



NATIONAL INFORMATION TECHNOLOGY AUTHORITY

2019

STATISTICAL ABSTRACT

FOREWORD

The National Information Technology Authority-Uganda (NITA-U) is committed to the production and dissemination of integrated statistical information that meets the National and International standards quality requirements. Specifically, indicators are required for monitoring the progress towards achieving the goals for the National Development Plan II, 2015/16-2019/20, Government Performance within the ICT sector and the United Nations (UN) Sustainable Development Goals (SDGs). This Statistical Abstract is NITA-U's major annual publication through which key statistical information derived from the Authority's operations and administrative records of other agencies that are involved in the production of Information Technology (IT) statistics and International IT publications are disseminated for use in tracking outcomes of policies and programmes as well as decision-making.

The Authority would like to appreciate the Uganda Bureau of Statistics' (UBOS) continued technical support and cooperation of the various agencies in providing the requisite data to produce this publication. In a special way, I wish to thank the 2019 NITA-U Statistics Committee that compiled this publication.

It is my sincere hope that the statistical information in this publication will be used by the readers to make informed decisions.



James Saaka
Executive Director

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LIST OF ACRONMYS

EEE	Electric and Electronic Equipment
EGDI	E-Government Development Index
EPI	The e-participation index
FY	Financial Year
GCI	Global Cybersecurity Index
ICT	Information and Communications Technology
IDI	ICT Development Index
IFMS	Integrated Financial Management System
ISIC	International Standard Industrial Classification of All Economic Activities
IT	Information Technology
ITU	International Telecommunications Union
DLGs	District Local Governments
MDAs	Ministries, Departments and Agencies
NBI	National Backbone Infrastructure
NITA-U	National Information Technology Authority-Uganda
UGX	Ugandan Shillings
UN	United Nations

EXECUTIVE SUMMARY

This NITA-U Statistical Abstract is an annual publication of some key statistics produced within the Authority under its mandate to coordinate, promote and monitor Information Technology developments. Other statistics are collected from agencies that are involved in the production of Information Technology statistics. This publication is divided into six major thematic areas which include; NITA-U Human resources statistics, NITA-U administrative statistics, internet and telephony statistics, E-waste statistics, ICT performance in the economy and Uganda's ICT rankings on the global scale.

NITA-U Human Resources statistics

This section presents organisational statistics related to NITA-U staff with the majority (64 percent-61 out of 95) being male in FY 2018/19.

NITA-U Administrative Statistics

This section presents statistics on NITA-U's core business covering: the National Backbone Infrastructure, e-Government services, priority IT standards, Certification of IT service providers, awareness of the existing cyber laws, information security and capacity building and skilling for e-government.

- In FY18/19, over 50kms of Optical Fibre cable were laid under the Missing Links project bringing the total number of kms laid to 2474kms.
- Of the total number of MDA/LGs connected sites to the NBI, 342 (80%) were utilizing various services (Internet Bandwidth, IFMS, Leased lines, and dark fiber) delivered over the NBI in FY 2018/19 while 273 sites out of 332 were connected (77 percent) in FY 2017/18;
- In FY 2018/19, 58 critical Government applications and systems were being centrally hosted at the National Data Centre while in FY 2017/18, 31 applications were being hosted;

- In FY 2018/19, NITA-U developed a total of sixty seven (67) websites, which were all revamped and tailored to meet the needs of people with disabilities for the different MDAs/DLGs making a cumulative total of 355 websites.
- Sixteen MDAs were assessed against standards for structured cabling, eleven (11) MDAs against standards for the acquisition of IT Hardware & Software; ninety nine (99) MDAs and one hundred nine (109) DLGs against E-Government Regulations, 2015 with an overall average compliance score of 57.5 percent by end of FY 2018/19;
- Fifty (50) sensitization and awareness activities were conducted on IT legislations in order to enhance awareness with in government, regulated entities and the public in FY 2018/19;
- By the end of FY 2018/19, eighty two (82) additional IT Service Providers were certified under the Certification Framework making a cumulative total of two hundred thirty nine (239);
- The number of MDAs implementing National Information Security Framework (NISF) promoting initiatives in FY 2018/19 were sixteen (16) making a cumulative total of forty (49) since FY 2015/16;

Internet and Telephony statistics

This section covers statistics on internet subscriptions, and telephone subscriptions with the following highlights:

- The estimated total internet subscriptions improved by 51 percent from about 10million in FY 2017/18 to about 15.17million in FY 2018/19;
- In FY 2018/19, an increase of 17 percent was recorded in mobile phone subscriptions from 21.8million subscriptions in FY 2017/18 to 25.4million.
- Tele-density increased by 14 percent from 56.1 percent in FY 2017/18 to 63.6 percent in FY 2018/19

E-waste statistics

- The amount of Electric and Electronic Equipment placed on the market has been steadily decreasing since 2014 from 37,231 tonnes to 28,083 tonnes in

2018. The component of small equipment forms the biggest percentage of electronics placed on the market since 2014.

- The E-waste generated has increased over time. In the year 2018, the amount of e-waste generated was about 19,264 tonnes compared to 15,118 tonnes generated in 2014. The biggest component of E-waste generated in 2018 was small equipment.

ICT sector performance in the economy

This includes statistics on the ICT sector GDP, trade in ICT goods, ICT sector revenue collections and ICT planned investment with the following high lights;

- The percentage share of ICT activities on GDP was 10.9 percent by the end of FY 2018/19 compared to 9.8 percent for FY 2017/18;
- The estimated value of formal ICT exported goods in FY 2018/19 declined by 12 percent from the previous FY 2017/18 record of UGX 40.1billion in FY 2017/18 to UGX 35.3billion;
- The ICT sector contribution to the total revenue collections remained at 0.1 percent in FY 2018/19; the telecommunications division alone contributed 80.9% to the ICT sector revenue.
- There was a decline of 77 percent in the planned capital investment in ICT from about USD12 million in FY 2017/18 to USD 2.8 million in FY 2018/19;

Uganda's ICT ranking on the global scale

This section comprises of the e-Government Development Index, e-Participation Index, ICT Development Index and the Global Cybersecurity Index with the following highlights:

- In 2018, the e-government status for Uganda was estimated at 36 percent which is above the African average of 34 percent;
- The e-Participation Index improved from 0.4915 in 2016 to 0.6236 out of 1.0000 in 2018;
- The ICT development Index also improved from 1.9 in 2016 to 2.19 on a scale of 1 to 10;

- In addition, out of the 193 member states assessed in 2018, Uganda ranked the 65th globally in Cybersecurity and the 7th in Africa and with a score of 0.621 out of 1 from 0.536 in 2016.

GLOSSARY

Bandwidth:

This describes the maximum data transfer rate of a network or internet connection. It measures how much data can be sent over a specific connection in a given amount of time.

Cyber Laws:

These are laws put in place in to facilitate transacting and communicating using electronic platforms, specifically, consumer protection matters. They include; Electronic Transactions Act, 2011; Electronic Signatures Act, 2011 and Computer Misuse Act, 2011.

Dark fiber service:

This refers to un-used fiber optic capacity on the NBI leased out to clients.

Data Centre

This is a large group of networked computer servers typically used by organizations for the remote storage, processing, or distribution of large amounts of data. The National Data Centre is fully equipped with state of the art technology which is utilised for Centralized Hosting Services, Disaster Recovery Services and other Data Centre Services for Government Applications & Data.

E-Citizens Portal:

This a one-stop centre for Government online services (<http://www.ecitizen.go.ug>). Its main objective is to enhance Government service delivery to citizens, non-citizens, businesses and to Government Ministries, Departments and Agencies (MDAs).

E-Government:

This is the use of information and communication technologies to deliver public services in a convenient, efficient customer-oriented and cost-effective way.

E-Government Development Index:

The United Nations e-Government Development Index (EGDI) comparatively measures the e-Government readiness of states in terms of the scope and quality of online services (Online Service Index), the development status of telecommunication infrastructure (Telecommunication Infrastructure Index) and the human capital (Human Capital Index). E-Government Development Index ranges from zero to one.

E-Government Regulations:

These are regulations that aim at promoting e-government services and electronic communications and transactions with public and private bodies, institutions and citizens;

E-Participation Index:

The e-participation index (EPI) is derived as a supplementary index to the UN E-Government Survey. It extends the dimension of the survey by focusing on the use of online services to facilitate provision of information by governments to citizens (“e-information sharing”), interaction with stakeholders (“e-consultation”), and engagement in decision-making processes (“e-decision making”). E-Participation Index ranges from zero to one.

E-Services:

These are services delivered through the use information and communication technologies (ICTs). The three main components of e-services are- service provider, service receiver and the channels of service delivery (i.e. technology).

Electronic Waste (E-Waste):

The Basel Convention on the control of trans-boundary movement and disposal of hazardous waste, to which Uganda is a member, defines E-Waste, as: “all discarded

electrical and electronic assemblies, scrap, components and batteries”. E-Waste includes a broad range and growing number of electronic devices ranging from large household appliances such as refrigerators and air conditioners, to personal products such as handheld cellular phones, personal stereos, consumer electronics and computers.

Exports:

Outward flows comprising goods leaving the economic territory of a country to the rest of the world.

Global Cybersecurity Index:

This is a survey that measures the commitment of ITU Member States to cybersecurity in order to raise awareness. The GCI is a composite index combining 25 indicators into one benchmark measure to monitor and compare the level of ITU Member States cybersecurity commitment with regard to the five pillars identified by the High-Level Experts Group and endorsed by the Global Cybersecurity Agenda. These pillars include legal, technical, organizational, capacity building and cooperation.

Hardware & Software Standards:

These spell out the rationale for establishing minimum specifications and guidelines for use in the procurement of Information Technology hardware and software products by MDAs for sustainable and manageable IT in Government.

ICT Development Index:

The ICT Development Index (IDI) developed by the International Telecommunication Union is a measure that serves to monitor and compare developments in information and communication technology across countries. The IDI is composed of ICT access, ICT use and ICT skills components. The IDI value ranges from one to ten.

ICT goods:

ICT goods are those that are either intended to fulfil the function of information processing and communication by electronic means, including transmission and

display, or which use electronic processing to detect, measure and/or record physical phenomena, or to control a physical process.

ICT Sector:

The ICT sector combines manufacturing and services industries whose products primarily fulfil or enable the function of information processing and communication by electronic means, including transmission and display. This comprises ICT manufacturing industries, ICT trade industries and ICT services industries.

ICT services:

ICT services are those intended to enable the function of information processing and communication by electronic means.

IT Certification:

IT Certification is a formal procedure, by which NITA-U assesses, verifies and attests that a company/person providing information technology products or services meets the minimum requirements and standards.

Imports:

Inward flows of goods from the rest of the world into the economic territory of a country.

Information Technology:

This means the science of collecting and using information by means of computer systems and refers to computers, ancillary or peripheral equipment such as printers and scanners, software and firmware services including support services, and related resources and includes any equipment or interconnected systems that are used in the acquisition, storage, manipulation or processing, management, movement, control, display, transmission or reception of data or information.

Information Security:

This means the protection of information and information systems from unauthorised access, use, disclosure, disruption, modification or destruction.

Internet:

This is worldwide public computer network. It provides access to a number of communication services including the World Wide Web and carries e-mail, news, entertainment and data files, irrespective of the device used (not assumed to be only via a computer – it may also be by mobile phone, PDA, game machine, digital TV or other device). Internet access can be via a fixed or wireless network.

Leased line:

This refers to a dedicated connection that allows for communication between two sites (a point-to-point leased line) or between a site and the internet (an internet leased line). Leased lines typically deliver bandwidth over a leased fibre connection, although copper local tails can sometimes be used as well.

Structured Cabling Standards:

These aim at providing guidance in the process of implementing structured cabling to enhance the delivery of voice, data and video conferencing services across the different Government MDAs.

Website:

This means a location on the internet and a collection of web pages, images, videos, data which are addressed relative to a common Uniform Resource Location (National Information Technology Authority, Uganda (E-Government) Regulations, 2015).

NATIONAL STANDARD INDICATORS

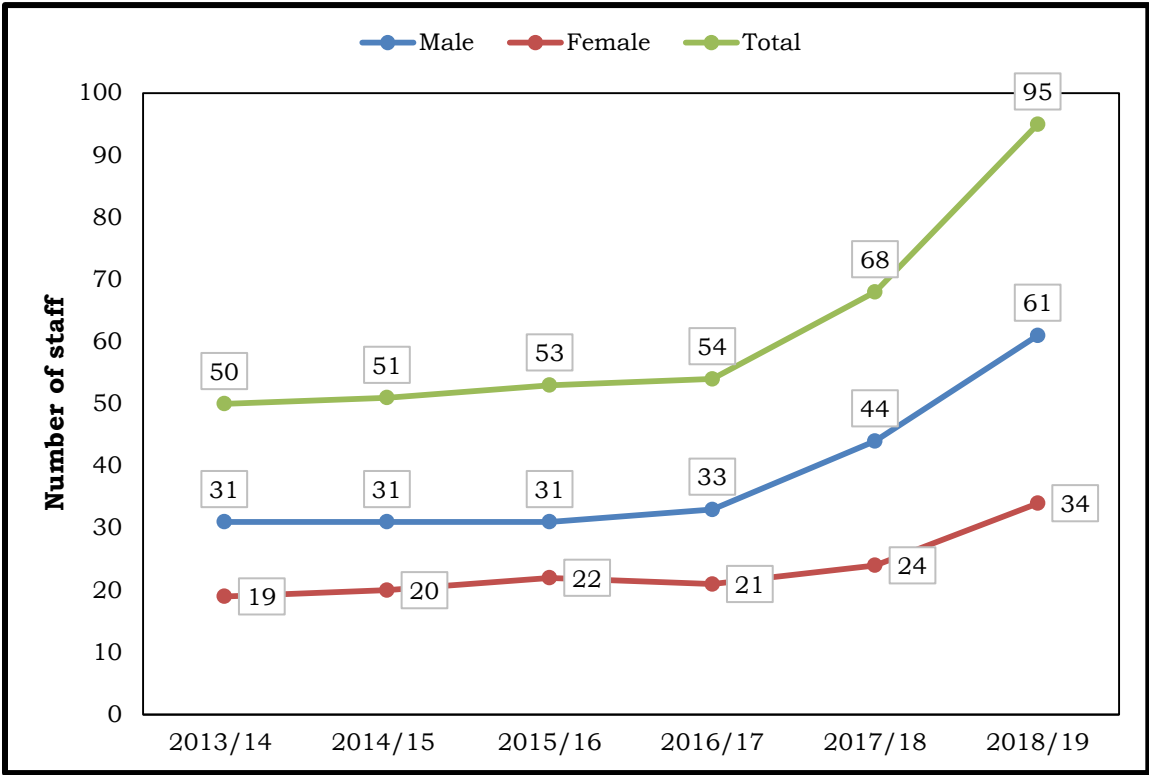
Indicator	2014/15	2015/16	2016/17	2017/18	2018/19
Level 3: Sector Outcomes					
Percentage of households with internet access				10.8%	
Percentage of population using internet				12.1%	
Proportion of the population owning a mobile phone				70.9%	
Proportion of population utilizing e-government services				62.6%	
Percentage share of ICT to GDP	5.9%	8.8%	9.6%	9.8%	10.9%
Percentage share of ICT revenue to total revenue	9.8%	9.2%	8.2%	8.4%	10.5%
Level 4: Intermediate Outcomes					
Level of privacy protection for personal or confidential data collected, processed and stored	-	100%	100%	80%	85%
Level of availability for hosted public services	-	99.8%	99.8%	99.8%	99.8%
Number of sites utilizing services (internet, data centre, IFMIS, Leased lines and Dark fibre) over the National Backbone infrastructure	-		180	273	342
Level of compliance with IT related laws, legislation and standards	-	69.5%	57.3%	57.0%	57.5%

1. NITA-U HUMAN RESOURCES STATISTICS

1.1 NITA-U Staff by Gender

This section covers statistics on NITA-U staffing levels by gender. In the FY 2018/19, the total number of NITA-U staff was 95 compared to 68 recorded in FY 2017/18. This translates into 64 percent being male and 36 percent female in FY 2018/19 compared to 65 percent and 35 percent in FY 2017/18 respectively (figure 1.1.1).

Figure 1.1.1: Number of Staff by Gender; FY 2014/15-2018/19



Source: National Information Technology Authority-Uganda

2. NITA-U ADMINISTRATIVE STATISTICS

This section contains statistics collected from NITA-U administrative reports/records on the business of the organisation. It covers the National Data Backbone Infrastructure, e-government services, IT standards, laws and regulation; and Information Security.

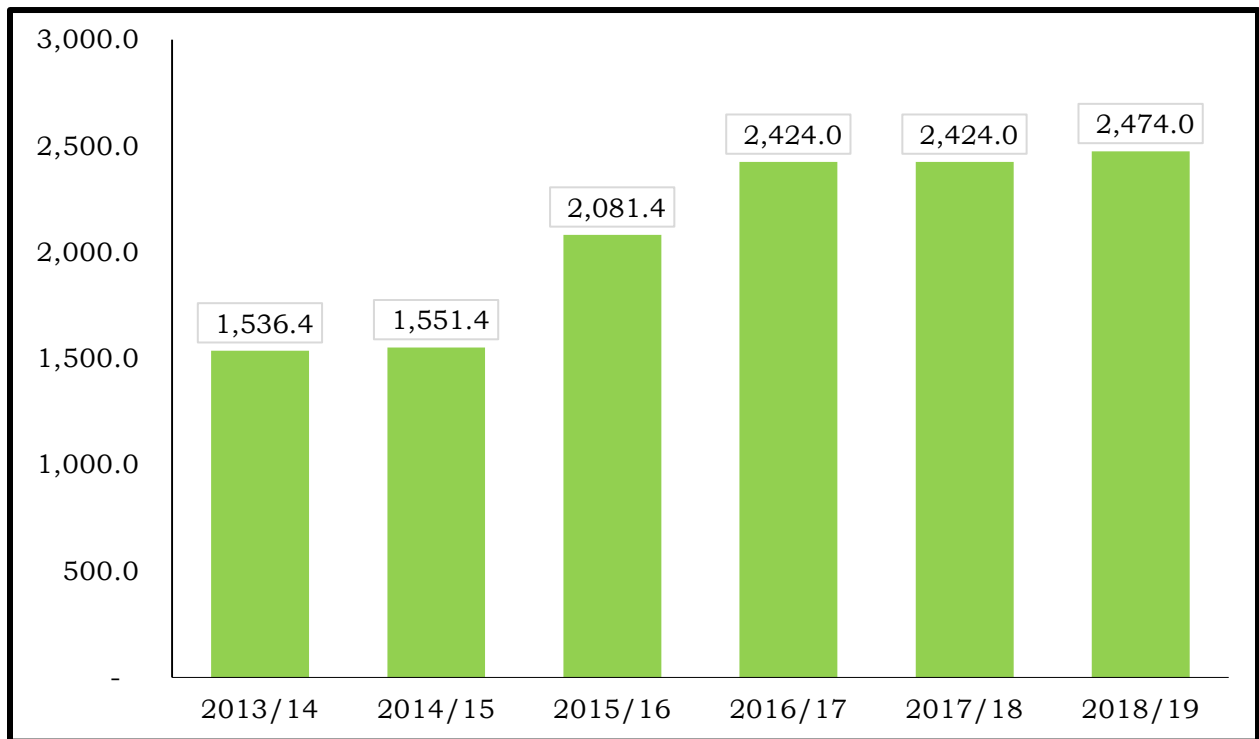
2.1 National Backbone Infrastructure (NBI)

This section provides information on the National Backbone Infrastructure whose major aim is to connect all major towns within the country onto an Optical Fibre Cable based Network and to connect Government entities onto the e-Government Network. Statistics on the kilometers of Optical Fibre Cable on the NBI; districts covered by the NBI; government sites connected to the NBI; government sites utilizing services over the government sites receiving Internet band width service over the NBI and government sites using other services over the NBI are presented in this section.

2.1.1 Kilometres of Optical Fibre Cable on the NBI

In FY 2018/19, 50kms of Optical Fibre cable were laid under the Missing Links project bringing the total number of kms laid to 2,474kms (figure 2.1.1).

Figure 2.1.1: Kilometres of fibre Optical Cable on the NBI; FY 2014/15-2018/19

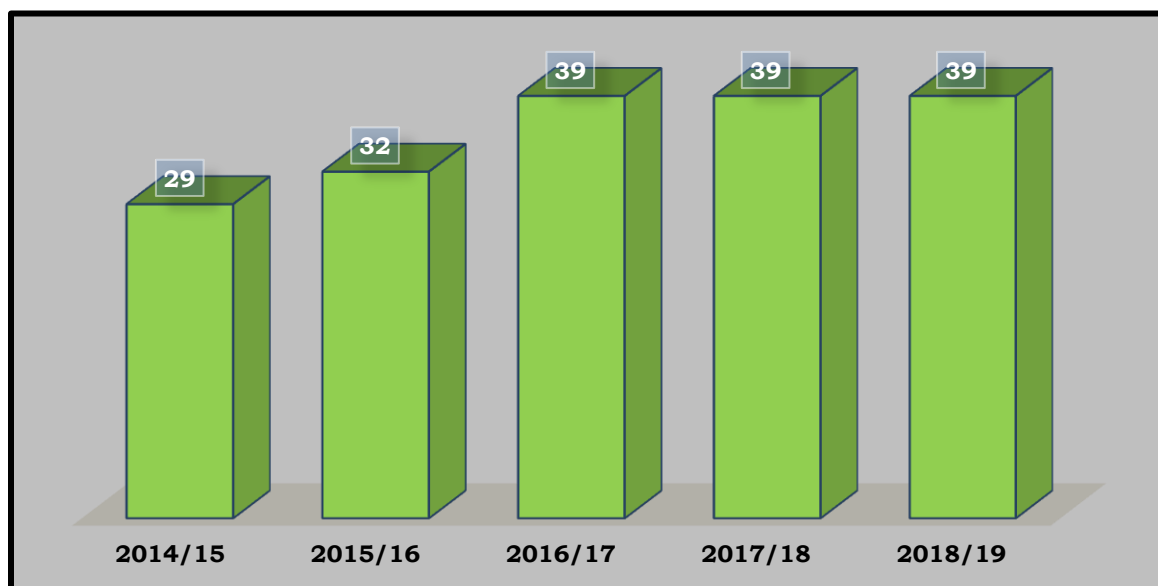


Source: National Information Technology Authority-Uganda

2.1.2 Districts covered by the NBI

In FY 2018/19, the number of districts covered by the NBI remained at Thirty Nine (39) (figure 2.1.2).

Figure 2.1.2: Number of districts covered by the NBI; FY 2014/15-2018/19

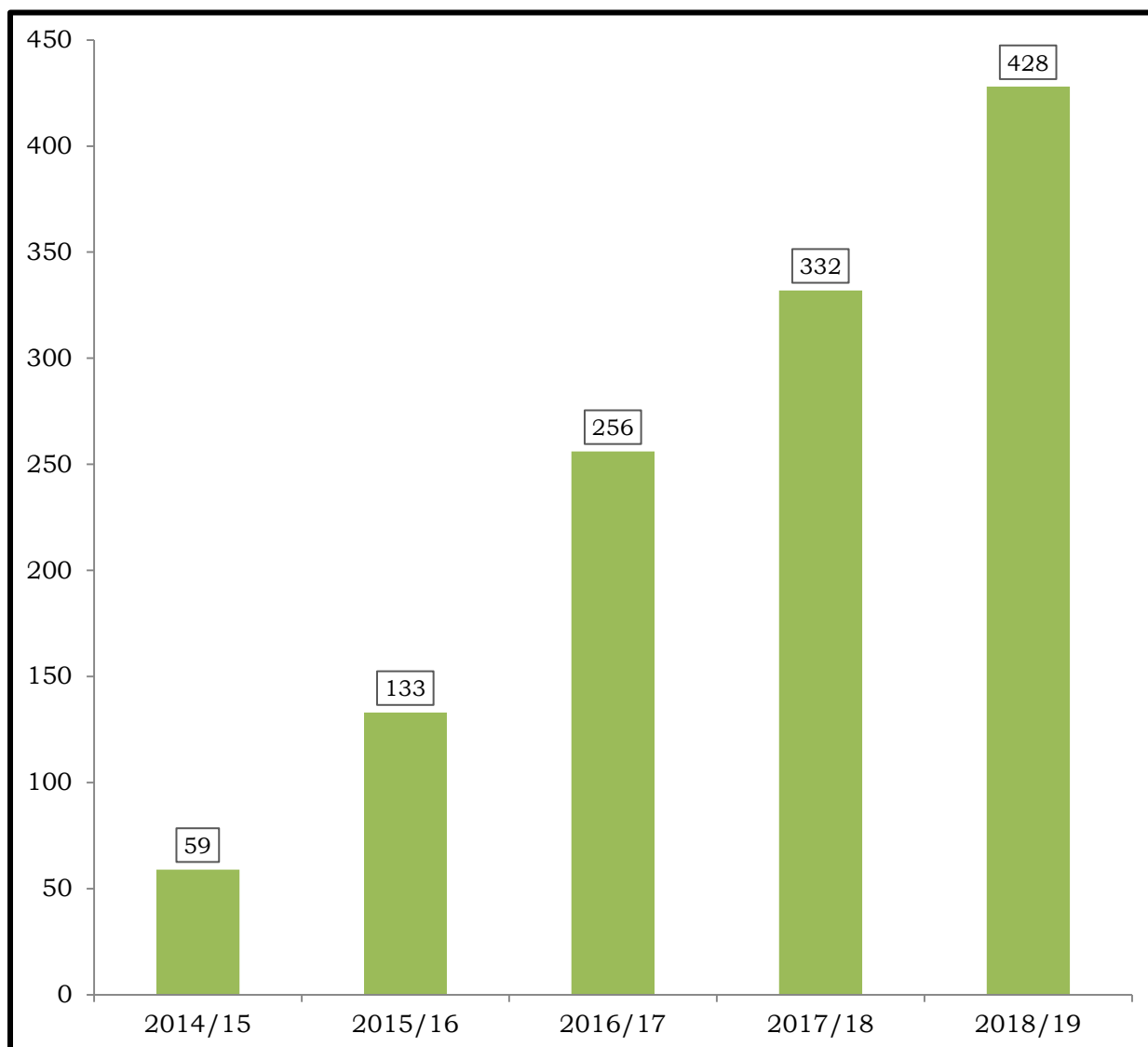


Source: National Information Technology Authority-Uganda

2.1.3 MDA/LG sites connected to the NBI

Similarly, in FY 2018/19, 96 new MDA/LG sites were connected to the NBI bringing the total to 428 compared to 76 additional sites in FY 2017/18 (figure 2.1.3).

Figure 2.1.3: Number of MDA/LG sites connected to the NBI; FY 2014/15-2017/18



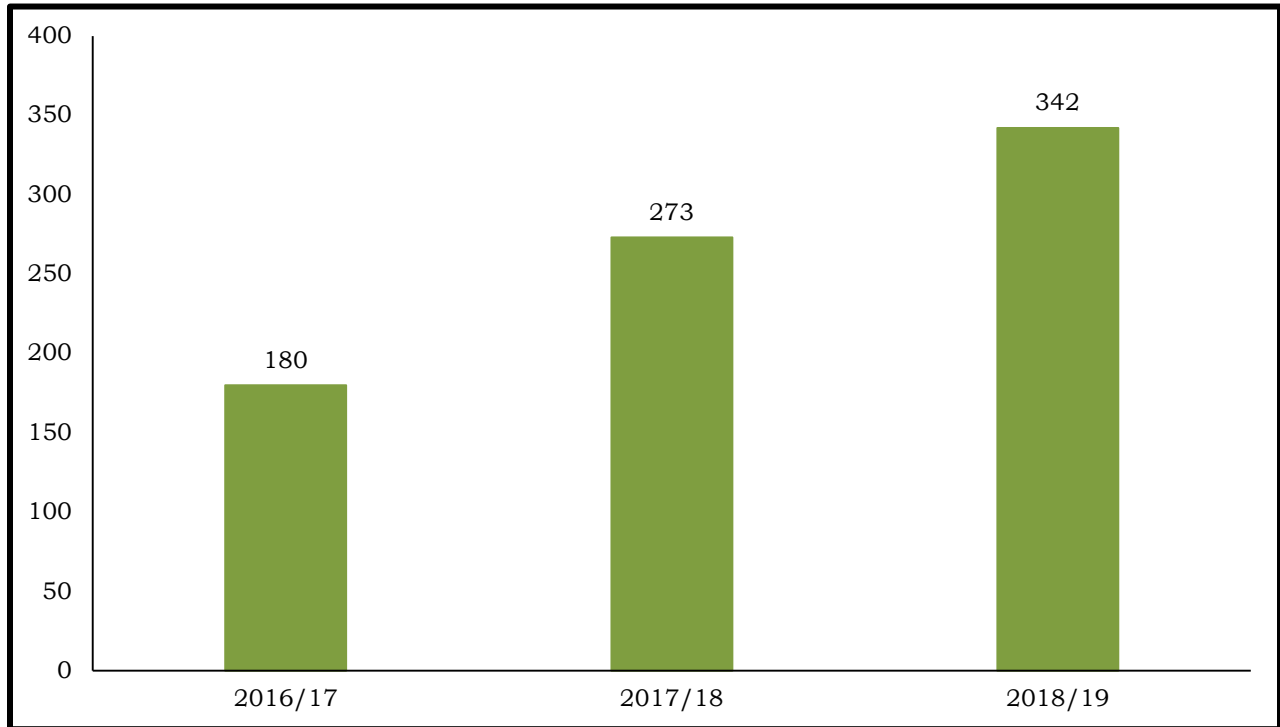
Source: National Information Technology Authority-Uganda

2.1.4 MDA/LG sites utilizing services over the NBI

Of the 428 MDA/LG sites connected to the NBI, 342 (80 percent) were utilizing various services (Internet Bandwidth, IFMS, Leased lines and dark fiber) delivered over the NBI in FY 2018/19 compared to 273 sites out of 332 connected (77 percent) in FY 2017/18 (figure 2.1.4). Some of the Government

sites connected are not using the service because of lack of terminal equipment, Cabling and computers.

Figure 2.1.4: Number of MDA/LG sites utilizing services over the NBI; FY 2016/17-2018/19

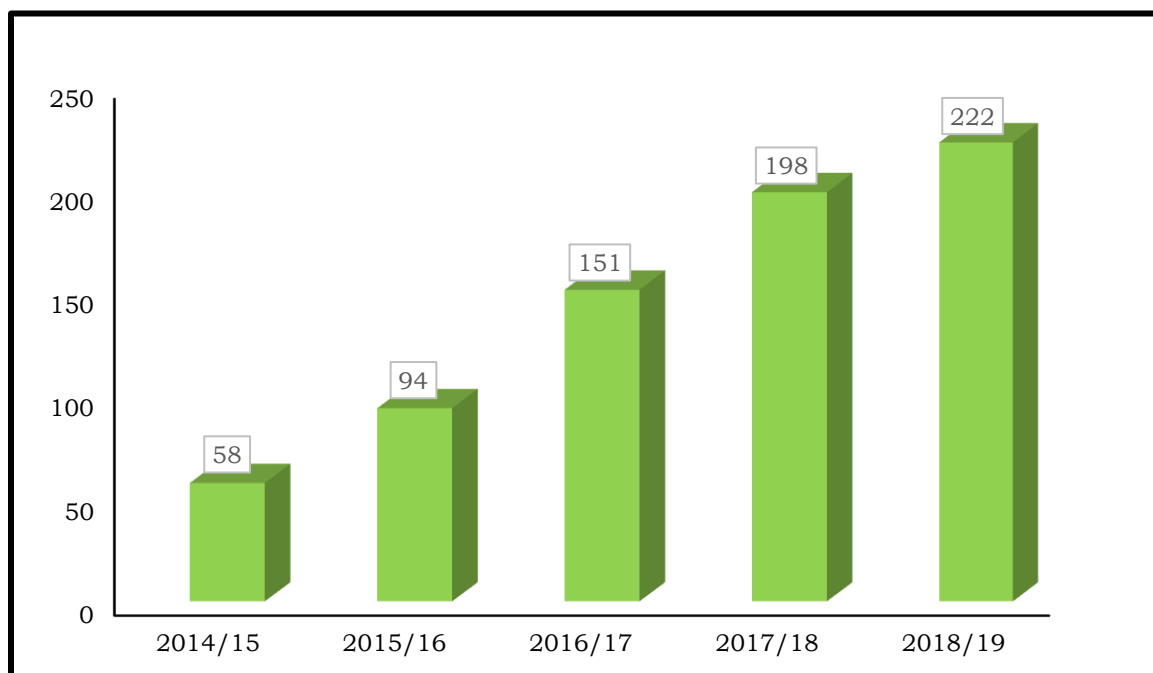


Source: National Information Technology Authority-Uganda

2.1.5 MDA/LG sites receiving internet bandwidth service over the NBI;

In FY 2018/19, 222 MDA sites were provided with Internet bandwidth service over the NBI compared to 198 sites in FY 2017/18 (figure 2.1.5).

Figure 2.1.5: Number of MDA/LG sites receiving internet over the NBI; FY 2014/15-2018/19

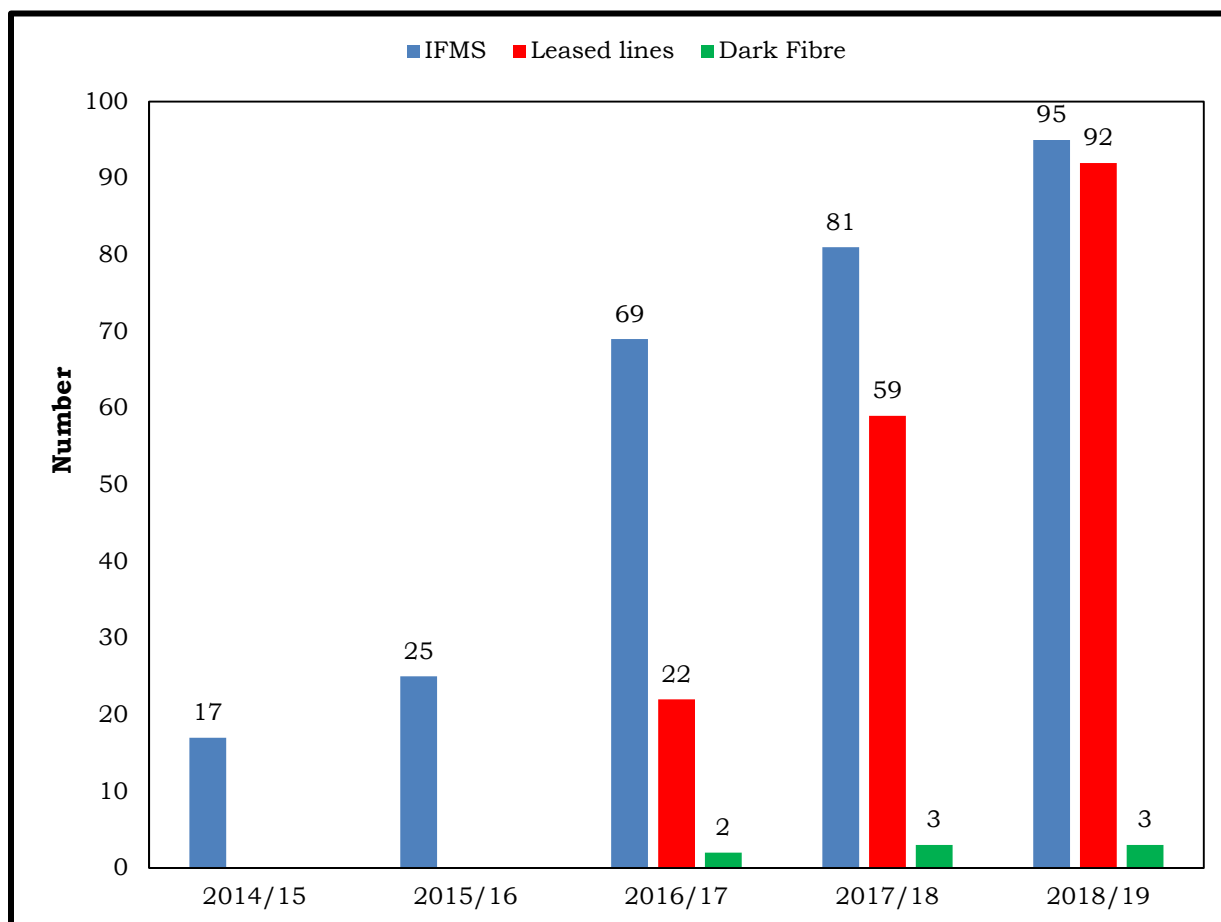


Source: National Information Technology Authority-Uganda

2.1.6 MDA/LG sites using other services over the NBI

In FY 2018/19, the number of government sites using the Integrated Financial Management System over the NBI increased from eight one (81) in FY 2017/18 to ninety five (95), those using Leased lines improved from fifty nine (59) to ninety two (92) and those leasing Dark fiber services remained at three (3) (Figure 2.1.6).

Figure 2.1.6: Number of MDA/LG sites using other services over the NBI; FY 2014/15-2018/19

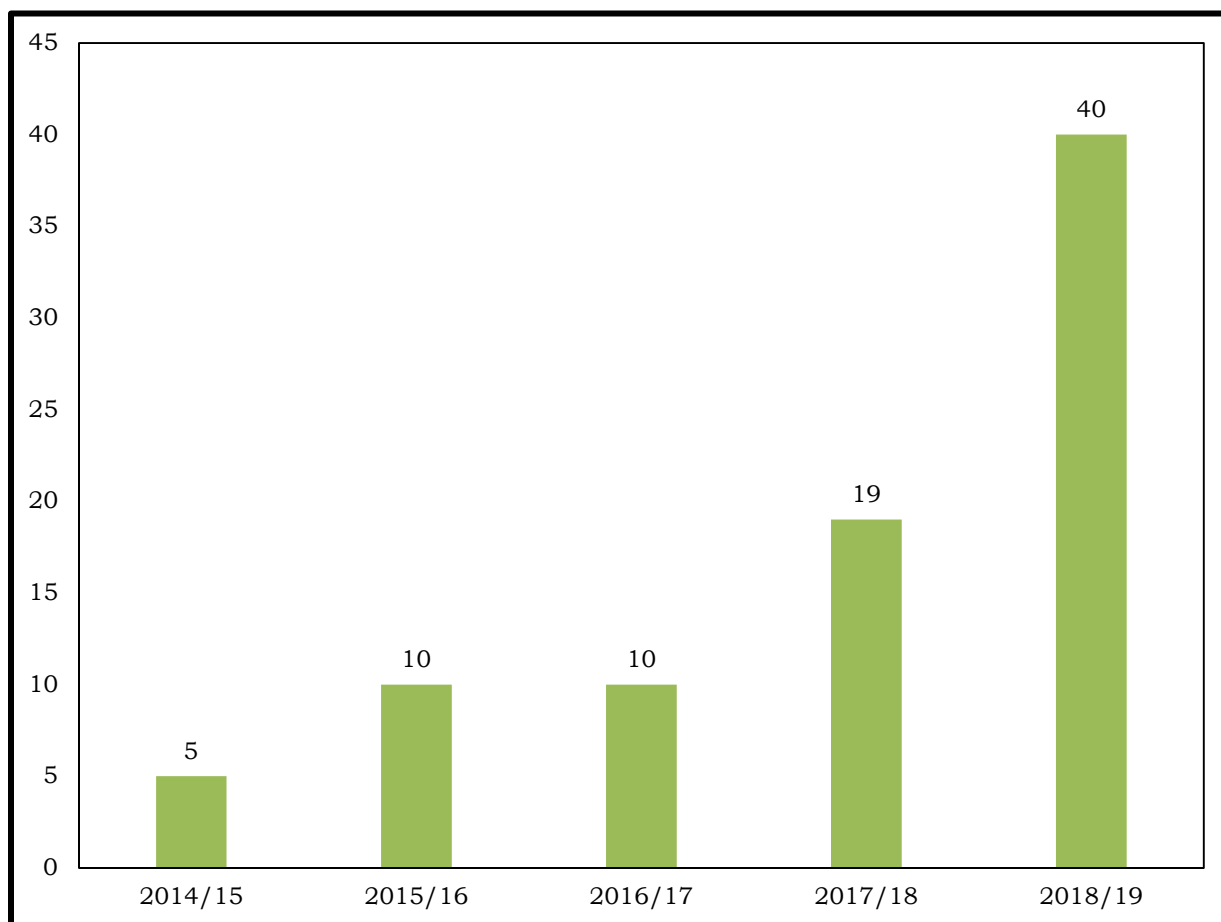


Source: National Information Technology Authority-Uganda

2.1.7 MDAs/LGs using National Data Centre services

In FY 2018/19, the National Data Centre and Disaster Recovery Site were upgraded to Tier 3 classification. The number of MDAs/LGs receiving Data center services improved from 19 in FY 2017/18 to 40 (Figure 2.1.7).

Figure 2.1.7: Number of MDAs/LGs using Data centre services; FY 2014/15-2018/19



Source: National Information Technology Authority-Uganda

2.2 Snapshot of e-government services

E-Government enables citizens, enterprises and organizations to carry out their business with government in a more efficient, transparent, and effective manner. Therefore, NITA-U is championing comprehensive implementation of information and communication technology in government Ministries, Departments, Agencies (MDAs) and Local Governments. The government has setup infrastructure and is promoting the roll out of e-services.

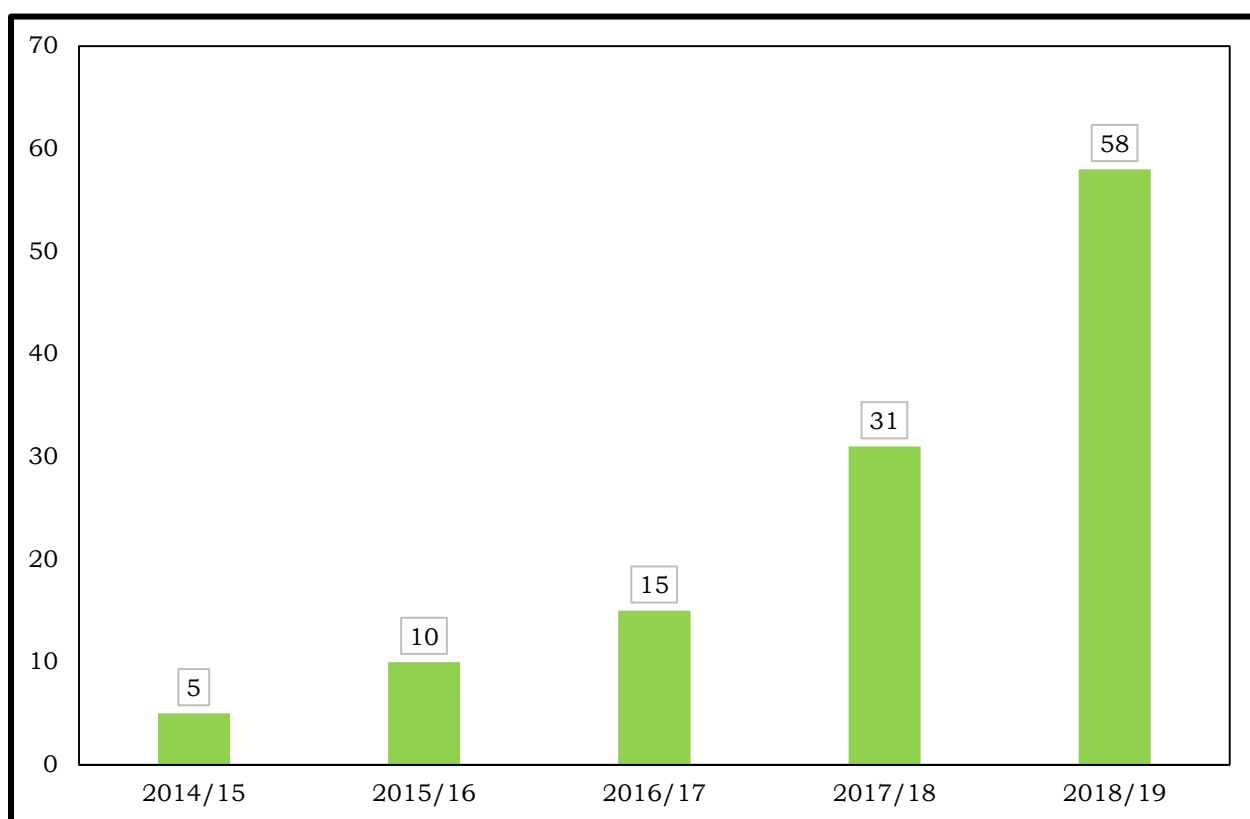
This section presents statistics among others on the applications hosted at the Data Centre, e-services accessed through the e-citizens Portal, MDAs/LGs

provided technical assistance to in the implementation of e-Government projects and websites developed by NITA-U.

2.2.1 Applications hosted at the National Data Centre

In FY 2018/19, 58 critical Government applications and systems were being centrally hosted at the National Data Centre while in FY 2017/18, 31 applications were being hosted (Figure 2.2.1).

Figure 2.2.1: Number of applications hosted at the Data Centre; FY 2014/15-2018/19

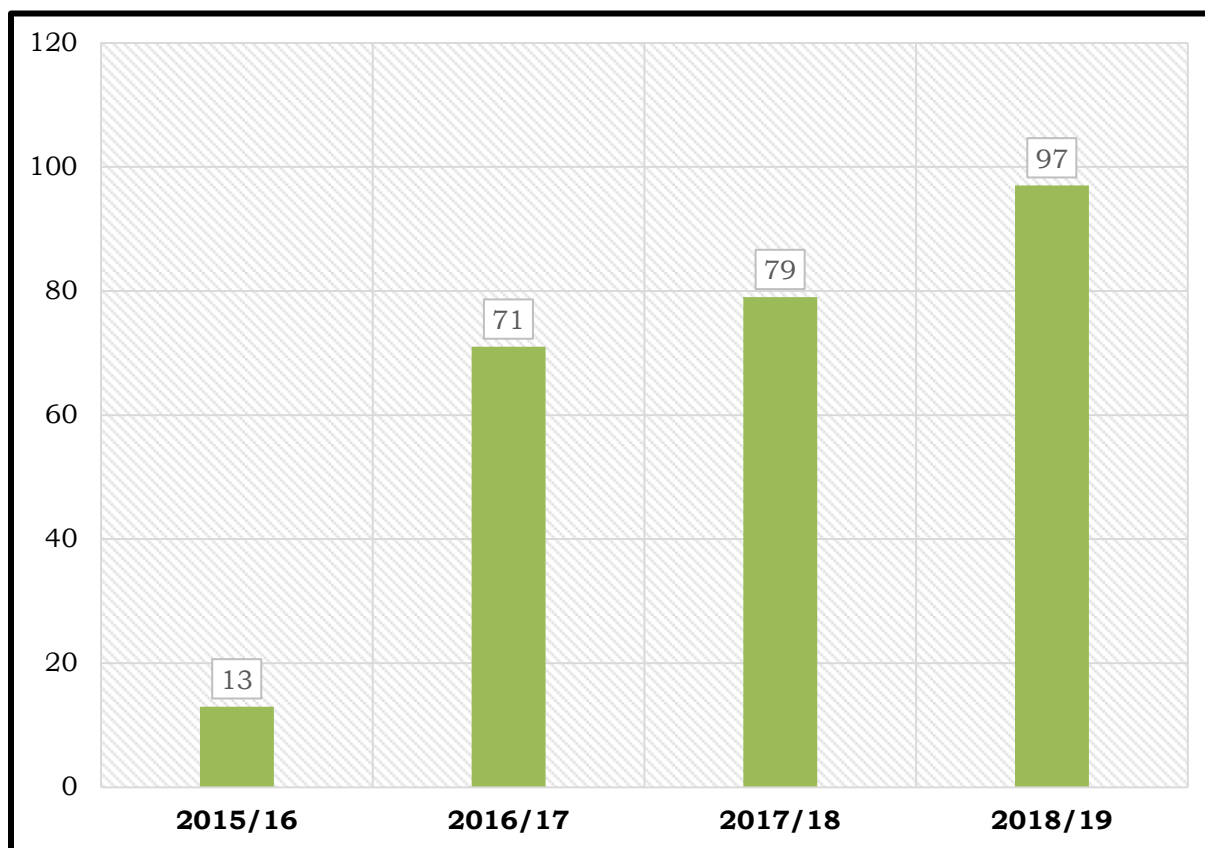


Source: National Information Technology Authority-Uganda

2.2.2 E-services accessed through the e-citizens portal

NITA-U has made commendable efforts to promote the usage of the E-Citizens portal (<http://www.ecitizen.go.ug>). In FY 2018/19, 18 new e-services were added to the portal bringing the total to 97 (figure 2.2.2).

Figure 2.2.2: Number of e-services accessed through the e-citizens Portal; FY 2015/16-2018/19

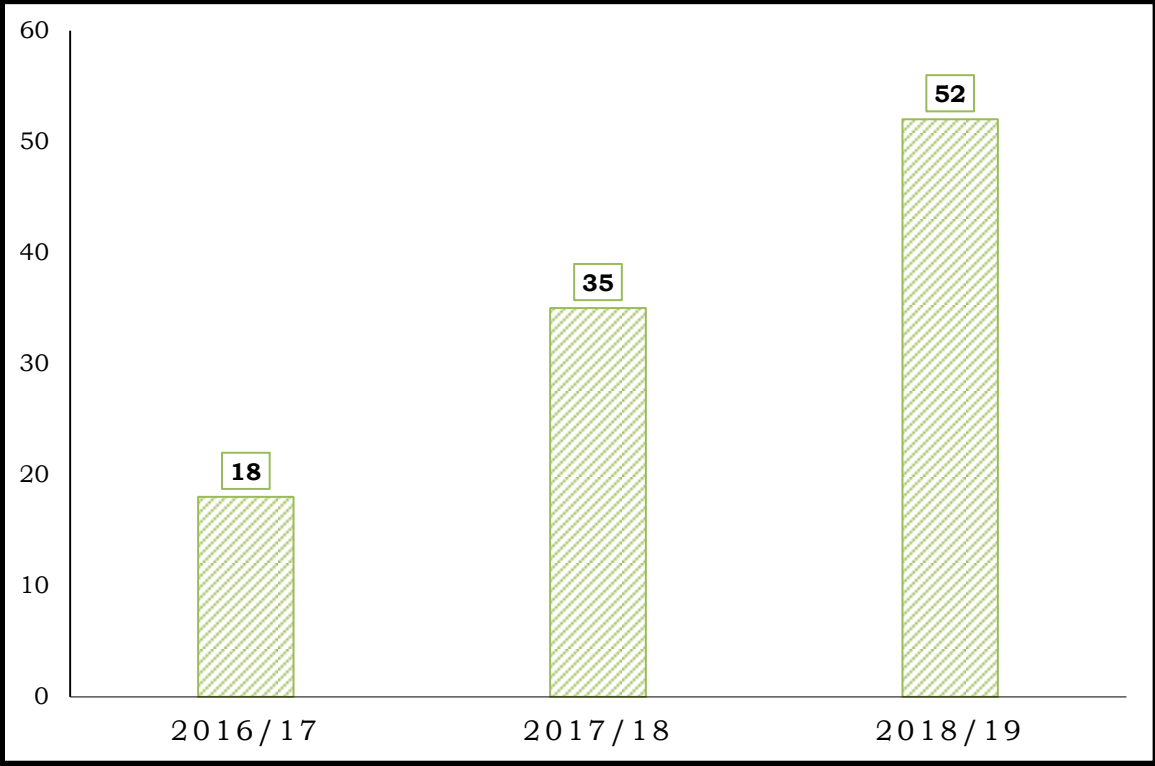


Source: National Information Technology Authority-Uganda

2.2.3 MDAs/LGs provided technical assistance to in the implementation of e-Government projects

In FY 2018/19, technical support was provided to 52 unique MDA/LGs which has resulted into the development of E-Government services, capacity building, and improved compliance to national IT standards and improved efficiencies (figure 2.2.3).

Figure 2.2.3: Number of MDAs/LGs provided technical assistance to in the implementation of e-Government projects; FY 2014/15-2018/19

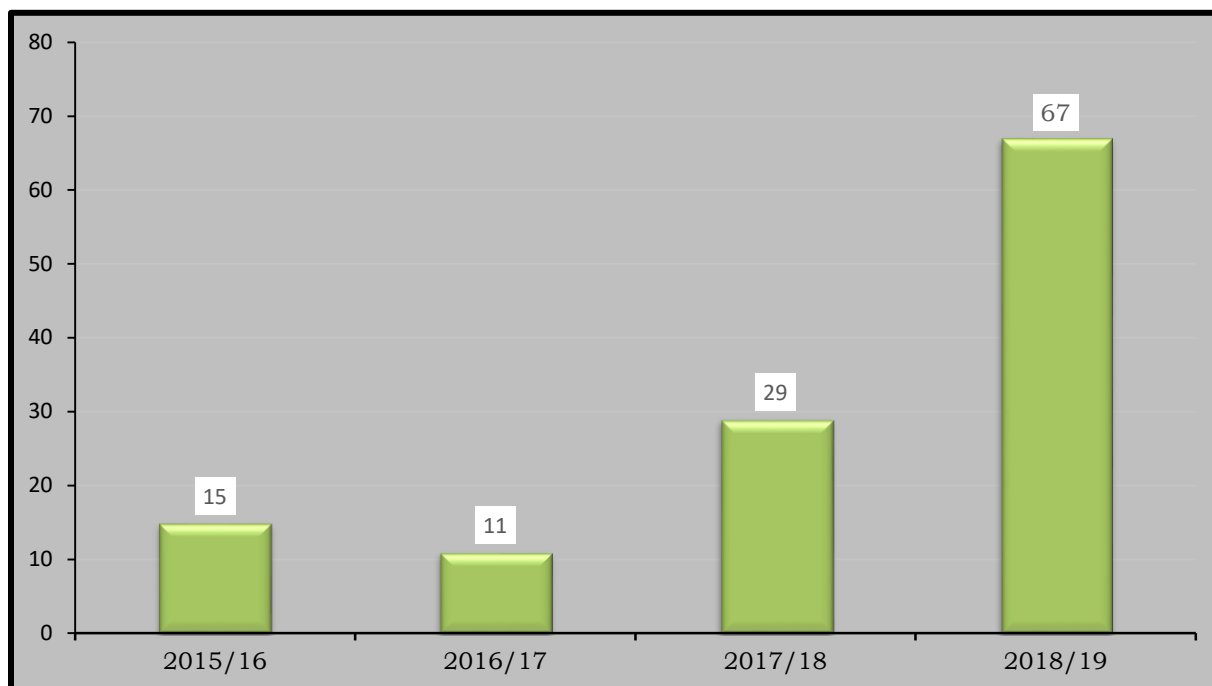


Source: National Information Technology Authority-Uganda

2.2.4 Websites developed

Furthermore, as per the national guidelines for development and management of websites, in FY 2018/19 NITA-U developed a total of sixty seven (67) websites, which were all revamped and tailored to meet the needs of people with disabilities for the different MDAs/DLGs making a cumulative total of three hundred fifty five (355) websites (Figure 2.2.4).

Figure 2.2.4: Number of websites developed; FY 2015/16-2018/19



Source: National Information Technology Authority-Uganda

2.2.5 Number of E-services developed

In FY 2018/19, NITA-U developed five (5) new e-services that is; Anti-Corruption Reporting Service, Uganda Wildlife Education Centre payments portal, Uganda Museum payments portal, Uganda Hotel and Tourism Training Institute (UHTTI) Hotel management system and the online registration system for membership for Uganda Chamber of Commerce.

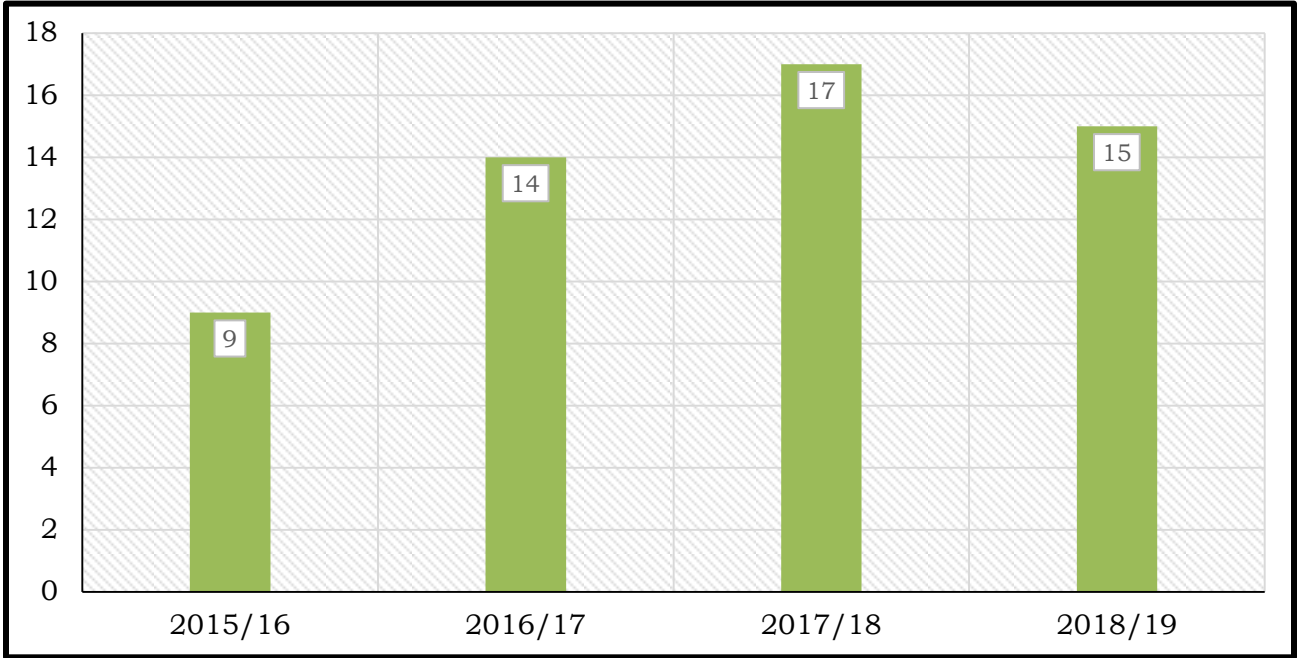
2.3 Priority IT Standards

NITA-U is charged with the responsibility of developing national information technology standards. These standards are developed through technical committees comprised of subject matter experts. These experts are sourced from different fields such as academia, industry, business, government regulatory bodies and independent researchers etc. In developing these

standards, NITA-U prioritizes different competing needs and therefore the standards that have the greatest impact on the technological advancement of the country in line with the government’s development programs are considered first for development. Such standards are considered to have a great impact on trade, security and affect positively the ability of government to deliver services in a fast, efficient, reliable and effective manner for all citizens which in turn has the effect of propelling the socio-economic development of the country.

In FY 2018/19, 15 National IT Standards were developed, reviewed and approved for Mandatory implementation while 17 National IT Standards were developed and presented to the National Standards Technical Committee for adoption in FY 2017/18 (Figure 2.3.1).

Figure 2.3.1: Number of IT Standards developed; FY 2015/16-2018/19



Source: National Information Technology Authority-Uganda

2.4 Compliance to IT standards and e-Government Regulations

NITA-U, in collaboration with the Uganda National Bureau of Standards, developed various Standards for the IT sector. Among the standards developed were: (a) Standards for the Acquisition of IT Hardware and Software for Government MDAs, 2013 and (b) Standards for Structured Cabling, 2013. NITA-U also developed the National Information Technology Authority - Uganda (E-Government) Regulations, 2015 (E-Government Regulations) to among others, promote e-Government services and electronic communications and transactions with public and private bodies, institutions and citizens.

NITA-U conducts a number of assessments on Ministries, Departments, Agencies and District Local Governments (MDALGs), to monitor compliance with the requirements of the aforementioned IT Standards and Regulation.

In FY 2018/19, 16 MDAs were assessed against the standards for structured cabling at an average compliance score of 53 percent, 11 MDAs were assessed against the standards for the acquisition of IT Hardware & Software at an average compliance score at 53 percent, and 99 MDAs and 109 DLGs were assessed against and their compliance levels with the E-Government Regulations, 2015. They were assessed at an average of 62 percent and 65 percent respectively with an overall average compliance score of 57.5 percent (table 2.4.1). However, follow-ups are being made with these entities to ensure compliance.

Table 2.4.1: Number of Compliance Assessments and Compliance levels; FY 2014/15-2018/19

Financial Year	Number of Entities assessed	Compliance levels (average score)			
		Structured Cabling Standards, 2013	Hardware & Software Standards, 2013	E-Government Regulations, 2015	Overall score
2015/2016	21 MDAs	65%	74%	-	69.5%
2016/2017	10 MDAs	64%	73%	-	57.3%
	5 MDAs	-	-	35%	
2017/2018	10 MDAs	62%	67%	42%	57.0%
2018/2019	16 MDAs	53%		-	57.5%
	11 MDAs	-	65%	-	
	99 MDAs	-	-	62%	
	109 DLGs	-	-	50%	

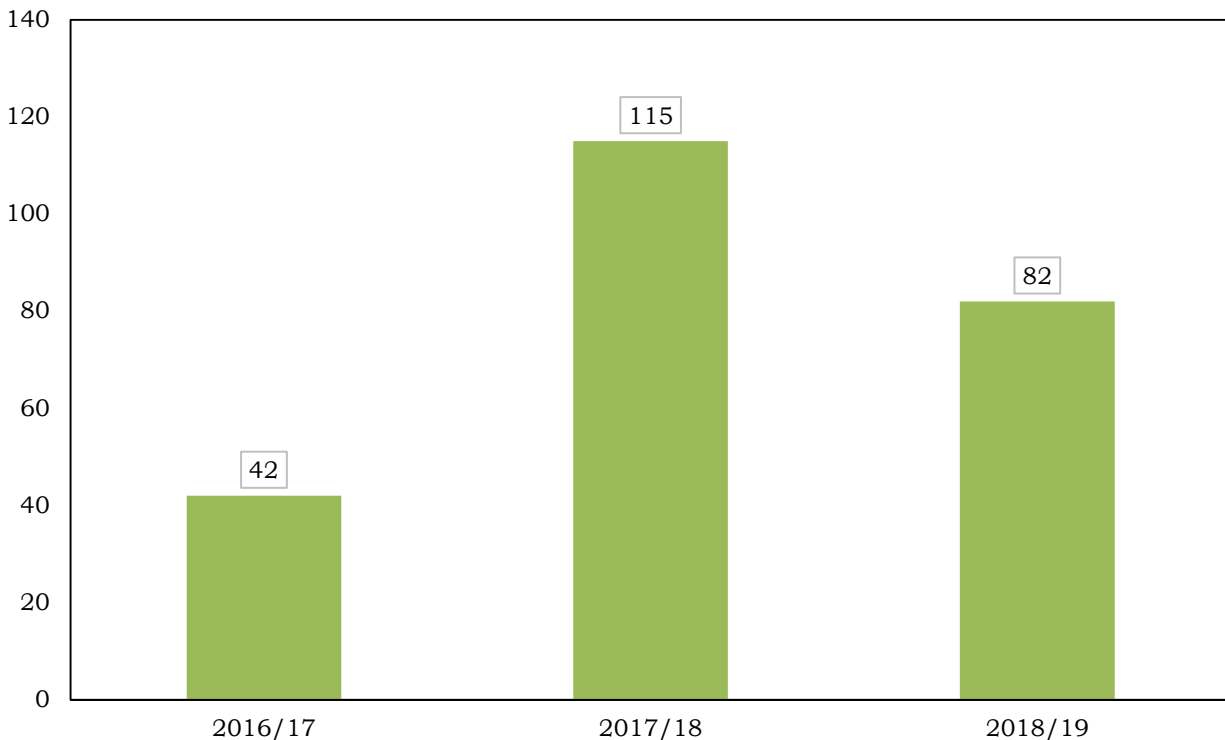
Source: National Information Technology Authority-Uganda

2.5 Certification of IT Service Providers

The National Information Technology Authority- Uganda (NITA-U) certifies and authenticates IT service providers and IT training institutions in Uganda for systematic growth of the sector and warrant of better quality IT services for the consumers.

From figure 2.5.1, by the end of FY 2018/19, 82 additional firms were certified under the Certification Framework bringing the total to 239 IT firms certified.

Figure 2.5.1: Number of IT Service Providers certified; FY 2016/17-2017/18

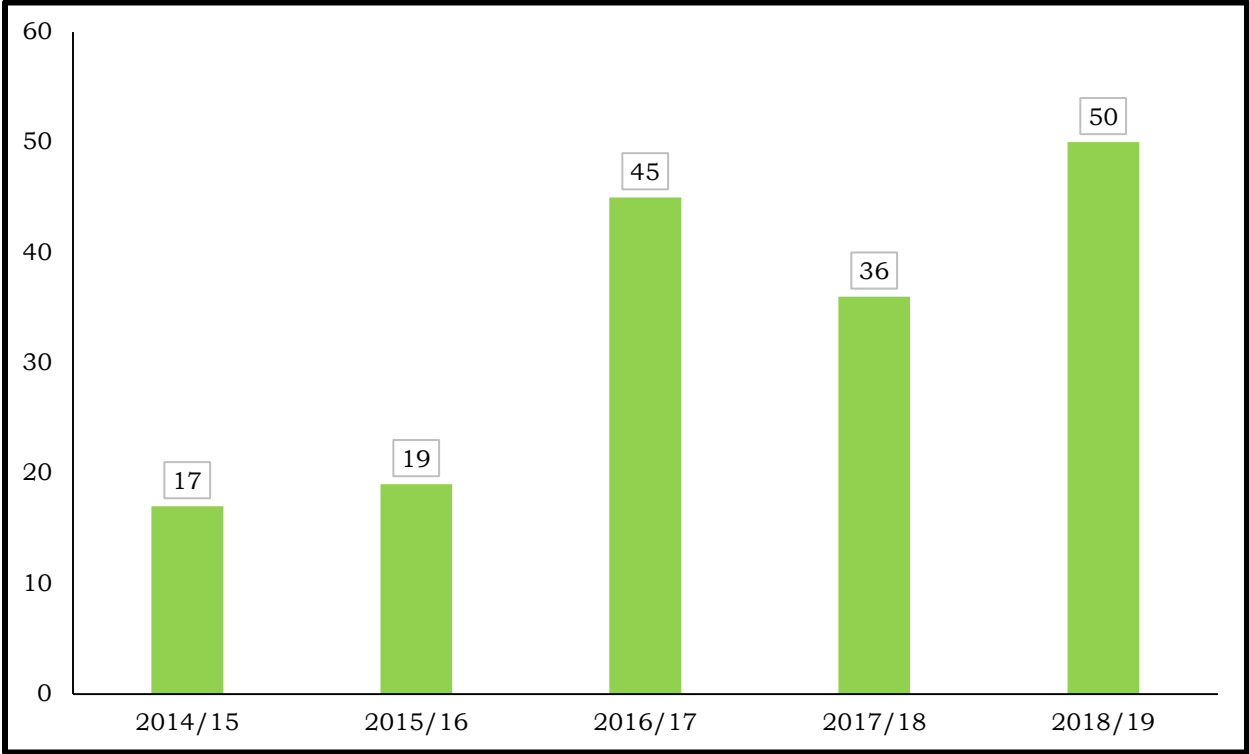


Source: National Information Technology Authority-Uganda

2.6 Cyber Laws Awareness

Sensitization activities to enhance awareness of the existence and application of the cyber laws have been conducted over the years. In FY 2018/19, there was an increment of 20 percent in the number awareness sessions conducted across the MDAs and Local Governments from thirty six (36) sessions conducted in FY 2017/18 to fifty (50) sessions (figure 2.6.1).

Figure 2.6.1: Number of sensitization sessions on cyber laws; FY 2014/15-2018/19



Source: National Information Technology Authority-Uganda

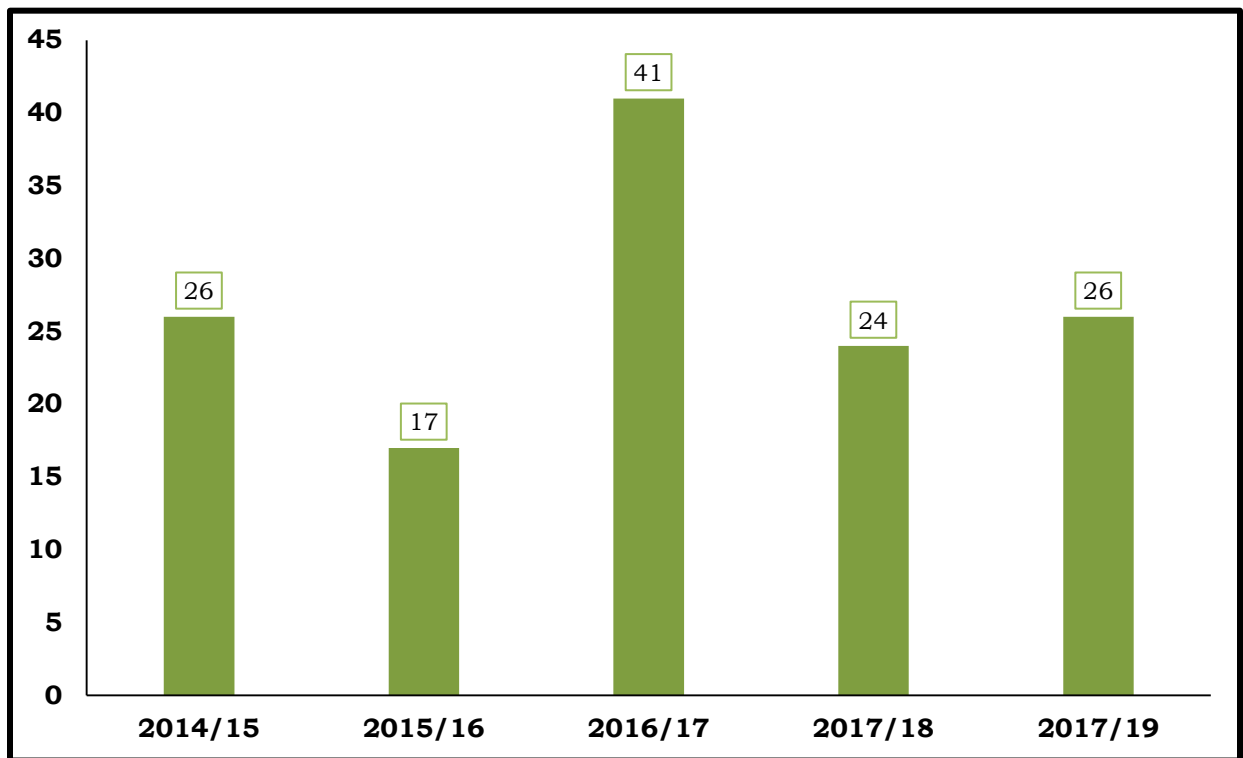
2.7 Information Security

This section presents statistics on Information Security awareness sessions targeting numerous stakeholder groups, MDAs implementing National Information Security Framework, privacy protection for personal or confidential data collected, processed and stored as well as the availability for hosted public services.

2.7.1 Information Security awareness sessions

In FY 2018/19, 26 cyber security awareness sessions were conducted targeting numerous stakeholder groups while in FY 2018/19, 24 sessions targeting numerous stakeholder groups in the areas of risk management, implementation of Security Controls, Audits amongst others were conducted (figure 2.7.1).

Figure 2.7.1: Number of Information Security Awareness Events; FY 2014/15-2018/19

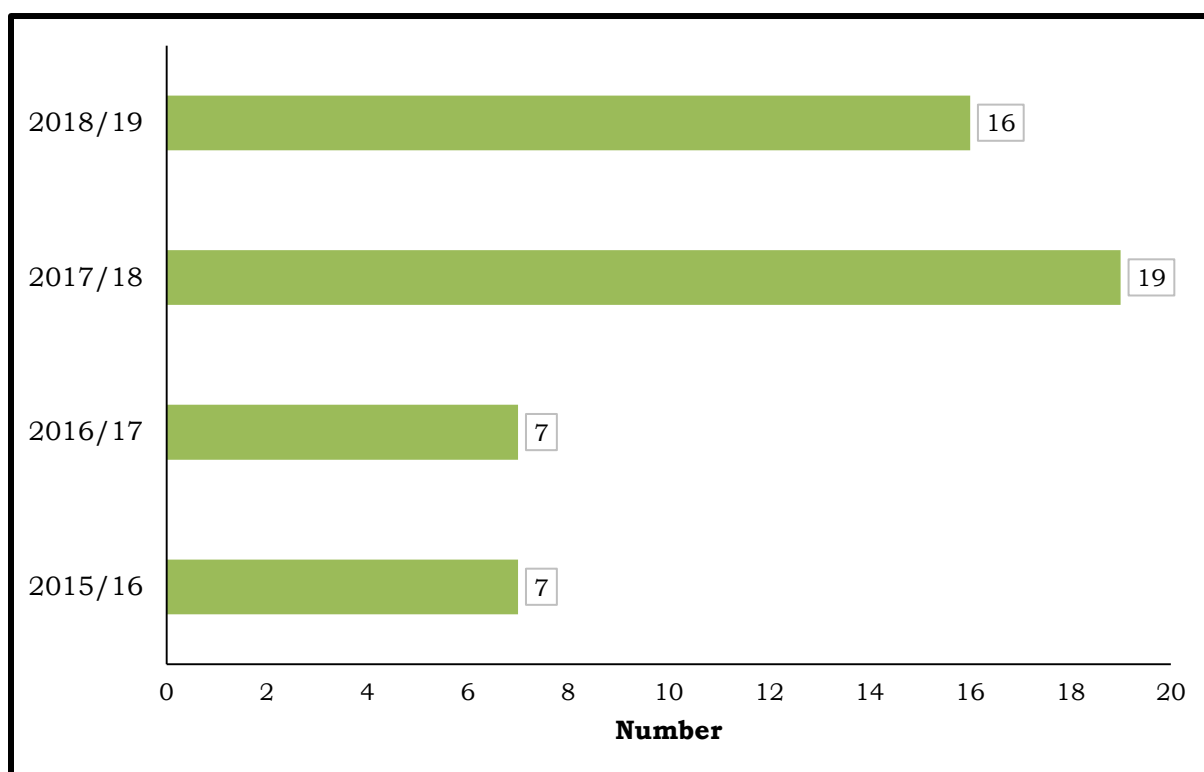


Source: National Information Technology Authority-Uganda

2.7.2 MDAs implementing National Information Security Framework

The number of new MDAs implementing National Information Security Framework (NISF) promoting initiatives in FY 2018/19 was sixteen (16) making a cumulative total of forty nine (49) since FY 2015/16 (figure 2.7.2).

Figure 2.7.2: Number of MDAs implementing National Information Security Framework (NISF) promoting initiatives; FY 2015/16-2018/19



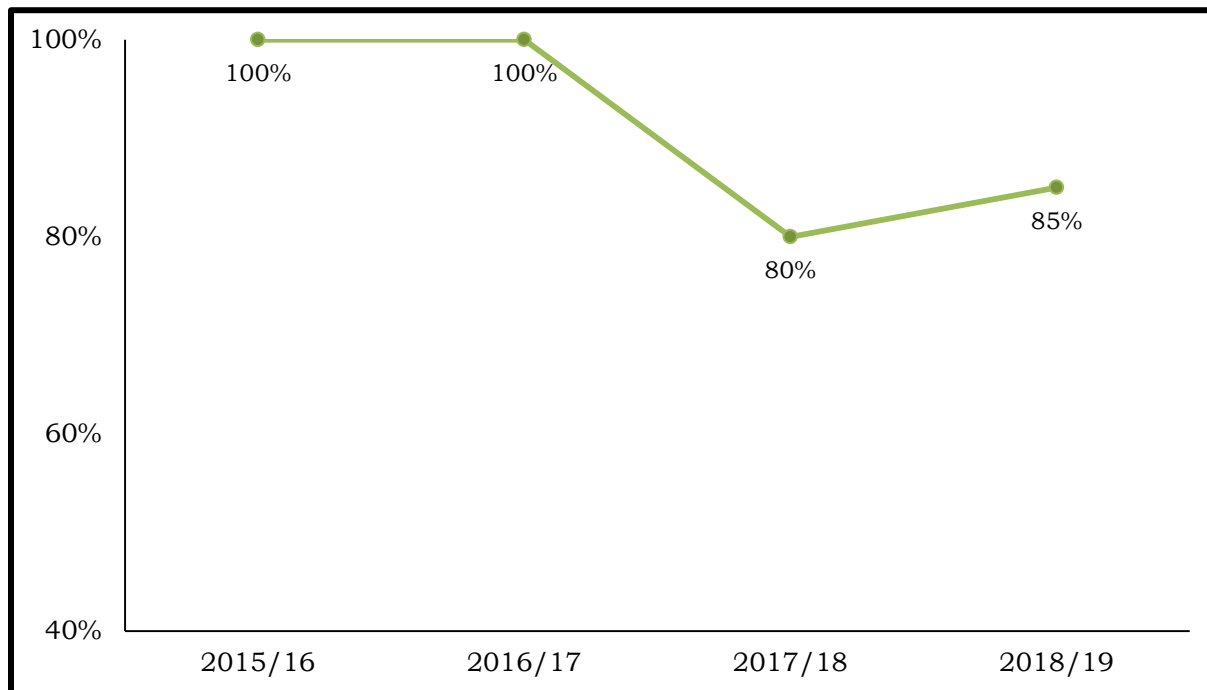
Source: National Information Technology Authority-Uganda

2.7.3 Privacy protection

From figure 2.7.3, in FY 2018/19, there was an improvement in level of privacy protection for personal or confidential data collected, processed and stored.

Eighty five (85) percent of incidents reported in FY 2018/19 were resolved compared to 80 percent in 2017/18.

Figure 2.7.3: Level of privacy protection for personal or confidential data collected, processed and stored; FY 2015/16-2018/19

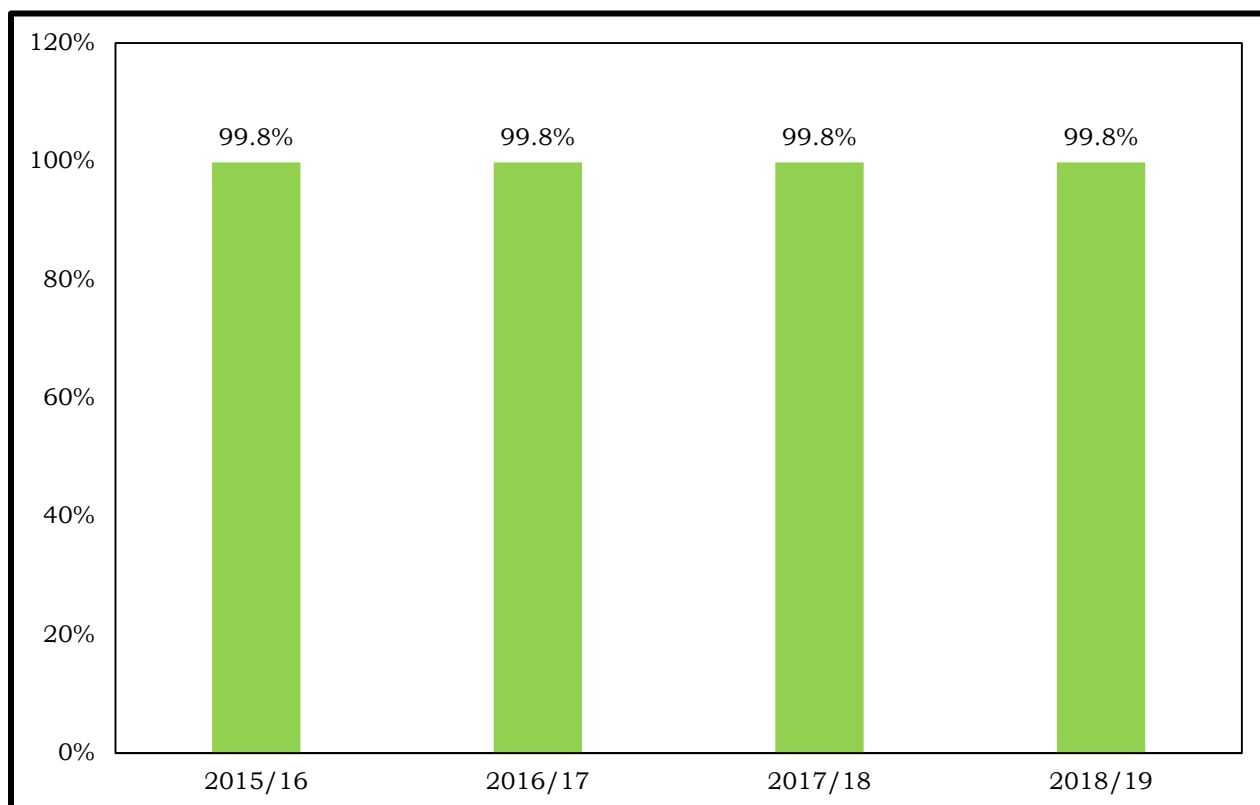


Source: National Information Technology Authority-Uganda

2.7.4 Availability for hosted public services

Furthermore, the level of availability for hosted public services (average uptime of the services hosted) has been 99.8 percent over the past three years (figure 2.7.4).

Figure 2.7.4: Level of availability for hosted public services; FY 2015/16-2018/19



Source: National Information Technology Authority-Uganda

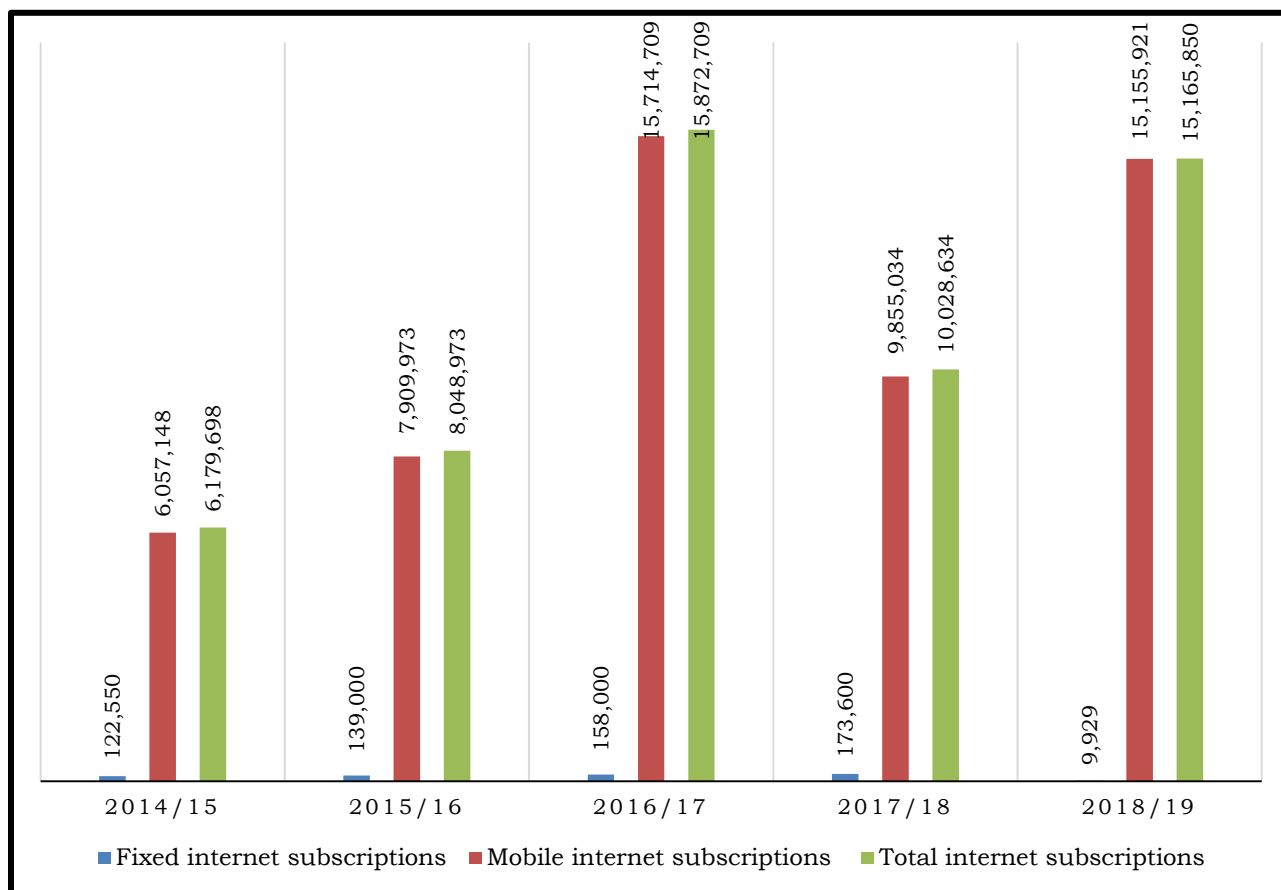
3. INTERNET AND TELEPHONY STATISTICS

This sub section covers some statistics on internet and telephone subscriptions in Uganda.

3.1 Internet

As estimated, the number of mobile internet subscriptions in FY 2018/19 increased by 54 percent from about 9.9million in FY 2017/18 to about 15.16million. In addition, there was a decline in fixed internet subscriptions from 173,000 to 9,929 subscriptions in the same period. Furthermore, the estimated total internet subscriptions improved by 51 percent from about 10million in FY 2017/18 to about 15.17million in FY 2018/19 (figure 3.1.1).

Figure 3.1.1: Internet subscriptions; FY 2014/17-2018/19

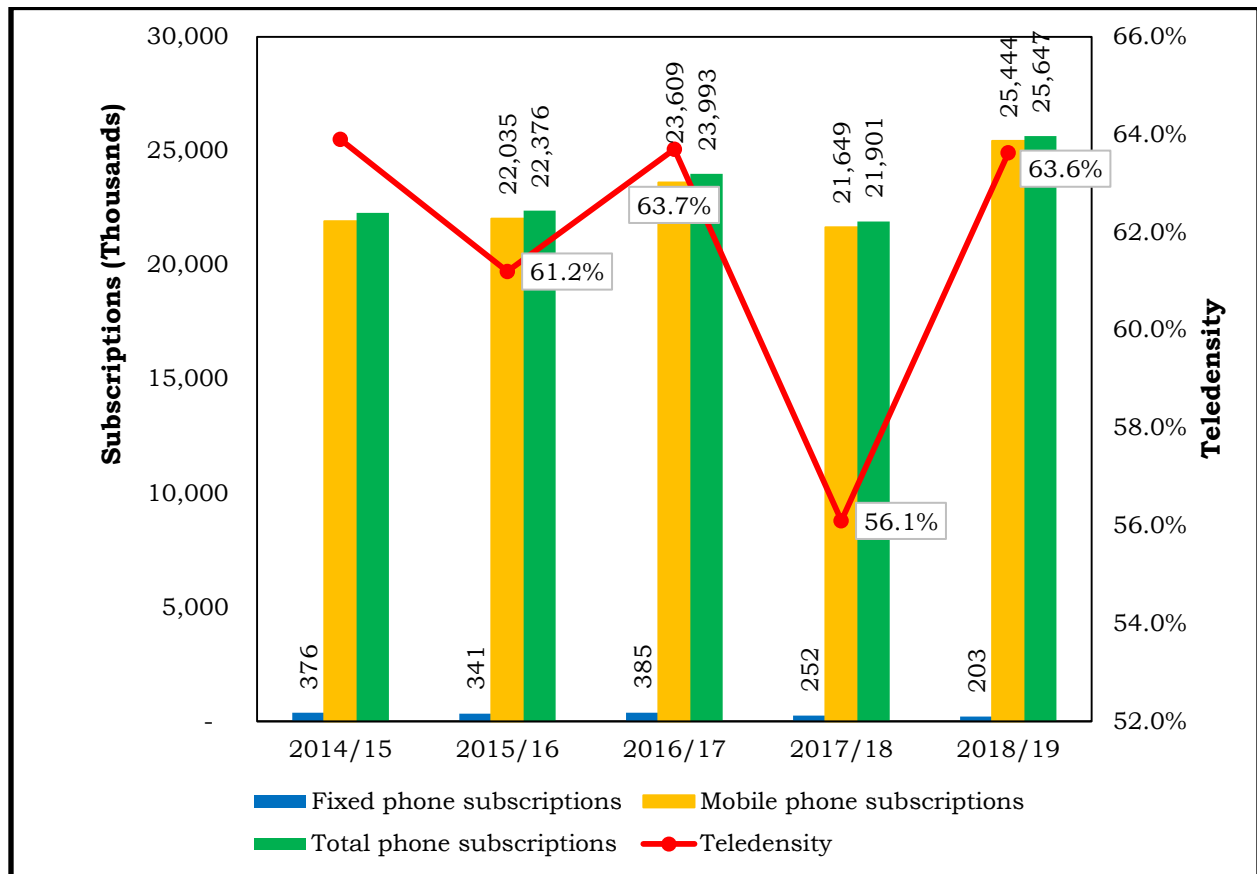


Source: Uganda Communications Commission

3.2 Telephone subscriptions

In FY 2018/19, an increase of 17 percent in mobile phone subscriptions was recorded from 21.8million subscriptions in FY 2017/18 to 25.4million. A total of 203,132 active fixed phone subscriptions was recorded in the FY 2018/19 compared to 252,165 subscriptions in FY 2017/18. In addition, total telephone subscriptions of 25.6million was registered in FY 2018/19 resulting into an increase of 14 percent in tele-density from 56.1 percent in FY 2017/18 to 63.6 percent in FY 2018/19 (figure 3.2.1).

Figure 3.2.1: Phone Subscriptions and Teledensity; FY 2014/15-2018/19



Source: Uganda Communications Commission

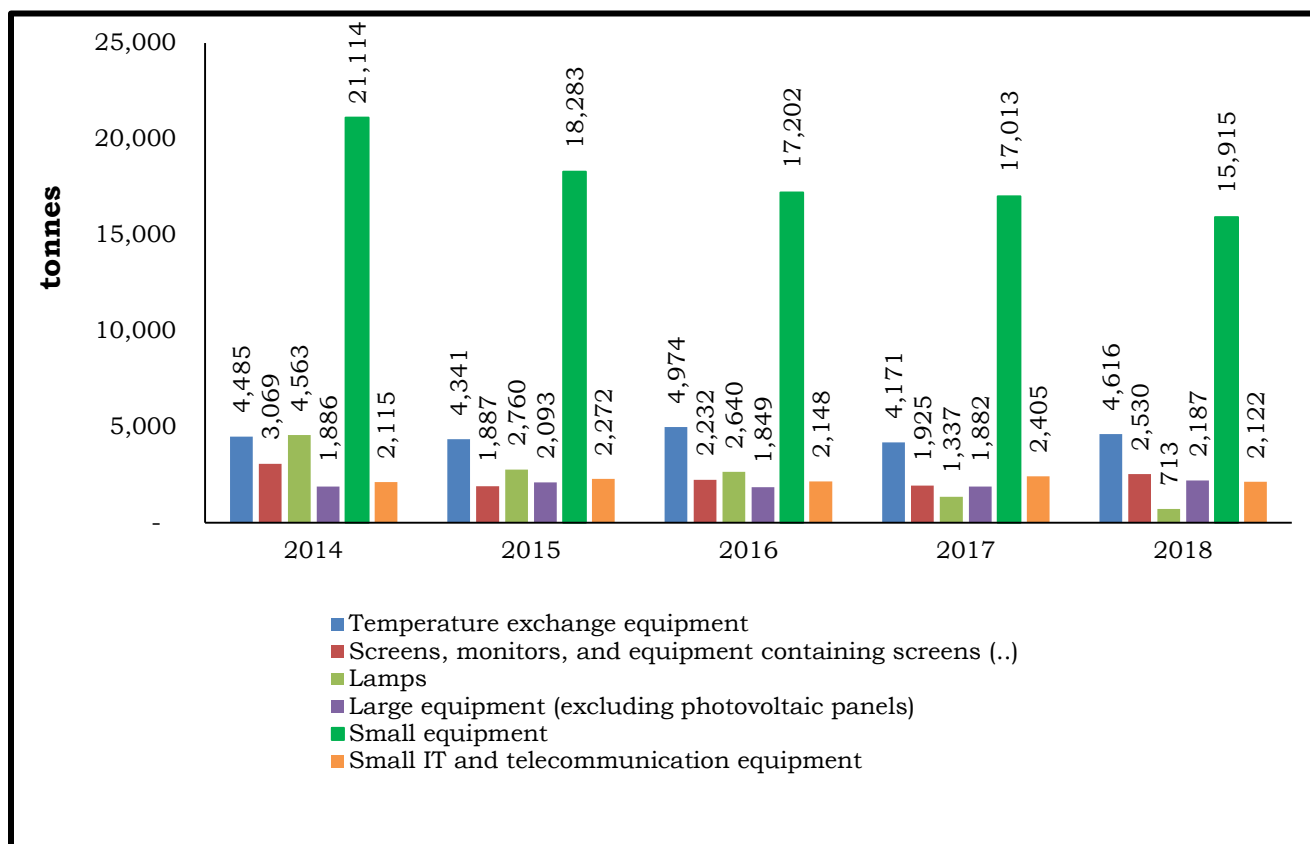
4. E-WASTE STATISTICS

E-Waste is one of the new environmental threats arising out of huge global sales of Electric and Electronic Equipment (EEE), with symmetric volumes of waste generated after, whose disposal is a complicated process especially for developing countries like Uganda.

4.1 Placed on the Market (sales)

The Placed on the Market variable is simply total imports less exports plus local manufactured EEE. Results reveal that, the amount of EEE placed on the market has been steadily decreasing since 2014 from 37,231 tonnes to 28,083 tonnes in 2018. The component of small equipment forms the biggest percentage of electronics placed on the market since 2014. This is followed by Temperature exchange equipment such as Air Conditioner and refrigerators. However, large equipment (excluding Photovoltaic panels) have the least quantities of what is placed on the market.

Figure 4.1.1: Amount of EEE placed on the market as per EU-6 Classification; 2014-2018

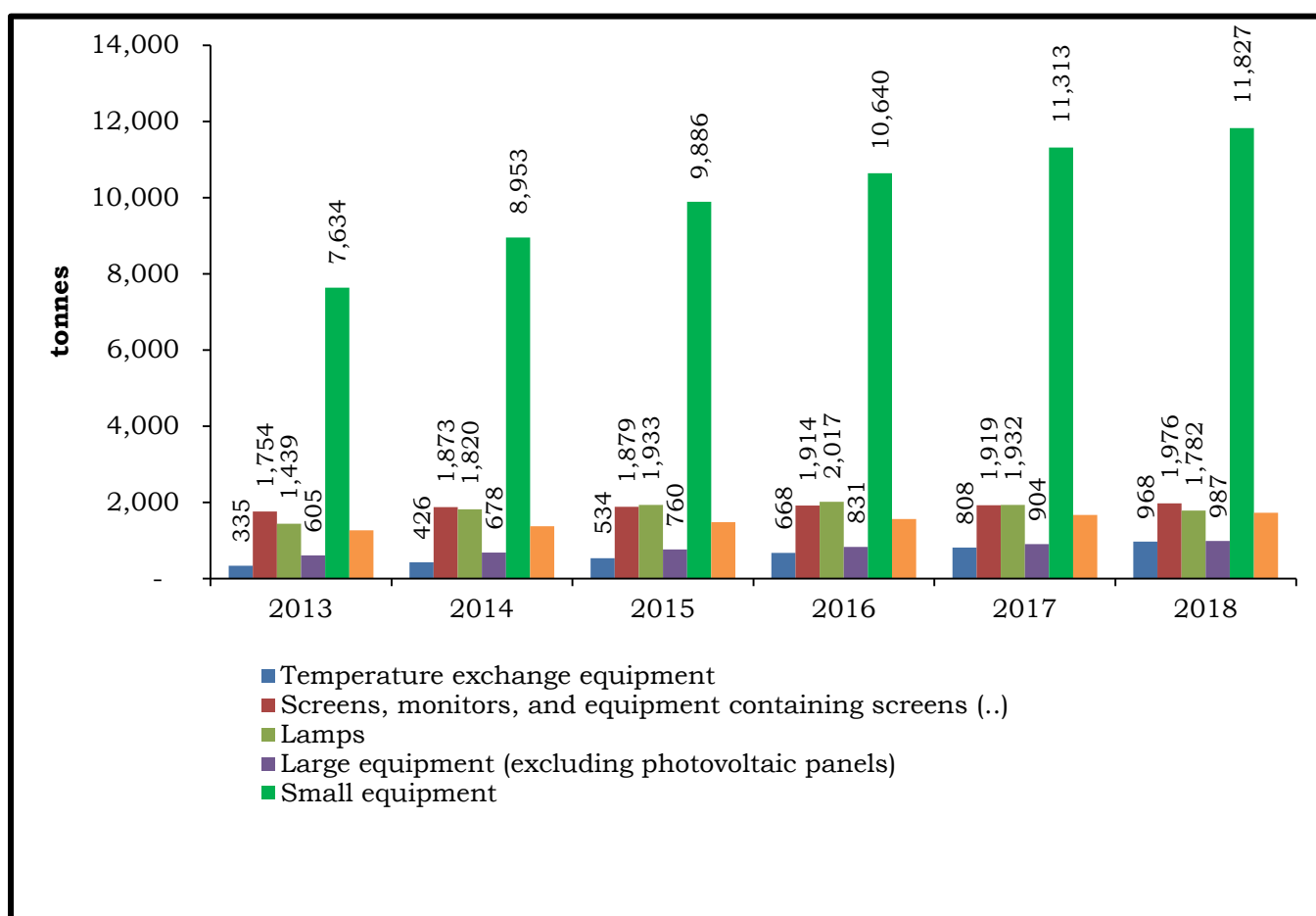


Source: Uganda Bureau of Statistics

4.2 E-Waste Generated

The E-waste generated depends on the quantities placed on the market and various life spans for the various categories. The E-waste generated has increased over time as shown in Figure 4.2.1. In the year 2018, the amount of e-waste generated was about 19,264 tonnes compared to 15,118 tonnes generated in 2014. The biggest component of E-waste generated in 2018 was small equipment as seen from graph 4.2.1. E-waste generated has been increasing over the years.

Figure 4.2.1: E-waste generated as per EU-6 Classification; 2014-2018



Source: Uganda Bureau of Statistics

5. ICT SECTOR PERFORMANCE IN THE ECONOMY

ICT sector plays an important role in the economy and its one of the most vibrant and fastest growing sectors since its liberalization in 2010. This section covers statistics on how ICT has contributed to the economy in terms of GDP, trade, revenue and investment.

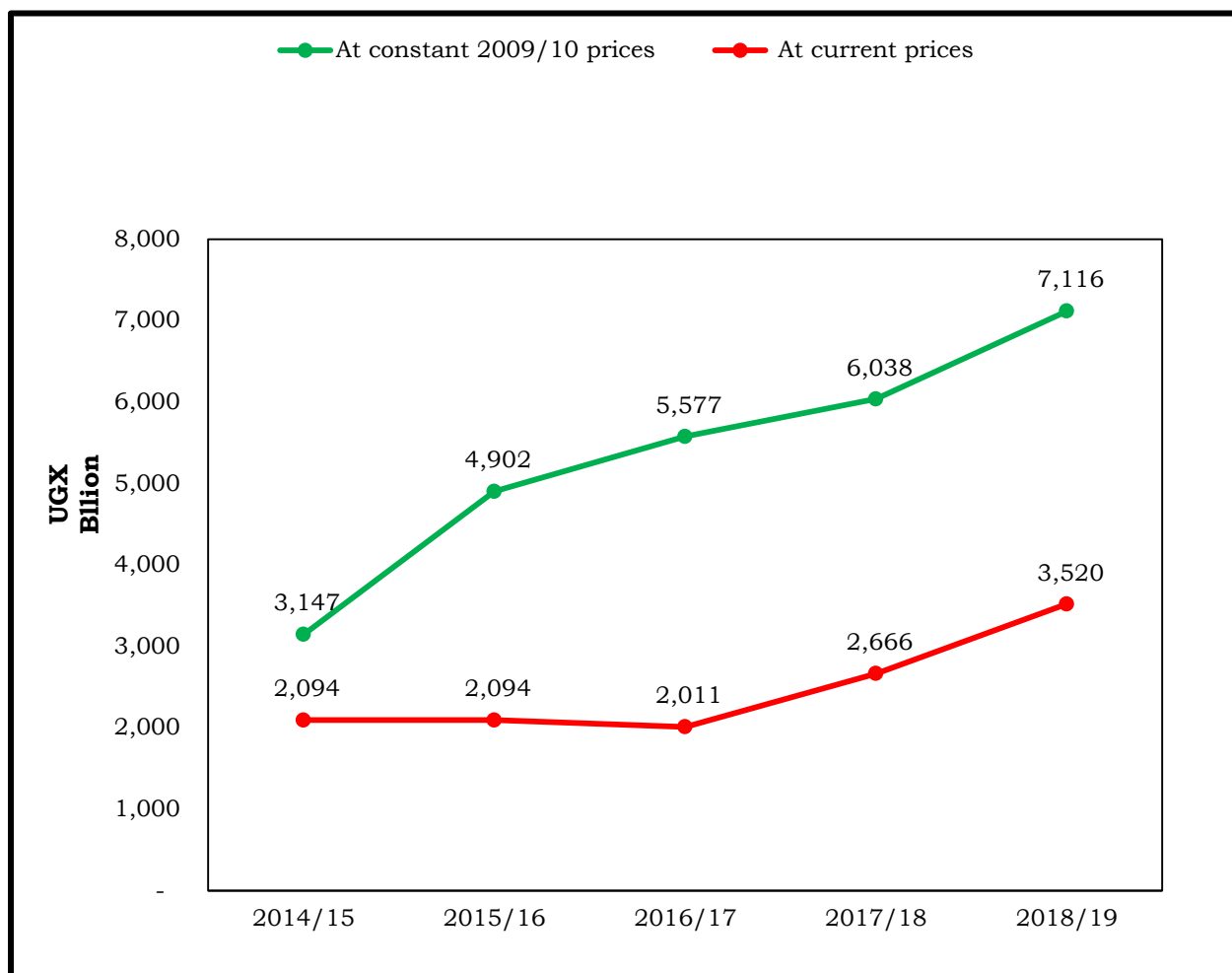
5.1 ICT sector Gross Domestic Product (GDP)

This sub section covers statistics on ICT sector gross value added, contribution of the ICT sector to the national GDP and real ICT GDP growth rate.

5.1.1 ICT sector Gross Value Added

The size of the ICT sector in terms of gross value added at constant prices increased from UGX 6.04trillion in FY 2017/18 to about UGX 7.12trillion in FY 2018/19. Similarly, the size of the ICT sector in terms of gross value added at current prices increased from UGX 2.67trillion in FY 2017/18 to UGX 3.52trillion in FY 2018/19 (figure 5.1.1).

Figure 5.1.1: ICT sector Gross value added for FY 2014/15-2018/19 (UGX Billions);



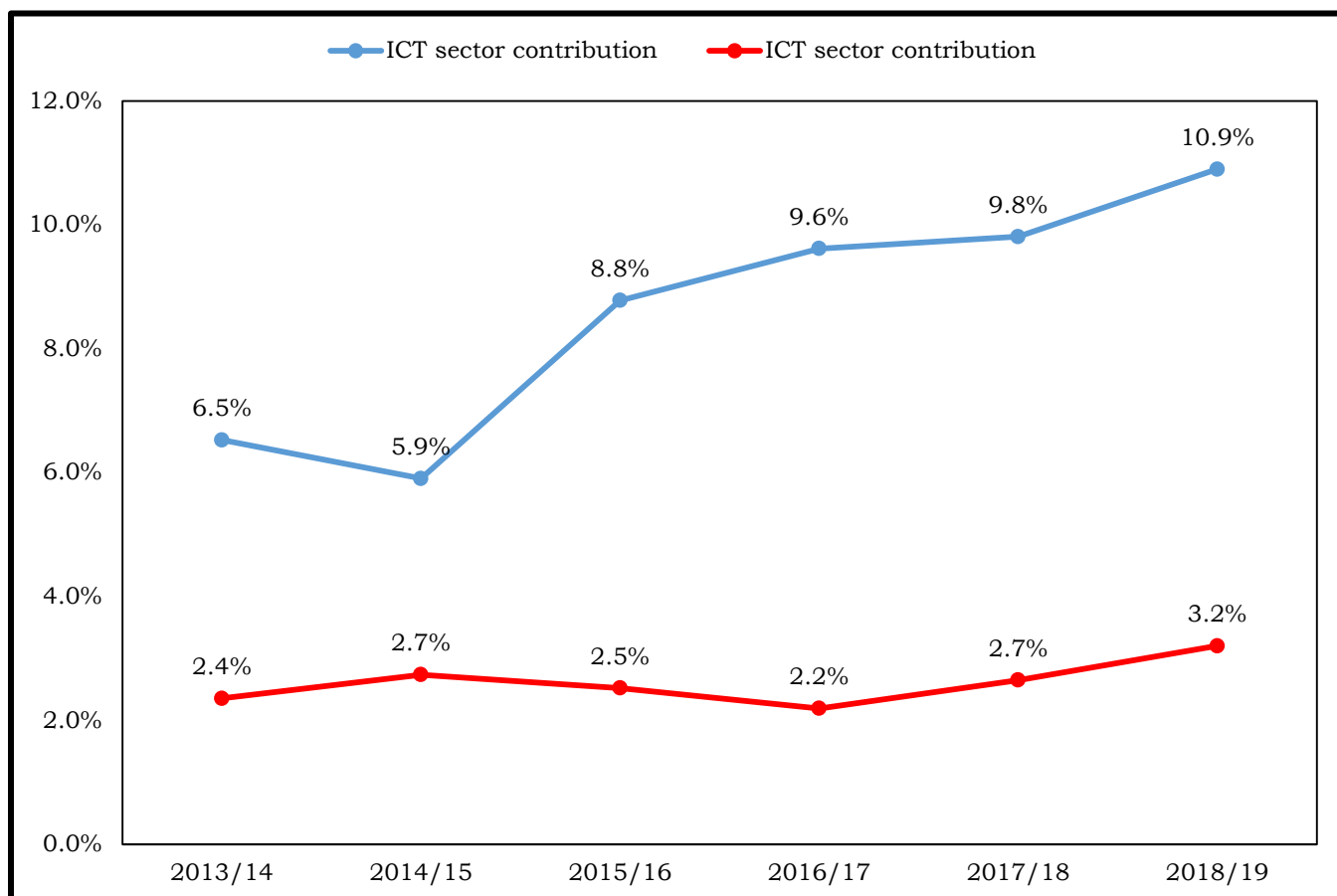
Source: Uganda Bureau of Statistics

5.1.2 Contribution of ICT sector to GDP

The contribution of ICT sector activities to the real GDP (at constant 2009/10 price) accounted for 10.9 percent in FY 2018/19 compared to 9.8 percent in FY 2017/18.

In addition, the ICT sector activities contribution to nominal GDP (current price) improved from 2.7 percent in FY 2017/18 to 3.2 percent in FY 2018/19 (figure 5.1.2).

Figure 5.1.2: Percentage contribution of ICT sector on total GDP for FY 2014/15- 2018/19

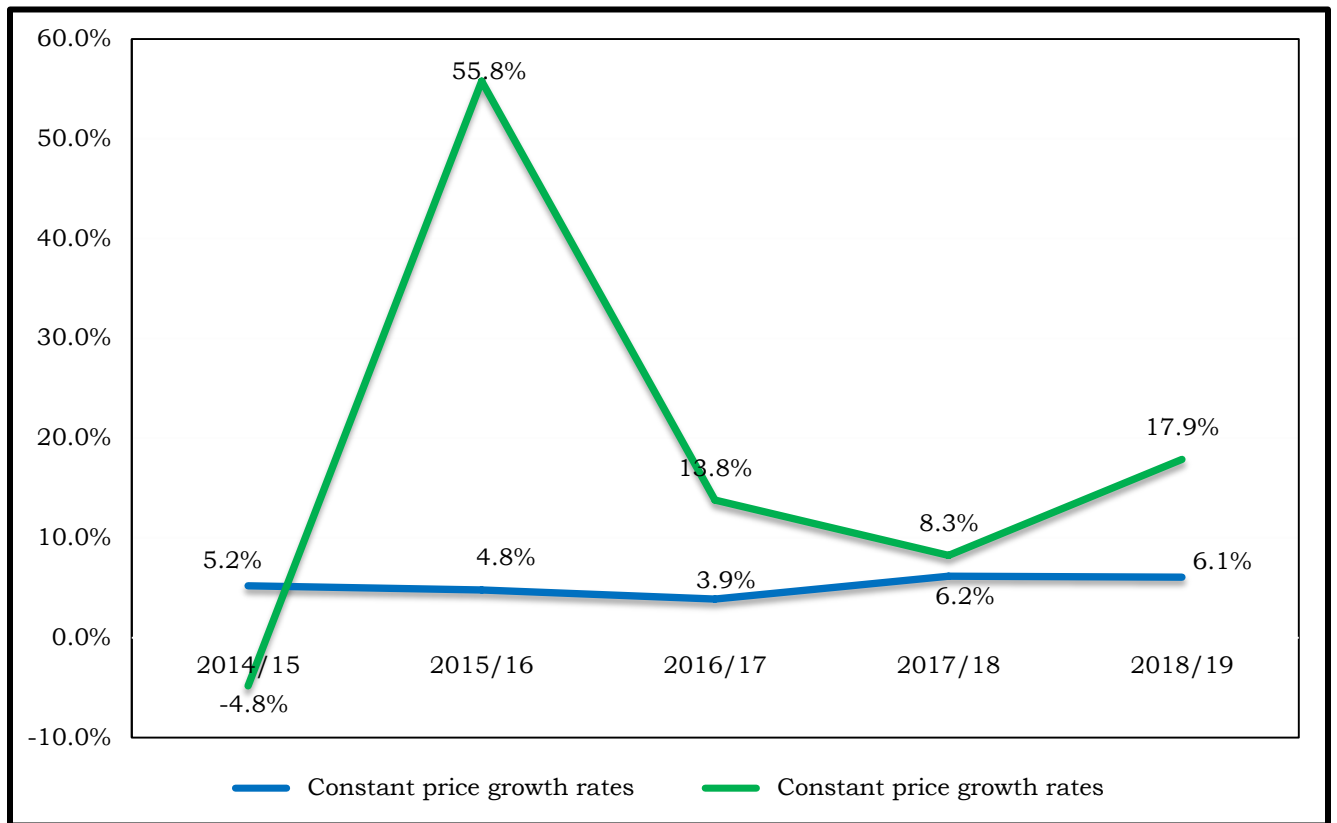


Source: Uganda Bureau of Statistics

5.1.3 ICT sector real GDP growth rate

Furthermore, ICT sector real GDP growth rate improved from 8.3 percent in FY 2017/18 to 17.9 percent in FY 2018/19 as that of national GDP grew from 3.9 percent to 5.8 percent respectively. There has been consistent growth in the size of the sector over the reference period, with the largest annual change of 55.8% recorded in FY 2015/16 (figure 5.1.3).

Figure 5.1.3: Relationship between real GDP and ICT real GDP Growth rates for FY 2014/15 to FY 2018/19



Source: Uganda Bureau of Statistics

5.1.4 Linking ICT sector activities to GDP

The table below shows the link between the ICT activities and the GDP sector classification;

Table 5.1.4: Linking ICT sector activities to GDP sector classification

Category	GDP sector classification	ISIC code	Activity
Industry	Manufacturing	CQ	Computer, Electronic and Optical Products
Service	Transportation and Storage	HF	Postal and Courier services
	Information and Communication	JB	Audio-Visual Production and Distribution services
		JC	Broadcasting and Programming services
		JD	Telecommunications services
		JE	Computer Programming, Consultancy and Related services
		JF	Information Services
	Other Service Activities	SB	Repair of Computers and Personal and Household Goods service

5.1.5 Contribution of different activities to the total ICT sector Gross Value Added

From the table below, it is observed that over the years, telecommunications services have contributed most to the total ICT sector Gross Value Added. The Audio-Visual Production and Distribution services registered a relatively high improvement of 25 percent in relation to other services from 0.76% in FY 2017/18 to 0.95% in FY 2018/19. This could be partly attributed to increasingly growing film industry and the attention it has attracted in the recent years. It is also observed that Manufacture of Computer, Electronic and Optical Products registered a decline almost by half from 0.02 percent in FY 2017/18 to 0.01 percent in FY 2018/19 in terms of contribution. This could

be attributed to the high appetite for ‘cheap’ Chinese products which have substituted local manufacturing.

Table 5.1.5: Percentage contribution of different activities to the total ICT sector Gross Value Added; FY 2014/15-2018/19

Activity	2014/15	2015/16	2016/17	2017/18	2018/19
Telecommunications services	92.86%	93.22%	94.52%	94.03%	93.89%
Broadcasting and Programming services	3.29%	2.82%	2.32%	2.69%	2.87%
Repair of Computers and Personal and Household Goods service	1.71%	1.49%	1.39%	1.65%	1.45%
Audio-Visual Production and Distribution services	0.68%	0.87%	0.65%	0.76%	0.95%
Information Services	0.41%	0.82%	0.66%	0.45%	0.39%
Computer Programming, Consultancy and Related services	0.74%	0.56%	0.33%	0.27%	0.31%
Postal and Courier services	0.29%	0.20%	0.11%	0.14%	0.12%
Manufacture of Computer, Electronic and Optical Products	0.02%	0.02%	0.02%	0.02%	0.01%
Total ICT Gross Value Added	100%	100%	100%	100%	100%

Source: Uganda Bureau of Statistics

5.1.6 Contribution of ICT to national GDP components

By sectoral contributions based on table 5.1.6 below, ICT contributes most to the Information and Communication services than the other components.

Table 5.1.6: Contribution of ICT to national GDP components GDP; FY 2014/15-2018/19

Activity	2014/15	2015/16	2016/17	2017/18	2018/19
Manufacturing (UGX Billions)	4,287	4,312	4,407	4,480	4,604
ICT Manufacturing (UGX Billions)	0.534	0.796	0.861	0.941	0.875
Share of ICT (%)	0.01	0.02	0.02	0.02	0.02
Transportation and Storage (UGX Billions)	1,495	1,617	1,674	1,768	1,887
Postal and Courier services	9.06	9.87	5.90	8.56	8.83
Share of ICT (%)	0.6	0.6	0.4	0.5	0.5
Information and Communication (UGX Billions)	4,315	4,922	5,607	6,461	7,138
ICT Information and Communication (UGX Billions)	3,083	4,818	5,493	5,929	7,003
Share of ICT (%)	71	98	98	92	98
Other service activities	558	610	691	824	952
Repair of Computers and Personal and Household Goods service (UGX Billions)	54	73	78	100	103
Share of ICT (%)	10	12	11	12	11
GDP (National)	53,279	55,826	57,983	61,550	65,279
Total ICT gross value added	3,147	4,902	5,577	6,038	7,116

Source: Uganda Bureau of Statistics

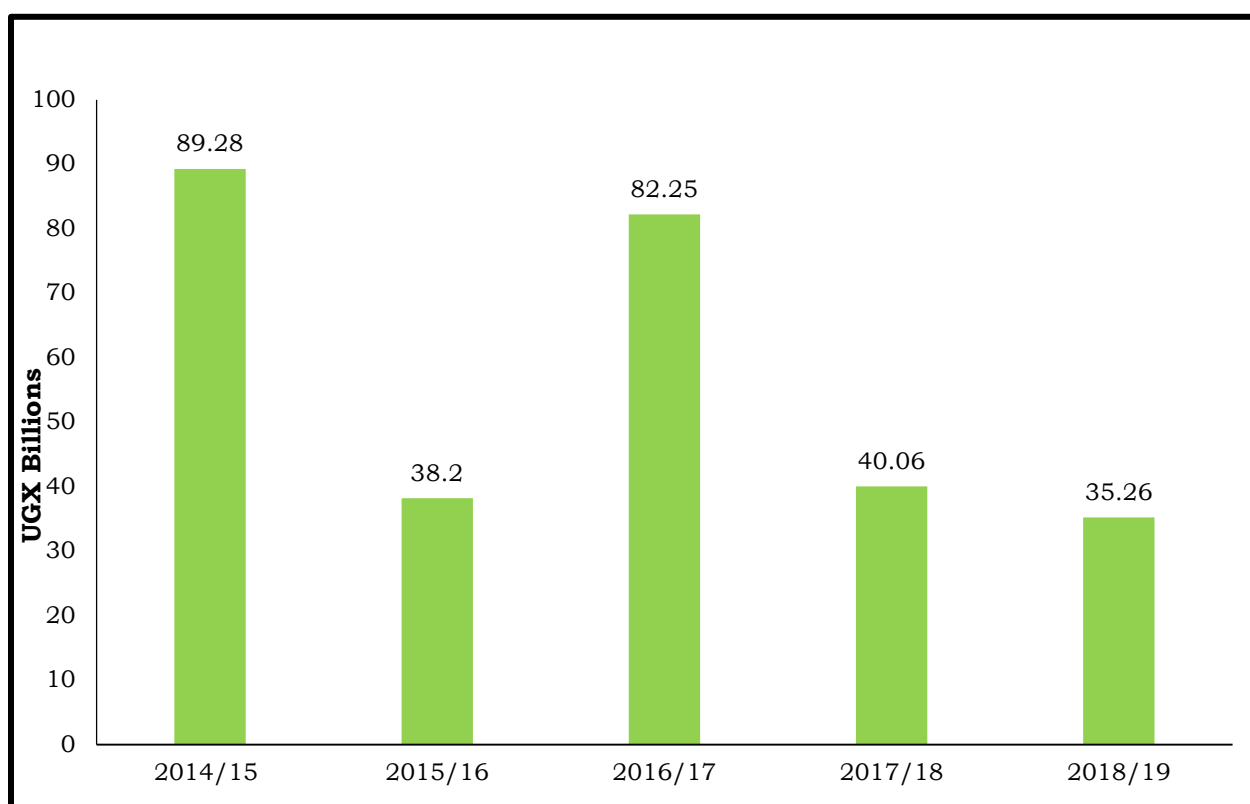
5.2 Trade in ICT goods

This section presents a summary of External Trade Statistics in formal ICT goods in Uganda shillings as shared by the Uganda Bureau of Statistics (UBOS). The compilation of External Trade Statistics is based on the General Trade System and coded according to HS2012 and the Standard International Trade Classification Revision Four (SITC Rev4) nomenclature.

5.2.1 Value of ICT exports

During the FY 2018/19, the total estimated formal ICT export earnings reduced from UGX 40.1billion in FY 2017/18 to UGX 35.3billion translating into a decline of 12 percent (figure 5.2.1).

Figure 5.2.1: Value of ICT exports (UGX); FY 2014/15 – 2018/19

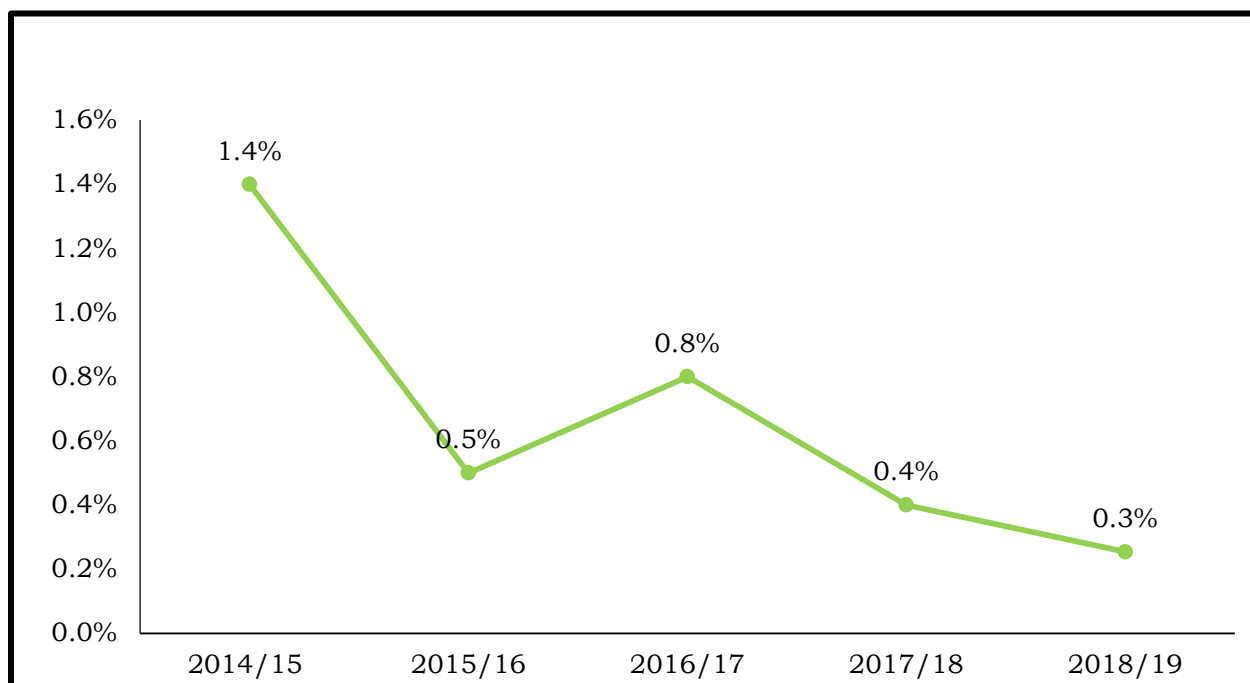


Source: Uganda Bureau of Statistics

5.2.2 Contribution of ICT to total exports

The percentage contribution of the ICT exports to total exports has been declining consistently from 0.4 percent in FY 2017/18 to 0.3 percent in FY 2018/19 (figure 5.2.2).

Figure 5.2.2: Percentage share of ICT to Total value of exports; FY 2014/15 – 2018/19

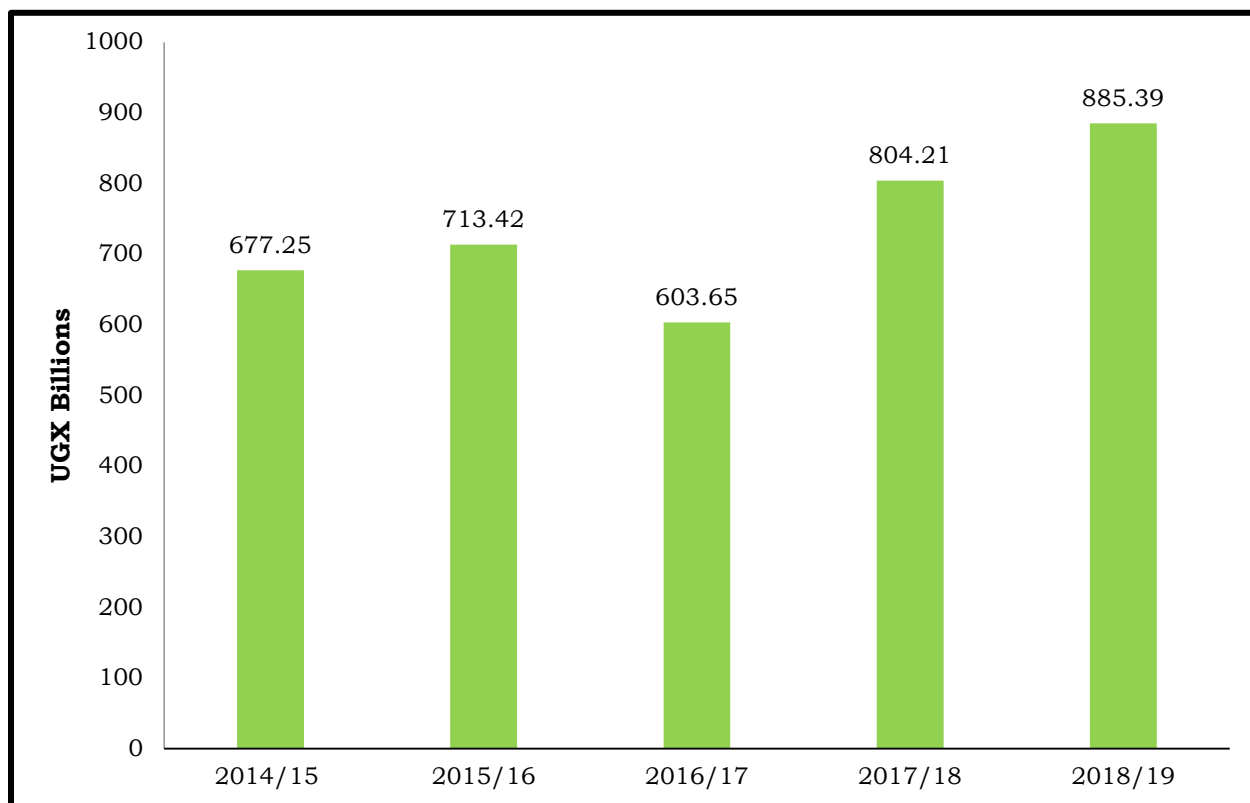


Source: Uganda Bureau of Statistics

5.2.3 Value of ICT imports

The total estimated formal ICT imports bill in FY 2018/19 increased from UGX 804.2 billion in FY 2017/18 to UGX 885.4 billion translating into a 10 percent increase (figure 5.2.3).

Figure 5.2.3: Value of ICT imports; FY 2014/15 – 2018/19

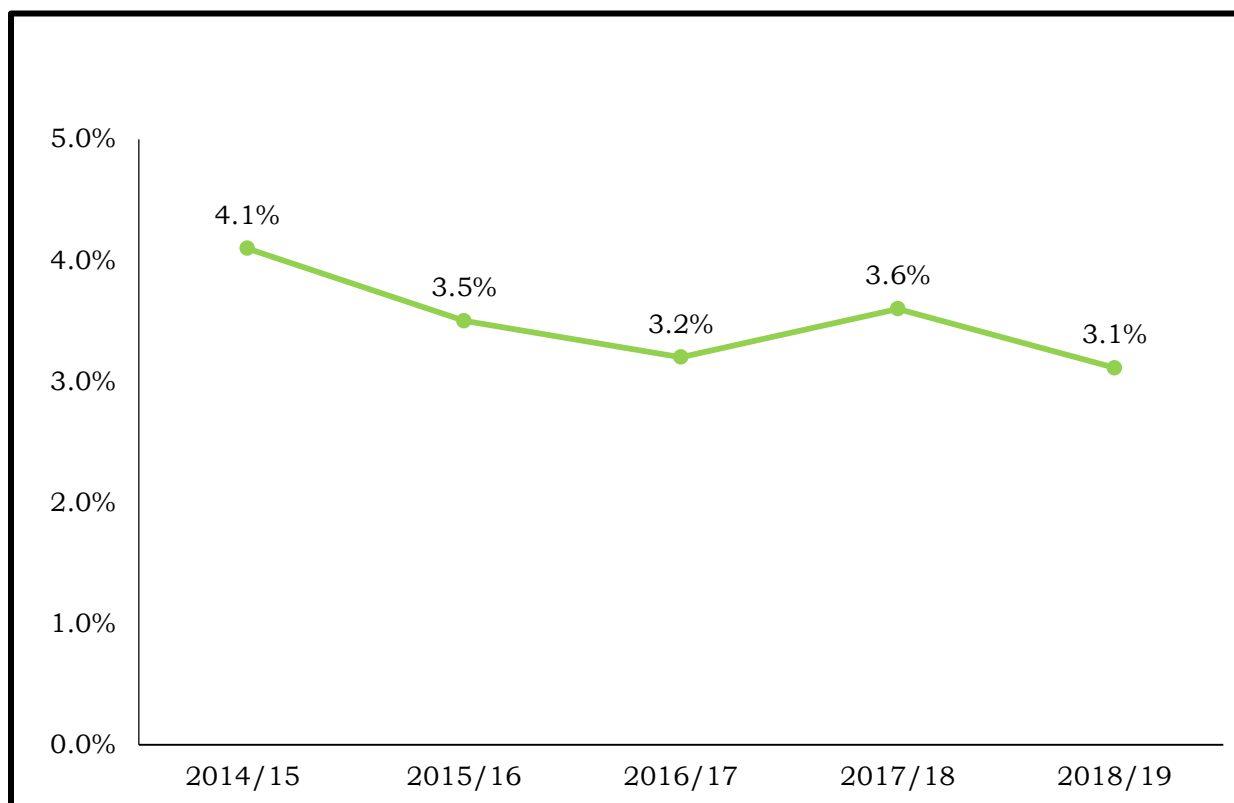


Source: Uganda Bureau of Statistics

5.2.4 Share ICT to total imports

In addition, the share of the ICT to the overall formal import bill decreased from 3.6 percent in FY 2017/18 to 3.1 percent in FY 2018/19 (figure 5.2.4).

Figure 5.2.4: Percentage share of ICT to Total imports; FY 2014/15 – 2018/19



5.3 ICT Sector Revenue Collections

This section includes information on the Gross Revenues (Includes all non-tax revenue) from the ICT sector.

5.3.1 ICT sector Revenue Collections to Total Revenue Collections

ICT sector Revenue collections increased by 45 percent from UGX 1.259 trillion in the previous FY 2017/18 to 1.820 trillion in FY 2018/19 and overall revenue also increased by 45 percent (Table 5.3.1).

Table 5.3.1: ICT sector Gross Revenue Collections and Total Gross Revenue Collections [UGX Trillions]; FY 2014/15 – 2018/19

	2014/15	2015/16	2016/17	2017/18	2018/19
ICT sector revenue (UGX trillions)	1.027	1.097	1.090	1.259	1.820
Total revenue (UGX trillions)	993.46	1,062.30	1,058.60	1,228.86	1,787.042
Percentage share of ICT sector revenue	0.1%	0.1%	0.1%	0.1%	0.1%

Source: Uganda Revenue Authority

5.3.2 Contribution of ICT sector to Total Revenue

The percentage contribution of ICT sector to the Total Gross Revenue has been constant at 0.1 percent over the past five years (Table 5.3.1).

5.3.3 Linking ICT activities to Revenue

The table below shows the composition of ICT sector Gross Revenue as per ISIC Rev4;

Table 5.3.3: Linking activities to ICT sector revenue composition

Sector Description	Division Description	Group Description	Class Description
C-Manufacturing	26-Manufacture of computer, electronic and optical products	261-Manufacture of electronic components and boards	2610-Manufacture of electronic components and boards
		262-Manufacture of computers and peripheral equipment	2620-Manufacture of computers and peripheral equipment
		263-Manufacture of communication equipment	2630-Manufacture of communication equipment

Sector Description	Division Description	Group Description	Class Description
		264-Manufacture of consumer electronics	2640-Manufacture of consumer electronics
		267-Manufacture of optical instruments and photographic equipment	2670-Manufacture of optical instruments and photographic equipment
		268-Manufacture of magnetic and optical media	2680-Manufacture of magnetic and optical media
G-Wholesale and retail trade; repair of motor vehicles and motorcycles	46-Wholesale trade, except of motor vehicles and motorcycles	465-Wholesale of machinery, equipment and supplies	4651-Wholesale of computers, computer peripheral equipment and software
			4652-Wholesale of electronic and telecommunications equipment and parts
H-Transportation and storage	53-Postal and courier activities	531-Postal activities	5310-Postal activities
		532-Courier activities	5320-Courier activities
J-Information and communication	58-Publishing activities	581-Publishing of books, periodicals and other publishing activities	5812-Publishing of directories and mailing lists
			5813-Publishing of newspapers, journals and periodicals
		582-Software publishing	5820-Software publishing
	59-Motion picture, video and television programme production, sound recording and music publishing activities	591-Motion picture, video and television programme activities	5911-Motion picture, video and television programme production activities
			5912-Motion picture, video and television programme post-production activities
			5913-Motion picture, video and television programme

Sector Description	Division Description	Group Description	Class Description
			distribution activities
			5914-Motion picture projection activities
		592-Sound recording and music publishing activities	5920-Sound recording and music publishing activities
	60-Programming and broadcasting activities	601-Radio broadcasting	6010-Radio broadcasting
		602-Television programming and broadcasting activities	6020-Television programming and broadcasting activities
	61-Telecommunications	611-Wired telecommunications activities	6110-Wired telecommunications activities
		612-Wireless telecommunications activities	6120-Wireless telecommunications activities
		613-Satellite telecommunications activities	6130-Satellite telecommunications activities
		619-Other telecommunications activities	6190-Other telecommunications activities
	62-Computer programming, consultancy and related activities	620-Computer programming, consultancy and related activities	6201-Computer programming activities
			6202-Computer consultancy and computer facilities management activities
			6209-Other information technology and computer service activities
	63-Information service activities	631-Data processing, hosting and related activities; web portals	6311-Data processing, hosting and related activities

Sector Description	Division Description	Group Description	Class Description
			6312-Web portals
		639-Other information service activities	6391-News agency activities
			6399-Other information service activities n.e.c.
K-Financial and insurance activities	66-Activities auxiliary to financial service and insurance activities	662-Activities auxiliary to insurance and pension funding	6620-Activities of Mobile Money
S-Other service activities	95-Repair of computers and personal and household goods	951-Repair of computers and communication equipment	9511-Repair of computers and peripheral equipment
			9512-Repair of communication equipment
		952-Repair of personal and household goods	9521-Repair of consumer electronics

5.3.4 ICT sector activities Revenue Collections

The telecommunications division has been significantly contributing to ICT gross revenue over the past five (5) years by an average of 78.2 percent. In FY 2018/19, telecommunications division alone contributed UGX 1.47trillion (80.9 percent) to ICT gross revenue (table 5.3.4).

**Table 5.3.4: ICT sector Activities Revenue Collections [UGX Million];
FY 2014/15 – 2018/19**

ISIC Division	2014/15	2015/16	2016/17	2017/18	2018/19
Manufacture of computer, electronic and optical products	776.04	612.49	666.73	694.62	538.65
Wholesale of machinery, equipment and supplies	79,819.67	88,459.57	88,617.94	117,376.19	130,120.24
Postal and courier activities	11,703.06	11,916.61	12,223.17	17,056.55	18,977.97
Publishing activities	34,005.30	34,589.72	31,290.78	30,374.78	32,993.12
Motion picture, video and television programme production, sound recording and music publishing activities	31,958.01	38,593.48	35,583.70	40,923.69	48,831.18
Programming and broadcasting activities	19,208.16	29,080.86	19,518.19	33,176.68	36,107.61
Telecommunications	814,220.70	847,687.28	848,422.37	951,899.76	1,472,976.44
Computer programming, consultancy and related activities	14,273.40	17,841.03	20,817.80	24,870.85	26,607.28
Information service activities	14,543.49	17,611.75	18,263.31	22,716.08	25,574.64
Activities of Mobile Money	299.78	1,677.10	3,572.01	6,513.48	16,230.30
Repair of computers and personal and household goods	6,661.79	8,824.44	10,914.88	13,618.81	10,942.93
ICT sector	1,027,469.40	1,096,894.32	1,089,890.89	1,259,221.50	1,819,900.37

Source: Uganda Revenue Authority

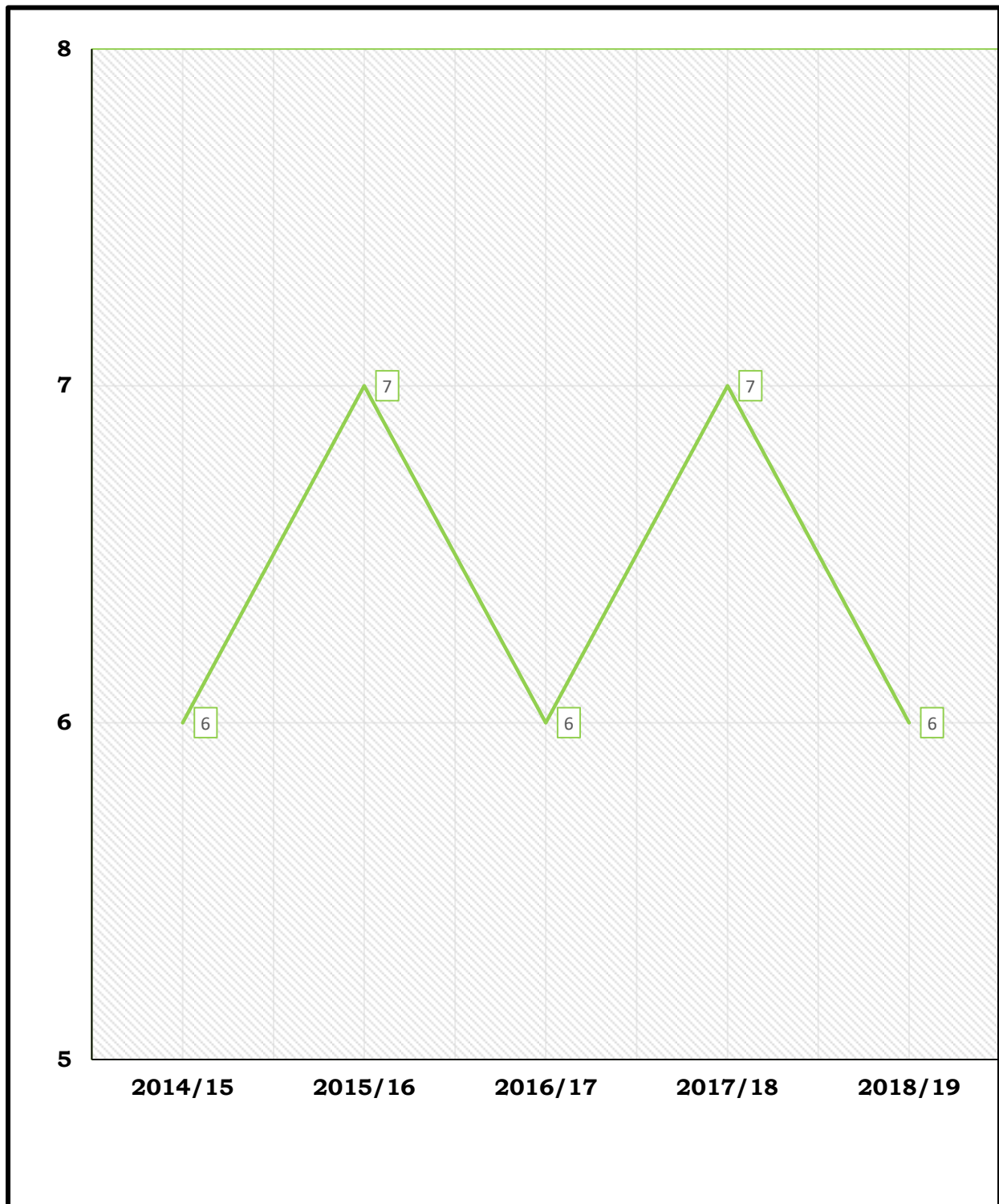
5.4 ICT planned investment

This section contains information on the planned investment projects in ICT in Uganda. It contains statistics on licensed companies, planned capital investment and jobs.

5.4.1 Number of companies licensed to carry out ICT projects/ services

Over the past five years, the average number of licensed companies to carry out investments in ICT related projects/services is six (figure 5.4.1)

Figure 5.4.1: Number of companies licensed to carry out ICT projects/ services; FY 2014/15 – 2018/19

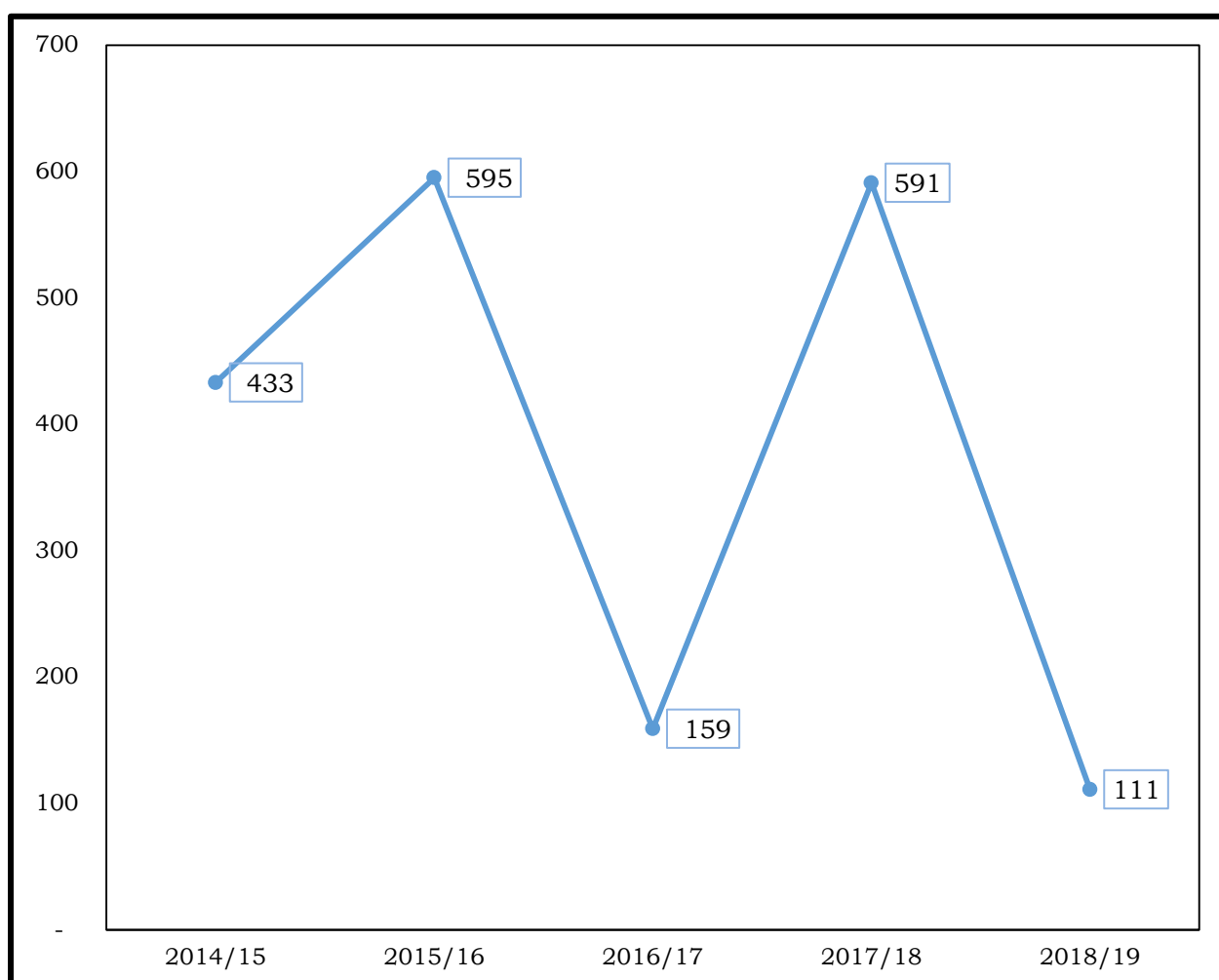


Source: Uganda Investment Authority

5.4.2 Total number of planned jobs in ICT investments

Similarly, the total number of planned jobs to serve in ICT investments reduced from five hundred and ninety one (591) in FY 2017/18 to one hundred and eleven (111) in FY 2018/19 (figure 4.4.2).

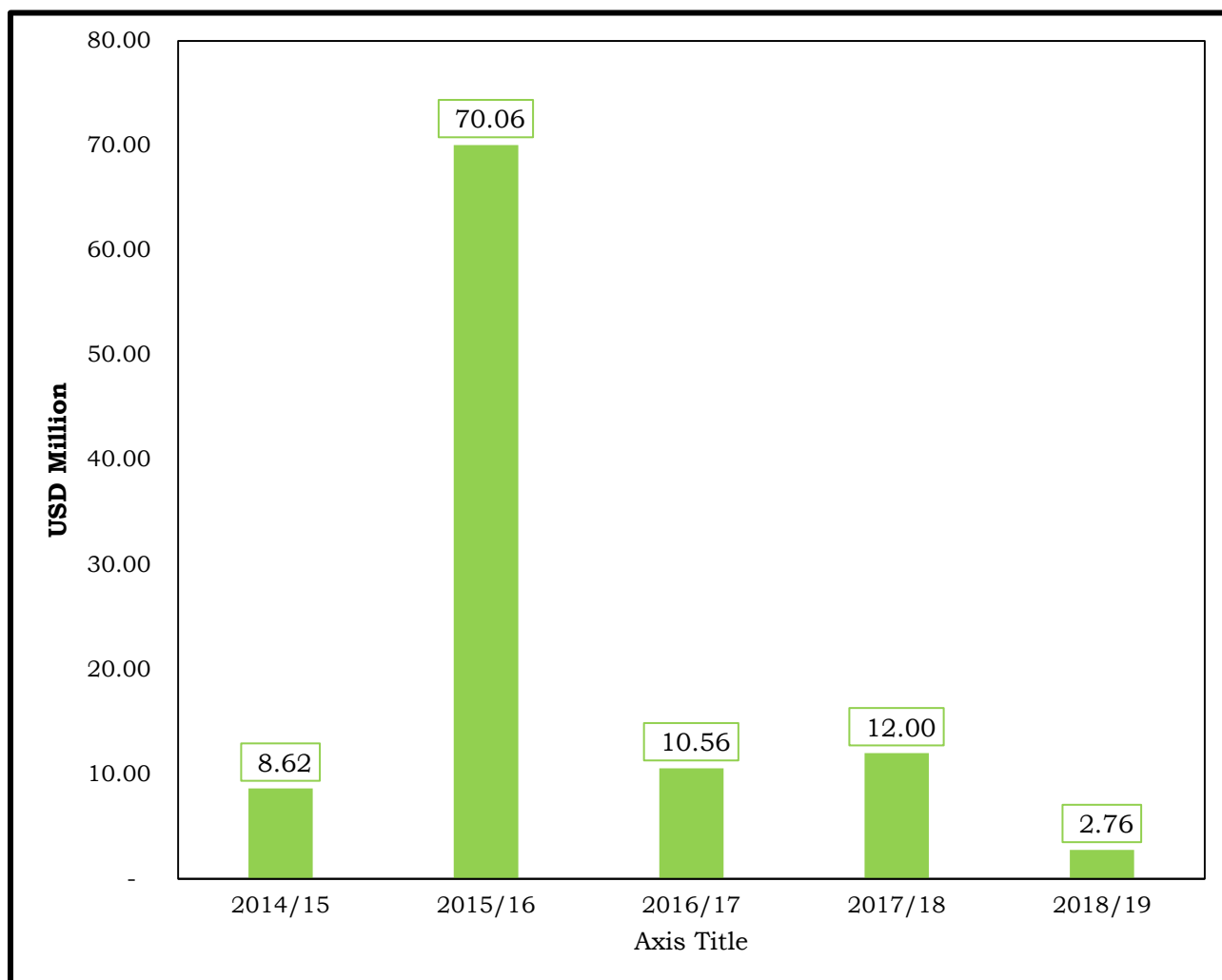
Figure 5.4.2: Total number of planned jobs; FY 2014/15 – 2018/19



5.4.3 Planned capital investment in ICT

There was a decline of 77 percent in the planned capital investment in ICT from about USD12 million in FY 2017/18 to USD 2.8 million in FY 2018/19 compared to an increase of 14 percent in FY 2017/18 from USD10.6 million in FY 2016/17 to USD12 million (figure 5.4.3).

Figure 5.4.3: ICT planned capital investment (USD Million); FY 2014/15 – 2018/19



Source: Uganda Investment Authority

6. UGANDA'S ICT RANKINGS ON THE GLOBAL SCALE

This section presents reviews on Uganda's global ranking in ICT as measured using the e-government development index that is biannually done by the United Nations Department of Economic and Social Affairs, ICT Development Index and the Global Cybersecurity Index by the International Telecommunications Union.

6.1 E-Government Development Index (EGDI)

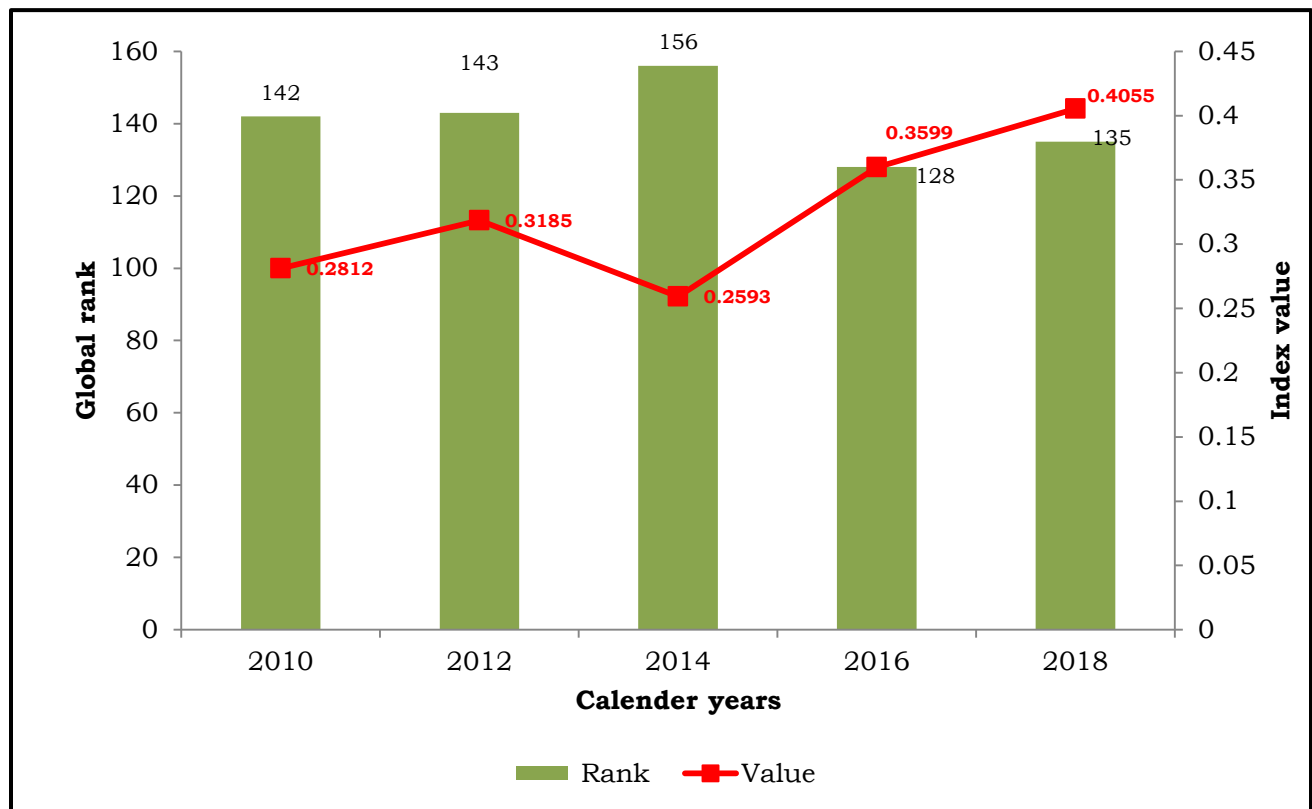
As a composite indicator, the E-Government Development Index (EGDI) is used to measure the willingness and capacity of national administrations to use information and communication technologies to deliver public services.

The UN e-Government Survey Report reflects that in 2018, the e-government status for Uganda was estimated at 0.4055 and 0.3599 out of 1 in 2018 and 2016 respectively as compared to the World's average of 0.5500 and 0.4900 out of 1 respectively.

Out of 193 UN member states, Uganda was ranked the 135th in 2018 compared to the rank of 128th in 2016 (figure 6.1.1).

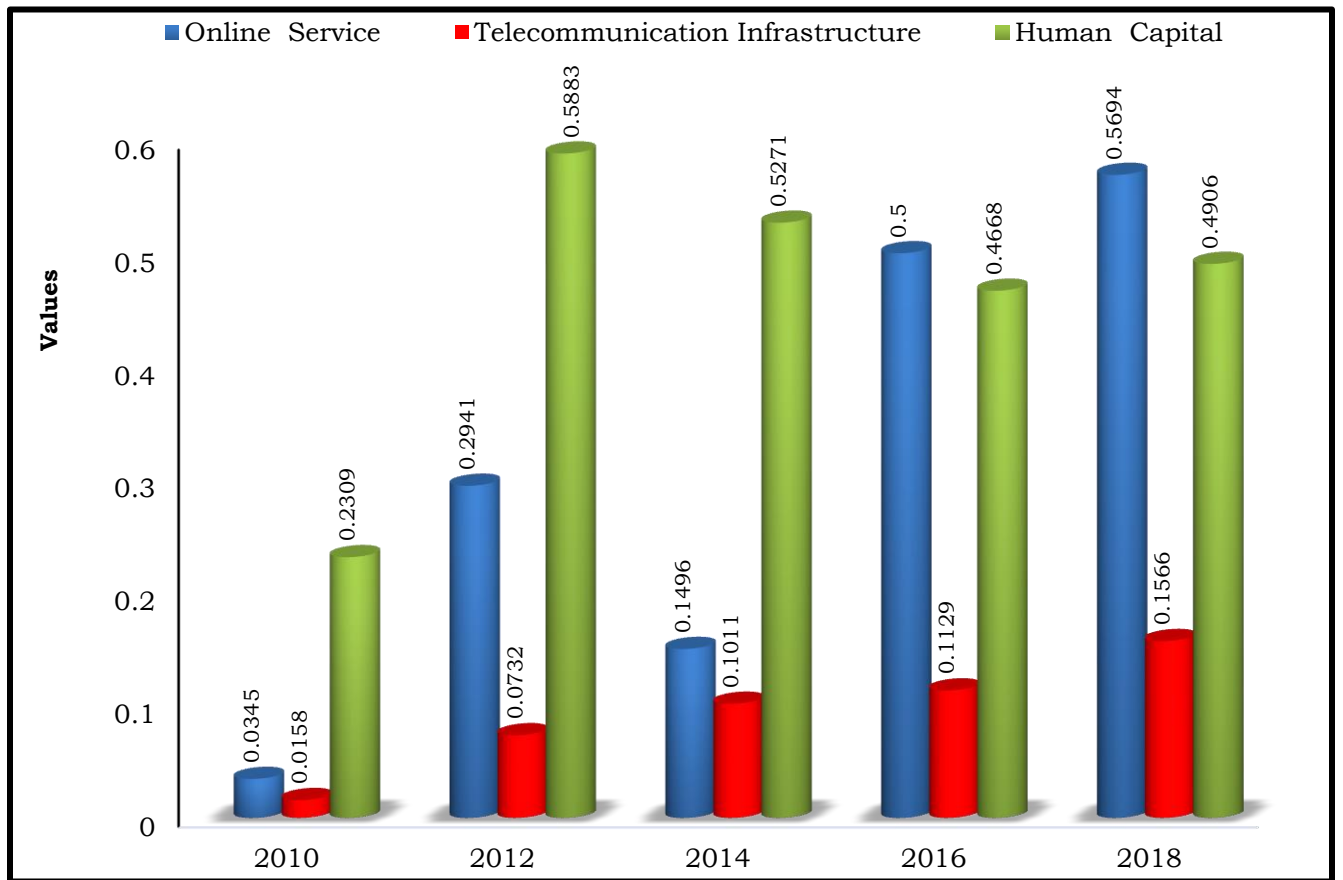
Uganda's online service index improved from 0.5000 in 2016 to 0.5694 in 2018. In addition, Telecommunication Infrastructure status increased from 0.1129 in 2016 to 0.1566 in 2018 and Human Capital component improved from 0.4668 in 2016 to 0.4906 in 2018 (figure 6.1.2).

Figure 6.1.1: Uganda's e-government ranking; 2010-2018



Source: UN E-Government Survey Reports

Figure 6.1.2: Uganda's E-government ranking by components; 2010-2018

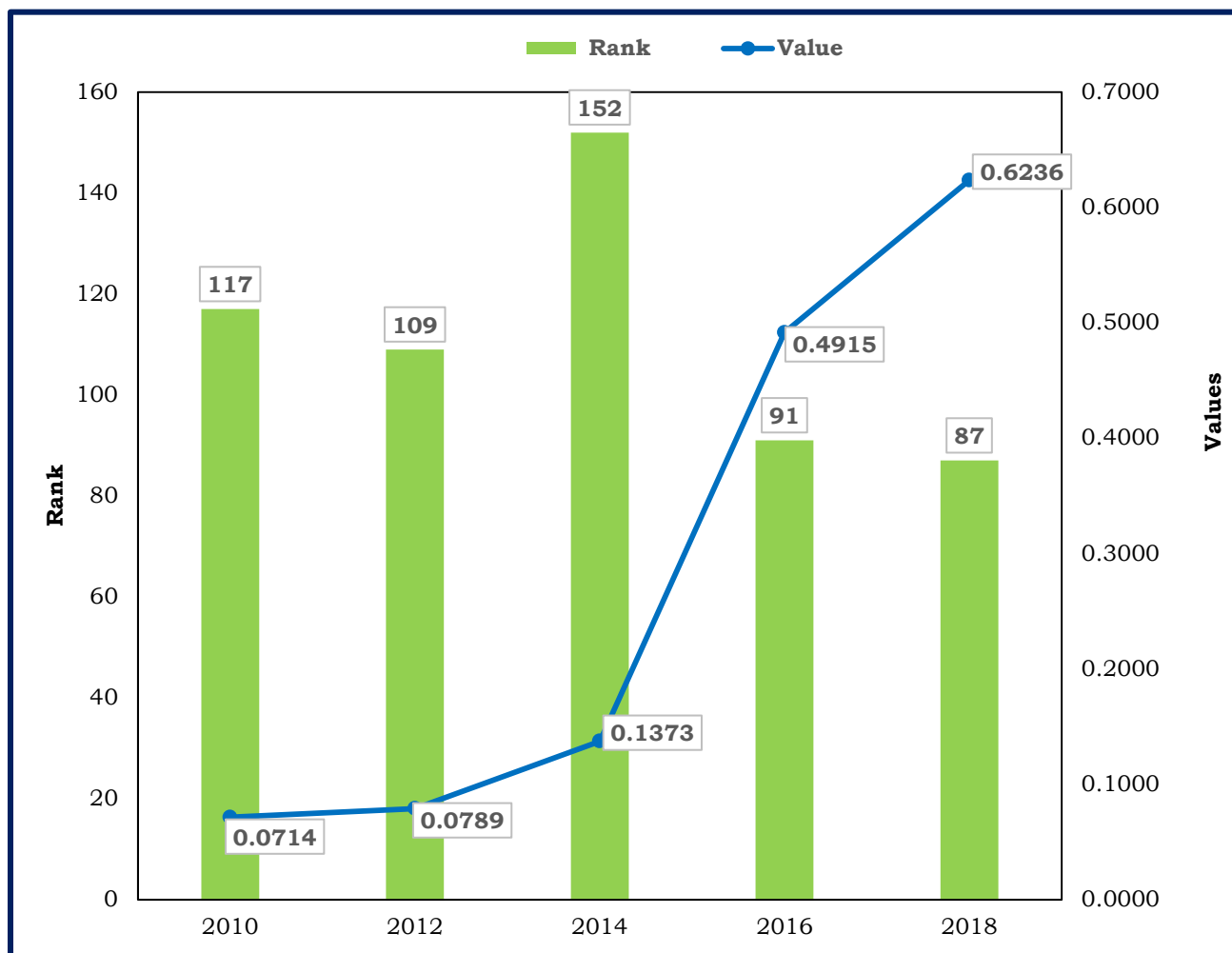


Source: UN E-government Reports

6.2 E-Participation Index

In 2018, Uganda ranked the 87th out of 193 countries in e-participation, up from position 91 in 2016. The e-Participation Index improved from 0.4915 in 2016 to 0.6236 out of 1.0000 in 2018 (figure 6.2.1).

Figure 6.2.1: Uganda's e-Participation Index; 2010-2018

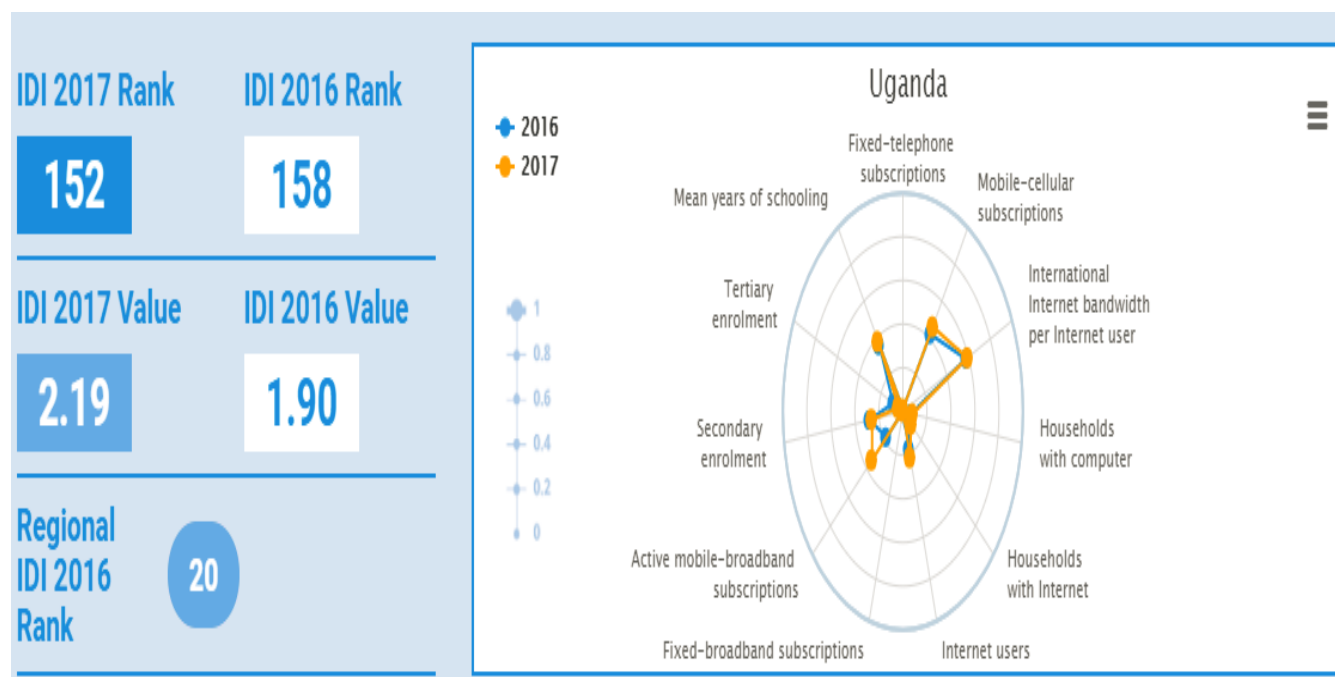


Source: UN E-government Reports

6.3 ICT Development Index (IDI)

Uganda improved by six positions from rank 158 in 2016, to rank 152 out of 176 countries in 2017. The IDI value also improved from 1.9 in 2016 to 2.19 on a scale of 1 to 10 (Figure 6.3.1).

Figure 6.3.1: Uganda’s ICT Development Index; 2016 and 2017



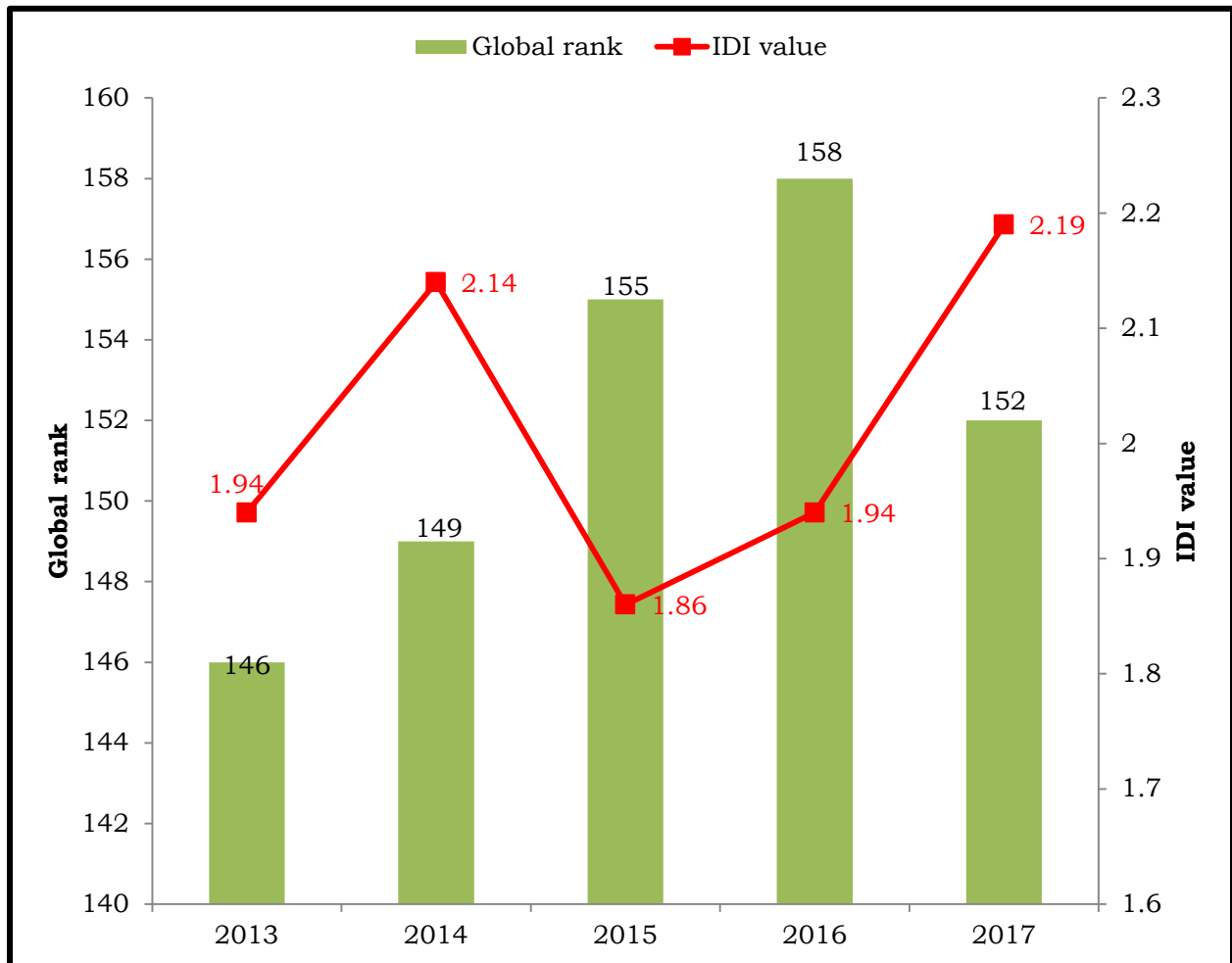
Source: ITU database

Figure 6.3.2: Uganda's ICT Development Sub-indices; 2017

IDI ACCESS SUB-INDEX	IDI USE SUB-INDEX	IDI SKILLS SUB-INDEX
2.46	1.87	2.29
Fixed-telephone subscriptions per 100 inhabitants 0.89	Percentage of individuals using the Internet 21.88	Mean years of schooling 5.70
Mobile-cellular telephone subscriptions per 100 inhabitants 55.07	Fixed (wired)-broadband subscriptions per 100 inhabitants 0.26	Secondary gross enrolment ratio 26.10
International internet bandwidth per Internet user (Bit/s) 5509.90	Active mobile-broadband subscriptions per 100 inhabitants 33.71	Tertiary gross enrolment ratio 4.48
Percentage of households with computer 7.60		
Percentage of households with Internet access 8.90		

Source: ITU database

Figure 6.3.3: Uganda's ICT Development Index; 2013-2017

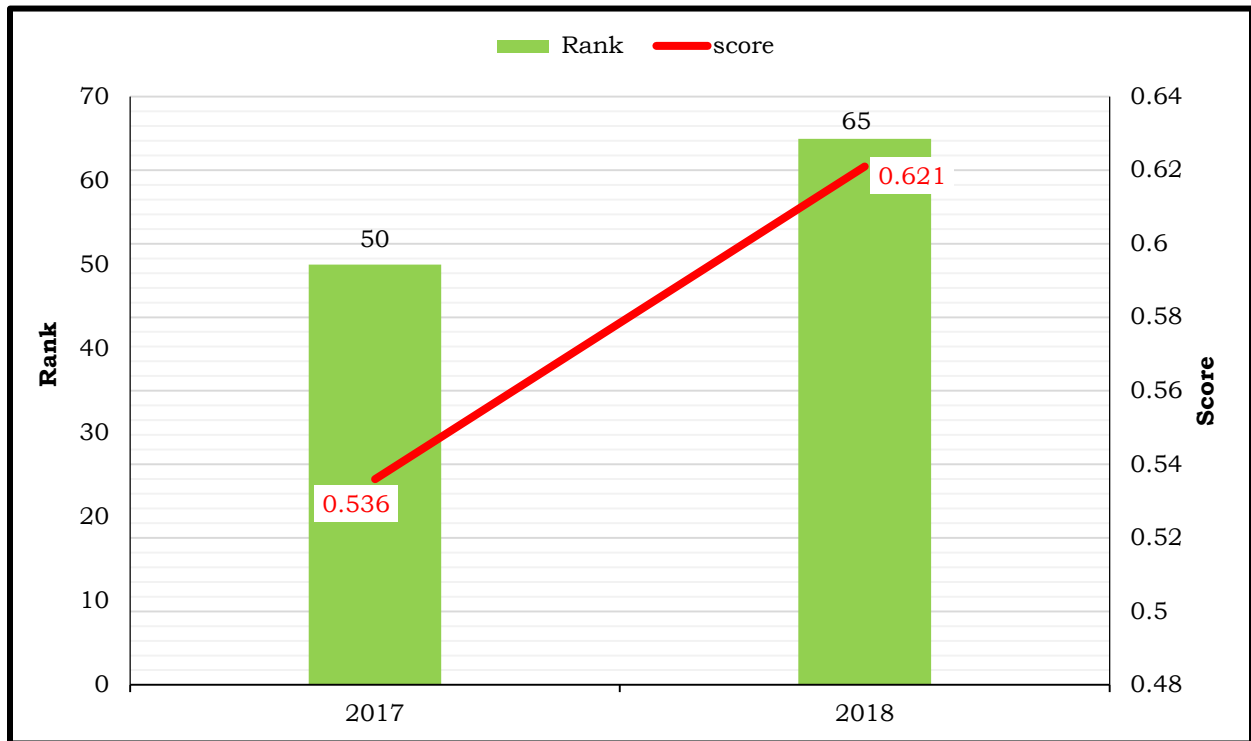


Source: Measuring Information Society reports by ITU

6.4 Global Cybersecurity Index (GCI)

Out of the 193 UN member states assessed in Cybersecurity, in 2018 Uganda ranked the 65th globally and the 7th in Africa and with a score of 0.621 out of 1 from 0.536 in 2016 (Figure 6.4.1).

Figure 6.4.1: Uganda's Cybersecurity Index; 2017-2018



Source: Global Cybersecurity Index reports by ITU