue leads to errors and increases the risk of fraud.

Online payments are also a challenge for users. eVisa is one of the few platforms where users can pay online using a forex bank card; most other systems require users to pay separately using mobile money or make a bank deposit and upload evidence of payment online. This negatively affects the ease of doing business, as not all steps can be completed in one place. The wider economic challenges and currency constraints in Zimbabwe make this a difficult issue to tackle, but this is a challenge that platform providers are working to resolve.

Unreliable power and limited connectivity remain two of the primary constraints to users accessing and benefiting from digital services. Most of the MDAs report that those unable to access online systems have an opportunity to access services offline, usually via a district office. However, this also requires the district office to have adequate power and connectivity, which is not always the case. In this sense, the digitization of services in a country facing broader infrastructure constraints may not be able to achieve its full potential in the short term. Some service providers are piloting mobile apps for service access to address this; others are experimenting with offline forms, which can then be uploaded at a time when power

and connectivity are available. In addition, Community Information Centers (CICs) are being set up in Post Offices to provide the population in underserved areas with access to online services (Box 3.4).

Another challenge is that neither MoICTPCS nor OPC keeps a single registry of the e-services that are currently available or in development, nor do they track data on their usage. This presents challenges in terms of understanding the user experience and ease of doing business, as well as for broader GoZ efficiencies and data sharing.

BOX 3.4: COMMUNITY INFORMATION CENTERS IN POST OFFICES

Another way in which GoZ is seeking to increase service accessibility in underserved and/or less well-connected areas of the country is through establishing Community Information Centers (CICs) through MoICTPCS. CICs are currently available in 360 post offices across the country, which represents about 50 percent of the total number to be set up.

CICs are intended to serve various purposes including:

- To provide a one-stop-shop for citizens and business owners to access public sector services and government content online and perform e-transactions.
- To offer a space to provide digital skills training to citizens and business owners to enable them to better access government services and content, and to make use of digital platforms for economic purposes.
- To facilitate the collection of community-level data.

CICs are a new innovation by MoICTPCS, so there is currently no data about how much the centers are being used, by whom, or for what purpose. It will be important to monitor this over the longer term to determine if they are having the intended impact.

Source: Authors

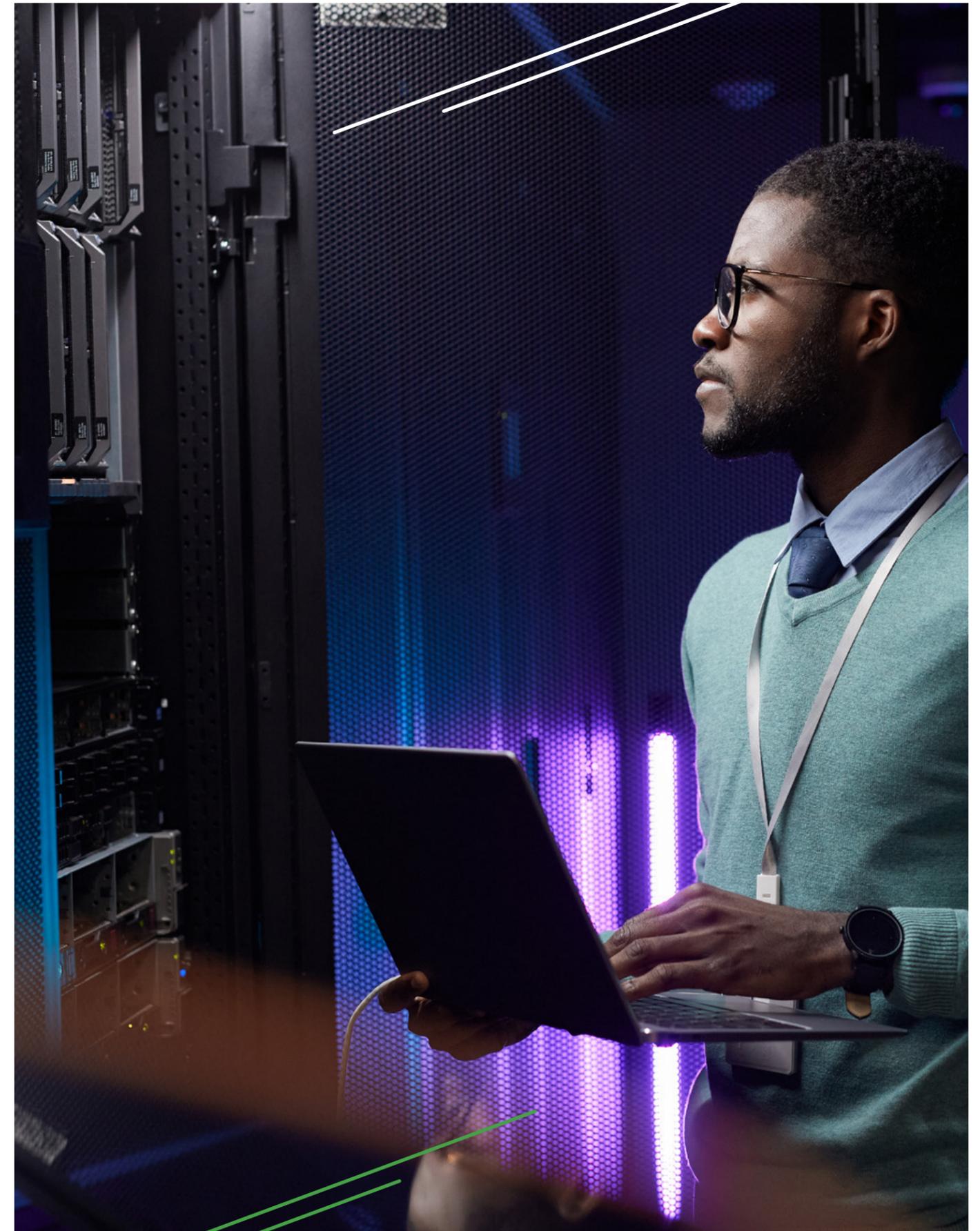


Table 3.4. provides a list of key e-services currently offered by GoZ. This is not an exhaustive list as the development of e-services is not tracked centrally; it has been developed by the authors in the course of data collection for this report. Moreover, the services have not been tested as part of this exercise, hence their quality and accessibility has not been ascertained. In addition, specific digital services are being developed in response to COVID-19 (Box 3.5).

►► **TABLE 3.4:**
KEY E-SERVICES

Name	Description	Year commissioned	Funding source
ZIMRA			
Automated Systems for Customs Data (ASYCUDA)	Automated customs processes on importation/exportation	1991/92	GoZ
Tax and Revenue Management e-services	Online registration and payment of tax	2013	GoZ
E-Tip	Payment of temporary import license online	2017	GoZ
Ministry of Home Affairs – Department of Immigration			
E-visa	Online visa application and payment system	2014	GoZ
Ministry of Justice, Legal and Parliamentary Affairs – Department of Deeds, Companies and Intellectual Property			
SAP Customer Relationship Management	Facilitates Deeds Search and Companies Name Search	2012	GoZ
Ministry of Health and Child Care			
e-Nurse	Online recruitment tool for nurses	2019	GoZ
Ministry of Local Government, Public Works and National Housing			
Liquor licensing	Online liquor licensing system	2016	GoZ
GISP			
ZimConnect	Central government website connecting/linking citizens to a variety of e-services	2016	GoZ
Ministry of Women Affairs and SMEs			
Online reporting tool for Gender-based violence	Online reporting tool	2019	Donor
E-Registration for Cooperatives	Online registration for cooperatives	2018	GoZ
Online application for technical studies	SMEs apply online to access study opportunities provided by the Ministry.	2018	GoZ
Ministry of Primary and Secondary Education			
E-Map	Online application system for secondary boarding school placements	2016	GoZ
Ministry of Transport			
Mobile toll payments	Pre-payment for tollgates via mobile money	2016	GoZ
Vehicle licensing system	Payment of road-user fees, and ZTV license	2019	GoZ
E-payments for commercial/operator licenses	Payment of licenses	2018	GoZ
E-learner driver license testing	Digital testing available at district test centers	2019	GoZ
Ministry of Industry and Commerce			
E-licensing for import/export	Online application and payment for licenses	2016	GoZ

ZIMRA			
Automated Systems for Customs Data (ASYCUDA)	Automated customs processes on importation/exportation	1991/92	GoZ
Tax and Revenue Management e-services	Online registration and payment of tax	2013	GoZ
E-Tip	Payment of temporary import license online	2017	GoZ
Ministry of Home Affairs – Department of Immigration			
E-visa	Online visa application and payment system	2014	GoZ
Ministry of Justice, Legal and Parliamentary Affairs – Department of Deeds, Companies and Intellectual Property			
SAP Customer Relationship Management	Facilitates Deeds Search and Companies Name Search	2012	GoZ
Ministry of Health and Child Care			
e-Nurse	Online recruitment tool for nurses	2019	GoZ
Ministry of Local Government, Public Works and National Housing			
Liquor licensing	Online liquor licensing system	2016	GoZ

BOX 3.5: EXAMPLES OF DIGITAL SERVICES UNDER DEVELOPMENT IN RESPONSE TO COVID-19

1. SMS platform and a WhatsApp Chat BOT

The SMS platform utilizes a toll-free line which was donated by POTRAZ (Postal Telecommunications Regulatory Authority Zimbabwe). Members of the public can make SMS inquiries on COVID-19 and receive SMS information on their mobile phone. In addition, the WhatsApp Chat BOT enables members of the public to receive more visual information on COVID-19. The platforms were developed with funding from UNICEF.

2. COVID-19 Web portal

The Ministry of Health is managing a web portal which provides COVID-19 information. It provides geospatial maps to the public and the Government and enables the generation of COVID-19 situational reports. The MOHCC also runs a hotline with a teledoctor service that allows people suspecting that they have COVID-19 to call in and get advice online from a registered doctor. Over 1,500 calls are completed per day.

Source: Authors

3.3 Challenges



In order to further develop the country's public sector digital platforms, the Government will need to address a number of challenges. These include:

- Limited or unreliable power and connectivity.** Zimbabwe has been experiencing significant power shortages. Some areas, especially rural areas, have limited connectivity, which makes access to the internet difficult. If these challenges remain unresolved, digital platforms risk excluding some parts of the population due to inaccessibility.
- Weak interoperability between systems.** The absence of an interoperability framework and reliable government service bus makes data sharing optional. Most digital platforms operate in silos, which means that there is currently limited data sharing across systems.
- Technical skills retention.** The ICT sector in the public service competes with the private sector for technical skills, and as a result there is a high level of ICT staff turnover and the resulting loss of knowledge and skills. Although there is a skills retention fund for the public service, it would be important that the ICT personnel are included. (Chapter 6 of this report outlines digital skills challenges holistically.)
- Duplicate mandates.** There is some degree of duplication of mandates between the e-Government Unit and MoICTPCS in terms of coordinating the digitization of public sector systems and services. In addition, no ministry has been appointed to oversee and monitor the quality/use of digital services and back-office systems across GoZ.
- Unreliable government digital architecture.** GISP is mandated to host all ministries' websites and provide email services. However, there are concerns about the regularity with which the websites are down or inaccessible, and many employees reported being unable to use their government email addresses. This has led to some MDAs seeking external suppliers to host their websites, and using private email accounts for doing business.
- Gaps in the policy and legal framework.** Some critical gaps remain in the policy and legal architecture underpinning digital public sector development, particularly as regards data protection, cybersecurity and access to information.

3.4 Recommendations & Next Steps

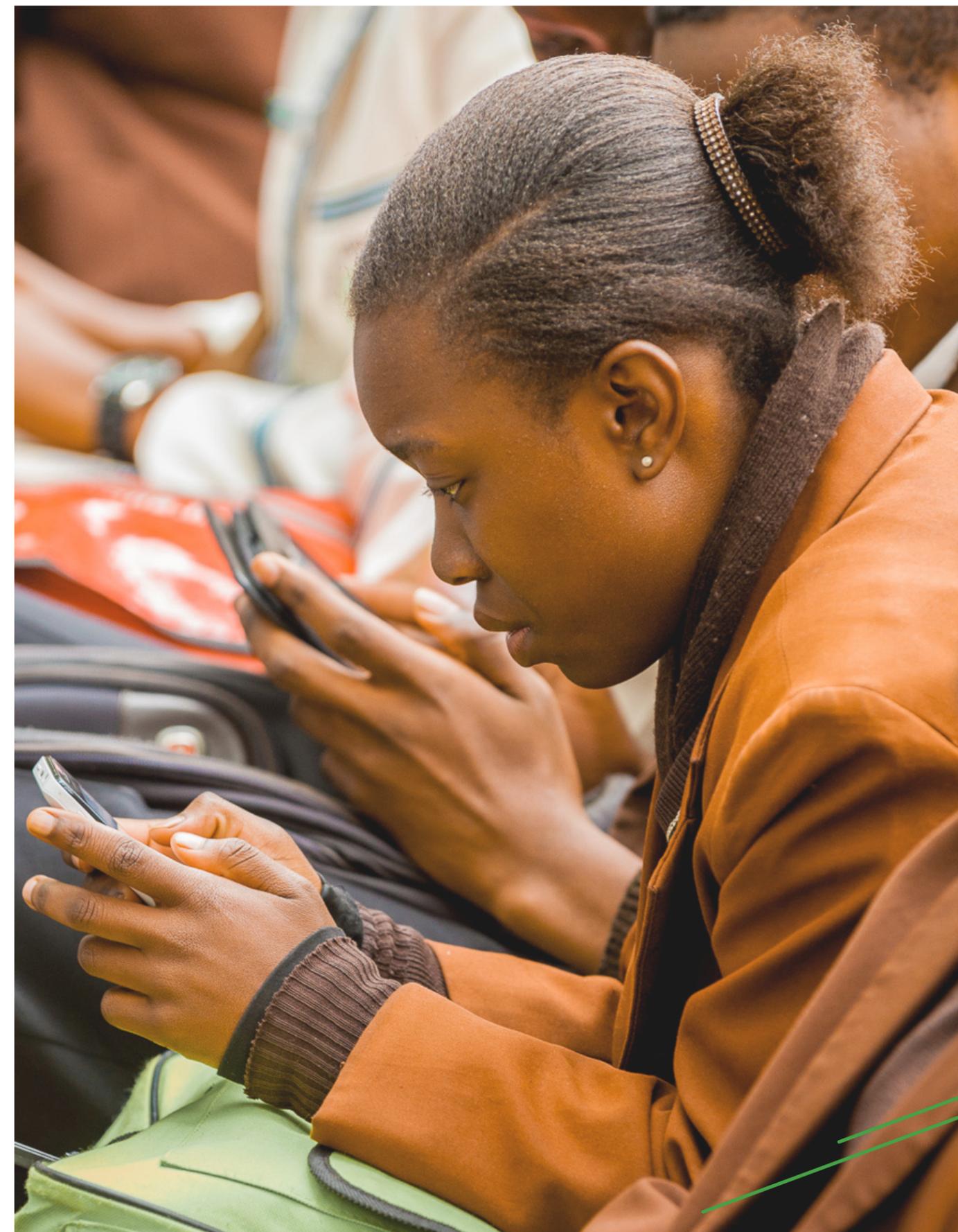
►► FIGURE 3.2:
DIGITAL PUBLIC SECTOR PLATFORMS SWOT MATRIX



In light of the analysis in this chapter, Table 3.5 lists key recommendations. These are organized across key objectives that would unblock binding constraints on further development of this digital economy pillar. The table identifies responsible agencies as well as an indicative time frame, where short-term denotes within the next 12 months. Highest-priority recommendations are highlighted.

►► **TABLE 3.5:**
DIGITAL GOVERNMENT PLATFORMS RECOMMENDATIONS

		RESPONSIBLE AGENCY	TIME FRAME	PRIORITY
OBJECTIVE DGP1: Enhance coordination, interoperability and interconnectivity across MDAs				
R12.	Map the existing digital systems, services and data assets first and then move towards establishing more permanent catalogues as well as the interoperability and interconnectivity framework across MDAs. The comprehensive mapping exercise would capture all public sector digital platforms and note those in development with a view to identifying opportunities for interoperability, interconnectivity, lesson learning, and resource sharing.	MolCTPCS OPC eGovt Unit	Short-term	HIGH
R13.	Establish a clear coordinating mechanism across MDAs on digital platforms. MolCTPCS should work together with the e-government unit of OPC in coordinating the reforms. MolCTPCS has the institutional strength to drive reforms and the e- government unit, which has a small team, enjoys the institutional proximity to the center of government, which is critical in driving reforms.	MolCTPCS OPC eGovt Unit	Medium- term	MEDIUM
R14.	Establish shared systems and responsibilities at MDA level for the regular collection of data about platform use and quality.	OPC eGovt Unit Line Ministries	Medium- term	MEDIUM
R15.	Strengthen the mandate and capacity of the MolCTPCS to monitor MDA compliance with agreed norms and standards for digital platforms, and enable it to act where necessary.	OPC	Medium- term	HIGH
R16.	Finalize policies relating to data protection and sharing, and cybersecurity; and ensure that the laws are up-to-date and aligned to international best practice and standards. For example, the policies should comply with the SADC-level model legislation on cybersecurity and data protection.	MolCTPCS	Medium- term	MEDIUM
R17.	Strengthen the capacity of the Government Internet Service Provider (GISP) to ensure that government infrastructure is sufficiently reliable and cost-effective to incentivize MDAs to migrate their platforms onto government systems.	MolCTPCS GISP OPC eGovt Unit	Short-term	HIGH
OBJECTIVE DGP2: Increase citizens' online access to services				
R18.	Ensure all government digital services are available via the government portal as a one-stop shop by first ensuring level 1 digitization (access to information first and services afterwards). Digitizing those services that require low connectivity should be prioritized.	OPC eGovt Unit MolCTPCS	Medium- term	MEDIUM
R19.	Strengthen the reliability and functionality of the government portal to facilitate its use.	MolCTPCS GISP OPC eGovt Unit	Medium- term	MEDIUM





Digital Financial Services

Key messages

- ▶▶ *Zimbabwe has a relatively well-developed payment system, where 96 percent of all transactions in the country's formal sector are conducted through digital means and only 4 percent are cash-based. Government uses digital money almost exclusively. High-value real-time gross settlement (RTGS) platforms run by the central bank have been key in facilitating corporate payments.*
- ▶▶ *Zimbabwe has seen a revolution in mobile money, resulting in about 7.1 million mobile wallet holders in a country of less than 15 million. In the COVID-19 era, Digital Financial Services (DFS) also allow the retail sector and transacting public to comply with the World Health Organization's social distancing guidelines for COVID-19 prevention.*
- ▶▶ *However, the enabling environment requires significant improvements. These include closing gaps in the legal and regulatory frameworks; overhauling governance structure, ownership and access protocols for payments and financial market infrastructures; and addressing the significant inherent risks in the payment system. As an additional concern, currency reforms leading to de-dollarization have increased inflation and loss of value, especially for digitally stored currency.*
- ▶▶ *The government has an opportunity to strengthen the DFS ecosystem through the new National Fintech Strategy, mandate interoperability among mobile money operators, and adopt the Southern Africa Development Community (SADC) Model Law on payments. In addition, a National Payments Systems Strategy should prioritize safety, security, and efficiency for all its market participants.*

4.1 Importance of Digital Financial Services



Digital financial services (DFS) are a key enabler of the digital economy ecosystem. Given Zimbabwe's decade-old adoption of a dollarized financial system characterized by cash liquidity constraints, DFS, particularly the mobile payment platforms, offered a reprieve to the transacting public. Early breakthroughs in facilitating payments in the digital economy were enabled by card-based payments, but these have been constrained by the need to have physical point of sale (PoS) or automated teller machines (ATMs) – all legacy systems that add to overheads – to effect payments. A disruptive answer has come in the form of the mobile phone, which allows non-card linked digital mobile payments to be made directly from a user's funding source. The payment, using either a feature phone or smartphone, goes directly to a merchant to initiate purchase and instant settlement. No data is exchanged, since all customer and merchant data stays with the respective banks, and the transacting parties have their needs met.

DFS allow for transactional data to be traced, analyzed, and eventually collateralized by financial services providers. This creates opportunities for banks to provide enhanced services, such as extending credit based on algorithms generated by consumer data. This is a trigger for deeper financial inclusion that is critically needed by individuals, households and small and medium enterprises (SMEs), which are otherwise excluded from the mainstream financial services sector. Through anonymized customer payments over digital platforms, bank-client confidentiality built over years can be maintained.

Digital payments reduce costs and bring efficiency and accountability, especially for social grants and government to person (G2P) payments. DFS constitute a convenient and affordable channel through which individuals and households receive payments, make real-time payments for services, especially utilities, and save and borrow through platforms they can easily control and access at any time. DFS allow the e-commerce ecosystem to flourish as firms can more easily transact with their consumers and suppliers, resulting in a virtual e-commerce ecosystem.

By eliminating silo payment platforms, inter-bank, bank-to-mobile and inter-mobile money wallet settlement can be performed seamlessly. This applies to domestic and even cross-border payments for goods and services, including remittances. A modern cashless digital payment ecosystem rapidly integrates businesses, merchants and consumers, facilitating the participation of those at the bottom of the pyramid in the pervasive digital economy. It is projected that about a trillion objects will be connected by 2035, because of the internet of things (IoT).¹¹

In the COVID-19 pandemic era, DFS are essential in supporting the World Health Organization's (WHO) social distancing protocols. The spread of COVID-19 can be reduced if transacting counterparties in economic activities maintain social distance. The use of DFS reduces the need for buyers and sellers to be in the same physical space to complete an economic transaction and for many buyers to be in the same shop at the same time. In this regard, mobile money and other forms of online payments are considered an essential weapon in fighting the spread of the virus (see Box 4.1). Online commerce is incomplete without digital payment platforms.

BOX 4.1: DIGITAL MONEY AND GOVERNMENT PAYMENTS IN A COVID-19 PANDEMIC CONTEXT

COVID-19 has had severe and direct impacts on the availability and smooth provision of cash and non-cash payment services used by individuals, firms and governments. It has also affected payment and settlement systems, where it has triggered operational disruptions and credit and/or liquidity events. Lessons learned from the Ebola crisis and previous humanitarian and financial crises suggest that pandemics could materially impact payment and settlement systems as well as payment services that are extensively used by individuals, businesses and governments.

The case for universal digital financial services has never been so urgent as in recent months due to widespread economic lockdowns. Digital money is largely seen as a solution to minimize interaction, particularly between retailers and customers who want to make small payments. A widespread informal sector in Zimbabwe is risky in that it requires physical interaction between transacting parties. The World Health Organization (WHO) COVID-19 preventive social distancing protocols encourage little or no interaction between individuals, even in instances where business transactions are taking place. Digital payments, mobile or online, are an answer to the enhancement of social distancing protocols.

The closure of bank branches and of money transfer organizations, housed in banks, retail shops or standalone, has severely impacted the ability of users of financial services and recipients of cross-border remittances to transact. As a result, financial services have shifted from being offered over the counter to digital financial services.

Lockdowns of businesses and schools have increased the pressure on transacting individuals, who often can only complete transactions remotely through digital payments. This enhances the case for an increasingly digitized and seamless DFS ecosystem. Under lockdown conditions, digital payment capabilities can, with few risks, enable the completion of capital market settlements, insurance and pension claims and premiums, loan repayments, tax payments by individuals and firms, and tax rebates.

11. Murray Gardiner, *Hyperconnectivity and financial inclusion: Hype vs reality in Africa*, 2019

4.2 Diagnostic Findings: Current State of Digital Financial Services

Zimbabwe has a well-diversified financial sector as reflected in Box 4.2. While dominated by the banking sector (13 commercial banks, 4 building societies, 1 savings bank and numerous small microfinance institutions), the financial sector includes vibrant capital markets as well as the insurance and pension sub-sectors, all of which utilize digital delivery channels.

Financial inclusion has expanded rapidly in Zimbabwe over the past five years, driven by DFS. The number of adults with transaction accounts in Zimbabwe has grown exponentially from one million in 2014 to 7.1 million as at September 30, 2019.¹² This indicates a rapidly increasing rate of financial inclusion, which is reported to be around 59 percent by the Findex 2017 report.¹³ This impressive growth was preceded by low financial inclusion for both individuals and SMEs as recently as 2014, when 23 percent of the adult population was identified as excluded and only 30 percent of adults used financial services.

Usage of DFS has recently expanded from primarily holding savings accounts to transactions, payments and receipt of domestic remittances. Although internet usage for bill payments has remained low and concentrated among the elite, 11 per cent of account holders now use the internet to pay bills and make regular payments to merchants like utilities and municipalities. The rate of use of DFS to send and receive domestic remittances is very high, with 79 percent of mobile account holders having received remittances over the mobile wallet.¹⁴ Whilst participation in savings clubs is relatively widespread at 21 percent among adults aged 15+, a migration from traditional savings clubs to mobile wallet based savings clubs is taking place.¹⁵

Zimbabwe is making progress, albeit somewhat slow, towards achieving the target set out in its financial inclusion strategy. Advancing inclusive financial systems in Zimbabwe is largely dependent on leveraging innovative technologies that drive financial services, supported by strong institutions. The National Financial Inclusion Strategy 2016–2020 (NFIS) lays the foundation for the development of the financial sector. The country is now at the tail end of the first phase of the National Financial Inclusion Strategy, which ends in 2020 and has an ambitious target of 90 percent financial inclusion levels for the adult population. According to Findex Report 2017, the total percentage of adults with a transaction accounts had risen to 59 percent from 40 percent in 2011.¹⁶ The authorities are planning a successor National Financial Inclusion Strategy (2021–2025) that will further strengthen the early gains in financial inclusion.

Further advances in financial inclusion will be largely dependent on the ability to leverage innovative technologies that drive financial services. By enhancing efficiencies and adopting the latest technologies in financial services delivery, Zimbabwe will be well positioned to build on the progress in financial inclusion already achieved. As a member of the Alliance for Financial Inclusion (AFI) since 2012, Zimbabwe participates in various AFI working groups including the Digital Financial Services Working Group, and thus has knowledge of such technologies.

BOX 4.2: ARCHITECTURE OF THE FINANCIAL SECTOR IN ZIMBABWE

The country's financial sector is relatively diversified. It consists of a strong banking sector, with relatively large insurance and pension sub-sectors and vibrant capital markets. Financial transactions are led by mobile money providers through mobile money wallets.

- **Banks:** Of the 13 commercial banks, 5 are foreign banks. There are 4 building societies, 1 savings bank and 2 development finance institutions.
- **Insurance and Pension firms:** The insurance sector consists of life assurance, short-term insurance and short-term insurance service providers. There is a large public pension fund and a rapidly growing funeral insurance sector.
- **Capital Markets:** Zimbabwe has one of the oldest stock exchanges on the continent, the Zimbabwe Stock Exchange; the sector also has various asset management companies, stockbrokers and a central securities depository company. An alternative stock exchange for SMEs, Financial Securities Exchange (Pvt) (Ltd), was launched in 2016.
- **Mobile money providers,** namely Econet, NetOne and Telecel, provide mobile wallets, which facilitate wallet-based transactions. Econet's Ecocash wallet is the dominant player, processing 99.7 percent of all transactions. Of the three wallet providers, only Econet has separately registered Ecocash as a stand-alone entity.
- **Money Transfer Agents/Organizations (MTA/MTOs):** Over 25 MTAs facilitate inward remittances licensed by the RBZ in line with foreign exchange guidelines for Authorised Dealers with Limited Authority (ADLA). International MTOs in the market include Western Union, Moneygram, Mukuru, Hellopaisa, and World Remit. Retailers like OK's Moneywave are part of the players in the market.
- **Bureaux de Change:** Various bureaux de change operate in the market under ADLA guidelines.
- **Other Financial Service Providers (FSPs):** Other FSPs include some NGOs, Savings and Credit Cooperatives (SACCOs), Village Savings and Loan Associations (VSLA), Rural Savings and Credit Groups, and Rotating Savings and Credit Associations (ROSCAs).
- **Fintech Companies:** The emergence of fintech companies in the DFS ecosystem has been led by MNO-owned fintech companies. The most important one, and the 3rd largest company listed on the Zimbabwe stock exchange, is Cassava Smartech (a subsidiary of Econet Wireless), which houses the fintech DFS providers Ecocash, Steward Bank, insuretech business, Ecosure and remittance services. Most fintech companies on the market allow bill, merchant and utility payments to be made seamlessly and in real time. Other fintech companies include Zimswitch, Paynow, Zapper, Payserve, Ecoshash, Get-Bucks, E-tranzact.

Source: Authors

12. Global Findex Report 2017

13. For comparison, the financial inclusion average for Sub-Saharan Africa is 43 percent (IFC 2018: *Digital Access: The Future of Financial Inclusion in Africa*)

14. Global Findex Report 2017

15. Ibid

16. Ibid

BOX 4.3: THE INTERPLAY BETWEEN DFS AND OTHER PILLARS OF THE DIGITAL ECONOMY

Apart from mobile-based financial transactions, the efficiency of DFS delivery is largely dependent on a high rate of penetration of internet service provision. Currently, the internet penetration rate is 58.9 percent against a mobile penetration rate of 84.8 percent. The rate is lower in rural areas due to lower connectivity and limited deployment of 3G and LTE coverage in remote areas. This militates against

financial inclusion, with a traditionally higher coverage of financial services delivery infrastructure in urban areas through branch networks in urban and peri-urban service centers.

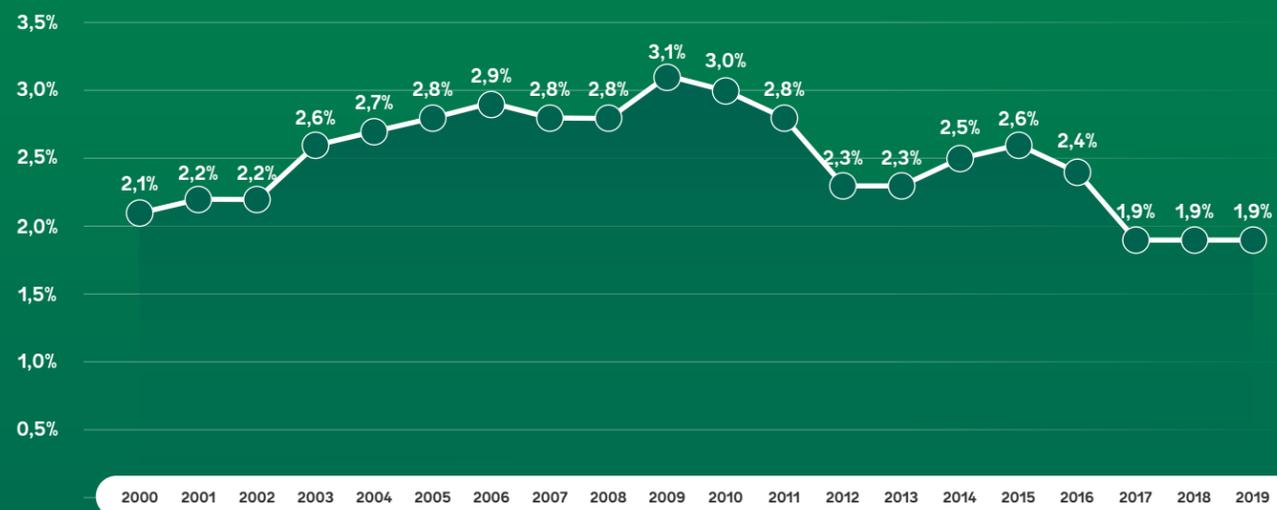
Deployment of mobile base stations across the three mobile network operators (MNOs) is shown below.

	2G			3G			LTE		
	Q4 2019	Q4 2020	Net Addition	Q4 2019	Q4 2020	Net Addition	Q4 2019	Q4 2020	Net Addition
Total	4,970	4,971	1	2,886	2,893	7	1,033	1,032	-1

Source: POTRAZ, 2020

Fixed telephone density remains very low at 1.9 percent of the population, as more business and individual consumers adopt mobile telephony as the principal means

of communication. The growth trends of fixed teledensity are shown below.



Source: POTRAZ, 2020

DFS are a key enabler of digital entrepreneurship and a key pillar of the digital economy, as innovations around digital businesses are significantly reliant on the ability to make

online payments. The more conversant the population is with the use of internet and DFS, the easier it is to broaden the digital economy

4.2.1 DIGITAL PAYMENT ECOSYSTEM

Zimbabwe has a relatively robust digital payment ecosystem driven by both public and private payment platforms. The most widely used public payment platform is the Reserve Bank of Zimbabwe (RBZ) Real-Time Gross Settlement System (RTGS), which is predominantly used by the corporate world for interbank transfers. The RTGS system is by far the biggest value mover. However, in terms of volumes transacted, it is dwarfed by privately-run platforms

for business to business (B2B), business to government (B2G), person to person (P2P), or government to person (G2P) payments. Most banks in Zimbabwe are now trail blazers in retail payments. Innovations in real-time payments such as the ZIMSWITCH Instant Payment Interchange Technology (ZIPIT) have created immense value for market participants. Fourteen payment platforms are summarized in Table 4.1 below.

▶▶ TABLE 4.1: PAYMENT PLATFORM ECOSYSTEM IN ZIMBABWE

PAYMENT PLATFORM	SERVICES OFFERED
Real-Time Gross Settlement System (RTGS)	Local interbank funds transfer - mainly large value
Central Securities Depository (CSD) for Government Securities	Holding and transferring of securities through electronic book entry
Zimswitch Holdings (Pvt) Ltd	Local card switching facilities and electronic funds transfer
MasterCard	International card switching services
Visa	International and local card switching facilities
Union Pay International (UPI)	International card switching facilities
MyCash	Mobile payment and funds transfer linked to bank and card account
Payserv Zimbabwe (Pvt) Ltd (Paynet)	Electronic processing of payment instructions – electronic funds transfer
Ecocash	Mobile financial services/ mobile money
Getcash	Mobile financial services/ mobile money
One -Money	Mobile financial services/ mobile money
Telecash	Mobile financial services/ mobile money
Cheque	Cheque clearing
IceCash	Electronic payment solutions

Source: Authors

Due to a well-developed payment system and lack of cash as a medium of exchange, digital financial services are pervasive in Zimbabwe. According to MoFED, already in 2018, 96 percent of all transactions in the country were through digital means and only 4 percent were cash-based.¹⁷ Five means are at the disposal of consumers to effect digital financial transactions: card-based, mobile, cheque, internet, and electronic funds payments. Card payments make use of bank-owned point of purchase machines (POS) and automated teller machines (ATM), with Zimswitch, a national switch, being a vital platform that enables interoperability among banks.

One key enabler of digital payments has been the almost exclusive use of digital money by the government. Government Ministries, Departments and Agencies (MDAs) have moved fully away from cash and cheque payments to solely digital means of making and receiving payments. Cash is a very scarce means of payment in Zimbabwe. The government is trying to increase the volume of cash payments from 4 per cent to about 10 percent by injecting more money into the market. The ZWL\$1.1 billion of notes and coins in circulation represents only 3.2 percent of total banking sector deposits of ZWL\$34.5 billion as at December 31, 2019.¹⁸ The RTGS systems (Zimswitch, ZIPIT, and the Electronic Funds Transfer (EFT) system) constitute the main retail payments infrastructure in Zimbabwe. This is complemented by the Chengetedzai Securities Depository (CSD), which covers the securities sector.

At the heart of this robust payment system is modern legislation. The principal legislation includes the National Payments Act (Ch 24:23), the Reserve Bank of Zimbabwe Act, the Bank Use Promotion and Suppression of Money Laundering Act, and the Exchange Control Act, all overseen by the RBZ. In addition, RBZ ensures adherence to international best practices on payment systems, issuing guidelines and directives from time to time.

RBZ recently constituted a Fintech Working Group with the National Payment Systems Department (NPSD) as a key member. Within the NPSD, a Digital Financial Services & Licensing (DFSL) section assesses and approves new initiatives related to payment systems. The plan is to establish a full-fledged Fintech Department as a distinct unit in the RBZ, which would be at par with other units such as the Bank Supervision, Foreign Exchange, and National Payments Departments. A National Fintech Steering Committee comprising Government line ministries, departments and regulatory agencies was set up during the last quarter of 2019 to provide strategic policy direction in the fintech space. A National Fintech Strategy will be developed under the auspices of the National Fintech Steering Committee and will include strategic guidelines for public and private stakeholders. The NPSD has taken a very proactive approach to supervising mobile money operators and fintech operators and has banned cryptocurrencies. The high-level fintech friendly regulatory environment directly linked to payments reflects a dethroning of the ‘cash is king’ tradition in Zimbabwe and the entrenchment of digital financial services.

RBZ considers cybersecurity to be a critical component in the provision of financial services. The Financial Intelligence Unit (FIU) and Bank Supervision Department oversee the recently developed cybersecurity framework. The RBZ has identified the need for continuous improvement in the cybersecurity and anti-money laundering aspects of the financial sector. The FIU oversees efforts to detect, report and investigate instances involving suspected money laundering and financial transactions that are considered by the RBZ to be above the set thresholds within the banking sector and mobile money space and thus could be viewed as suspicious.

4.2.2 MOBILE MONEY REVOLUTION

The digital financial services sector is being driven, in part, by a revolution in mobile money, as reflected in the number of mobile wallet holders. As of end-October 2019, there were about 7.2 million mobile wallet holders in Zimbabwe.¹⁹ Table 4.2. shows the distribution of mobile money subscribers across the three networks. Three MNOs rapidly promoted “mobile wallets” due to a perennial shortage of cash in a then-dollarized economy. Apart from the three MNO-based mobile money providers (Ecocash, Telecash and OneWallet), a fourth e-money wallet is MyCash, which uses both a card and a USSD code over the mobile phone.

Apart from banks, who were the early entrants in the digital financial services arena, Zimbabwe has largely adopted a free-market approach to the participation of multiple players. The proliferation of agent bank networks and mobile money agents has seen an explosion of financial service provision for the lower end of the market. The regular reviews of the regulations have aimed at removing remaining gaps in the payment ecosystem. Consumer protection regulations are embedded in bank supervision, payment regulations, and other departments of the RBZ. The newly enacted Consumer Protection Act has no specific focus on the financial sector. The Consumer Council of Zimbabwe (CCZ), a consumer watchdog, mainly focuses on the retail and manufacturing sectors and leaves the financial sector largely market-driven, leaving a gap that can be filled by a fully-fledged financial sector ombudsman.

Interoperability, which involves money transfers across different mobile money platforms, is about to become a reality. This will reduce costs and improve the efficiency of transacting. Since the inception of mobile money, there has been no interoperability between the mobile money wallets provided by the three MNOs, even though bank platforms are interoperable. However, this is set to change with the new SI 80 of 2020.²⁰ A central infrastructure supports retail payments interoperability amongst commercial banks and across different types of financial service providers; this has spurred the growth in DFS to almost universal coverage throughout the country. Since the inception of mobile money, exclusivity arrangements are not permitted in the provision of financial services and selection of mobile money agents; this is a progressive policy position which can help in broadening access to and usage of financial services. ZimSwitch has been designated as the mobile interoperable switch for all mobile money providers with effect from August 15, 2020.

The high uptake of digital financial services, especially mobile money, attests to the relatively high level of user skills in adults (15 years or older). Although high usage is also attributable to the low cash in the system, there is still a gap in accessing financial services through the internet, as shown by the Findex Report (2017). Usage of digital financial services by government MDAs is high as a result of the relatively well-developed digital skills of public sector users of digital financial services.

►► **TABLE 4.2:**
ACTIVE MOBILE MONEY SUBSCRIBERS

Operator	2 nd Quarter 2019	3 rd Quarter 2019	4 th Quarter 2019	1 st Quarter 2020
Ecocash	6,643,008	6,707,225	6,812,368	7,065,382
Telecash	54,190	54,399	53,311	52,564
OneMoney	335,132	428,529	468,960	555,255
Total	7,032,330	7,190,153	7,334,639	7,673,201

Source: POTRAZ, Sector Performance Report, Fourth Quarter 2019 & First Quarter 2020 Report

17. Newsday, February 23, 2018. This number, however, refers only to the formal economy and public sector, while cash prevails in the informal sector.

18. Reserve Bank of Zimbabwe Monetary Policy Committee, January 2020.

19. Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ), Third Quarter Sector Performance Report, 2019

20. SI 80 of 2020 promulgated new rules for mobile money and designated Zimswitch as the switch that mobile payments should go through, just like banking sector payments.

4.2.3 UTILIZATION OF DFS

Card-based retail payments, credit infrastructure platforms like the central credit registry, and private credit bureaus form a formidable basis for DFS growth. ATM and POS enabled card-based payments still dominate the retail sector, and this is integrated into a large network of bank and, until recently, MNO agents. The extensive network has allowed both first mile and last mile delivery of financial services. The central credit registry housed in the RBZ and the three private sector players in the credit information space provide more digital footprints for financial services users, leading to a buildup of usable information to improve product and service offerings by financial service providers (FSPs). Data sharing through the credit registry is a regulatory requirement, hence FSPs can easily upload and access information on the platform.

High-value RTGS platforms run by the central bank have been key in facilitating corporate payments. The RTGS system offers convenience to corporates and individuals as it can be accessed through internet banking. The facility is used widely to make payments to government, mainly tax payments to the Zimbabwe Revenue Authority (ZIMRA) and business to business (B2B) payments. As banker to government, the central bank has shifted from the use of cheques to digital payments made on behalf of government.

Innovations in capital markets have seen the trading of securities online using a private sector provided platform. A private player, Escrow Group, has developed a platform (C Trade) to allow shares on the Zimbabwe Stock Exchange (ZSE) to be bought, sold and settled using mobile money. This has revolutionized securities trading and allowed new, low-value traders to participate on the stock market. However, the ZSE predominantly serves large firms, leaving SMEs' capital requirements unmet. A recent innovation is the launching of the Victoria Falls Stock Exchange, a subsidiary of ZSE, to raise funds in forex for local companies.

DFS comes with its own potential risks, especially those related to money laundering and customer due diligence (CDD). The know your customer (KYC) requirements placed on fintech companies by regulators are more lenient than those that are mandatory for banks, yet fintech companies are often accused of offering shadow banking products. Commercial banks feel that, to a large extent, the regulations applying to them are more burdensome compared to those that apply to non-bank FSPs, and thus it is more costly for banks to onboard customers than for mobile money providers. However, banks have been allowed to offer no frills low-value transactional accounts for the lower end of the market to cater for financially excluded segments of the population.



4.3 Challenges

In order to further develop the country's DFS, the government will need to address a number of challenges. These include:

Making digital financial transactions more affordable.

In October 2018, the Ministry of Finance and Economic Development promulgated a law that imposes an obligatory 2 percent tax on all financial transactions carried out on all digital platforms including mobile money. This law significantly increased the cost of digital financial transactions and sparked uproar since the country was inadvertently cashless. Consumers felt hard done by, because the government had essentially created a “payments tollgate” without any alternative route. The government's rationale was that the economy was largely informal, and the informal sector was not paying tax; hence, a mechanism was needed so that the informal sector would become taxpayers. The law did not encourage digital payments.

Fostering interoperability. Lack of interoperability among mobile wallets has helped fuel the perception that the dominant mobile money provider is monopolistic. This, in

turn, has reduced competition and increased the costs of transacting over platforms. Whilst transactions among banks are interoperable, the MNOs have not been able to facilitate transfers among the three different wallets. This is set to change with the designation of ZimSwitch to run a switch to interoperate mobile financial services and other service providers. This will not only increase efficiency as transfers across mobile and bank-based accounts will be possible, but also result in lower transaction costs and faster payments.

Safety of consumers' funds. The authorities are concerned about the trust accounts kept at banks by mobile money service providers, because, in their view, the safety of consumers' funds is not currently guaranteed. The regulatory authorities have argued that mobile wallet service providers have not been keeping amounts in trust accounts at banks that correspond to the amounts floating on mobile wallets. This raises concern about the safety of consumers' funds.

Low internet access. Internet access is low throughout the country, but especially in rural areas, which works against the expansion of DFS. Since the provision of 3G and LTE networks

is also lower in rural areas where access to financial services is even lower, the need for internet is greater. However, this can be addressed by the use of USSD codes through which feature phones can access FSPs' platforms. USSD codes do not require internet connection but simple mobile network availability to access a bank account.

Legacy banking systems. Legacy banking systems are acting as a drag to the development of DFS. The banking sector is slowly moving away from brick and mortar-based service delivery models and legacy infrastructure like ATMs and POS machines, which are expensive to roll out. Abruptly leaving these behind is expensive for FSPs, and so they are holding on a little longer in order to get the profits from their investments. Unfortunately, this has led to a delay in the rapid adoption of digital financial technology and a reluctance to allow nimble-footed fintech companies to access bank databases. One exception is an international bank that is closing all its branches except two and migrating all customers to digital platforms that are efficient, cheaper and allow for instant settlement of transactions.

Currency reforms and inflation. Currency reforms over the past decade have left many consumers and corporates distrusting the financial services sector. Zimbabwe abandoned its own currency in January 2009 to adopt the US dollar and a basket of other foreign currencies as legal tender. The multicurrency regime was unexpectedly discontinued on June 24, 2019 with the official introduction of the Zimbabwean Local Dollar (ZWL) as the official legal tender. The new local currency has lost over 90 percent of its value within less than a year. Since Zimbabwe is cashless, depositors and lenders have lost value as assets have been beaten down by inflation and rapid foreign exchange depreciation. The negative impact of this development has been loss of trust in storing monetary value in digital form over holding cash in US dollars. Although the US dollar is now legal tender again due to a special COVID-19 dispensation to cushion consumers, the USD had remained a store of value. Development partners with cash transfer programs are hesitant to actively promote use of DFS because of high inflation

Size of the informal sector. High levels of informalization of the economy militate against both the development of DFS and the universal rollout of plastic money. Cash is still king to the informal sector, which constitutes over 60 percent of the economy. The desire to stay under the radar by using cash to leave no traceability in transactions, thereby keeping the

authorities at bay, is holding the country back from being the first universally cashless economy on the African continent.

Foreign exchange shortages. Forex shortages are hampering the payment of fees for platforms, thus reversing early gains in developing a robust DFS ecosystem. Since de-dollarization in June 2019, FSPs, mainly banks, have failed to access foreign currency to pay for IT licenses to foreign vendors, whose IT systems they are using to run their core banking platforms. Also, transferring money out of Zimbabwe is subject to a cumbersome RBZ approval, adding another challenge to FSPs in paying for IT systems that are billed in foreign currency.

COVID-19. The COVID-19 lockdown has induced a severe strain on the payments system, especially in receiving cross-border remittances. Country lockdowns have limited the access that regular remittance recipients previously had, but this has been largely addressed by allowing FSPs to open for longer hours.

Compliance with AML/CFT requirements. Zimbabwe has been gray-listed by the Financial Action Taskforce (FATF) for non-compliance in some aspects of AML/CFT. Although most of the FATF recommendations have been complied with, the authorities are still working on full compliance, a move aimed at getting the country off the FATF gray-list.

Mobile payment systems reforms. The authorities have identified mobile money as a source of destabilization to the exchange rate. To stabilize the exchange rate, some aspects of mobile money, particularly mobile money agents and merchant payments, were halted in order to reduce opaque transactions, which had been identified as the hallmark of a parallel foreign exchange market. This restriction on aspects of mobile money was largely viewed as heavy-handed, in that it reduced the financial inclusion gains that had been made since 2012. Therefore, the authorities urgently need to: (i) review and revise the legal and regulatory frameworks for the national payment system, e-money and mobile financial services, agent networks, banking supervision and AML/CFT; (ii) revise the oversight policy framework and strengthen the oversight capacity of the RBZ and develop system based tools for RBZ to have higher visibility on mobile money operations; and (iii) further develop the national switch and achieve full interoperability. In addition to strengthening the national payment system, reducing the cost of cross-border remittances in the medium term would also be beneficial.



4.4 Recommendations & Next Steps

►► **FIGURE 4.1:**
DIGITAL FINANCIAL SERVICES SWOT MATRIX



In light of the analysis in this chapter, **Table 4.3 lists key recommendations.** These are organized across key objectives that would unblock binding constraints on further development of this digital economy pillar. The table identifies responsible agencies as well as an indicative time frame, where short-term denotes within the next 12 months. Highest-priority recommendations are highlighted.

►► **TABLE 4.3:**
DIGITAL FINANCIAL SERVICES RECOMMENDATIONS

		RESPONSIBLE AGENCY	TIME FRAME	PRIORITY
OBJECTIVE DFS1: Enhance strategic underpinning for DFS				
R20.	Complete the development of the National Fintech Strategy and establish the fintech department in the Central Bank. The process could include establishment of a regulatory sandbox to experiment with more innovations to deepen DFS in the financial services sector.	RBZ	Medium- term	HIGH
R21.	Enhance the DFS ecosystem through expanding the credit infrastructure: Finalize the establishment of the movable collateral registry and facilitate the establishment of the Warehouse Receipt System.	RBZ and Ministry of Agriculture	Short-term	MEDIUM
R22.	Collaborate at the regional level (SADC) to reduce the cost of sending remittances, thus fostering further development of DFS across borders.	RBZ	Medium- term	HIGH
OBJECTIVE DFS2: Reform the payment system infrastructure				
R23.	Ensure low cost interoperability of ATMs, POSs and mobile money, and encourage wider distribution of POS terminals.	RBZ, ZimSwitch	Short term	MEDIUM
R24.	Review the 2 percent tax on mobile money transfers. Consider concessions/exemptions of the intermediary money transaction tax for small transactions to encourage digital payments.	ZIMRA	Medium- term	MEDIUM
R25.	Consider incorporating the mobile money operations of Mobile Network Operators into separate entities to improve governance and avoid regulatory arbitrage.	RBZ	Medium- term	HIGH
R26.	Review the NPS Act in line with the SADC model law in order to strengthen the regulatory framework for e-money issuance, licensing of payment service providers and oversight of payment systems and other financial market infrastructures.	Ministry of Finance; RBZ	Short term	MEDIUM
R27.	Revive the National Payments Council and establish a sub-committee of private and public sector stakeholders.	RBZ, ZimSwitch	Medium- Term	MEDIUM
R28.	Encourage the use of payments systems to limit human interaction during economic transactions, such as remote on-boarding of new mobile accounts and transmitting social payments over mobile wallets.	RBZ	Short term	HIGH
OBJECTIVE DFS3: Improve regulation and consumer protection				
R29.	Introduce mobile financial services regulation, agent regulation, and a risk-based approach to AML/CFT. Regulation should encourage innovation without compromising the safety and soundness of the system.	RBZ	Short term	MEDIUM
R30.	Introduce a unified financial consumer protection framework to allow for effective recourse and dispute resolution mechanisms, transparency of all fees and adequate deposit protection for trust accounts.	RBZ	Medium- term	MEDIUM



Digital Entrepreneurship

Key messages

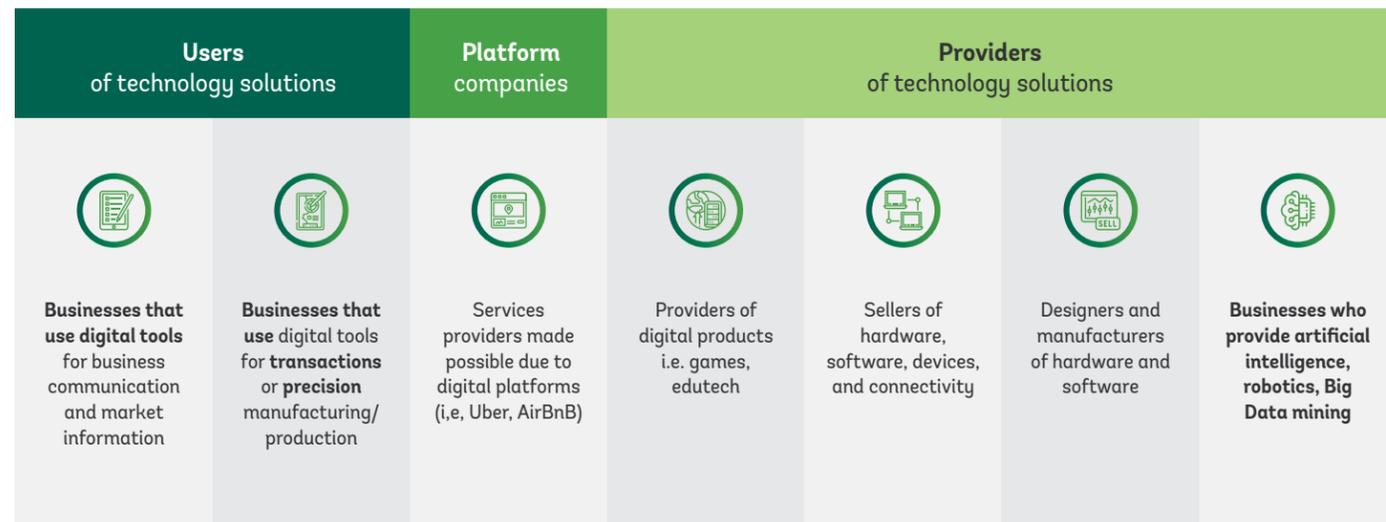
- ▶▶ *Zimbabwe has good potential for the development of digital entrepreneurship, given its well-educated population and positive attitude towards entrepreneurial risks, the presence of private sector actors keen to support entrepreneurship, and government commitment to improving the regulatory environment.*
- ▶▶ *However, challenges abound, including limited access to market data, onerous (if improving) regulations, limited access to start-up capital, and a complex tax regime for entrepreneurs. The deteriorating macro-economic situation affects consumer and business demand, access to affordable finance, and access to skilled labor. Foreign exchange controls, unstable electricity access and limited coverage, and declining business confidence create further obstacles for digital entrepreneurs.*
- ▶▶ *Despite these challenges, the government has an opportunity to further foster digital entrepreneurship by: (i) clarifying entrepreneurship policy implementation frameworks to improve the regulatory and financing environment; (ii) strengthening the institutional ownership and capacity in government of the entrepreneurship agenda; and (iii) establishing a systematic dialogue between the public and private sector on how entrepreneurship can be accelerated.*

5.1 Importance of Digital Entrepreneurship

Entrepreneurship is an important driver of productivity and competitiveness. For the purpose of this diagnostic, entrepreneurship is defined as “the process of designing, launching and running a new business” (Hsieh and Wu, 2018). New or improved ways of doing things introduced by entrepreneurs exert pressure on older businesses to improve; in addition, entrepreneurs identify problems that need resolving and develop solutions to resolve them. They can thus be an important force for resolving productivity challenges in the private sector and efficiency and effectiveness challenges in the public sector. The advent of the COVID-19 pandemic has also demonstrated the critical role of digital tools to enable business continuity – and thus business resilience – when physical movements are restricted.

Digital entrepreneurship in this diagnostic is defined as the process of designing, launching and running a new business, wherein creating and/or using novel digital technologies is a driver of new value creation. Digital entrepreneurship is thus characterized by a high intensity of utilization of new digital technologies to improve business operations, invent new digital business models, sharpen business intelligence, and engage with customers and stakeholders through new digital channels. Figure 5.1 below provides an illustration of the wide range of businesses involved in digital entrepreneurship. When the term digital entrepreneurship is used in this chapter, it generally refers to *platform companies* and *providers of technology solutions* as referenced in the figure. As the illustration makes clear, digital entrepreneurship includes a wide range of businesses, from those entrepreneurs that are primarily users of simple off-the-shelf technology to those that develop sophisticated technology tools.

►► **FIGURE 5.1:**
DIGITAL ENTREPRENEURSHIP DEFINED



Source: Authors

5.2 Diagnostic Findings: Current State of Digital Entrepreneurship

It is difficult to establish how many firms currently operate as digital entrepreneurs in Zimbabwe. One of the key challenges with measuring the number of digital enterprises in an economy is that most digital enterprises resolve a problem in a “conventional” sector, such as transport or finance. Therefore, these enterprises could in principle be registered under transport or finance, even if digital technology is core to their value proposition. Discussions with startup support organizations suggest an increasing interest in digital entrepreneurship, and outreach to these organizations to build a list of digital enterprises currently trading yielded a list of 50+ enterprises.

Digital entrepreneurship in Zimbabwe spans all sectors. There is no apparent pattern in terms of the sector in which the entrepreneurs work. This is also evident from the data collected by Briter Bridges in collaboration with TechZim and Impact Hub, which illustrates that Zimbabwean digital enterprises are facilitating the matching of job seekers with employers, providing financial products, offering health, education and logistics services, and supporting agricultural markets (Figure 5.2).

Entrepreneurship can be regarded as a process that requires supportive policies at each stage. For market opportunities to materialize into market entry and growth, entrepreneurs must recognize the opportunities, possess the ability and resources to pursue them, and be willing to follow this path instead of other potentially rewarding options, such as present or alternative employment. An entrepreneur’s willingness is closely tied to perceived risk and reward. It is thus critical to think of entrepreneurship policies as a means not only to enable the entrepreneur’s entry into the market (i.e. registering a business or making the first sales), but also to foster a young firm’s growth. This is important because the needs of entrepreneurs change as they move from idea to prototype, to engaging with customers (start-up), and finally to earning revenue, making a profit and investing in growth (Figure 5.3).

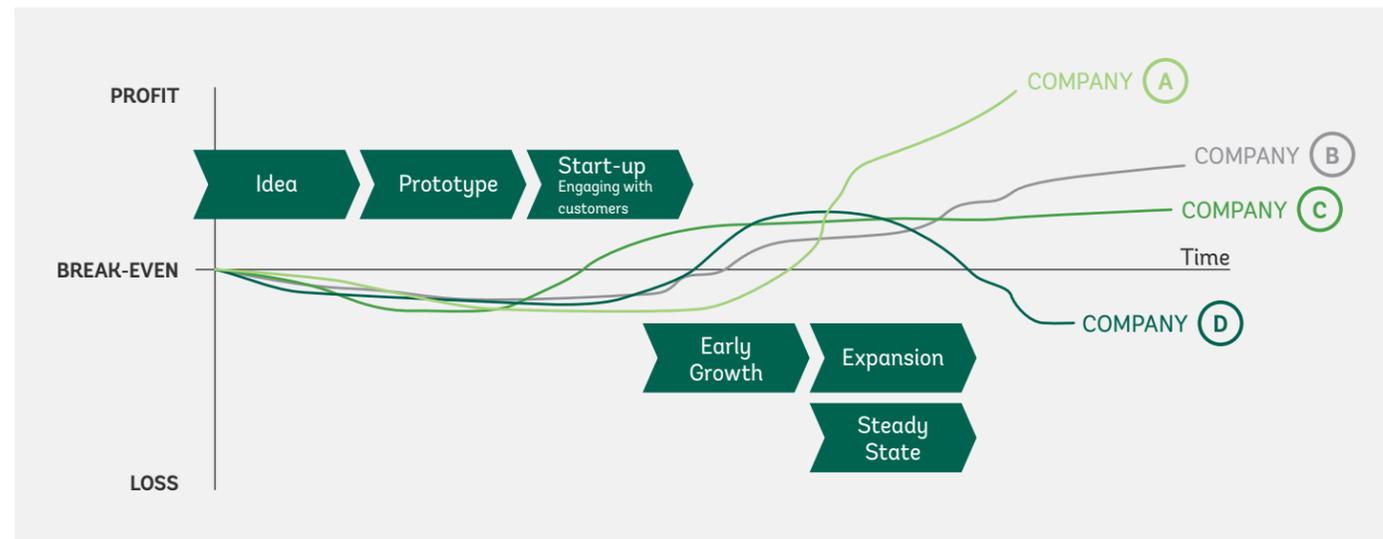
Digital entrepreneurs in Zimbabwe find the “early growth” stage most challenging. A survey of 20 digital entrepreneurs, carried out as an input to this report, suggests that digital entrepreneurs in Zimbabwe experience the most significant challenge at the “early growth” stage. Growing the business to scale, acquiring customers and building a team emerge as the top challenges, whereas the more technical aspects of building a product is found less challenging, though still difficult (Figure 5.4).

►► **FIGURE 5.2:**
DIGITAL ENTREPRENEURSHIP IN ZIMBABWE ACROSS SECTORS

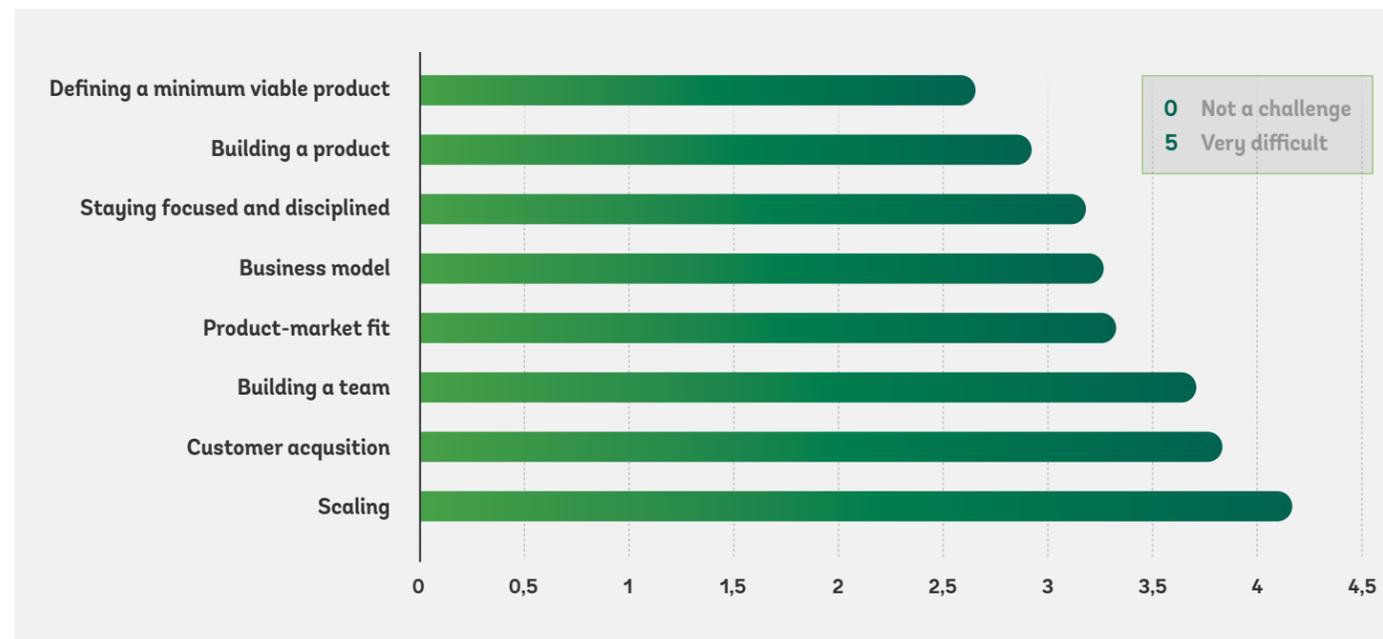


Source: Briter Bridges, 2019 <https://briterbridges.com/ecosystem-maps>

►► **FIGURE 5.3:**
BUSINESS LIFE CYCLE



►► **FIGURE 5.4:**
WHAT IS THE MOST DIFFICULT PART OF BUILDING YOUR BUSINESS?



Source: Authors

The extent to which one observes the entry and growth of digital enterprises in an economy is a function of several factors. These include: (i) the market size of the country, including the extent to which citizens, government, and businesses have purchasing power and access to ICT; and

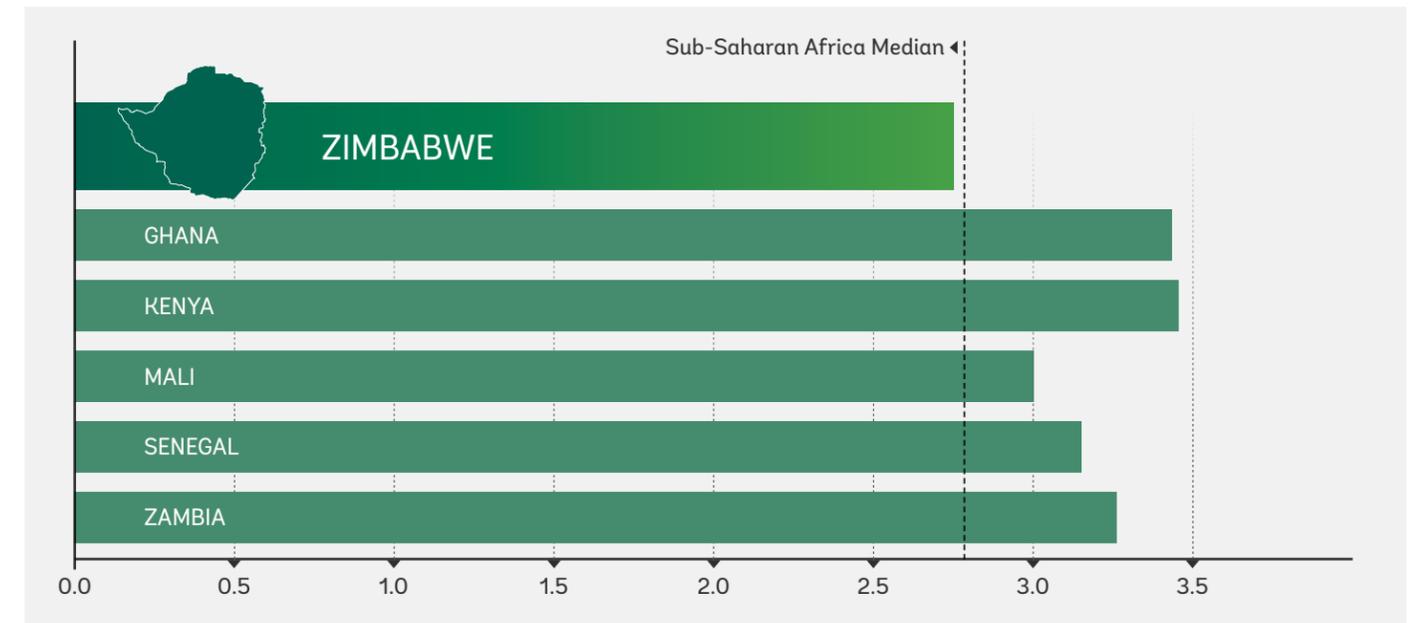
(ii) the enabling environment for digital entrepreneurship, which includes the policy and regulatory environment, as well as access to capacity building and financial services, and a skilled labor force. This chapter considers both in turn.

5.2.1 MARKET SIZE

The consumer market for digital enterprises in Zimbabwe is relatively small. The Global Competitiveness Index provides a composite indicator for market size. Zimbabwe's market size is most similar to that of Mali, Senegal and Zambia within Sub-Saharan Africa (see Figure 5.5).

The size of the addressable consumer market in Zimbabwe also appears to be most similar to Mali, Senegal and Zambia. While the population above the poverty line is somewhat higher in Zimbabwe, mobile subscriptions per 100 population are higher in Senegal and Mali (Table 5.1).

►► **FIGURE 5.5:**
RELATIVE MARKET SIZE OF ZIMBABWE COMPARED TO GHANA, KENYA, MALI, SENEGAL AND ZAMBIA

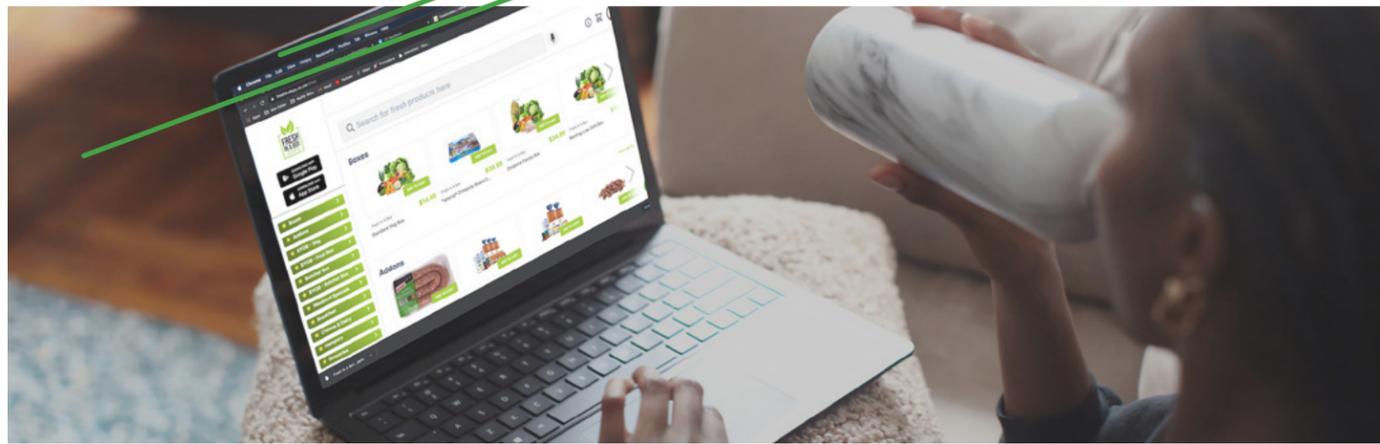


Source: Global Competitiveness Index 2017-2018

►► **TABLE 5.1:**
CONSUMER MARKET IN ZIMBABWE COMPARED TO GHANA, KENYA, MALI, SENEGAL AND ZAMBIA

Population Size	Size of Population above poverty line	Mobile Cellular Telephone per 100 population
Zimbabwe: 14.4m	Zambia: 7.2m	Zambia: 74.3
Senegal: 15.9m	Mali: 8.8m	Zimbabwe: 74.5
Zambia: 17m	Senegal: 9.9m	Kenya: 80.3
Mali: 17.5m	Zimbabwe: 11.3m	Senegal: 87
Ghana: 28.8m	Ghana: 25m	Mali: 95.9
Kenya: 49.7m	Kenya: 31m	Ghana: 100

Source: Authors



While data on the number and size of firms in Zimbabwe is scarce, the formal business community appears to be relatively advanced in terms of ICT use. There does not appear to be any reliable data on the number and size of firms in Zimbabwe. According to the IMF, Zimbabwe has the second largest “shadow economy” in the world (IMF, 2018), with an estimated 60 percent of all firms operating outside the formal economy. Data on firm-level use of digital technologies is scarce and outdated. The 2016 Enterprise Survey (targeting registered firms only) indicates that in 2016 75 percent of firms used e-mail to interact with customers and suppliers, and 38.7 percent of firms had a website. Use of e-mail to interact with customers was thus relatively high amongst firms even a few years ago, and is likely to have increased since then (Table 5.2). The business segment could therefore represent a viable market segment for digital entrepreneurs in Zimbabwe.

Government can also be a significant market for digital entrepreneurs, but this requires deliberate government effort to engage the entrepreneurship community. This applies to identifying innovative solutions to public sector challenges and to availing of data and platforms to enable such collaboration. The *Smart Zimbabwe Master Plan*, currently under implementation, outlines targets for smart government, smart agriculture, smart health, smart trade and commerce, smart education, smart transport and smart cities. These are all areas in which the government can use local entrepreneurial talent to develop innovative solutions that leverage digital technologies. It is important that the government does so in the roll-out process of the *Smart Zimbabwe Master Plan*.²¹

►► **TABLE 5.2:**
FIRM USE OF ICT

Economy	Year	% of firms with a website	% of firms using e-mail to interact with customers and suppliers
Ghana	2013	33.2	64.9
Kenya	2018	47.3	n.a
Mali	2016	42.2	69.6
Senegal	2015	34.6	64.7
Zambia	2013	20.2	53.1
Zimbabwe	2016	38.7	75.1

Source: World Bank Enterprise Surveys

21. Interview with the Permanent Secretary for the Ministry of ICT, Postal & Courier Services. Hon. Dr. Eng. Kundishora

5.2.2 ENABLING ENVIRONMENT

The creation of an enabling environment is crucial for successful digital entrepreneurship. This section reviews the current policies, regulations and availability of support in terms of entrepreneurship and financial capital, with a view to assessing the extent to which Zimbabwe can be considered to have an enabling environment.

POLICIES

Zimbabwe has four core policy documents that outline the policy and regulatory priorities affecting digital entrepreneurship. These include the Transitional Stabilization Programme (TSP), the Small and Medium Enterprise (SME) Policy, the Information Communication Technology (ICT) Policy and the Smart Zimbabwe Master Plan. Additionally, the Ministry of Higher and Tertiary Education, Science and Technology Development (MHTESTD) has recently adopted a new strategy that seeks to improve market relevance and promote innovation (see Digital Skills chapter). The extent to which digital entrepreneurship specifically is emphasized varies between the documents.

Although the TSP provides important guidance for the development of micro, small and medium-sized enterprises (MSMEs), it fails to clarify how digital entrepreneurship should be promoted. The TSP suggests that MSMEs be promoted through business linkages, market access, cluster development, business incubation and support services. Start-ups – including digital start-ups – could also benefit from such programs if tailored to them. The discussion of how digital entrepreneurship should be promoted is, however, limited and narrow in scope, given the weaknesses of the enabling environment. It is not clear from the TSP which MDAs have the ownership of the digital economy and digital entrepreneurship agenda. In June 2019, H. E. President Manangwa re-aligned the Cabinet Committees with the TSP clusters, but it is not clear which cabinet committee has the ownership of this agenda.

The new SME Policy, scheduled for completion in 2020, provides a good opportunity to ensure that the needs of start-ups and early-stage enterprises are adequately addressed. The 2014-2018 SME policy did not have a strong emphasis on entrepreneurship. Given the strong emphasis of the ICT policy on digital entrepreneurship, the development

of the new SME Policy may also be a good opportunity for the Ministry of Women Affairs, Community and Small and Medium Enterprises (MWCSME) to outline the specific roles and responsibilities of the Ministry of ICT, Postal & Courier Services (MoICTPCS) and MWCSME in terms of the planning and execution of the initiatives envisioned.

The 2016-2020 ICT Policy²² offers the most ambitious digital entrepreneurship vision of all the relevant policy documents: “to develop Zimbabwe into a regional ICT innovation hub modelled around the acclaimed success models from India, Russia, Malaysia and other technologically advanced friendly states.” Further, the policy envisions making Zimbabwe the regional hub for knowledge intensive ICT manufacturing and service activities. It is recognized that (i) a broad-based innovation policy is needed to enable this vision; (ii) government will need to work with the private sector to provide the needed infrastructure and financing to enable ICT innovation; and (iii) incentives are needed to attract international talent. The policy also assigns significant emphasis to digital entrepreneurship in the context of promoting increased domestic, regional and international commerce, as well as to innovative solutions to private and public sector challenges. Suggested policy instruments include a much broader range than the TSP, including expanding “access to credit for young ICT entrepreneurs,” developing an ICT Growth Opportunities Fund, and providing mentorship and networking platforms and ICT innovation hubs. However, details are not provided on who will implement these nor how or by when they will be implemented. Implementation of the vision for digital innovation and entrepreneurship outlined in the ICT Policy will require collaboration between MoICTPCS, MWCSME, Ministry of Industry and Commerce and Ministry of Higher and Tertiary Education, Science and Technology Development. The existing tech hubs in Zimbabwe are uniquely positioned to help design and implement some of the interventions required.

The SMART Zimbabwe 2030 Master Plan also includes important policy initiatives to promote digital entrepreneurship. These include the establishment of a coding and programming academy, as well as co-working and co-creation spaces for the youth and start-ups.²³

22. Zimbabwe National Policy for Information and Communication Technology (ICT) (2016-2020)

http://www.veritaszim.net/sites/veritas_d/files/Zimbabwe%20National%20Policy%20for%20ICT%202016.pdf

23. Telephone Interview with the Permanent Secretary for the Ministry of ICT, Postal & Courier Services. Hon. Dr. Eng. Kundishora

REGULATIONS

In terms of starting a business, Zimbabwe has demonstrated significant improvement over the last three years, albeit from a lower base than comparator countries. Zimbabwe moved up in the World Bank's Doing Business rankings from 180 out of 190 countries in 2018 to 167 in 2020. According to the 2020 rankings, the time required to register a business and the cost of doing so have decreased in this period (it now takes an average of 26 days and costs 77 percent of per capita income), but the cost and time to register a business still remain well above the sub-Saharan Africa regional average.

Zimbabwe has also made important strides in improving the ease of resolving insolvency, improving from a ranking of 155 out of 190 countries in 2018 to 142 in 2020. The improvement in the ranking (and the absolute score) is due to a new reorganization procedure, allowing creditors to vote on the reorganization plan, and granting debtors the possibility of obtaining post commencement finance. That said, the recovery rate continues to decline, from 19.7 cents to a dollar in 2018 to 17.5 cents in 2020.

While GoZ offers tax incentives for SMEs,²⁴ entrepreneurship support organizations often mention that compliance with tax regulations is difficult and time-consuming for entrepreneurs. The 2020 Doing Business Report reports that while the tax rates are not high in comparison to many other countries, it takes 242 hours per year to comply with the tax regulations and 51 payments are needed. Simplification of the tax filing system could likely be beneficial to entrepreneurs and government alike; with a simpler system, SMEs are more likely to file taxes.

In light of the visions of the SMART Zimbabwe Master Plan and ICT Policy, GoZ may want to re-assess the process for obtaining approval for a joint venture or partnership with a foreign entity. In a market where the capacity and scale of local digital enterprises are limited, joint ventures with foreign firms can provide smaller firms with the opportunity to participate in larger contracts that they would not have the capacity to win on their own. While GoZ procurement regulations allow joint ventures between local and foreign firms, local firms repeatedly mention that it is a very long process to get permission, and they therefore lose out on bidding opportunities. The process for the registration of joint ventures is only made available on a quarterly basis and requires a minimum of 30 days for vetting and "gazetting."

ENTREPRENEURSHIP SUPPORT

Digital enterprises need the requisite startup and technical skills to initiate and build their companies. As indicated in Figure 5.4, digital enterprises in Zimbabwe find that "building a team" is one of the most significant challenges associated with scaling their business. Conversations with digital enterprises indicate that they are having difficulty finding skilled employees. Many of the highly skilled Zimbabweans have left the country in pursuit of what they perceive as better opportunities. Given the employment possibilities both domestically and abroad, the youth, in particular, are keen to take advantage of opportunities to develop the required technical skills. For example, a program that teaches coding and entrepreneurship skills to youth offered by Impact Hub started with 15 youth in 2018 and received more than 500 applications in 2019. As indicated in the digital skills chapter, several initiatives are promoting such coding skills, including those offered by Cassava SmartTech and Sprout Coding.

Various approaches can be used to build startup skills and support start-ups in the early stages of starting and growing a business. These include conventional group training, as well as more tailored support delivered through mentoring, incubation and acceleration. Additionally, startup costs can be defrayed and networks bolstered through co-working spaces and tech hubs. In Zimbabwe, government-funded entrepreneurship support services are delivered primarily through MWCSME and the MHTESTD.

Entrepreneurs are generally not receiving the support they need. Although MWCSME has business development officers in each district, continuous support is rarely available. Most programs offered to support SMEs are project based with a start and end date in line with the development partner's project cycle. In addition, no programs have yet targeted digital entrepreneurs specifically.

Seven universities in Zimbabwe offer Bachelor or Master's degrees in entrepreneurship (see Table 5.3). However, it is not clear to what extent these curricula include a practical component where students are actively pursuing a business idea. Harare Institute of Technology (HIT), on the other hand, which does not have a degree in entrepreneurship, has introduced a requirement that all students take a "technopreneurship" development course during their first year and develop a "technopreneurship" project in their second year. The program is designed to help students

evaluate the business skills and commitment necessary to successfully operate an entrepreneurial venture and review the challenges and rewards of entrepreneurship. In their last year, the students have to complete a capstone project addressing a problem they would like to solve. A new program has also been initiated to support start-ups formed by professors and/or students. So far, this has generated 12 start-ups. The institute is still developing a workable business model to balance ownership rights and profit sharing. Box 5.1 provides examples of these start-ups.

The MHTESTD announced plans to introduce "innovation hubs" and "industrial parks" at higher and tertiary institutions. The impetus for this initiative is to encourage the start-up and growth of knowledge-based enterprises, inspired by the experiences of Singapore, South Korea and Malaysia. The innovation hubs will be based at each of the state universities; the goals of these hubs are to (i) provide entrepreneurs with access to innovation support and advice; (ii) encourage public-private collaboration in technology

development; and (iii) connect Zimbabwean enterprises with the "global innovation industry". The hubs are also envisioned to offer financial support for innovative technological R&D and facilitating seed capital for start-ups. Additionally, it is envisioned that industrial parks will be established in 10 provinces of Zimbabwe as "production centers" for successfully incubated goods and services from the innovation hubs. These are largely envisioned as industrial zones, licensed for commercial use, that may offer additional benefits. According to a statement by the Secretary for Higher and Tertiary Education, Science and Technology Development, the vision is that the innovation hubs will "act as incubation centers through which research results and innovations from Higher and Tertiary Institutions (HTEIs), techno-entrepreneurs and business will be transformed into commercial goods and services." The industrial parks in turn are intended to "facilitate clustering of businesses by supplying locations equipped with quality infrastructure to the areas lacking industrial locations."

►► **TABLE 5.3:**
UNIVERSITIES WITH ENTREPRENEURSHIP DEGREE AND/OR INNOVATION HUB

University	City	Entrepreneurship Degree	Innovation Hub
Africa University (Private)	Mutare	Master of Science in Entrepreneurship, Innovation and Creativity	
Midlands State University	Gweru	Bachelor of Commerce in Entrepreneurship Honours Degree	☑
Chinhoyi University of Technology (Public)	Chinhoyi	Bachelor of Science (Hons) degree in Business Management and Entrepreneurship	☑
Zimbabwe Ezeziel Guti University (Private)	Bindura	Bachelor of Commerce Honours Degree in Entrepreneurship	
Bindura University of Science Education (Public)	Bindura	Masters in Entrepreneurship and Innovation.	
Lupane State University	Bulawayo	Bachelor of Commerce Honours Degree in Entrepreneurship	
Women's University in Africa (Private)	Harare	Bachelor of Science (Honours) in Management and Entrepreneurial Development Studies	
University of Zimbabwe	Harare		☑
Harare Institute of Technology	Harare	No entrepreneurship degree, but "technopreneurship" requirement across degrees.	☑
National University of Science and Technology	Bulawayo		☑

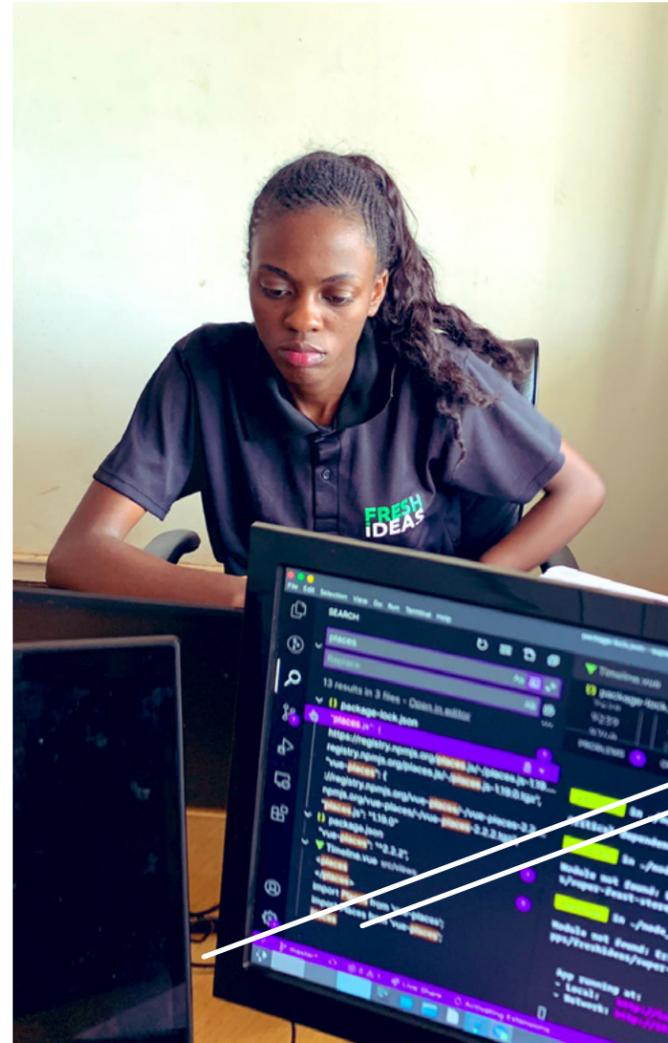
Source: Authors

24. In Zimbabwe, SMEs can benefit from the Special Initial Allowance (SIA), which enables SMEs to deduct 50 percent of qualifying capital assets during the first year and 25 percent in each of the next two years.

BOX 5.1: STUDENTS' APPLICATION OF DIGITAL SOLUTIONS

Nhume is an environmental, water and energy management system, which, through real-time messaging and analysis, helps regulatory authorities and city councils to monitor pollution levels from anywhere in the country. The system was developed to monitor and detect any unsafe levels of pollution in treated water, effluent discharges and air around industrial and mining areas.

NHAKA is an e-learning platform that gives students access to recommended video based-educational content that is created to give the learner a localized and personalized learning experience. NHAKA e-learning offers video-based learning content for each topic and real-life lab-based science experiments and gives updates on student progress and a continuous assessment report. NHAKA e-learning can also be used as a school management system to help improve the management of a school's academic processes and administration.



Support from the private sector for digital start-ups and ongoing public-private collaboration constitute an important step towards strengthening the entrepreneurship ecosystem. Six privately-driven entrepreneurship support organizations include support for digital start-ups, though they are not exclusively focused on any one sector. Additionally, Old Mutual²⁵ is starting an innovation hub to spur internal innovation while also supporting independent technology entrepreneurs through the provision of co-working spaces and capacity building services. Old Mutual is partnering with more established entrepreneurship support organizations, including Impact Hub, Stimulus and

B2C to initiate its programs. Similarly, several ministries and government institutions have engaged in partnerships with private organizations. This bodes well for further collaboration to strengthen the entrepreneurship ecosystem. The private entrepreneurship support organizations offer a wide range of services, including competitions, investment pitches, mentoring, networking and shared facilities in the form of co-working spaces. Some of these organizations also have plans to create marketspaces.²⁶ This aligns well with the vision put forward by the MHTESTD for industrial parks associated with the universities and could offer another opportunity for public-private collaboration.

25. Old Mutual Zimbabwe is a financial services company that provides a wide range of services, including life assurance, asset management, property development and management, and banking services. The company has been present in Zimbabwe for more than 100 years.

26. Marketplaces allow people with new ideas to collaboratively design, prototype and manufacture items using tools that would otherwise be inaccessible or unaffordable such as 3-D printers, digital fabrication machines and computer-aided design (CAD) software.

FINANCIAL CAPITAL

As digital entrepreneurs make the journey from idea to expansion, their financing needs also evolve. Typically, these can range from US\$5,000 to US\$10,000 at the prototype stage to a few million US dollars at the expansion stage. Various financial instruments are also needed, ranging from grants at the seed stage, to equity and patient capital at later stages.

GoZ currently has two funds to which digital entrepreneurs can apply for funding: the ICT Innovation Fund, managed by the MoICTPCS, and the National Venture Capital Fund, managed by the Ministry of Finance and Economic Development (MoFED). Previous funds available included the Innovation and Commercialization Fund administered by MHTESTD, and the ICT Achievers' Awards administered by MoICTPCS. However, no information is available on the outcomes or lessons from these funds.

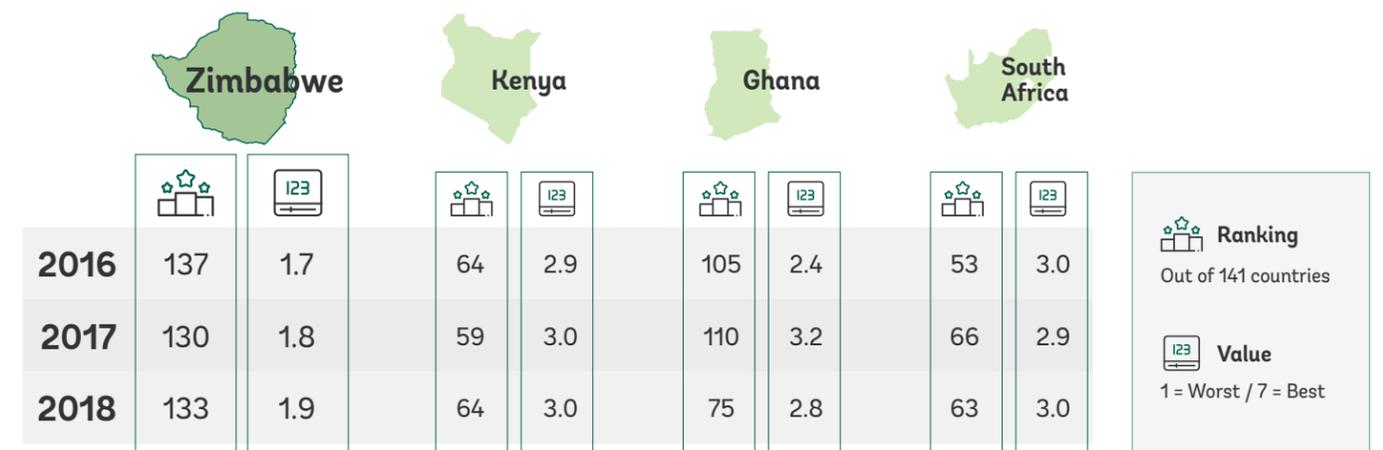
The ICT Innovation Fund is a revolving fund initiated by the government through MoICTPCS and the Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ). Through this fund, GoZ hopes to stimulate innovation that brings solutions to Zimbabwean communities, industry and the economy. The fund is financed through a one percent tax levied on the telecommunications companies. In 2019, the size of the fund was US\$7 million. 188 applicants applied, and six beneficiaries received funding.²⁷ Financing is provided in the form of a loan, for which a "guarantor" is required. There is no minimum or maximum loan amount and interest rates are variable. Applications are now accepted on

a continuous basis, and entrepreneurs as well as innovation hubs can apply for financing. POTRAZ, which administers the fund, has embarked on a workshop program for start-ups because most of the applications from start-ups were not as strong as anticipated. This could therefore be a good area of collaboration between the public and private innovation hubs and POTRAZ.

In the 2020 budget, the government announced the creation of a ZWL\$500 million National Venture Capital Fund targeting youth entrepreneurs. The government is seeking co-financing for the fund from banks, insurance and pension funds, as well as international development institutions. It is envisioned that the fund will provide equity and loans. It is not clear when the fund will open for applications.

No known local private funds are currently investing in digital enterprise in Zimbabwe. Given the volatile economic environment, it is no surprise that venture capital availability in Zimbabwe is low; according to the World Economic Forum, Zimbabwe is currently ranked 133rd in the world on ease of access to venture capital (see Figure 5.6). A new angel network was founded in 2019, comprising 10 angels. However, the highly inflationary environment has made meaningful investment difficult, and no regulatory incentives exist for angel investment. That said, all the private entrepreneurship support organizations say they have been approached by investors (mostly foreign) that are looking to source ideas. This is not surprising given the significant uptick in funds looking to invest across the continent in recent years.

►► **FIGURE 5.6:**
EASE OF ACCESS TO VENTURE CAPITAL



Source: Authors

27. The beneficiaries were Oyos Music, Purple Signs, Shift Organics Technologies, Nativ Project, Red Pen and Afrimom.

BOX 5.2: ENABLING TECH ENTREPRENEURSHIP: GOOD PRACTICES ACROSS AFRICA

There is no one-size-fits all recipe for creating an enabling environment for tech entrepreneurship. That said, continuous dialogue and connectivity between public and private sector actors in the entrepreneurship ecosystem are critical to success. Two good examples across the continent of government playing a catalytic role in this regard are:

- 1. Creating an enabling environment:** In December 2019, Senegal's National Assembly passed a law best known as the Senegal Startup Act. Alongside the act, provisions amending the general tax code were introduced in the 2020 Finance Law. These provisions allow for the exemption of startups from certain taxes for the first three years and the reduction in registration fees for the creation of companies. The lesson to be learned from this example is not necessarily that Zimbabwe and other countries should rush to create a Startup Act. Rather, lessons should be drawn from the process through which these regulatory improvements were achieved. The regulatory reform was achieved through a bottom-up process whereby 60 members from nine Senegalese innovation hubs and 20 partner organizations identified the core challenges for startups in the country and began to engage a number of government representatives, including the tax authority and the education and finance ministries. The country's digital economy minister helped drive this process, on behalf of the government, and the World Bank and i4Policy supported government in conducting a policy hack as input to the regulatory reform process. The Democratic Republic of Congo and Rwanda are amongst other countries that have recently embarked on similar processes.
- 2. Strengthening entrepreneurship support services:** The Kenya Industry and Entrepreneurship Project (KIEP) is a US\$50 million project that is being implemented by the Ministry of Industry, Trade and Cooperatives of Kenya, with support from the World Bank Group. The KIEP was launched in June 2019 and will run until 2024. KIEP aims to strengthen the innovation and entrepreneurship ecosystem in Kenya by building the capacity of incubators, accelerators, and rapid technology skills providers through performance-based grant funding extended to private and public service providers. It also seeks to connect the Kenyan ecosystem to international networks of talent and support infrastructure, and foster links between start-ups and traditional industry. In addition, the KIEP aims to bridge the technical skills gaps in the market by linking young talent and academia to the private sector. A similar program is also under implementation in Ghana. Key to the design and implementation of both programs is the role of government in availing of the resources provided through initiatives driven by the private sector, thus leveraging the expertise and traction obtained by these actors to achieve impact at a larger scale.

Source: Authors



5.3 Challenges

In order to further develop the country's digital entrepreneurship, the government will need to address a number of challenges. These include:

- 1. Difficult macroeconomic developments, including COVID-19.** Such developments have a negative impact on all entrepreneurs operating in Zimbabwe, including digital entrepreneurs. The advent of COVID-19 has exacerbated these challenges for entrepreneurs, in particular those reliant upon the physical movement of goods. However, it has perhaps created a new opportunity for digital entrepreneurs, who can derive creative solutions to business continuity in the face of COVID-19 restrictions. As indicated in the Digital Financial Services chapter, Zimbabwe is also quite advanced in the use of digital financial services, which lessens the COVID-19 impact on Zimbabwean businesses compared to neighboring countries where reliance on cash is the norm and creates a good basis upon which to advance Fintech solutions.
- 2. Ongoing economic difficulties.** Zimbabwe has continued to experience economic difficulties throughout 2019, exacerbated by severe weather. According to the IMF, the growth prospects for Zimbabwe are "steeply negative" due to the effects of drought on agricultural production and electricity generation, the impact of cyclone Idai, and the significant fiscal consolidation. The negative growth is accompanied by declining currency value and a rapid increase in inflation.²⁸

- 3. Declining business confidence.** The Confederation of Zimbabwe Industries conducts business confidence surveys in the manufacturing sector. The results of these surveys are in Table 5.4. Negative points indicate the lack of confidence and pessimism of business leaders, while positive points indicate their confidence and optimism. The table shows that business confidence in Q4 of 2018 was the worst rating in the period measured.



▶▶ **TABLE 5.4:**
ZIMBABWE BUSINESS CONFIDENCE INDEX

	Points 2017	Points 2018
1st Quarter	n.a	-14.4
Kenya	n.a	n.a
South Africa	-29.6	-33
Zimbabwe	5.8	-38

Source: Confederation of Zimbabwe Industries Business Confidence Index

28. IMF. 2019. Press Release No. 19/355. <https://www.imf.org/en/News/Articles/2019/09/26/pr19355-zimbabwe-imf-staff-concludes-visit-art-consult-discuss-1st-rev-staff-mon-program>

4. **Access to funding.** While a range of factors affect growth-oriented entrepreneurs' ability and motivation to start and grow, the primary one in Zimbabwe is the lack of access to funding. As illustrated in Figure 5.7, Zimbabwe does relatively well in terms of "attitudes towards entrepreneurial risk", and rates in the middle of the pack on "ease of finding skilled employees", "companies embracing disruptive ideas", and "growth of innovative companies." However, Zimbabwe performs less well in terms of the "cost of starting a business", "time to start a business", "insolvency" (particularly insolvency recovery rates), "multi-stakeholder collaboration", "financing of SMEs" and "venture capital availability." The ratings show that Zimbabwe performs relatively well in terms of embracing innovation and entrepreneurship, but low in access to finance, and this is also reflected when comparing the number of tech hubs and tech financiers

in Zimbabwe vis-à-vis the benchmark countries (Figure 5.8). Similarly, a survey carried out amongst 20 early-stage digital enterprises for the purpose of this assessment indicates that access to funding is viewed as a more significant challenge than other factors (Figure 5.9).

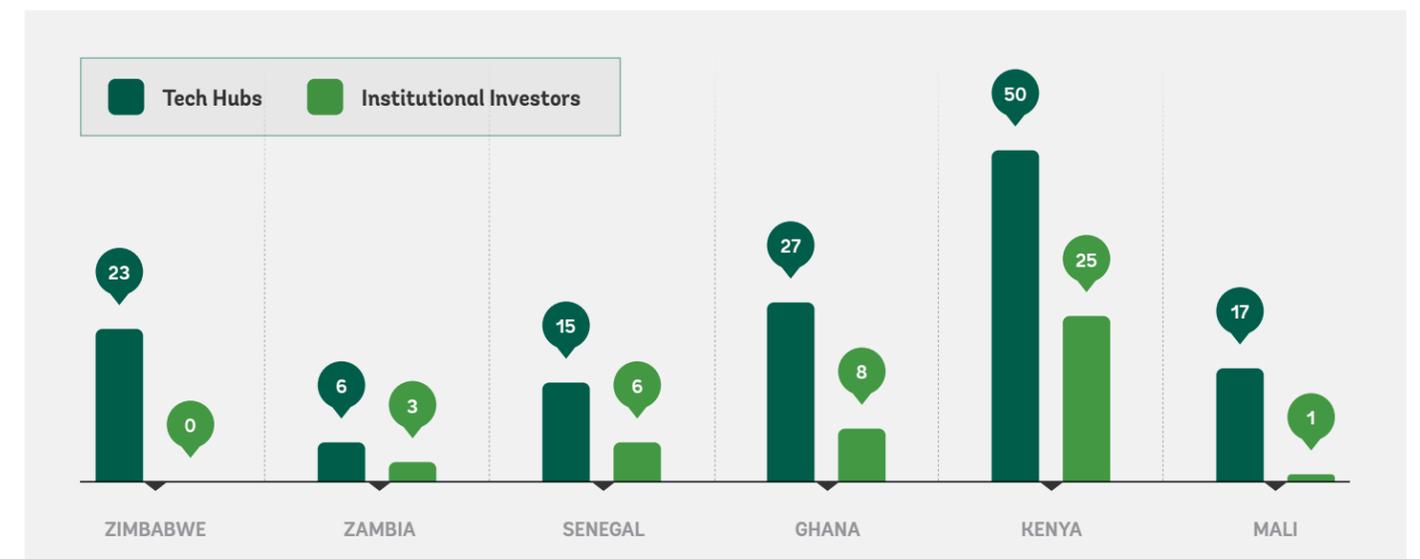
5. **Compliance with regulatory requirements.** Digital entrepreneurs in Zimbabwe find compliance with regulatory requirements particularly difficult. Preliminary discussions with entrepreneurship organizations and private sector establishments indicate that entrepreneurs feel they spend too much time and money on complying with regulatory requirements and that it is difficult to understand how to comply. The foreign exchange controls introduced by the government are also negatively affecting digital entrepreneurs, who now have difficulty in purchasing the necessary ICT devices and software licenses needed to operate effectively.

►► **FIGURE 5.7:**
THE ENABLING ENVIRONMENT FOR ENTREPRENEURSHIP



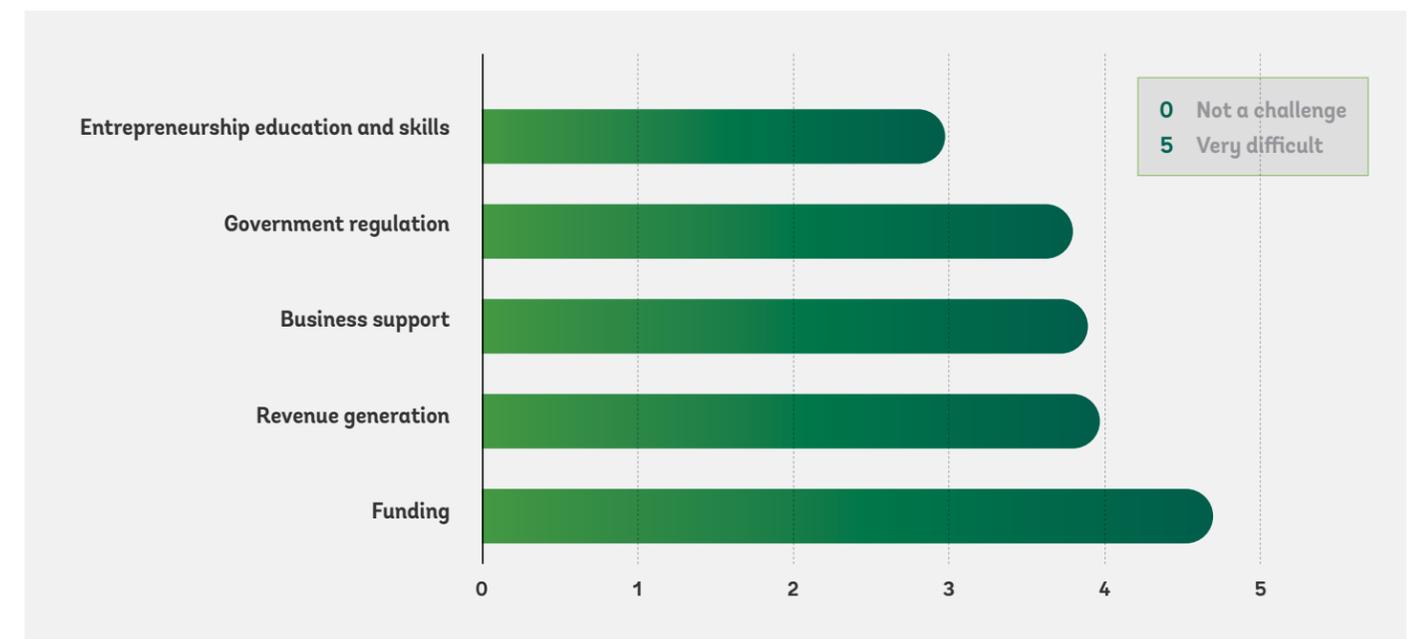
Source: Global Competitiveness Index 2019

►► **FIGURE 5.8:**
NUMBER OF TECH HUBS AND ACTIVE INSTITUTIONAL INVESTORS



Source: Ecosystem Support Hubs across Africa as of Q4 2019. Briter Bridges. Draft of Startup Investment Landscape in Africa presented at AESIS 2019 - Q4 2019. Briter Bridges

►► **FIGURE 5.9:**
WHAT IS THE MOST SIGNIFICANT CHALLENGE FOR YOUR BUSINESS?



Source: Survey carried out for the purpose of this report.

5.4 RECOMMENDATIONS & NEXT STEPS

►► **FIGURE 5.10:**
DIGITAL ENTREPRENEURSHIP SWOT MATRIX



In light of the analysis in this chapter, Table 5.5 lists key recommendations. These are organized across key objectives that would unblock binding constraints on further development of this digital economy pillar. The table identifies responsible agencies as well as an indicative time frame, where short-term denotes within the next 12 months. Highest-priority recommendations are highlighted.

►► **TABLE 5.5:**
DIGITAL ENTREPRENEURSHIP RECOMMENDATIONS

		RESPONSIBLE AGENCY	TIME FRAME	PRIORITY
OBJECTIVE DE1: Improve the strategic and policy underpinning for digital entrepreneurship				
R31.	Leverage the updating of the SME Policy currently in progress to incorporate a start-up strategy for tech, service and manufacturing start-ups. Develop a clear implementation matrix and results framework with joint ownership between the public and private sector for implementation and monitoring.	MWACSME	Short-term	MEDIUM
OBJECTIVE DE2: Engage entrepreneurs as solution-providers				
R32.	Open the Smart Zimbabwe 2030 Master Plan to ideas from the entrepreneurship community as to what needs to be put in place to realize the government's vision for smart government, smart agriculture, smart health, smart trade and commerce, smart education, smart transport and smart cities. Identify which Cabinet committee should champion the digital innovation and entrepreneurship agenda.	MICTPCS, MWACSME	Short-term	HIGH
R33.	Share the vision of the university-based innovation hubs with the private innovation and entrepreneurship hubs to explore areas for potential partnership.	MHTESTD	Short-term	MEDIUM
R34.	Share the lessons from the ICT Innovation Fund and the aspirations for the National Venture Capital Fund with the early-stage investment community in Zimbabwe and the region. Explore how public sector finance could be structured such that private finance is likely to follow. Explore partnerships with private entrepreneurship hubs to support start-ups with viable business proposals.	MICTPCS, MWACSME	Short-term	MEDIUM
OBJECTIVE DE3: Improve the regulatory environment				
R35.	Initiate a regulatory review of public procurement regulations for entering into joint ventures with foreign firms. Joint ventures with larger enterprises can offer smaller enterprises an opportunity to learn and scale and can thus contribute to enhancing the competitiveness of local industry.	POTRAZ, Competitions and Tariffs Commission, RBZ, ZIA, MWACSME	Medium-term	HIGH
R36.	Reduce the regulatory burden on start-ups by accelerating implementation of the reforms on starting a business and insolvency and reviewing how tax compliance for SMEs can be streamlined.	ZIMRA, MoFED, MoJ	Medium-term	HIGH
R37.	Review incentives for business angels to incentivize investments by wealthy domestic or diaspora individuals (i.e. tax credits for investments in start-ups).	MoFED, ZIMRA, ZIA, MIOC, MFA	Short-term	MEDIUM

Digital Skills

Key messages

- ▶▶ *Zimbabwe has a good foundation upon which digital skills training could be leveraged. The country boasts a high literacy rate (about 90 percent), one of the best basic education access and enrolment ratios in Africa with an almost perfect gender parity, and its workforce is well educated by regional standards. In addition, the country has one of the highest mobile penetration rates in Africa.*
- ▶▶ *However, the rapid pace of innovation, together with a supply side failure to deliver the required digital skills, means that many businesses, service providers, and organizations struggle to obtain employees with the right skills to manipulate technological opportunities. Serious investment by government and related players will be needed in basic and post-secondary education with a special focus on digital skills development.*
- ▶▶ *Key challenges include: a limited infrastructure and enabling policy environment; limited financial support from central government; insufficient coordination between government and key private players; low skill levels among teachers; and poor data. These education-specific challenges are compounded by the economy-wide poor infrastructure (electricity coverage; internet connectivity; limited devices, especially in rural areas), and more generally rural exclusion and urban bias.*
- ▶▶ *The opportunities for the government to leverage the strengths and address the challenges include scaling up digital skills training for both students and teachers at all levels of education; establishing a multi-stakeholder coordinating group for digital skills; bridging the rural-urban divide in digital skills; and strengthening databases and information flows.*

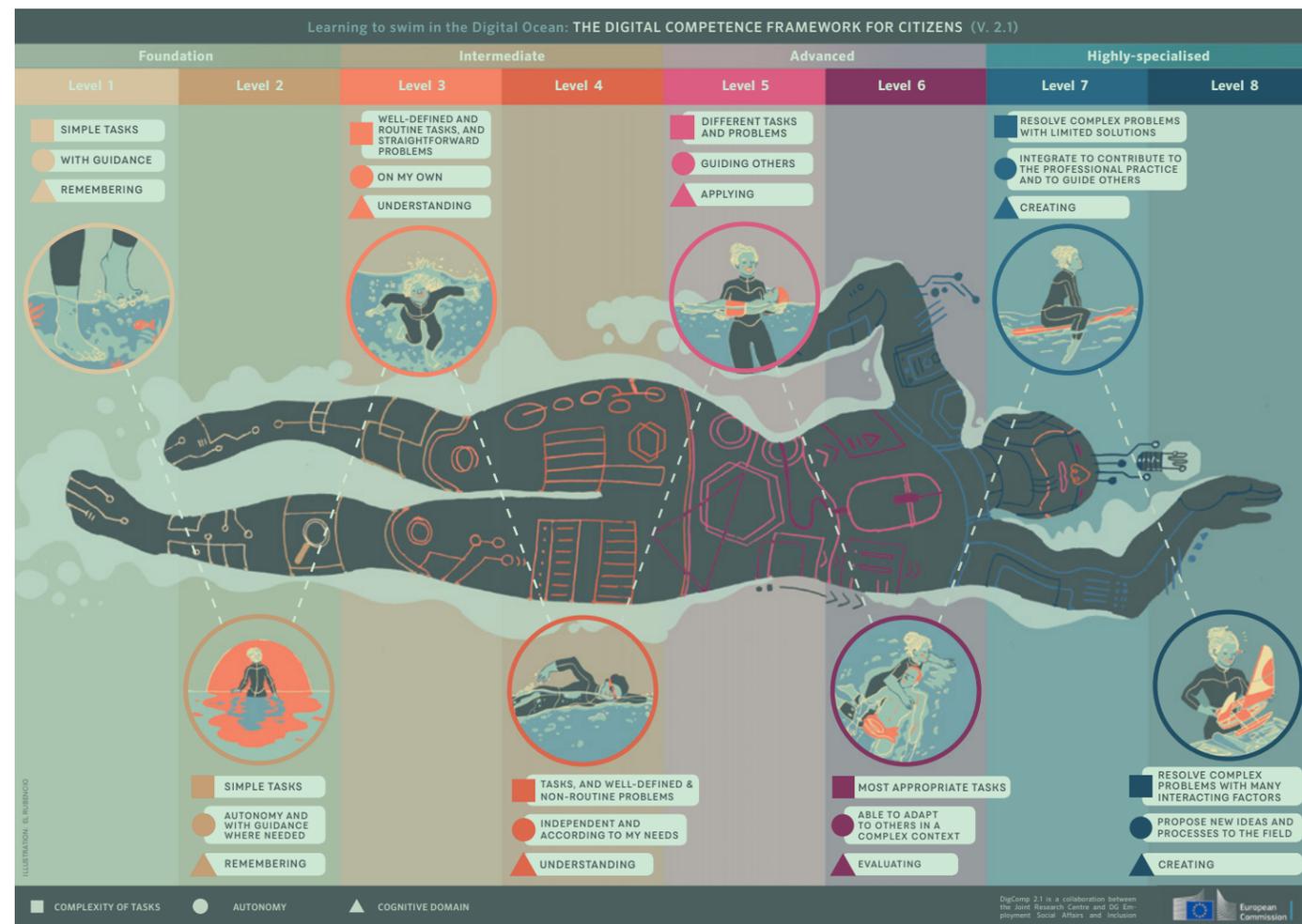
6.1 Importance of Digital Skills

Digital skills are a central foundation for a digital economy as they relate to the skills and knowledge of the country's citizens and its workforce to implement, manipulate, and innovate digital technologies for national development.

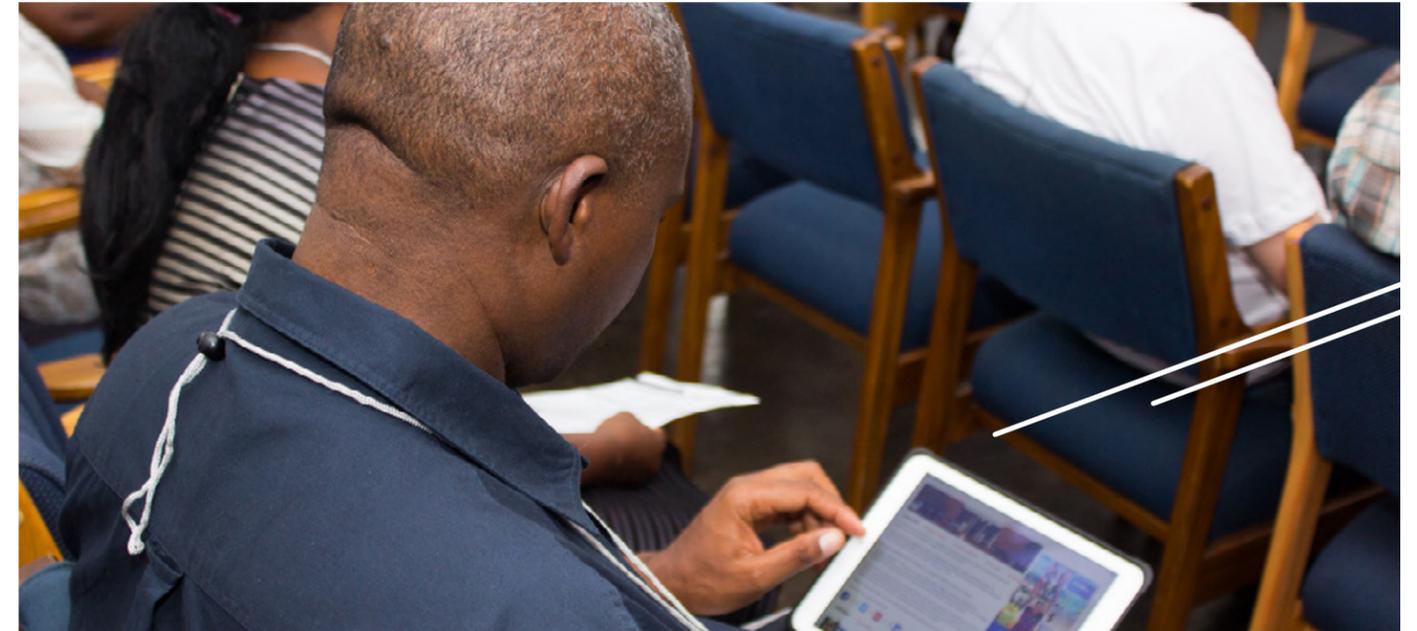
There is growing evidence that digital skills are key to sustainable growth in today's economies as they lead to job creation and increased incomes.²⁹ Demand for digital skills in jobs in Sub-Saharan Africa is also rapidly increasing, with over 230 million jobs estimated to require digital skills by 2030.³⁰

Interaction with technology takes place via different platforms, and for different purposes, which requires different levels of skills. Digital skills range from those that enable basic social interaction (e.g., communication skills, literacy, smartphone usage), to skills that enable interaction with systems and services (e.g., e-commerce and e-government services), and skills that enable Information and Communication Technology (ICT) professionals to develop software and produce technologies.³¹ Another description

►► **FIGURE 6.1:**
EU'S DIGITAL COMPETENCY FRAMEWORK FOR CITIZENS



Source: Fn 31 - EU digital competency framework for citizens



of digital skills, the EU's Digital Competency Framework for Citizens (DigComp2.1), is depicted in Figure 6.1.³² This identifies four main 'layers' of digital skills, namely, Foundation, Intermediate, Advanced, and Highly Specialised; with a further eight proficiency levels that are pivotal in digital skills development among citizens. The DigComp2.1 framework is particularly important in understanding and defining digital skills as it provides broader and more elaborate proficiency levels and can be used to support the development of relevant digital skills' instruction and learning materials at any level of the education and training spectrum. It also helps in the design of instruments for assessing the development of citizens' competence, providing career guidance and determining promotion at work.

The increasing demand for digitally skilled workers has implications for education systems. The World Economic Forum (WEF) estimates that, by 2022, 75 million current job roles will be displaced by the shift in the division of labor between humans, machines, and algorithms, while 133 million new job roles may emerge at the same time. In cementing the changing nature of work and the rise in demand for a workforce that is digitally and technologically savvy, the WEF expects increasing demand for Data Analysts, Data Scientists, Software and Applications Developers, as well as E-commerce and Social Media Specialists; all roles that are dependent on engagement with technology.³³ The anticipated surge in new digitally linked roles implies a greater demand for digitally

skilled workers. This means that the speedy rate of digital innovations will require the current workforce to frequently update their skills so that they are equipped for the emerging roles in their sectors, which in turn will influence new innovations and technologies. This also has implications for education systems, which will need to be reformed in order to catch up with technological innovations, thus ensuring that schools and institutions of higher learning are readied for the 4th industrial revolution.

Along with having the necessary infrastructure, access to devices, and affordability, the acquisition of digital skills across the whole population is a pre-condition for Zimbabwe to fully engage in and optimize the benefits of a digital economy. For digital technologies to impact economic development, people need the necessary skills for engagement with technology. Zimbabwe has a largely young population, with about 62 percent of the population below the age of 25.³⁴ The majority of these young people reside in rural areas where the digital skills deficit is largest due to entrenched challenges, such as poorly resourced schools, limited incomes, and limited electricity coverage. As indicated in previous chapters, digital infrastructure is also limited in the rural areas, thus limiting access to internet. This situation is compounded by a general urban bias in development initiatives. In the absence of these skills, efforts to develop a digital economy in Zimbabwe will have little impact.

29. Sharafat & Lehr, 2017

30. International Finance Corporation, 2019

31. ECORYS UK, 2016

32. EU Digital Competency Framework for Citizens, 2017

33. WEF, 2018a

34. UNFPA, 2020

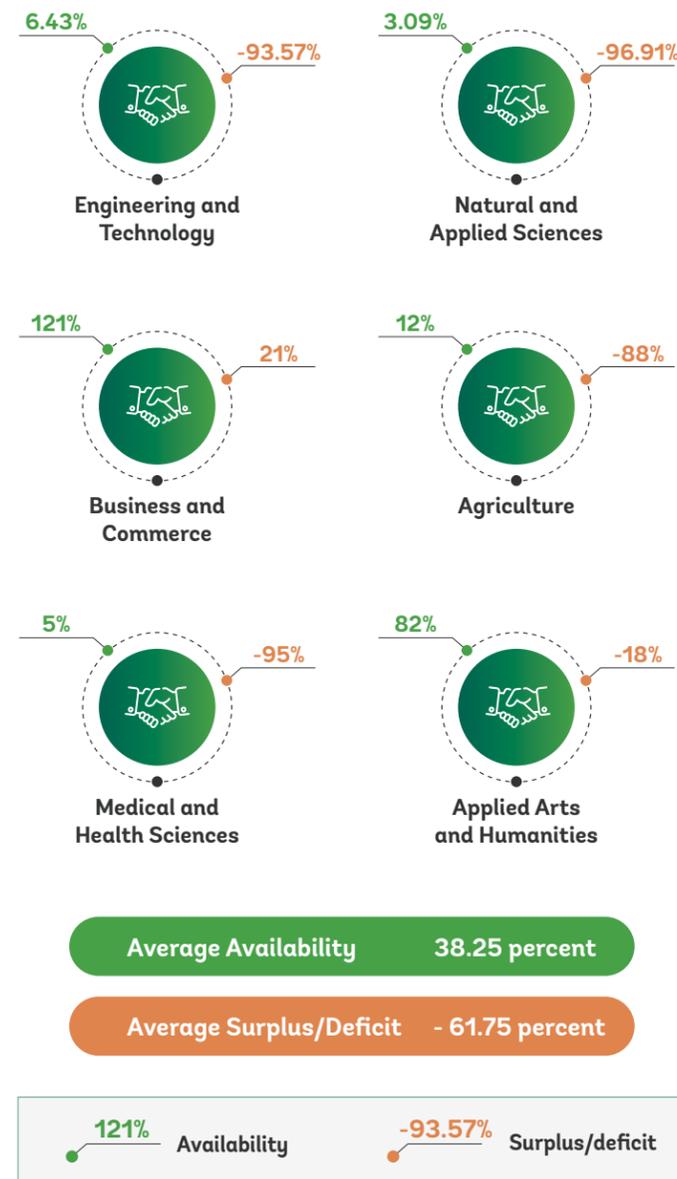
6.2 Diagnostic Findings: Current State of Digital Skills

Similar to many employers in Sub-Saharan Africa who cite an inadequately skilled labor force as a major constraint on doing business,³⁵ Zimbabwe has recorded a significant skills deficit in science and technology-linked job roles. A growing share of ICT-intensive jobs in the region appears to be outstripping the supply of workers with the requisite skills. The WEF predicts that, over the medium term, automation will affect around 50 percent of all work activities in Kenya, South Africa, and Nigeria.

The World Bank's higher education sector analysis report for Zimbabwe noted that at first glance, Zimbabwe's human-capital endowment appears adequate relative to the demands of its economy, but a deeper analysis reveals critical gaps in workforce skills.³⁶ For example, a critical skills audit, which was commissioned by the government to assess Zimbabwe's skills deficits and surpluses, confirmed the existence of large gaps between the supply and demand for skills in several key sectors. The most prominent skills deficits relate to qualified specialists and technicians especially in the natural and applied sciences, engineering, technology, the medical and health sciences, and agriculture (Figure 6.2). In 2014, over 80 percent of employed workers were unskilled, and just 5 percent were skilled professionals, with the remaining 15 percent distributed in other elementary and semi-skilled categories. The ICT sector comprised only 0.4 percent of national employment, compared to 67 percent of people employed in agriculture, forestry, fishing, mining and quarrying. In addition, while 43 percent of graduates were employed in the education sector, only 2.4 percent of graduates were employed in ICT, the highest proportion of all education levels employed in ICT.³⁷

In Zimbabwe, the rapid pace of innovation, together with a supply side failure to deliver the required digital skills, means that many businesses, service providers, and organizations struggle to obtain employees with the right skills to take advantage of technological opportunities. The skills audit also makes explicit recommendations to develop ICT within sectors, such as agriculture, medical healthcare, and business sciences, which could stimulate innovation and growth within these sectors. Government and related players will therefore need to make a serious investment in basic and post-secondary education with a special focus on digital skills development.

►► FIGURE 6.2:
SUMMARY OF THE ZIMBABWE NATIONAL
CRITICAL SKILLS AUDIT (2018)



Source: Min of Higher & Tertiary Education, Innovation, Science & Technology Development 2018

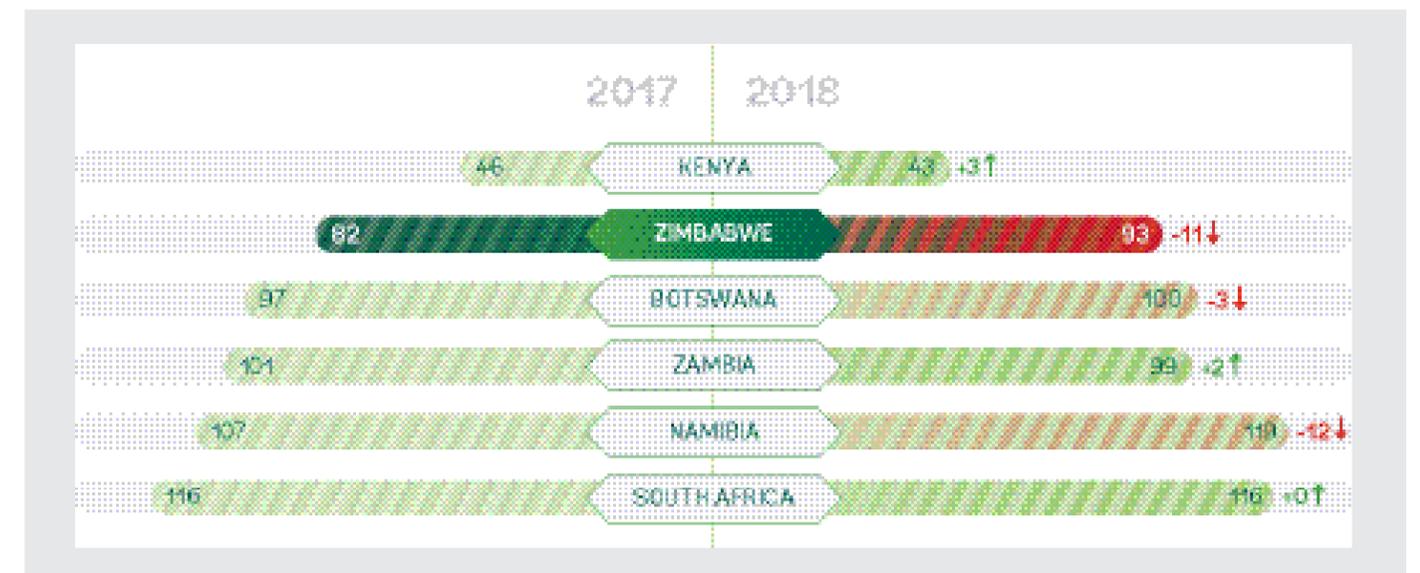
A skilled workforce would support the modernization of agriculture. Agriculture is the mainstay of Zimbabwe's economy as a significant percentage (67.7 percent) of the country's population depends on agricultural activities for employment and income. The sector supplies the industrial and processing sector with about 60 percent of its required raw materials while contributing approximately 17 percent to Zimbabwe's GDP.³⁸ While agriculture remains the most dominant sector for employment, the skills deficit as highlighted in Figure 6.2 is significantly high at -88 percent, signaling an urgent need to invest in a skilled workforce in agriculture. The Ministry of Primary and Secondary Education's (MoPSE) updated curriculum of 2017 introduced agriculture as a core subject in primary and secondary education, while the education 5.0 reforms in the post-secondary education subsector also identify agriculture as one of the training courses that should be prioritized for reform processes. Such reform processes are anticipated to gradually increase the number of skilled workers in agriculture. The country also needs to explore opportunities to improve agricultural productivity through digital skills development. Modernizing the curricula for agriculture studies in both basic and post-secondary education will raise the digital skills levels among

the agricultural workforce and help to stimulate innovations that boost agricultural productivity.

Despite the significant deficits outlined above, Zimbabwe has a good educational foundation upon which digital skills training could be leveraged. The country boasts a high literacy rate of about 90 percent³⁹, and one of the best basic education access and enrolment ratios in Africa, with a gender parity index of almost 1.00 at all levels of education. The country's workforce is well educated by regional standards. As of 2014, most Zimbabweans between the ages of 15 and 64 had completed primary education as well as some secondary education, and roughly 10 percent had at least some tertiary education.⁴⁰

On the other hand, indicators pointing to the extent of Zimbabweans' digital skills show mixed results. These include: (i) nine out of ten have mobile phone subscriptions; (ii) around 20 percent use the internet; (iii) only around 8 percent of households have computers and 6 percent internet access; (iv) only one person out of every 100 has a fixed broadband internet subscription; and (v) four out of ten have mobile broadband subscriptions.⁴¹ In contrast, the national ICT policy reports active mobile penetration reaching 95.4

►► FIGURE 6.3:
GCI 4.0: DIGITAL SKILLS AMONG POPULATION (RANK): REGIONAL COMPARISONS



Source: WEF, 2018b

35. WEF, 2018a

36. World Bank, 2020

37. Zimstat, 2014

38. World Bank Development Indicators, 2019

39. World Bank, 2014

40. Ibid

41. WEF, 2016

percent and internet penetration surpassing 45 percent as at 31 December 2015.⁴² Worryingly, data from the WEF's Global Competitiveness Index (GCI)⁴³ shows that, while Zimbabwe outperforms its regional neighbors in 'digital skills among population' rankings, digital skills in the country are not progressing as quickly as in its regional peers. For example, between 2017 and 2018 Zimbabwe went down 11 places in the GCI rankings (Figure 6.3).

It is important to include all youth in digital skills training programs, and not just those still at school. The General Certificate of Education Ordinary level (O-level) pass rate for the country has barely gone above 30 percent over the last 10 years, implying that only 3 in every 10 students are meeting the benchmark of 5 O-level passes, which is the minimum requirement for further education or employment. In the same vein, the MoPSE estimates that about 1.1 million (19.2 percent)⁴⁴ of school-age children are not attending school. This means that the number of out-of-school youths is even higher when you combine youths not attending school and those youths who have completed school but without the minimum academic requirement for further education and or employment. In coming up with a digital skills framework, the country will need to consider this special group so that the youths are not left out of any digital skills initiatives that may be benefiting those within the school system. The MoPSE has a department that caters to non-formal activities of out-

of-school children and youth and provides lifelong learning opportunities for adults; integrating digital skills training and development into the MoPSE's non-formal program activities might be a viable option to ensure the inclusion of out-of-school youth in digital skills training.

Digital skills development needs to be rooted in the country's education systems. At a basic education level, literacy and numeracy form the foundation for any further skills development, including digital skills. The advancement and promotion of digital skills education will help to meet the ever-increasing labor market demands that are primarily being driven by the digitization and automation of almost all sectors of the economy and society, as well as by the expected economic growth that will ensue from such digitization. Developing digital skills also extends to lifelong learning. The International Finance Corporation (IFC) argues that technological disruption requires more complex skills and workforce retraining on a large scale, both for blue-collar and white-collar jobs.⁴⁵ Given the rapid pace at which digital transformation is occurring, new approaches for learning are needed, with the reform of education systems becoming paramount. Against this backdrop, the following section assesses Zimbabwe's education system in relation to digital skills: first basic education, and then post-secondary education.

6.2.1 ZIMBABWE'S EDUCATION SYSTEM: EARLY CHILDHOOD, PRIMARY, AND SECONDARY EDUCATION

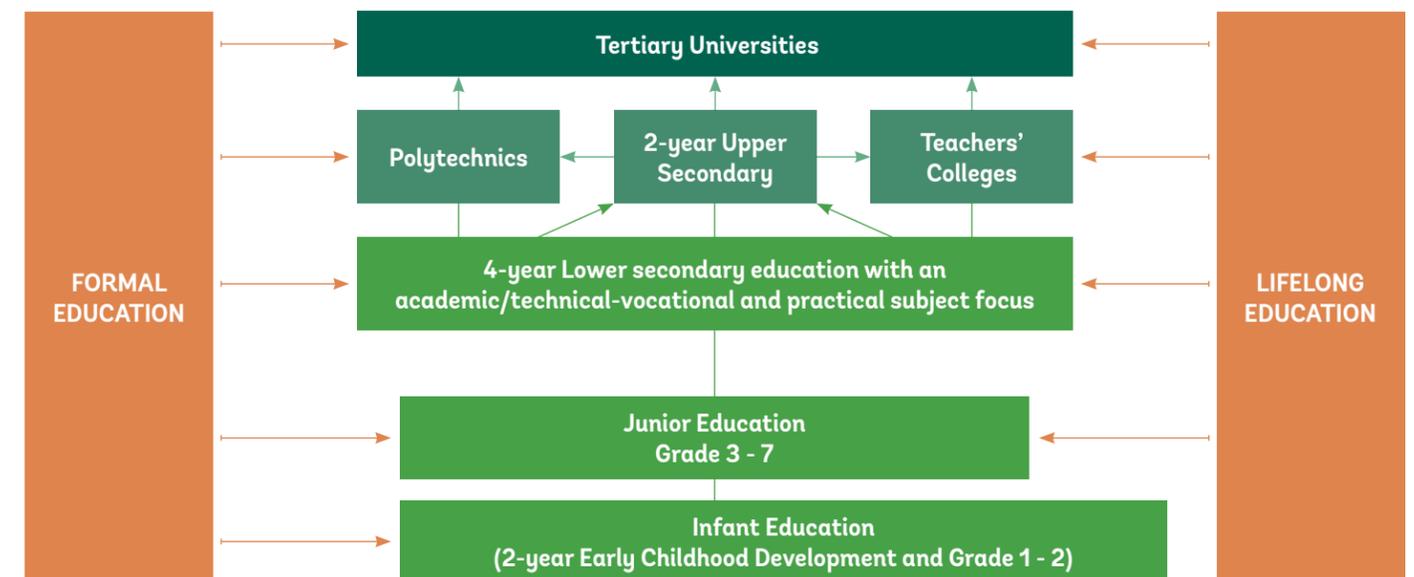
Since achieving independence in 1980, Zimbabwe has implemented an Education for All policy to ensure that all school-aged children have access to affordable education. Zimbabwe invests about 25 percent to 30 percent of its national budget in education (both basic and post-secondary). This is among the largest shares in Africa, and its emphasis on basic education has helped push Zimbabwe's literacy rate to being one of the highest on the continent. In 2014, the literacy rate of children under 15 years of age was 89 percent.⁴⁶ Demand for education is high in Zimbabwe, and households bear the largest share of the nonwage education budget in the form of school fees and tuition. The MoPSE oversees the basic education subsector, which extends from early childhood development (ECD) to upper-secondary school, while the Ministry of Higher and Tertiary Education, Science and Technology Development (MHTESTD) oversees the post-secondary sector, which includes teachers' colleges, universities, Technological and Vocational Education and Training (TVET) institutions, and polytechnics. Figure 6.4 below depicts the structure of Zimbabwe's education sector.

▶▶ TABLE 6.1: EDUCATION PARTICIPATION

	Percentage
Net enrolment rate: Pre-primary (2019)	32
Net enrolment rate: Primary (2019)	93.61
Primary completion rate (2019)	75.65
Net enrolment rate: Secondary (2013)	54.25
Gross enrolment rate: Tertiary (2018)	8.5

Source: MoPSE 2019 EMIS Report

▶▶ FIGURE 6.4: STRUCTURE OF ZIMBABWE'S EDUCATION SECTOR



Source: MoPSE, 2016



42. Republic of Zimbabwe, 2016

43. WEF, 2018b

44. MoPSE Education Sector Analysis, 2020

45. IFC, 2019

46. UNESCO Institute for Statistics, n.d

Although enrolment in primary and secondary education in Zimbabwe is high, the learning gap is still significant.

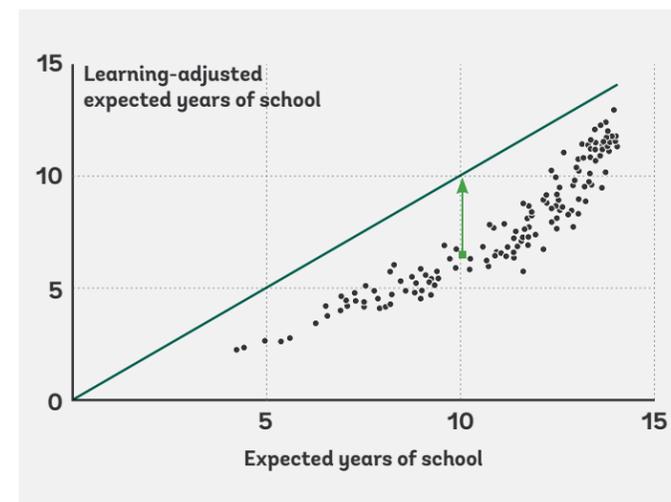
Children in Zimbabwe can expect to complete 10 years of pre-primary, primary and secondary school by age 18. However, when years of schooling are adjusted for quality of learning, this is equivalent to only 6.3 years: a learning gap of 3.7 years (Figure 6.5).⁴⁷

Over the years, the GoZ has undertaken many initiatives aimed at introducing and strengthening digital skills training in Zimbabwean schools. Most of these initiatives have focused on digital user skills with an emphasis on the skills required for the use and manipulation of basic ICT tools, devices, and systems. The MoPSE has also introduced digital platforms aimed at improved service delivery on the management and administration side.

The MoPSE has introduced integrated digital skills training into basic education through a new curriculum that was rolled out in January 2017. This curriculum introduced new learning areas in ICT and mandates the integration of ICT into day-to-day instruction and learning across all subject areas to promote basic digital skills among both teachers and learners. ICT, with a focus on digital skills, has also been introduced as a learning area at all levels from ECD up to secondary level, with options to specialize in Computer Science and Software Engineering at Ordinary and Advanced level (upper secondary). The new curriculum identifies five exit profiles for each learner; 'Skills' is one of the exit profiles, with technological skills being identified as a key sub-skill under this profile.

With support from the World Bank, the MoPSE recently completed development of the National ICT Policy for Primary and Secondary Education. This is the first time that the Ministry has developed an overarching policy to guide the use and development of ICT and digital skills in education. The integrated National ICT Policy for Primary and Secondary Education seeks to guide the deployment and use of ICT resources both for administration, and for teaching and learning purposes, with the aim of integrating ICT into day-to-day teaching and learning for improved learner outcomes and improved efficiency in education administration in Zimbabwe (see Box 6.2).

►► **FIGURE 6.5:**
ZIMBABWE'S EDUCATION SECTOR: LEARNING GAP



Source: World Bank, 2018

Although the MoPSE has been promoting the development and use of e-learning in schools, few schools have been able to integrate it into the curriculum. Due to limited financing, e-learning content development and deployment has mostly been between individual schools and private players, with schools footing all related costs from their own funding. Private players, such as *E-learning Solutions*,⁴⁸ have been allowed to work with schools to provide technology-enhanced solutions for teaching and learning by designing, developing, and deploying technology-enhanced curriculum content, teacher professional development, and learning environments. Uptake of e-learning programs is, however, low due to the limited financial capacity of most schools to meet the high costs involved in setting up and running school-based e-learning programs. As such, of the almost 9,100 schools in Zimbabwe, as at December 2017, only 650 (303 primary and 347 secondary) had integrated e-learning programs into day-to-day teaching and learning.⁴⁹

47. World Bank, 2018

48. E-Learning Solutions is a private company that works with schools to deliver digital content

49. MoPSE, 2019

BOX 6.1: EMPOWERING GIRLS THROUGH DIGITAL SKILLS

While around 24,000 schoolchildren received digital skills training during the 2018 African Code Week initiative, some specific initiatives focused on girls. These include Nduna Girls and Girls Speak Out (GSO).

Nduna Girls form part of a non-governmental organization aimed at empowering girls and young women between the ages of 13 and 30. Along with other focus areas, such as providing scholarships and career mentorship, girls are introduced to basic ICT skills; science, technology, engineering and mathematics (STEM) fields they can pursue; as well as related workshops in robotics, coding and gaming.

The Girls Speak Out (GSO) works among young women in under-served communities to develop coding skills, with the aim of moving users into becoming producers of technology. The GSO's reach is gradually growing. What started as 25 girls evolved into reaching an additional 160 girls by 2017. The organization has found that in districts such as Mufakose, Dziravasekwa and Mabvuku, only one out of every 10 girls aged 14–24 knew what coding was, and only four could use Microsoft Word. Several alumni from GSO have landed jobs in media as content creators for national publications, some have founded community platforms addressing public needs, and others have entered into media platforms. The GSO does not have external non-profit funding and relies on donations. Other non-profit technology hubs around Harare are donating physical spaces and computers for the girls to use.

Source: <https://en.unesco.org/news/24-000-students-trained-during-zimbabwe-africa-code-week>;
<http://ndunagirls.org/our-work/>;
<https://www.one.org/us/blog/code-girls-education-zimbabwe/>

BOX 6.2: TWO KEY POLICIES TARGETING DIGITAL SKILLS DEVELOPMENT: THE NATIONAL POLICY FOR ICT AND THE ICT POLICY FOR PRIMARY AND SECONDARY EDUCATION 2019-2023

The 2016 National ICT policy lists a lack of ICT infrastructure, skills, and unsatisfactory institutional arrangements as key impediments to ICT growth in the country. According to the Policy, the skills shortage relates directly to digital literacy and the skills needed to roll out ICT programs. The Policy further stresses the need to integrate ICTs throughout the education curricula, commencing from early childhood, as well as to promote ICT uptake within communities. There is also a call to support ICT skills provision through the private sector.

In response to the national policy, the recent ICT policy for primary and secondary education aims to advance ICT in four key areas: improving infrastructure and access to technology and devices; enabling access to digital learning resources and integrating ICTs across curricula; developing human capacity to effectively teach, manage and maintain ICTs; and investing in the development of digitized operational activities and public-private partnerships that could extend the benefits of ICTs beyond schools.

Source: Republic of Zimbabwe, 2016. Zimbabwe National Policy for ICT.



As a way of improving efficiency in service delivery, the MoPSE has introduced a range of digital platforms. For example, the Electronic Ministry Application Platform (e-MAP) is an online system that was introduced in 2016 and is used to apply for boarding places for Form 1 and 5 learners. The platform is mandatory for all boarding applications for entry into those Forms. In December 2019, the MoPSE indicated that more than 100,000 applications had been made through the platform for Form 1 places only. E-recruitment has also been introduced as an online system used by the MoPSE's human resources department to recruit new teachers as well as a database for unemployed qualified teachers waiting to join the teaching service. The Zimbabwe School Examinations Council has also adopted e-registration and e-marking as a way of increasing efficiency in the overall examination administration.

While these commendable innovations and policy options are being introduced, persistent challenges inhibit successful integration of digital skills training at a basic level. These relate to a lack of adequate infrastructure, lack of equipment, limited skills on the part of teachers, and little fiscal support for ICT-related programs in education. For example, in relation to infrastructure, as at December 2017 only 48 percent of schools in the country were connected to the national grid, with an additional 6 percent accessing power from alternative sources such as solar energy. For the same period, only 11 percent of primary schools and 30 percent of secondary schools had an internet connection, while the national functional computer-to-learner ratio was 1:134 and 1:39 for primary and secondary schools, respectively.⁵⁰ Analysis data from the Education Management Information System (EMIS) also suggests very low digital skill levels amongst teachers, with only about 15 percent of primary school teachers having basic computer skills.

50. MoPSE, 2019

6.2.2 POST-SECONDARY DIGITAL SKILLS INITIATIVES

Post-secondary education is a key driver of economic growth and poverty reduction as it plays a critical role in training a qualified and adaptable labor force, as well as in generating new knowledge. Currently, the gross enrolment rate for tertiary education in Zimbabwe is 8.5 percent, which is higher than some neighboring countries such as Rwanda (7.6 percent) or Zambia (4 percent), but lower than others, such as South Africa (20.5 percent) or Botswana (23.4 percent).⁵¹ While access to computers and reliable internet at universities is generally good, there are challenges pertaining to a shortage of academic staff in STEM programs, inadequate laboratories or other specialized facilities, a lack of funding, and limited innovation and technology transfer compared to similar countries.⁵² Development of a tech-savvy workforce that is adaptable to the changing nature of work is largely reliant on the country's post-secondary education system.

Unfortunately, unlike the school system that recently took part in a regional peer review project to upgrade its EMIS,⁵³ the post-school system does not have a transparent data management system. Consequently, very little information about the post-school sector is available to add to discussions on digital skills development. This section reviews initiatives taking place in post-secondary education with a focus on digital skills development.

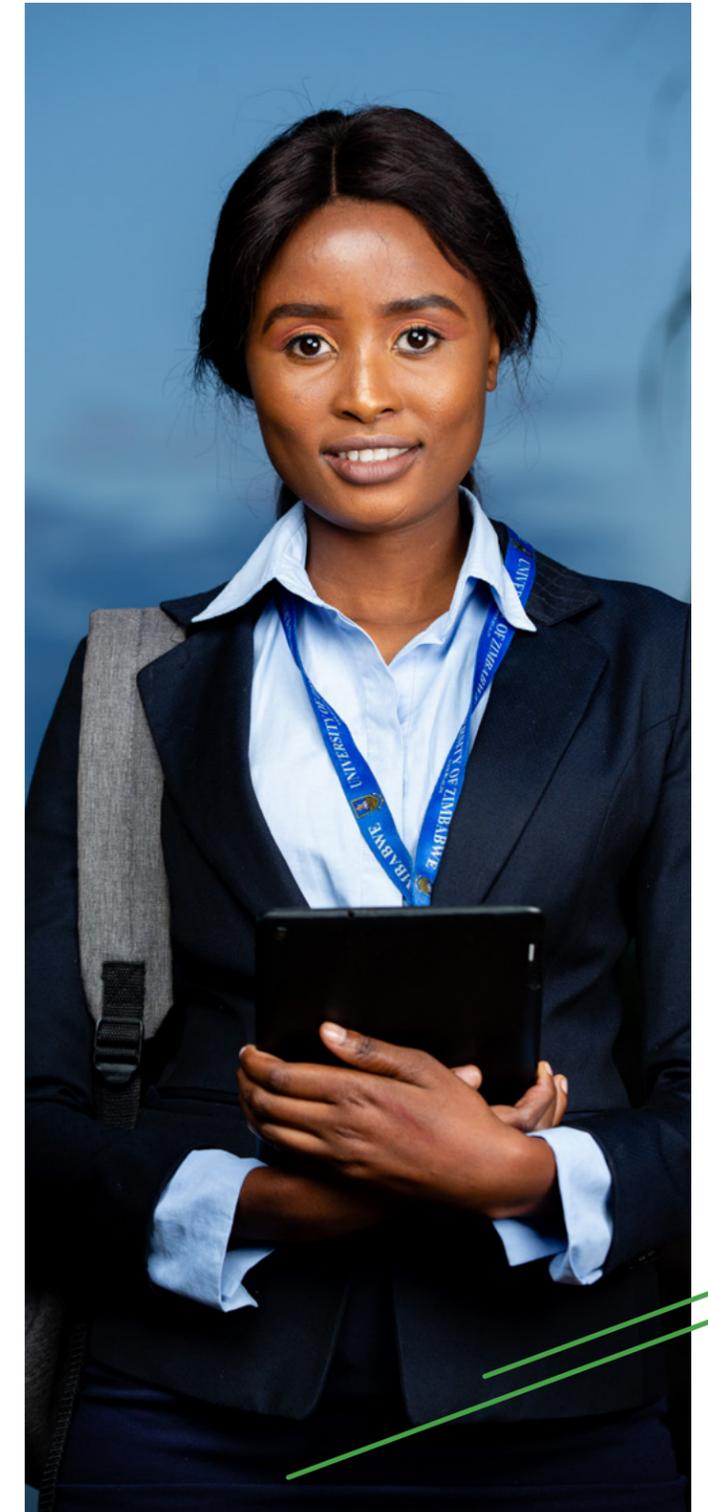
The MHTESTD has recently adopted a new higher education development strategy called the Education 5.0 Doctrine. The strategy seeks to improve the market relevance of tertiary education and enhance its contribution to the country's economic recovery by refocusing the tertiary education subsector on five priorities: (i) teaching; (ii) research; (iii) community service; (iv) innovation; and (v) industrialization. In the past, the tertiary education strategy for Zimbabwe largely focused on the first three areas. The strategy's emphasis on innovation and industrialization is new. They encourage universities and colleges to promote innovation in their curricula and to link their academic work to industrialization so that initiatives within the academia seek to address industry's needs and contribute to producing goods and services. The MHTESTD posits that the Education 5.0 Doctrine provides a pathway from knowledge production that is gained by research and teaching, to industrialization via the innovation route and vice versa.⁵⁴ The Education 5.0 Doctrine

51. World Bank, 2020

52. Ibid

53. Association for the Development of Education in Africa, 2019

54. Ministry of Higher & Tertiary Education, 2019



is also rooted in a heritage-based philosophy, which focuses on the universality of science but with local application, in which cutting-edge competitive knowledge from anywhere in the world will be applied, modified, and adapted to the local environment for the purposes of producing relevant goods and services.⁵⁵

As Zimbabwe seeks to rapidly transform and modernize the economy through technology-based interventions in light of its Vision 2030, it plans to establish innovation hubs at all state universities, as well as industrial parks in all ten provinces of the country. The innovation hubs will provide the necessary infrastructure to nurture translation of knowledge generated by universities through research and development into goods and services, contributing to sustained socio-economic transformation and accelerated growth. To date, institutions such as the University of Zimbabwe, Midlands State University, and the National University of Science and Technology (NUST) have built state-of-the-art innovation hubs that are meant to strengthen ties between universities and the private sector, while serving as incubators for innovations created by students, faculty, and researchers. These hubs are anticipated to strengthen digital skills training and incubation among university graduates by scaling up digital and innovative development currently underserved in higher education in Zimbabwe. For example, the innovation hub at the NUST houses software developers and the Applied Genetics Testing Centre laboratory. Recently, the Zimbabwean government has disbursed over \$40 million to innovation hubs at tertiary institutions and \$500 million was set aside in the 2020 national budget to encourage entrepreneurship and support innovations flowing from small and medium-sized enterprises.⁵⁶

A key priority for Zimbabwe is the development of a digital skills framework. Despite the above innovations and initiatives that the country has embarked on to strengthen digital skills, there is still no overarching framework to guide digital skills training in the country, particularly one that cuts across all education sector levels. Building on the current initiatives, it is imperative for the country to move towards a robust and comprehensive digital skills framework that will guide digital skills development and policy formulation. The EU's DlgComp2.1 provides a good framework upon which Zimbabwe can build to develop its own digital skills framework, as it is pivoted on the key competences required at different levels of education, thus linking the framework to teaching and learning and curriculum development at all levels of education and training.



6.2.3 DIGITAL SKILLS INITIATIVES BY PRIVATE ENTITIES

Digital skills training in the private sector focuses mainly on specialized skills, such as coding and programming. There is, however, no coordinated effort either among private players themselves or with the government, as most private initiatives are run on a for-profit basis, with some charities also offering digital skills training to schoolchildren through a non-profit arrangement. While Zim Code is an example of a start-up company (see Box 6.3), two of the most prominent companies are Muzinda Hub and Sprout Coding.

BOX 6.3: LEARNING TO CODE IN ZIMBABWE

Zimbabwean 'techpreneur,' Alvin Chitena founded Zim Code in his first year of study. Grant funding helped him to provide low-income schools and youth access to computers, the internet, and tutors. He has trained 50 tutors, consisting of university students or alumni of the program, who teach learners how to code in the Python programming language. Zim Code is also equity-conscious, recruiting girls to boys on a 3:2 ratio. Zim Code is completely reliant on international funding, and Zimbabwe's bureaucracy regarding imports and cyber laws makes growth difficult.

Coding communities are also increasing in popularity. Techzim, an information technology publication platform lists seven coding communities, four of which are free, spread over Zimbabwe for coding enthusiasts to join.

Source: <https://zimcode.org/zim-code-africa-is-rising/>

<https://www.techzim.co.zw/2017/06/here-is-the-list-of-coding-initiatives-in-zimbabwe/>

MUZINDA HUB

Muzinda Hub is a popular private tech-hub that offers digital skills training. The hub is part of the Cassava Smartech Group, the third largest listed company on the Zimbabwe Stock exchange. Muzinda Hub notes that it is committed to building and supporting an engaged and talented community of tech enthusiasts and ICT professionals through tailor-made, specialized digital skills training in e-learning coding modules, Google certification, business and entrepreneurship skills training, and practical group project development experience.⁵⁷ The hub offers a five-month training course at a cost of \$ZWL3,500 (about USD200), with trainees expected to have gained a firm understanding of coding, project development, project management, and business skills training upon completion of the program. Besides the digital skills training under Muzinda Hub, Cassava Smartech also has other digital platforms that are linked to education and training, by offering digitalized curriculum and e-learning content through other platforms such as Ruzivo Digital Learning, Simba Education Platform, and Akello Books.

SPROUT CODING

Sprout Coding offers digital skills training on a private basis, albeit through a non-profit arrangement. Sprout Coding focuses on imparting high-end digital skills, mostly to children of school-going age, through a 12-week curriculum that teaches coding and other life skills that learners will need to become hireable candidates in any industry.⁵⁸ The organization seeks to serve communities that have limited access to ICT tools and devices and whose schools do not offer computer science. Hence, Sprout Coding creates opportunities for children from disadvantaged communities to be creators of digital innovations, not only consumers of technology.

All these platforms are pivotal in strengthening digital skills training as they expose learners to digital content that accelerates their understanding of new learning concepts and improves digital skills appreciation.

55. Ministry of Higher & Tertiary Education, 2020

56. Matabvu, 2020

57. Muzinda Hub (2020) www.muzindahub.com Accessed 18 January 2020

58. Sprout Code (2020) www.sproutcoding.org Accessed 17 January 2020

6.3 Challenges

In order to further develop the country's digital skills, the Government will need to address a number of challenges.

These include:

1. **Enabling environment.** The enabling environment for full implementation of the National ICT in Primary and Secondary Education Policy is lacking. While adoption of the policy by the MoPSE is highly commendable, some entrenched challenges may inhibit successful integration of digital skills training at a basic education level. They include limited infrastructure and equipment to support digital skills training, limited skills on the part of teachers, and low fiscal support for ICT-related programs in education. As noted above, as at December 2017, only 48 percent of schools in the country were connected to the national grid while the national functional computer-to-learner ratio was 1:134 and 1:39 for primary and secondary schools respectively, with only about 11 percent and 30 percent of primary and secondary schools, respectively, having an internet connection.⁵⁹ Considering that digital skills training depends on learners having access to relevant hardware and software, the current situation will require significant investments to reduce the highlighted shortages. Both the national and educational ICT policies recognize the importance of investing significantly in infrastructure and human capital to create such an enabling environment, and the COVID-19 response affirmed the importance of these factors. However, the broader than expected impact of COVID-19 on the socioeconomic situation in Zimbabwe will probably mean that funding originally dedicated to these initiatives may be redirected to meet more urgent needs. Box 6.4 provides further details on the response to COVID-19.
2. **Shortage of teachers able to teach digital skills.** The supply of trained teachers to facilitate digital skills training is inadequate. Zimbabwe has a good supply of qualified teachers, with 99 percent of teachers in primary schools being qualified (excluding ECD) and 83 percent in secondary schools.⁶⁰ However, further analysis of EMIS data shows that only 1.4 percent of secondary school teachers in 2018 were qualified to teach computer science, pointing to significant shortages of trained computer science teachers in secondary schools. The situation is even worse in

primary schools, where only around 15 percent of teachers have minimum basic computer skills. Thus, Zimbabwe will need significant investment in teacher education and continuous professional development to meet the rising demand for teachers who are able to facilitate meaningful digital skills training.

3. **Underinvestment in Early Child Development (ECD).** Underinvestment in ECD has resulted in limited development of foundational skills. Zimbabwe introduced an ECD program in 2004, with subsequent statutory reforms that have mandated the full integration of ECD as part of the primary school system. As such, 99 percent of all primary schools now have ECD classes, but participation is lower with a Gross Enrolment Ratio (GER) of 55.9 percent and a Net Enrolment Ratio (NER) of 32.0 percent as at December 2017.⁶¹ Furthermore, the lowest number of qualified teachers in Zimbabwe are in ECD as only around 53 percent of ECD teachers are qualified. The country's ECD program also faces other constraints, including limited prioritization (on matters such as resource allocation) at the school level with preference being given to senior grades, and lack of age-appropriate furniture, materials, infrastructure, and equipment (including IT equipment). These challenges ultimately mean that learners at this critical foundational level are not acquiring adequate digital skills. For the country to equip future generations with the requisite digital skills required to build a robust digital economy, Zimbabwe will need to strengthen its ECD program to build critical foundational skills from the earliest years of education.
4. **Skills mismatch.** There is a skills mismatch between tertiary education and training and the requirements of industry and commerce. The country's post-secondary education and training sector has not fully adjusted curricula and programs to meet the required digital skills demands and the general changing nature of work, resulting in a significant deficit of digitally skilled personnel in Zimbabwe, particularly given projected job developments. Digital economies are enabled when a sizeable percentage of the population has basic digital skills and a critical mass of tech-savvy skilled personnel and advanced specialists exists to adapt and diffuse digital

technologies across different sectors.⁶² Zimbabwe's digital transformation will require both a digitally competent workforce and digitally literate citizens, yet the skills training supply side at college, TVET, and university levels has not kept pace with changing trends (as highlighted in Table 6.1). The tertiary education sector has been negatively affected by several challenges, including lack of qualified faculty to teach the required digital skills, lack of modern equipment, underfunding, and poor connectivity, among others. These and other factors have impaired the strengthening of digital skills training in the country's post-secondary institutions.

5. **Lack of coordination.** Several programs in the private sector are aimed at promoting digital skills, particularly among young people, but there are no coordinated efforts between the Government and private players on how the two could complement each other to enable a wider reach and additional value. Furthermore, critical information

on programs on offer, such as the scope of the training and their impact in addressing the critical digital skills gap, is not readily available or has not been scientifically ascertained. Given the gaps that exist in digital skills training, there is an urgent need for improved coordination between the Government and private players offering digital skills training, so that ongoing efforts in both private and public spaces inform policy formulation and guide private initiatives by different players. The intention to empower the private sector has been set in the 2016 ICT policy but there is little evidence of implementation yet.

6. **Limited government funding.** Government funding for the digital economy pillars is limited in general, and for the digital skills pillar in particular. While the GoZ invests over 7 percent of GDP in education, funding is not allocated in a consistent, objective and transparent way. This influences prospective students' access to higher education, constrains budgets for research, scholarships, and

BOX 6.4: COVID-19 AND DIGITAL SKILLS: RESPONSE, RECOVERY, RESILIENCE

Lack of reliable infrastructure and access to devices has made it difficult for educational institutions to conduct learning online during COVID-19. As a result, the Ministry of Primary and Secondary Education launched a response plan, costing more than USD16 million, with interventions that make use of radio programming as well as digital and online learning. In higher education, blended learning programs have been implemented from 1 June 2020, with the sector reaching agreements with telecommunications companies to provide free educational websites.

COVID-19 is both a threat and an opportunity for the development of digital skills. Zimbabwe's macroeconomic situation is likely to worsen in the wake of COVID-19, which implies fewer opportunities for innovation and funding, and exacerbated inequalities. However, reflecting on the COVID-19 responses could awaken an urgency to address infrastructure challenges, and strengthen its resolve to implement the ICT in primary and secondary education policy. Further, it provides a valuable opportunity for public-private relationships forged during the pandemic to extend beyond the crisis. Even though digital inequalities were more evident during the pandemic, they existed before the pandemic and will remain after. Building on the experiences and challenges of moving to remote learning spaces could inform new innovations in developing digital skills and ensure that everyone has access to ICT so that they can actively participate in a digital economy.

Source:

MOPSE, 2020: <http://mopse.co.zw/blog/ministry-launches-covid-19-response-plan>

<https://www.thezimbabwemail.com/education/econet-liquid-telecom-arrange-e-learning-deal-for-varsity-students/>

UNDP, 2020: https://www.undp.org/content/dam/rba/docs/COVID-19-CO-Response/UNDP_ZW_Brief_Socioeconomic_impact_of_COVID-19.pdf

59. MoPSE, 2018

60. MoPSE, 2017

61. Ibid

62. World Bank, 2020

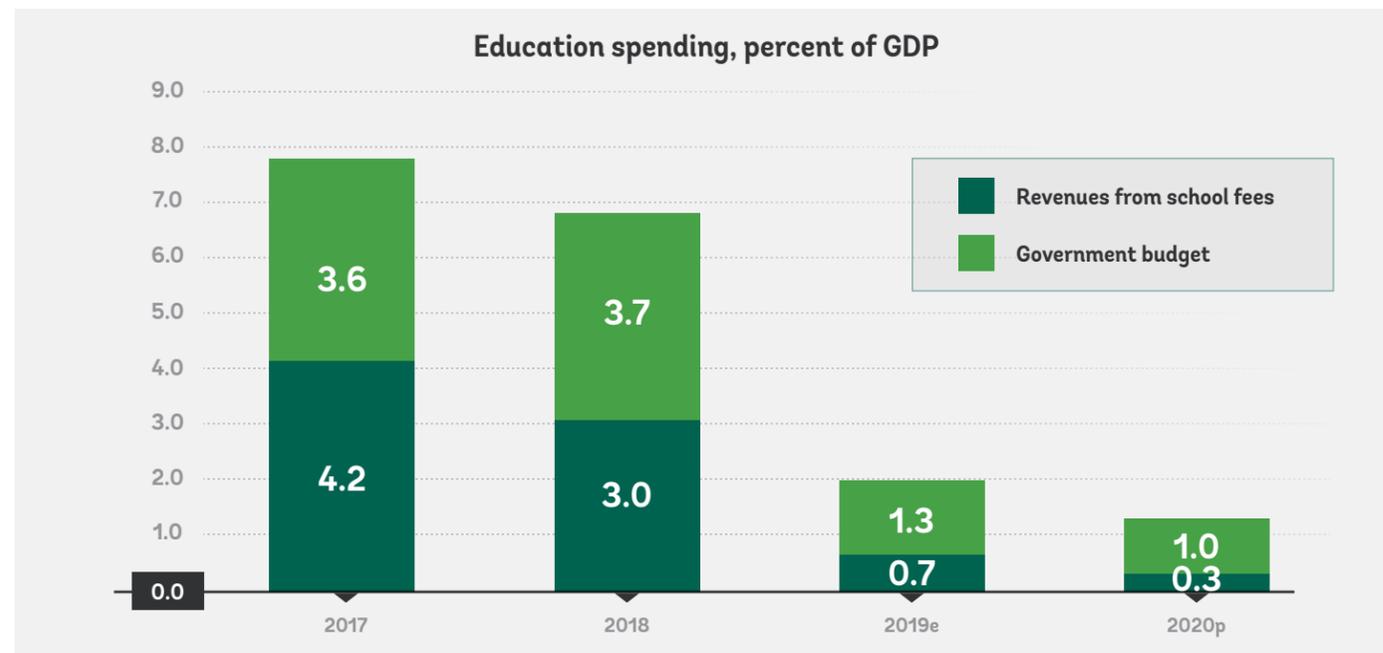
training, and weakens strategic planning.⁶³ Furthermore, challenges in the basic and tertiary education sectors outlined above bear testimony to the limited resources that the government has committed to improve digital skills over the years. Nevertheless, the introduction of innovation hubs in selected universities is a significant step as it promotes an enabling environment for incubation and upscaling of innovative technologies that could positively impact the digital skills landscape in the country.

7. **Macroeconomic environment.** Even if the Government recognizes the importance of addressing the above challenges, its efforts are likely to be affected by the country's macroeconomic environment. The economic challenges in 2019, together with the COVID-19 pandemic in 2020, have negatively affected the quality of education in public schools and public institutions and increased inequalities. Inflation has significantly reduced the amount of public financing for education (Figure 6.6);⁶⁴ with more than 94 percent of the education budget going towards teachers' salaries, this leaves very limited room for other non-salary expenditure including expenditure towards digital skills development. In addition, the prevailing low teacher morale and demotivation due to

the loss of value in teachers' incomes (which have lost over 75 percent of their value in real terms compared to 2018),⁶⁵ is likely to affect recruitment and retention of teachers with digital expertise; this, in turn, will hamper digital skills development considering the critical role that teachers play in digital skills development. Strengthening teacher capacity in digital skills at both pre- and in-service levels becomes even more difficult under such circumstances. Furthermore, private financing for both basic and post-secondary education through tuition fees has fallen sharply as many households could not afford to pay higher fees, depriving schools and institutions of critical resources, including financial resources, which are pertinent in fostering digital skills development and training.

8. **Data concerns.** Lack of updated, reliable, and transparent data for the post-secondary education sector further impedes progress. Current data sources are outdated and sometimes conflicting, and for some valuable data, no sources may be available. Yet informed decisions cannot be made in the absence of evidence. The sector needs an effective and transparent data sharing system, which can both track progress and enhance accountability.

►► **FIGURE 6.6:**
GOVERNMENT FINANCING AND REVENUES FROM SCHOOL FEES FELL SHARPLY



Source: World Bank: Zimbabwe Economic Update, 2020.

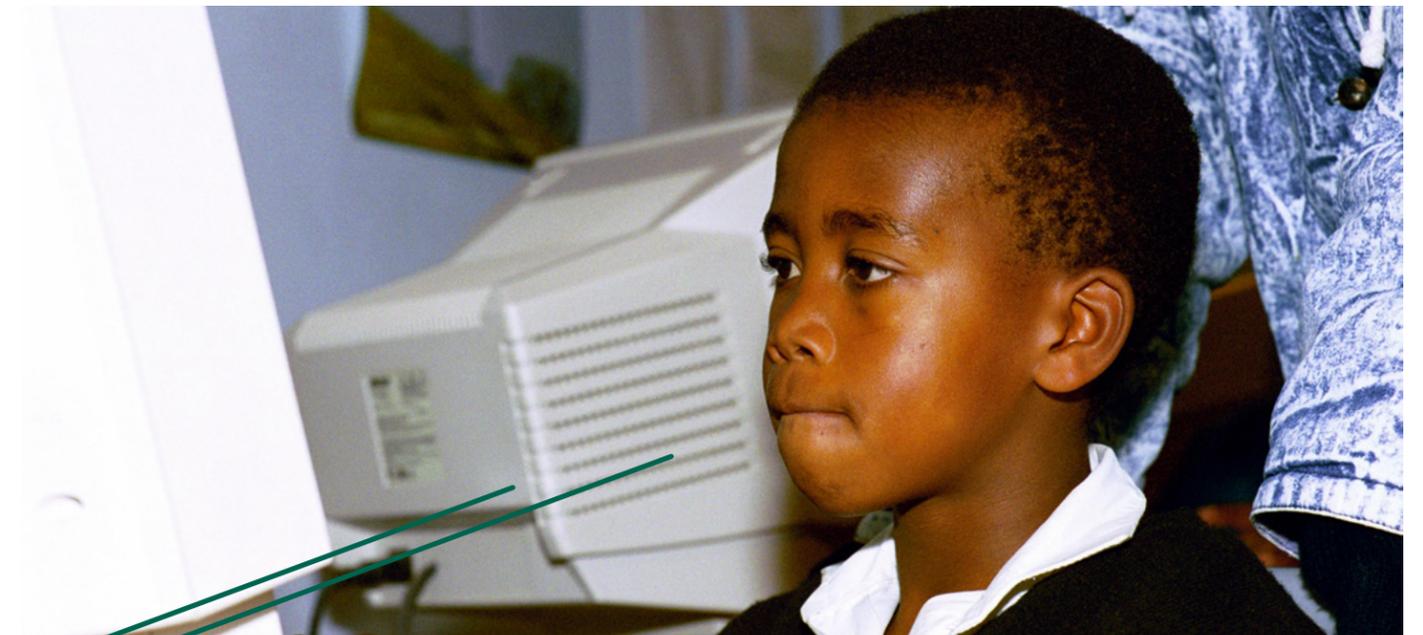
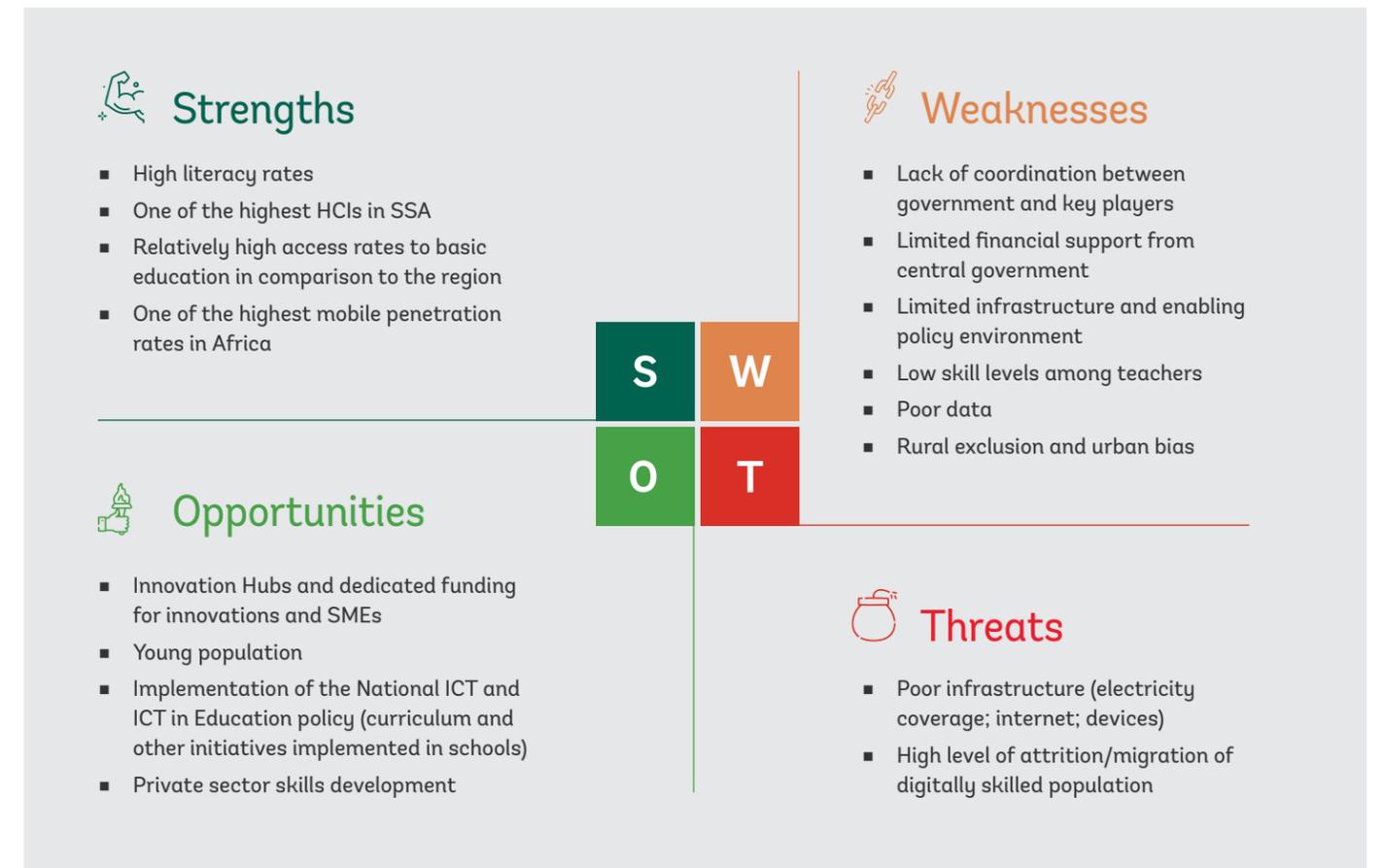
63. World Bank, 2020

64. Ministry of Primary & Secondary Education & World Bank

65. World Bank, Zimbabwe Economic Update, 2020

6.4 RECOMMENDATIONS & NEXT STEPS

►► **FIGURE 6.7:**
DIGITAL SKILLS SWOT MATRIX



In light of the analysis in this chapter, Table 6.2 lists key recommendations. These are organized across key objectives that would unblock binding constraints on further development of this digital economy pillar. The table identifies responsible agencies as well as an indicative time frame, where short-term denotes within the next 12 months. The highest-priority recommendations are highlighted.

▶▶ **TABLE 6.2:**
DIGITAL SKILLS RECOMMENDATIONS

		RESPONSIBLE AGENCY	TIME FRAME	PRIORITY
OBJECTIVE DS1: Build a technologically savvy and digitally literate work force				
R38.	Scale up digital skills training at the basic education level by investing in implementation of the ICT in Education policy, as well as full implementation of the updated curriculum.	MoPSE MoFED	Short-term	HIGH
R39.	Implement curriculum and pedagogical reforms in the post-secondary sector to meet current and future skills demand.	MHTEISTD	Short-term	HIGH
R40.	Introduce equity-based targeting of digital skills training to ensure that rural people, particularly the rural youth, benefit equally from such programs.	MoPSE MHTEISTD MYSAR	Medium-term	MEDIUM
OBJECTIVE DS2: Improve the supply of digitally literate teachers at basic and post-secondary levels				
R41.	Reform teacher education to integrate digital literacy as part of the pre-service curriculum while focusing on continuous professional development of in-service teachers to build their competency in facilitating basic digital skills training.	MHTEISTD MoPSE	Short-term	MEDIUM
R42.	Improve the qualifications of academics in the STEM areas for post-secondary education.	MHTEISTD	Short-term	MEDIUM
OBJECTIVE DS3: Improve the regulatory environment				
R43.	Establish a multi stakeholder coordinating group for digital skills training promotion by bringing together relevant government departments, tertiary institutions, private sector, social partners, and non-profit organizations, among others, which have an interest in tackling the lack of digital skills in Zimbabwe.	MHTEISTD MoPSE MoICTPCS	Short-term	HIGH
R44.	Strengthen the EMIS system to provide up-to-date, reliable, and transparent data about the entire education system to enable better tracking of policy implementation, inform decisions, and enhance accountability.	MHTEISTD MoPSE	Medium-term	MEDIUM





Conclusion: A Way Forward



As the findings of this report make clear, the Government of Zimbabwe recognizes the potential of digital technologies to help pave the way out of the crisis and toward greater prosperity. There is a strong push for stronger strategic and policy underpinnings for the development of the digital economy. These include the implementation of the existing national ICT policy, the formulation of the SMART Zimbabwe Masterplan, and the ongoing effort to include the digital economy as one of the key results areas for the National Development Strategy under preparation.

This report points to the existence of the key building blocks for further development of the digital economy in Zimbabwe. These include a relatively solid and growing infrastructure, an educated workforce that can be upskilled quickly, and government commitment to supporting digital entrepreneurship that is already taking root. Particularly noteworthy are the strides in digital financial inclusion and the pervasive use of mobile money. In addition, the overwhelming share of government financial transactions takes place digitally, and the core government systems have been digitized. The foundations exist for digital ID and a number of public services are accessible digitally to citizens and businesses.

The deleterious macroeconomic environment is a major roadblock for the digital economy in the country. Digital economy cannot be discussed in a vacuum. Table 7.1 presents a consolidated summary of the SWOT analyses across all chapters, outlining both internal weaknesses for each pillar and the economy-wide roadblocks. As is clear from this summary, the development of every pillar is stifled by the macroeconomic situation, including inflation and shortages of foreign currency required to purchase equipment and software. Other external factors include declining business confidence in the economy as a roadblock for investment and digital entrepreneurship. Intermittent electricity coverage and access is also an oft-cited constraint, although there have been recent improvements through load shedding and expansion of solar systems. In addition, the development of the foundational pillars is interconnected. Better digital infrastructure will mean better connectivity required for all other pillars. More developed digital skills in the economy will translate into higher digital literacy, use, and development skills needed for digital entrepreneurship, finance, and government platforms.

The macroeconomic crisis, compounded by the effects of the COVID-19 pandemic, also presents an opportunity for pushing the frontiers of the digital capabilities in the country. Zimbabwe's experience with digital financial services in general and mobile money in particular is a case in point. As many have argued, the persistent cash crisis has led to the widespread use of mobile money: "Currency depends on trust and confidence. Years of economic crises in Zimbabwe have left all three in short supply, spurring a boom in mobile money – an industry that is revolutionizing banking in Africa."⁶⁶ In this example, the crisis led to an innovation that in turn led to a transformation. The COVID-19 pandemic and its economic effects may present a similar opportunity for innovative solutions that can lead to leapfrogging. Physical distancing requirements will mean that more transactions will need to be processed digitally, more goods bought and sold remotely, and more public services delivered digitally. Each chapter in this report provides further suggestions on what can be done to use the existing digital capabilities to address the current situation, and enhance those capabilities to create a more vibrant economy and more inclusive growth.

Aside from addressing and leveraging the overarching crisis, the key to moving the digital economy forward includes improvements in four areas: policy and regulatory framework, resource management and coordination, governance, and capacity building. Innovation is not a panacea that will provide Zimbabwe with a quick exit from the crisis. As a prerequisite, much work remains to be done both on fixing the macroeconomic fundamentals and on addressing the inherent weaknesses within each pillar. The recommendations in this report identify several interconnected areas to be addressed across all pillars. Table 7.2 groups key recommendations of the report in these four interconnected areas, including whether they require regulatory or policy changes, and/or capital investments (Capex). Annex 2 summarizes all recommendations by pillar. Addressing these, along with the external environment, will ease the binding constraints on the development of the digital economy in Zimbabwe.

66. <https://www.csmonitor.com/World/Africa/2018/0813/A-nearly-cashless-Zimbabwe-tests-the-limits-of-mobile-money>

▶▶ **TABLE 7.1:**
SUMMARY OF KEY RECOMMENDATIONS BY AREA

PILLAR	OBJECTIVES/RECOMMENDATIONS	REGULATORY (R) OR CAPEX (C)
Policy and Regulatory Framework		
Infrastructure	Refine the regulatory framework with a view to improving tariff regulation and the licensing framework	R
	Review USF policies and strategy to accelerate infrastructure development in under-served areas	R
Platforms	Prioritize the finalization of outstanding legal and policy frameworks critical to digital platforms, in particular those relating to data protection and sharing, and cyber-security	R
Financial Services	Enforce mobile wallet interoperability amongst mobile money operators.	R
	Reduce costs of remittances at SADC level through increased collaboration by authorities.	R
	Enhance the digital options through which to receive remittances.	R&C
Entrepreneurship	Incorporate a start-up strategy for tech, service and manufacturing start-ups in the SME policy.	R
	Leverage the updating of the SME Policy.	R&C
	Initiate a regulatory review of public procurement regulation pertaining to entering joint ventures with foreign firms.	R
	Accelerate implementation progress on starting a business and insolvency reforms.	R
	Review how tax compliance for SMEs can be streamlined	R
	Review incentives for business angels (i.e. tax credits for investments in start-ups)	R
Skills	Track implementation of the ICT Policy for Primary and Secondary Education 2019-2023	R&C
Resource Management and Coordination		
Infrastructure	Make 700 MHz spectrum available for LTE and assign sufficient spectrum to the operators.	R
	Promote affordability of broadband-enabled devices and widen opportunities for individual access.	
Platforms	Establish shared systems and responsibilities at Line Ministry level for the regular collection of data about platform use and quality.	R&C
Skills	Bridge the rural-urban divide in digital skills through equity-based targeting of any digital skills training.	R&C

PILLAR	OBJECTIVES/RECOMMENDATIONS	REGULATORY (R) OR CAPEX (C)
Governance		
Infrastructure	Develop a National Broadband Strategy and strengthen coordination between the different agencies that govern ICT policy and implementation.	R
	Accelerate the rationalization of the portfolio of Government-owned telecommunications operators and privatize a substantial stake of these companies.	R
	Encourage commercial infrastructure sharing and open access to critical infrastructure to allow faster deployment and greater rural push in middle and last mile connectivity.	R
Platforms	Map the existing digital systems and services and agree an interoperability and interconnectivity framework across MDAs.	R&C
	Establish a clear coordinating mechanism across MDAs on digital platforms, under the leadership of the MoICTPCS in close collaboration with the e-government unit of OPC.	R
	Ensure all digital services are available via the government portal.	R&C
	Develop new and/or leverage existing information management systems to strengthen evidence-based decision-making in response to the COVID-19 crisis.	R&C
Financial Services	Identify and prioritise technical support to critical digital platforms and enhance remote access to the systems by critical staff who hold key responsibilities in the response to COVID-19 for Business Continuity within Government.	R&C
	Complete the development of a fintech strategy and establish the fintech department in the central bank.	R
Skills	Establish a multi stakeholder coordinating group for digital skills training promotion for improved coordination and focusing of effort.	R
	Strengthen Education Management Information System (EMIS).	C
Capacity Building		
Platforms	Strengthen the mandate and capacity of the MoICTPCS to monitor MDA compliance with agreed norms and standards for digital platforms.	R&C
	Strengthen the capacity of the Government Internet Service Provider (GISP).	R&C
Entrepreneurship	Explore the creation of a start-up academy.	R&C
Skills	Scale up digital skills training at the basic level.	R&C
	Improve the supply of digitally literate teachers at basic and post-secondary levels.	R&C
	Implement curriculum and pedagogical reforms in the post-secondary sector to meet current and future skills demand.	R&C

▶▶ **TABLE 7.2:**
SUMMARY OF EACH PILLAR'S STRENGTHS, WEAKNESSES, ROADBLOCKS, AND OPPORTUNITIES

KEY STRENGTHS	KEY WEAKNESSES AND ROADBLOCKS		OPPORTUNITIES
	PILLAR SPECIFIC	ECONOMY WIDE	
DIGITAL INFRASTRUCTURE			
<ul style="list-style-type: none"> Mobile infrastructure (2G & 3G in most of the country, LTE in urban areas) International connectivity Fiber-optic backbone 	<ul style="list-style-type: none"> Fixed broadband infrastructure and penetration LTE coverage outside of urban areas Limited infrastructure sharing Broadband prices as percent of GNI per capita Retail tariff regulation Limited competition 	<ul style="list-style-type: none"> Macroeconomic conditions (especially inflation and lack of foreign exchange) Electricity access and coverage Digital literacy 	<ul style="list-style-type: none"> Zim ASSET National Broadband Strategy Universal Service Fund Consolidation and privatization of Government-owned telecom operators
DIGITAL PLATFORMS			
<ul style="list-style-type: none"> Central government ICT and e-government teams promote coordination and coherence Core government (back end) systems developed Good examples of digital services Accessible, central government portal Building blocks for a digital ID system 	<ul style="list-style-type: none"> Interoperability Silo development of platforms, and no shared space for collaboration Reliance on costly external providers for development and maintenance Limited capacity to monitor compliance and quality of services High ICT staff turnover and poor skills retention 	<ul style="list-style-type: none"> Intermittent power and connectivity Aging government infrastructure Inadequate resourcing 	<ul style="list-style-type: none"> E-Government policy and Smart Zimbabwe masterplan Legislation in development on data protection and sharing Interoperability framework National Data Centre and Disaster Recovery Center ICT staff in most MDAs

KEY STRENGTHS	KEY WEAKNESSES AND ROADBLOCKS		OPPORTUNITIES
	PILLAR SPECIFIC	ECONOMY WIDE	
DIGITAL FINANCIAL SERVICES			
<ul style="list-style-type: none"> Efficient payment systems owned and operated by the private banking systems and mobile money operators Widespread interoperability among bank accounts Availability of a robust large value payment systems (RTGS; ZETSS) operated by the central bank Capital markets digitized and settlements seamlessly linked through a central depository Strong and broad legislative and regulatory provisions around payment systems 	<ul style="list-style-type: none"> No interoperability among mobile money operators High costs of transactions, especially the 2 percent mobile money mandatory tax on all transactions Low usage of internet banking in rural communities due to limited internet coverage International debit cards (Visa, Mastercard) not usable due to lack of liquidity in foreign currency National payments law follows the older model of focusing on systems not products and services Foreign currency bank accounts are not covered by the deposit protection scheme 	<ul style="list-style-type: none"> Intermittent power and connectivity Currency reforms leading to de-dollarization have increased the inflation and loss of value International payments still difficult since Zimbabwe is a jurisdiction with entities under OFC surveillance Difficulties in payment of international licenses in foreign currency has curtailed access to world class fintech solutions 	<ul style="list-style-type: none"> Upcoming National Fintech Strategy could strengthen the DFS ecosystem Regulatory prospects to mandate interoperability among mobile money operators Prospects to broaden receiving of international remittances on mobile money wallets DFS provides a real opportunity to the retail sector and transacting public to comply to WHO social distancing protocol SADC Model Law on payments



KEY STRENGTHS	KEY WEAKNESSES AND ROADBLOCKS		OPPORTUNITIES
	PILLAR SPECIFIC	ECONOMY WIDE	
DIGITAL ENTREPRENEURSHIP			
<ul style="list-style-type: none"> Positive attitude towards entrepreneurial risks and history of solid education Presence of private sector actors keen to support entrepreneurship Government commitment and progress made to improve ease and cost of starting a business and recovery from insolvency Government commitment to improve entrepreneurial and innovation skills at higher education level Government creation of funds to support entrepreneurship 	<ul style="list-style-type: none"> Limited access to market data makes it difficult for entrepreneurs to assess market size Improving, but low performance in ease and cost of starting a business and recovery from insolvency Limited access to start-up capital, i.e. no grant funding and no collaboration with private financiers to leverage public funds Limited systematic dialogue between public and private sector on how entrepreneurship can be accelerated Unclear institutional ownership and capacity in government of the entrepreneurship agenda Unclear policy implementation frameworks for digital entrepreneurship Complex tax regime for entrepreneurs Complex public procurement regulations pertaining to entering a partnership or joint venture with a foreign firm 	<ul style="list-style-type: none"> Deteriorating macro-economic situation affects consumer and business demand, access to affordable finance, and access to skilled labor Foreign exchange controls Unstable electricity access and coverage limits uptime Declining business confidence 	<ul style="list-style-type: none"> Ambitious vision and government commitment, i.e. TSP makes explicit commitment to digital entrepreneurship; Smart Zimbabwe Master Plan can provide market opportunities for Zimbabwe's digital entrepreneurs; ICT Policy envisions Zimbabwe becoming an ICT hub for the region. The new SME Policy can provide an opportunity to include provisions for start-ups, including those in technology Consumer and business market segments are bolstered by strong familiarity with digital transactions, relatively high levels of ICT penetration, and fluency in English.
DIGITAL SKILLS			
<ul style="list-style-type: none"> High literacy rates One of the highest HCIs in SSA Relatively high access rates to basic education in comparison to the region (primary and secondary GER of 105.6% and 76.9% respectively) One of the highest mobile penetration rates in Africa 	<ul style="list-style-type: none"> Lack of coordination between government and key players Limited financial support from central government Limited infrastructure and enabling policy environment Low skill levels among teachers Poor data 	<ul style="list-style-type: none"> Poor infrastructure (electricity coverage; internet connectivity; limited devices, especially in rural areas) Rural exclusion and urban bias 	<ul style="list-style-type: none"> Innovation Hubs and dedicated funding for innovations and SMEs Young population Implementation of the National ICT and ICT in Education policy (curriculum and other initiatives implemented in schools) Private sector skills development



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A

Annexes

Annex 1: Key indicators

Indicator	Source and date	ZIMBABWE	SSA average
DIGITAL INFRASTRUCTURE			
Overall Performance			
Internet users, percent of adult pop	WEF, 2019	27.1 (115 out of 141 countries)	
Mobile Cell. Subscriptions per 100 pp	WEF, 2019	37.4 (114 out of 141 countries)	
Mobile broadband Subscriptions per 100 pp	WEF, 2018	102 out of 141 countries	
Price of mobile broadband 1GB, percent of GNIPC	A4AI, 2019	26.2	7.8
DIGITAL GOVERNMENT PLATFORMS			
Overall Performance			
Digital Adoption Index, Government cluster, (scale 0-1)	WB, 2016	0.34	0.395
E-government Development Index, /100	UNDESA, 2018	0.37	0.345
Secure internet servers (per 1 mil people)	WB, 2019	68	84.1
Percent of adults who used digital payments in the past year	Findex, 2017	49.2	3.6
DIGITAL FINANCIAL SERVICES			
Overall Performance			
Adults with a bank account, percent	WB, 2017	55.29	32.8
Adults using a mobile phone or internet to access their account, percent	WB, 2017	45.55	20.8
Adults using digital payment, percent	WB, 2017	49.2	34.4
Mobile money account, percent	WB, 2017	48.58	21
Mobile money account, percent adult population	POTRAZ, 2020	102%	
DIGITAL ENTREPRENEURSHIP			
Overall Performance			
Ease of doing business score, /100	WB, 2020	54.5 (140 out of 190 countries)	51.8
Global Competitiveness Index, Technological readiness	WEF, 2018	121 out of 137	
Global Competitiveness Index, Innovation	WEF, 2018	132 out of 137	
DIGITAL SKILLS			
Overall Performance			
Human Capital Index, /100	WB, 2018	.44 (114 out of 157 countries)	44.5
Digital skills among population 1-7 (best)	WEF, 2018	3.8 (93 out of 140 countries)	
Trained teachers in secondary education (percent of all teachers)	UNESCO, 2017	72.9	51.66
School enrolment, secondary (percent gross)	UNESCO, 2018	52	43

Annex 2: Table of recommendations

DIGITAL INFRASTRUCTURE				
OBJECTIVE DI1: Improve access to existing digital infrastructure and incentivize new investments				
R1.	R1. Develop a National Broadband Strategy and strengthen coordination between the different agencies that govern ICT policy and implementation to avoid overlaps and better coordinate future interventions.	POTRAZ	Short-term	HIGH
R2.	Accelerate the rationalization of the portfolio of government-owned telecommunications operators and attract private investments to secure policy objectives.	MoICTPCS	Medium-term	HIGH
R3.	Utilize USF funds to leverage private sector investments in broadband infrastructure through public finance mechanisms such as PPPs or competitive awards of subsidies to private operators to support infrastructure development in areas where market forces alone are insufficient to provide adequate broadband coverage (instead of funding full CAPEX).	POTRAZ	Short-term	HIGH
R4.	Consider establishing a 'Pay or Play' mechanism, whereby operators can choose if they want to contribute financially to the fund or invest directly in projects themselves and guarantee specific universal access targets in exchange for relief from USF-leivies.	POTRAZ	Medium-term	MEDIUM
R5.	Promote transparency and accountability, through the involvement of operators in project selection and annual reporting on accounts and performance.	POTRAZ	Short-term	MEDIUM
OBJECTIVE DI2: Refine the regulatory framework				
R6.	Reconsider the current practice of mobile retail tariff regulation, which should be used only as a last resort in markets where competition exists.	POTRAZ	Short-term	MEDIUM
R7.	Implement a modern converged licensing framework to further sector growth anchored on innovation, fair competition, affordability, and good quality of services.	POTRAZ	Short-term	HIGH
OBJECTIVE DI3: Enable faster deployment of infrastructure and greater rural push in middle and last mile connectivity				
R8.	Address administrative issues impeding assignment of LTE in the 700 MHz band services to mobile operators.	POTRAZ	Medium-term	MEDIUM
R9.	Enforce harmonized rights-of-way policies between local authorities for accessing public infrastructure, taking advantage of future civil works projects for cross-sector infrastructure sharing. Implementing a "dig once, build once" approach to infrastructure development will pass on savings to operators who could in turn extend services faster.	POTRAZ	Medium-term	MEDIUM
OBJECTIVE DI4: Enable faster deployment of infrastructure and greater rural push in middle and last mile connectivity				
R10.	Subsidize or offer low- or zero-interest loans for the purchase of broadband-enabled devices. Subsidies could be further targeted toward women and marginalized populations to reduce digital access gaps.	MNOs	Medium-term	MEDIUM
R11.	Provide broadband equipment to educational institutions at cost or via subsidies.	MoICTPCS	Medium-term	MEDIUM

DIGITAL GOVERNMENT PLATFORMS

OBJECTIVE DGP1:

Enhance coordination, interoperability and interconnectivity across MDAs

R12.	Map the existing digital systems, services and data assets first and then move towards establishing more permanent catalogues as well as the interoperability and interconnectivity framework across MDAs. The comprehensive mapping exercise would capture all public sector digital platforms and note those in development with a view to identifying opportunities for interoperability, interconnectivity, lesson learning, and resource sharing.	MolCTPCS OPC eGovt Unit	Short-term	HIGH
R13.	Establish a clear coordinating mechanism across MDAs on digital platforms. MolCTPCS should work together with the e-government unit of OPC in coordinating the reforms. MolCTPCS has the institutional strength to drive reforms and the e- government unit, which has a small team, enjoys the institutional proximity to the center of government, which is critical in driving reforms.	MolCTPCS OPC eGovt Unit	Medium- term	MEDIUM
R14.	Establish shared systems and responsibilities at MDA level for the regular collection of data about platform use and quality.	OPC eGovt Unit Line Ministries	Medium- term	MEDIUM
R15.	Strengthen the mandate and capacity of the MolCTPCS to monitor MDA compliance with agreed norms and standards for digital platforms, and enable it to act where necessary.	OPC	Medium- term	HIGH
R16.	Finalize policies relating to data protection and sharing, and cybersecurity; and ensure that the laws are up-to-date and aligned to international best practice and standards. For example, the policies should comply with the SADC-level model legislation on cybersecurity and data protection.	MolCTPCS	Medium- term	MEDIUM
R17.	Strengthen the capacity of the Government Internet Service Provider (GISP) to ensure that government infrastructure is sufficiently reliable and cost-effective to incentivize MDAs to migrate their platforms onto government systems.	MolCTPCS GISP OPC eGovt Unit	Short-term	HIGH

OBJECTIVE DGP2:

Increase citizens' online access to services

R18.	Ensure all government digital services are available via the government portal as a one-stop shop by first ensuring level 1 digitization (access to information first and services afterwards). Digitizing those services that require low connectivity should be prioritized.	OPC eGovt Unit MolCTPCS	Medium- term	MEDIUM
R19.	Strengthen the reliability and functionality of the government portal to facilitate its use.	MolCTPCS GISP OPC eGovt Unit	Medium- term	MEDIUM

DIGITAL FINANCIAL SERVICES

OBJECTIVE DFS1:

Enhance strategic underpinning for DFS

R20.	Complete the development of the National Fintech Strategy and establish the fintech department in the Central Bank. The process could include establishment of a regulatory sandbox to experiment with more innovations to deepen DFS in the financial services sector.	RBZ	Medium- term	MEDIUM
R21.	Enhance the DFS ecosystem through expanding the credit infrastructure: Finalize the establishment of the movable collateral registry and facilitate the establishment of the Warehouse Receipt System.	RBZ and Ministry of Agriculture	Short-term	MEDIUM
R22.	Collaborate at the regional level (SADC) to reduce the cost of sending remittances, thus fostering further development of DFS across borders.	RBZ	Medium- term	MEDIUM

OBJECTIVE DFS2:

Reform the payment system infrastructure

R23.	Ensure low cost interoperability of ATMs, POSs and mobile money, and encourage wider distribution of POS terminals.	RBZ, ZimSwitch	Short term	MEDIUM
R24.	Review the 2 percent tax on mobile money transfers. Consider concessions/ exemptions of the intermediary money transaction tax for small transactions to encourage digital payments.	ZIMRA	Medium- term	MEDIUM
R25.	Consider incorporating the mobile money operations of Mobile Network Operators into separate entities to improve governance and avoid regulatory arbitrage.	RBZ	Medium- term	HIGH
R26.	Review the NPS Act in line with the SADC model law in order to strengthen the regulatory framework for e-money issuance, licensing of payment service providers and oversight of payment systems and other financial market infrastructures.	Ministry of Finance; RBZ	Short term	MEDIUM
R27.	Revive the National Payments Council and establish a sub-committee of private and public sector stakeholders.	RBZ, ZimSwitch	Medium- Term	MEDIUM
R28.	Encourage the use of payments systems to limit human interaction during economic transactions, such as remote on-boarding of new mobile accounts and transmitting social payments over mobile wallets.	RBZ	Short term	HIGH

OBJECTIVE DFS3:

Improve regulation and consumer protection

R29.	Introduce mobile financial services regulation, agent regulation, and a risk-based approach to AML/CFT. Regulation should encourage innovation without compromising the safety and soundness of the system.	RBZ	Short term	MEDIUM
R30.	Introduce a unified financial consumer protection framework to allow for effective recourse and dispute resolution mechanisms, transparency of all fees and adequate deposit protection for trust accounts.	RBZ	Medium- term	MEDIUM

DIGITAL ENTREPRENEURSHIP

OBJECTIVE DE1:

Improve the strategic and policy underpinning for digital entrepreneurship

R31.	Leverage the updating of the SME Policy currently in progress to incorporate a start-up strategy for tech, service and manufacturing start-ups. Develop a clear implementation matrix and results framework with joint ownership between the public and private sector for implementation and monitoring.	MWACSME	Short-term	MEDIUM
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OBJECTIVE DE2:

Engage entrepreneurs as solution-providers

R32.	Open the Smart Zimbabwe 2030 Master Plan to ideas from the entrepreneurship community as to what needs to be put in place to realize the government's vision for smart government, smart agriculture, smart health, smart trade and commerce, smart education, smart transport and smart cities. Identify which Cabinet committee should champion the digital innovation and entrepreneurship agenda.	MICTPCS, MWACSME	Short-term	HIGH
R33.	Share the vision of the university-based innovation hubs with the private innovation and entrepreneurship hubs to explore areas for potential partnership.	MHTESTD	Short-term	MEDIUM
R34.	Share the lessons from the ICT Innovation Fund and the aspirations for the National Venture Capital Fund with the early-stage investment community in Zimbabwe and the region. Explore how public sector finance could be structured such that private finance is likely to follow. Explore partnerships with private entrepreneurship hubs to support start-ups with viable business proposals.	MICTPCS, MWACSME	Short-term	MEDIUM

OBJECTIVE DE3:

Improve regulatory environment

R35.	Initiate a regulatory review of public procurement regulations for entering into joint ventures with foreign firms. Joint ventures with larger enterprises can offer smaller enterprises an opportunity to learn and scale and can thus contribute to enhancing the competitiveness of local industry.	POTRAZ, Competitions and Tariffs Commission, RBZ, ZIA, MWACSME	Medium-term	HIGH
R36.	Reduce the regulatory burden on start-ups by accelerating implementation of the reforms on starting a business and insolvency and reviewing how tax compliance for SMEs can be streamlined.	ZIMRA, MoFED, MoJ	Medium-term	HIGH
R37.	Review incentives for business angels to incentivize investments by wealthy domestic or diaspora individuals (i.e. tax credits for investments in start-ups).	MoFED, ZIMRA, ZIA, MIOC, MFA	Short-term	MEDIUM

DIGITAL SKILLS

OBJECTIVE DS1:

Build a technologically savvy and digitally literate work force

R38.	Scale up digital skills training at the basic education level by investing in implementation of the ICT in Education policy, as well as full implementation of the updated curriculum.	MoPSE MoFED	Short-term	HIGH
R39.	Implement curriculum and pedagogical reforms in the post-secondary sector to meet current and future skills demand.	MHTEISTD	Short-term	HIGH
R40.	Introduce equity-based targeting of digital skills training to ensure that rural people, particularly the rural youth, benefit equally from such programs.	MoPSE MHTEISTD MYSAR	Medium-term	MEDIUM

OBJECTIVE DS2:

Improve the supply of digitally literate teachers at basic and post-secondary levels

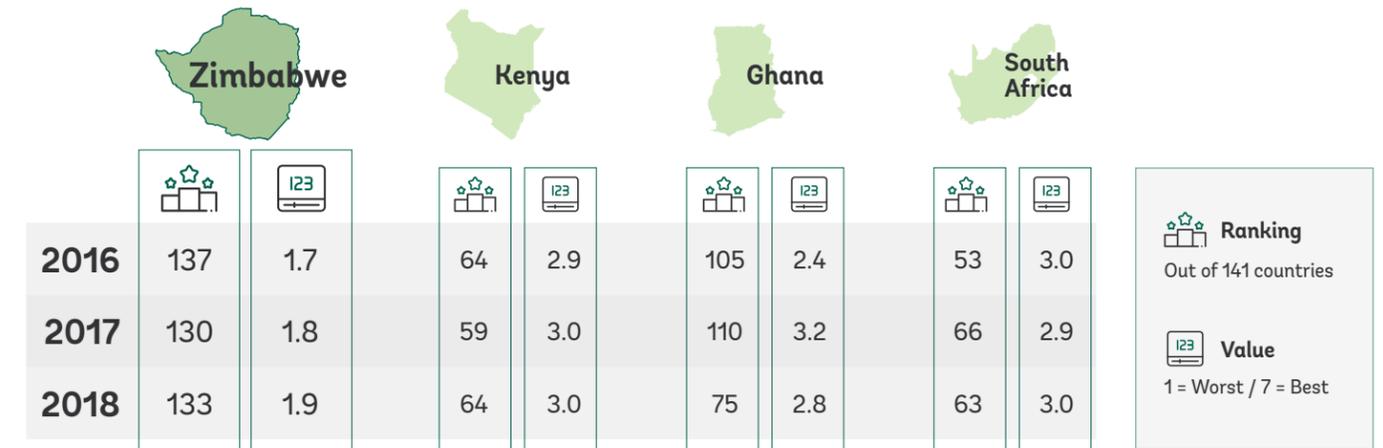
R41.	Reform teacher education to integrate digital literacy as part of the pre-service curriculum while focusing on continuous professional development of in-service teachers to build their competency in facilitating basic digital skills training.	MHTEISTD MoPSE	Short-term	MEDIUM
R42.	Improve the qualifications of academics in the STEM areas for post-secondary education.	MHTEISTD	Short-term	MEDIUM

OBJECTIVE DS3:

Improve the regulatory environment

R43.	Establish a multi stakeholder coordinating group for digital skills training promotion by bringing together relevant government departments, tertiary institutions, private sector, social partners, and non-profit organizations, among others, which have an interest in tackling the lack of digital skills in Zimbabwe.	MHTEISTD MoPSE MoICTPCS	Short-term	HIGH
R44.	Strengthen the EMIS system to provide up-to-date, reliable, and transparent data about the entire education system to enable better tracking of policy implementation, inform decisions, and enhance accountability.	MHTEISTD MoPSE	Medium-term	MEDIUM

Economy	Ranking**	Value*	Ranking**	Value*	Ranking**	Value*
	2016		2017		2018	
Ghana	105	2.4	110	3.2	75	2.8
Kenya	64	2.9	59	3.0	64	3.0
South Africa	53	3.0	66	2.9	63	3.0
Zimbabwe	137	1.7	130	1.8	133	1.9



Source: Authors

▶▶ **TABLE 5.4:**
EASE OF ACCESS TO VENTURE CAPITAL

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