

CHAPTER 9: FITTING ZIMBABWE INTO THE DIGITAL ECONOMY MATRIX

TINASHE MAGANDE, JUSTIN MAKOTA, TOBIAS NHARO AND ABEL MOYO

ABSTRACT

The chapter explores and examines how Zimbabwe fits into the digital world/economy grid. It analyses the pre- and post-independence policies and traces how they detract from or geared towards adoption and practice of digitalisation. The chapter also looks at the steps taken by Zimbabwe, with the help of the World Bank's statutes and publications such as the Zimbabwe Digital Economy Diagnostic reports, to establish digitalisation in full capacity. The background to the study shows that during the colonial era, most policies were grafted targeting mainly the agricultural sector which was and still is the backbone of the economy and there was little to no digitalisation throughout the world except for, maybe, use of computers. However, this study notes that Zimbabwe is gradually adopting the digital way of running her business as noted by the 96% record in the payment system, with only 4% left for cash payments. The chapter utilised a content analysis of literature based predominantly on desktop review to establish the arguments in this study. Qualitative research methods were used, drawing literature in books, journal articles, theses and other publications available on Google Scholar and other useful academic and developmental-oriented websites. For data analysis, the study engaged textual analysis. This study found out that in order for Zimbabwe to perfectly fit into the digital economy matrix, there is need for strategic action towards the pillars of digital transformation, with more and careful attention on digital infrastructure and digital government platforms. The chapter, therefore, recommends high collaboration and coordination across government's ministries, departments and agencies as digital economy is a cross-cutting issue that affects and involves the whole nation.

INTRODUCTION

The digital economy is growing fast, especially in developing countries. Information communication technologies (ICTs) accounted for 17% of

Gross Domestic Product (GDP) growth in developing countries in the past years, but the growth has been more constrained in the global south than in the global north (World Bank, 2016). Over the past 20 years, there has been a significant expansion in the uptake of the Internet and mobile phones in Zimbabwe. Between 2000 and 2019, the mobile penetration rate rose from 2.3% to 90.6% of the total population (POTRAZ, 2019). Bukht and Heeks (2017:1) define the digital economy as “...that part of economic output derived solely or primarily from digital technologies with a business model based on digital goods or services”. The study further estimates that the global economy makes up around 5% of global GDP and 3% of global employment. The access to global Internet must be open to all countries as it helps to link countries everywhere in the world. The Group of Eight (G8) Countries acknowledges that Internet brings a wide range of benefits to everyone through links and empowerment (G8 Countries, 2000). With the advanced development in global telecommunication networks, there are high expectations that developing countries will benefit more in the global systems (Mansell, 2001). These benefits may come through firms having a substantial benefit that may help to boost the GDP in the developing world.

The implementation of electronic commerce helps to get access to new international markets. Small firms in the developing world are also bound to have a massive gain as they reposition themselves in the global value chains. Through establishing electronic commerce, firms would reduce the cost of transacting, thereby increasing economic efficiency (Xie, 2000). Countries in the developing world are much further into the Internet digital economy as they save on costs of going through the steps that their developed counterparts had to go (Panagariya, 2000). Despite all these expected gains from the digital economy, Mansell (2001) posits that there is limited evidence to support any significant gains for developing countries at the macroeconomic level.

A rapid process of technological leap is needed if the digital divide that exists between the developing and the developed world is to be narrowed. That would be followed by fulfilment of the optimistic expectations which advanced technology helps to increase economic growth in developing countries. There is significant optimism that the digital economy will boost

growth of the economy in developing countries (Dahlman *et al.*, 2016). The author further postulates that digitalisation will also boost productivity of capital and labour, lower transaction costs and facilitate access to global markets. All this needs a rapid technological catch-up if the divide is to be reduced. Despite this unevenness, the global south, which holds a small share of the economy, is growing at a faster rate than the holders of the lion's share, the global north. The WEF (2015) estimates a double-digit growth rate around the globe, with a strong growth being witnessed in the global south.

There are a lot of potential actions that a firm or a country that gets involved in the digital system can undertake within the environment in which they function (Heeks, 2017). Heeks (2016) identifies them as digitalisation that involves converting systems from analogue to digital systems; datafication, virtualisation and generativity, involving using data and technology in a way that was not initially intended through reprogramming and recombination. The impact of the digital economy is a rapid phenomenon that has reshaped business interactions, consumer behaviours and business models at large (Dahlman *et al.*, 2016).

BACKGROUND TO THE STUDY

The digital economy in Zimbabwe has to be developed and strengthened against the background of the nation struggling in the context of the economic crises it is facing and the world at large. These economic problems have been exacerbated by the COVID-19 pandemic which has attacked the world and created boundaries of physical trade, putting developing countries under macroeconomic difficulties. The information communications and technology sector (ICT), a sector lying at the core of Zimbabwe's digital economy, is seen as central to turning Zimbabwe back to prosperity as a Jewel of Africa (World Bank, 2021). Africa tried to integrate itself into a single market through the creation of the African Continental Free Trade Area (AfCFTA). The continent started trading under this agreement at a time when Covid -19 was taking its toll. The only way developing countries, Zimbabwe being no exception, can bring their macroeconomics back on track is through electronic trading.

The ICT sector was one of the fastest growing sectors in the year 2019. The sector affects the daily lives of almost everyone in the country, hence it has a bearing on both the public and private sectors in Zimbabwe. The macroeconomic woes and the COVID-19 pandemic have presented both challenges and opportunities for the Zimbabwe digital economy to further develop through innovation. In Zimbabwe, digital infrastructure is one of the strongest in ICT. However, the macroeconomic environment in the country has always obstructed its success. Zimbabwe is well connected internationally, especially the urban areas that are fibre connected. The connectivity in rural areas is, however, still lagging behind. According to the World Bank (2021), the fixed line in Zimbabwe is still limited, a situation that makes mobile the primary means of carrying data traffic in the country. The ICT sector has the potential of creating 40 000 jobs. It is regarded as a sector with a serious potential to create lots of revenues whilst deepening Zimbabwe's economic growth. Having seen this, the government took a step through its fiscal policy targeting the use of ICT through e- government and e-learning programmes.

There are huge prospects that Zimbabwe could improve its government digital platforms if interoperability and coordination are prioritised. The country still lags behind, if compared to her international peers. The government is still using ageing infrastructure, though it has developed some innovative digital services and accessible government portals. The country can develop much in the industry if there is improvement in the supply of electricity, connectivity and monitoring macroeconomic woes that are distressing country. However, the country's digital financial system is stronger even in the presence of the macroeconomic problem that it is facing. The country has a well-developed payment system such that approximately 96% of its transactions are online and the rest still cash-based. The government has also developed a strong base in the exclusive use of digital money. The Reserve Bank of Zimbabwe (RBZ) controls Real Time Gross Settlement (RTGS) platforms, which have become key in most public and private settlements. The private sector has become acclimatised to the use of mobile money wallets in settling payments. These are dominated by Ecocash, One Money, Mycash and Telecash, whose subscribers currently stand at about 7.1 million (World Bank, 2021). Zimbabwe is ranked as one of Africa's leaders, after Kenya and

Uganda, in mobile financial inclusion, with over 40% of adults using a mobile financial account on the global financial inclusion database (UNCTAD, 2018). The cost of transaction is still a major problem in this sector. Furthermore, some places in rural areas are still having difficulties with mobile network and Internet connectivity.

Expanding the digital economy in Zimbabwe is backed by a lot of recent developments. However, advancing in technology in the current era does not require following all the paths followed by industrialised countries as it can be done through leapfrogging. The country adopted an Information communication policy in 2016. A Ministry of ICT, Postal and Courier Services was established, in association with other bodies such as the Broadcasting Authority of Zimbabwe (BAZ) and the Postal and Regulatory Authority Zimbabwe (POTRAZ). In order to strengthen this, the government adopted a policy that allowed the importation of ICT equipment without tariffs. The government also introduced the computerisation programme which boosted the rate of computer literacy in the country. However, the policy has faced a lot of challenges, as already alluded to in this chapter. The government has introduced some reforms to deal with these challenges so that the sector can forward and foster the ICT technology innovations in the country. In 2018, POTRAZ introduced an innovation drive that sought to promote innovations in the sector (World Bank, 2021). To centralise data storage, the government embarked on establishing a data centre. This would also help in the management and protection of data and take advantage of computer clouding.

IMPORTANCE OF THE DIGITAL ECONOMY TO ZIMBABWE

The expansion of digital infrastructure in Zimbabwe will potentially accelerate Zimbabwe's economic development (Kim, Kelly and Raja, 2010). The use of high-speed Internet in the country is a tool that will complement the development in achieving this, and huge investment in this sector would lead to high economic growth too. Estimates from the World Bank (2021) reveal that a 10% upsurge in broadband penetration in developing countries is usually correlated with a 1.4% growth in GDP.

As postulated by Aker and Blumenstock (2015), with internet connectivity, the country is also poised to benefit from increasing productivity, lowering transaction costs and maximising supply chains. Developing the digital

economy will bridge the problem of information asymmetry and improve communication in the country. Those who were once marginalised, especially people residing the rural areas, will find an opportunity to market their products through electronic platforms. The digital economy enables trade of goods and services through e-commerce by using the Internet (OECD, 2013). An improved digital economy effectively connects the citizens in a cost-effective way.

The Internet is set to create a lot of opportunities for the country to grow its economy through external trade, employment creation, increased literacy (human capital) and increased use of capital goods. The digital economy contributes significantly to employment (OECD, 2014; World Bank, 2016). Nottebohm *et al.* (2012) asserts that globally, the Internet creates 3.1 jobs for every job that it destroys on average. It also promotes entrepreneurship in the country, where small-scale businesses can advertise their goods using online platforms. This becomes a means of facilitating their entry into international markets. This is a practice that is known as e-commerce. Advanced ICTs and their use to support applications such as e-commerce leads to significant productivity improvement (Mansell, 2001). Digital innovation has helped to integrate the global market into a single market, a trend that has helped developing countries like Zimbabwe to benefit much.

Broadband provision came as a game-changer in Zimbabwe's digital service delivery, especially critical service sectors such as education and health. In the same vain, the digital economy has allowed the public sector to effectively deliver services more effectively than before. By making sure that better policies are introduced in the ICT, the country is set to benefit more in transforming the economy. ICTs are an enabler of all sectors of the economy that will help them to advance in their development. Advanced ICTs have the potential to support 'technological leap frogging' (Soete, 1985). To increase resilience in the service sectors such as tourism during the COVID-19 era, the country focused greatly on digital technologies. The government, individuals and businesses, through the use of technology, have found a way to cope with shocks imposed by the global pandemic. Social distancing may have caused interruption in

service provision in Zimbabwe and the world at large without digital technologies.

POLICY TOWARDS ICT IN ZIMBABWE

The acceptance and use of ICTs have enlarged greatly in recent years, with this acceptance seeing a dramatic reduction in the digital divide between rural and urban areas. The government targets to increase the rate of Internet and mobile penetration rate in the country from 59.1% in 2020 to 75.42% and to 100% by 2025, respectively (NDS1, 2020). The Zimbabwean government has made great efforts in strengthening the use of ICTs by introducing e-Government to the nation. Investments have been made, particularly in the area of ICT backbone Infrastructure development, education, research and development, community information centres, training of legislators and other government officials in the usage of ICTs.

The government has shown the importance of the digital economy through embedding ICT as a development tool across all National development strategies and the Vision 2030. Policy towards the ICTs targets increased investment in the sector eyeing universal access by 2030. Zimbabwe foresees Internet access from village level, through the extension of the fibre optic backbone, and last mile connectivity (GoZ, 2018). The policy envisages introducing smart programmes such as smart Government systems, smart agriculture, smart health and smart transport, and safe cities through using ICTs (NDS1, 2020). There has been progress in the introduction of e-services in the sectors of agriculture, health, education, transport, research and development, among others.

The government needs support from the private sector and other stakeholders as it cannot carry out this national exercise on its own. Apart from the private sector, there other stakeholders that include non-governmental organisations (NGOs), existing and new public and private sector institutions, the media, to mention a few across all sectors of the economy, who are expected to formulate programmes to implement ICT leading projects. Such projects will enhance skills in the ICT sector and in research and training. The ICT policy also seeks to ensure that private sector interests and expertise create investment in which the ICT sector

generates jobs, increases national productivity and empowers citizens through the amplification of choices brought by unfettered connectivity.

The government's priority is mainly on:

... the development of e-Government Enterprise Architecture and Interoperability Framework, implementation of National Data Centre, improved coverage of the PFMS [Public Financial Management System], as well as enhancement and optimisation of Government common connectivity infrastructure in order to realise improved efficiency and effectiveness in Government internal operations and administration. (NDS1, 2020:131).

The primary objective is to ensure that the country has affordable and reliable Internet and ICT infrastructure that is accessible from village level in order to increase digital economy inclusivity. To achieve that, the government must ensure that there is enough broadband infrastructure and connectivity. ICTs will also be improved from analogue to digitalised radio and television transmission.

The government also seeks to create an investor-friendly environment in the ICT sector to promote private investment. This will be encouraged through introducing investor-friendly policies and provision of incentives among others. With its citizenry at heart, the government seeks to protect consumers and nurture a reliable online environment. Cyber security strategies will be implemented to reinforce consumer satisfaction and protection in the use of digital systems. There are also targets to improve literacy in the use of ICTs in the country. The country has introduced ICT into the national education curriculum from primary up to tertiary level.

THEORETICAL FRAMEWORK

To understand the nature of the digital economy, focus should be placed on theories which provide conceptual lenses to the trope of digital economy. The concept of "digital economy" was introduced in 1995 by Dan Tapscott, a business consultant. This section analyses the digital economy in the developing world from a theoretical perspective. The section focuses on the knowledge gap hypothesis, the 4As perspective.

The knowledge gap hypothesis explains that the distribution of knowledge is uneven across the social system in the world. Just like wealth, the theory

posits that people of high socio-economic status are in the lead because they get to find out new sources of information first and as they can afford access to them while they are new. The knowledge gap hypothesis is often mentioned in connection with social consequences of information sharing. However, the assertion of the theory can also be transferred to fit in what happens in the digital economy. The flow of digital infrastructure is not homogenous across the divide due to the social structure of society. As the new digital systems are infused into the world, developed countries are always ahead and poor countries will always lag behind technologically. As such, the rich will always receive the material first than the poor. Developed countries acquire digital systems at a faster rate than the less developed countries. The gap in the knowledge between these two groups tend to increase rather than decrease (Tichenor et al., 1970). The educated are also ahead of the uneducated because of the Internet. Internet on its own is a factor that widens the digital gap (Nie and Erbring, 2000). With the supply of information by Internet, new factors emerge, not captured by traditional media, like televisions and radios on which the marginalised depend on. In most African countries, access to Internet is to some extent restricted, with those who have access to it facing exorbitant data charges.

The notion of leapfrogging was originally used in the area of economic growth theories and industrial organisation studies focussing on competition among firms. It says areas that have poorly developed technologies or economic bases can move themselves forward faster through adopting modern systems, without taking middle steps, “by passing intermediate stages of technology through which countries have historically passed during the development process” (UNCTAD, 2018:84). The hypothesis proposes that big companies holding monopolies based on incumbent technologies are less likely to innovate. Small and incremental innovations leads a dominant firm to staying ahead. Sometimes major innovations permit new firms to leapfrog the traditional dominant firm. This phenomenon can also apply to leading countries in the digital economy. Developing countries can skip the stages of the path taken by developed countries in the digital economy, enabling them to catch up quicker in terms of economic growth. The leapfrog can arise from the fact that a developed country has reduced earning rents from old technologies.

Developed countries have less incentive to innovate as compared to their potential rivals, the developing countries. A good example of leapfrogging in the technological sector is the rapid uptake of mobile phones in Africa. The UNCTAD (2018) posits that Africa has opportunities to leapfrog, though it has limited capabilities to innovate.

LITERATURE REVIEW

Tempest (2020) carried out a study focusing on the digital economy, particularly at e-commerce in Africa. The study explored the benefits and challenges of creating a digital economy. This was against the backdrop of the AfCFTA which, when implemented in the COVID-19 pandemic era, a lot of trade was based on digital economy and online transactions. The intra Africa trade that the AfCFTA promotes is facilitated by the digital economy. The study reveals that there are some obstacles to the development of e-commerce which African countries need to resolve before the AfCFTA can benefit from the digital economy. Amongst these are limited access to the Internet, poor logistics, constraints on online payment systems and differing regulations. It was found that the digital economy will provide remedies to bank the unbanked through addressing the un-addressed throughout the African continent. This brings overall inclusivity closer for the marginalised, especially women, the youth and rural communities in Africa. The study recommends that countries need to encourage public and private funding in order to support the digital economy. Achieving a robust and successful small and medium enterprise (SME) environment requires proper funding. There is critical need for training to promote success in digital economy and, in particular, for business-to-business e-commerce. The study also puts an emphasis on assuring that African governments put efforts to revise their data costs and keep them at a minimum for a technologically empowered Africa.

Denis (2021) carried a study with the purpose of presenting support for the African continent's transition to a digital economy, predominantly in response to the problems raised by the COVID-19 crisis and with the aim of building inclusive, long-term economic resilience. The study acknowledges that the pandemic was taking lives and calls for economic resilience, digital technologies and solutions that could significantly alleviate the effects should be created and made available to all African

people. The COVID-19 pandemic activated a call for solutions through exceptional demand for digital health technology. The Internet is a vital communications tool that can help communities deal with the crisis. The study also reveals that the technology sector was helping many industries to adapt to this new situation and reducing the risks induced by the pandemic. However, while the growth figures are still remarkable, a huge digital divide still remains in the continent. Close to nine hundred million people are still not connected to the Internet. The article recommends that there is need for sufficient savings and investment in digital technologies to positively stimulate all sectors of the economy and society. The growing importance of the digital sector was found as an instant reaction to COVID-19 economic shocks that has a potential to bring back strength in all sectors of the economy.

Korovkin (2019) conducted a study on 17 African countries with the major aim of comparing their national digital strategies. The major aim of the study was to find effective approaches for the formulation of digital strategies so as to offer policies targeting national economic strategising in the 17 African countries with market and partly-market economies. African countries, in particular, must find a niche in the global digital economy to accelerate inclusive social and economic development using technology. The study revealed that from the perspective of the 17 developing countries under study, developing strategies for the digital economy is not yet part of their national digital strategy. The majority of the African countries do not have dedicated documents for digital strategy. They have not yet addressed the issue with strong commitment within their overall national strategies. Some nations like Algeria, have taken up the process of national digital strategising, but consequently abandoned it. The study highlights that the same problem is also present in west Asia, only yet to be adopted by some stakeholders. The study acknowledges that the African continent still faces digital infrastructure challenges going forward. The study recommends that Africa should nurture some commendable solutions to help its nations to leapfrog into digital development. This can be done only by constructing modern digital systems and developing markets for the new digital enterprises.

A study by the World Bank (2018) outlines the impetus for creating a single digital market (SDM) in East Africa. There is optimism that this would drive deeper integration and spur increased dynamism of the digital economies of six East African countries: Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda. The study reveals that the rise of digital technologies offers a chance to unlock new pathways for rapid economic growth, innovation, job creation and access to services that were unimaginable long back. East African countries would benefit more through working together rather than in competition. A mutual benefit is certain for all these countries, whether they are digitally advanced or not. Improved transport infrastructure, creating a business environment, implementing policies that encourage innovation and increase access to capital were seen as key enablers for the development of an effective digital economy in the region. However, persistent digital skills deficit, both in terms of the basic digital literacy that consumers require to use digital services and the availability of more advanced ICT skills needed to support development of the technological industry was seen as one of the most factors constraining regional digital economy in East Africa.

The World Bank (2020) analysis finds that Zambia has made significant strides on its path to digital transformation over the past few years. The country made progress in digital infrastructure, digital financial services and digital platforms. However, significant gaps remain in digital skills and digital entrepreneurship. The study says that reaching the goal of universal and affordable Internet coverage can raise growth per capita by two percentage points per year and reduce the poverty headcount by one percentage point per year. Complementing Internet coverage with human capital investments tends to increase growth per head by approximately five percentage points and the poverty headcount falls by 2.5 percentage points per year. Digital transformation is thus a critical component of economic transformation in an economy. The study estimates that developing countries could collectively save 0.9 to 1.1% of the GDP. This is equivalent to US\$220 billion to US\$330 billion annually (IMF, 2017). Equipping government officials responsible for public service delivery with access to data and digital tools will make the country realise some effective gains. The study says improving the digital economy is a strong

tool in the quest to increase private and public sector productivity and accountability in both the private and public sectors. Use of mobile phones has increased in the country, but the cost of connectivity remains a great barrier. Digital financial inclusion increased significantly in the country since 2016. Increase of mobile money providers in Zambia was a driver of the growth of financial inclusion. Digitalising the government payslip system decreased transaction costs by 85% and helped to identify and remove some ghost workers in the system. With these initial gains, the government looks forward to increasing the digitalisation of the economy for efficiency gains in the country. The study recommends that individuals, businesses and government acquire the requisite digital skills to enable the country to use digital technologies as a transformation tool. There is also greater need to improve e-commerce benefits through dealing with improvements in addressing logistics. There is need to make some reforms in the energy sector to ensure that the country has digital economy reliability. The private sector can and should take the lead in providing Internet networks and services. The country should consider cases in which one-time subsidies are needed to drive private sector investment though the bulk of the investment required to achieve universal Internet access can come from the private sector.

Dahlman *et al.* (2016) singled out the point that digital economy matters for developing countries and what they need to consider when developing a national digital strategy. The study revealed that the world is experiencing a digital revolution with more important effects for global economies and their incomes. This was attached to the revolution of the ever-increasing pace of technological advance and diffusion. It is important for countries to encompass the digital economy in their national strategies. The study acknowledges that the digital revolution is too important for every country to overlook, especially the developing world. Dahlman *et al.* (*ibid.*) further articulate that the digital economy can be harnessed for inclusive and sustainable growth. These technologies make life easier for consumers, citizens and the government. The paper recommends that the governments must engage in strategic planning to maximise the development impact of digitalisation and ensure that its benefits are evenly distributed.

Lovelock (2018) acknowledges that digital technologies have been deployed in different parts of national economies for years, especially in communications networks. His study distinguishes between Internet economy and the digital economy. The study takes the Internet economy as defined by ISOC (2015:5). They define it as "... the economic activities, inputs, outputs and employment directly associated with the use of the Internet". In contrast, the digital economy relies on enhanced interconnectivity of networks and the interoperability of digital platforms in all sectors of the economy and society to offer convergent services. The study identifies two new important things that build the digital economy, and these are interconnectivity and interoperability. Interconnectivity of networks means that traffic can travel across and between networks. Interoperability of operating platforms means that traffic can run effectively across different types of networks. The study recommends that governments should engage the private sector, civil society and academia in setting the agenda for digital development, creating appropriate regulations and implementing digital initiatives. The study further recommends agility, *vis-a-vis* the fact that the pace of innovation has accelerated and rapid technological changes require governments to gauge, understand, make and implement regulatory decisions faster. For a strong digital economy to be realised in any developing country, innovation and value creation have to be strengthened. Every public servant, industry professional and citizen must embrace digital transformation, and have access to learning opportunities to develop deep and holistic skills to thrive in this new era.

METHODOLOGY

This chapter adopted a mixed methods design. The chapter used a content analysis of literature based primarily on desk review to concretise the arguments. Qualitative research methods were predominantly used drawing literature in books, journal articles and other publications. For data analysis, the study engaged textual analysis. Secondary literature review of previous studies was done on the digital economy in developing countries, especially Africa's sub-Saharan region. This has been also supplemented by direct interviews which were carried out to gather information from experts on the digital issues. Policy and statutory documents were visited in order to assess the current standing and

provisions by the government on information, communication and technology in African countries. Thus, the chapter classifies various policies that have a hold on the nourishment of the digital economy in order to recognise where policy alternatives and improvements are needed.

DISCUSSION

In order for Zimbabwe to perfectly fit into the digital economy matrix, there is need for strategic action towards the pillars of digital transformation with more and careful attention on digital infrastructure and digital government platforms. The access to global Internet must be open to all countries as it helps to link countries everywhere in the world. Zimbabwe is gradually adopting the digital way of running its business as noted by the 96% record in the payment system, with only 4% left for cash payments. Over the past 20 years, there has been a significant expansion in the uptake of the Internet and mobile phones in Zimbabwe. Between 2000 and 2019, the mobile penetration rate rose from 2.3% to 90.6% of the total population.

Due to the general use of mobile money and digital transactions in the Zimbabwean digital economy, digital financial services are actually leading the way to growth. Digital financial services are growing further at an unprecedented rate and are soon to approach the advanced phase in the country. The digital infrastructure is also fairly well developed and is in the growth phase. The growth of this sector is fundamental for supporting the growth needs of other pillars of growth in the country. Digital skills are also improving going forward. This has been complemented by an excellent education system in the country, which has the ability to reap good results through focusing on digital learning. Digital skills are also crucial for supporting other pillars of growth in the country which helps to further development.

Digital entrepreneurship and digital systems implemented by the government are promising and have potential to grow that is if a better macroeconomic environment is created for them to work well. The Internet brings a wide range of benefits to everyone through links and empowerment. With the advanced development in global

telecommunication networks, there are high expectations that developing countries will benefit more in the global systems. The implementation of e-commerce helps to get access to new international markets. Small firms in the developing world are also bound to have massive gains as they reposition themselves in the global value chains. Through establishing e-commerce, firms will reduce the cost of transacting, thereby increasing economic efficiency.

Countries in the developing world are much further into the Internet digital economy as they save on costs of going through the steps that which developed counterparts had to go. A rapid process of technological catch-up is needed if the digital divide that exists between the developing and the developed world is to be reduced. There is significant optimism that the digital economy will boost growth of the economies in developing countries. The developing countries that hold a small share of the economy are growing at a faster rate than the holders of the lion's share, the developed countries. The digital economy in Zimbabwe has to be developed and strengthened against the background that the nation is struggling in the context of economic crises it is facing and the world at large.

The COVID-19 pandemic attacked the world and created boundaries of physical trade, putting developing countries under macroeconomic difficulties and exacerbated economic problems in Zimbabwe and other developing countries. Despite the macroeconomic woes, the COVID-19 pandemic presented both challenges and opportunities to the Zimbabwe digital economy to further develop through innovation. The country's digital financial system is stronger even in the presence of macroeconomic problems that it is facing. The country has developed its payment system such that approximately 96% of its transactions are online and the rest still cash-based. The government also developed a strong base in the exclusive use of digital money. There are huge prospects that Zimbabwe can improve its government digital platforms if interoperability and coordination are prioritised. The only way developing countries, where Zimbabwe being no exception, can bring back their macroeconomic performance back on track is through electronic trading. The ICT a sector lies at the core of Zimbabwe's digital economy. The sector was one of the

fastest growing sectors in the year 2019. The sector creates lots of revenues whilst deepening Zimbabwe's economic growth. Having realised this, the government took a step through its fiscal policy targeting the use of ICT through e- government and e-learning programmes.

Zimbabwe is well connected internationally, especially the urban areas which are fibre-connected. Connectivity in the rural areas is, however, still lagging behind and the fixed line in Zimbabwe is still limited, a situation that makes mobile phones the primary means of carrying data traffic in the country. The country still lags behind, if compared to its international counterparts. The government is still using ageing infrastructure, though it has developed some innovative digital services and accessible government portals. The private sector has become acclimatised to the use of mobile money wallets in settling payments.

CONCLUSION AND RECOMMENDATIONS

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. These include, but not limited to the environment, limited financial support from central government, insufficient coordination between government and key private players, low skill levels, 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.

Zimbabwe has a good foundation upon which digital skills 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%), one of the best basic education access and enrolment ratios in Africa with 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 organisations struggle to get employees with the right skills to harness technological opportunities.

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.

Interoperability and coordination need to be prioritised if huge opportunities are to be created for Zimbabwe to improve its government digital platforms. The country has the opportunity to develop much in the industry if there is improvement in the supply of electricity, connectivity and monitoring macroeconomic woes that are distressing the country.

The fiscal policy should target the use of ICTs through e- government and e-learning programmes. The cost of transactions is still a major problem in this sector. The Zimbabwean government should make efforts to revise its data costs and keep them at a minimum for a technologically empowered Zimbabwe. Hence, both monetary and the fiscal policies should work on resolving this challenge. Furthermore, some places in rural areas are still having problems with mobile network and Internet connectivity. The fiscal policy should budget for investments into this sector to improve connectivity in marginalised areas.

There is also strong need to encourage public and private funding in order to support the digital economy. The government needs to engage the private sector, civil society and academia in setting the agenda for digital development, creating appropriate regulations and implementing digital

initiatives. Achieving a healthy and successful SME environment requires proper funding. There is a critical need for training to promote success in the digital economy and, in particular, for business to business e-commerce.

There is need for sufficient savings and investment in digital technologies to positively stimulate all sectors of the economy and society. The growing importance of the digital sector was found as an instant reaction to COVID-19 economic shocks that has a potential to bring back strength in all sectors of the economy. The government should nurture some commendable solutions to help it to leapfrog into digital development. This can be done only by constructing modern digital systems and developing markets for new digital enterprises.