

# UGANDA



## case study

Good data exchange can confer an array of benefits, from improving the operational efficiency of governments and driving economic growth, to enabling access to essential services for people and building trust.

The factors that make up good data exchange are relatively well established and include effective laws and regulations, technology architecture, and accountability and oversight mechanisms. Far less research has been conducted on how these factors function in the real world as governments navigate their unique contexts to build, implement, and ensure buy-in and usage of their national data exchange efforts.

We know that there is no one-size-fits-all approach to national data exchange systems. Each country's progression and timeline are unique, and the process is seldom linear. Their trajectory is greatly influenced by the motivating drivers for establishing national data exchange systems and the methods by which they go about doing so.

The Digital Impact Alliance conducted research into these unique drivers and considerations to inform a greater understanding of how integrated national data exchange systems are being developed, and the ensuing implications for governments, the private sector, and people.<sup>1</sup>

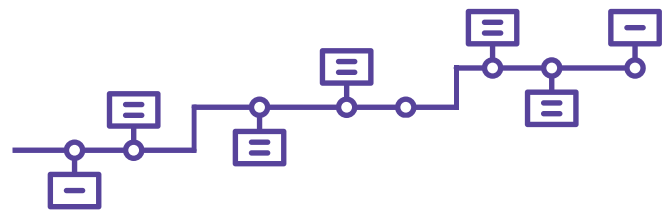
### **This case study surfaces:**

- Essential insights and learnings for policymakers and government technology leaders as they undertake their own journeys to implement integrated national data exchange systems.
- Practical recommendations for funders and policymakers as they consider where and how to make strategic investments to support countries with their integrated national data exchange efforts, and beyond.

# PROGRESSION AND TIMELINE

Uganda has experienced remarkable digital transformation in just over a decade. Total internet subscriptions have grown nearly five-fold since 2012, now reaching an estimated 33.2 million people (around 75% of the population). The use of internet and other digital infrastructure among employees of government ministries, departments, and agencies has also increased rapidly – rising from only 30% to more than 65%, according to the 2022 National ICT Survey. This progress is not only changing the way the government is carrying out its mandate but is catalyzing greater production and use of data. It is also the backdrop against which Uganda has been grappling with how best to share and reuse data to maximize its value across sectors.

In 2016, Uganda took a big leap forward, launching their national data exchange platform – UGhub. The primary driving factor - and aim of the platform – was to make intra-government functions more seamless. However, achieving this milestone was no easy feat. It took years of effort to put in place a set of data-focused policies and initiatives.



Uganda's data exchange journey began in 2012, when the National Information Technology Agency of Uganda (NITA-U) conducted an E-government Readiness Assessment.<sup>2</sup> This led to the creation of the 'E-Government Masterplan'. These efforts were supported by the government of Korea and was led by consultants from Korea's National IT Industry Promotion Agency (NIPA). The Masterplan sought to draw from Korea's advanced IT industry and its aims were simple: making sure that each government ministry, department, and agency had a functioning website and that all government officials were using emails to communicate, ensuring reduction of government business conducted on paper.

Beyond these basic digital functions, the plan also set the foundation for a more comprehensive transformation, namely to reduce siloed information systems and identify the right physical infrastructure for an eventual one-stop platform for government data exchange.

The E-government Masterplan was followed by a 2015 Feasibility Study for Integration of National Databases, which found that over 130 ministries, departments and agencies operated disparate systems – 63% of which did not provide web-based e-services and 78% of which did not provide mobile based e-services.<sup>3</sup>

Shortly thereafter, in 2016, Uganda launched UGhub. An open-source data and systems integration platform, UGhub was designed to “enable seamless sharing of data across government systems in a rational, secure, efficient and sustainable manner” and improve service delivery to citizens. It also included reporting, planning, and decision-making functions across government and private entities. A central aim was to reduce the turnaround time required for citizens to seek and receive public services which, within Uganda’s bureaucratic and siloed institutional set up, can be frustratingly long.

At the time of the launch, the platform had only 12 participating ministries, departments, and agencies, representing less than 10% of government functions. Since the 2016 launch, participation on UGhub has grown, particularly as NITA-U opened participation on the platform to private organizations. As of the end of 2023, over 100 government ministries, departments, and agencies as well as private entities – primarily banks, insurance providers, and fintech firms – had been onboarded.

The system has already dramatically increased the efficiency and convenience of several essential services, reducing wait times from days to hours in many instances, in particular for passport applications, work permits applications, and vehicle registrations. Several services are also benefiting from UGhub’s “once-only” policy that no longer requires a citizen to submit the same documents to multiple ministries, departments, and agencies once the information is digitally stored and can be accessed via automatic integration.

Additionally, and importantly, UGhub has demonstrated the potential to reduce corruption. A sub-industry of fixers and intermediaries existed at many critical public service delivery points in Uganda, such as at courts, police stations, and passport and National ID issuance offices. By reducing – and eventually replacing – the need for physical interfaces, this has removed many bottlenecks, making public service delivery more efficient.

Despite these demonstrable benefits, there is an acknowledgement among government officials that the platform is only scratching the surface of its potential. Of the 113 entities onboarded onto UGhub today, only 47 are government ministries, departments, and agencies, meaning more are not yet using the platform. Likewise, several efforts to expand the platform’s functionality – including a planned ‘E-citizen portal’ to provide a public interface with the data exchange – have stalled.

# KEY MILESTONES

UGhub has benefited from the government's deliberate policy of expanding digital infrastructure coverage countrywide.

## ***National Data Transmission Backbone Infrastructure and e-Government Infrastructure Project***

An important milestone in the country's data exchange efforts came in early in 2006, when the government took a USD \$100 million loan from the EXIM Bank of China for a National Data Transmission Backbone Infrastructure and e-Government Infrastructure Project (NBI/EGI). The project was to be implemented by NITA-U and Huawei Technologies, and it aimed to connect government ministries and departments with the e-Government Network through high-bandwidth data connections, while also connecting major towns in Uganda via an optic fiber backbone transmission cable across the country.

In 2023, NITA-U reported that the NBI project had successfully extended the National Backbone Infrastructure to cover over 4,000 kilometers across the country with a current reach of 53 of the 146 districts and 61 local government sites. This in turn has enabled many ministries, departments, and agencies to adopt e-government services and ensure linkages with other digital systems more effectively.

## ***Regional Communications Infrastructure Program***

Another foundational milestone, in 2016, Uganda received an IDA-World Bank credit facility of up to \$85m from the Regional Communications Infrastructure Program (RCIP) – a nine-country regional funding approach by the World Bank intended to support landlocked countries that rely on transiting traffic through neighboring countries. The funding was intended to enhance the viability of infrastructure, increasing volume of traffic and leading to increased affordability of broadband. The project was, along with other digital transformation initiatives, intended to support the Government of Uganda in a several ways – improving coverage for IT infrastructure in the country, integrating government IT systems, improving efficiency through government cloud infrastructure, building capacity in management of IT programs and projects, and improving the policy and regulatory environment for ICT in country. The hope was, if infrastructure was strengthened, this would improve service delivery.

When the project closed in August 2022, NITA-U included the implementation of UGhub as a direct outcome of this program. To build on their digital transformation progress, Uganda sought another World Bank loan for approximately USD \$200 million to continue and expand its efforts. This loan, known as the Uganda Digital Acceleration Project, is intended to “upgrade the Data exchange and Integration Platform to onboard more agencies”.

# IMPLEMENTATION OF GOOD NATIONAL DATA EXCHANGE SYSTEMS



## LAWS AND REGULATIONS

Uganda has been proactive over the last two decades in creating an enabling environment to drive rapid digitization – starting with its National ICT Policy of 2003 and continuing through 2023, when it launched its Digital Transformation Roadmap.<sup>4</sup> Over this time, the country has effectively paired its digital infrastructure investments with a progressive legal framework to establish itself among e-government leaders across Africa.

The 2021 Inclusive Digital Economy Scorecard,<sup>5</sup> conducted by United Nations Capital Development Fund (UNCDF), gave the country high marks on its digital transformation progress, specifically identifying its regulatory framework as a catalyst for progress. Similarly, the 2022 World Bank’s GovTech Maturity Index showed that Uganda’s GovTech Maturity index value had risen from 0.639 in 2020 to 0.858 in 2022 – meaning that the country had moved from “Group B” to “Group A” and placing it among GovTech exemplar countries.

Before the country’s Data Protection and Privacy Act of 2019 was passed, the Registration of Persons Act – which was enacted in 2015 – provided guidelines on sharing of public data. It served as the primary protection for NITA-U and other ministries, departments and agencies participating on UGhub from possible custodial liabilities from sharing personal and biometric data via the platform.

The Data Protection and Privacy Act of 2019, and the creation of the data protection office shortly thereafter, further solidified written safeguards around the use and sharing of data. And, by offering additional guarantees of data security to previously skeptical ministries, departments, and agencies, this helped drive a small uptake of UGhub.

More targeted policies and laws have also helped to establish rules around consent for data use and sharing, which in turn has built confidence in data-sharing practices in Uganda. For instance, the 2011 Computer Misuse Act was amended in 2012 “to enhance the provisions on unauthorized access to information or data,” especially data relating to children. The law forbids sharing or transmitting any information through a computer that relates to a child, unless with consent of the child's parent or guardian, the person is authorized by law, or sharing that information is in the best interest of the child.

However, despite the important digital policy and regulatory steps of the last two decades in Uganda, the policy environment remains a constraint to UGhub implementation. Competing provisions regarding safeguards for people and exceptions to data protection and privacy rules continue to surface. These concerns include:

- 1** Some ministries, departments and agencies have acknowledged concerns in joining UGhub due to privacy laws. While the 2019 Personal Data Protection and Privacy Law does have substantial provisions that restrict the sharing of personal data, it does provide exceptions. For example, the law states that while consent from the data subject is mandatory before the collection or processing of their personal data, it adds circumstances (in Section 7) where consent is not mandatory, such as when the collection and passing on of such data is mandated by law, for national security or necessary for the proper performance of a public duty by a public body. In practice, many ministries, departments, and agencies share private data under this exception, mostly for purposes of improved public services that a robust data exchange platform may bring. The Data Protection Office is actively working to publicize what that law forbids and what it does not among ministries, departments, and agencies. But such exceptions do create space for potential misuse of data.
- 2** Similarly, the Registration of Persons Act has a non-disclosure clause that says that “a registration officer or a person, who processes personal data on behalf of the Authority (NIRA), shall treat the information which comes to the knowledge of the person as confidential and shall not disclose the information unless required by law”. However, the Registration of Persons Act also has extensive exceptions where National Identity and Civil Registry data may be shared, such as for issuing national identification cards and passports, national security purposes, law enforcement, and providing social services.
- 3** The Public Service Standing Orders,<sup>6</sup> a kind of code of conduct for government employees, also has a section on data sharing which specifically states that a public officer “shall not share official e-data, without authorization from the Responsible Officer.” These guidelines, however, also give the designated data custodians the prerogative to legally share some government information without such authorization.

Ultimately, such exceptions continue to constrain UGhub and, by extension, the ability to maximize the full potential value of data sharing in Uganda. This is because government ministries, departments, and agencies not only continue to interpret the various laws and policies that govern data sharing differently, but also continue to avail themselves of the legally established exceptions. More consistent application of the law and narrowing the exceptions for sharing personal data can build trust between government ministries, department and agencies among citizens. This, in turn, may catalyze greater use of UGhub.

## TECHNOLOGY ARCHITECTURE

***Uganda's robust Government Enterprise Architecture, which the country has invested in heavily, provides a solid foundation for data exchange efforts.***

In 2020, the government initiated the development of its Government Enterprise Architecture along with the complementary Government Interoperability Framework (E-Gif) to create the needed preconditions for secure digital data exchange between government institutions. This work was carried out by Estonia based E-Government Academy, which also resulted in the development of four documents that provide technical guidance on the country's data exchange approach.

- The Uganda e-Government Interoperability Framework (e-GIF), which outlines the main principles and general guidelines that enable the development and implementation of shared electronic services for citizens, businesses, and ministries, departments, agencies, and local governments.
- An e-Government Interoperability Framework Reference Architecture (GIRA), which focuses on the design of end-to-end interoperable digital public services. It is composed of the most relevant Architecture Building Blocks needed to promote cross-sector interactions between ministries, departments, agencies, and local governments. It also provides an overview of common terminology that can be used by people working for public administrations in various architecture and system development tasks.

- An eGovernment Web Application Security Architecture (WASSA) Framework, which is an easy-to-read guide and a practical toolkit for public sector organizations to use the UGhub platform and adopt other e-services. It outlines support for protecting web applications and data security.
- A Digital Government Strategy, which aims to make Uganda one of the top digital governments in Africa by 2027

UGhub's open-source technology has important implications for its functionality and sustainability. The UGhub platform was built on the "WSO2" technology stack and is entirely hosted within the government of Uganda's data center. Being vendor neutral gives the platform the ability to integrate with various systems, regardless of the technology on which it runs.<sup>7</sup>

Despite the adaptability of the technology platform, some in the country believe the continued onboarding of ministries, departments, and agencies onto UGhub will require navigating existing sectoral data exchange agreements and legacy systems. But, in the case of Uganda, this appears to be perceived more as a capacity question than of technology architecture.





# ROBUST AND RESOURCED INSTITUTIONS

The constraints UGhub faces with acceleration and growth have less to do with technology and more around the complicated legal, bureaucratic, and hierarchical frameworks within which ministries, departments, and agencies are anchored and operate.

The Registration of Persons Act of 2015, for example, gives the National Identification & Registration Authority (NIRA) the mandate to 'create, manage, maintain and operationalize the National Identification Register.' This means that NIRA has a say on whose and which identity data can be exchanged. Similarly, the Personal Data Protection and Privacy Act of 2019 puts restrictions on the extent to which personal data can and should be shared.

Some ministries, departments, and agencies do have concerns of running afoul of these kinds of legal instruments, which affect their willingness to participate in UGhub. There is concern they will be held responsible for sharing personal data that is misused down the chain. The MoUs that NITA-U signs with ministries, departments, and agencies before onboarding them, in part, defines these roles and responsibilities and attempts to create as much clarity as possible. NITA-U has yet to convince several crucial agencies to join, including NIRA, which has most citizens' identification data. As a result, plans to

integrate this data with existing systems to make service delivery and access easier may be delayed.

Today, most ministries, departments, and agencies are still entrenched in the cultural vestiges of the colonial era civil service, which reinforces a working environment that is averse to openness in government. For instance, the Official Secrets Act of 1964, which conveys a strong bias towards the protection of official information, is still current law. Within this environment, many ministries, departments, and agencies have conveyed a preference to maintain their data custodian mandates, in part due to the power and financial benefits that accrue from controlling such information, including the ability to charge for public services directly. At the same, beyond the competing cultural and financial incentives for data exchange, some ministries, departments, and agencies also express genuine concerns about the safety and protection of their clients' data and who would guarantee their safety if they were to join UGhub.

The creation of the independent Data Protection Office in 2019 was an important step in creating institutional safeguards. And, in addition to conducting change management training and awareness building among ministries, departments, and agencies to address such concerns, the

government has also set up a few specific oversight and accountability mechanisms. NITA-U, for example, put in place the Consumer Protection Portal.

Even though it exists, the utility and awareness levels about NITA-U's Consumer Protection Portal are unclear, and online access to the site appeared down at

various points during the research process for this case study. That said, the Personal Data Protection Office (PDPO) has had notable success in responding to and enforcing unlawful uses of personal data. In 2021, for instance, the Data Protection Authority found that riding sharing app, Safeboda, had been illegally sharing users' personal data with third-party data brokers.<sup>8</sup>

### **The PDPO's statutory functions include:**

1. Overseeing the implementation of, and being responsible for, the enforcement of the Personal Data Protection and Privacy Act.
2. Coordinating, supervising, and monitoring data collectors, data processors, data controllers and data subjects on all matters relating to the Personal Data Protection and Privacy Act.
3. Setting, monitoring and regulating standards for personal data protection and privacy.
4. Receiving and investigating complaints relating to infringement of the rights of a data subject under the Personal Data Protection and Privacy Act.
5. Providing guidance to data collectors, data processors, data controllers and data subjects about their data protection and privacy rights, obligations and responsibilities under the Personal Data Protection and Privacy Act.
6. Conducting audits to ensure compliance.<sup>9</sup>

The PDPO has a user-friendly online platform for filing complaints and reporting data breaches, and clearly articulates the responsibilities of data controlling and data processing entities.<sup>10</sup> The PDPO also has a publicly searchable online database of all data producers, and each agency, organization or company that involves collecting any personal data must register with the PDPO for proper monitoring and oversight.

In many respects – including scope, key definitions, and legal basis – the foundations of Personal Data Protection and Privacy Act are consistent with GDPR. However, there is noteworthy divergence in a couple critical areas:

**Enforcement:** Both pieces of legislation provide for enforcement of monetary penalties. However, Uganda's legislation – unlike GDPR – also provides for criminal penalties, including prison terms. This creates an additional enforcement mechanism and indicates that specific individuals, as opposed to organizations, can be held liable for offenses.

**Rights:** While both pieces of legislation have similar legal basis, the specific rights afforded to individuals are more limited in Uganda, including more narrow provisions for the rights to erasure and to object to data usage. That said, there are several areas where the two pieces of legislation align on rights, such as on the right to access personal data and the rights of data subjects not to be subject to decisions solely through automated processing of data. Lastly, unlike GDPR and importantly for the question of data exchange, the Ugandan legislation does not explicitly refer to a right to data portability.

## CAPACITY BUILDING AND SOCIETAL ENGAGEMENT

Despite some of the entrenched cultural perspectives, consultations for this case study did reveal that perspectives on data sharing are evolving. There appears to be a greater openness to, and appreciation for, its value both at an institution level and among individual government employees. This is due, in part, to laws around data protection and privacy, which have helped gradually increase the number of ministries, departments, and agencies onboarded to UGhub.

However, the country's persistent limited connectivity, especially in rural areas, will

continue to affect a national rollout of a countrywide data exchange platform. While digital infrastructure and internet penetration have improved dramatically in the last 10 years, there are still functional digital inclusion challenges beyond reach of network connectivity that have the potential to constrain UGhub implementation.

A 2022 National ICT survey found that adoption of ICT among local governments, especially districts in the countryside, remains strikingly low. Less than 5% of district government-level

staff have a computer for work purposes and, further compounding the challenge, the proportion of district staff with internet access was only 2.5%.<sup>11</sup> NITA-U points to lack of adequate ICT skills and knowledge among employees as a UGhub risk factor.

These persistent constraints are a stark reminder that implementation of an effective, representative data exchange platform is dependent upon comprehensive digital inclusion.

The urban-rural digital divide, and the associated digital literacy skills, are a significant barrier to effective national rollout of UGhub. This exacerbates the risks that rural communities and individual users will be less represented in government data, less likely to engage online, and less likely to derive benefits from data sharing. Considering offline access and understanding the user experience among district-level government offices and traditionally marginalized populations will be a critical success factor in the future growth and impact of UGhub.

In addition to the human capacity among government employees to use UGhub, another important way to consider human capacity around data exchange is whether citizens understand, and have agency over, how their data is being used and shared on the platform.

To build this capacity, NITA-U has plans to add a public interface service portal – the e-Citizen Portal – into the UGhub

ecosystem. However, this feature has yet to be implemented. According to NITA-U, the design and technology architecture for the portal are complete but the implementation has been delayed as they seek to achieve greater buy-in. NITA-U will house the presentation layer of the system – offering the “front door” for citizens and responsibility for the user experience among users of the portal. However, the portal’s success depends on others as the actual services will still be housed within the respective ministries, departments, and agencies, so full coordination must first be in place.<sup>12</sup>

In response to this need, NITA-U has built and released UGpass, a digital authentication platform that will ensure that user identities can be proven beyond reasonable doubt. This feature will support the centralization of government services into a single-entry point for citizens. Once a user passes authentication with UGPass, citizens can apply for any government service and access all their government data in one platform. NITA-U has already supported some ministries, departments, and agencies to link these centralized services with specific e-services, such as the e-passport application, e-visa, and e-procurement. However, implementation of the e-Citizen Portal would represent an opportunity to make all government services available at a one-stop center.

# IMPLEMENTATION INSIGHTS

In many respects, Uganda's data exchange journey is rapidly maturing, bolstered by clear government enterprise architecture, established policy and regulatory environment, and the growth of UGhub. However,

implementation of a more robust data exchange regime, which is adopted universally across government and actively engages the population, is constrained by several factors.

## PARTICIPATORY PROCESSES

*Implementing a participatory approach can help tackle existing constraints and build alignment across stakeholders.*

NITA-U's efforts to encourage more entities to join the platform are, in many ways, constrained by the bureaucratic and hierarchical nature of Uganda's institutions and the legal framework in which most of them operate. Each ministry, department, and agency are created by an act of parliament and, therefore, has its own legal mandates. A presidential order issued in 2017 to merge ministries, departments and agencies with similar functions has not been implemented to date, despite multiple attempts.<sup>13</sup>

As the lead technical agency for UGhub, NITA-U has limited levers to compel actions. Instead, they have used participatory processes to try to create buy-in and foster trust among ministries, departments, and agencies. NITA-U explicitly identifies building such trust as central to its mandate and essential to accelerate growth of the platform. To that end, they hold regular change management and feedback sessions with ministries, departments, and agencies.

### **This constraint offers important takeaways:**

- Prioritizing and nurturing trust among government stakeholders is critical to ensuring buy-in, and ultimately, adoption.
- When existing policies and institutions are hindering the progress of national data exchange systems, participatory processes can offer alternative pathways forward.

# SUSTAINABILITY CHALLENGES

*Addressing financial sustainability remains a major concern for government-led data-sharing platforms.*

Questions of sustainability are common across the use of open-source software. However, they become particularly acute when that software is deployed as an input into foundational digital infrastructure upon which government services and market activities are dependent. Questions around the financial sustainability of UGhub

highlight this risk. Even as NITA-U pushes to onboard more ministries, departments, and agencies, and as the financial services sector actively engages on the platform, the dependencies on external loans from global or regional development banks has raised sustainability concerns.

## **This constraint offers important takeaways:**

- Exploring “business models” around data exchange platforms – particularly those built upon open-source software – is a much-needed area for further inquiry.



# CITIZEN DATA ACCESS AND RIGHTS

*Using existing data exchange platforms to expand citizens' rights to their personal data is a key step for governments.*

Government motivations for investing in data exchange platforms can vary – often focused on more efficient intragovernmental systems and improved public service delivery or driving a more dynamic innovation economy. Regardless of the primary motivations or mix thereof, the exchange of personal data necessarily has implications for people. In Uganda, the motivations started with intragovernmental efficiencies but has

expanded to financial sector goals. There is an opportunity to further strengthen how UGhub can create value across society by now more actively investing in the rights and capabilities of people with respect to their personal data. Some of these efforts – like the e-Citizen Portal – are planned and can be prioritized in the next phase of growth, while others like provisions around legal rights to data portability and rights to object to data use can be revisited.

## **This constraint offers important takeaways:**

- Increasing investment in policy and institutional changes to build trust and ensure buy-in, UGhub could significantly increase its value to government, citizens, and other sectors.
- Planning for offline capabilities to meet the needs of rural government offices and populations will be important in ensuring the efficacy of UGhub and maximizing the value of data exchange and reuse.



# CONCLUSION

Uganda's journey offers learnings for other national governments as they explore the factors for success of strong data exchange systems. In some ways, Uganda's efforts mark considerable progress in instituting a strong data exchange ecosystem. However, challenges with fragmentation across government and sustainability continue and must be addressed if the government intends to build trust and expand UGHub as a major service and data hub.

The participatory approach that Uganda has taken to shore up interest in UGHub has helped to grow membership and has incentivized several groups to participate, particularly in the private sector. However, the Uganda experience also highlights the challenges of aligning incentives across government, especially when loopholes exist in current policies around privacy and data-sharing. With additional investment in both policy development and institutional capacity, Uganda can continue to build on its solid technology and policy foundation to gain trust and buy-in.

***To learn more about the recommendations for policymakers and funders based on the wider body of research, [read our Data Exchange insights paper.](#)***





# ENDNOTES

<sup>1</sup> "Data can drive shared prosperity for governments, businesses, and citizens. Unlocking it requires trusted data exchange." Digital Impact Alliance. (2024).

<sup>2</sup> NITA-U E-Government Readiness Assessment 2012 Report.

<sup>3</sup> National Information Technology Authority Uganda: Feasibility Study for Integration of National Databases. (2015)

<sup>4</sup> "Uganda's Ministry of ICT and National Guidance presents new Digital Transformation Roadmap." D4DHub. (2023).

<sup>5</sup> Inclusive Digital Economy Scorecard (IDES) Report – Uganda. UNCDF. (2021).

<sup>6</sup> Uganda Public Service Standing Orders 2021.

<sup>7</sup> Interview with Tonny Bbosa, Manager of Government Systems at NITA-U.

<sup>8</sup> "A win for Unwanted Witness: Uganda's data protection authority finds ride sharing app unlawfully disclosed personal data to third parties." Privacy International. (2021).

<sup>9</sup> "About Us." Personal Data Protection Office Uganda.

<sup>10</sup> "Obligations of Data Controllers Under the Data Protection and Privacy Act." Personal Data Protection Office Uganda.

<sup>11</sup> "Comparing Privacy Laws: GDPR v. Data Protection and Privacy Act." One Trust Data Guidance.

<sup>12</sup> Interview with Tonny Bbosa, Manager of Government Systems at NITA-U.

<sup>13</sup> "Museveni Orders Review of Government Agencies to Minimise Wastage." The East African. (2017).