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The State of Digital in Malawi

The Past 10 Years

Malawi Internet Governance Forum
May 2022

Digital Landscape Overview

Hard Infrastructure

Hard Infrastructure

- Accessible basic infrastructure (e.g., power)
- Accessible core connectivity infrastructure (from fiber optic cables to mobile towers to devices to data)

Soft Infrastructure

Enabling Systems:

- Systems and platforms which enable verification and creation of apps and services while ensuring interoperability. E.g. IDs, payments systems and switches

Use cases and Applications:

- Inclusive digital products and services (e.g. E-Gov, E-Commerce) used by citizens, enterprises, and governments

Digital Ecosystem

Finance: Access to suitable capital for start-ups & enterprises utilising digital; public finance to fund enabling ecosystems and infrastructure

People: Human Capital incl. skills and digital literacy.

Policy & Regulation: A conducive environment that attracts investment, enables the private sector, and creates jobs

Challenges and Opportunities: Key constraints and opportunities that will unlock digital transformation in the next 10 years

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Malawi is investing a lot in ICT infrastructure:

- Regional Communication Infrastructure Program Malawi (2009-2016) focused on setting a foundational hub for ICT services. Led to the setting up of the virtual landing point and the establishment of Simba Net.

- Digital Migration Project led to switching from analogue to digital and led to the establishment of Malawi Digital Broadcasting Network Limited

- The National Fibre Backbone Project phases 1 and 2 – Thousands of Kilomètres of optic fibre has been laid across the country, Data Centre in Blantyre.

- Financial Sector Technical Assistance Project (FISTAP) – National Switch, National Payments System,

- Digital Malawi Project – Focused on the Digital Foundations and Ecosystems

- Private Sector led Investments in ICT Infrastructure (MNOs, Banks, ISPs, Insurance) Leading to improved coverage of 3G (over 90%) and 4G (less than 20%). Carrier Neutral

Malawi's energy sector has gone through important sector reform efforts recently, including the unbundling of the national utility. There is strong investor interest and political will for Independent Power Producers (IPPs) to enter the market.

Malawi is one of the least electrified countries globally, but progress has been achieved to improve access and quality of electricity - but most of the population still has no access to electricity (~ 80%)

For the first time we have solar power added to the national grid, we have mini grids across the country, more options for IPP on the table.

Poor power infrastructure limits development of telecommunications and access to digital communication networks

Poor ICT infrastructure significantly limits access to telecommunications and participation in the digital economy

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Geographic location represents a divide in internet access and high infrastructure development costs inhibit investment in remote rural regions:

- **Due to Malawi's landlocked location, it is connected to the international fibre network in Mozambique, Zambia, South Africa, and Tanzania through the SEACOM and EASSy (Eastern African Submarine Cable System) networks.**
- **The high cost of infrastructure development in rural areas makes companies unwilling to invest in remote regions. MACRA has been implanting some projects through the Universal Service Funds and has just launched a Strategic Plan for the same.**
- **The scarcity of regional internet exchange points forces telecoms to rely on upstream service providers that are usually based outside the country, in Europe or the USA. Data that should be cached locally or regionally must pass outside Africa, resulting in an unnecessary expensive use of upstream bandwidth.**
- **Due to low fibre-optic penetration, providers cannot leverage economies of scale to reap returns on investment.**

Fixed broadband access ranks among the lowest across Africa, and mobile connections also remain low relative to the population growth rate

- High relative cost and low affordability of mobile data is hampering most Malawians' ability to participate in the digital economy
- Low incomes, the cost of smartphones, and mobile data prices hamper internet access for most Malawians
- In 2020 TNM rolled out the first 4G KaiOS-enabled smart feature phone in the country, promising customers "the most affordable 4G device in the history of mobile internet in Malawi."

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Malawians are ready to embrace the internet if the right environment is created for affordable access to the internet

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National ID is enabling greater democratic and economic participation presenting opportunities for increased inclusion via mobile technologies

Malawi has made significant strides in rolling out a digital National ID (NID) card to over 98% of the adult population

Still facing challenges for efficient renewal processes and linkages to key services but the foundation is there

Mobile Money has potential to achieve greater financial inclusion, but ICT barriers prevent most citizens from using mobile money services

Mobile money is regarded as successful, but more regulation is needed to drive reduction of dependence on cash

- The mobile money industry in Malawi is relatively new as it was launched only in early 2012.
- Mobile money uptake has been regarded as successful concurrent to the growth in mobile subscriptions. As a result, mobile money has realised important downstream effects including job creation.
- There is still a long way to go in terms of activity at both subscriber and agent level if the country is to achieve a vibrant mobile payments ecosystem.

10.1 million
mobile money subscribers (2021)

K9.7 trillion
value of transactions (2021)

the majority only use mobile money accounts to transact (send and receive cash)

A common shared technology platform for interoperability of retail payment systems and promotion of digital payment systems

Connects all banks, MNOs and the Microfinance Institutions Hub (MFiHub)

Airtel Africa API Portal

USSD / Payment Sandboxes for Africa's Talking, DPO

Mpamba Virtual Card
Mpamba API??

An opportunity for innovators to connect and access shared technology platforms

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Malawi is progressing the development and implementation of digital service initiatives but lacks in interoperability and linkages

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Improvement in the development of Malawi's online government services and digital systems is needed

Malawi still has a lot of manual process in delivering critical services.

MalTIS	Msonkho Online	UBR	MBRS
eVISA	ePassport	Assycuda World	eAIP??
IFMIS	EMRS	CRVS	eGP

Malawi's e-commerce market is underdeveloped due to poor access to ICT infrastructure and services

Malawi's high dependence on cash hampers potential for adoption of digital financial services and m- & e-commerce services

- only ~23% of people (15 years+) have bank accounts,
- 8.3% make online payments
- 1.3% have a credit card
- Internet penetration is at 15% of the population with 2.8 million Internet users, via 8.5 million mobile connections.
- Remittances play an important role in the Malawi economy representing ~US$37million (0.6% of GDP) (World Bank).

Malawi ranks poorly globally and compared with African peers and other developing regions.

Malawi ranked 134th out of 151 economies worldwide in terms of e-commerce, and 31st out of 44 African countries (2017)

Malawi still has no clear focus on supporting and enhancing local innovation.

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Local Innovators are yet to develop and deploy a local digital innovation that is adopted widely

- KHUSA
- uREPORT
- EcoRide
- iTap
- TNM Smart App
- MO626 Digital +

Malawi still has potential to leverage digital to enhance innovation and creativity

- ESR
- PHWANDO
- Padziwe Digital Library
- Precision Drones
- Malawi Kwacha App
- Nyimbo Za Mulungu App

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Access to finance, business development skills, coworking space and shared infrastructure still remains a challenge for start-ups

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The last 10 years has produced different types of tech support institutions but still mis-aligned with the reality

Need for start-up friendly policies, tax incentives, sandboxes, APIs and deliberate tech adoption procedures

Key Issues

These are the main issues with Access to Finance

- High Interest Rates
- Short Loan Tenures
- Limited products tailored to start-ups
- Inadequate Business Development Services

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Malawi still has potential to leverage digital to enhance innovation and creativity

- African Drone and Data Academy established by UNICEF, working together with local and international universities. The academy train Malawians on piloting, building drones and entrepreneurship. First drone corridor.

- mHub, Mzuzu e-Hub, Techno Lab digital skills and entrepreneurship. Technology and Innovation hubs supporting emerging entrepreneurs with technical business and financial support.

- The ICT Association of Malawi Annual Innovation Forum acts as a meeting space for the sector, along with a competition whereby entrepreneurs submit proposals for a target area and can win grants and incubation support.
- Design Studios at MUBAS, MUST supporting rapid prototyping
- MZUNI and MUBAS have been running data science bootcamps, Python Week of Code.
- UNDP Accelerator labs, NCST Innovation Fund

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Enterprises in Malawi are struggling to leverage the potential of emerging technologies. Close to 60% of the organizations make less than 20% of revenue from the digital businesses in their portfolio

- About two in three MSMEs used (and owned) business technological equipment such as a mobile phone, printer or website or used a computerised record keeping system (65 percent). The single driver for this high usage was the mobile phone with 99 percent of these MSMEs using technology having/using a mobile phone.
- only 2% of MSMEs using technology equipment accessed the internet for business despite nearly all of them owning a mobile phone.

- 23% of schools and 84% of the tertiary institutes had access to computers. While 17% schools had access to internet, 76% of the tertiary institutes had internet facilities
- Only 53% of the schools have formally introduced computer training to its students and only 70% of these schools have access to computers.
- While only 13% of the school staff was capacitated for undertaking ICT-led teaching and had competencies to deliver lessons using digital platforms and computer applications, more than 90% tertiary institutes had capacitated their staff for delivering digital courses

- **More universities and colleges offering ICT related courses but not specialised**
- **The TEVET Curriculum with over 50 institutions across the country is the best route but it has a general approach to ICT**
- **Leverage the boom of incubators, accelerators, hubs and maker spaces to skill, reskill and upskill**

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Malawi has made significant progress in creating a legal and regulatory environment for digital development, growth and adoption

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The Communications and Financial Payments space has led the way in introducing progressive policies

Malawi has an opportunity to spur digital innovations by creating a conducive legal and regulatory environment

- National Registration Act of 2010 (operational 2015)
- Communications Act of 2016 – USF, Converged Licencing Framework
- Electronic Transactions and Cyber Security Act (2016) – CERT
- Payment Systems Act 2016
- Payment Systems Interoperability Directive 2017 and Payment Systems (E-Money) regulations).
- National Intellectual Property Policy and Implementation Strategy, Patents Act, Trade Marks Act
- Business Registration Act (2012)
- National Science and Technology Policy 2002 (revision underway)
- Access to Information (2017) – Information Portals

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Despite the progress made there are still fundamental challenges that need to be addressed to reap the full benefits of digital technologies.

- **Poor connectivity and electrification**: Poor network coverage, a lack of internet access, and low internet speeds have negatively affected the roll-out of digital tools. Low electrification rates and the unreliability of power affect wider levels of technology uptake, but also affect digital development projects
- **Lack of government buy-in/ involvement**: In general, the use of digital technologies for development challenges in Malawi – particularly those that are donor-funded – have had a poor track record of engaging local government, although government buy-in is often vital to long term uptake of interventions.
- **Lack of collaboration**: Digital initiatives are overlapping and there is little collaboration between implementers and other stakeholders (government, technologists, donors, etc.).
- **Security concerns**: Data privacy and protection of citizens when using digital tools is a concern.
- **Weak relationships between the technology sector and banking sector / Mobile Network Operators:** Technology entrepreneurs in Malawi find it difficult to build solutions -- especially those involving digital financial services, payments, etc. -- due to the lack of open APIs and data.
- **Digital Skills Gap:** this goes beyond having digital capabilities but also business acumen, financial management, critical thinking and negotiation skills.
- **Poor perception of Malawian technologists:** Govt, the industry and the donor community prefer to procure systems from out the country undermining local talent.

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Having laid the digital foundation, Malawi can leapfrog other countries in the region but embracing digitalization as the key enabler to development

- **Leveraging the Digital ID:** as a linking tool and a unique identifier for all digital services, seamlessly.
- **Technology Entrepreneurship:** Projects or organisations providing support to technology start-ups and Small and Medium Enterprises, including competitions, funding, business training, and incubation. Structured and at scale with focus on rural areas (80%)
- **Drones:** Unmanned Aerial Vehicles (UAVs) used for imagery (aerial surveillance, mapping) or carriage. Locally made in Maker Spaces across the country.
- **Digital Finance:** Products, services, technology or infrastructure that enables individuals and companies to have access to payments, savings, and credit facilities.
- **Data Gathering and Citizen Reporting:** Platforms which allow for the gathering and aggregation of data from the field.
- **Data Analysis and Decision-Making:** Tools and services for the analysis of data to support decision-making.
- **User-focused Information and Content Systems:** Platforms used for the pushing out of information to users.
- **Local Freelancing and Business Process Outsourcing** – Put the digital skills to use by providing quick online jobs to skilled individuals. Can also export skills online

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'A leader who doesn't understand the digital, may not be able to control the physical'

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Zikomo!