UGANDA COMMUNICATIONS COMMISSION

ASSESSMENT OF OPPORTUNITIES AND BARRIERS TO INVESTMENT IN THE COMMUNICATIONS SECTOR IN UGANDA

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List of Abbreviations

Abbreviation	Explanation
ACFFTA	African Continental Free Trade Area
AI	Artificial Intelligence
AU	African Union
BOU	Bank of Uganda
BPO	Business Process Outsourcing
CAPEX	Capital Expenditure
COMESA	Common Market for Eastern and Southern Africa
CDN	Content Delivery Network
DAB+	Digital Audio Broadcasting Plus
DTT	Digital Terrestrial Television
DUV	Digital Uganda Vision
EACO	East African Communications Organisation
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortisation
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GSMA	Global System for Mobile Communications Association
GSR	Global Symposium for Regulators
HD	High Definition
ICT	Information and Communication Technology
IFC	International Finance Corporation
IGAD	Intergovernmental Authority on Development
IoT	Internet of Things
IPAs	Investment Promotion Agencies
ISP	Internet Service Provider
ITU	International Telecommunication Union
IXP	Internet Exchange Point
KCL	Knowledge Consulting Ltd
MEL	Monitoring, Evaluation and Learning
MoFPED	Ministry of Finance, Planning and Economic Development
MoICT&NG	Ministry of ICT and National Guidance
MNOs	Mobile Network Operators
MTN	Mobile Telecommunications Network
NBI	National Backbone Infrastructure
NDPIV	Fourth National Development Plan

NITA-U	National Information Technology Authority – Uganda
NREN	National Research and Education Network
NRM	National Resistance Movement
OECD	Organisation for Economic Co-operation and Development
OTT	Over-the-Top (services)
PoP	Point of Presence
PPPs	Public-Private Partnerships
PSFU	Private Sector Foundation Uganda
RAN	Radio Access Network
SD	Standard Definition
UBOS	Uganda Bureau of Statistics
UCC	Uganda Communications Commission
UCUSAF	Uganda Communications Universal Service and Access Fund
UIA	Uganda Investment Authority
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
URA	Uganda Revenue Authority
WBG	World Bank Group

Executive Summary

Purpose and method

This assessment identifies the key opportunities and barriers to investment in Uganda's telecommunications, broadcasting and postal and courier sectors. The aim is to support Uganda Communications Commission (UCC) in fulfilling its regulatory and advisory role, particularly with regard to strengthening sector performance, improving the investment climate and guiding reforms that advance national digital transformation priorities under the Fourth National Development Plan (NDPIV, 2025/26–2029/30).

The study used a mixed-methods approach, combining sector policy and market analysis with an Investment Climate Survey of operators and ecosystem actors, as well as targeted consultations with the government, industry and development partners. The study quantifies investment requirements using three bespoke models: a broadband investment model for achieving universal 4G coverage, a broadcasting model informed by the recent ex-post TV licensing Regulatory Impact Assessment (RIA) and a postal and courier model assessing the need for modernisation to support e-commerce and last-mile delivery. These tools were developed in collaboration with UCC and are based on agreed technical assumptions.

Sector overview and strategic importance

Uganda's communications sector plays a central role in facilitating economic activity, service delivery and innovation. Broadband networks support a growing ecosystem of digital services, including mobile financial services, e-commerce, e-government and online education. Meanwhile, broadcasting remains a key channel for accessing information and expressing culture, while postal and courier services underpin the logistics needed for domestic trade and last-mile delivery. Together, these subsectors form the backbone of the country's digital economy, contributing significantly to productivity, employment and revenue generation.

Despite recent progress, such as rising mobile broadband adoption, active innovation hubs and the incremental modernisation of broadcasting and postal infrastructure, the sector still faces persistent investment gaps. Rural coverage remains uneven; infrastructure costs are high and the pace of digital integration across government and business is slower than that of regional comparators. Closing these gaps is vital to achieving the digital transformation objectives set out in **NDPIV**, which emphasise universal broadband access, digitally enabled public services, innovation-driven enterprise growth and inclusive participation in the digital economy.

Key findings: Opportunities across the three subsectors

The assessment identifies a variety of robust investment opportunities in the broadband, broadcasting and postal and courier sectors, fuelled by the increasing demand for connectivity, digital content and effective logistics.

Broadband: Demand for high-speed data continues to rise, creating significant opportunities in **last-mile broadband expansion, backhaul and transmission infrastructure, and data centre and cloud services.** Digital financial services, enterprise connectivity and government

digitalisation programmes further strengthen commercial prospects, particularly where infrastructure sharing and rural coverage incentives improve project viability.

Broadcasting: The broadcasting market offers opportunities in **local content production, digital distribution and the modernisation of transmission infrastructure,** building on the insights gained from the recent ex-post RIA of the TV licensing framework. The growth of online media and converged content services creates new avenues for investment in production studios, digital platforms and hybrid broadcast–broadband solutions.

Postal and courier services: The expansion of e-commerce and domestic trade is driving demand for **reliable last-mile delivery, digital postal services and infrastructure** for addressing and fulfilment. Modernising sorting, tracking and delivery systems and repositioning post offices as e-service hubs present commercially viable opportunities, particularly in underserved districts.

The assessment finds strong underlying demand and clear commercial potential across all subsectors, provided that policy predictability, infrastructure affordability and regulatory coherence continue to improve under the reform agenda.

Key barriers to investment

Despite strong underlying demand, several constraints continue to limit investment across the communications sector. Operators and other stakeholders in the ecosystem highlight **high operational and capital costs**, driven by power, backhaul and site expansion expenses, as the most significant barrier, particularly in rural and hard-to-reach areas. Sector-specific and general taxes on equipment, devices and services further increase costs and reduce affordability.

A second set of constraints relates to **regulatory and policy consistency**. Stakeholders cite overlapping mandates among sector agencies, slow or fragmented approvals, inconsistent application of fees and gaps in competition and consumer protection frameworks. These issues contribute to uncertainty and undermine investor confidence, particularly in emerging service markets.

Infrastructure-related challenges also persist, including uneven geographic coverage, limited infrastructure sharing and gaps in the addressing and postal systems required to support e-commerce. Additionally, the limited national reach of the electricity grid, a lack of innovation financing, a shortage of skilled workers and a slow uptake of emerging technologies hinder the growth of digital trade and value-added services.

Investment gap: Sector estimates and model results

The analysis identifies significant investment gaps across all three subsectors. The largest gap is in **broadband infrastructure**, where updated modelling undertaken jointly with UCC suggests that achieving 95% 4G coverage of the population (from the current 82%) will require an additional capital investment of around USD 280 million. This includes the deployment of around 1,250 new sites, half of which are located in off-grid or weak-grid areas, where power systems significantly increase unit costs. Backhaul and core-network upgrades account for a further proportion of the required investment.

These estimates are derived from an internal planning model developed with the UCC and are presented in aggregate form in this report. For investment planning purposes, the broadband investment estimate is based on population coverage and should not be interpreted as modifying or replacing the licence obligations defined by UCC, which are defined separately by geographic coverage, service area and rollout conditions.

In **broadcasting**, the recent ex-post RIA of the TV licensing framework highlights the need for continued investment in digital terrestrial transmission, content production and signal distribution platforms, in order to sustain sector growth and improve service reach, particularly in underserved regions. An estimated USD 30 million is required for broadcasting to modernise the existing 18 DTT transmission sites and construct 11 new NDPIV sites, thereby expanding national coverage and strengthening the digital content ecosystem.

The **postal and courier subsector** faces an investment gap relating to the modernisation of sorting hubs and tracking systems, the expansion of last-mile delivery capacity and the implementation of the national addressing and postcode framework. An estimated USD 60 million is required to accomplish these essential investments.

Closing these gaps will require a combination of private capital, targeted public investment and well-designed incentives, sequenced within the broader reform agenda set out under NDPIV.

Priority reform clusters

The assessment proposes seven reform clusters that, when considered together, provide a coherent framework for improving the investment environment, strengthening regulatory effectiveness and accelerating digital transformation. These clusters reflect the main constraints identified through the Investment Climate Survey, aligning closely with the priorities of **NDPIV's Digital Transformation** and **Innovation and Technology Development and Transfer Programmes.**

i. Sector governance, policy and institutional reforms

Strengthening legal and regulatory frameworks to reflect convergence, clarifying institutional mandates and enhancing coordination among UCC, MoICT&NG, NITA-U and NIRA. Greater policy coherence and predictable oversight are essential for investor confidence.

ii. Fiscal and incentive framework for investment

Review sector taxes, fees and import duties, and introduce targeted incentives, such as rural coverage credits, innovation grants and green ICT financing, to reduce operational costs and encourage investment in underserved areas and emerging technologies.

iii. Infrastructure expansion, access and sharing

Update and enforce infrastructure-sharing regulations, streamline rights-of-way approvals across local governments and deploy UCUSAF support strategically to address rural coverage gaps. Improved sharing and more predictable approvals could reduce costs and increase the viability of investment.

iv. Market conduct, competition and consumer protection

Strengthen competition oversight, clarify tariff and dominance rules, and reinforce consumer protection mechanisms, including transparency and quality of service reporting. Effective enforcement promotes fair markets and protects users in a growing digital economy.

v. Innovation, digital trade and emerging technologies

Develop an integrated roadmap for 5G, AI, IoT and related technologies. Operationalise regulatory sandboxes and enhance collaboration between industry, universities and innovation hubs. These measures can stimulate local digital innovation and expand digital trade opportunities.

vi. Sustainability, inclusion and environmental responsibility

Integrate gender, youth and disability inclusion into ICT programmes, expand renewable energy solutions for rural sites and implement e-waste and green ICT standards. These actions support inclusive growth and environmentally responsible infrastructure deployment.

vii. Implementation capacity, coordination and monitoring

Establish coordinated mechanisms for delivering reforms, strengthen institutional capacity for digital-sector planning and monitoring, and align sector reforms with NDPIV programme reporting. Effective implementation will require clear roles, shared accountability and sustained resourcing.

Way forward: Roadmap and implementation

To realise the communication sector's full investment potential, a sequenced and collaborative approach to implementation is required. Immediate priorities include finalising the proposed policy and regulatory updates, promoting infrastructure-sharing reforms and introducing targeted fiscal incentives to reduce deployment costs, particularly in rural and hard-to-reach areas. Strengthening competition oversight, consumer protection and innovation support mechanisms will further boost market confidence and accelerate the adoption of new digital services.

Effective implementation will also depend on coordinated action across UCC, MoICT&NG, NITA-U, MoFPED and other sector agencies. Incorporating the recommended actions into the NDPIV Digital Transformation and Innovation and Technology Development Programmes provides a clear institutional pathway for mobilising resources, monitoring performance and aligning with national development priorities. The establishment of the proposed Communications Sector Investment Taskforce and the publication of regular investment-climate assessments will help to sustain momentum, support evidence-based decision-making and reinforce accountability.

With coherent reforms, targeted investment and strengthened institutional coordination, Uganda is well positioned to expand broadband access, modernise broadcasting and postal services and create a communications sector that is more competitive, inclusive and innovation-driven.

1 Introduction

1.1 Background

The Government of Uganda recognises the critical role of information and communication technology (ICT) in driving socioeconomic transformation, enhancing productivity and improving the delivery of public and private services. This is firmly embedded in the country's long-term development framework, Uganda Vision 2040, which identifies ICT as essential for achieving upper-middle-income status. Subsequent national policy instruments, including the Fourth National Development Plan (NDPIV, 2025/26–2029/30), the Digital Uganda Vision (DUV), the Digital Transformation Roadmap, as well as the National Resistance Movement (NRM) Manifesto (2021–2026), reaffirm this strategic positioning by emphasising the digitalisation of services, the expansion of broadband infrastructure and the importance of having a vibrant, innovative and inclusive communications sector.

This study also aligns with NDPIV, which identifies digital transformation as an enabler of growth and competitiveness across all sectors. Specifically, the assessment provides evidence in support of the Digital Transformation Programme and the Innovation, Technology Development and Transfer Programme. Both programmes emphasise the importance of broadband infrastructure, innovation ecosystems and ICT-enabled service delivery.

Over the past two decades, Uganda's communications sector has undergone substantial liberalisation and expansion, particularly with regard to mobile telecommunications and data services. It is one of the most dynamic sectors in East Africa, with continued growth in internet penetration, mobile money uptake and digital service innovation. However, significant challenges remain, particularly with regard to coverage, affordability and infrastructure quality.

As the sector regulator, Uganda Communications Commission (UCC) is mandated to promote the development of a modern communications infrastructure and create an environment conducive to sustainable sector growth. In light of the rapid evolution of technologies, shifting investment patterns, and the growing convergence of broadcasting, telecommunications and digital platforms, UCC aims to evaluate the current state and future potential of investment in the communications sector.

The purpose of this report is to identify strategies to foster an enabling environment for private investment in ICT infrastructure, thereby facilitating economic growth and job creation. The report provides a synthesis of the current landscape and potential growth pathways for private sector participation in the communications sector in Uganda. It integrates the insights gleaned from global best practice with regional specific insights based on prevailing trade and investment policies, legislation and regulatory frameworks. This report contextualises Uganda's position within a broader framework of private

sector investment across peer African countries, enabling policymakers to evaluate the effectiveness of Uganda's legal, regulatory and policy environment in promoting and attracting investment into the ICT sector.

This assessment covers the entire communications sector, as defined in the 2013 Uganda Communications Act. This includes telecommunications (mobile, fixed and broadband); broadcasting (radio and television, as well as content distribution); and postal and courier services. The analysis considers domestic and foreign investment dimensions and examines the roles of the public and private sectors in financing, regulation, service provision and infrastructure development. Particular attention is paid to the perspectives of current and potential investors, regulatory and policy institutions and other stakeholders in the sector whose actions influence the investment climate.

1.2 Report Structure

Following the introduction in Chapter 1, which outlines the background to the study, the report is organised into different sections, beginning with sector profiling and an analysis of investment barriers.

Chapter 2 provides a detailed profile of Uganda's communications sector, including its value chains and investment opportunities. It examines the broadband, broadcasting and postal and courier subsectors, highlighting trends in penetration, adoption and affordability, as well as respective investment gaps. Each value chain analysis identifies areas where new or expanded investment could generate growth and inclusion.

Chapter 3 presents an assessment of the sector's attractiveness to investors and the conditions influencing private-sector participation. It reviews profitability drivers, macroeconomic fundamentals, foreign direct investment dynamics, and the enabling role of other institutions. The chapter also discusses de-risking strategies, taxation and international case studies of regulatory interventions.

Chapter 4 summarises the findings from an Investment Climate Survey and stakeholder consultations conducted as part of this study. It captures investor perceptions of Uganda's communications sector, identifies major barriers and cross-cutting challenges, and outlines reform priorities and recommended actions derived from stakeholder feedback.

Chapter 5 presents the Communications Sector Investment Profile, combining a market overview, the rationale for investing in Uganda and detailed opportunity areas across the three subsectors. The chapter also analyses sector attractiveness and factors affecting ease of entry, profiles flagship investment opportunities and highlights key success factors and lessons for policymakers.

Chapter 6 summarises the findings and proposes a set of actions and an implementation timeline to strengthen Uganda's communications investment environment.

The report concludes with references and technical appendices providing supporting data, modelling assumptions and additional details.

2 Communications Sector Landscape and Value Chain Opportunities

2.1 Introduction

Creation of a conducive environment for investment in the communications sector requires an intimate understanding of the value chains, identifying gaps and assessing all this from the perspective of potential investors. This chapter discusses value chains related to the communications sector, that in Uganda, is defined by law to include telecommunications, broadcasting, and postal sectors of the economy. While focus is placed on Uganda, regional comparatives are drawn from Eastern and Southern Africa both to provide lessons and because these are regional competitors for foreign direct investment. Specific focus is placed on broadband, broadcasting and postal infrastructure and services.

The analysis presented in this chapter contributes directly to Uganda's Digital Transformation Programme, which forms part of the NDPIV. The programme prioritises the expansion of broadband, e-government services and digital innovation as enablers of productivity and inclusion.

2.2 Broadband

2.2.1 Penetration

Although Uganda's broadband penetration has shown notable progress, important gaps remain. Robust and pervasive broadband infrastructure is the foundation of ICT services that drive modern economies. Table 1 shows that Uganda has laid 47,771 km of national fibre, which is comparable to Rwanda (16,776 km) and Tanzania (14,120 km), but higher than in Malawi and Burundi. Uganda also has one Internet Exchange Point (IXP) and five Content Delivery Networks (CDNs), which improve domestic traffic routing and reduce reliance on costly international transit. Consequently, Uganda has achieved 82% 4G population coverage,[1] which is significantly higher than in Ethiopia (44%) and Burundi (32%) and is in line with Rwanda (89%) and Kenya (97%). However, considering total fibre distance alone can be misleading without taking geography into account. Uganda is approximately nine times the size of Rwanda, meaning that Rwanda's 16,776 km of fibre equates to a much denser and more pervasive network relative to its territory. Conversely, although Uganda's fibre footprint is extensive in absolute terms, it is thinly spread, leaving many rural and sub-county areas underserved. This suggests that, while

[1] https://datahub.itu.int/data/?i=100095&e=UGA&v=chart

Uganda's infrastructure expansion is commendable, higher penetration is still needed to deliver comparable levels of last-mile access and redundancy.

Uganda lags behind some of its regional neighbours in terms of international connectivity and content hosting. Unlike Kenya and Tanzania, which have direct connections to multiple submarine cables (8 in Kenya and 4 in Tanzania), Uganda is landlocked, relying on terrestrial cross-border links to access the global internet via neighbouring coastal states. This puts it at a relative disadvantage, resulting in higher transit costs and potential bottlenecks compared to peers with direct undersea access and a larger CDN presence. Significant investment is needed to provide ubiquitous fast broadband connectivity for Uganda.

Table 1: First- and middle-mile connectivity

	Submarine cables	International leased lines	National backhaul fibre (Km)	IXP	CDNs	% of the population covered by 4G	Population in million
Burundi	na		1,128	1	1	32%	13.2
Ethiopia	na	4	11,549	0	3	44%	123.4
Kenya	8	18	32,856	3	16	97%	54.0
Malawi	na		1,927	2	4	70%	20.9
Rwanda	na	6	16,776	1	5	99%	13.8
South Africa	10	10	34,754	6	67	99%	59.9
Tanzania	4		14,120	4	14	88%	67.4
Uganda	na	11	47,771	1	5	82%	47.2
Sources	*CDNs and Cloud Infrastructure, https://opentelecomdata.org/cdns/* *IXPs: African IXP Association, https://www.af-ix.net/ixps-list* *Submarine cables: Telegeography, https://www.submarinecablemap.com/country/* *Leased International lines: https://afterfibre.nsrc.org/* *ITU Indicator Database for population coverage, 2024 data, September 2025* *WDI 2024 (2022 data) for population data*						

Policy and fiscal barriers, such as the licence requirement for foreign carriers to transit network traffic and the reverse VAT charged on imported bandwidth, constrain Uganda's opportunity of a regional digital traffic transit hub for its landlocked neighbours. These barriers raise costs and weaken Uganda's competitiveness as a regional hub transiting traffic to Rwanda, Burundi, South Sudan and the eastern part of the Democratic Republic of the Congo (DRC). Its backbone network and cross-border links could otherwise enable it to play a central role in carrying international bandwidth inland from Kenyan and Tanzanian landing stations.

In summary, Uganda is performing well in terms of national backbone deployment and 4G population coverage, putting it ahead of some of its EAC peers. However, Uganda's lower fibre density points to room for improvement. To consolidate Uganda's gains, improving affordability, attracting more investment in the broadband value chain, and positioning the country as a genuine regional connectivity hub, key steps include strengthening international connectivity and reforming licensing and fiscal policy on bandwidth imports.

2.2.2 Adoption

The low broadband subscriber rates for Uganda (Table 2) confirm the broadband divide. Subscription rates vary, with countries. Fixed broadband is a marginal service. The coverage gaps provide opportunities for investment into mobile broadband and also into innovative new approaches like fibre access in townships, such as in South Africa.

Table 2: Active mobile broadband and mobile-cellular subscriptions

Country	Subscriptions per 100 inhabitants	
	Active mobile-broadband	Mobile-cellular
South Africa	130.33	179.34
Kenya	79.33	126.48
Rwanda	71.60	93.20
Malawi	44.00	69.26
Uganda	39.85	83.17
Ethiopia	38.61	65.08
Tanzania	37.34	126.56
Burundi	10.27	63.16
Source	https://datahub.itu.int/dashboards/?id=2 (data for 2024)	

Table 3 shows a strong and consistent upward trend in data consumption among MTN subscribers in different countries from 2016 to 2024. This means that there is a growing demand for data services and that users are becoming more engaged in activities that require data, such as streaming, browsing, and downloading, reflecting an increase in internet penetration and the adoption of digital services.

The upward trend can also be a proxy indicator for the health of the ICT ecosystem in different countries. It is indicative of investment in network infrastructure, including expanding coverage and capacity of mobile networks and upgrades of existing infrastructure to higher-speed networks like 4G. Higher data consumption per user is also a proxy for increased digital literacy and integration of ICT in various sectors such as business, education and healthcare. This integration can drive further economic development and the growth of the digital economy.

Table 3: MTN Group - MB per active User

	2016	2017	2018	2019	2020	2021	2022	2023	2024
eSwatini	160	187	255	542	822	941	1,177	1,367	1,638
Rwanda	271	1,110	1597	1598	2,228	2,311	2,737	2,892	3,926
South Africa	440	1,080	1382	1626	2,617	3,685	4,009	4,738	5,689
South Sudan	84	300	554	633	1,127	1,903	2,138	2,666	3,105
Sudan	361	1,018	1839	2341	4,567	4,171	4,675	4,396	2,453
Uganda	144	763	1162	1090	1,237	1,623	1,815	2,218	2,699
Zambia	217	732	1294	1490	2,082	3,224	4,332	5,661	7,145
Average	240	741	1155	1331	2097	2551	2983	3420	3808
Source	MTN Investor Relations								

The trend from Table 3 shows that there is plenty of opportunity for Uganda. Uganda's MTN users consume well below the average of 3.8GB per month for comparator countries, with only 2.7GB on average. Zambia has more than double the amount of MB per active user compared to Uganda. With the exception of eSwatini and Sudan (civil war) Uganda uses the least amount of data. This is a useful proxy to see that there is significant potential for private sector investment in the communications sector in Uganda.

2.2.3 Affordability

Table 4 shows that prices are steadily declining across peer countries. The cost of communication, especially mobile internet data, has been falling, making it more affordable. Operators have also introduced innovative bundle offerings, such as 'night bundles', social media packs like Paka Paka, and Freaky Friday data deals, to cater to lower-income users and stimulate usage.[2] Voice call and SMS tariffs have also become cheaper in real terms, with per-second billing and bundle packages significantly reducing the cost of an average call over the past decade, while internet-based OTT calling offers an alternative.

Affordable ICT services benefit other sectors as well. By making ICT services more affordable, sectors beyond technology, such as agriculture, education and healthcare, can leverage digital tools for improvement and efficiency. This inclusive growth can drive overall economic development, which in turn creates a more stable and attractive investment climate. There has been an improvement in affordability for all countries in

[2] https://www.ucc.co.ug/wp-content/uploads/2024/11/UCC-Annual-Communications-Sector-Report-2023_Online-Version.pdf

Table 4 except Tanzania. The low prices for Uganda for 2022 and 2023 are based on Lyca Mobile 20GB per month then at UGX 10,000.[3]

Table 4: Prices for a prepaid 20GB monthly usage basket (USD)

	2020_Q1	2021_Q1	2022_Q1	2023_Q1	2024_Q1	2025_Q1	% change
Rwanda	10.5	10.1	9.7	9.2	1.6	1.4	-85.1%
Ethiopia	40.4	22.2	17.6	10.2	2.5	3.9	-93.9%
Malawi	40.8	38.6	37.0	10.9	6.5	5.9	-84.1%
Kenya	9.8	9.1	8.8	7.9	6.7	7.6	-31.7%
South Africa	39.1	33.4	39.3	11.2	7.9	10.7	-79.8%
Burundi	15.9	15.4	14.9	14.5	11.6	11.0	-27.4%
Uganda	14.6	14.7	2.8	2.7	13.0	11.5	-10.9%
Tanzania	8.7	6.5	8.7	17.4	15.8	15.6	81.7%
Source	RIS Pricing Database, Q1 2025						

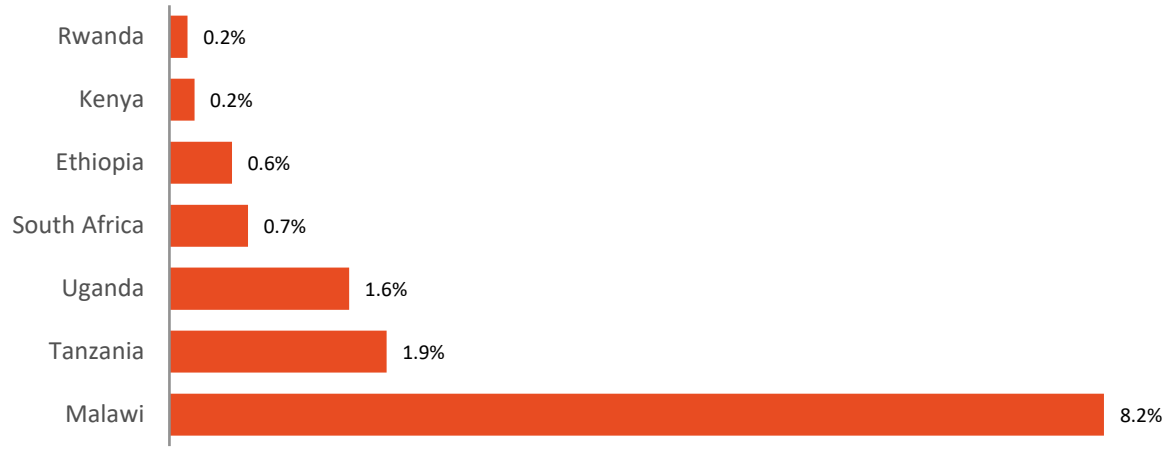

Figure 1: Data prices for 1GB per month as a % of GNI per capita per month in Q1 2025

Declining prices are indicative of fair competition. If prices for ICT services are steadily declining across countries, this indicates increased competition among providers and improvements in technology, which can lead to more cost-effective service delivery. Declining prices can also suggest that the market is maturing, with economies of scale being reached and passed onto consumers as savings.

[3] Its website was down for a long period and the same product is UGX 20,000, in September 2025 (https://www.lycamobile.ug/en/plans/)

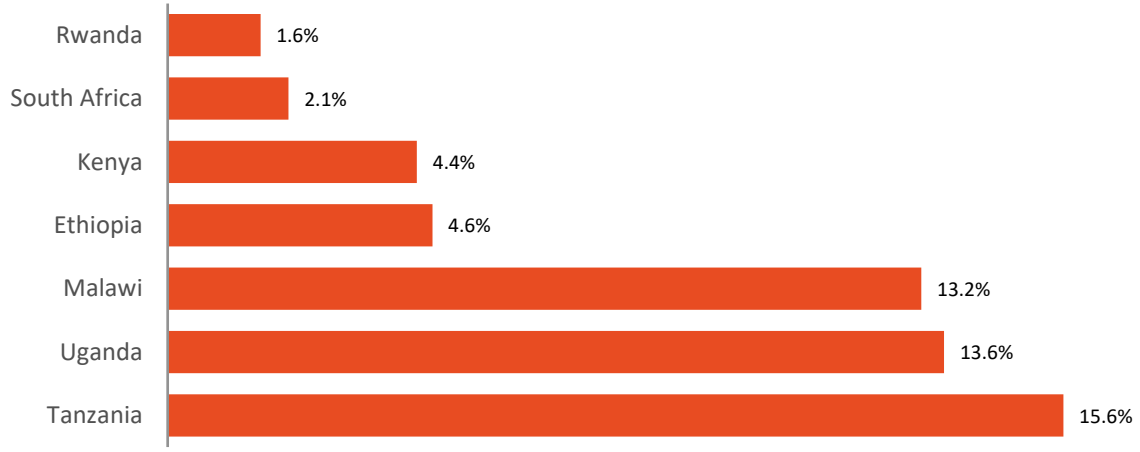

Figure 2: Data prices for 20 GB per month as a % of GNI per capita per month in Q1 2025

While prices are declining, large data baskets are still expensive in Uganda. Figure 1 shows data prices for 1GB and Figure 2 for the 20 GB baskets per month as a percentage of Gross National Income per capita per month. An affordable basket is considered to be 2GB for less than 2% of GNI per capita per month. Rwanda is below that cut-off for even a 20GB basket. In Uganda, to consume 20GB per month would costs 13.6% of the average GNI per capital per month.

Affordable ICT services empower a wider segment of the population to engage with digital technologies, thereby broadening the market for these services. This expanded user base can drive increased demand for a range of ICT products and services, from essential connectivity to sophisticated applications like e-commerce and cloud computing. For investors, a larger market equates to higher potential revenues and returns on investment. Reduced costs and enhanced accessibility to ICT services can stimulate innovation and support the growth of start-ups and small businesses, which often serve as incubators for new ideas and products in the communications sector. A dynamic startup ecosystem can attract additional investments from companies eager to innovate or collaborate with these entrepreneurial ventures.

These dynamics are consistent with NDPIV targets to increase household internet penetration and reduce broadband costs through competitive infrastructure investment and targeted fiscal incentives.

2.2.4 Investment Gap

This section presents an estimate of the broadband investment gap, which is based on a broadband investment model. The model consolidates demand, coverage and cost drivers across the access, backhaul and core network layers, explicitly addressing power scenarios and operational constraints.

The model enhances realism by:

- Parameterising rural/urban and power-source conditions
- Separating CAPEX by network layer and cost element

- Deriving investment needs directly from coverage targets and serviceability constraints, rather than using simple population ratios.

These features will facilitate updates as market data and policy targets evolve.

Based on the broadband investment model, the total investment required to extend 4G broadband coverage to 95% of the population[4] from current level of 82% is estimated at USD 280 million. This represents the additional capital expenditure needed, taking into account regional variations in population density, power availability and potential for infrastructure sharing. The estimate excludes spectrum costs and assumes gradual efficiency gains from colocation and shared backhaul.

The model's base-case scenario simulates the minimum required infrastructure to achieve 95% 4G population coverage, using parameters calibrated from UCC's network performance data and international benchmarks. It integrates costs across three network layers — access, backhaul and core — while distinguishing between on-grid and off-grid site configurations to better capture rural cost differentials. Key outputs are summarised below.

Table 5: Estimated broadband investment gap – base case (95% 4G coverage).

Component	Estimated CAPEX (USD million)	Share of Total	Key Cost Drivers
Access Sites (RAN + Civil Works)	128	46%	Site construction, tower, power systems, radio equipment
Transmission / backhaul	47	17%	Microwave and fibre links, transport equipment
Power, core network & data centres	105	37%	Core DC hardware, software, and network control systems
Total investment gap	280	100 %	

A total of around 1,250 new sites would be required to close the current coverage deficit, 45% of which are in off-grid or weak-grid areas. Off-grid sites require additional CAPEX for renewable or hybrid power systems and therefore account for nearly two-thirds (65%) of the total access network investment required. On-grid sites, mostly in peri-urban zones, represent faster-return opportunities, but depend heavily on backhaul upgrades to handle increased capacity.

The model assumes moderate colocation (approximately 25% of new sites) and cost savings of 10–15% from shared backhaul and power solutions. Even with these efficiencies, however, Uganda's broadband infrastructure remains undercapitalised

[4] The broadband investment model uses a population coverage approach to estimate the level of investment requirements required to extend 4G broadband access to approximately 95% of Uganda's population. The model is designed to assess service reach, demand potential and infrastructure needs for sector planning. Therefore, the population coverage approach used in the model does not amend, reinterpret or replace the conditions of the UCC licence, including the obligations relating to geographic and service area coverage.

relative to its coverage ambitions. Without targeted policy measures, such as the expanded use of the Universal Service and Access Fund (UCUSAF) for off-grid power, fiscal incentives for tower sharing and the accelerated rollout of the national fibre backbone, the investment gap will persist, particularly in high-cost rural regions.

This analysis is based on a detailed broadband investment model, which has been submitted separately to UCC. This model contains the full set of parameters, calculation modules and scenario sheets that were used to derive the base-case estimates presented above. The model is intended as an internal planning tool that UCC can update periodically as new network data, coverage targets and cost benchmarks become available.

2.3 Broadcasting

2.3.1 Penetration

There are 264 licensed FM radio stations across the country, ranging from public broadcasters such as UBC Radio to commercial stations broadcasting in various languages and community radios serving local interests.[5] The broadcasting sector was dominated by the state, with Radio Uganda established in 1954 and Uganda Television in 1963 until liberalisation in the 1990s transformed the landscape into a diverse mix of operators. The migration to digital television in 2015 introduced a multi-channel environment. There are now over **60 active local TV channels**, including major free-to-air networks such as UBC TV, NTV and NBS, as well as regional stations.[6] Following digital migration, pay-TV operators entered the market, offering packages via satellite or terrestrial decoders. Notable players include MultiChoice (DStv/GOtv), StarTimes and Zuku. Figure 3 shows television coverage across Uganda.

The NDPIV includes an intervention to expand the DTT broadcasting network under the DTP programme. Uganda also aims to the transition to Digital Audio Broadcasting (DAB+) in order to diversify radio services and reach rural audiences.[7] The NDPIV also includes interventions to promote the development of local content and to strengthen the creative and broadcasting industries.

[5] https://www.ucc.co.ug/wp-content/uploads/2025/02/LICENSED-RADIOS-AS-AT-30-DECEMBER-2024.pdf

[6] https://www.ucc.co.ug/wp-content/uploads/2025/02/LICENSED-TELEVISION-STATIONS-AS-AT-30th-DECEMBER-2024-updated.pdf

[7] https://www.monitor.co.ug/uganda/news/national/ucc-to-migrate-all-fm-radio-stations-to-digital-broadcast-4757166

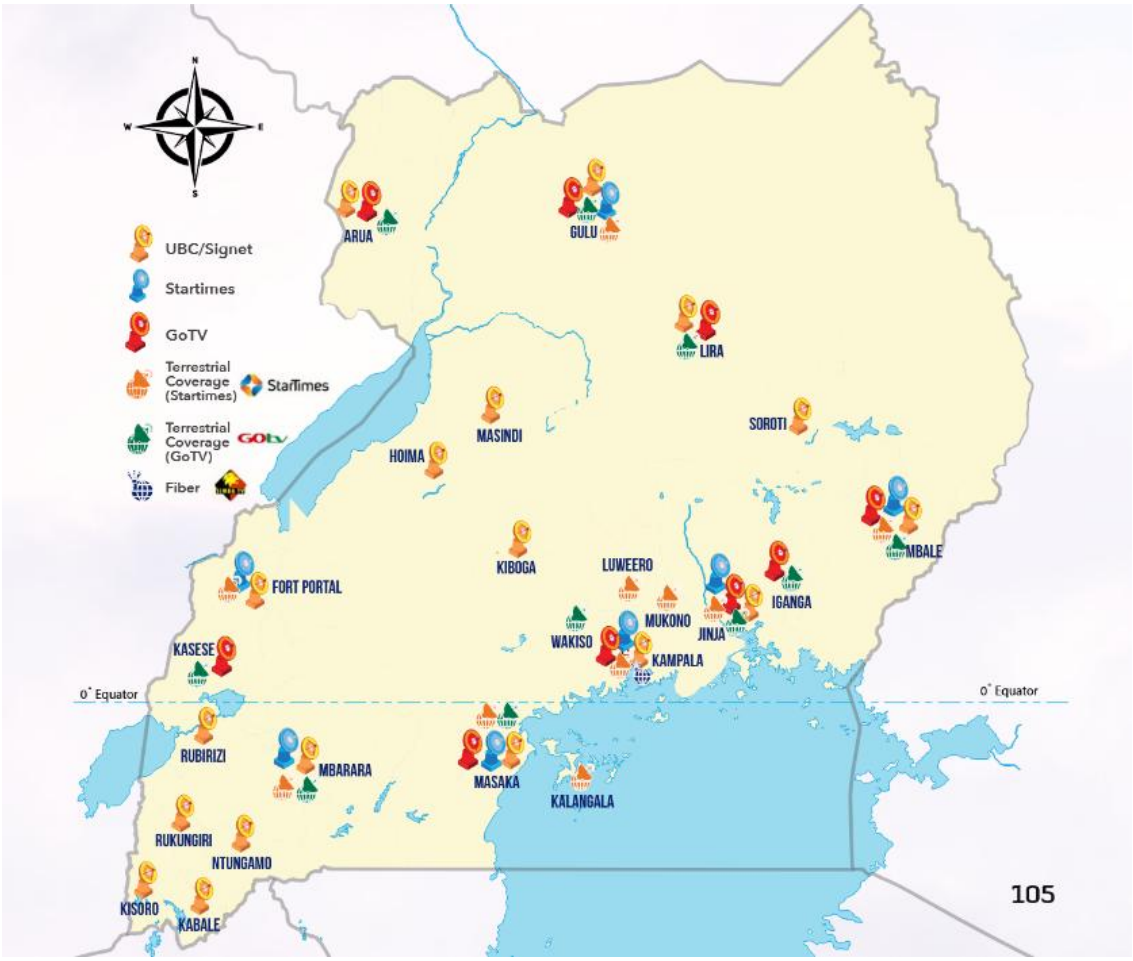

Figure 3: Television coverage across Uganda[8]

The UCC's broadcasting licence framework was revised to accommodate online broadcasters and digital content, reflecting convergence with internet streaming.[9] Overall, the broadcasting market has shifted from a two-channel monopoly to a highly competitive arena with many content providers. However, audiences and advertising revenue are still concentrated around a few leading outlets.

2.3.2 Adoption

Even as other media forms expand, radio continues to play a central role in Uganda's information ecosystem. According to data from the 2024 National Population and Housing Census (Table 6), 41.0% of households own a radio. At the national level, 38.3% of households cite radio as their main source of information. Radio is therefore by far the most important communication channel, ahead of television (14.1%), word of mouth (21.5%) and phone calls (14.9%). The census highlights radio's unique ability to reach rural, less educated and lower-income populations. Rural households are more than twice as likely to rely on the radio as urban households (42.4% versus 32.4%),

[8] Source: UCC Annual Communications Sector Report 2023
[9] https://www.ucc.co.ug/broadcasting/

reflecting its affordability and accessibility in areas without electricity, as well as the dominance of vernacular FM stations.

Table 6: Proportion of Uganda households that own TV and radio

	2021	2024
Proportion of households with Radio	48.8%	41.0%
Proportion of households with TV	21.1%	23.1%
Proportion of households with Computer	2.5%	3.9%
Source: UBOS, National population and housing census (2024), NITA-U, National ICT survey (2021), UCC, ICT access and use survey (2014)		

Given the challenges of electricity access, cost of sets, and rural-urban divides, the limited penetration of TV is not surprising, and television adoption is much more modest. However, as Uganda modernises and access to electricity and digital infrastructure expands, there is still room for growth in the television market — particularly if the broadcasting framework supports higher-quality HD content, affordable set-top equipment and regional signal coverage.

2.3.3 Investment Opportunities and Barriers

UCC recently conducted an ex-post Regulatory Impact Assessment (RIA) of the 2017 TV licensing framework. During validation, the RIA revealed mixed results regarding investment in Uganda's broadcasting subsector. On the one hand, the framework has stimulated innovation and infrastructure upgrades, as well as growth in content and viewership, indicating untapped market potential. However, high compliance costs, market distortions, infrastructure bottlenecks and financial pressures have limited sustainability, particularly for smaller operators.

Table 7 summarises the main opportunities and barriers to investment in the broadcasting subsector and outlines their implications for prospective investors.

Table 7: Opportunities and barriers to investment in the broadcasting sector

Dimension	Opportunities for investment	Barriers to investment	Implications for investors
Market demand	65.9% of operators see an increased willingness among consumers to pay for improved services Growing TV viewership (91% report an increase)	Audience fragmentation across many small operators Intense competition from online and OTT platforms	There is strong demand, but achieving sustainable returns depends on differentiation and bundled digital offerings
Infrastructure and technology	72% of broadcasters have upgraded their infrastructure Innovation reported by 90% of operators Opportunities in managed services, AI-driven production, and OTT platforms.	Reliance on Signet which has been reported to have inefficiencies, poor coverage and high tariffs Limited last-mile infrastructure for regional broadcasters	There is Investment potential in modernisation, but it is constrained by distribution bottlenecks and a lack of infrastructure competition.
Content production	81% have introduced new content Local content demand creates opportunities for partnerships with creatives, production houses, and streaming platforms.	The 75% local content quota is costly without incentives Piracy undermines monetisation	It is attractive for investors in content ecosystems, but requires supportive fiscal incentives such as tax breaks, grants
Regulatory framework	Licensing framework provides clear entry requirements Potential reforms such as separating FTA and Pay-TV, tariff regulation open space for new entrants	High fees and compliance burdens squeeze smaller operators Hybrid license structure distorts the market Compliance delays threaten continuity.	Policy reform could create opportunities, but the current regime increases risk and deters SME entrants.
Competition and market structure	Consolidation may create opportunities for strategic acquisitions Space for niche content (regional, thematic and diaspora audiences).	Market saturation with too many broadcasters Unregulated online content distorts the level playing field.	Selective investment in well-positioned players is a viable strategy, but the overall sector faces instability without the regulation of OTT competitors
Financial sustainability	Potential for diversified revenue models (advertising, subscriptions and hybrid models) Partnerships with telcos for bundled services	Shrinking advertising revenue base High operational costs (infrastructure, licensing and content production)	Investors will demand innovative monetisation models and regulatory incentives to ensure returns

2.3.4 Investment Gap

The ex-post regulatory impact assessment of the 2017 TV licensing framework highlights the need to upgrade existing infrastructure to support high-definition broadcasting. This recommendation highlights the urgent need to modernise Uganda's digital broadcasting infrastructure, in order to meet consumer expectations and align with international standards. This will require replacing outdated transmission equipment with state-of-the-art systems, strengthening the backhaul and power infrastructure, and ensuring the resilience of the signal distribution network.

In order to quantify the investment gap, it is assumed that all 18 existing digital TV transmission sites require modernisation. Each site requires a package of upgrades, including tower rehabilitation, new HD-capable DTT transmitters and RF equipment, updated headend and multiplexing systems, enhanced power solutions and improved site security. In addition, Uganda intends to expand the DTT/direct-to-home free-to-air broadcasting network under the DTP programme of NDPIV (Objective 1) by establishing new 11 DTT sites in various districts including Moroto, Kotido, Kitgum, Kapchorwa and Tororo. Structural reforms could also pave the way for the introduction of Digital Audio Broadcasting (DAB+) as part of a future-ready infrastructure.

Based on recent benchmarks and African vendor budgets, three investment scenarios were developed to estimate the capital outlay required to modernise the network.

i. Scenario A: Refurbishment and swap (USD 8.1 million)

This scenario involves essential transmitter upgrades (from SD to HD-ready DVB-T2), limited tower rehabilitation, and modest power system upgrades at the 18 existing sites. While it provides an interim solution to maintain service quality, it does not support network expansion or long-term technology evolution.

ii. Scenario B: Full modernisation with network expansion (USD 28.3 million)

This scenario involves the complete modernisation of all 18 stations, including the installation of hybrid power systems, improvements to the backhaul and upgrades to the headend/multiplexer. In line with NDPIV, it also involves the construction of 11 new DTT transmission sites, including those proposed in Moroto, Kotido, Kitgum, Kapchorwa and Tororo. These sites require significant greenfield investment in towers, shelters, hybrid power and transmission equipment, which would increase national broadcast coverage.

iii. Scenario C: Future-ready digital broadcasting (USD 41–43 million)

Building on Scenario B, this scenario introduces redundancy at strategic hubs, advanced hybrid power systems, and the colocation of DAB+ equipment at the existing 18 sites and the 11 proposed new sites. Scenario C positions Uganda for a dual-track upgrade path towards high-definition television and future digital radio services.

Overall, the estimated investment gap for broadcasting ranges from USD 8.1 million to USD 43 million as shown in Table 8, depending on the level of modernisation and the extent of the rollout of new sites consistent with the priorities of NDPIV. Expanding to an

additional 11 DTT sites is the main cost driver and represents a strategic investment in public service broadcasting, rural inclusion and spectrum efficiency.

The investment gap is defined as the difference between the required capital expenditure under the selected scenario and the funding currently available from the government, UCUSAF, operators or development partners.

Table 8: Broadcasting investment scenarios

Scenario	• What is included	Per-site capex (existing sites, USD)	18-site total (USD)	29-site total incl. 11 new NDP IV sites (USD)
Scenario A. Refurbishment and swap	• Keep the towers • Swap transmitters/RF to HD-ready DVB-T2 • Perform modest power rehabilitation • Keep existing STL/backhaul where feasible • Minimal headend/mux refresh	≈ $450k	≈ $8.1 M	Not applicable – Scenario A does not include rollout of the 11 new DTT sites.
Scenario B. Full modernisation	• New/rehab towers where needed • New DTT Tx + RF chain • Upgraded STL/backhaul • Robust hybrid power (UPS + battery + generator/solar) • Headend/mux refresh share, integration and contingency across all 18 existing sites plus construction of 11 new NDP IV transmission sites	≈ $900k (existing sites)	≈ $16.2 M	≈ $28.3 M (18-site modernisation + 11 new greenfield sites)
Scenario C. Future-ready	• Scenario B includes redundancy at main hubs • Higher battery autonomy and advanced solar hybrids • DAB+ co-location at all 18 existing sites and the 11 new NDPIV sites, enabling a gradual transition to digital radio	≈ $1.05 M base + ≈ $0.30 M DAB+ (per existing site)	≈ $24.3 M	≈ $42 M (full modernisation + redundancy + DAB+ on 29 sites)

2.4 Postal and Courier

2.4.1 Penetration

Uganda's postal and courier network is extensive but sparse. The designated national operator, Posta Uganda[10], has the broadest reach, with around 300 post offices and over 70,000 personal mailboxes nationwide. While this network provides basic access, especially in secondary and rural districts where private operators have a limited presence, many rural outlets are under-utilised and operate at a loss. This indicates shallow effective penetration despite geographic coverage.

Addressability is improving, but from a very low starting point. The requirement for newly registered companies to obtain a postal address has catalysed the uptake of ePosta (virtual PO boxes), which grew rapidly from a few thousand to tens of thousands of accounts by 2023. Nevertheless, household-level addressing remains incomplete, and most door-to-door deliveries in urban areas rely on landmarks and phone coordination rather than formal addresses, restricting service penetration beyond post office pick-up.

The number of licensed courier operators increased from 18 in 2017 to 39 in 2025,[11] reflecting new entrants, particularly in domestic and inter-city delivery services. Courier penetration is strongest in urban areas where on-demand bus companies and 'boda' delivery platforms have created a dense and responsive last-mile delivery network that consumers and SMEs use extensively for e-commerce and same-day errands. These are now formalised under the UCC's Domestic Courier licence category.[12]

The Digital Transformation Programme of NDPIV also highlights the modernisation of postal and courier services as a key enabler of trade facilitation logistics and domestic e-commerce.

2.4.2 Adoption

The same duality is reflected in usage indicators. While domestic and international parcel flows have grown markedly alongside e-commerce, letter post has dwindled, and per capita postal usage remains low compared to regional leaders. Table 9 highlights that Uganda like many other countries has experienced robust growth in parcel volumes alongside a continued decline in traditional mail. Despite these positive volume trends, Uganda's postal traffic per capita remains low. One UCC analysis noted that Uganda's postal revenue per capita is only around $0.50, compared to a global average of approximately $68, which highlights how underdeveloped the market still is.[13]

[10] https://ugapost.co.ug/

[11] https://www.ucc.co.ug/wp-content/uploads/2025/02/LICENSED-COURIER-OPERATORS-AS-AT-29-January-2025.pdf

[12] https://www.ucc.co.ug/postal-and-courier/

[13] https://x.com/UCC_Official/status/1900094864903024958

Table 9: Postal and courier service statistics, 2018 - 2024

		2018	2019	2020	2021	2022	2023	2024
Post offices		154	154	154	154	154	154	154
Private letter boxes		82,900	82,900	82,900	82,900	82,900	82,900	82,900
Letters		1,140,623	902,850	508,826	473,793	485,912	454,984	395,309
		43%	-21%	-44%	-7%	3%	-6%	-13%
Ordinary Letters	Domestic	196,641	267,620	63,116	47,912	69,466	46,955	19,308
	Posted	310,720	214,967	164,554	105,972	150,374	140,482	154,535
	Received	564,991	336,987	239,838	276,546	232,031	230,960	180,129
Registered Mails	Domestic	13,916	13,161	6,028	13,691	10,526	10,731	12,841
	Posted	17,726	21,378	10,681	12,298	9,355	9,561	8,319
	Received	36,629	48,737	24,609	17,374	14,160	16,295	20,177
Parcels	Incoming	15,411	18,075	8,160	13,316	13,146	12,713	13,179
		-7%	17%	-55%	63%	-1%	-3%	4%
	Outgoing	n/a	3,022	663	1,127	1,214	1,057	1,197
EMS	Domestic	157,538	103,055	48,795	38,239	33,734	25,680	41,723
	Posted	9,407	8,457	5,480	7,615	6,010	6,302	7,918
	Received	7,242	7,249	2,894	5,163	3,137	8,421	9,817
Source:		Posta Uganda Limited						

Adoption is slower in rural and peri-urban areas but is expanding through digital innovations. The introduction of ePosta virtual addresses, agency banking and remittance services at post offices reflect the multifaceted role of modern postal systems. Posta Uganda offers services such as express mail service (EMS), money transfers, internet services and public transport through PostBus, seeking to create new revenue sources.[14]

Despite this growth, usage intensity remains modest. Although postal services are becoming more relevant in e-commerce and digital finance, per-capita usage remains low by international standards. To sustain adoption, continued investment is required in digital infrastructure, reliable addressing, affordable pricing and partnerships that connect Posta Uganda's nationwide footprint with private sector innovation.

2.4.3 Investment Gap

The transformation of Uganda's postal and courier sector is hindered by regulatory and technological lag, as well as chronic underinvestment in infrastructure, digital systems and modernisation of services. While global postal operators have moved towards e-commerce logistics and digital financial services, Posta Uganda, Uganda's designated operator, continues to operate with outdated equipment, limited automation and insufficient capital to upgrade its facilities or expand its services. The private courier sector, though vibrant, is fragmented and urban-centric, with little long-term investment

[14] https://parliamentwatch.ug/news-amp-updates/posta-uganda-calls-for-urgent-ugx-5-5-billion-revamp/

in shared infrastructure or rural connectivity. This uneven development leaves the sector ill-equipped to handle sustained surges in parcel volumes and the diversification of consumer demand triggered by digital commerce.[15]

Bridging this investment gap is essential for both operational efficiency and sector sustainability. Modernising sorting centres, introducing national digital addressing and adopting track-and-trace technologies all require targeted capital injections and stronger public–private collaboration. Without such investment, the sector will struggle to meet its universal service obligations, integrate with e-commerce supply chains or compete regionally within an increasingly digital postal landscape. Estimating the size and structure of this investment need will provide policymakers and investors with the evidence base to prioritise reforms, mobilise financing and align the postal modernisation agenda with Uganda's NDPIV, the Digital Uganda Vision and the broader communications sector investment framework.

In order to quantify the investment gap in Uganda's postal and courier sector, this framework focuses on the capital inputs required to modernise infrastructure, enhance efficiency and align services with the digital economy.[16,17] Adopting a medium-term (2025–2030) perspective and an *asset-light investment model*, it recognises the increasing importance of private couriers, digital platforms, and SME delivery agents in providing last-mile services. The approach covers *core physical assets*, such as sorting facilities and logistics hubs, as well as *supporting enablers*, including digital systems, infrastructure development, and green logistics investments. Each component reflects the functional areas in which modernisation would deliver the greatest improvements in operational efficiency and service quality, while reducing the need for long-term public subsidies.

The framework disaggregates investment needs into six categories:

i. **Core postal infrastructure:** modernisation of regional hubs and limited renewal of long-haul fleet assets.
ii. **Digital systems and automation:** investment in ERP, track-and-trace and digital logistics management platforms.
iii. **Last-mile delivery network:** expansion through SME and agent partnerships rather than capital-intensive assets.
iv. **Addressing and location infrastructure:** national digital addressing and geocoding systems to improve delivery efficiency.
v. **Green and resilient infrastructure:** energy-efficient and climate-resilient postal facilities.

[15] https://parliamentwatch.ug/news-amp-updates/expired-license-mounting-debts-posta-ugandas-future-hangs-in-balance/

[16] https://upu.int/UPU/media/upu/publications/Digital-economy-and-postal-digital-activities_EN.pdf

[17] https://www.ca.go.ke/ministry-embarks-reforms-turn-around-postal-corporation-kenya

vi. **Ecosystem enablers:** integration with e-commerce, fintech and logistics platforms to drive innovation.

The cost of each component is estimated using realistic benchmarks and scaled according to the level of coverage or ambition level across three investment scenarios: **Scenario A (Basic efficiency upgrade), Scenario B (Full modernisation and expansion), and Scenario C (Integrated e-commerce ecosystem)**. The framework in Table 10 provides a high-level capital envelope to inform sector budgeting, partnership structuring and financing mobilisation strategies.

Each scenario adjusts the framework components according to policy priorities, financial resources and the anticipated rate of digital transformation.

i. Scenario A focuses on sustaining current operations and restoring minimum efficiency in core infrastructure, primarily by rehabilitating existing hubs and digitising essential systems. It assumes limited automation and modest digital integration, maintaining the status quo with incremental improvements.
ii. Scenario B is a more proactive modernisation path which expands network coverage, upgrades ICT systems across all hubs and strengthens partnerships with private couriers and SMEs for last-mile delivery.
iii. Scenario C is the most ambitious pathway, positioning the postal sector as a fully integrated player in the e-commerce and digital economy ecosystems. It combines infrastructure modernisation with interoperable platforms, green logistics and innovation partnerships, and requires significant private and donor co-financing.

Table 11 summarises the indicative capital expenditure (CAPEX) requirements under each scenario, alongside the estimated distribution of public and private financing.

The trend is clear across all scenarios: greater digital integration and private participation sharply improve efficiency and service reach, while reducing the need for public financing. **This asset-light model, anchored in partnerships with SMEs and agents, keeps overall capital requirements within a manageable range of USD 45–85 million**. This enables Uganda's postal sector to evolve from a traditional mail carrier into a modern logistics and e-commerce provider.

2.5 Summary

Analysis of the three subsectors—broadband, broadcasting and postal services—demonstrates that investment priorities in Uganda's communications sector directly reinforce the strategic outcomes of the **NDPIV Digital Transformation** and **Innovation and Technology Development Programmes**. Identified opportunities contribute to expanding connectivity, stimulating innovation and improving service delivery, thus helping to advance Uganda's long-term digital economy objectives.

Table 10: Investment needs for the postal and courier subsector

Investment category	Objective	Key cost drivers / variables	Unit Cost (USD)	Estimation formula	Indicative CAPEX range (USD Million)
Core postal infrastructure	Modernise regional sorting hubs and limited trunk-route fleet renewal	No. of hubs Average facility size (m^2) Automation and conveyors Limited fleet (trucks and buses)	Hubs: 1,500/m^2Automation: 0.6 Mn per hub Truck: 75,000 each Bus: 55,000 each	(Hubs × [Size × Cost/m^2 + Automation]) + Fleet CAPEX	**15 – 25**
Digital systems and automation	Digitise operations and integrate with partners Manage the outsourced delivery network	ERP/Track and Trace/CRM system ICT kit per hub No. of partner integrations Digital logistics and partner management system	ERP/CRM suite: 1.5 Mn ICT kit: 0.2 Mn/site Integration: 0.35 Mn Partner system: 3 Mn	Σ(Systems + Site ICT + Integrations + Partner system)	**12 – 22**
Last-mile delivery network	Expand access through SME/agent partnerships and digital onboarding	Outlets upgraded No. of agents Agent kits and training grants (Optional) lockers	Outlet refurb: 65 k each Agent kit: 1.2 k each Training grant: 0.8 Mn total Locker: 20 k each (optional)	(Outlets × Cost) + (Agents × Kit) + Training + Lockers	**5 – 10**
Addressing and location infrastructure	Enable national addressing Support efficient routing and delivery coverage	Population coverage Unit cost per address digitised	0.5 – 1.0 USD per address	(Population × Coverage × Cost per Address)	**3 – 8**
Green and resilient infrastructure	Introduce energy-efficient, solarised operations	No. of sites solarised Retrofit cost per site	25 – 35 k per site	(Sites × Cost per Site)	**4 – 8**

E-commerce and ecosystem enablers	Foster integration with e-commerce and fintech platforms and logistics SMEs	E-commerce/data exchange platform SME incubation and innovation grants	Platform: 2.5 Mn SME grants: 1.2 Mn	Σ(Platform + Grants)	**6 – 12**

Table 11: Indicative CAPEX requirements for each scenario.

Scenario	Description	Coverage / Ambition Level	Estimated Total CAPEX (USD Mn)	Public vs Private
A – Basic efficiency upgrade	• Maintain core services • Rehabilitate hubs • Limited digital rollout	• 3 regional hubs • Basic automation • 40 % digital coverage • Essential track-and-trace	**40 – 50**	75% public / 25% private
B – Full modernisation and expansion	• Transition to parcel-centric operations • Expand SME agent network	• 6 hubs • Full automation • 70 % digital coverage • Nationwide agent model • Address system rollout	**60 – 75**	55% public / 45% private
C – Integrated E-Commerce ecosystem	• Build a digital, interoperable and green postal ecosystem integrated with fintech and logistics platforms for e-commerce growth	• 6 + hubs • 100% digital integration • National addressing • E-commerce data exchange • Green facilities	**75 – 90**	45% public / 55% private

3 Investment Drivers and Barriers in the Communications Sector

3.1 Introduction

The increasing digitalisation of Uganda's economy and society creates new investment opportunities that, while crucially relying on physical infrastructure investments, go beyond them. Digital services depend on existing ICT infrastructure, but they also generate demand for more investment in new ICT infrastructure, such as 5G and fibre-to-the-home (FTTH) technology. Streaming services exemplify trends that push the boundaries of connectivity, while eCommerce platforms, such as Jumia Uganda[18] and Jiji[19], rely on widespread broadband connectivity within the population. An enabling environment extends this context to include data protection, consumer protection, payment systems and identification platforms. This Chapter opens with a discussion of why it is important for Uganda to attract private investment in the ICT sector before grouping investment areas and categories. It then examines those factors that potential investors focus on and in so doing provides UCC, in collaboration with other agencies, with guidance on where primary focus should be placed to attract more investors and larger investments.

The assessment is based on the quantitative sector diagnostics presented in Chapter 2 and the preliminary findings of the Investment Climate Survey summarised in Chapter 4. It establishes an analytical link between market evidence and the investment policy actions proposed in subsequent chapters. In doing so, it directly supports the Digital Transformation Programme's objectives under NDPIV, which emphasise creating a predictable, attractive and innovation-friendly environment for ICT investment.

3.2 The Why for Attracting Private Sector Investment

Table 12 outlines five core principles that underpin reasons for attracting private sector investment into the communications sector, underscoring the importance of creating a conducive environment for private investment, which is a requirement for achieving sustainable economic growth and digital inclusion across Uganda. Part of this environment is a governance framework that maintains fair competition at least possible cost for the ICT sector. The term 'governance framework' captures the interaction of institutional arrangements, laws, policies and regulations. This includes analysing how various institutional setups impact market dynamics; how laws

[18] https://www.jumia.ug/

[19] https://jiji.ug/

shape the regulatory authority and its ability to enforce the law; how policies influence industry practices and innovation; and how regulations ensure fair competition.

Table 12: Principles of private sector investment

Principle	Description
1	Fair competition balances investor and consumer interests: The ICT sector has a limited number of companies by design; fair competition thus needs to be safeguarded by a regulator.
2	Operational efficiencies are driven by a profit motive: Private investors have "skin in the game," i.e., they may lose their own money if they make bad strategic decisions. Public servants, on the other hand, face much lower or no repercussions for bad decisions
3	Public investment catalyses private sector investment (Some investments are either too risky or not profitable yet are required to facilitate development. This is when public investment plays a crucial role)
4	Higher broadband penetration results in economic growth: Digital transformation of economies and societies facilitates economic growth and development. The ICT sector is an input to other sectors of the economy
5	Effective ICT governance drives investment and economic growth: Certainty, accountability and transparency make investments more attractive

3.3 Investment Areas and Investor Categories

Investors tend to fall into three major categories, which are defined by the policy, legal and regulatory environment: Licensed Operators, Multinational Technology Companies, and the Public Sector. Table 13 summarises the key investment segments of the broadband value chain and the investor category normally interested in each.

The investment segments outlined here correspond to the priority areas of NDPIV in the Digital Transformation and Innovation programmes, namely broadband infrastructure, digital entrepreneurship and ICT-enabled service delivery.

While it is included as an investor where public good or inclusion requires it, the main role of government is to coordinate a holistic approach to investment – holistic in the sense that policy and regulatory barriers are eliminated and incentives provided; and that there are mechanisms to ensure that all players act in unison to minimise both capex and opex across the board. This brings down the cross-cutting costs of access and utilisation for users at all levels.

Table 13: Overview of investments and players

	Licensed operators	Multinational technology companies	Public Sector
Typical investment	International connectivity National backhaul End user access IXP / data centres	e-commerce platforms Supply chain digitalisation Data centres	Universal access and service ICT literacy Content promotion Training Last mile access (Wi-Fi, fibre etc.)
Investment policies and support measures	Sector specific investment rules Privatisations PPP's Investment related policies (tax incentives)	Enabling environment Taxation	eGovernment ICT policies (education, broadband, etc.) Regulatory frameworks IPA's
Examples of Investors	Mobile Network Operators (MNOs), Internet Service Providers (ISPs) and fibre and tower companies.	Google, Meta, Akamai and Cisco who invest in data centres, caches and international connectivity, because market access to the last-mile is restricted by operating and spectrum licenses	Government at all levels including national, local, and municipalities.

International best practice highlights private sector involvement, data-driven analysis and collaboration as key principles for successful investments in the communications sector. A review[20] of 70 major Internet-related infrastructure projects from around the world spanning the entire infrastructure value chain: cross-border, national backbone, middle mile, and last mile found the following basic principles:

i. **Private sector involvement:** Governments should involve the private sector in infrastructure deployment, such as building open-access networks, to benefit from cost and risk sharing, expertise, and financial insight. State-owned incumbents can also be restructured to leverage private-sector advantages, like market repositioning into separate wholesale and retail entities.

[20] The World Bank, Digital Development Partnership (DDP), Dec 2018, Innovative Business Models for expanding Fiber-optic networks and closing the Digital Divide, https://documents1.worldbank.org/curated/en/674601544534500678/pdf/Main-Report.pdf

ii. **Data driven analysis:** Combining data sources like census data, coverage maps and telco service indicators can identify investment gaps in telecommunications infrastructure. This approach helps calculate unmet demand, providing reliable estimates for return on investment and potential subsidy needs.

iii. **Private sector dialogue:** Collaboration between the private and public sectors can significantly boost infrastructure investment. State utilities possess valuable assets like ducts, poles and fibre networks that can be used for cost-effective infrastructure deployment. Joint projects, such as combining telecommunications and utility networks, are feasible and can lead to substantial cost savings through passive infrastructure sharing. This includes reusing existing cable ducts, implementing "dig-once" policies, and sharing mobile sites and towers. State-driven collaboration can help overcome these challenges.

3.4 Profitability

The bottom line is always important to investors, and it is evident from Table 14, which provides expected returns for different segments of the internet value chain in emerging economies like Uganda, that the ICT sector is very profitable, creating high potential for attracting investors. The digital transformation trends globally indicate potential growth in Africa's digital service uptake and innovation, leading to increased demand for better connectivity. Market access to the last mile is restricted by operating and spectrum licenses with the result of lower cost of capital, higher EBITDA margins,[21] and a higher return on equity than other sectors. The connectivity segment is the most profitable in the Internet value chain, with returns exceeding capital costs in emerging markets. The wireless telecommunication sub-sector benefits from low capital costs and high profitability, with EBITDA margins of 31.3% compared to an average of 12.9% across sectors. Its return on equity is 11.4%, above the sector average of 0.3%, with a lower cost of capital at 9.4% compared to 10.3%.

Table 14: Profitability along the broadband value chain for emerging markets

Segment	Sectors	EBITDA Margins	Return on Equity	Cost of Capital
Content rights	Broadcasting	17.7%	1.3%	10.6%
	Entertainment	14.5%	-0.5%	13.0%
Online services	Advertising	5.4%	5.0%	15.7%
	Information Services	12.8%	15.2%	12.0%
	Software (Entertainment)	15.7%	18.9%	16.6%
Enabling technologies	Telecom. Equipment	6.7%	5.7%	13.1%
	Software (Internet)	3.8%	2.9%	11.7%
Connectivity	Telecom (Wireless)	31.3%	11.4%	9.4%

[21] Earnings Before Interest, Taxes, Depreciation, and Amortisation

Segment	Sectors	EBITDA Margins	Return on Equity	Cost of Capital
	Telecom. Services	28.4%	6.7%	8.9%
User interface	Electronics (Consumer and Office)	6.0%	4.3%	11.6%
	Software (System and Application)	3.3%	-0.5%	14.8%
Average	Across 94 sectors	12.9%	0.3%	10.3%
Source: Aswath Damodaran, updated 22 May 2024				

3.5 Macroeconomic Fundamentals

Macroeconomic fundamentals are major consideration factors for investors. This section focuses on GDP growth, inflation, public debt and taxation (see 3.6.3).

GDP growth

Uganda's economy has experienced strong growth over the past 8 years, with annual GDP growth averaging above 6% (6.3% for 2025) – and IMF projects double-digit growth (10.8%) for 2025/26 (Uganda's Vision 2040 targets double digit growth by 2030).

Inflation

Inflation spiked to 7% in 2022, from 3% (2020) and 2% 2021) driven by soaring fuel and food prices, but it has since been brought under control (down to 3%in 2024) through tighter monetary policy by the Bank of Uganda (BOU). This demonstrates Uganda's ability to safeguard macro-economic stability. This is reflected in the fairly stable USD exchange rate, which has remained between UGX 3,500 and 3,700 per USD since 2019.

Public debt

Source: World Bank, https://data.worldbank.org/indicator/GC.DOD.TOTL.GD.ZS?locations=UG

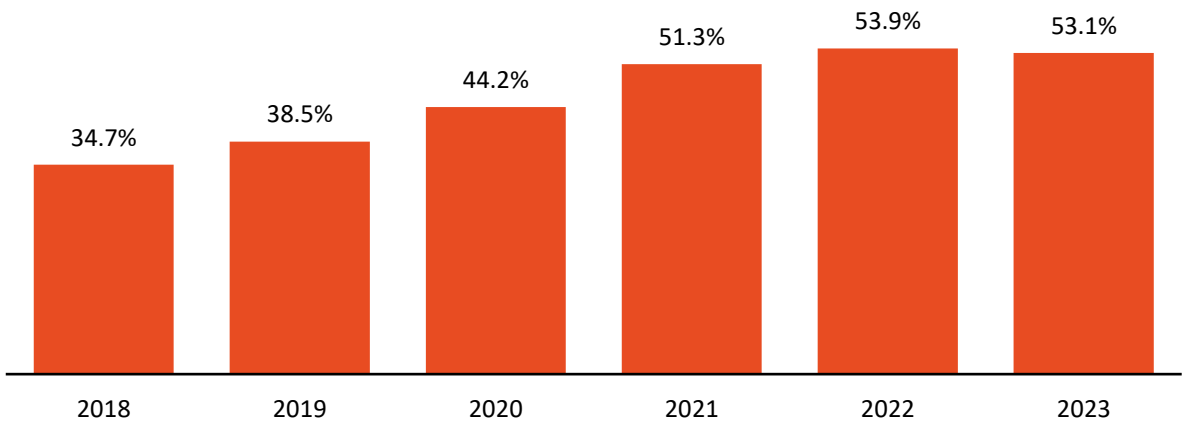

Figure 4: Central government debt as % of GDP

The **Ministry of Finance and IMF deem public debt sustainable in the medium term even if public debt has increased due to significant investment.** The IMF concluded that the Government of Uganda embarked on reforms that have administratively improved its public investment management (PIM) system.[22]

Overall, Uganda's macroeconomic fundamentals – moderate debt, low inflation and a credible policy framework – provide a stable foundation for growth. Economic growth and macro-economic stability are attractive for foreign direct and domestic investments. Stable macroeconomic fundamentals and targeted fiscal incentives are consistent with NDPIV's commitment to improving Uganda's investment climate and competitiveness across digital industries.

3.6 Attracting FDI

While both Uganda as a country and the national ICT sector satisfies the fundamentals with respect to attracting FDI, a lot can be done by UCC to drive this to a much higher level.

3.6.1 Collaborating with the UIA and UFZA

Uganda Investment Authority (UIA) plays a central role in facilitating FDI, an important source of ICT infrastructure funding. UIA has a one-stop centre for licensing and aftercare services, as well as access to serviced land in industrial parks, and champions investor-focused reforms and manages strategic investment infrastructure. **Uganda Free Zones Authority (UFZA)** complements this by overseeing the development and regulation of export-oriented free zones, including benefits from extensive tax incentives, duty exemptions and infrastructure support aimed at boosting trade competitiveness and attracting FDI in manufacturing.

Uganda has experienced a significant increase in FDI inflows, rising from USD 1.3 billion in 2019 to over USD 3.3 billion in 2024, driven by oil and gas development. The majority of investment have originated from Europe, particularly the Netherlands and the UK, often via holding companies associated with major oil investments. In addition to the extractive industries, FDI is increasingly targeting the manufacturing, finance, construction and business services sectors, which are supported by Uganda's industrial parks and access to regional markets.[11,14]

In the ICT sector, UIA should provide detailed information, support and incentives to potential investors, showcasing opportunities. UIA can also help investors navigate regulatory environments and bridge interactions with government entities, aiming to boost investment in ICT infrastructure. Literature shows that investment promotion agencies that explain where the market gap existed, what government was planning (such as eGovernment, bulk data purchases, etc.) and other initiatives create more attractive destinations for FDI. Across the comparator countries in Table 15, no country

[22] Uganda: Technical Report - Public Investment Management Assessment

has an active digital investment promotion strategy – and this is an obvious opportunity for UCC to seize by engaging UIA. It should be noted that Egypt (not in the Table), for example, has a formal digital investment promotion strategy.

There is however significant work to be done to attract FDI and to make Uganda attractive for investors because they complain of persistent challenges. These include bureaucratic licensing processes, difficulties in acquiring land and regulatory unpredictability, including sudden tax assessments and inconsistent exemptions. Perceived corruption and weak contract enforcement also affect investor confidence, as do governance concerns.[12,14,17]

Table 15: Comparison of selected Investment Promotion Agencies' focus on Digital Strategy

	Investment Promotion Agency?	Does the IPA have a digital strategy?	If so, are there specific targets?	What restrictions are there?
Burundi	Yes	No	No	No limitations
Ethiopia	Yes	No	No	The Ethiopian Investment Commission has established ICT as a priority sector for investment and telecom as an emerging Sector citing the liberalisation policy, new licenses and privatisation of Ethio Telecom as key areas.
Kenya	Yes	No	No	
Malawi	No data			
Rwanda	Yes	No	No	No foreign ownership restrictions
South Africa	Yes	No	No	
Tanzania	Yes	Yes	No	Foreign ownership restricted to 75%
Uganda	Yes	No	No	The 2020 Communications Licensing Framework (CLF) requires telecommunication companies with nationwide licenses to list at least 20% of their shares on Uganda's stock market
Source	RIS Desk Survey, 2024			

3.6.2 De-risking Investments

In Uganda's ICT sector, financing and risk mitigation are vital for attracting large investments. According to OECD, one of the most effective approaches to reducing the cost of capital is linking up with development finance institutions such as the World Bank, the IFC and the European Bank for Reconstruction and Development (EBRD) - these can

help lower the cost of capital by reducing the risks for private investors as well as providing help in accessing certain markets and political connections.[23] Multilateral development banks, such as the World Bank, the International Finance Corporation (IFC), and the Multilateral Investment Guarantee Agency (MIGA), play an instrumental role in de-risking investments by offering financial products such as risk insurance, guarantees, and partial credit support. These instruments help to lower the perceived risk for private investors, making it more feasible to undertake projects that might otherwise be deemed too risky. Development banks can also offer critical financial support through grants, loans, and subsidies, which address both market and institutional failures.

Public-private partnerships (PPPs) are encouraged, where private sector involvement is incentivised through public sector gap financing. Governments, supported by MDBs, often act as "anchor tenants" by committing to long-term usage of digital services, thus lowering investment risks for private companies. This approach helps in aggregating demand, achieving economies of scale, and making rural and underserved areas more attractive for private investment.

In summary, MDBs and the private sector are critical in funding and operationalising digital infrastructure projects across Africa. MDBs provide necessary financial support and facilitate market reforms, while the private sector plays a dominant role in infrastructure development and expanding connectivity. Together, they work to bridge digital gaps, particularly in high-cost and low-income regions.

3.6.3 Optimising ICT sector taxation for economic Growth

Taxation plays a crucial role in shaping the ICT investment landscape, calling for the government of Uganda to balance the opposing objectives of collecting taxes, on the one hand, and economic growth, job creation and inclusion of the poor into the information society, on the other. High import tariffs and duties on ICT network equipment and consumer devices directly influence the cost structure of these technologies, making them more expensive for both providers and consumers. Additionally, ICT sector specific excise duties and withholding taxes distort investments. Avoiding ICT sector specific taxes removes investment distortions and negative externalities. Tax exceptions for specific ICT goods and services further provide the potential for positive externalities, attracting investment which may lead to more private sector participation in infrastructure development.

In a competitive sector, lower prices lead to higher broadband uptake, higher usage, higher profitability and therefore higher investment. Figure 5 shows the links between pricing, profitability, investment and economic growth. The assumption underlying these linkages is that the sector is competitive, that spectrum policy is positive and that entry into the market is not too difficult. High barriers to entry and few competitors disconnect these links and lead to lower investment overall.

[23] OECD Emerging Markets Network, 2022. Business Insights on Emerging Markets, https://www.oecd.org/dev/EMnet-Business-Insights-2022.pdf

The ICT sector should be taxed at the same rate as the rest of the economy due to its role as an economic enabler. Tax policies that increase broadband costs or reduce sector profits can limit connectivity and investment, affecting broadband access and e-services. The COVID-19 pandemic highlighted the importance of affordable broadband for economic growth. In Uganda, telecom services face a 12% excise duty and 18% VAT. Analysing the impact of removing these taxes can help understand their economic effects.

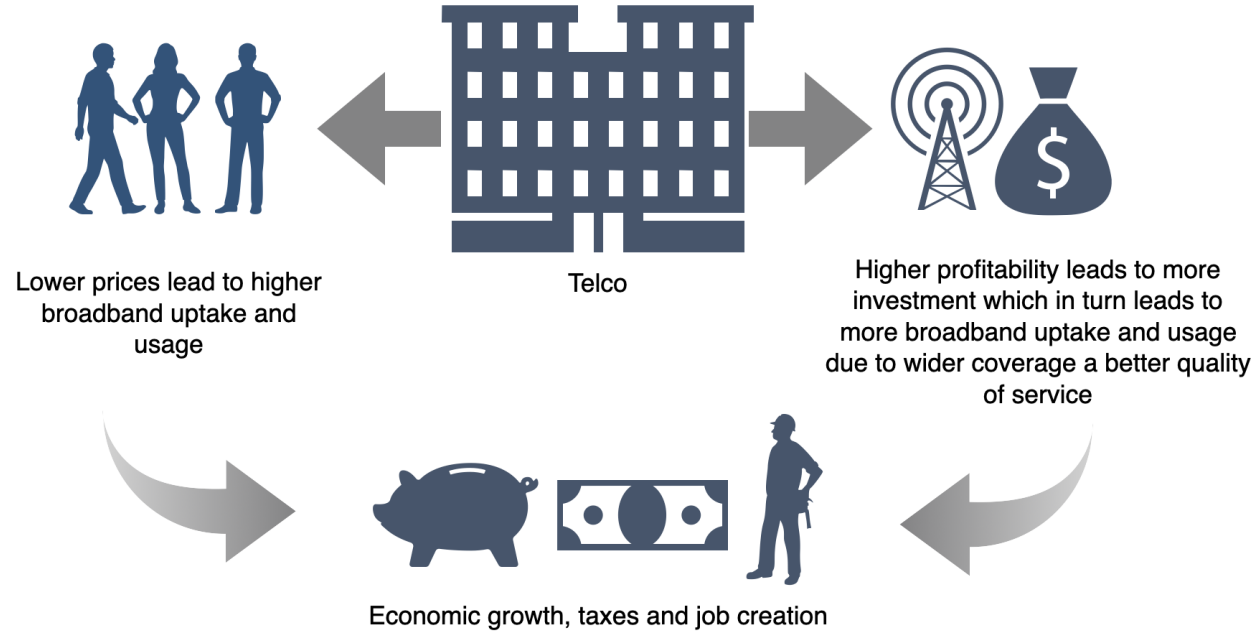

Figure 5: Link between pricing, profitability and economic growth

In Uganda, there is an excise duty of 12% on telecom services, including airtime and data as well as VAT of 18%.[24] To understand the economic impact, we can simulate the effects of removing both VAT and excise duty on telecom services, analysing scenarios of full pass-through and no pass-through.

In July 2018, the Uganda government imposed two new excise duties: a mobile money tax of 1% on mobile money withdrawals based on the value of the transaction and a social media tax of 200 UGX per day. The excise duty on mobile money (MM) fees was also increased from 10% to 15%. This led to an immediate decline in data usage and mobile money transaction values declined. International experience has shown that this type of price increase results in an immediate drop in usage. When usage starts growing again, it is from a significantly lower base, with an associated economic cost. The social media tax of UGX 200 was replaced by the 12% rate on Internet data while the mobile money withdrawal tax was reduced to 0.5%.

[24] Reverse VAT on imports https://www.ardenfield.com/understanding-reverse-vat-in-uganda-1

Table 16: ICT applicable taxes for Uganda

Tax	ICT Specific Excise duties	Rate
Excise duties	Airtime applicable to mobile cellular, landline, and public pay phones	12%
	Internet data, except data for the provision of medical and education services	12%
	Valued added services (VAS)	12%
	Money transfers (other than transfers by banks)	15%
	Mobile money withdrawal of cash	0.5% of the value of the transaction
	Incoming international calls (other than calls from the Republic of Kenya, the Republic of Rwanda, the Republic of South Sudan, and Tanzania)	USD 0.09 per minute
VAT	Applies to the supply of most goods and services and in this case will impact users buying ICT devices and broadband services	18%
Import Duty	Tax on Imported ICT devices	10%
WHT	Commission on mobile money for residents	10%
	Non-resident internet service providers for non-residents	5%
	Withholding tax on imports that is non-reclaimable applies to imported ICT equipment and devices like computers and smart phones	15%
Infrastructure levy	Applies to custom value of all imported good, which will apply to imported ICT equipment and devices	1.5%
Sources	https://taxsummaries.pwc.com/uganda/corporate/other-taxes https://www.ura.go.ug/ https://www.trade.gov/country-commercial-guides/uganda-import-tariffs	

Tax impact modelling

This analysis explores the potential economic and fiscal impacts of eliminating VAT and ICT specific excise duties on telecom services. Two scenarios are simulated, one in which the MNO passes the tax reduction fully to the consumer, that is, prices are lowered by the level of tax reductions. This scenario is called "Full Pass Through." The other scenario assumes that prices remain unchanged and that the mobile operators simply have higher net revenues and profits as the result of the tax reduction. This scenario is called the "No Pass Through." Higher profit margins will lead to increased investments and increased network coverage in this scenario.

The impacts of a reduction in VAT or ICT sector-specific excise duty will be analysed based on three scenarios. Scenario one is the current situation. Scenario two (Full Pass Through) assumes that the tax reduction is passed on to the consumers and results in lower prices

and higher revenues. Scenario three (No Pass Through) assumes that tax reductions are not passed onto consumers and the result is just higher profits and dividends. Both projected scenarios will assess the direct impact on tax revenues from corporate income tax and personal income tax. They will also be assessed for the change in investment and the subsequent increase in network coverage, GDP, job creation and tax revenue changes across the economy.

The basis for ICT sector taxes is the total revenues of the ICT sector. ICT sector taxes are paid by companies in the ICT sector, individuals working in the ICT sector or consumers of ICT services directly to the government. Lower excise duties mean higher sector revenues and profits and therefore also higher corporate income tax and VAT revenues for the state. Higher revenues and profitability also mean more Pay as You Earn (PAYE) tax paid by employees of ICT sector companies.

The basis of tax revenues from the wider economy is the GDP and productivity gains through digital transformation. The economy-wide taxes are corporate income, personal income, PAYE and other taxes from other sectors than the ICT sector and are impacted by productivity increases across the entire economy due to digital transformation and higher information efficiency. The Tax Impact Calculator estimates the boost in GDP as a result of an increase in broadband penetration. A negative impact stands for a forgone change in productivity boost, i.e., GDP growth that would have materialised if an excise duty had not been collected.

Estimating impacts of abolishing excise duties

The analysis in Table 17 explores the potential economic and fiscal impacts of abolishing ICT specific excise duties on economic growth and overall tax revenues. Two scenarios are simulated, one in which the MNO passes the tax reduction fully to the consumer, that is, prices are lowered by the level of tax reductions. This scenario is called **"Full Pass Through."** The other scenario assumes that prices remain unchanged and that the mobile operators simply have higher net revenues and profits as the result of the tax reduction. This scenario is called the **"No Pass Through."** Higher profit margins will lead to increased investments and increased network coverage in this scenario.

The assumption behind the Tax Impact Calculator is that an excise duty will pass through to retail prices. Removing an excise duty will lower the price for end users and a new excise duty will increase the price for end-users. The Tax Impact Calculator uses a demand elasticity of -1.2, taken from a GSMA study for Kenya. And for the price elasticity for adoption, it uses -0.9 from the same study. This means that a price reduction of 10% will lead to an increase in subscribers by 12%. A higher adoption rate then translates into additional economic growth. The effect sizes are taken from an ITU (2020) study for Africa. The impact on job creation is then the result of the additional GDP, by multiplying the jobs per GDP ratio with the additional GDP.

Table 17: Simulation of dropping the excise duties for Uganda

	Unit	Current	Full pass through	No pass through	Source
Excise duty reduction	%		12%	12%	
Revenue changes due to price elasticity of demand of -1.2	%				GSMA 2021
Revenues	UGXs Billion	10318	11,804	10318	Revenues from Airtel and MTN multiplied by 2
Excise Duty Rate	%	12%	0%	0%	PWC 2025
Excise Duty Revenue	UGXs Billion	1238	0	0	Calculated
VAT Rate	%	18%	18%	18%	PWC 2025
VAT Revenue	UGXs Billion	1857	2125	1857	Calculated
Profit before tax margin	%	26.6%		38.6%	AFS Airtel and MTN for 2024
Profits before tax	UGXs Billion	2745	3140	3983	Calculated
Corporate income tax rate	%	30%			PWC 2025
Corporate income tax (CIT) Revenue	UGXs Billion	824	942	1195	Calculated
Salary margin	%	4.7%			AFS Airtel and MTN for 2024
Salaries	UGXs Billion	485	555	485	Calculated
Personal tax rate	%	40%			Highest rate chosen
Personal Income tax (PIT) Revenue	UGXs Billion	194	222	194	Calculated
Profit after tax margin	%	18.2%		30.2%	AFS Airtel and MTN for 2024
Profits after tax	UGXs Billion	1878	2148	3116	Calculated
Change in after tax profits	%	NA	14%	16%	Calculated
Direct Tax revenue from ICT sector	UGXs Billion	4113	3289	3246	Calculated
GDP	UGXs Billion	226,344			
Population	#	48,582,334			

	Unit	Current	Full pass through	No pass through	Source
Additional Broadband subscribers due to lower prices and adoption Elasticity of -0.9	#		10.8%		GSMA 2021
Additional broadband penetration due 3% Increase in mobile penetration as result of 50% more profits	%		0.9%	4.0%	ITU 2021
Combined penetration increase	%		11.7%	4.0%	Calculated
2.46% additional GDP for 10% higher broadband penetration	UGXs Billion		6515	2227	ITU 2020
Tax to GDP Ratio	%	12.50%			URA 2025
Implied tax revenue	UGXs Billion	28293			Calculated
Indirect taxes	UGXs Billion	0	814	278	Calculated
Total tax Impact	UGXs Billion	4113	4103	3524	Calculated
Change in overall tax revenues	%		-0.0%	-2.1%	Calculated
Jobs	Million	17.704			ILO 2025
Job to GDP Ratio	#	0			Calculated
Total impact on Jobs	1000		0	0	Calculated
Increase in overall jobs			2869.3%	973.2%	Calculated

3.6.4 Getting the ICT sector governance framework right

A transparent and stable governance framework is key for attracting ICT investment. Investors are looking for countries where the rules are clear and fair, so they can be confident that their investments will be safe and profitable. Good regulations make it easier for companies to enter the market, set up their operations, and start providing broadband services. By creating an environment that is welcoming to investors, developing countries can attract the investment needed to build out their telecom infrastructure, which in turn can help boost the economy and connect more people to the digital world.

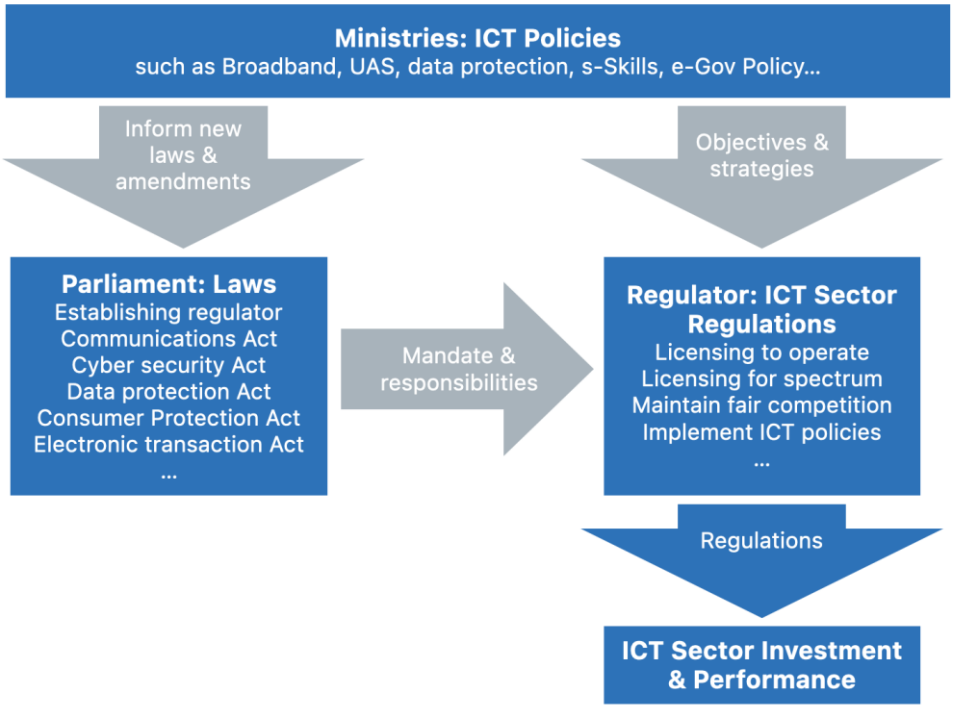

Figure 6: How the ICT governance framework impacts ICT sector performance

As shown in Figure 6, the line ministry for the communications sector drafts bills and amendments, which are then enacted into law by Parliament. Ministries of ICTs or communication also provide guidance to the ICT sector regulator through policies, such as broadband strategies and policies. The ICT sector regulator governs the market structure through licenses to operate and licenses to use spectrum. This market access restriction protects investments into ICT infrastructure, which may otherwise not take place.

Current Performance of ICT Governance and Regulatory Environment

Uganda ICT sector governance and regulatory environment is highly ranked (in comparison to other African countries), based on the latest (2024) International Telecommunications Union Regulatory Tracker[25]. This Tracker uses multiple indicators to assess ICT sector governance and regulation across the world. Uganda is placed at Generation 4 (see Figure 7), and is ranked 6th in Africa (following Kenya, Nigeria, South Africa, Malawi, and Rwanda), and 71st out globally 194.[26]

[25] https://app.gen5.digital/tracker/metrics

[26] Op cit

Source: ITU, https://app.gen5.digital/tracker/concepts

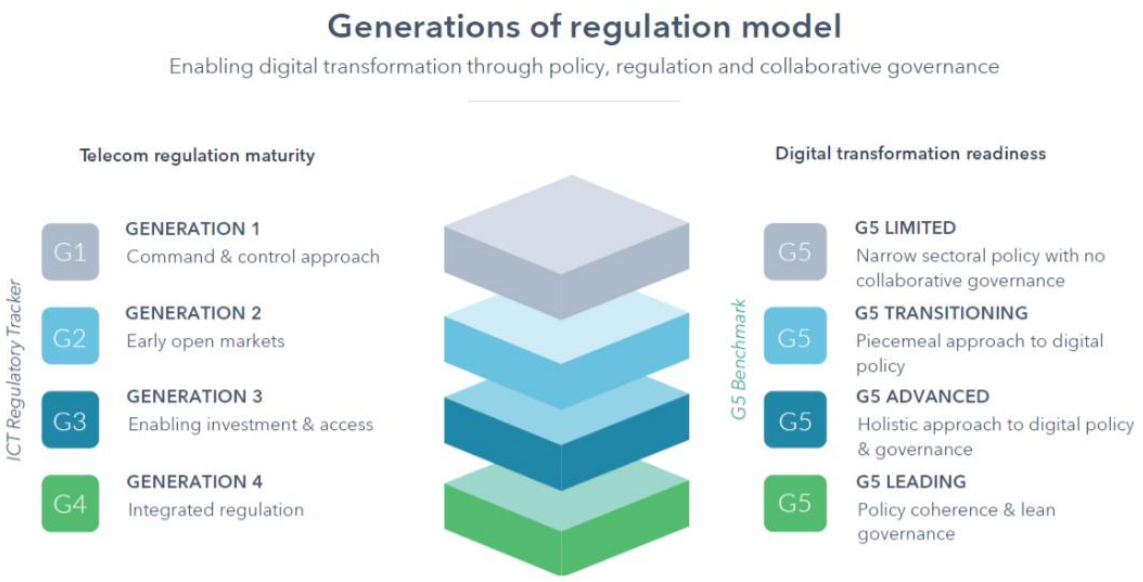

Figure 7: Five generations of regulation.

While it is evident that Uganda is already set as an attractive destination for communications sector investment, there are a myriad of policies, strategies and laws that are supposed to govern the sector. However, some of these are outdated and do not align with others, highlighting the need for harmonisation. The MoICT&NG was setup a multi-sectoral Task Team to address this issue. The team conducted a Regulatory Impact Assessment that established the need for governance harmonisation within the ICT sector and recommended key principles for a new law to address this. These principles were also approved by the Cabinet. The next stage is to use these principles to draft a new law. While this chapter highlights some of the key areas that need to be addressed, it is anticipated that the new policy law and subsequent governance environment will not only make the sector more effective, but also more attractive to investors.

The need to address barriers within the governance environment was highlighted in a 2021 ITU study, that examined the impact of policies, laws, regulations and institutions on investment in the ICT sector (see Table 18). The purpose of the study was to provide econometric evidence of the relationship between governance and supply-side factors (e.g. coverage and pricing) and demand-side factors (e.g. usage). The ITU study is comprehensive, presenting its findings via time-series analysis from 2008 to 2019.

Table 18: Impact of policies, regulation and institutions on ICT sector performance[27]

Policy or regulation	Summary
Profit tax (non-sector specific)	A 50% reduction in profit tax affecting the business sector is associated with an increase of fixed and mobile investment of nearly 14%.
Bureaucratic burden	A 50% reduction in administrative time required for doing business is linked to an increase in fixed and mobile investment of 17%.
Development of a national broadband plan	The development of a national broadband plan increases mobile investment by 15%, network coverage by 14%, price reduction by 8%, and mobile penetration by close to 3% after two years.
Convergent 'technology neutral' licences	Moving from service and network specific to convergent licensing is associated with an increase of mobile investment of 10%, network coverage by over 9%, price reduction by over 5%, and mobile penetration by approximately 2% after two years.
Spectrum sharing agreements	The possibility of performing voluntary spectrum sharing agreements is associated with a 18% increase in mobile investment, network coverage by over 17%, price reduction by close to 10%, and mobile penetration by over 3% after two years. *Source ITU (2021) cross country econometric panel study conducted by ITU.*
Mobile number portability	The introduction of mobile portability has a positive effect of increasing mobile investment by close to 11%, network coverage by 11%, price reduction by approximately 6%, and mobile penetration by 2% after two years. *Source ITU (2021) cross country econometric panel study conducted by ITU.*
ICT sector opened to foreign investment	When the market is opened to foreign players, capital investment is stimulated, increasing by 14%, network coverage by over 13%, price reduction by close to 8%, and mobile penetration by close to 3% after two years.
National competition authority (non-sector specific)	The existence of a competition authority (non-sector specific) is related to an increase in almost 10% in mobile investments, network coverage by close to 9%, price reduction by over 5%, and mobile penetration by close to 2% after two years.
Optimal industry concentration level	Optimal mobile industry concentration level (that is to say, the one that maximizes capital investment) was found to be close to HHI= 4113.

A comparative overview of ICT-related legislation reveals that Uganda has made significant progress in strengthening the legal framework for a competitive digital economy. Alongside its data protection and cybersecurity laws, the country has recently enacted the Competition Act (2024)[28], bringing it closer to full alignment with regional

[27] ITU (2021), Page 8 of executive summary

[28] https://ulii.org/akn/ug/act/2024/5/eng@2024-04-19/source

peers. However, Uganda still lacks a dedicated Consumer Protection Law, leaving only partial coverage of the four benchmark legal pillars. Consequently, Uganda now achieves 75 per cent coverage, which is comparable to Rwanda and Tanzania, but still falls short of the 100 per cent coverage recorded by regional leaders such as Kenya and South Africa. In Uganda's highly concentrated telecoms market, the absence of a modern consumer protection framework is particularly significant, as effective safeguards are needed to ensure fair play, strengthen user trust, and attract long-term private sector investment. Closing this remaining gap would consolidate Uganda's progress towards a comprehensive, investor-friendly digital regulatory environment.

Table 19: ICT laws

	Consumer Protection Law	Data Protection Law	Cybersecurity Law	Competition Law	Score
Kenya	Yes	Yes	Yes	Yes	100%
South Africa	Yes	Yes	Yes	Yes	100%
Malawi		Yes	Yes	Yes	75%
Rwanda	No	Yes	Yes	Yes	75%
Tanzania	No	Yes	Yes	Yes	75%
Zimbabwe		Yes	Yes	Yes	75%
Burundi	No	No	Yes	Yes	50%
Ethiopia	No	No	Yes	Yes	50%
Uganda	No	Yes	Yes	Yes	75%
Source	RIS review 2024				

Streamlining bureaucratic processes can directly impact the speed and efficiency with which new technologies can be deployed and existing networks upgraded. Rights-of-way for laying optical cables, procedures for acquiring land for radio transmission sites, as well as the rules for passive infrastructure sharing fall into this category. Lengthy and complex legal and regulatory procedures can significantly delay the launch of new services, leading to higher costs and lost opportunities for economic and social benefits. Streamlined processes, in which local authorities support the objective, enable faster market entry, reduce administrative and financial burdens on telecom operators, and foster a more competitive and dynamic industry, are needed. This, in turn, can accelerate the provision of advanced digital services to consumers and businesses, contributing to broader economic growth and technological innovation.

Regulations streamlining infrastructure deployment lag the rest of the world. While passive infrastructure sharing between mobile operators is becoming commonplace and increasingly mandated by regulation, active collaboration between telecom and local authorities and the existence of a "dig once" policy at the local authority level that includes

provision for communications ducting needs is lagging compared to standards being set elsewhere

The focus in this study was placed on identifying aspects of policies or laws, and lacunas or gaps in existing laws that result in barriers. Table 20 provides governance barriers to investment and Table 21 provides the gaps.

Table 20: Some laws and regulations that constitute investment obstacles and why

Barriers		Obstacle	Impact on Investment
Institutional arrangements	Overlapping mandates of MoICT&NG, UCC and NITA-U	Multiple agencies issuing overlapping regulations, creating compliance burdens	Increases transaction costs Increases uncertainty for investors over where to seek approvals
Legal Framework	Investment Code Act (2019)	Absence of clear sector-specific incentives for ICT/communications (compared to manufacturing)	ICT investors face less certainty compared to other sectors Potential investors may view communications as a secondary priority sector
	Electronic Transactions Act (2011)	Unclear enforcement mechanisms on electronic signatures, authenticity of data messages, and cross-border recognition of digital contracts. Ministerial powers to amend schedules and make regulations without clear checks and balances create regulatory uncertainty	Creates risk for telecoms/ISPs, fintech, and cloud service providers who may face legal action for user activity or unpredictable rule changes
	Data Protection and Privacy Act (2019)	Strong on paper but weak enforcement clarity; burdensome compliance for smaller ICT firms. No adequacy framework for cross-border data flows, restricting BPO/IT-enabled service providers	Limits growth of data-driven services (cloud, AI, BPO) Discourages foreign investment that depends on global data flows
Policy and regulation	Electronic Signatures Act (2011) and Regulations (2013)	Requires certification by licensed providers, but Uganda lacks a strong ecosystem of certifiers High compliance cost relative to the size of the market	Slows adoption of digital contracts and e-commerce, raising transaction costs for fintech and telecom operators

Table 21: Missing laws and regulations and why their absence is an investment barrier

Missing / outdated law / regulation	Why is it needed?	How the gap hurts investment
Cross-border data transfer rules (adequacy, standard contractual clauses, clear permits)	Enabling the lawful movement of data for BPO/ITeS, the cloud, CDNs and regional platforms	Multinationals avoid hosting or processing data in Uganda BPO/cloud deals stall due to compliance uncertainty
Comprehensive cybersecurity and critical-infrastructure protection legislation (rather than piecemeal regulations)	Protect telecom networks, data centres, IXPs and NBI Define incident reporting, liability and crisis management	Higher perceived operational risk and cyber insurance premiums Slows data centre, cloud, and fintech investments
A digital competition framework for converged markets (telecom and platforms)	Address dominance, fair access, zero-rating and app store/payment rules Align with convergence	Barrier to entry for new ISPs/platforms May discourage VC/PE investment in digital services due to the risk of foreclosure
Secondary spectrum markets and spectrum sharing rules	Allow trading, leasing and sharing of spectrum Help accelerate rural coverage and 4G/5G densification	Capital is trapped in underused spectrum Higher cost of rollout Weaker business case outside most urban centres
National Right of Way (RoW) and site-build code (single window and capped fees)	Harmonise permits, timelines, fees across local governments Streamline fibre/tower builds	Build delays and cost overruns Deters wholesale fibre, small-cell and towerco investments
Cloud and data centre policy (including "cloud-first" for Government, data centre classification and incentives)	Signal demand certainty Clarify data classifications Standardise procurement	Data centre and cloud operators lack anchor demand Facilities are harder to finance without predictable workloads
A regulatory sandbox in law for telecom, fintech, AI and IoTs	Safe space for pilots (eSIM, IoT, identity, AI and digital KYC) with time-bound exemptions	Innovative services face full compliance from day one Fewer proofs-of-concept and scale-ups
Updated e-waste and sustainability rules (modern equipment, batteries, 5G)	Clear obligations on take-back, recycling and lithium batteries Environmental, Social and Governance (ESG) alignment	Operators face ESG/reputational risk Financiers flag sustainability gaps Delays to network refresh

Missing / outdated law / regulation	Why is it needed?	How the gap hurts investment
Upgrade to digital identity and trust services (beyond basic e-signature)	Strengthen remote onboarding/eKYC, qualified trust providers and cross-border recognition	Friction in customer acquisition, B2B contracting, and cross-border service delivery
Open access and passive-infrastructure sharing code (ducts, poles and towers)	Mandate fair, transparent and cost-effective access to essential facilities	Duplicative builds raise CAPEX Rural economics are weak MVNOs and small ISPs are under pressure
Government cloud procurement and data classification standards	Standardise "what can go where" (on-premises, local cloud, regional)	Procurement ambiguity slows projects Suppliers price in risk Lost time-to-market
Modern consumer protection for digital services (platform transparency and redress)	Fit-for-purpose rules for OTTs, app stores, bundles and dark patterns	Disputes escalate Reputational risk Platforms are reluctant to localise services

The proposed measures to attract new foreign direct investment (FDI), including streamlined licensing, regulatory predictability and infrastructure-sharing incentives, mirror the interventions under the Enabling Environment for the Digital Economy sub-programme of NDPIV.

3.7 Case Studies of Regulatory Interventions

The following case studies serve as excellent examples of regulatory innovation across different regions of the world. These examples highlight the creative approaches taken by governments to foster private sector involvement while addressing key challenges such as broadband access, affordability and the digital divide. From light-touch regulation that encourages investment in the USA, to public-private partnerships driving national infrastructure development in New Zealand and municipal-led broadband networks promoting competition and service delivery in Sweden, these case studies illustrate how diverse regulatory frameworks can yield successful outcomes. Each demonstrates how adaptable and innovative policies can leverage both public and private sector strengths to meet the evolving demands of the telecommunications industry

3.7.1 USA – Light-touch Regulation

The digital divide is also no less a reality even in the world's largest and most dynamic market. Experience from the USA's National Broadband Policy over the period 2010-2020 indicates that Government policy leadership in a highly competitive market, backed by light-handed regulation, drove private sector operators and cable companies

to invest, innovate and achieve a high level of coverage, penetration and quality of service. While on the other hand, it was acknowledged that "market forces by themselves will not help America close two stubborn and unacceptable digital divides: between rich and poor, and between urban and rural, the great broadband challenge of the next decade is to close both divides by boosting adoption in low-income communities and deployment in high-cost areas".[29] It was concluded that even the very substantial resources and organisation of the country's universal service fund still fell short of closing the digital divide sufficiently, leading to a call for further universal access policy development.

The government at all levels still has a fundamental role to play. Even in the USA, where the regulatory framework is partially divested to the State level, hundreds of municipal administrations and cooperatives in many different States have invested public or local public/private cooperative funds in laying fibre infrastructures to bring connectivity to their communities[30]. These often provide open access to private internet service providers. They also typically regard themselves as providing competing options in situations where only one private operator or cable company might be present and considered monopolistic or unresponsive to market needs.[31]

[29] Federal Communications Law Journal, 2020, Building on What Works: An Analysis of U.S. Broadband Policy, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3698055

[30] Institute for Local Self-Reliance (ILSR), 2020, Fighting Monopoly Power: Broadband Internet Access, https://ilsr.org/fighting-monopoly-power/broadband-monopolies/

[31] ibid

USA - Adoption of light-touch regulation

Description: In 2010, the Obama administration released its Broadband Plan that took stock of existing broadband access, affordability and quality of service and concluded that existing government intervention had failed and that a new approach was needed. The Plan stated that broadband progress was "[f]ueled primarily by private sector investment and innovation"; that "government cannot predict the future"; that "the role of government is and should remain limited"; and that policymakers should thus focus not on imposing price controls or behavioural restrictions, but on "encourag[ing] more private innovation and investment". The result of government stepping back and adopting a 'light-touch' regulatory approach were immediate and investment in the sector sky-rocketed, quality of service dramatically improved and access to broadband is amongst the best in the world.

Private sector broadband providers have collectively invested over $1.7 trillion since 1996 to meet increasing consumer demands and maintain competitiveness. Annual investments have topped $70 billion each year since 2013. On the Government side of the equation, the universal service fund has been a significant mechanism for broadband subsidy. It has seen contributions that are not drawn from general taxes but rather from Government mandated charges on the major telecommunications providers' interstate revenues. This has included a significant contribution factor that has recently risen to 31.8%. The payment of 31.8% of interstate revenues has resulted in universal service revenues averaging USD 8.3 billion between 2020 - 2023. As a rough estimate, around 10% to 11% of investment in the sector is via government through the USF. Operating expenses for the Universal Service Administrative Company are about 3% of revenues, or about USD 248 million.

Objectives and outcomes: These investments and policies have markedly increased broadband access and usage across the United States, making high-speed internet more widely available and affordable. For example, in 2010 zero American households had access to broadband speeds greater than 1 Gbps. In 2019, that number had changed to 85% of all American households. In 2017, the USA passed South Korea in terms of IP Traffic per Internet User.

Reflection: It could be argued that the success of the USA's model, comprising aggressive political leadership and administrative purchasing of broadband services combined with its light-touch regulatory approach and strong, high-capacity USF, expecting the private sector to respond, was destined to succeed in the U.S with its strong industry and ready capital. Developing countries are more dependent on foreign investment as the main source of capital. But the principles should be emulated to an extent, and USFs even with lower capacity must still be equipped to play relatively the same role for high-cost rural areas and where inclusion is an issue. Government, community and regulatory intervention as illustrated, in the two cases following, should still be executed in a way that encourages and maximises private sector participation as much as possible.

Sources:

- https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3698055#:~:text=It%20recognized%20that%20broadband%20progress,or%20behavioral%20restrictions%2C%20but%20on%20%E2%80%9C
- https://www.usac.org/wp-content/uploads/about/documents/annual-reports/2023/2023_USAC_Annual_Report.pdf
- https://www.ustelecom.org/research/ustelecom-industry-metrics-and-trends-2020-update/

3.7.2 Sweden - Municipal-owned wholesale networks

Sweden provides an alternate and effective "lead player" model that energises the wholesale market as well as leveraging private sector participation at the Internet service level. Municipal infrastructure networks, more prevalent than community networks in the USA, exist side-by-side with incumbent as well as other, private sector operators. Besides injecting energy into the wholesale and retail broadband markets, they have a prior purpose to deliver eGovernment services upstream of being a purely telecom/ICT market player, which is a relevant model.

Sweden - Affordable FTTx through many municipal-owned wholesale networks.
Description: 200 of the country's 290 municipalities (cities, towns & rural areas), incl. Stockholm, operate fibre networks, alongside competing incumbent and other private sector networks. There are no monopolies; several competing infrastructures may be in place.
Municipal networks are either profitable broadband companies (40%), divisions of local government (20%), or municipal owned electric companies (40%) - but all or most funded publicly. They are legally required to provide only open-access wholesale service, so that many retail service providers can buy well-priced bandwidth and sell affordable service to the customer.
Although Municipal owned networks have contributed greatly to Sweden's FTTH/B rollout, the evolution is unique because the civil authorities deploy the networks for socio-economic development firstly, to deliver their own social services, and secondarily for the telecom market.
Objective and Outcome: Sweden is a European FTTH/B coverage and penetration leader. Government's Strategic Vision is 98% of all HH & businesses to have access to 1 Gbit/s; 1.9% with 100 Mbit/s by 2025; just 0.1% of all HH & businesses to have 30 Mbit/s. Rural service provision (only 6% of total) is subsidised through the universal service fund because of the often very challenging distances and conditions.

***Source**: https://www.stadsnatsforeningen.se/globalassets/in-english/facts-and-statistics/local-fibre-networks-in-sweden.pdf*

3.7.3 New Zealand - PPP for National Backbone

A range of other countries display models that promote or leverage private broadband investment, including public-private partnerships (PPPs) which facilitate private investment to play a leading role in national infrastructure. New Zealand is a particularly scalable and potentially relevant case which could be modelled in Uganda.

New Zealand PPP Model to bring private sector participation to the national backbone.
Description: The country's "Ultra-fast Broadband (UFB) Program" was implemented under a wholesale/ retail structural separation of the incumbent. The Gov't co-invested in PPPs with four different private wholesale entities (incl. incumbent Chorus), mostly by providing interest-free loans.
Contracts were tendered on a least-cost basis for 33 different geographical areas, to provide open-access fibre networks with obligations to pass 100% of buildings (connecting to street level distribution point unit), delivering the network termination at two nodes in each area for retail operator interconnection.
Objective & Outcome: Targeted & achieved 87% FTTx by 2022. The competitive retail operators have seen high take-up (80% to date) due to affordable wholesale costs & retail prices. The balance of 13% coverage represents rural areas and was rolled out on a similarly competitive basis but with largely 50 Mbps fixed wireless access retail service.

Source: https://telsoc.org/sites/default/files/journal_article/248-article_text-2746-1-11-20200527.pdf.

3.7.4 New Zealand – Spectrum Parks

A Managed Spectrum Park (MSP) assigns spectrum licences on a shared access basis. This approach was taken by the Ministry of Business, Innovation and Employment in New Zealand to assign spectrum in the 2575-2620 MHz spectrum band. The purpose of sharing spectrum is to increase the number of operators, smaller licensees and new players that can access spectrum. The MSP is managed by the Ministry and the spectrum is assigned administratively on a per-site level. This safeguards competition and facilitates private investment and local participation. Community networks, for example, may utilise the spectrum at a single local site only. In New Zealand, there is an annual license fee of NZ$ 150 per year.[32]

In New Zealand, the rules for applications are set out in a public notice. Applicants can view spectrum availability and apply for spectrum through an online portal. The Ministry confirms whether or not a proposed location would interfere with any other spectrum use and assigns empty spectrum on a first-come, first-served basis. An allocation takes place once a month and all applications received in the past 30 days will be considered having been received at the same time. Spectrum is given out on a strict use-it-or-lose-it policy. Spectrum that is not used within six months after the award is taken back. As of 2021, there were 18 companies using the MSP[33] and the majority were wireless ISPs providing broadband to end-users.

[32] https://www.rsm.govt.nz/licensing/licences-you-must-pay-for/managed-spectrum-park-licences

[33] https://www.rsm.govt.nz/assets/Uploads/documents/consultations/2021-msp-review/msp-review-and-regional-non-national-allocation-discussion-document.pdf

3.8 Summary

Uganda's institutional and legal environment has a competition Act but to date lacks a Competition Commission and Consumer Protection Agency. Its ICT and broadband policy are modern and inform its digital transformation strategy and the country also has a unified licensing regime. The main gaps that would bring more ICT investment are to have a competition and consumer protection commission, and to enable spectrum sharing as well as number portability. shows Uganda's ICT Governance characteristics.

Table 22: ICT Governance checklist (Uganda)

Category	Theme	Assessment
Institutions	Competition Commission	-
	ICT Sector Regulator	Uganda Communications Commission
	Consumer Protection Agency	-
	Universal Service Fund	Uganda Communications Universal Service and Access Fund (UCUSAF)
Policies and Strategies	Broadband or digital transformation	(National ICT Policy 2022 and within the Digital Transformation Roadmap 2022/23 – 2027/28)
	e-Skills, ICT Education	-
Laws	Competition Law	Competition Act 2024
	Communications Law	Uganda Communications Act, Cap 103.
	Consumer Protection Law	-
	Data Protection Law	Data Protection and Privacy Act 2019
Regulations	Unified licensing?	Yes
	Are spectrum tables public?	UCC Radio Spectrum Master Plan 2021-2025
	Spectrum sharing and leasing allowed?	Yes, UCC has developed a framework that permits this
	Number portability?	No

Uganda can increase GDP by USD 1.1 billion GDP by increasing its broadband penetration by 10% based on the ITU study from 2020. As shown in Table 23, this would mean growth of an additional USD 1.1 billion in GDP, additional tax revenues of more than USD 139 million and over 441 thousand jobs. The majority of these benefits could be achieved by implementing the governance and regulatory framework improvements identified.

Table 23: Impact of 10% higher broadband penetration (Uganda)

Country	Uganda	Sources
Current telecom sector investment USD million	205	ITU 2024 (2021 data)
GDP USD million	45,567	WDI 2024
GDP growth for 10% higher BB penetration	2.46%	ITU 2020
Additional GDP USD million	1121	Calculation
Tax to GDP Ratio	12.5%	OECD
Additional Tax USD million	140	Calculation
Jobs	17,936,000	ILO 2024
Jobs per million USD GDP	394	Calculation
Additional Jobs	441674	Calculation

The Government of Uganda could create an additional investment of USD 21 million, add USD 224 million to its GDP, bringing new tax revenues of USD 27.9 million and over 88,000 jobs after creation of a Competition Commission. Spectrum sharing or leasing would bring USD 37 million more ICT investment, GDP growth of around USD 336 million, an additional USD 41.9 million in tax revenues and around 132 thousand new jobs. As well, number portability could bring in new ICT investments of USD 23 million, adding USD 224 million to the GDP, USD 27.9 million in tax revenue and 88,000 more jobs.

Table 24: Examples of estimated effect of ICT governance improvements (Uganda)

Theme	Effect on Investment	Additional investment (million)	Effect on BB penetration	Additional GDP USD (million)	Additional tax revenue USD (million)	Additional jobs
Competition Commission	10%	US$21	2%	224.2	27.9	88,245
Spectrum sharing and leasing	18%	US$37	3%	336.3	41.9	132,368
Number portability	11%	US$23	2%	224.2	27.9	88,245
Sources	ITU 2020		Calculations			

Overall, the communications sector remains attractive to investors, despite the continued presence of policy and regulatory bottlenecks. The subsequent chapter builds on this analysis by providing empirical insights from a summary of the Investment Climate Survey, which gauged the perceptions of investors and stakeholders regarding these barriers.

4 Investment Climate and Stakeholder Perspectives

This section summarises stakeholder perspectives on the investment climate in Uganda's communications sector in late 2025. The findings are based on two complementary data sources: a structured online survey and a series of in-depth interviews with key operators, broadcasters, investors and regulatory bodies. The survey was distributed to 50 stakeholders across the telecommunications, broadcasting and postal subsectors, with 23 companies responding (see Figure 8). Interviews with key stakeholders provided additional qualitative insights into the operational realities behind these perceptions.

A detailed presentation of the survey results, including respondent profiles, quantitative scores and sectoral breakdowns, can be found in the Technical Report that accompanies this main volume.

The survey aimed to evaluate investor perceptions of Uganda's communications sector, pinpoint key barriers to investment, and generate actionable reform priorities for policy and regulatory consideration.

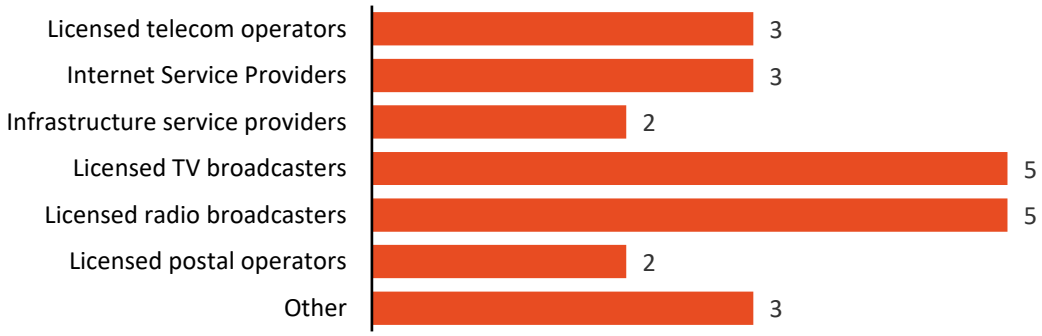

Figure 8: Number and distribution of survey respondents

4.1 Overall Assessment of the Investment Climate

Stakeholder feedback suggests that, although Uganda's communications sector has strong market fundamentals, it is held back by a challenging operating environment. While some respondents described the investment climate as moderately favourable, citing a young, connected population and steady demand growth, the prevailing sentiment was cautious to negative. Investors view the cost of doing business as high and the regulatory framework as unpredictable, which makes long-term planning and reinvestment challenging.

However, encouraging factors include Uganda's youthful and tech-savvy population, expanding regional connectivity within the EAC and COMESA markets, and the

government's continued commitment to digital transformation through initiatives such as the Digital Uganda Vision. These factors create a solid foundation for growth.

However, discouraging factors dominate investor perceptions. Respondents consistently cited high sector-specific taxes and licence fees, costly spectrum, complex approval processes and delays in securing rights of way. Frequent policy shifts limited regulatory transparency and overlapping institutional mandates were also seen as major deterrents. Small and local firms are disproportionately affected by high capital costs, limited access to affordable finance, and weak enforcement of infrastructure-sharing obligations.

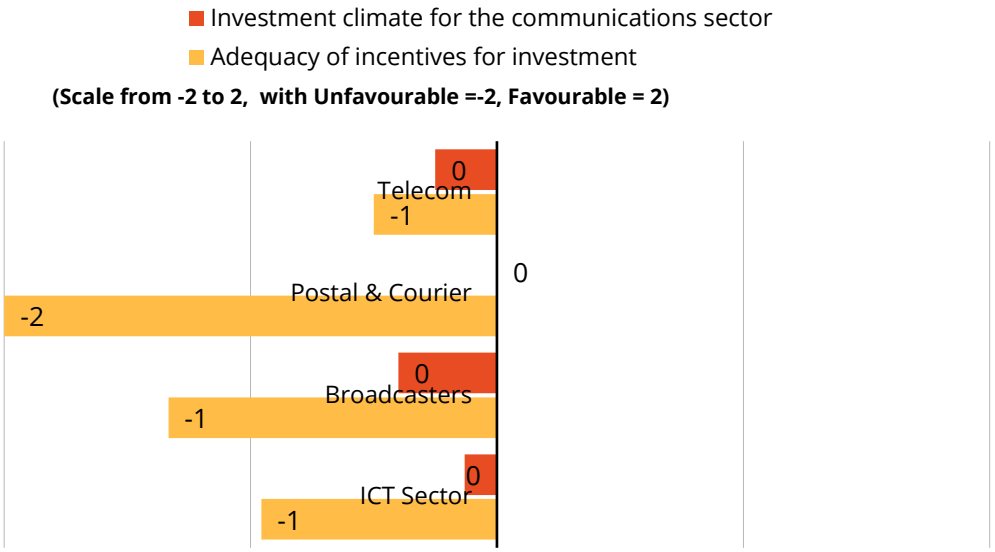

Figure 9: Rating of respondents of the current investment climate

Table 25: Summary of factors that encourage or discourage investor confidence.

Encouraging factors	Discouraging factors
Growing young population and rising digital demand	High sector-specific taxes and licence fees
Government commitment through the Digital Uganda Vision	Regulatory complexity and unpredictable enforcement
Expanding regional markets (EAC/COMESA)	Bureaucracy, overlapping mandates, and policy instability
Emerging digital media and innovation opportunities	Limited access to affordable finance and high CAPEX

Source: UCC Investment Climate Survey (2025)

Overall, stakeholders agree that Uganda's demographic advantages and market potential are being offset by structural and regulatory barriers. Without credible reforms to reduce uncertainty, streamline licensing and rationalise taxation, investors may continue to divert capital towards neighbouring countries with more stable frameworks.

These perceptions broadly confirm the priorities for an enabling environment set out in NDPIV, particularly within the Digital Transformation Programme. This programme

emphasises predictable regulation, fiscal incentives and private-sector participation driven by innovation.

4.2 Major Barriers to Investment

The survey and interviews revealed a consistent set of barriers that continue to undermine investor confidence in Uganda's communications sector. While the specifics vary between the telecommunications, broadcasting and postal services sectors, five themes emerged repeatedly: fiscal pressure, regulatory unpredictability, limited infrastructure access and sharing, weak competition enforcement and institutional coordination challenges. Together, these factors increase operating costs, delay market entry and deter both domestic reinvestment and new foreign participation.

Table 26: Key barriers to investment in Uganda's communications sector

Barrier theme	Core issues highlighted by stakeholders	Implications for investment
Taxation and fiscal burden	• High sector-specific taxes, costly licences and spectrum fees • Reverse VAT that cannot be reclaimed • Limited fiscal incentives for network rollout	Reduces profitability and deters capital expansion, particularly in rural areas where margins are already low.
Regulatory predictability and licensing	• Overlapping mandates between UCC, NITA-U and BOU • Slow, opaque approval processes • Inconsistent enforcement of rules	Creates uncertainty and increases compliance costs; discourages new entrants and frustrates reinvestment by incumbents.
Infrastructure access and sharing	• Weak enforcement of tower and active-network sharing • Unregulated national roaming • Delays and inconsistency in rights-of-way approvals	Raises capital expenditure, slows rollout, and entrenches dominance of large operators able to self-provide infrastructure.
Competition and market conduct	• Persistent market dominance in mobile and broadcasting sectors • Weak competition oversight • Tariff regulation perceived as unbalanced	Limits innovation and small-player growth, restricts consumer choice, and sustains high prices.
Institutional coordination and governance	• Political interference and fragmented mandates • Absence of a formal appeals or redress mechanism	Undermines regulatory credibility, increases perceived risk, and reduces confidence in long-term policy stability.

Source: UCC Investment Climate Survey (2025)

These barriers are interconnected. Fiscal and regulatory unpredictability compound each other, while fragmented institutional mandates and weak infrastructure-sharing enforcement magnify inefficiencies throughout the value chain. According to stakeholders, the combined effect is a **high-cost, high-risk environment** that undermines Uganda's competitiveness compared to regional peers such as Kenya and Rwanda.

Respondents emphasised three priority reforms that would deliver immediate confidence gains:

i. **Rationalising taxation and sector-specific fees** to lower the overall cost of doing business
ii. **Improving regulatory transparency and streamlining licensing** through a single-window system with clear timelines
iii. **Enforcing infrastructure-sharing and competition rules** to level the playing field between large and small operators

The barriers highlighted by investors, including high operational costs, infrastructure deficits and policy uncertainty, correspond directly to the constraints identified under the *Enabling Environment for the Digital Economy* sub-programme of NDPIV. Therefore, addressing these issues is critical to meeting the national digital infrastructure and competitiveness targets.

4.3 Cross-Cutting Themes and Emerging Risks

The barriers identified in the survey are not confined to any single subsector but rather reflect systemic challenges that affect Uganda's entire communications ecosystem, from infrastructure deployment and service delivery to content distribution and postal logistics. Understanding these issues is crucial because they form the structural basis of investor confidence. Unless these recurring weaknesses are addressed comprehensively, they will continue to constrain both domestic reinvestment and foreign capital inflows into the sector.

i. High taxation and fiscal pressure

Stakeholders consistently identified high sector-specific taxes, licence fees and import duties as the most significant deterrent to investment. The cumulative effect of these charges reduces profitability, increases the cost-of-service delivery and discourages network expansion, particularly in rural or low-income areas. Smaller, locally owned firms are the most affected, facing limited fiscal relief and few financing options.

ii. Regulatory predictability and institutional coordination

Frequent policy changes, unclear mandates and overlapping responsibilities among agencies such as the UCC, NITA-U and BOU were repeatedly cited as sources of uncertainty. The absence of streamlined decision-making processes and predictable enforcement mechanisms increases compliance costs and undermines long-term

planning. Stakeholders emphasised that clearer institutional boundaries and greater regulatory transparency are essential to rebuild trust and attract sustained investment.

iii. Infrastructure sharing and rural expansion

The weak enforcement of tower sharing and rights-of-way regulations is increasing duplication in urban areas while slowing the rollout in rural areas. High capital expenditure and an unreliable power supply exacerbate these issues. Stakeholders have stated that, without stronger incentives and effective regulation of infrastructure sharing, achieving universal access will remain difficult to attain.

iv. Consumer Affordability and Digital Inclusion

High data and device costs, coupled with low digital literacy and weak quality-of-service enforcement, limit effective demand. This weak consumer base restricts revenue potential and deters further investment, particularly outside major urban centres. Therefore, stimulating demand through fiscal reform and targeted inclusion initiatives is as critical as improving supply-side conditions.

v. Institutional governance and independence

Respondents expressed concern about limited regulatory independence and the absence of an appeals or redress mechanism. Political interference in policy decisions was seen as a recurring risk that undermines Uganda's reputation as a stable, rules-based investment destination.

Beyond these immediate issues, stakeholders also highlighted **emerging risks relating to Uganda's preparedness for next-generation technologies**, such as 5G, the Internet of Things (IoT), cloud services and artificial intelligence (AI). Weak spectrum planning, limited sandbox frameworks and inadequate cybersecurity and data governance capacity could deter high-value digital investments if these issues are not addressed proactively.

Many of the cross-cutting concerns, including consistency in taxation, cybersecurity readiness, and inclusive access, are also recognised as foundational to building a resilient and inclusive digital economy within NDPIV's Digital Transformation Programme. They point to the need for a **coordinated reform agenda** that integrates fiscal rationalisation, regulatory modernisation, and innovation readiness — areas explored further in the next section on Reform Priorities and Recommended Actions.

4.4 Reform Priorities and Recommended Actions

The findings of the Investment Climate Survey highlight the urgent need for targeted reforms to restore investor confidence and attract new capital. Although Uganda's communications sector has strong demographic and market fundamentals, these are being undermined by fiscal, regulatory and institutional inefficiencies. A coordinated and time-bound reform agenda that addresses these issues would significantly enhance Uganda's competitiveness in the East African region and catalyse inclusive digital growth.

Table 27: Priority reform areas and recommended actions

Reform area	Priority actions proposed by stakeholders	Recommended collaborating institutions
Licensing and market entry	• Establish a single-window licensing system with clear timelines • Clarify and streamline mandates between UCC, NITA-U and BOU • Publish regulatory roadmaps to improve predictability	MoICT&NG, UCC, NITA-U
Spectrum and infrastructure access	• Introduce a transparent, rules-based spectrum allocation framework • Harmonise rights-of-way processes across national and local levels • Enforce active and passive infrastructure sharing and regulate wholesale roaming rates.	UCC, MoICT&NG, Local Govts
Fiscal and incentive framework	• Rationalise sector-specific taxes and fees on data, devices, and operator revenues • Expand fiscal incentives for rural rollout and innovation (e.g. tax credits and blended finance).	MoFPED, UIA, MoICT&NG
Competition and market conduct	• Strengthen enforcement of competition rules and infrastructure sharing • Regulate wholesale interconnection and roaming to ensure fair access • Enhance dispute resolution and promote market transparency.	UCC, MoICT&NG
Universal access and quality of service	• Reorient UCUSAF towards targeted, performance-based incentives for rural expansion • Enforce quality-of-service benchmarks and publish compliance reports.	UCUSAF, UCC, MoICT&NG
Innovation and future readiness	• Develop a national roadmap for emerging technologies (5G, IoT and AI) • Establish regulatory sandboxes for innovation pilots • Strengthen cybersecurity and data governance frameworks.	MoICT&NG, UCC, NITA-U

Source: UCC Investment Climate Survey (2025)

Stakeholders made it clear that the success of reform will depend not only on the design of policies, but also on the discipline with which they are implemented and the

coordination of institutions. The strongest areas of consensus relate to three reform clusters:

i. **Fiscal and licensing reforms to lower entry barriers and signal policy stability.** This is consistent with the NDPIV's interventions aimed at attracting investment into the digital sector through targeted tax and financing instruments.
ii. **Infrastructure and competition reforms to reduce duplication and open the market to new players.** This directly contributes to the NDPIV goal of universal broadband access and regional connectivity.
iii. **Innovation and governance reforms to prepare Uganda for the next wave of digital transformation.** This aligns with the NDPIV Innovation, Technology Development and Transfer Programme to build human-capital and innovation capacity and the Digital Transformation Programme action on harmonising ICT laws and strengthening sector governance.

Together, these reform priorities support Uganda's progress towards the digital economy targets set out in NDPIV. They provide a practical interface between investor perspectives and the policy instruments through which UCC and its partners can drive implementation. If these actions are implemented in an integrated manner, they would reduce the cost of doing business, accelerate network expansion and improve Uganda’s position as a destination for investment within the East African digital economy. They would also ensure that regulatory and fiscal frameworks keep pace with technological change and market convergence.

5 Communications Sector Investment Profile

5.1 Introduction

This chapter presents Uganda's **Communications Sector Investment Profile**, which is the culmination of the analytical work undertaken in this study. Consolidating findings from the value-chain assessment, market-attractiveness analysis and investment-climate survey, it demonstrates why Uganda's communications sector is one of the region's most dynamic investment frontiers. The profile translates these insights into an investor-friendly, forward-looking narrative that identifies existing opportunities, the factors that make the sector competitive and the measures required to sustain investor confidence.

This chapter summarises the findings of the previous analytical sections and considers the investment potential of the sector within Uganda's medium-term development framework. It is aligned with both the Digital Transformation Programme and the Innovation, Technology Development and Transfer Programme of the NDPIV, which recognise ICT infrastructure and innovation as key growth enablers.

While Chapters 2 to 4 examined market performance, regulatory conditions, and barriers to entry, this chapter offers a fresh perspective on these topics by viewing them through an **investment lens**. It emphasises the commercial potential, ease of market entry, and emerging areas of growth across the telecoms, broadcasting, and postal subsectors. This profile is also aligned with Uganda's broader development priorities under **Vision 2040, NDPIV** and the **Digital Uganda Vision**. These initiatives establish ICT as a catalyst for productivity, innovation and job creation.

Specifically, the Investment Profile:

- Summarises the macroeconomic and policy context that shapes investor decisions
- Maps the communications value chains and highlights high-potential areas for private and public–private investment
- Assesses the sector's attractiveness and ease of entry; and
- Showcases flagship investment opportunities and the critical enablers for success.

5.2 Sector Overview and Market Context

Economic and demographic fundamentals

Uganda's robust macroeconomic and demographic fundamentals provide a solid foundation for sustained growth in the communications sector. Despite regional and global headwinds, the economy has remained resilient, recording **average annual GDP growth of around 5–6%** over the past five years. Stability in inflation and exchange rates

has bolstered investor confidence, and the services sector — particularly ICT, trade, and finance — continues to boost output. With a **population of over 48 million, more than three-quarters of whom are under 35**, Uganda offers a large, youthful and increasingly urbanised market whose appetite for digital products and services is growing rapidly. **Mobile phone penetration now exceeds 70%**, and **internet usage is estimated at around 55%**, reflecting strong demand-side fundamentals for digital connectivity.

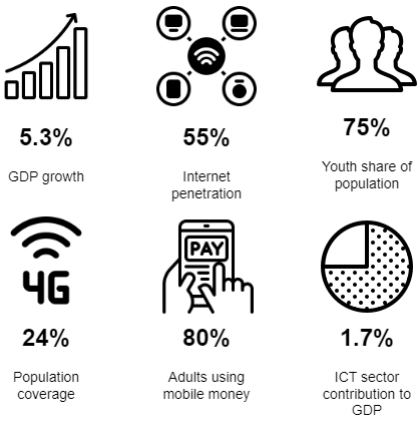

Figure 10: Snapshot of Uganda's digital economy

Policy and institutional framework

Policy and institutional frameworks reinforce this growth momentum. The **Digital Uganda Vision (DUV)** provides an overarching blueprint for building an inclusive, secure and knowledge-based society. Meanwhile, **NDPIV (2025/26–2030/31)** identifies ICT as a cross-cutting enabler of competitiveness and industrialisation. Implementation is coordinated through a well-established institutional ecosystem led by **MoICT&NG** and **UCC**. Investment facilitation is supported by Uganda Investment Authority (UIA) and other government Ministries, Departments and Agencies. This collaboration ensures policy coherence, predictable regulation and efficient investor support.

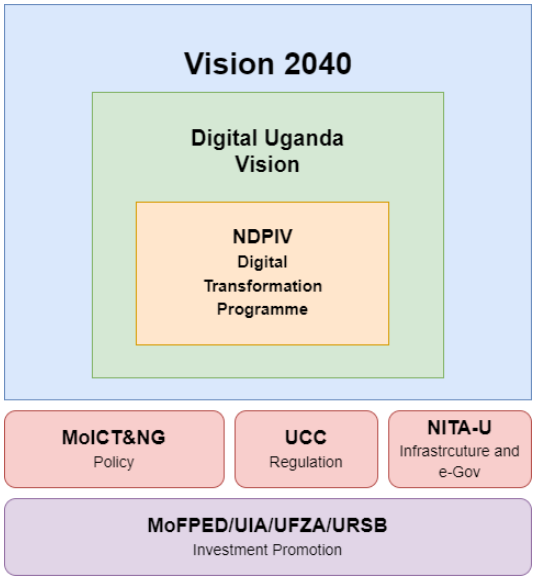

Figure 11: ICT governance and policy ecosystem

Infrastructure and connectivity landscape

Investment in infrastructure has increased considerably over the past decade. The **National Backbone Infrastructure (NBI)** now comprises over **4,000 km of fibre**, connecting most major towns and cross-border routes to Kenya, Rwanda, South Sudan and the Democratic Republic of the Congo (DRC). Mobile broadband remains the dominant access technology, covering around a quarter of the population with 4G and laying the groundwork for 5G trials in urban areas. Fibre-to-the-home and fixed-wireless solutions are growing in popularity in Kampala, Entebbe, and Mbarara, thanks to new investments in data centres and international gateways. **Uganda Internet Exchange Point (UIXP)** has improved the efficiency of domestic traffic, reducing latency and bandwidth costs. Progress in the digitisation of broadcasting and the modernisation of the postal service continues to extend reach and reliability across the country.

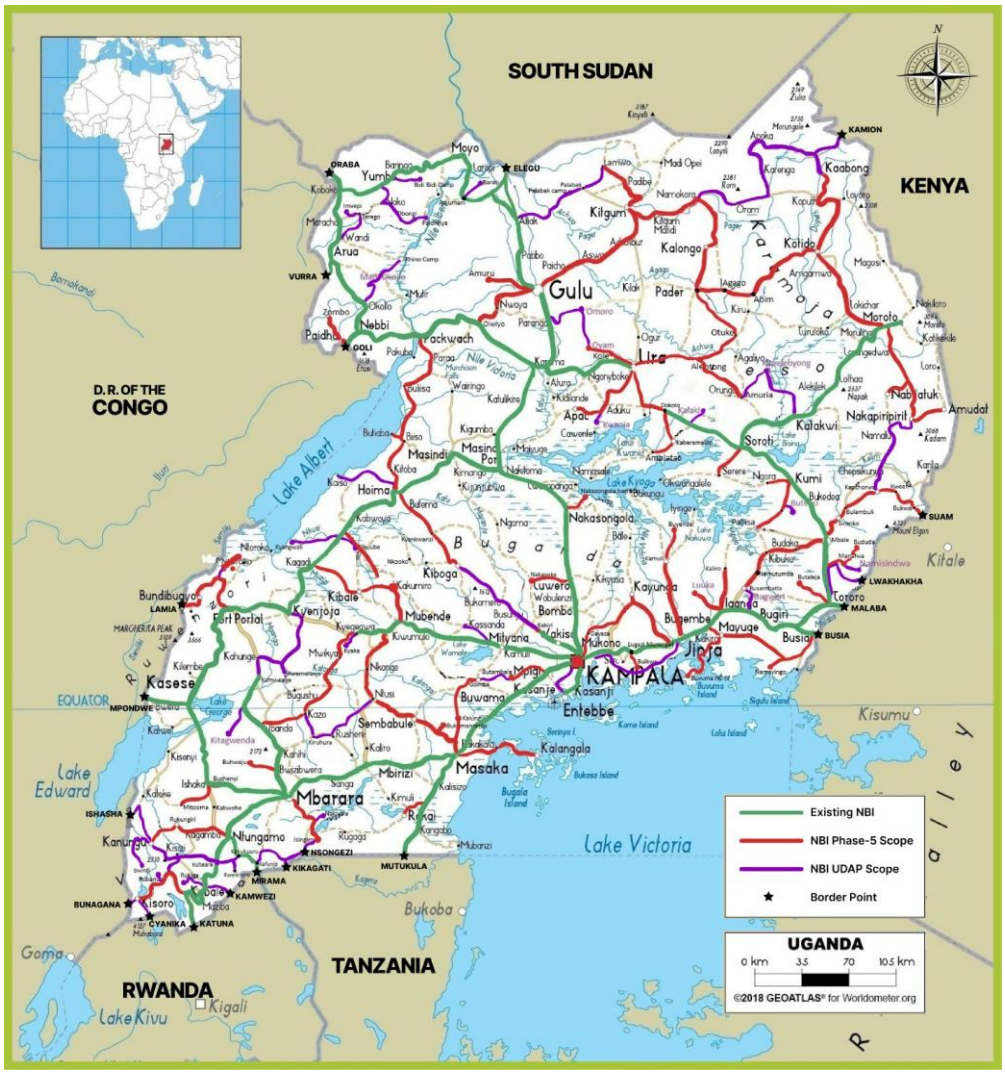

Figure 12: NBI coverage map showing completed and planned fibre developments

Human capital and innovation base

Uganda's demographic advantage is reinforced by a growing pool of digital talent and innovation capacity. Universities such as **Makerere, Mbarara University of Science and**

Technology and Gulu University produce over **15,000 ICT-related graduates** each year. This is complemented by vocational training and skills programmes led by MoICT&NG, NITA-U, UCC and the Private Sector Foundation Uganda (PSFU). A vibrant start-up ecosystem, anchored by hubs such as Outbox, the Innovation Village[34] and the Makerere AI & Data Science Centre[35], is developing new solutions in fintech, agritech, healthtech and e-commerce. This is supported by national innovation funds such as the **National ICT Innovation Support Programme**[36] and private investors.

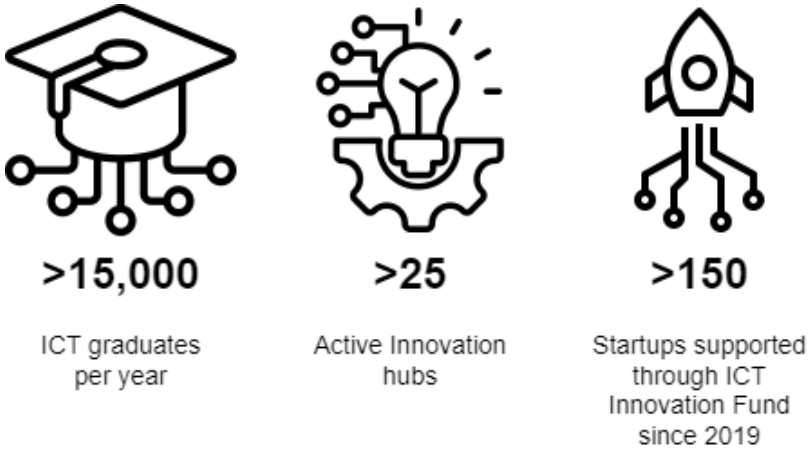

Figure 13: ICT skills and innovation snapshot

These market dynamics reinforce the goal of the NDPIV of increasing the contribution of the digital sector to GDP through private investment and the integration of ICT across the production and service sectors. The next section explores how these foundations translate into concrete competitive advantages and market opportunities for investors.

5.3 Why Invest in Uganda's Communications Sector?

Rising digital demand and market depth.

Uganda's young and increasingly connected population is generating strong and sustained demand for digital services. The rapid adoption of smartphones, the expansion of broadband coverage and the widespread use of mobile money and e-commerce platforms are driving growth across all communications subsectors. With a population of over 48 million, three-quarters of whom are under 35 years old, Uganda offers a large and youthful consumer base that is embracing online learning, entertainment, and financial services. These trends signal reliable revenue prospects for investors in broadband infrastructure, content delivery and digital service platforms.

[34] https://innovationvillage.africa/

[35] https://air.ug/

[36] https://niisp.ict.go.ug/

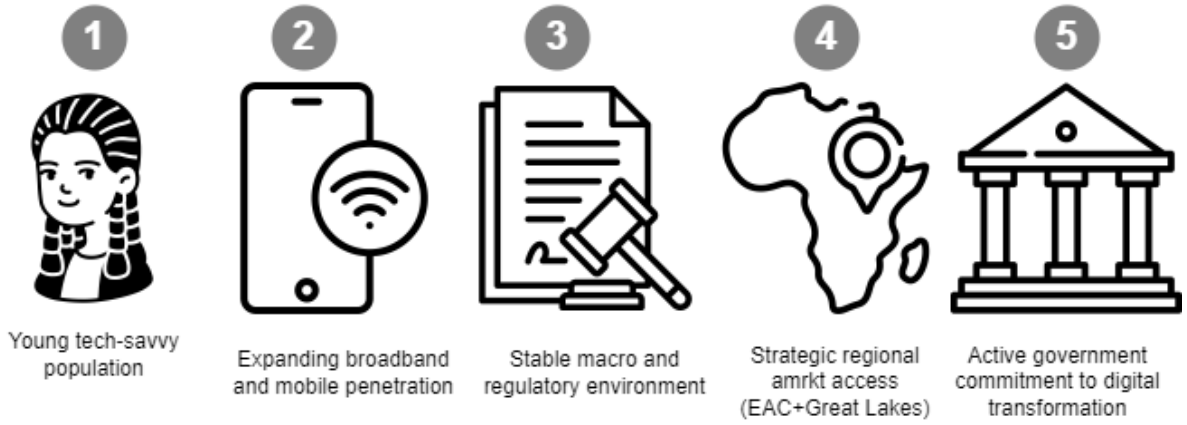

Figure 14: Top 5 reasons to invest in Uganda's communications sector

Predictable and reform-minded regulation.

UCC maintains a transparent licensing regime and promotes infrastructure sharing, spectrum efficiency, and technology neutrality. Successive reforms — ranging from open access to the National Backbone Infrastructure to reviews of the Communications Act — underscore the government's long-term commitment to private-sector participation. This predictability lowers investor risk and supports innovation in emerging areas such as data centres, Internet Exchange Points, and digital broadcasting.

Regional connectivity and market access.

Uganda is situated at the heart of East Africa and offers land-linked access to six neighbouring markets. The country is connected to Kenya, Rwanda, South Sudan, and the DRC through regional fibre routes. The country's expanding logistics and data infrastructure enables investors to establish Uganda as a regional digital hub, making it an ideal location for hosting content, cloud and regional service operations that serve over 200 million people across the Great Lakes region.

Competitive returns and investment incentives.

Uganda's investment framework offers competitive returns alongside robust investor protections. UIA provides a one-stop service for accessing fiscal incentives, such as tax holidays for ICT equipment and duty-free importation of capital goods, as well as free-zone benefits through Uganda Free Zones Authority (UFZA). There are expanding opportunities for public–private partnerships in areas such as rural broadband, broadcasting infrastructure, and e-commerce logistics.

Uganda offers a compelling combination of size, stability and a strategic location. Demand is rising, regulations are predictable, and government incentives are supportive. For investors seeking sustainable growth in digital infrastructure, broadcasting or postal logistics, Uganda is one of the most promising destinations in East Africa's communications sector.

5.4 Investment Value Chains and Opportunity Areas

5.4.1 The broadband ecosystem

Uganda's broadband ecosystem is the foundation of the digital economy and continues to attract substantial investment. Having moved beyond basic connectivity expansion, the sector is now focusing on network modernisation, service diversification and digital platform growth. This creates multiple entry points for investors across the value chain.

Infrastructure: Expanding the digital backbone

The **NBI** connects all major towns and is linked to regional corridors via Kenya, Rwanda, South Sudan and the DRC. However, large rural areas remain underserved. There are opportunities for private operators and PPPs in fibre expansion, tower construction, and last-mile connectivity, with support available from the **Universal Service and Access Fund (UCUSAF)**.[37] Cross-border interconnections enhance redundancy, and new Tier III data centres in Kampala, Jinja and Masaka reflect the growing demand for local hosting and cloud services.

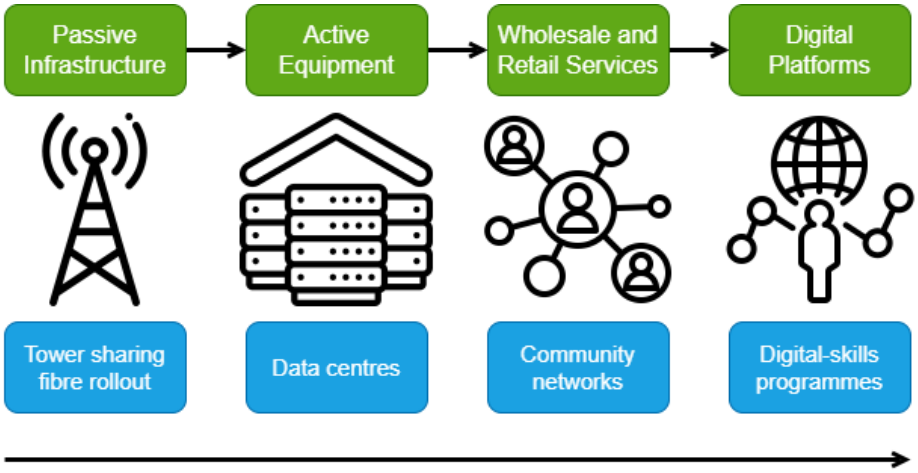

Figure 15: Broadband investment value chain map

Services: Deepening competition and new delivery models

A competitive service layer continues to drive innovation and efficiency. Operators and ISPs are **expanding 4G coverage and piloting 5G** technology in urban centres. There are also opportunities for **MVNOs, fixed-wireless providers and community networks** targeting unserved areas. Improved cross-border fibre and stronger data-protection laws support growth in **cloud computing, managed services, and enterprise connectivity**, presenting additional investment potential.

Demand-side ecosystem: Platforms and skills

[37] https://www.ucc.co.ug/ucusaf/

The rising use of **mobile money, e-learning, telehealth and e-commerce** is generating sustained data traffic and platform growth. Local content creation and digital skills development, supported by the **National ICT Innovation Support Programme**, are increasing user adoption and maximising infrastructure utilisation. Investors can tap into these emerging ecosystems to scale digital services and enhance inclusion.

Table 28: Overview of high-potential broadband investment areas

Value-chain node	Opportunity description	Investment type	Key enabler	Potential partner
Fibre expansion	Rural and cross-border connectivity	PPP / Private	UCUSAF funding, regional corridors	MoICT&NG, NITA-U, Licensed Infrastructure Providers
Tower sharing	Passive-infrastructure leasing	Private	Infrastructure policy and shared licensing	Licensed Infrastructure and Service Providers, UCC
Data centres	Tier III hosting facilities	Private / Joint venture	Power and land incentives	UIA, Private ISPs
Cloud and managed services	SME and enterprise solutions	Private	Data-protection framework	Tech firms
Digital platforms and skills	Apps, content development, training	Blended finance	Innovation Fund support	PSFU, Start-ups

Opportunities in broadband infrastructure, backhaul and data centre services are directly aligned with NDPIV interventions under the Digital Transformation Programme, which aims to expand national connectivity and digital platforms.

5.4.2 Broadcasting and media

Uganda's broadcasting and media sector is undergoing a digital transformation, driven by technological convergence and changing consumer behaviour. The transition from analogue to digital broadcasting has increased channel capacity, and the demand for high-quality, interactive content is transforming value chains. Investment opportunities now span **infrastructure upgrades, content creation and digital platforms**, with growing synergies emerging between the telecoms and creative industries.

Transmission infrastructure: Modernisation and expansion

Although **digital terrestrial television (DTT)** has been rolled out nationwide, much of the transmission network still operates in **Standard Definition (SD)**. Upgrading to **High Definition (HD)** and introducing **Digital Audio Broadcasting (DAB+)** offer immediate prospects for investors, especially through **colocation on existing tower sites**. Energy-

efficient transmission and **green broadcast technologies** can further reduce operating costs and improve coverage, particularly in underserved areas.

Table 29: Key broadcasting opportunities and benefits

Opportunity	Description	Expected outcome	Primary beneficiaries
HD/DAB+ Transmission	Upgrade and co-location projects	Improved quality, lower OPEX	Broadcasters, MNOs
Local Content Production	Studios, training, and distribution	Jobs, exports, cultural impact	Creatives, investors
OTT and Digital Platforms	Streaming, monetisation tools	Revenue diversification	Broadcasters, developers
Green Broadcast Technology	Energy-efficient systems	Cost savings, sustainability	Regulators, operators

Content and platforms: growth through digital distribution

The digital transition has led to rapid growth in the production of **local content and digital distribution platforms**. Uganda's creative sector, including film, music and digital storytelling, presents opportunities for investors in studios, training and post-production facilities. The **expansion of Over-the-Top (OTT)** and **video-on-demand services** is generating new revenue streams through subscriptions and targeted advertising. Partnerships between broadcasters, telecoms operators and fintech platforms are facilitating innovative content monetisation and audience analytics.

Enabling environment: Regulation and convergence

UCC continues to promote innovation by implementing policies on **infrastructure sharing, spectrum efficiency and content development funds**. As broadcasting, telecommunications and online media converge, Uganda's progressive regulatory environment and expanding pool of creative talent position the sector as a dynamic regional media hub.

These align with the NDPIV Innovation and Technology Development Programme, which highlights local content production and the digital creative industries as promising areas for investment.

5.4.3 Postal and courier services

Uganda's postal and courier sector is evolving into a **logistics and e-commerce delivery ecosystem**. This is being driven by the growth of online retail and cross-border trade, as well as the demand for reliable last-mile services. While the designated national operator, **Posta Uganda**, and licensed private couriers are extending their reach nationwide, infrastructure and technology gaps still constrain efficiency and scale. These challenges present clear opportunities for private investment and partnerships.

Modernisation and automation can unlock efficiency

There is significant investment potential in **modernising postal facilities, automating sorting and tracking processes** and establishing **regional logistics hubs** that are connected to airports and highways. Upgrading addressing and geolocation systems would improve delivery accuracy and operational transparency. Digitalising core processes, such as parcel management, proof of delivery and dispatch tracking, can reduce costs and support business-to-consumer and business-to-business fulfilment for the growing e-commerce market.

Innovation and integration: expanding market reach

The convergence of postal and digital services is opening up new delivery and payment models. Partnerships between **Posta Uganda, private couriers and e-commerce platforms** could establish integrated fulfilment centres offering warehousing, packaging and nationwide delivery. Linking services to **mobile money platforms** facilitates cashless transactions and cash-on-delivery options. Regional harmonisation under the East African Community (EAC) also enables cross-border parcel movement and export logistics.

Table 30: Investment snapshot for the postal and courier sector

Area	Opportunity	Investment Potential	Expected Impact
Logistics Hubs	Regional warehouses and automation	High	Faster parcel throughput
Digital Systems	Addressing and tracking software	Medium	Transparency, data analytics
E-commerce Partnerships	Fulfilment and last-mile integration	High	Job creation, SME growth
Cross-border Delivery	Regional harmonisation projects	Medium	Trade facilitation

The postal and courier sector offers a **hybrid infrastructure–service opportunity** that connects digital commerce with physical logistics. The modernisation of postal and courier logistics supports the Digital Transformation Programme action of NDPIV to facilitate e-commerce and improve last-mile delivery networks. Modernisation, automation and collaboration between the public and private sectors will boost competitiveness, strengthen Uganda's position in regional trade and accelerate its inclusion in the digital economy.

5.4.4 Summary insight

Uganda offers a **diverse and complementary mix of investment opportunities** across the broadband, broadcasting and postal value chains. The broadband sector provides the digital infrastructure for connectivity and data services, while broadcasting is converging with online media and local content industries. Meanwhile, the postal and courier sector

is emerging as a key enabler of e-commerce and logistics. Together, these subsectors form the basis of Uganda's digital transformation agenda.

The common enablers underpinning these opportunities include **infrastructure sharing, predictable regulation, an expansion in digital skills** and **strong consumer adoption** of online services. As technology convergence deepens, investors can pursue integrated models combining connectivity, content, and logistics to unlock new efficiencies and revenue streams.

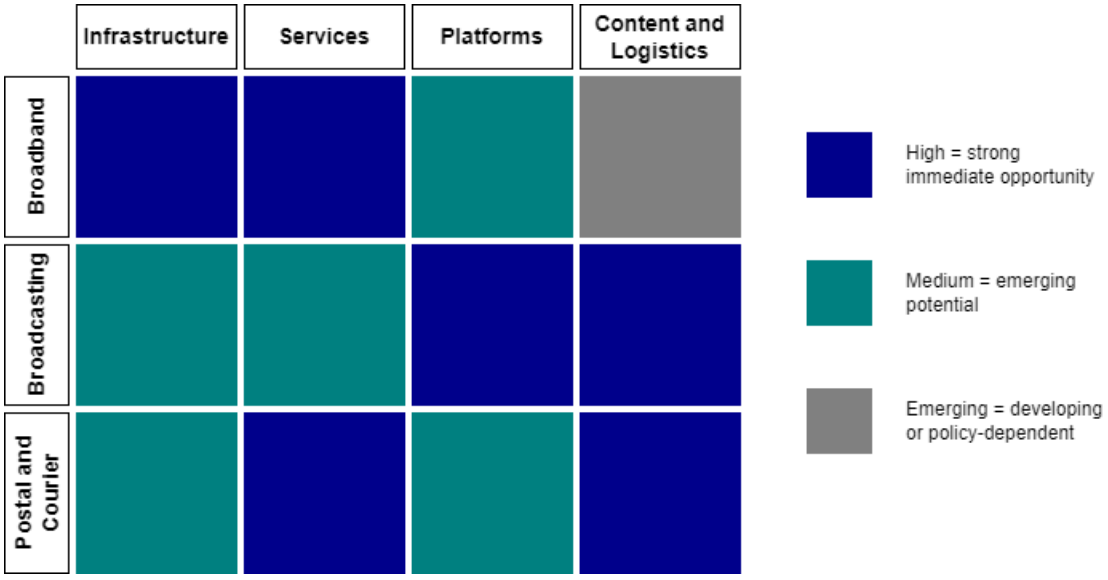

Figure 16: Cross-sector opportunity heatmap

Targeted policy support and strategic partnerships can reinforce these value chains; drive sustained digital growth and establish Uganda as a leading destination for communications investment in East Africa.

5.5 Sector Attractiveness and Ease of Entry

An open and competitive market

Uganda has one of the most liberal communications markets in East Africa, allowing **100% foreign ownership, free repatriation of profits and fast-track business registration** through Uganda Registration Services Bureau (URSB). Reforms by **Ministry of Finance** and **Uganda Investment Authority (UIA)** have streamlined licensing and import procedures, enhancing the experience of investors. Together with macroeconomic stability and currency predictability, these measures have enhanced Uganda's standing as a **stable and investor-friendly gateway** for regional operations.

Figure 17: Snapshot of ease of entry and business environment

Fiscal incentives and investor protection

Uganda's investment framework provides a wide range of fiscal incentives, including t**ax holidays** for qualifying ICT projects, **duty-free importation of equipment** and **accelerated depreciation allowances** on digital infrastructure. Enterprises located in **Free Zones** or **Industrial Parks** also benefit from VAT exemptions and streamlined customs procedures. Investor protection is guaranteed under the **Investment Code Act (2019)** and several bilateral treaties, with recourse to international arbitration. The **Public–Private Partnership (PPP)** framework further supports blended-finance approaches for large-scale broadband and broadcasting projects.

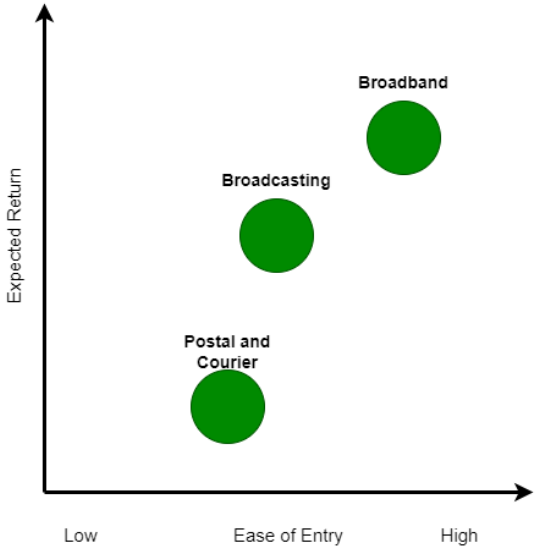

Figure 18: Ease of entry and risk–return matrix

Access to finance and market facilitation

Commercial banks, venture funds and development finance institutions are increasingly viewing digital infrastructure as a bankable asset class. The UIA One-Stop Centre assists investors with matters such as land access, work permits and aftercare services, while UCC provides clear guidance on licensing and compliance. Development partners, including the World Bank, AFD and the EU D4D Hub, are co-financing national broadband and innovation programmes that attract private capital and reduce early-stage risk.

Regulatory predictability and investor confidence

UCC ensures transparent regulation based on competition, fairness, and consumer protection. Policies that promote infrastructure sharing, technology neutrality, and spectrum refarming continue to lower costs and encourage innovation. This predictability, coupled with structured stakeholder dialogue, provides investors with the long-term visibility and confidence needed to expand or reinvest.

Summary insight

These enabling conditions align with the NDPIV's commitment to enhancing the ease of doing business and boosting investor confidence in digital markets, making entry into the communications sector both feasible and rewarding. Supportive institutions, diversified financing and clear legal guarantees provide investors with a stable foundation for profitable, long-term growth.

5.6 Flagship Investment Opportunities

Uganda's communications sector offers a range of strategic investment opportunities that align national development priorities with commercial potential. Based on the value-chain analysis and gap assessments in the previous sections, this subsection identifies a select group of initiatives where private capital, public–private partnerships and blended-finance models can deliver the greatest developmental and financial returns. These 'flagship' opportunities span broadband infrastructure, digital broadcasting and postal logistics — areas where technology upgrades, service expansion and market reform are converging to create investable projects.

Table 32 summarises a set of high-impact, investment-ready initiatives that were identified through the sector analysis. Each opportunity is aligned with Uganda's national development frameworks — **Vision 2040, Digital Uganda Vision** and **NDPIV** — and addresses the infrastructure and service gaps highlighted earlier. These projects are intended to guide investors towards the most viable and strategic entry points within the communications ecosystem and are therefore indicative rather than exhaustive.

Table 31: Investment pipeline summary

#	Investment opportunity	Subsector	Indicative capital (USD)	Investment modality	Strategic impact/development rationale	Collaborating agencies
1	Upgrade to HD and DTT infrastructure	Broadcasting	25–30 million	PPP/Public funding with vendor finance	• Replaces ageing SD equipment with HD-capable transmitters • Improves quality, spectrum efficiency, and reach	MoICT&NG, UCC, Signet
2	Rollout of Digital Audio Broadcasting (DAB+)	Broadcasting	15–20 million	Private/PPP	• Co-location of DAB+ on existing towers enables new digital radio channels and local content diversification	UCC, Broadcasters Association
3	Rural fibre and last-mile expansion	Broadband	80–100 million	PPP/Blended finance	• Extends NBI and private networks to 200+ unserved sub counties • Strengthens national inclusion and SME connectivity	NITA-U, UCC, UCUSAF, Private ISPs
4	Data centre and cloud infrastructure	Broadband	40–50 million	Private/Joint venture	• Expands Tier III hosting capacity • Supports e-government, fintech and OTT platforms with local redundancy	UIA, NITA-U, Private Operators
5	E-commerce logistics and postal integration hubs	Postal and Courier	10–15 million	PPP/Private	• Integrates Posta Uganda and private couriers with e-commerce fulfilment centres • Improves last-mile efficiency and job creation	UCC, Posta Uganda, PSFU
6	National digital skills and innovation platform	Cross-cutting	5–8 million	Donor/PPP	• Builds nationwide platform linking training providers, innovation hubs, and employers • Supports inclusive digital workforce development	MoICT&NG, MoES, NITA-U, PSFU

Narrative summaries

1. Upgrade to HD and DTT infrastructure.

Modernising Uganda's broadcast transmission network is a top priority in order to meet growing viewer expectations and align with regional standards. The transition to high-definition broadcasting will improve content quality and optimise spectrum usage. Investors can participate by supplying equipment, providing maintenance services, or co-financing with Signet and UCC.

2. Rollout of Digital Audio Broadcasting (DAB+).

Building on existing DTT sites and co-locating DAB+ digital radio transmitters is a cost-effective way to diversify radio services and reach rural audiences. This project creates opportunities in content packaging, transmission equipment and green power solutions for broadcast towers.

3. Rural fibre and last-mile expansion.

There is significant demand in under-connected districts. Extending fibre and wireless links using PPP or blended finance models with the Universal Service and Access Fund (UCUSAF) can promote digital inclusion and enterprise growth. Investors can supply equipment, operate wholesale capacity or manage regional last-mile concessions.

4. Data centre and cloud infrastructure.

The surge in digital transactions, over-the-top (OTT) content, and e-government applications is driving demand for local data hosting and cloud services. Developing Tier III facilities near Kampala or regional hubs would improve data sovereignty, latency and reliability. This opportunity lends itself well to joint ventures between global cloud providers, local ISPs, and infrastructure developers.

5. E-commerce logistics and postal integration hubs.

Integrating Posta Uganda's national network with private courier and retail platforms offers significant potential for warehousing, parcel sorting, and fulfilment services. Investing in automation, digital tracking and fleet management systems could boost efficiency and create employment opportunities for young people in logistics.

6. The national digital skills and innovation platform.

Sustaining digital transformation requires a skilled workforce. This nationwide platform would connect training institutions, innovation hubs and private employers, ensuring that curriculum development is aligned with market demand. This initiative complements infrastructure investments by ensuring that the workforce is ready for the digital age and can drive innovation.

Each flagship opportunity also contributes to achieving NDPIV outcomes—particularly universal broadband coverage, growth of digital enterprises and job creation within the innovation ecosystem.

5.7 Key Determinants of Success and Lessons

Effective and sustainable investment in Uganda's communications sector requires more than just financial capital; it also needs the right conditions to govern how investments are structured, implemented and scaled. Stakeholder consultations across government, industry and development partners have revealed several recurring success factors that distinguish well-performing initiatives from those that have stalled or underperformed.

Predictable and transparent regulation is one such factor.

Investors consistently emphasised the importance of consistent policies, clear licensing procedures, and transparent spectrum management. Where regulatory rules are well communicated, such as in the liberalised telecoms market, capital inflows have remained strong. Conversely, uncertainty in approval processes or delays in infrastructure permits can erode investor confidence and increase transaction costs.

Infrastructure sharing and cost efficiency

Stakeholders highlighted that the co-location of infrastructure for towers, data centres or DTT/DAB+ transmission sites reduces both capital and operational expenditure, particularly in low-density areas. UCC's infrastructure-sharing guidelines have been instrumental in creating opportunities for new market entrants and in supporting blended-finance models that make rural investments viable.

Public–private collaboration

Successful projects, such as the National Backbone and selected rural broadband initiatives, demonstrate that structured partnerships between the government, regulators and operators enable risk sharing and accelerate rollout. When institutionalised, public–private dialogue mechanisms help to align regulatory design with market realities and investor expectations.

Access to finance and de-risking instruments.

The availability of concessional financing and credit guarantees from development banks and multilateral agencies is still a key factor in scaling up infrastructure investment. Stakeholders identified foreign-exchange risk, long payback periods and infrastructure financing gaps as areas in which targeted de-risking facilities could further encourage private investment.

Human capital and local capacity.

Investments succeed when supported by strong local implementation capacity. Stakeholders emphasised the importance of having skilled project managers, engineers and digital entrepreneurs in place to operate and maintain new systems. Integrating capacity building and technology transfer into investment projects ensures long-term sustainability and inclusive growth.

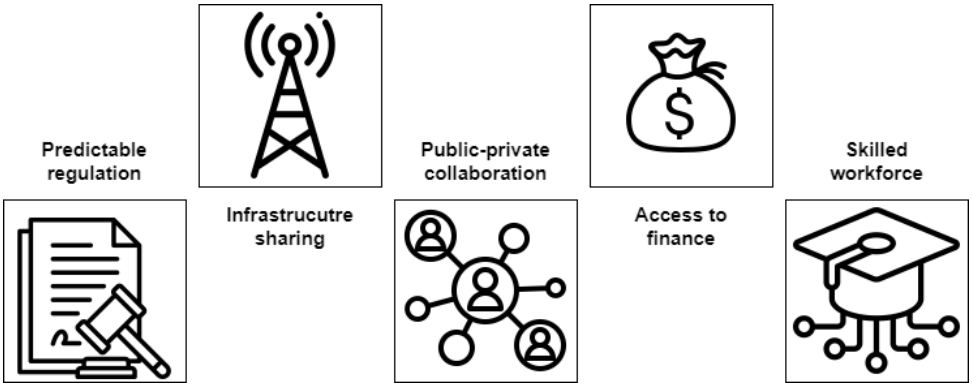

Figure 19: Five enablers for investment success

These determinants correspond to the institutional and policy reforms set out in the *Enabling Environment for the Digital Economy* sub-programme of NDPIV, which reinforce the importance of coordination, innovation and skills in sustaining investment. Incorporating these insights into future sector programmes will enhance Uganda's capacity to attract, retain and grow quality investments in its communications ecosystem.

5.8 Summary and Link to Reform Actions

Uganda's communications sector offers **a diverse and robust investment landscape**, encompassing broadband infrastructure, digital broadcasting and postal logistics. This chapter presents an analysis that illustrates how a combination of robust demand fundamentals, supportive policy frameworks and ongoing reforms has established the sector as a pivotal driver of national transformation under **Vision 2040 and NDPIV**. Investment opportunities exist at every level of the value chain, from core connectivity to content creation, logistics and innovation, reflecting both immediate commercial potential and long-term developmental impact.

The investment opportunities profiled in this chapter collectively advance the objectives of the NDPIV. Broadband expansion, broadcasting innovation and postal modernisation are explicitly recognised as catalysts for inclusive growth and competitiveness under the **Digital Transformation** and **Innovation and Technology Development Programmes**. By quantifying investment gaps and identifying necessary reforms, this profile provides practical recommendations for inclusion in NDPIV programme work plans and performance frameworks.

The next chapter builds on these insights by outlining **priority actions, sequencing** and **a proposed implementation timeline** to strengthen Uganda's investment climate and unlock the full growth potential of its communications sector.

6 Reform Roadmap and Implementation Plan

6.1 Introduction and Alignment

This chapter presents a **strategic reform and investment roadmap** for Uganda's communications sector. Building on the evidence and stakeholder perspectives presented in previous chapters, it sets out priority actions aimed at improving the sector's investment climate, strengthening regulatory predictability and encouraging private-sector participation. Designed as a practical guide, the roadmap will help government and industry stakeholders, particularly **MoICT&NG, UCC, NITA-U** and partner institutions such as **MoFPED**, **UIA** and **URA** to coordinate reforms over the next decade.

The proposed actions outlined in the roadmap are fully consistent with the **NDPIV**, particularly the programmes for digital transformation as well as innovation and technology development and transfer. Each reform cluster has therefore been mapped to the relevant programme area, in order to facilitate its integration into government work plans and performance frameworks.

6.2 Strategic Reform Themes and Actions

The proposed actions are organised into **seven thematic clusters**, which together provide a coherent framework for modernising Uganda's communications sector. Each cluster comprises targeted policies, regulations and institutional actions designed to improve investment predictability, reduce operational costs and promote long-term growth in the sector. Table 32 shows the alignment of the clusters to national strategic interventions set out in NDPIV's Digital Transformation Programme (DTP) and Innovation, Technology Development and Transfer (ITDT) programme, with further details provided in Appendix D.

i. Sector governance, policy and institutional reforms

(Aligned with NDPIV interventions on policy harmonisation, regulatory coherence and strengthened programme governance across the DTP and ITDT programmes)

A coherent governance and regulatory framework is essential for strengthening investor confidence and reducing administrative uncertainty. The fragmentation of sector institutions, particularly the overlapping mandates of UCC, NITA-U, NIRA and the Bank of Uganda, continues to create coordination challenges and increase transaction costs for operators and service providers. Updating the Uganda Communications Act (2013) to reflect technological convergence, streamline roles across agencies, and improve alignment with evolving digital economy priorities is required to address these issues.

Key actions under this theme include clarifying institutional mandates, harmonising regulatory instruments and establishing a formal coordination mechanism to guide joint planning, oversight and regulatory implementation. These measures are consistent with the NDPIV's emphasis on modernising ICT and STI-related policies, strengthening programme governance, and ensuring that institutions operate within clearly defined roles and accountability frameworks. Enhancing coordination and regulatory predictability will support more efficient investment decisions, reduce duplication, and ultimately contribute to a more stable and trusted digital ecosystem.

ii. Fiscal and incentive framework for investment

(Aligned with NDPIV interventions on private-sector competitiveness, digital-economy investment facilitation and innovation and R&D financing, as set out in the DTP and ITDT programmes)

High sector-specific taxes and fees continue to constrain network expansion and infrastructure upgrades, as well as limiting the affordability of digital services. According to operators, excise duties on data, import taxes on network equipment and multiple levies imposed by various agencies and local governments cumulatively increase operational costs and reduce incentives to invest in underserved areas. These fiscal barriers directly affect the cost structure of service providers and consumers' ability to adopt digital services, especially low-income households.

In line with the NDPIV's focus on improving the investment climate and reducing the cost of doing business, priority actions under this theme include a coordinated review of sector taxes and fees, the rationalisation of import duties on essential ICT and postal equipment, and the introduction of targeted incentives for infrastructure rollout, innovation and the adoption of green ICT. Such incentives may include rural coverage credits, investment allowances for backbone and last-mile deployments, and fiscal support for pilots of emerging technologies and innovation hubs. These measures reflect NDPIV’s emphasis on mobilising private capital for digital and innovation infrastructure, and supporting the transition to a more competitive, innovation-driven economy.

iii. Infrastructure expansion, access and sharing

(Aligned with NDPIV interventions on broadband expansion, digital service infrastructure, shared facilities, and STI infrastructure development under the DTP and ITDT programmes)

Uganda’s communications infrastructure remains unevenly distributed, with persistent gaps in rural broadband coverage and limited enforcement of infrastructure-sharing obligations across operators. These conditions increase the cost-of-service provision, slow the pace of network expansion, and reduce the commercial viability of investing in underserved areas. The current fragmentation of rights-of-way approvals and inconsistencies in fees across local governments also contribute to delays and regulatory uncertainty.

To support NDPIV's universal access objectives, this theme prioritises revising and enforcing the national infrastructure-sharing framework, harmonising rights-of-way

processes, and promoting collaborative investment models for backbone and last-mile deployment. Strengthening infrastructure sharing and streamlining deployment approvals directly aligns with NDPIV's commitments to expanding broadband coverage, modernising broadcasting and postal infrastructure, and promoting the efficient use of shared facilities. Complementary efforts, such as leveraging UCUSAF resources for high-cost rural areas and encouraging private-sector participation through clear, predictable guidelines, will further reduce infrastructure costs and accelerate deployment.

iv. Market conduct, competition, and consumer protection

(Aligned with NDPIV interventions on consumer protection, fair market conduct, regulatory compliance and standards development under the DTP and ITDT programmes)

Effective competition and robust consumer protection are essential for sustaining innovation, improving service quality and building trust in digital markets. Stakeholders have highlighted ongoing concerns regarding market dominance, the inconsistent application of wholesale and interconnection rules and the limited transparency surrounding tariffs and service quality. These issues contribute to unequal market conditions and reduce the incentive for new entrants and smaller operators to invest and innovate.

To strengthen market efficiency and user confidence, priority actions under this theme include enhancing competition oversight within UCC, updating guidelines on wholesale access, tariffs and dominance assessment, and operationalising a transparent and independent dispute resolution mechanism. Improving the consistency and frequency of quality-of-service monitoring, as well as publishing reliable market performance indicators, will further empower consumers and encourage fair competition.

These measures align with NDPIV's emphasis on fostering a trusted digital environment through stronger regulatory enforcement, enhanced consumer safeguards, and developing standards that support quality, safety, and reliability across digital and STI-related value chains. By promoting transparency and a level playing field for competition, these reforms will help to ensure that the benefits of digital transformation are accessible to all while encouraging continued investment from the private sector.

v. Innovation, digital trade and emerging technologies

(Aligned with NDPIV interventions on digital innovation, emerging technology ecosystems, R&D commercialisation and digital trade enablement, as part of the DTP and ITDT programmes)

A forward-looking regulatory and institutional environment is essential to foster Uganda's transition to a more innovative, knowledge-based, and digitally competitive economy. Stakeholders have consistently emphasised the need for clearer pathways to evaluate and scale new technologies, such as 5G, IoT, AI, cloud computing, and advanced data analytics tools, together with a stronger ecosystem to support digital entrepreneurship and digital trade facilitation. Current gaps in regulatory readiness, skills development, and innovation financing continue to hinder the commercialisation of new solutions and the growth of digitally enabled enterprises.

Actions under this theme include developing a National Emerging Technologies Roadmap to guide the adoption of next-generation technologies, establishing regulatory sandboxes to enable the safe piloting of fintech, AI, IoT, and other data-driven applications, and strengthening collaboration between the government, academia, and the private sector on applied research, skills development, and innovation partnerships. These measures reinforce the priorities of NDPIV on scaling digital innovation, expanding digital trade capabilities and supporting R&D commercialisation across priority value chains.

vi. Sustainability, inclusion and environmental responsibility

(Aligned with NDPIV interventions on inclusive digital development, green infrastructure, environmental stewardship and equitable access, as part of the DTP and ITDT programmes)

Incorporating sustainability and inclusion into sector planning is crucial for ensuring that the advantages of digital transformation are accessible to all Ugandans while reducing environmental impact. Persistent disparities in access, particularly among women, young people, persons with disabilities, and rural communities, limit digital participation and constrain the broader development benefits of communication services. At the same time, the environmental footprint of the sector is growing, driven by increasing energy demands, the proliferation of devices and inadequate e-waste management systems.

Priority actions under this theme include strengthening digital inclusion strategies, expanding accessibility standards in service and device design, and leveraging results-based financing through UCUSAF to extend connectivity to underserved and high-cost areas. In terms of the environment, accelerating the implementation of e-waste management guidelines, promoting renewable energy solutions for off-grid sites and applying green data centre standards will help to reduce the sector's environmental impact. These measures reflect NDPIV's commitments to inclusive digital development, sustainable infrastructure deployment, and environmentally responsible STI systems.

vii. Implementation, capacity, coordination and monitoring

(Aligned with NDPIV interventions on programme governance, institutional capacity building, performance monitoring and coordinated delivery under the DTP and ITDT programmes)

The effectiveness of sector reforms depends on strong implementation capacity, clear institutional roles, and consistent performance monitoring. Stakeholders highlighted gaps in inter-agency coordination, limited capacity for evidence-based policy execution and inconsistent reporting across mandates. These challenges slow down the pace of reform, reduce accountability and hinder the sector's ability to respond to emerging digital opportunities.

To strengthen delivery, it is recommended that a Communications Sector Investment Taskforce be established, jointly led by MoICT&NG and UCC, to oversee reform implementation, coordinate institutional inputs and ensure alignment with the programme-based approach of NDPIV. Enhancing analytical capacity and improving data and performance monitoring systems will support more adaptive and evidence-driven decision-making, as will institutionalising regular investment-climate assessments. Clear

reporting arrangements integrated with NDPIV's M&E framework will further reinforce accountability and help track progress against national digital transformation and STI targets.

6.3 Action and Implementation Matrix

The matrix in Table 32 translates the strategic reform themes into concrete actions, collaborating institutions and indicative timeframes.

- **Short term (0–2 years):** quick-win regulatory and policy actions requiring minimal legislative change can be initiated immediately using existing policy and regulatory frameworks. Examples include tax and licence reviews and the establishment of coordination structures.
- **Medium-term (3–5 years):** structural reforms, such as amending Acts, enforcing infrastructure sharing and building institutional capacity require institutional or fiscal adjustments.
- **Long-term (>5 years):** sustained investment in infrastructure, innovation ecosystems and data governance maturity involves sustained investment and policy evolution.

Table 32: Recommended actions, responsible institutions, timeline and alignment with NDPIV programmes

Theme/reform area	Key actions / reform measures	Recommended collaborating institution(s)	Indicative timeline	Corresponding NDPIV Programme / Sub-Programme
1. Sector governance, policy and institutional reforms	• Amend the Uganda Communications Act (2013) to address convergence and emerging technologies • Clarify the mandates between UCC, NITA-U and BOU through MoICT&NG policy directive • Establish a National Communications Investment Coordination Framework and annual Investment Climate Assessment.	MoICT&NG, UCC, NITA-U, BOU, Parliament, Cabinet Secretariat	Short-term: policy directive Medium-term: amend Act	**Digital Transformation Programme (DTP):** • Policy, legal and regulatory harmonisation • Institutional coordination and programme governance **Innovation, Technology Development and Transfer Programme (ITDT):** • STI policy and regulatory reforms • Strengthened governance and coordination mechanisms
2. Fiscal and incentive framework for investment	• Undertake joint review of sector taxes and fees (licence, excise and import duties) • Design ICT-specific investment incentives (e.g., tax credits for rural roll-out and innovation grants) • Develop a Green-ICT finance and investment guide with UIA and development partners.	MoFPED, URA, UCC, UIA, MoICT&NG, Development Partners	Short-term: review Medium-term: Implementation of incentive framework	**DTP:** • Enabling environment for digital economy competitiveness • Fiscal incentives and private-sector investment mobilisation **ITDT:** • Innovation and R&D

Theme/reform area	Key actions / reform measures	Recommended collaborating institution(s)	Indicative timeline	Corresponding NDPIV Programme / Sub-Programme
				commercialisation financing • Support for enterprise incubation and technology-transfer investment
3. Infrastructure expansion, access and sharing	• Revise and enforce infrastructure-sharing regulations for towers, fibre and active equipment • Harmonise rights-of-way approvals and fees across local governments • Scale UCUSAF subsidies towards rural backbone and community connectivity projects.	UCC, MoICT&NG, UCUSAF, Local Govts, ISPs, PPPs	Short-term: policy revision Medium-term: roll-out implementation	**DTP:** • National broadband infrastructure expansion (NBI, last-mile) • Digital service-delivery infrastructure (data centres, broadcasting, postal) **ITDT:** • STI infrastructure development (parks, labs, common-user facilities) • Support for advanced technology and industry-4.0 infrastructure
4. Market conduct, competition and consumer protection	• Strengthen the competition unit within UCC and update guidelines on dominance and tariffs • Operationalise an independent appeals and dispute resolution mechanism	UCC, MoICT&NG, Competition Authority (if established), Consumer Associations	Short-term: guidelines Medium-term: operationalise appeals mechanism	**DTP:** • Consumer protection and market transparency • Competition oversight and enabling environment for digital markets

Theme/reform area	Key actions / reform measures	Recommended collaborating institution(s)	Indicative timeline	Corresponding NDPIV Programme / Sub-Programme
	• Publish bi-annual market transparency and QoS reports.			**ITDT:** • Standards and quality-assurance frameworks • Strengthening IP and innovation-protection regimes
5. Innovation, digital trade and emerging technologies	• Develop a National Emerging Technologies Roadmap (5G, IoT, AI) • Establish regulatory sandboxes for FinTech, AI, and IoT applications • Support digital skills and research collaborations with universities and innovation hubs.	MoICT&NG, NITA-U, UCC, MoES, NCHE, Private Sector, Innovation Hubs	Short-term: draft roadmap Medium-term: sandboxes operational Long-term: scaling	**DTP:** • Digital innovation, digital-skills development, smart-industry support • E-commerce enablement and digital-trade facilitation **ITDT:** • R&D commercialisation and emerging-technology ecosystems (AI, robotics, IoT) • Innovation hubs, incubation and technology-transfer systems
6. Sustainability, inclusion and environmental responsibility	• Implement a national e-waste policy and green ICT procurement standards • Launch a UCUSAF results-based financing window for inclusive connectivity	UCC, MoICT&NG, UCUSAF, MoWT, MGLSD, Environment Authority	Medium-term: implementation Long-term: mainstreaming and monitoring	**DTP:** • Inclusive digital development (gender, youth, disability) • Green ICT and sustainable infrastructure deployment

Theme/reform area	Key actions / reform measures	Recommended collaborating institution(s)	Indicative timeline	Corresponding NDPIV Programme / Sub-Programme
	• Integrate gender, youth, and disability targets into ICT programmes.			**ITDT:** • Inclusive innovation participation and STEM pipeline development • Environmental responsibility in STI infrastructure and industry
7. Implementation capacity, coordination and monitoring	• Establish a Communications Sector Investment Taskforce to oversee the implementation of the roadmap • Integrate sector reforms into the NDPIV programme's M&E framework • Publish an annual Communications Sector Investment Report.	MoICT&NG, UCC, NPA, MoFPED, UIA, Development Partners	Short-term: launch taskforce Medium-term: integrate M&E Long-term: sustainability reviews	**DTP:** • Programme governance, coordination and performance monitoring • Strengthening institutional capacity for digital-transformation delivery **ITDT:** • STI programme governance and M&E systems • Capacity-building for programme institutions and actors

6.4 Institutional Coordination and Monitoring

The effective implementation of the reform roadmap requires **strong institutional coordination**, accountability and performance monitoring across the communications ecosystem. As the reforms cover fiscal policy, regulation, infrastructure development and innovation, a whole-of-government approach is required, anchored in the national programme framework under **NDPIV**.

MoICT&NG will provide overall policy leadership and strategic direction, ensuring that reform actions are embedded within the Digital Uganda Vision and aligned with the National Development Plan. UCC will serve as the technical and regulatory lead. It will be responsible for coordinating implementation across operators, sector agencies, and development partners. It will also produce ***annual Communications Sector Investment Reports*** to track progress against agreed milestones.

To oversee execution of the Action Matrix, a dedicated **Communications Sector Investment Taskforce** should be established, co-chaired by the MoICT&NG and UCC. This task force will meet quarterly to review progress, address bottlenecks and report to the **National Planning Authority (NPA)** for integration into the national monitoring and evaluation framework. Other members will include MoFPED, NITA-U, UCUSAF and UIA, as well as private-sector representatives.

Monitoring will use quantitative and qualitative indicators drawn from the performance targets of NDPIV, such as broadband penetration, investment inflows, compliance with service quality standards, and uptake of digital skills. A mid-term review after two years should assess the effectiveness of implementation and adjust priorities as needed.

These coordination and reporting mechanisms will ensure that reforms remain on track, financing is aligned with national priorities and that evidence from ongoing monitoring feeds directly into future policy cycles and sector planning.

6.5 Conclusion

The actions and timelines set out in this roadmap represent a significant step towards establishing a competitive, predictable and innovation-driven communications sector. Successful implementation will require sustained institutional coordination, fiscal discipline and political commitment across government.

The next phase should therefore focus on developing a costed implementation plan that is integrated into the Medium-Term Expenditure Framework and aligned with the budgets of the NDPIV programme. This will ensure that proposed reforms, particularly those relating to taxation, infrastructure sharing and innovation, are fully funded and measurable.

Periodic reviews of progress, informed by the Communications Sector Investment Taskforce, will help to maintain momentum and enable evidence-based policy

adjustments as Uganda moves towards its Vision 2040 goal of achieving a modern, digital and inclusive economy.

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Appendix B Broadcasting Subsector Reform Recommendations

The broadcasting subsector reforms presented below are based on stakeholder consultations conducted as part of this study, as well as on the **ex-post Regulatory Impact Assessment (RIA) of the 2017 TV Licensing Framework**, which was completed in draft form by UCC. While the RIA revealed that the framework had stimulated innovation, infrastructure upgrades and content diversity, it also highlighted that smaller operators continue to face high compliance costs, market distortions and financial pressure. The recommendations therefore focus on addressing structural bottlenecks and improving the investment climate in broadcasting, particularly through regulatory adjustments, infrastructure reforms and fiscal incentives. They are intended to complement the **sector-wide reform themes and implementation roadmap set out in Chapter 6**.

Barrier	Reform / policy option	Expected impact on investment
High licensing fees and compliance burdens	Separate Free-to-Air (FTA) and Pay-TV licences with differentiated fee structures Streamline compliance certification (e.g., digital submission, shorter timelines)	This reduces financial strain on smaller operators, improves the ease of doing business, and encourages new entrants.
Market distortions and saturation	Introduce stricter market entry criteria (e.g., financial and technical thresholds) Regulate OTT/online TV platforms to ensure a level playing field	This stabilizes market structure, enhances investor confidence, and reduces unfair competition.
Infrastructure bottlenecks (Signet monopoly, poor coverage, high tariffs)	Review Signet's mandate and consider introducing structural reforms or allowing competition in signal distribution Introduce tariff caps or transparent, cost-based pricing for signal distribution Promote infrastructure-sharing and regional distribution hubs	This improves coverage quality and lowers costs, making regional and niche broadcasting more viable for private capital.
Content production challenges (75% local quota, piracy)	Provide fiscal incentives (e.g. tax credits, grants and content development funds) for local production Strengthen enforcement against piracy through digital rights management and penalties	This stimulates investment in content ecosystems, supports job creation, and improves revenue sustainability.

Barrier	Reform / policy option	Expected impact on investment
Shrinking advertising base and weak revenue models	Support diversification via bundled services with telecom companies (e.g., TV + data) Explore public-private partnerships (PPPs) for educational and public service broadcasting content	This creates alternative revenue streams, strengthens financial sustainability, and encourages long-term private investment.
Regulatory rigidity	Establish periodic licensing reviews with stakeholder input Introduce a sandbox approach for innovative digital/OTT services	This makes regulation more adaptive, lowers investor risk, and attracts innovation-led investment.

Appendix C Assumptions for Estimating the Postal Sector Investment Gap

The scenario analysis is underpinned by technical, financial and policy assumptions that align with current market trends, available data and Uganda's communications sector modernisation priorities. These assumptions provide the basis for cost modelling, scaling up interventions and allocating public versus private financing. These parameters are derived from sector reports (UCC, 2023–2025), comparable regional benchmarks (Kenya, Ghana, Rwanda and Tanzania) and the asset-light modernisation framework developed for this study.

The key assumptions are organised into thematic categories covering infrastructure scale, unit costs, digital readiness, and financing structure. They are indicative and intended for strategic investment planning rather than detailed engineering estimates.

Parameter	Value/range	Notes/source rationale
Time horizon	5 years (2025–2030)	Medium-term modernisation cycle is aligned with NDPIV planning period
Annual parcel growth	20–25%	Based on UCC data (growth trend from 2021–2023) and projected e-commerce uptake
Letter mail decline	–5% to –10% per year	In line with the global and national trend towards digital substitution
Regional sorting hubs	6 total (Kampala + 5 regional centres)	Gulu, Mbarara, Mbale, Arua, and Fort Portal identified as regional nodes.
Average hub size	4,000 m²	Based on regional postal modernisation benchmarks
Civil works cost per m²	USD 1,500	Average cost of rehabilitation or new construction in East Africa is medium
Automation package per hub	USD 600,000	Mechanised conveyors, scanners and sorting equipment (semi-automated)
Fleet composition	20 trucks + 10 small buses	Limited to trunk routes and underserved corridors (an asset-light model)
Truck cost	USD 75,000 per unit	Medium-capacity delivery trucks are used for inter-regional logistics.
Small bus cost	USD 55,000 per unit	Used for non-traditional or rural routes
ERP/track-and-trace System	USD 1.5 million	One-time enterprise software implementation cost.
ICT kit per hub	USD 200,000	Networking, handheld scanners, local

Parameter	Value/range	Notes/source rationale
		servers, UPS, etc.
Integrations (APIs)	6 partners × USD 350,000	Customs, fintech, e-commerce, courier, and payment systems.
Digital logistics and partner management system	USD 3 million	Platform to manage boda and SME delivery agents
Postal outlets upgraded	120 outlets × USD 65,000	Refurbishment, signage, digital connectivity and solar upgrades.
SME / agent pickup points	1,800 agents × USD 1,200	Digital onboarding, branding kits, and app integration
Agent training / enablement grants	USD 0.8 million (total)	Offer capacity-building and compliance training
Parcel lockers	0 (default)	Minimised under the asset-light approach
Addressing system coverage	60% of a 50 million population (≈30M addresses)	National digital addressing rollout is planned by 2030
Cost per digitised address	USD 1.0	Benchmarked against the digital address systems in Rwanda and Ghana
Sites solarised/ retrofitted	80 post offices	High-traffic and rural outlets are prioritised
Solar/retrofit cost per site	USD 35,000	Includes solar PV, battery storage, and energy-efficient lighting
E-commerce data exchange platform	USD 2.5 million	Interoperable platform for postal–e-commerce integration
SME innovation grants	USD 1.2 million	Support for logistics start-ups and local technology partners
Energy efficiency gain	25–35%	Expected results from solarisation and new equipment
Average delivery time reduction	30–50%	Result of digital routing, automation, and hub network optimisation
Public–private investment ratio	This varies by scenario: 75/25 (A), 55/45 (B) and 45/55 (C)	Reflects increased private participation under modernisation and ecosystem scenarios

Appendix D Alignment of Recommendations with the NDPIV

The reform priorities identified in this assessment are not individual sector initiatives. Rather, they form part of a broader national development architecture, as defined by Uganda's Fourth National Development Plan (NDPIV, 2025/26–2029/30). This plan positions digital transformation and innovation as cross-cutting enablers of socio-economic growth. In order to integrate the proposed reforms into government planning, budgeting and performance monitoring frameworks, it is crucial to demonstrate their alignment with the strategic objectives and intervention areas of NDPIV.

This annex provides a simplified political-economic mapping of the seven reform clusters onto the two NDPIV programmes that govern the communications, digital and innovation ecosystem most directly: the Digital Transformation Programme (DTP) and the Innovation, Technology Development and Transfer Programme (ITDT). The table summarises the key areas of alignment, illustrating how each reform cluster reinforces national priorities regarding infrastructure expansion, regulatory harmonisation, innovation, inclusion, and institutional coordination. This mapping provides UCC and its partners with a clear basis for incorporating the recommended reforms into NDPIV programme work plans and annual performance targets.

Reform Cluster	DTP – Strategic Interventions Aligned	ITDT – Strategic Interventions Aligned
1. Sector governance, policy and institutional reforms	• Policy, legal and regulatory harmonisation • Institutional coordination and programme governance	• STI policy and regulatory reforms • Strengthened governance and coordination mechanisms
2. Fiscal and incentive framework for investment	• Enabling environment for digital-economy competitiveness • Private-sector investment mobilisation	• Innovation and R&D commercialisation financing • Support for enterprise incubation and technology transfer
3. Infrastructure expansion, access and sharing	• National broadband infrastructure expansion (NBI, last-mile, data centres) • Modernisation of broadcasting and postal infrastructure	• STI infrastructure development (science parks, labs, common-user facilities) • Advanced manufacturing and Industry 4.0 infrastructure
4. Market conduct, competition and consumer protection	• Consumer protection and market-transparency mechanisms	• Standards and quality-assurance frameworks • Strengthening IP and

Reform Cluster	DTP – Strategic Interventions Aligned	ITDT – Strategic Interventions Aligned
	• Competition oversight and enabling digital markets	innovation-protection regimes
5. Innovation, digital trade and emerging technologies	• Digital innovation and skills development • E-commerce enablement and smart-industry support	• R&D commercialisation and emerging-technology ecosystems (AI, robotics, IoT) • Innovation hubs, incubation and tech-transfer systems
6. Sustainability, inclusion and environmental responsibility	• Inclusive digital development (gender, youth, disability)Green ICT and sustainable deployment	• Inclusive innovation participation and STEM pipeline development • Environmental responsibility in STI and industrial infrastructure
7. Implementation capacity, coordination and monitoring	• Programme governance and performance monitoring • Institutional capacity for digital-transformation delivery	• STI programme M&E systems • Capacity-building for implementing institutions

The above alignment provides a clear basis for integrating the recommended communications sector reforms into the existing structures of the NDPIV programme and government delivery mechanisms. By linking each area of reform to the relevant programme components, UCC, MoICT&NG, NPA, MoFPED and other stakeholders can coordinate implementation more effectively, mobilise resources and track progress through the established national planning and M&E frameworks. This alignment also strengthens institutional incentives for collaboration across agencies, ensuring the reforms directly contribute to Uganda's digital economy and innovation targets for the NDPIV period.