



## **UNIVERSITY OF NAIROBI**

### **ICT CENTRE**

### **ANNUAL REPORT 2020**

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#### **About ICT Centre**

ICT Centre was established through Statute XXXIV with the aim of assisting the University realize its mandate of innovative use of ICT services and products to support research, learning, teaching and administrative processes.

#### **Mandate**

- ✓ To develop and implement an evolutionary ICT policy and strategy that is sensitive to emerging technologies and responsive to changing needs and practices
- ✓ To guarantee the security of ICT resources and the safety of people working in ICT environments
- ✓ To enhance skills to develop, implement, support and exploit ICT resources effectively and efficiently
- ✓ To provide quality network infrastructure and improve student and staff access to ICT services in line with University priorities
- ✓ To ensure that business systems accommodate and facilitate changes in business practice that reflect changing institutional, staff and student needs
- ✓ To advance the need for adequate and sustainable ICT funding from within the University and develop capacity to attract external resources.

#### **Vision**

A dynamic world-class ICT Centre powering creativity and innovation in the University

#### **Mission**

To provide innovative, quality and sustainable ICT solutions and services that meet the aspiration of the University in the learning, teaching, research and management

#### **Overall Strategic Objective**

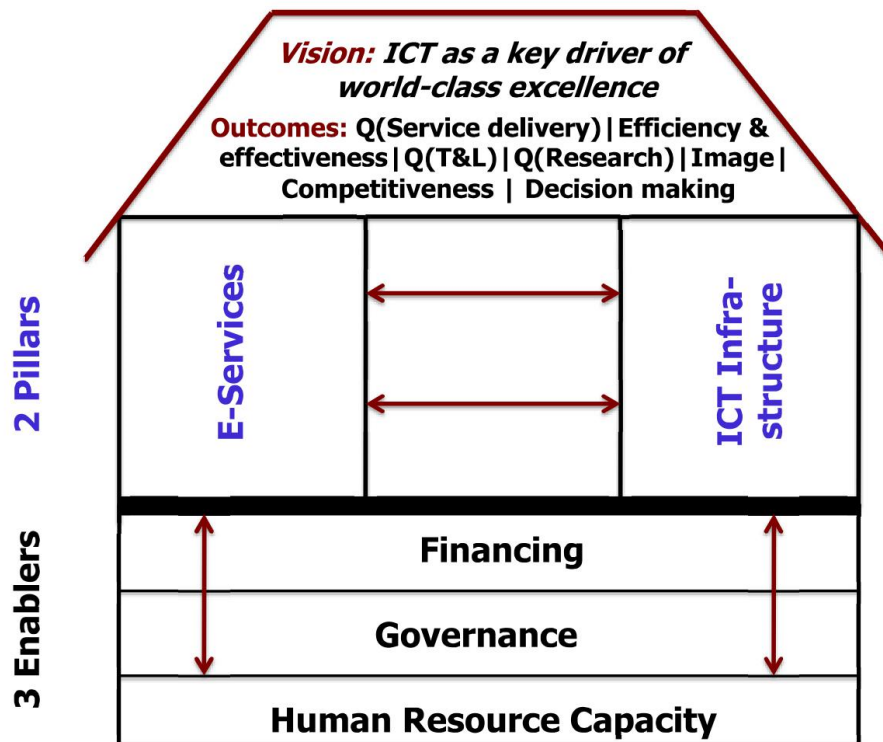
To maximize student and staff productivity, enhance teaching and learning and improve quality of research through ICT.

### **Core Values**

- We strive to abide by the virtues of integrity, honesty and meritocracy in all our activities
- We commit ourselves to working as a team, with broad-based consultation
- We embrace excellence, efficiency and effectiveness
- We endeavour to carry out our duties with commitment, dedication and professionalism
- We maintain a sense of self respect, discipline, responsibility and institutional loyalty

### **Strategic Themes**

ICT Center has five strategic themes around which planning takes place. These strategic themes are categorized into two that is, ICT pillars which are the core ICT functions in which are the ICT Infrastructure and E-Learning Services; and Enablers that support the pillars which comprises the Human Resource Capacity, Governance and funding.



Schematic representation of the strategic themes

### Services Offered

- **Management Information Services (MIS)**

This section is tasked with the development and implementation of market driven Management Information Systems (MIS) applications that support the functions of the University.

Key applications developed and supported include the Students Management Information System (SMIS), Re-engineered Human Resource Management Information System (HRMIS), Online Staff Appraisal System; Electronic Procurement Management Information System (EPMIS), the University System of Websites, Online Grants A.I.E. among others.

The section has the following clusters which are led by Project Leaders:

- E-Learning
- HRMIS
- MIS
- SMIS
- FIMS

- **Network Information Services (NIS)**

The Network Information Services (NIS) oversees the network coverage and connectivity in the University.

Unknown to many users, when using services such as the various MIS applications and when undertaking online activities such as voting, resources such as servers are required and play a key backend role for optimal performance of the system applications and activities. The system and database administration is another important role played by the NIS section.

Other assignments of NIS are management of email services, internet services and information security that cuts across all ICT functions.

The section has clusters namely:

- Network Infrastructure
- Database Administration
- Data Center management
- ICT Security

- **User Support Services and Maintenance (USS&M)**

The University ICT support Services Section has been the interface link between the ICT Centre and users spread in all campuses. The Section has been one of the University's major strengths in assisting users productively exploit ICT related services and technologies in both teaching and learning as well as in its business functions.

The Section also has the responsibility to service and maintain ICT related equipment and end user infrastructure as well as ensure such equipment is under scheduled preventive maintenance, warranty and under service level agreement for some of the equipment that support critical University Services and the Data Center.

User Support Services staff are distributed across all campuses. Each team is headed by a Campus Officer-In-Charge (OIC).

In USS&M, there is the Maintenance section, domiciled in the ICT Center. The team undertakes second level maintenance and repair of all specialized ICT equipment. The team works closely with the Campus support teams to provide and undertake preventive maintenance services for ICT equipment. More specifically;

- Preparing annual preventive maintenance schedule for all ICT related equipment
- Enforcing related University ICT policies and standards
- Provision of technical advice to users on ICT hardware matters
- Acquisition of tools for maintenance and user support services

Further, the maintenance unit deals with service contracts and enforces warranty of ICT related equipment.

- **Communication**

The Communications section undertakes to provide Contact Centre services to our customers and stakeholders and also support users on the Voice over Internet Protocol (VOIP) infrastructure.

The Contemporary Contact Center is the gateway for the customers to the University. The centre has improved the efficiency of how customer concerns are addressed.

The VOIP Infrastructure transcends throughout the entire Wide Area Network of the University. The technical team supports this VOIP infrastructure and ensures optimum service availability.

### **Contact Centre Services**

The University of Nairobi contact Centre is customer care oriented where all the clients and stakeholders' concerns/issues/complaint are received and addressed. The operations at the Centre include handling of incoming Voice calls and management of email channels on helpdesk general queue.

### **Implementation of the Contemporary contact Centre:**

Key modules implemented;

**Contact Centre Express** - This is an integrated, full featured solution for managing customer voice contacts with the benefits of the converged Cisco IP Telephony architecture. It offers call-routing behaviours based on conditional events, such as time of day, day of the week. The current Contact Centre licensing has a total agent and supervisor capacity of 20 Agents.

**Interactive voice response systems (IVRS)** – This is a computerized phone system that enables a person, typically a telephone caller, to make selections from a voice menu. The selection is made using touch phone keypad entries or voice responses. The IVRS phone system plays pre-recorded voice prompts and the person typically presses a number on a telephone keypad to select the option associated with the voice prompt.

Unified Communications Manager – integrates the old Call manager and the contact centre express.

**Customer Relationship Management** – Captures customer information for ease of escalation and recording.

**Social Miner** - Cisco social miner integration with the Contact Centre provides for Web chat, Facebook messenger integration and Email integration providing queued delivery to the Contact Centre agents.

**Advanced Quality Management and Workforce Management** – this module provides efficient, effective, customer-focused service in the contact centre, supervisors must have the tools they need to manage team performance.

**Contact Centre Reporting** – this is a state-of-the-art, open platform offering a secure 360-degree view of the enterprise with the capability to link down, up, or across to other data from any report.

**Outbound Campaigns** - The system provides for agent based outbound campaigns that allow for scheduled call campaigns defined within certain periods of time

**ICT environment during COVID-19**

## ***E- Readiness Assessment Survey***

### **1.1. Background**

Following the statement issued by H.E the President on Sunday, 15<sup>th</sup>, March 2020 which among other measures advised Universities to close by Friday March 20, 2020 in view of the COVID-19 pandemic. As a result, a special Senate meeting was held on March 16, 2020 followed by a special University Executive Board (UEB) meeting, the two organs thus directed that the university closes on March 17 2020.

Subsequent to this, and following a senate resolution that all teaching & learning be migrated to online platforms in the face of Covid-19 pandemic, the Vice Chancellor directed the Director ICT and Director ODeL to assist and facilitate staff and students to take up online teaching and learning. Online training sessions for University Managers, Academic staff, administrative and support staff and students commenced on 23<sup>rd</sup> March 2020 and ran for three weeks.

An online survey was thus conducted by the ICT Centre and ODEL to assess the e-readiness in preparing the University Community for online teaching and learning as well as conduct other work activities.

### **1.2. Objectives**

The survey was carried out in order to get feedback on the impact of the online training carried out during the first month of the COVID-19 period.

The objectives of the online training were:

- i.To equip University of Nairobi students with knowledge and skills on online learning tools for effective online learning.
- ii.To equip University of Nairobi academic staff with knowledge and skills on online learning tools for effective online facilitation.
- iii.To equip University of Nairobi administration and support staff with knowledge and skills to enable them undertake their various duties remotely.
- iv.The aim of the survey was to monitor whether or not the above-mentioned objectives were met.

### 1.3. Target Group

The online training was carried out on university academic staff, administrative and support staff and students.

## 2. Results

### 2.1. Introduction

This section presents a section of select results as per the following thematic areas:

1. Total Number of Survey participants
2. Distribution of participants by college
3. Status of the training
4. Quality of the training content
5. Readiness for online teaching, learning and remote working

### 2.2 Total Number of Survey participants

The total participants for the survey in the three categories are shown in Table 1.

**Table 1: Total Participants**

Category	Total Number
Academic staff	434
Administrative and support staff	611
Students	2954
<b>Total</b>	<b>3999</b>

The survey respondent totaled 3999 participants comprising 434 academic staff, 611 administrative and support staff and 2954 students.

### 2.3 Distribution by college

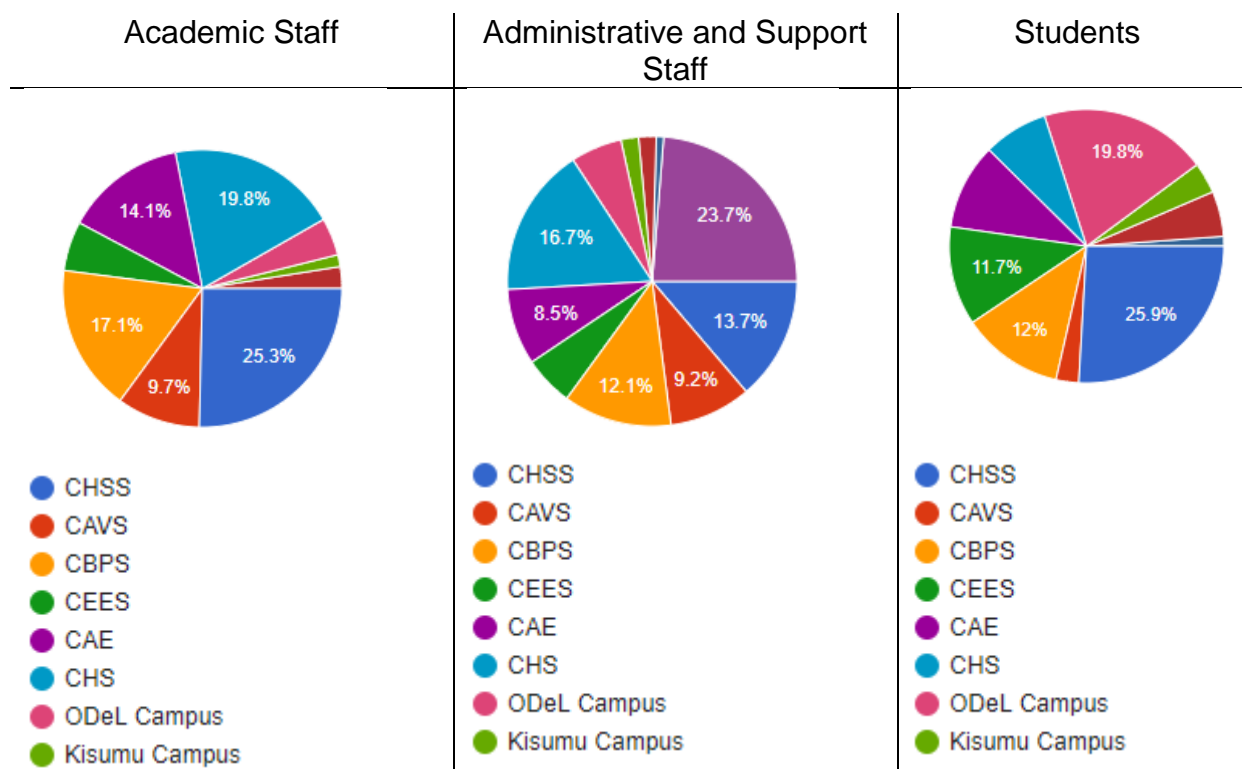
2.3.1 The distribution of participants by college is shown in Table 2.

*Table 2: Distribution of participants by college*



College/Section	Academic Staff	Administrative and Support Staff	Students
CHSS	110	84	765
CAVS	42	56	79
CBPS	74	74	355
CEES	25	34	345
CAE	61	52	300
CHS	86	102	225
ODeL Campus	19	35	585
Kisumu Campus	6	12	108
Mombasa Campus	11	12	158
Kenya Science	0	5	34
Central Administration	-	145	-
<b>Total</b>	<b>434</b>	<b>611</b>	<b>2954</b>

### 2.3.2 Pie chart presentation of the distribution of participants by college



<ul style="list-style-type: none"> <li>Mombasa Campus</li> <li>Kenya Science Campus</li> </ul>	<ul style="list-style-type: none"> <li>Mombasa Campus</li> <li>Kenya Science Campus</li> <li>Central Administration</li> </ul>	<ul style="list-style-type: none"> <li>Mombasa Campus</li> <li>Kenya Science Campus</li> </ul>
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Figure 1: Distribution by college

## 2.4. Status of Training

To establish whether the participants had been trained, they were asked if they had received training on E-learning tools to facilitate online learning from UoN trainers during this university lock-down period. The responses are summarized in this section.

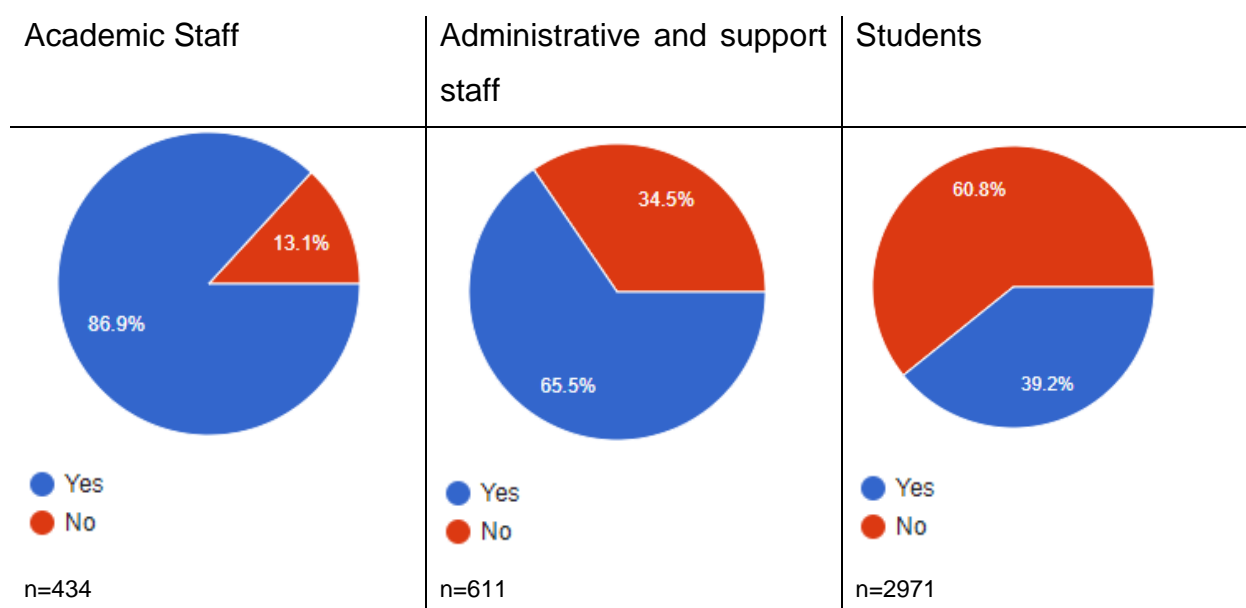


Figure 2: Status of Training

The survey showed that 86.9% of the academic staff, 65.5% of the administrative and support staff and 39.2% of students were trained.

## 2.6 Readiness to engage with online tools

From the survey, the readiness of staff and students to use online learning and teleconferencing tools to fulfilling their obligations was as follows: -

Academic Staff	Administrative support staff	and	Students
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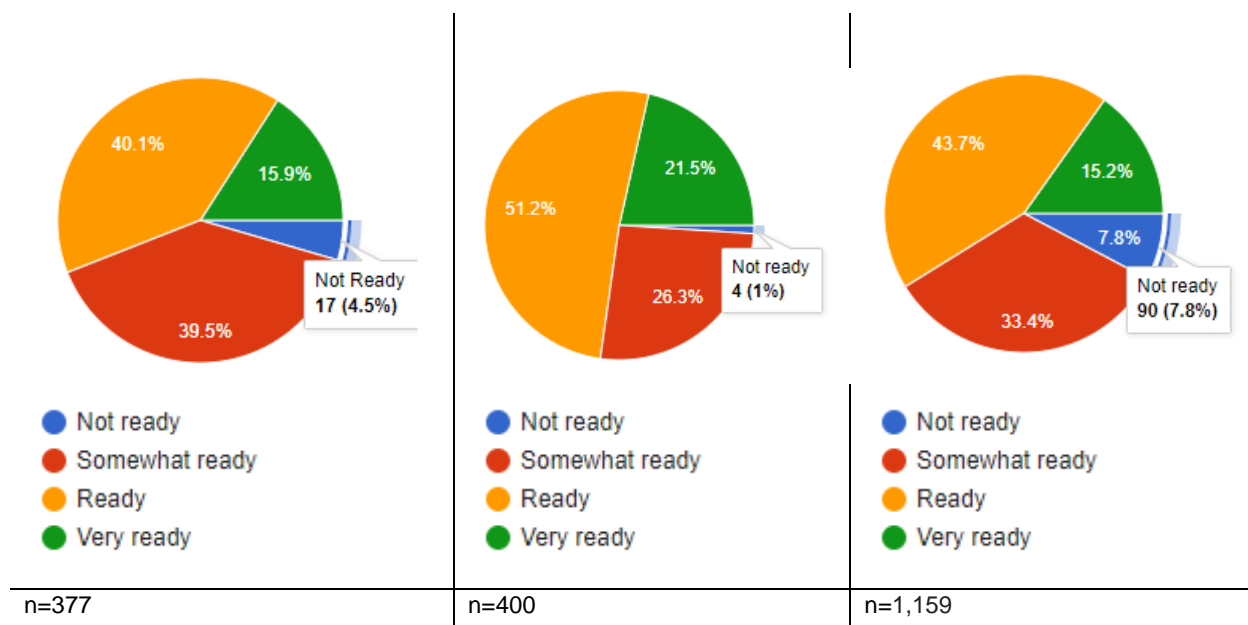


Figure 3: Readiness to engage with online tools

### Major Achievements during the COVID-19 pandemic period

During the COVID-19 pandemic period, ICT Center was at the core spearheading activities towards ensuring the University continued to deliver on its mandate of teaching, learning and research virtually.

Some of the virtual key achievements included installation of the Vice-Chancellor, online teaching, learning and examinations, facilitation of data bundles to students ‘Soma na bundles’ and staff, 63rd and 64th graduations, UNSA elections and the Research Week.

### Accelerating the digital transformation - Online collaborative tools

The University Senate meetings held on 4th and 8th May 2020 approved teaching, learning and examinations to be conducted via digital platforms (online).

In the prevailing Covid-19 pandemic circumstances, lectures had to be moved online and classes and examinations were conducted virtually. Various forms of technology required to be set up by ICT to enhance and facilitate the student learning experience. The various technology platforms that were approved for use included: Google Meet, Microsoft Teams, Zoom, Cisco Webex, Big Blue Button.

ICT played a critical role in the setup of these tools and training staff and students on their utilization.

### Microsoft Teams

The university began utilization of Microsoft teams for virtual learning from May 2020. The product was used successfully during the two University virtual graduations held last year where graduands participated virtually.

The University of Nairobi research week was also held on Microsoft teams platform where the participants in the various workshops/seminars/conferences participated from around the globe.

Other successful activities held on MS teams platforms include office meetings, workshops as well as seminars. ICT Center conducted several training sessions on how to use Ms Teams for both staff and students in collaboration with a Microsoft partner. A total of 104,786 accounts (Students and staff) have been created within MS Teams and integrated with Google workspace. The accounts are based on the faculty and students office 365 licenses extended to the university through the University of Nairobi Alumni association.

Year	Enabled Users	Active Users	MoM Returning Users	First Time Users	Cumulative Active Users	Active User %	MoM Returning User %
2020							
May	7	1	0	1	1	14.3%	0.0%
June	47	21	1	20	20	44.7%	100.0%
July	59	22	14	8	22	37.3%	66.7%
August	381	125	10	115	125	32.8%	45.5%
September	597	205	113	92	205	34.3%	90.4%
October	102,903	724	136	588	787	0.7%	66.3%
November	104,009	701	417	279	1044	0.7%	57.6%
December	104,786	913	456	454	1496	0.9%	65.0%

Figure 4: Overview of MS Teams Usage

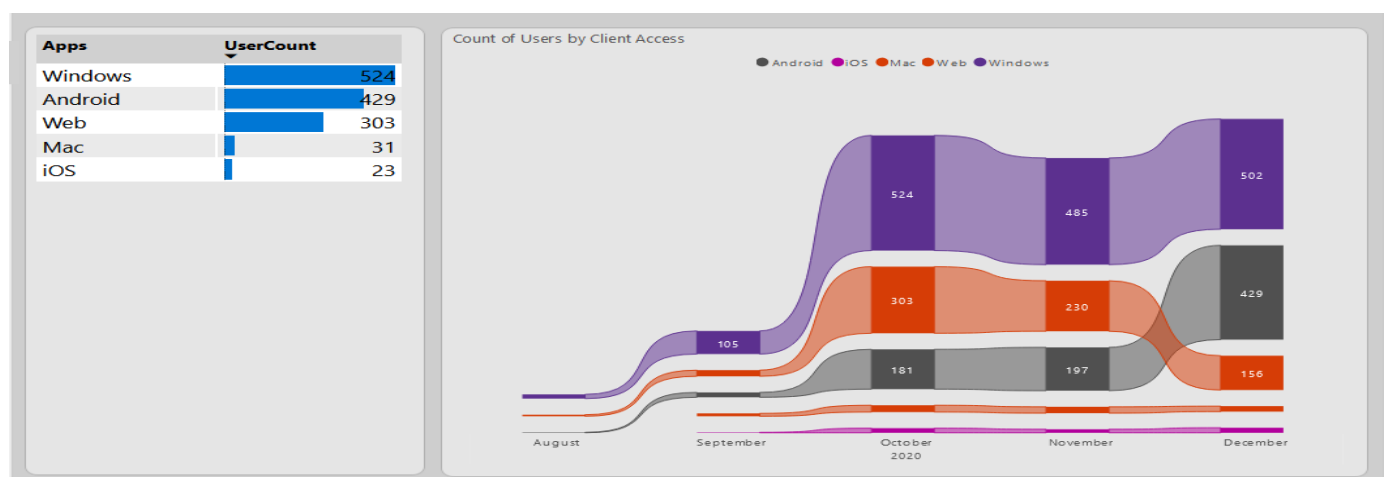


Figure 5: Users by Client and Device Access

Year	2020							
LicenseName	May	June	July	August	September	October	November	December
OFFICE 365 A1 FOR STUDENTS	3	4	6	5	35	94861	95934	96710
OFFICE 365 A1 FOR FACULTY	7	49	60	381	549	8044	8043	8090
POWER BI (FREE)				1	9	11	112	117
MICROSOFT POWER AUTOMATE FREE	2	3	5	35	38	31	33	35
APP CONNECT					7	7	7	7
SECURITY E5				2	2	2	2	2
ENTERPRISE MOBILITY				2	2	2	2	2
RIGHTS MANAGEMENT ADHOC								1

Figure 6: Licenses Assigned

User Activity Detail								
Activity	CallParticipate		ChannelMessage		ChatMessage		MeetingParticipate	
Year	Activity Count	Active User Count	Activity Count	Active User Count	Activity Count	Active User Count	Activity Count	Active User Count
2020								
August			2	2	49	5	121	9
September	1	1	3	2	157	36	268	159
October	9	15	350	109	1,336	221	2,469	538
November	9	6	248	86	655	165	1,849	387
December	1	2	20	10	279	76	792	344

Figure 7: Product Usage Analysis

Department	Activities
	497
SCHOOL OF MATHEMATICS	83
COMMERCIAL LAW	64
FINANCE & ACCOUNTING	58
SCHOOL OF ECONOMICS	52
Teams Training2	52
CHEMISTRY	50
INSTITUTE OF NUCLEAR SCIENCE	43
PRIVATE LAW	38
837659	36

Figure 8: Top ten most active departments

A survey conducted on users of the platform showed the tool is used across all levels of learning from Diploma to PHD . The usage of microsoft Teams is from all university colleges. The users are able to access the tool using various platforms such as Windows, Android, Mac and iOS.

Smartphones were noted to be popularly used according to the survey followed by tablets.

## Survey on Devices, Internet Access & Future-Ready Certifications

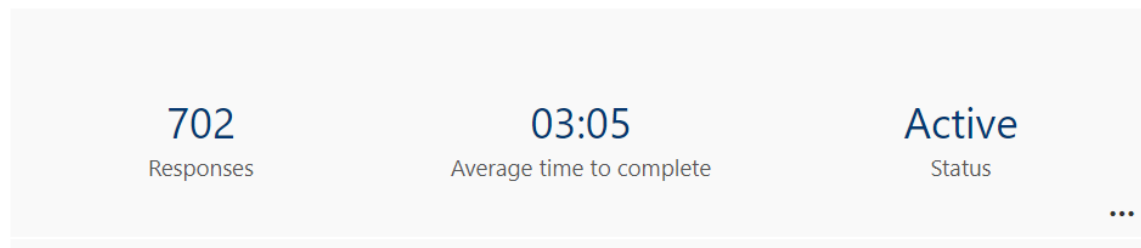
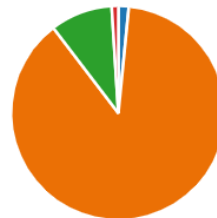


Figure 9: Survey on devices, Internet Access and Future-Ready Certifications

### 1. What is your level of study?

[More Details](#)

Diploma	11
Degree	620
Masters	66
PhD	7



### 2. Which is your college of study?

[More Details](#)

Agriculture and Veterinary Sci...	59
Biological and Physical Sciences	104
Architecture and Engineering	63
Education and External Studies	104
Health Sciences	55
Humanities and Social Sciences	319

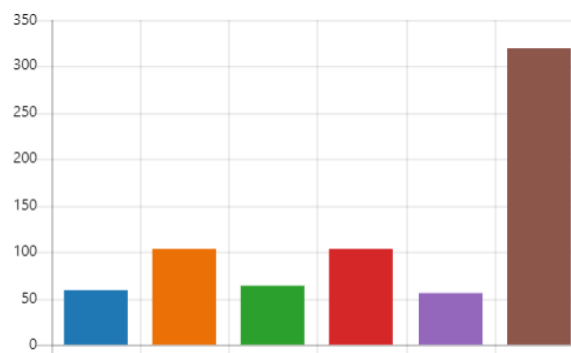


Figure 10: Level and college of study of MS Teams users

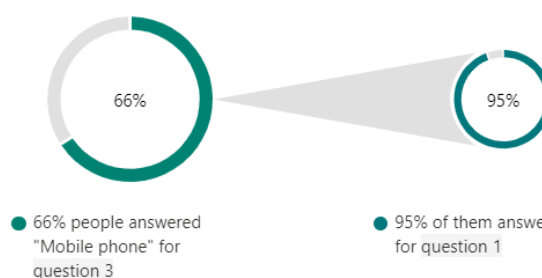
### 3. Which of the following devices are you using primarily for your online studies?

[More Details](#)

[Insights](#)

- Mobile phone
- Tablet
- Laptop
- Personal Computer (PC)
- None

66% of people answered **Mobile phone** for this question, and the majority answered **"Degree"** for Question 1.



[Pin to question](#) [Hide Details](#)

### 4. Which of the following Internet access are you using primarily for online studies?

[More Details](#)

- Mobile phone (Airtel)
- Mobile phone (Telkom Kenya)
- Mobile phone (Safaricom)
- Campus Wi-Fi
- Public Wi-Fi
- Internet at Home

1% of people answered **None** for this question, and the majority answered **"Mobile phone (Safaricom)"** for Question 4.

[Show details](#)

66% of people answered **Mobile phone** for this question, and the majority answered **"Kes 2,500 and below"** for Question 6.

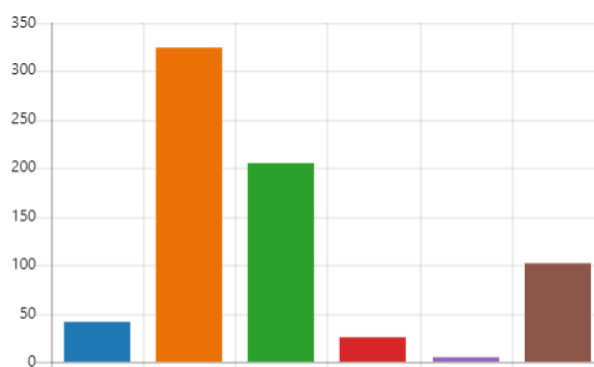
[Show details](#)

*Figure 11: Devices used for Internet Access*

### 4. Which of the following Internet access are you using primarily for online studies?

[More Details](#)

- Mobile phone (Airtel) 42
- Mobile phone (Telkom Kenya) 324
- Mobile phone (Safaricom) 206
- Campus Wi-Fi 26
- Public Wi-Fi 4
- Internet at Home 102



*Figure 12: Internet Access*

5. If offered the following certification programs, which would be the TWO most important certifications for you? For more information on the list of the certification programs, visit Certiport, Inc here: <https://certiport.pearsonvue.com>

[More Details](#)

Adobe Certified Associate (ACA)	109
Autodesk Certified User (ACU)	43
Communication Skills for Busi...	133
EC-Council Associate - Ethical ...	134
Entrepreneurship and Small B...	212
IC3 Digital Literacy	85
Microsoft Certified Educator (...)	63
Microsoft Office Specialist (M...	109
Microsoft Technology Associat...	70
Microsoft Technical Certificati...	67
Project Management Institute...	138
Unity Certified User (UCU)	13
QuickBooks Certified User (QB...	59
None	48
Other	19

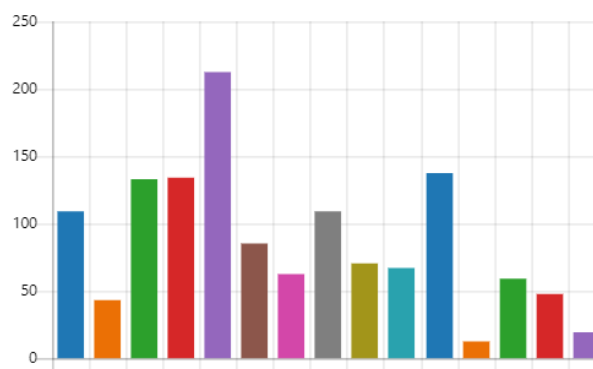


Figure 13: Future-Ready Certifications

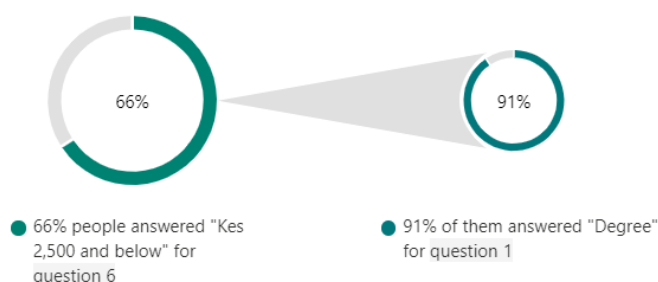
6. For the certification programs you have selected above, which cost band would be affordable to you?

[More Details](#)

[Insights](#)

Kes 2,500 and below
Kes 2,501 - Kes 5,000
Kes 5,001 - Kes 7,500
Kes 7,501 - Kes 10,000
Kes 10,001 - Kes 12,500
Kes 12,501 - Kes 15,000
Kes 15,000 and above

66% of people answered **Kes 2,500 and below** for this question, and the majority answered **"Degree"** for Question 1.



[Unpin](#) [Hide Details](#)











Figure 14: Cost bands

## Zoom Meeting

Zoom was one of the tools that was availed to staff handling large classes at the University. With Zoom, staff were able to collaborate and host large classes and meeting sessions online through high-quality video and audio, breakout rooms for group activities, the ability to record and download meetings, and more features to facilitate distance learning.

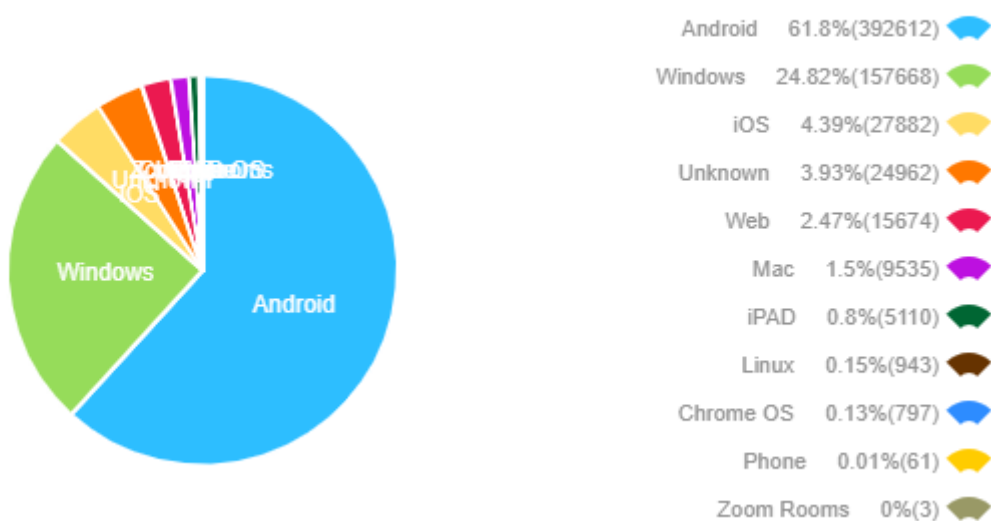


Participants were able to participate in the meetings and classes from all around the globe as depicted below.

1	 Kenya	596359
2	 United States of America	24174
3	 Mauritius	1800
4	 Uganda	1202
5	 Philippines	901
6	 Tanzania, United Republic of	898
7	 Nigeria	752
8	 South Africa	747
9	 United Kingdom	714
10	 Germany	478

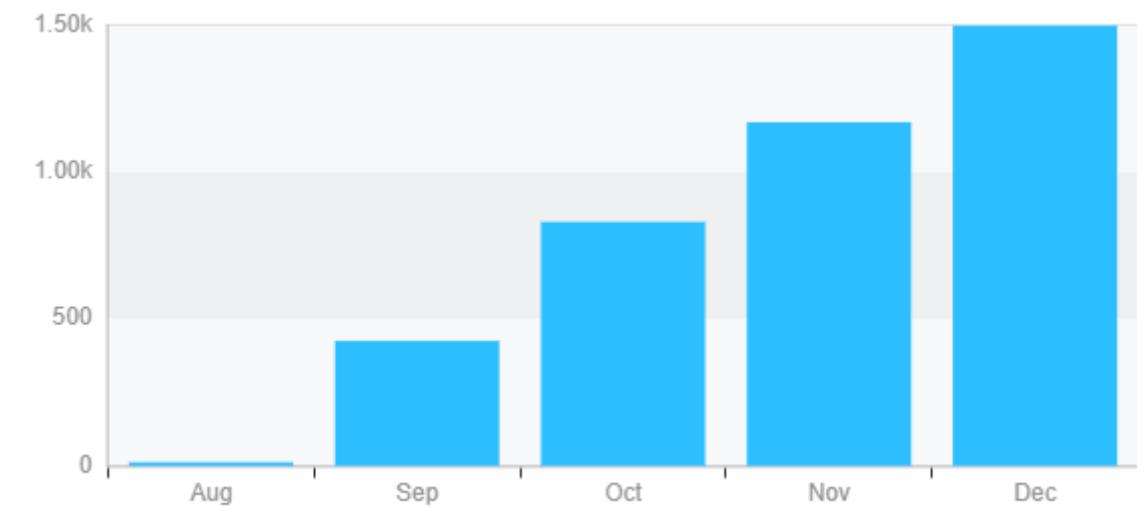
*Figure 15: Top 10 locations by meeting participants*

Zoom supported users with devices running on various platforms as shown below. Most of the participants used Android devices to join the virtual meetings.



*Figure 16: Devices by Meeting*

The number of users utilizing the Zoom platform grew exponentially over the months from when the licenses were procured as shown below.



*Figure 17: Meeting Trends*

**Basic Data Protection Principles**

Every data controller or data processor shall ensure that personal data is:

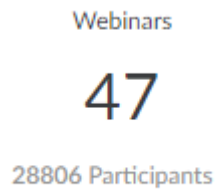
- (a) processed in accordance with the right to privacy of the data subject;
- (b) processed lawfully, fairly and in a transparent manner in relation to any data subject;
- (c) collected for explicit, specified and legitimate purposes and not further processed in a manner incompatible with those purposes;
- (d) adequate, relevant, limited to what is necessary in relation to the purposes for which it is processed;

University of Nairobi    ISO 9001:2015    21    Certified    <http://www.uonbi.ac.ke>

*Figure 18: Zoom Meeting in progress*



*Figure 19: No. of meetings held on Zoom since subscription*



*Figure 20: No. of webinars held on Zoom since subscription*

### **Google Workspace**

The University has an enterprise subscription to Google Workspace which is an integrated suite of secure, cloud-native collaboration and productivity apps powered by Google Artificial Intelligence. This includes Gmail, Docs, Drive, Calendar, Meet and more.

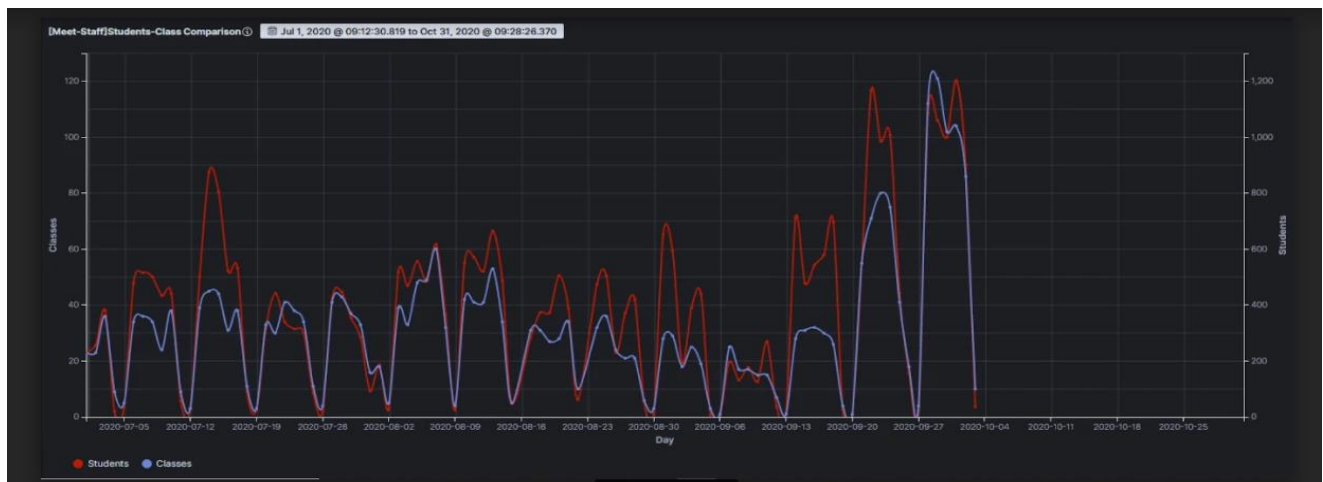
ICT Center leveraged on these tools to ensure core business continuity during the pandemic year.



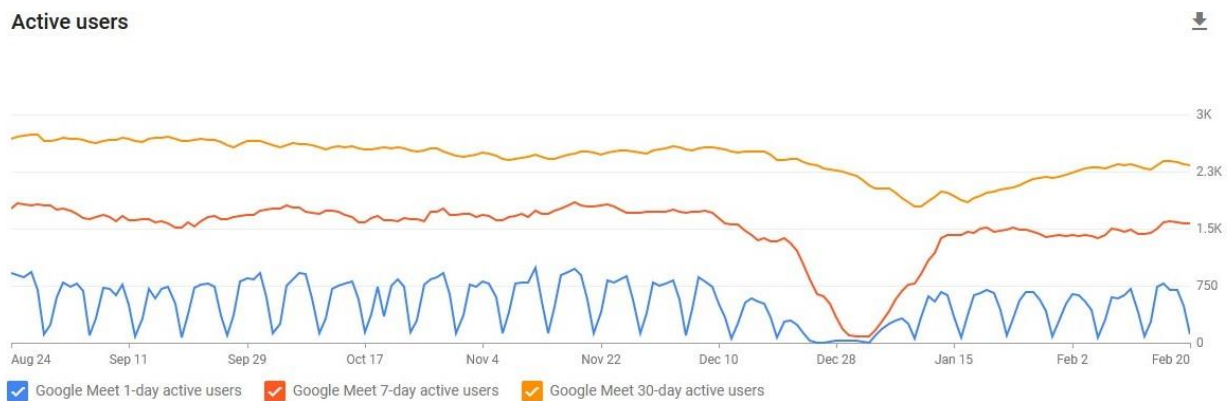
*Figure 19: Google Workspace*

### Google Meet

Google Meet is a video communication service developed by Google. ICT trained staff and students on its utilization and the university community were able to host meetings and classes using their browsers. It facilitated them to share videos, entire desktops, and presentations with students and other stakeholders.



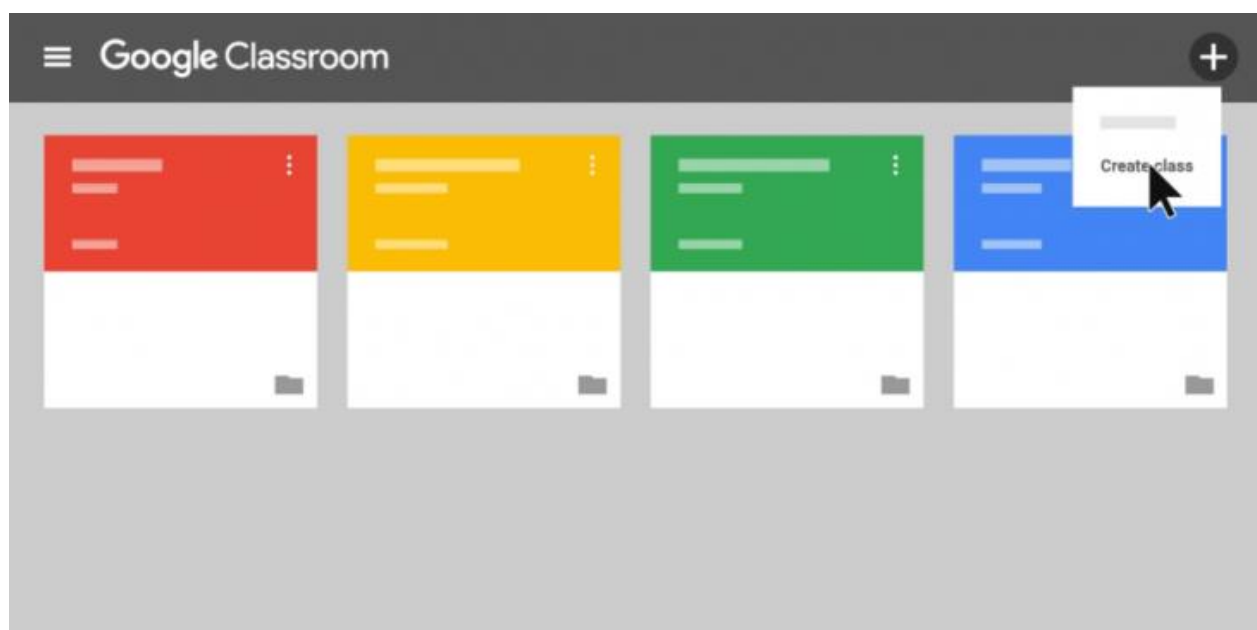
*Figure 20: Student Classes on Google Meet*



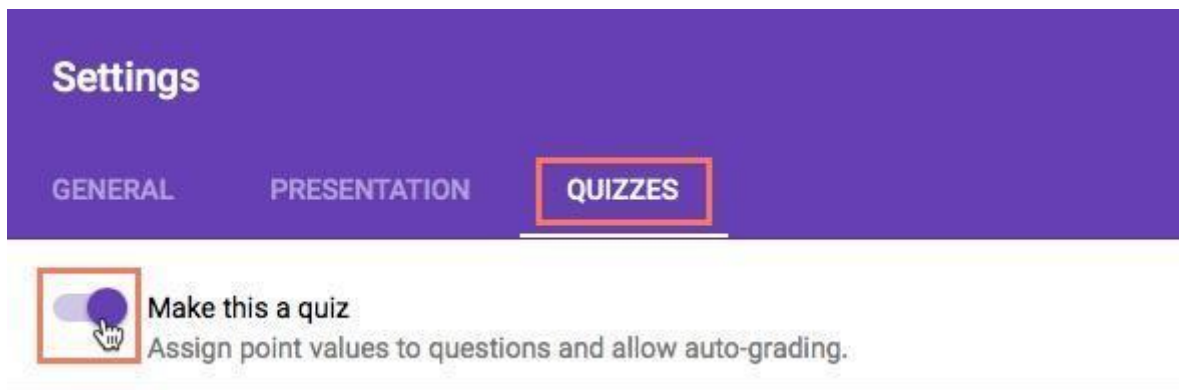
*Figure 21: Google Meet Active Users*

## Google Classroom

Google classroom was one of the platforms which was set up by the ICT Center to simplify creating, distributing, and grading assignments of students. It was utilized to streamline the process of sharing files between faculty and students. It integrates Docs, Sheets, Slides, Gmail, and Calendar into a cohesive platform to manage student and lecturer communication.



*Figure 22: Google Classroom interface*



**Settings**

GENERAL PRESENTATION **QUIZZES**

☒ **Make this a quiz**  
Assign point values to questions and allow auto-grading.

---

**Quiz options**

**Release grade:**

☒ Immediately after each submission

☐ Later, after manual review  
Turns on email collection

**Respondent can see:**

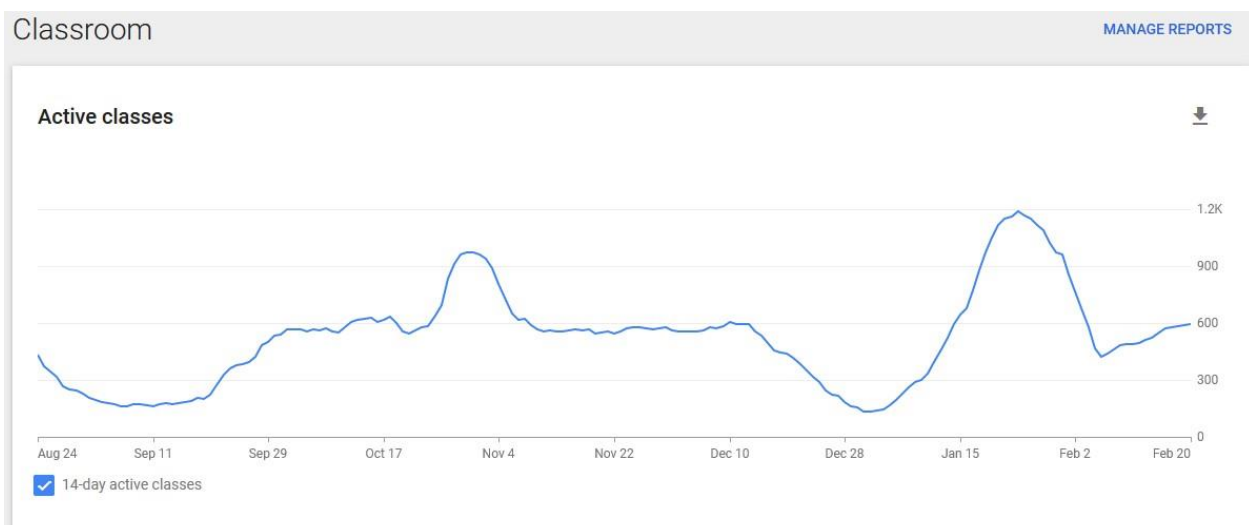
☒ Missed questions ?

☒ Correct answers ?

☒ Point values ?

CANCEL SAVE

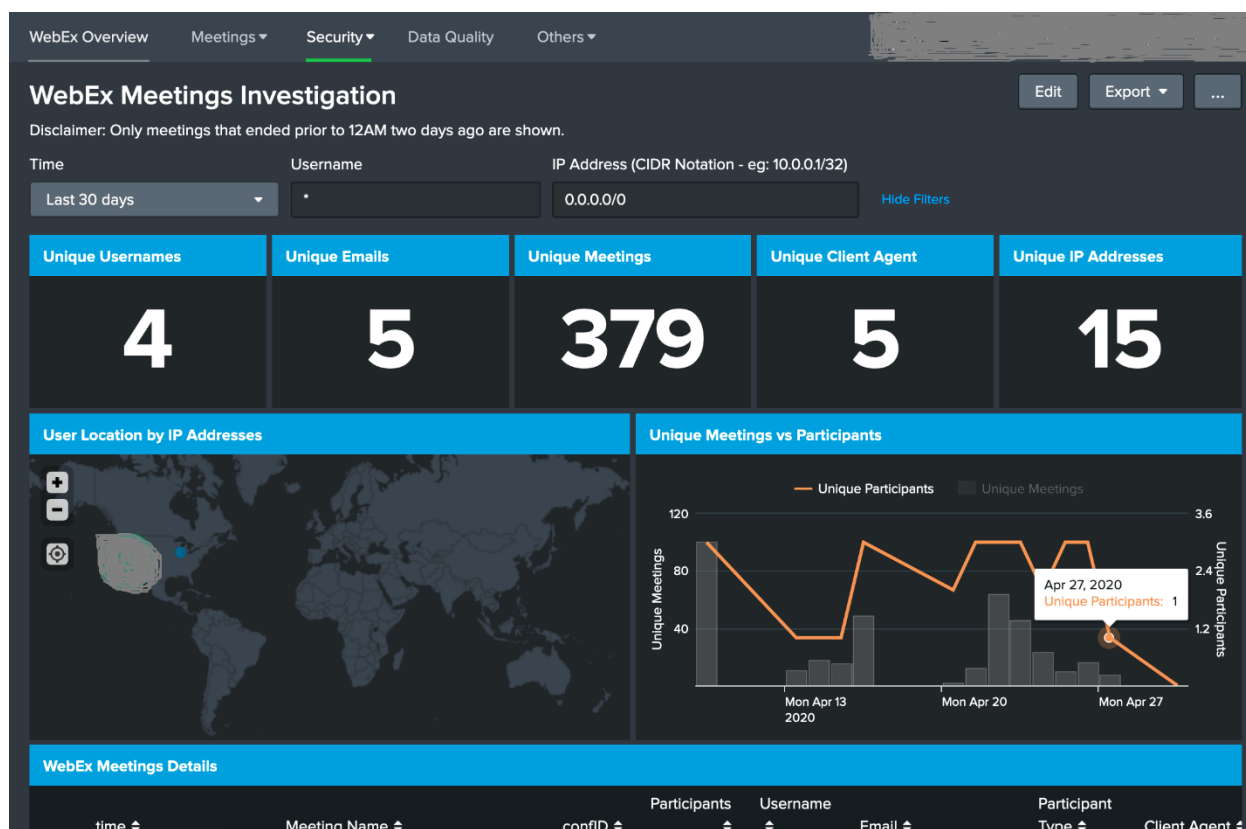
Figure 23: Quiz setting on Google Classroom



*Figure 24: Number of Active Classes on Google Classroom*

## Cisco Webex

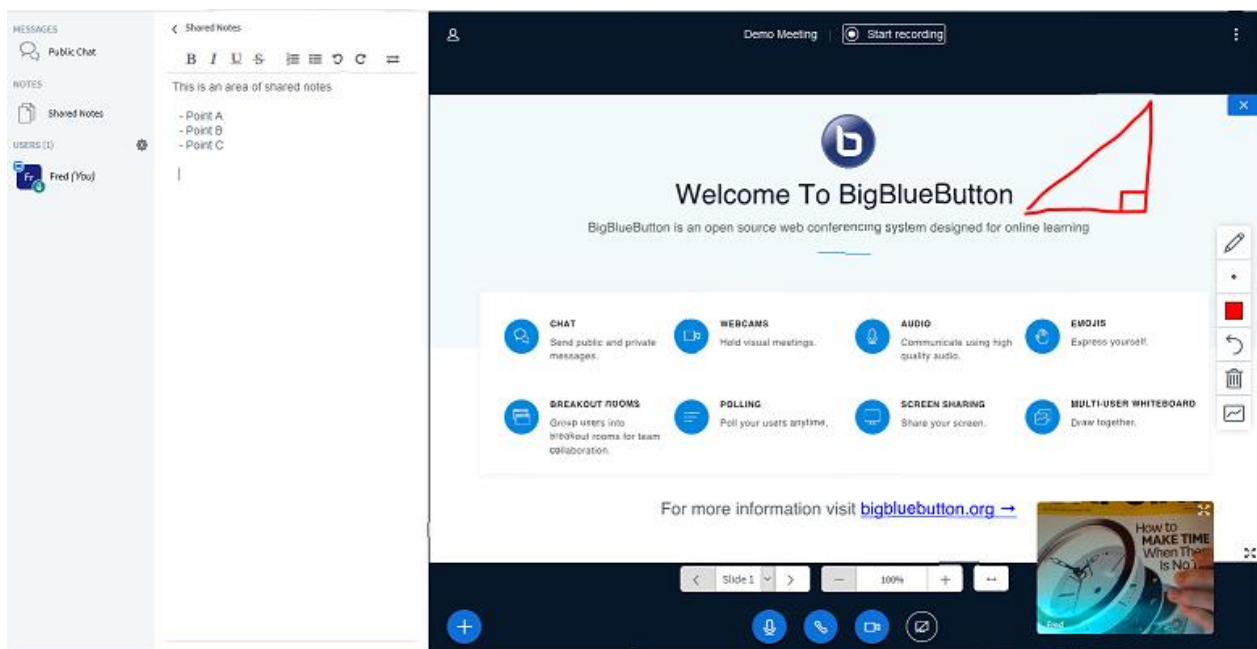
This was one of the platforms that was availed to educational institutions as a complimentary at the beginning of the pandemic. ICT Center conducted training to staff and students on its utilization for video conferencing, online meetings, screen share, and webinars. It proved extremely invaluable for lecturers who had large classes and units who hosted webinars.



*Figure 25: Cisco Webex interface*

## Big Blue Button Virtual Classroom and video conferencing suite

BigBlueButton is one of the software web conferencing systems that was availed by KENET (Kenya Educational Network) to educational institutions. It was utilized for online teaching and learning.



*Figure 26: Big Blue Button interface*

Further, ICT Center expanded the Local Area Network (LAN) and WIFI within all the campuses, trained staff and students on various online platforms and provided support to users across the University.

### ***Live streaming of the VC addresses and Events***

During the entire Covid period, The Vice-Chancellor, Prof. Stephen Kiama, gave various virtual addresses to the University of Nairobi community.

The live addresses were aired live and could be followed through the following channels:

1. The VC website: <https://vc.uonbi.ac.ke/live>.
2. The UoN YouTube channel
3. The UoN Facebook Channel

Further, the communications team trended the addresses on twitter



## Website

All the VC addresses are available on the Vice Chancellors website, as appears on the screenshot below. Follow the VC website on <https://vc.uonbi.ac.ke>

7 AUG 2020	VCs Address to UoN Community on 7th August 2020
24 JUL 2020	VCs Address to UoN Community on 24th July 2020
10 JUL 2020	VCs Address to UoN Community on 10th July 2020
26 JUN 2020	VCs Address to UoN Community on 26th June 2020
29 MAY 2020	VCs Remarks During the Confucius Institute Handing Over Ceremony

*A listing of the VC addresses on the website*

All the VC's Addresses remain on the University YouTube Channel



Share Content



*Screenshot of one of the VC Addresses*

### ***Upgrade of the Data Center***

The University ICT Data Center has undergone a major upgrade transforming it into a Tier 3 Datacenter. A datacenter is a centralized cluster of computing and networking equipment that stores and processes business-critical information for an enterprise in one physical location.

It previously was one huge room which housed mainframe computers which were massive room sized computers that processed and stored enormous amounts of data.

The upgrade was as a result of the University's ICT infrastructure and resources which have grown tremendously over the last decade to cover all campuses and extra-mural centres.

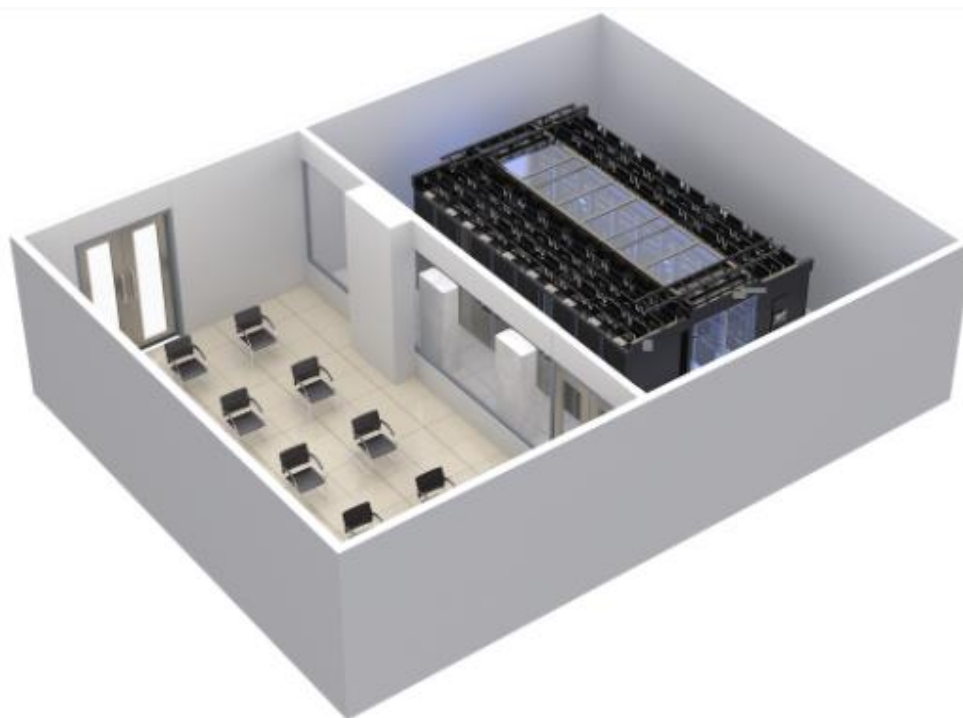
The university has continued to enhance its ICT infrastructure to meet the growing demand and ensure that information is processed and made accessible to all relevant stakeholders using the most effective means.

Among the enhancements are, remodeling of the Data Centre into an Educational Data Centre (EDC) that will not only ensure capacity, availability and security of computing

resources, but will also confirm the University of Nairobi's lead position by creating an EDC that will be a center of excellence in training on Data Centre technologies.

This is a step forward in achieving a data driven management reforms.

The datacenter upgrade comes in handy when the world has greatly shifted to technology in almost all fields including research, teaching and learning.



*Figure: A 3-D impression of partition 1 and 2 of upgraded Data Center*

### ***Online teaching, learning and examinations***

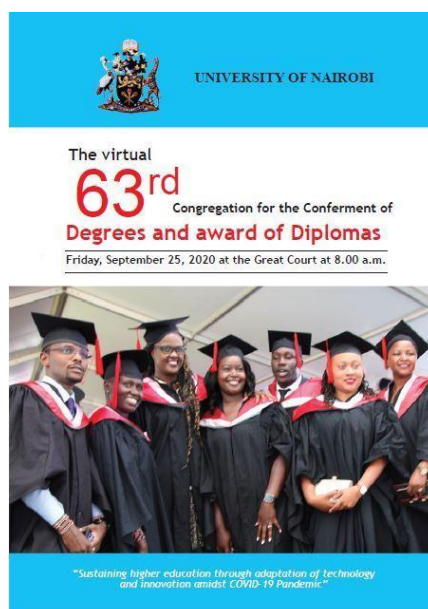
During the COVID-19 pandemic period, ICT Center facilitated the University to continue to undertake its core mandate of teaching and learning online. To do this, ICT Center

- Prepared online training schedules for colleges and undertook a very comprehensive online training programme to all University staff and students;
- Effectively provided online technical support to users during online training programmes;
- Effectively supported university wide events that depended on ICT technologies such as conferences, events and public lectures e.g. the Ajira Digital Program which was held for the first time in the Kisumu campus and lasted for a whole month; Nairobi Research Week; Annual Engineering Conference; Graduation among others

- Trained all staff on the deployment of the new Staff Performance Appraisal System (USPAS)

### ***Virtual events***

#### ***Virtual 63<sup>rd</sup> and 64<sup>th</sup> Graduation ceremonies***



For the first time, the University held graduations online. The 63<sup>rd</sup> and 64<sup>th</sup> graduation ceremonies were held virtually on September 25, 2020 & Friday, December 11, 2020, for all qualified graduands for PhDs, Masters, Bachelors, Diplomas and fellowships.

The graduations were streamed live and more than 2800 students followed their graduation online. The graduands were invited to participate in the graduations via Microsoft teams.

The online graduations also presented a platform for the University to collaborate with news rooms for live coverage of the ceremonies.

The events were also

Platform	Link
University of Nairobi website	<a href="https://uonbi.ac.ke/livestream">https://uonbi.ac.ke/livestream</a>
University of Nairobi YouTube channel	<a href="https://www.youtube.com/user/UniverstiyofNairobi">https://www.youtube.com/user/UniverstiyofNairobi</a>
University of Nairobi Facebook page	<a href="https://www.facebook.com/uonbi.ac.ke/">https://www.facebook.com/uonbi.ac.ke/</a>
KTN Home	TV station

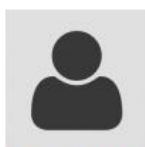
Standard Group Twitter handles	<a href="#">@StandardKenya</a> <a href="#">@ktnhome</a>
Switch TV	TV station

### Graduands Website profiles

All the profiles of the graduands were captured on the respective school website, with a feature on the corporate website. The PhD profiles highlighted the thesis and the supervisor.

College: COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

#### DOCTOR OF PHILOSOPHY DEGREE IN AFRICAN WOMEN STUDIES



CARTER, FABU PHILLIS

#### DOCTOR OF PHILOSOPHY IN ECONOMICS



OCHENGE, ROGERS ONDIBA



Njeru Grace Nyaguthii

#### DOCTOR OF PHILOSOPHY DEGREE IN BUSINESS ADMINISTRATION



NDUNG'U, CONSOLATA WANGARI



Nicodemus Mokaya Oriku



Mati Alexander

#### DOCTOR OF PHILOSOPHY IN KISWAHILI STUDIES

### Social media

#### Twitter

There was a comprehensive coverage of the event on twitter. The UoN web team trended at number one with the hashtag #uongraduation.

### UNSA 2020 ELECTIONS

The ICT-Centre successfully offered technical support on the UNSA 2020 virtual election process that took place on 18th November, 2020 and followed by a virtual swearing in on 19th November, 2020.



### *UNSA 2020 Online Elections*

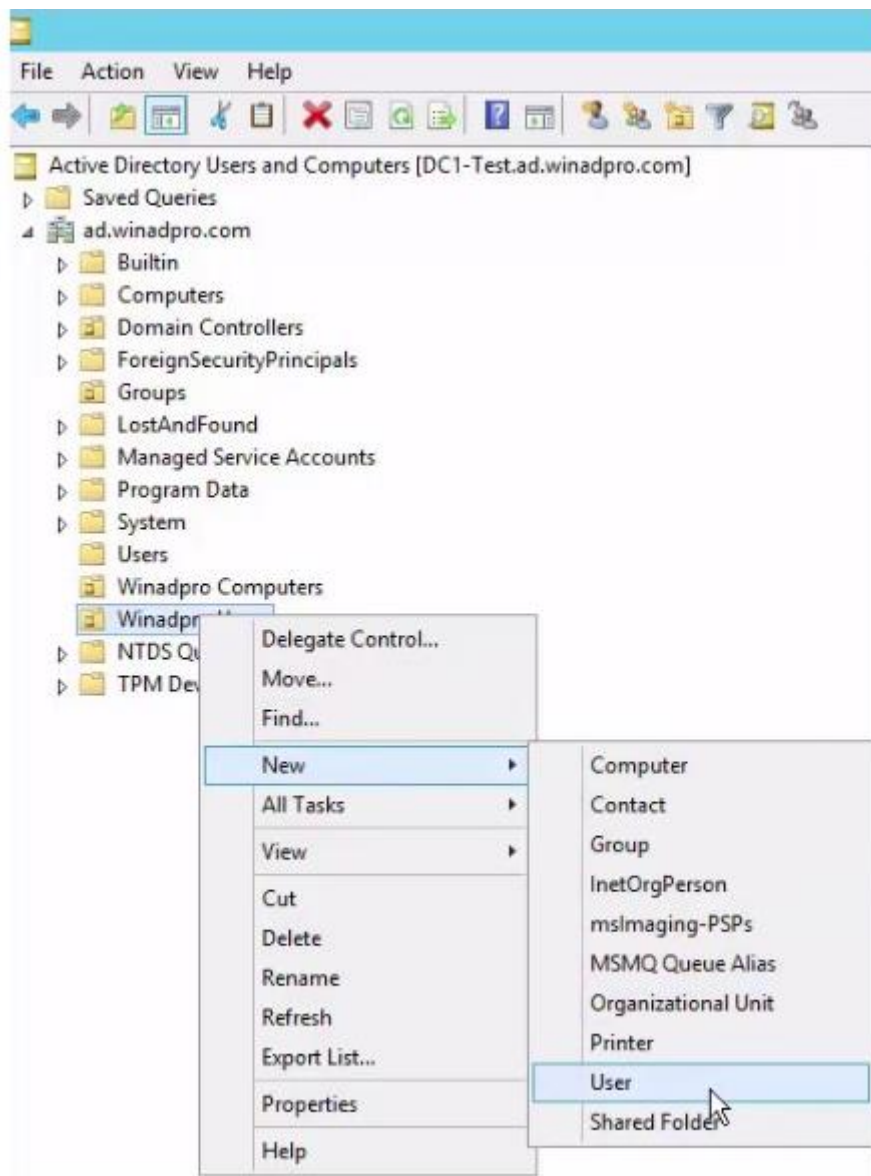
#### **Onboarding Staff and Students to utilize ICT services**

With the challenges brought about by the COVID-19 pandemic, the members of staff were expected to carry on providing services online and the students were also expected to proceed with learning virtually. ICT Center was therefore tasked to come up with systems and means to actualize the above.

Identity and access management was enhanced by creation of AD accounts for all active students and staff to enable them access ICT services. Majority of the staff and students were facilitated with data and/voice bundles to facilitate online teaching and learning.

The number of students who currently have active email accounts has grown tremendously compared to the period before the COVID\_19 pandemic outbreak.





*Figure: New Active Directory Accounts Creation*

### **Cost Savings on communication**

Before the implementation of the Safaricom Postpaid plan in August 2020, the University was spending about Ksh. 1.293M monthly on airtime claims. From August 2020 to January 2021, the University has saved Ksh. 4.589M for the six months compared to the time when staff were claiming refund on airtime.

### ***Virtual Research Week 2020***

Research Week is an annual event hosted by the University of Nairobi every year in October and featured 13 different conferences covering a diverse range of academic disciplines.

Due to COVID-19 pandemic, in 2020 the 3<sup>rd</sup> research week was held virtually on the Microsoft Teams platform from October 12 -16<sup>th</sup> 2020.

Microsoft Teams provided a platform for the participants to interact virtually. ICT staff were at the forefront in facilitating the process for the online conference proceedings by training staff and presenters on how to use the Microsoft Teams platform and by providing the necessary support during the conference proceedings and the social media team in advertising the events on social media platforms.

The virtual Research Week attracted an impressive 745 paid global participants from academia, government, and industry, 347 presentations, and 40 plus keynote speakers from all over the world.

### ***ONLINE PC EVALUATION***

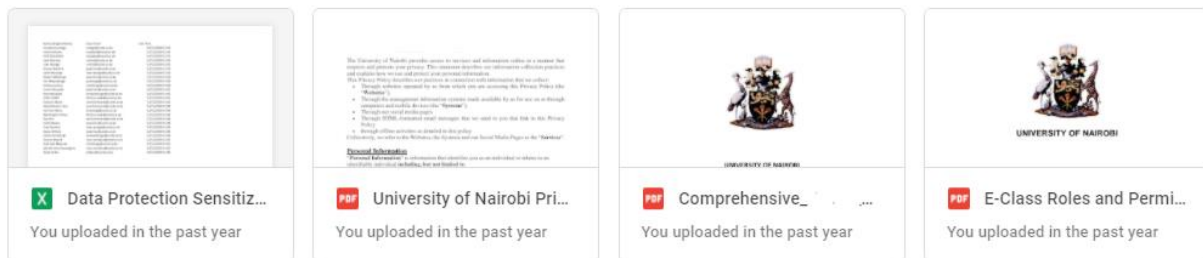
The Covid-19 pandemic necessitated a Digital transformation in many sectors, the University included. Previously, the Performance contracting process was a highly manual process with a lot of paperwork and files for each of the targets in all the departments as well as the evidence.

The ICT Center spearheaded and recommended to the PC secretariat the utilization of shared storage on Google Drive to submit the evidence. The PC secretariat was then able to evaluate the evidence.

This move has enabled the University to save on the cost of printing paper and printer cartridges, as well as improving on efficiency of the human workforce by reduction of manual tasks such as the printing and delivering of manual files to the PC secretariat.



## Quick Access



## Folders

Name ↑



*Figure: Online PC Evaluation*

### ***Information Security Management System (ISMS) Institutionalization***

The Government of Kenya requires the University of Nairobi to establish an Information Security Management System (ISMS) as per the corporate Performance Contract.

The University achieved this target through the ICT Centre whose mandate it is to guarantee the security of ICT resources and the safety of people working in ICT environments.

ISMS is a set of International policies and procedures for systematically managing the University's sensitive data. It is based on ISO 27001:2018. The goal of the ISMS is to minimize risk and ensure business continuity by pro-actively limiting the impact of a security breach. In 2020, ICT Center achieved the following:

1. Development of the ICT Risk Policy
2. Adoption and operationalization of the ICT Risk Management Framework
3. Creation of ICT Risk Registers
4. Continuous audit and monitoring of University systems to prevent security breaches
5. ISMS Leader at the management level and ISMS champions were appointed in all the campuses
6. Staff sensitized on secure means of interaction in the Cyberspace



*Figure: ISMS Components*

## RE-ENGINEERED HUMAN RESOURCE MANAGEMENT INFORMATION SYSTEM (HRMIS)



# Welcome!

Human Resource Management Information System.

Kindly login to access the System.

Login Page

*Figure: HRMIS Login Page*

To support the various online administrative activities, there were several features on the HRMIS that were added and others enhanced.

Key activities included:

	System	Activity
a	Personnel and payroll	Implemented the re-engineered payroll and personnel
b	university AIE	Developed and implemented university AIE
c	Grants AIE	developed grants AIE

d	online payment integration	Implemented the Host to Host Salary payment
e	Integrations to Re-engineered HRMIS	ESTMIS,ALMIS,CSMIS,UHS CLAIMS
f	re-engineering SMA	Enhancing SMA to cater for contract staff

### **Automated A.I.E.**

The Automated A.I.E. has provided a platform for users across the University to apply for authority to incur expenses online. Users upload necessary supporting documents online, approvals are done online and applicants of the A.I.E. track the progress of their documents online.

### **Online payment integration**

In the year 2020, ICTC developed and implemented the Host to Host ABSA-UoN online payment module. The module enabled the University to make online salary processing and payments.

### **Developed and implemented the Grants A.I.E.**

The automated Grants A.I.E. enables researchers to apply for research grants online, track progress of their grant funds applications and monitor their grant votes.

### **Targeted Communication Management Information System**

The targeted communication tool that provides for specific messages to be sent to students and staff either via email, sms or using both channels.

### **other systems/modules that were enhanced include**

	<b>System</b>	<b>Activity</b>
a	AIE Integration to FIMS	Designed, Developed and implemented an integrator between the AIE system developed in-house and Sage ACCPAC that was procured
b	H2H online payments integration with ABSA- Other payments	Designed, Developed and implemented Host-Host payments of suppliers from Sage ACCPAC to the bank
c	KAVI - ICR migration to ACCPAC	Restructuring chart of accounts and configuring Sage to accommodate the same
d	Sage Support	Continues support of the system users

### **System of Websites**

<b>System of Websites</b>	<b>Activity</b>
---------------------------	-----------------

Graduands online profiles	Uploaded profiles for the 64th Online graduation - December 2020
Graduands online profiles	Uploaded profiles for the 63rd Online graduation - September 2020
UoN@50	Supported the publication of the UoN@50 celebrations and awards across the university websites.
Livestream of VC addresses and Events (Research Week)	Enabled functionality on corporate sites
CMS updates	Performed CMS updates for all academic websites

#### 4.8 Implementation of online Help Desks

ICT created an online support emails for the respective Faculty/School or Department on the Helpdesk system. Students were able to use the preferred email as enlisted to reach out to the respective colleges for assistance with regards to academic issues such as links for online classes/special exams/missing units/course registration/colliding classes/timetables. These support emails are listed on the University website:-<https://www.uonbi.ac.ke/support-emails>.

The helpdesk online system has helped tremendously during the Covid-19 pandemic in 2020 by reducing the need to walk physically to the ICT offices in the various campuses.

The screenshot displays the 'RT for uon-ict-helpdesk' interface. On the left is a navigation menu with links: Homepage, Simple Search, Tickets, Tools, Preferences, and Approval. The main header area includes 'RT at a glance' and a 'New ticket in' button. Below the header, there are sections for '10 highest priority tickets I own' and '10 newest unowned tickets'. The '10 newest unowned tickets' section contains a table with the following data:

#	Subject	Queue	Status	Created	Action
381997	(No subject)	General	new	2 min ago	Take
381995	Help in Recovery of my password	activedirectory	new	3 min ago	Take
381996	Help in Recovery of my password	activedirectory	new	3 min ago	Take
381994	QUERY WITH MY TELKOM LINE	General	new	3 min ago	Take
381993	AD activation	STUDENTS	new	6 min ago	Take
381991	Replacement of my Telkom line	General	new	7 min ago	Take
381989	Telkom line	General	new	8 min ago	Take

Below the table is a 'Bookmarked Tickets' section. On the right side of the interface, there are buttons for 'Reminders', 'Quick search', 'Dashboards', and 'Refresh'. At the bottom right, it says 'Predefined search too'.

Figure: Online Helpdesk Interface

## Online Helpdesk services contacts

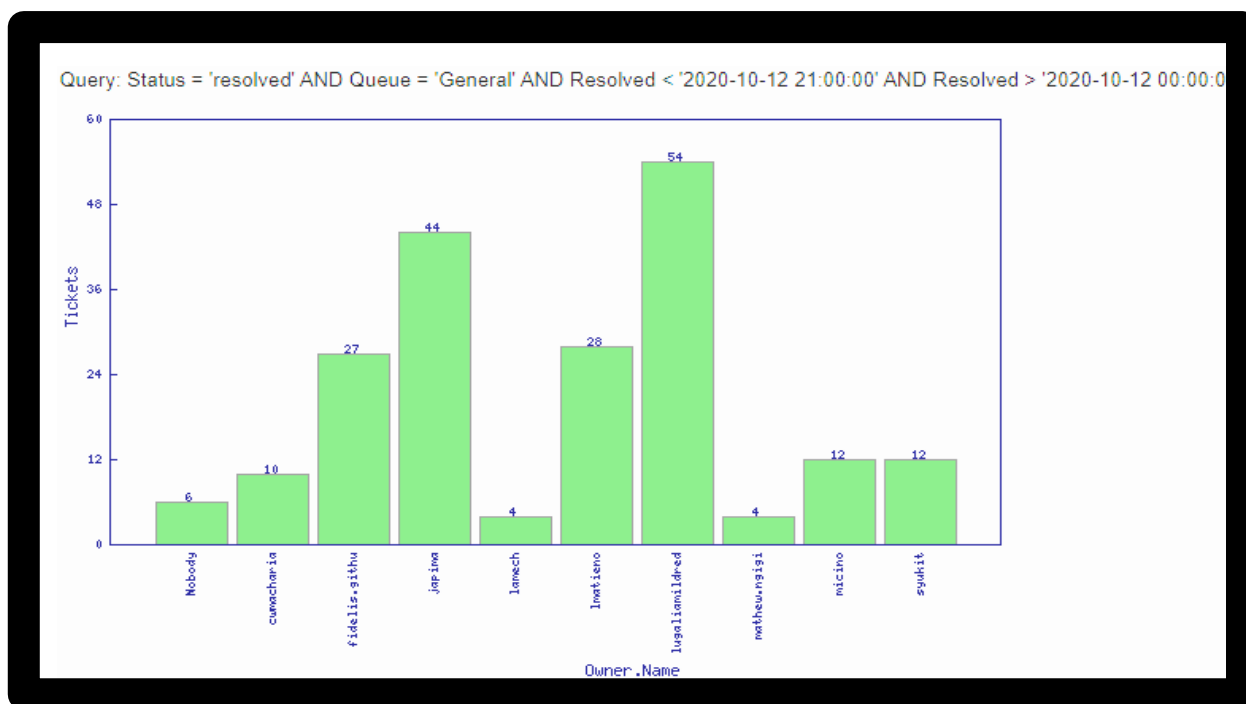
College	Faculty/School/Dept	Help Desk Email
<u>College of Architecture and Engineering</u>	School of Build Environment	sbehhelp@uonbi.ac.ke
	School of Engineering	soehelp@uonbi.ac.ke
	Institute of Nuclear Science	inshelp@uonbi.ac.ke
	School of Arts and Design	stadhelp@uonbi.ac.ke
<u>College of Agriculture and Veterinary Sciences</u>	Faculty of Agriculture	agrichelp@uonbi.ac.ke
	Faculty of Vet Med.	vethelp@uonbi.ac.ke
	Wangari Maathai Institute	wmihelp@uonbi.ac.ke
<u>College of Biological and Physical Sciences</u>	School of Biological Sciences	sbshelp@uonbi.ac.ke
	School of Computing	scihelp@uonbi.ac.ke
	School of Mathematics	somhelp@uonbi.ac.ke
	Institute of Climate Change Adaptation	iccahelp@uonbi.ac.ke
	Centre for Biotechnology and Bioinformatics	cebibhelp@uonbi.ac.ke
	School of Physical Sciences	spshelp@uonbi.ac.ke
<u>College of Education and External Studies</u>	School of Education	soedhelp@uonbi.ac.ke
<u>College of Health Sciences</u>	Dental School	dentalhelp@uonbi.ac.ke
	School of Medicine	medicinehelp@uonbi.ac.ke
	School of Nursing	nursinghelp@uonbi.ac.ke
	School of Pharmacy	pharmacyhelp@uonbi.ac.ke
	School of Public Health	sphhelp@uonbi.ac.ke
	UNITID	unitidhelp@uonbi.ac.ke
	KAVI	kavihelp@uonbi.ac.ke
	EAKI	eakihelp@uonbi.ac.ke
<u>College of Humanities and Social Sciences</u>	Faculty of Arts	foahelp@uonbi.ac.ke
	Anthropology	iagashelp@uonbi.ac.ke
	Diplomacy	idishelp@uonbi.ac.ke

	School of Business	bushelp@uonbi.ac.ke
	School of Economics	econhelp@uonbi.ac.ke
	School of Journalism	sojhelp@uonbi.ac.ke
	School of Law	solhelp@uonbi.ac.ke
<u>Kenya Science Campus</u>	Academic Coordination and Administration	kschelp@uonbi.ac.ke
<u>Kisumu Campus</u>	Kisumu Schools' Administration	ksmadminhelp@uonbi.ac.ke
<u>ODEL Campus</u>	ODEL Campus	odelhelp@uonbi.ac.ke
<u>Mombasa Campus</u>	Mombasa campus	msahelp@uonbi.ac.ke

### General Service Emails

Service	Email Address
<u>Undergraduate Admissions</u>	<u>admissions@uonbi.ac.ke</u>
<u>Graduate Admissions</u>	<u>gs@uonbi.ac.ke</u>
Telkom Data Bundle Issues	<u>customercare@uonbi.ac.ke</u>
School Fees issues	<u>studentfinance@uonbi.a</u>

### Graphical representation on the number of Tickets on the helpdesk System



### **Automated A.I.E. System**

During the COVID-19 period, the University endeavored to ensure it met its financial obligations through the development and implementation of the Online A.I.E. that enables users to application, processing and follow up of funds processing online.

Researchers too were not left behind as the Online Grants A.I.E. was also developed that enabled provides researchers a platform to monitor their research grants activities online.

### ***Huawei ICT Academy***

In the digital era, ICT, a leading industry in the digital economy faces great challenges in optimizing its industrial structure and accelerating digital transformation. As the industry transforms, the key to maintaining rapid development, seizing opportunities, and making progress in the new era is treating talent as the industry's most important resource. Consequently, the university through the ICT Center partnered with Huawei and launched the UoN ICT Center Huawei ICT Academy which offers multi-dimensional solutions addressing talent ecosystem pain points. There have been numerous achievements in the year 2020 achieved by the University of Nairobi through this cooperation as outlined below.

### **2020 Excellent Global Talent Ecosystem Partner**



*Figure: Vice Chancellor, Prof. Stephen Kiama giving a speech at the virtual Huawei Connect Event*

Out of numerous Universities globally, the University of Nairobi was recognized as a ‘**2020 Excellent Global Talent Ecosystem Partner**’ and was awarded on **22<sup>nd</sup> September 2020** at Huawei Connect Event

This outstanding performance was realized as a result of the UoN ICT Center Huawei ICT Academy active collaboration with Huawei to develop ICT Talent.

### **HCIA Cloud Computing Learn-On Program**



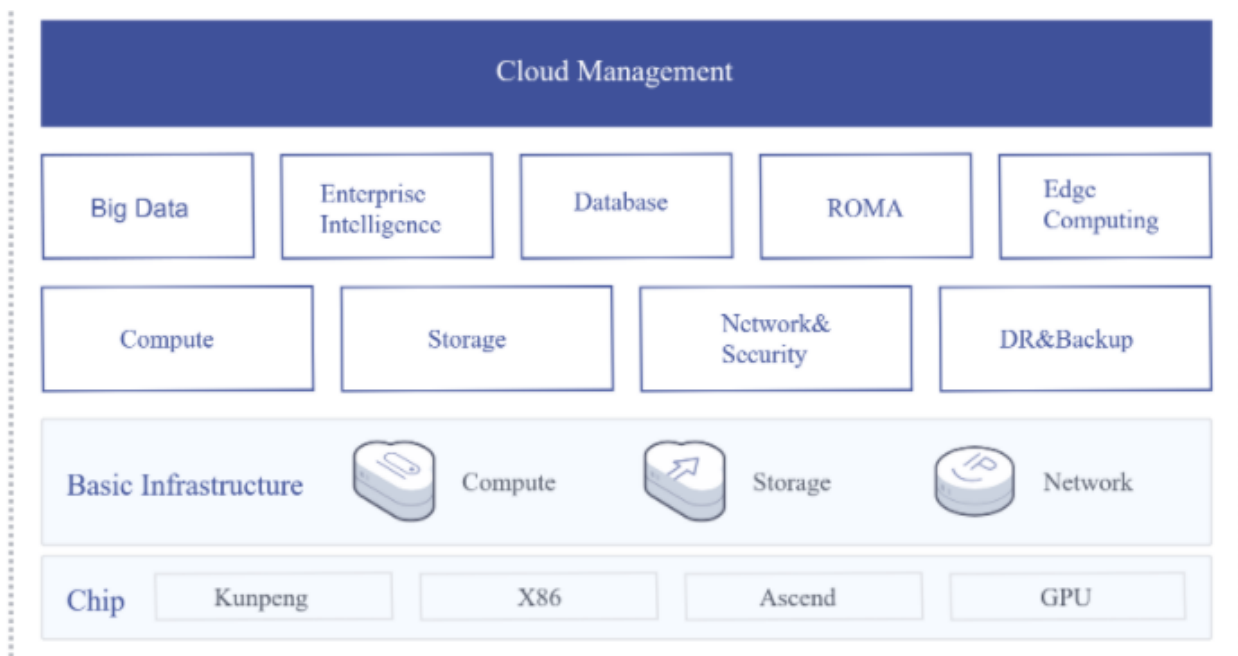
*Figure: LearnOn Program*



UoN's Huawei's ICT Academy offered the Huawei Certified Information Associate (HCIA) Cloud Computing track online (Live Training + E-Learning) for students. This is a capacity building program targeting students in STEM fields. They were trained by one of the ICT Center certified Huawei Academy Instructors, Ms Janet Maranga.

The course entailed equipping the students with skills in virtualization which an entry-level technology for cloud is computing. This course introduced the knowledge of computing, networking, and storage related to virtualization, and introduced the features of virtualization so that the students can quickly understand the field of cloud computing.

This was done to motivate and support our students to keep upskilling during the COVID-19 period. The students were sponsored by Huawei Kenya with 15GB worth of Safaricom data bundles and an exam voucher and they also received Telkom sponsored bundles by the University of Nairobi to facilitate them to attend the online classes and take their certification exams. Most of the students passed their certification exams and are now certified Cloud architects.



*Figure: HCIA Cloud Computing Curriculum*



Maluki is congratulated by the Vice-Chancellor

*From right: Mr. J. Kinyua, Dean of Students; Prof. S.G. Kiama, Vice-Chancellor, UoN; Mr. Maluki Muthusi, 2020 Excellent Global Talent winner; Mr. G. Ndegwa, trainer, Huawei Academy, ICT Center*

*Figure: University of Nairobi Huawei Campus Ambassador among world's best*

Kenyan students, among them the University of Nairobi Huawei Campus Ambassador, Maluki Muthusi emerged among the World's best taking top prizes at an online awards ceremony of the Huawei ICT Competition Global Final held in 2020. Maluki was among Kenyans who shared the First Prize in the Network Track.

The ICT Competition is highly practical and enabled the student to get practical skills and knowledge in the field of Networking. The programme also enables participants to develop

their team work skills. He was mentored by one of the ICT Center certified Huawei Academy Instructors, Mr. George Karimi Ndegwa.

The achievement was made possible by ICT Centre's continued efforts to build a competitive ICT talent pool among the youth, who will be an indispensable accelerator for the continent's post-COVID recovery and digitization.

The ICT Competition has also diversified to include an Innovation Competition that enables students at University to develop innovative solutions towards solving existing global challenges. The innovation competition focuses on the Internet of Things (IoT), Artificial Intelligence (AI) & Cloud technologies.



*Figure: Maluku Muthusi receiving the award*





# New Data Protection act

## *Kenya Data Protection Act, 2019*



### **Data Privacy and Data Protection Act 2019 Implementation**

The Kenya Data Protection Act came into force on 25th November 2019 and its aim was to harmonize data privacy in Kenya.

The primary objective of the Act is to

- a) Give effect to the right of privacy as provided for in Article 31(c) and (d) of the Constitution, by setting out the requirements for the protection of personal data processed by both public and private entities.
- b) Article 31 guarantees every person the right to privacy which includes the right not to have information relating to their family or private affairs unnecessarily required or revealed, or
- c) The privacy of their communications infringed.
- d) According to Section 18, no person shall act as a data controller or data processor unless registered with the Data Commissioner.

Privacy laws are more relevant today than ever before. With data crossing borders following the increased internet penetration and increased use of social media and other digital information platforms, it is becoming more important to ensure that personal data is protected, processed and used for the correct purpose.

#### ***4.12 Data Protection Sensitization***



The ICT Center began laying the groundwork for compliance to the Kenya Data protection Act 2019 at the University. Training and sensitization of staff was also rolled out so that staff were made aware and were compliant with the new law.

## **PROJECTIONS**

## **Challenges**

With limited funding to the University from the government, the user support services and maintenance section faces and not limited to the following challenges;

- Low funding to implement ICT related projects
- Lack of enough support personnel to adequately support users in Campuses.
- Slow procurement processes resulting to poor service and low confidence of users
- Rapid technological changes and virus attacks
- Lack of hardware replacement policy leading to several old and unserviceable computers that break down frequently
- Frequent power interruptions that affects and damages ICT equipment
- Conflict of Interest for ICT related tasks from other departments

### 3.1.1 *Internships/attachments*

At the beginning of 2020, ICT Centre got Three (3) interns from the Public Service Commission and Five (5) students on attachment. The internship and attachment programme provides a platform to mentor young graduates and students while exposing to ICT technologies and work environment.

NO.	NAME	DURATION	INSTITUTION	PROGRAMME OF STUDY
		<b>Public Service Commission Internships</b>		
1.	Mr. Biwott Cosmas kibeti	1 Year	Moi University	Applied Statistics with Computing
2.	Mr. Njoroge Timothy Mburu	1 Year	Mt. Kenya University	Business Information Technology
3.	Ms. Kathenya Rael Kathuure	1 Year	Meru University	Business Information Technology
4.	Mr. Andrew Kiptoo	1 Year		
5.	Mr. Dennis Ngali	1 Year	JKUAT	Diploma in IT
		<b>ATTACHMENTS</b>		
1.	Stephen Warui Thuku	3 Months	Zetech University	Diploma in Computer
2.	Benuel Mogonchi Nyakundi	3 Months		CCNA 1 & 2
3.	Josephine Jackson	3 Months	KIM	Diploma in Business Management
4.	Brenda Kerubo Ojwang'	3 Months	St. Paul's University	BBIT
5.	Joash Barasa Khaemba	3 Months	Kibabii University	BSc Computer Science



### 3.1.2 *Webometrics Ranking*

Since 2004, the Ranking Web (or Webometrics Ranking) is published twice a year (data is collected during the first weeks of January and July for being public at the end of both months), covering more than 28,000 Higher Education Institutions worldwide.

Data is collected between 1 and 20 of January or July, depending on the edition. Each variable is obtained at least two times during that period and the maximum value is chosen for discarding mistakes or errors. Volatility of search engines is very high, so figures can be different and not easily replicated if the search is performed days later. Google info is very geographically biased, so for this ranking, the data is collected using google.com mirror domain, English as language of the interface and Madrid (Spain) as location.

Final publication is done about LATE January or July.

#### **JULY 2020 RANKING**

University of Nairobi ranked top in East Africa, 10 in Africa and 956 globally, improving one position in Africa and 62 positions globally. Table 2 below is the analysis of the ranking in comparison to the other years.

Ranking	Africa Rank	World Rank	WORLD POSITION			
			PRESENC E	IMPACT	OPENNESS	EXCELLEN CE
Jan-09	29	4,046	3,069	5,413	3,851	3,839
Jul-09	24	4,467	2,490	7,001	4,327	3,711
Jan-10	28	3,897	3,136	4,679	4,363	4,104
Jul-10	26	3,190	1,905	4,119	3,447	3,809
Jan-11	27	3,136	1,976	4,335	3,310	4,382

Jul-11	26	2,452	2,045	4,215	4,942	1,706
Jan-12	17	1,367	631	1,794	2,761	1,724
Jul-12	14	1,435	839	2,010	4,057	1,342
Jan-13	12	1,326	1,528	2,981	950	1,346
Jul-13	14	1,624	619	2,883	1,119	1,323
Jan-14	9	1,167	1828	1,898	774	1,329
Jul-14	9	907	1109	2,225	44	1,403
Jan-15	7	855	330	2,579	29	1,400
Jul-15	7	923	198	1,666	267	1,448
Jan-16	6	697	279	547	229	1,447
Jul-16	8	765	59	546	959	1520
Jan-17	8	775	11	785	910	1513
Jul-17			NR	NR		
Jan-18	7	874	4	726	985	1535
Jul-18	8	850	42	652	1074	1569
Jan-19	9	990	261	839	1216	1576
Jul-19	10	1,031	578	1,028	881	1,607
Jan-20	11	1,018	155	1,127	854	1,606
Jul-20	10	956	198	1,075	749	1,602

Table 2: Analysis of Ranking from January 2009 to July 2020

## Staff Establishment and Qualifications

S/N o.	Name	Designation	Highest Qualification attained
1.	Mr. Paul Ndungu Kariuki <b>(passport size photo)</b>	Ag. Director	M.Sc. Computer Science
2.	Dr. Frederick Omondi Adero <b>(passport size photo)</b>	Deputy Director (Communications)	Ph.D. Computer & Communication Networks
3.	Dr. Caroline Chepkoech Kiptoo <b>(passport size photo)</b>	Acting Deputy Director (MIS) & Project Leader (MIS)	Ph.D.
4.	Mr. Joram Nduati Kinuthia <b>(passport size photo)</b>	Acting Deputy Director (Network Infrastructure Systems)	M.Sc. Computer Science
5.	Mr. Joseph K. Muchina <b>(passport size photo)</b>	Deputy Director (User Support Services & Maintenance)	M.Sc. Computer Science
<b>Director's Office</b>			
6.	Ms. Susan Wanjiru Muchina	Snr. Administrative Assistant	B.Sc. Public Relations & Communications
7.	Mrs. Lilian P Muraguri	Senior Asst. Executive Secretary	Bachelor of Arts
8.	Ms. Anne Murambi	Secretary	B.A in Sociology and Communication
9.	Mr. Daniel Kariuki Muriuki	Senior ICT Officer (User Support)	BSc. in Computer Science

10.	Mr. Jared Okachi Obiero	Cleaner	Dip. Computer Studies, Dip. Purchasing & Supplies
11.	Mr. Stephen Nyongesa Ouma	Cleaner	'O' Level
12.	Mr. Peter Waruraya Kimani	Driver	'O' Level
<b>Management Information Services (MIS) section</b>			
<b>❖ Human Resource Management Information Services (HRMIS) team</b>			
13.	Mrs. Jeninah Wanza Lumumba	Project Leader (HRMIS)	M.Sc. Information Systems
14.	Mr. Anthony Githaka Kariuki	Chief ICT Officer (MIS)	M.Sc. Information Technology
15.	Mr. Edwin Stephen Otieno Owino	Chief ICT Officer (MIS)	B.Sc. Computing & Information Sciences
<b>❖ Management Information Systems (MIS)</b>			
16.	Mrs. Josephine W. Mwangi	Project Leader (MIS)	M.Sc. Computer Science
17.	Mr. Joseph Odanga Ambayo	Chief ICT Officer (MIS)	B.Sc. Computer Science
18.	Mr. Lewis Mong'are Kombo	Developer (short- term contract)	BSC. in Information Technology
19.	Mr. Francis Mutisya Muli	Chief ICT Officer (MIS)	M.Sc. Applied Computing
20.	Miss. Alice Wanjiru Ngigi	Senior ICT Officer (MIS)	Diploma Information Technology
<b>❖ Students Management Information Systems (SMIS)</b>			
21.	Ms. Julianne Akinyi Anyim	Project Leader (SMIS)	M.Sc. Computer Science
22.	Mr. Patrick Githaiga Maina	Chief ICT Officer (MIS)	B.Sc. Information Technology
23.	Mr. Benard Nzyoka Mutisya	Chief ICT Officer (MIS)	M.Sc. Applied Computing

24.	Mr. Rufusy Idachi	Developer (short-term contract)	B.Sc. Microprocessor Technology and Instrumentation
25.	Mr. Benjamin Nyamai Kimele	Senior ICT Officer (MIS)	Higher Diploma
<b>❖ Financial Information Management System (FIMS)</b>			
26.	Mr. David Gichuru Chege	Project Leader (FIMS)	MSc. Information Systems
27.	Ms. Esther Wanjiru Ndung'u	Chief ICT Officer	BSc. in Information Technology
28.	Mr. Aaron Odanga Olale	Chief ICT Officer	BSc. in Information Technology
29.	Mr. Josephat Rurii Mbogoh	Chief ICT Officer	BSc. Computer Information Systems
<b>❖ Website System</b>			
30.	Ms. Ruth Nthenya Wambua	Project Leader (Websites)	M.Sc. Computer Science
<b>• Central Administration websites</b>			
31.	Mr. David Wekesa Masika	Chief ICT Officer (Web Administration)	M.Sc. Applied Computing
32.	Mr. Festus Kirui	ICT Officer, Website Support	B.Sc. Information Technology
<b>• CAE Website</b>			
33.	Mr. Samuel Loki Mbai	Chief ICT Officer, Web Administration	B.Sc. Computer Science
<b>• CHSS Website</b>			
34.	Mr. Peter Oluoch Buolo	Chief ICT Officer Web Administration Officer	M.Sc. Computer Science
35.	Mr. Dennis Safari Waema	ICT Officer, Website Support	MSc Information Technology Management

● <b>CHS Website</b>			
36.	Ms. Mary Segeyian Nkere	Chief ICT Officer, Web Administration	BSc. Information Technology
37.	Mr. Joseph Muita Njuguna	ICT Officer, Website Support	BSc Information Technology
● <b>CBPS/C.E.E.S. Website</b>			
38.	Mr. Titus Gichoni Njeru	Chief ICT Officer, Web Administration	B.Sc. Computer Science
39.	Mr. Gabriel Ambeba Ambuko	ICT Officer, User Support	Higher Diploma
● <b>CAVS Website</b>			
40.	Ms. Trancy Muunda Kasalu	Chief ICT Officer, Web Administration	MBA Information Systems
41.	Mr. Timothy Kinyanjui Miringu	ICT Officer, Website Support	B.Sc. Information Technology
❖ <b>E-Learning</b>			
42.	Mr. Charles Omondi Lwande	Project Leader (E-Learning)	M.Sc. Information Systems
43.	Ms. Jerusha Wambui Kimani	Chief ICT Officer	M.Sc. Computer Science
44.	Ms. Angela Mbula Ndeke	Chief ICT Officer	M.Sc. Computer Science
❖ <b>MIS</b>			
45.	Mrs. Caroline Chebet	Project Leader (MIS)	M.Sc. Information Systems
46.	Mr. George G. Komu	Chief ICT Officer	BSc. in Electrical Engineering
<b>Network Information Services (NIS) section</b>			

<b>❖ Network Infrastructure team</b>			
47.	Mr. Ferdinard Masila Lazarus	Chief ICT Officer	B.Sc. (Mathematics and Computer Science)
48.	Mr. Clifford Gulu Nderi	Chief ICT Officer (NWI)	MBA Information Systems
49.	Mr. George Ndegwa Karimi	Chief ICT Officer (NWI)	M.Sc. Computer Science
50.	Mr. Peter Mate	Chief ICT Officer (User Support)	M.Sc. Physics
51.	Mr. Maurice Mulonzi Mutua	Snr ICT Officer (NWI)	B.Sc. Computer Science
<b>❖ Back-end server administration and support</b>			
52.	Mr. Michael Njoroge Mukiri	Database Administrator	M.Sc. Computer Science
53.	Mr. Peter Kyalo King'oo	Database Administrator	M.Sc. Computer Science
54.	Mr. Martin Fintan Kimani	Chief ICT Officer (Sys Admin.)	M.Sc. Information Technology Management
55.	Mr. Godfrey J. O. Ochola	Chief ICT Officer (Sys Admin.)	M.Sc. Information Technology Management
56.	Ms. Jane Chepng'etich Chelule	Senior ICT Officer	BSC. Information Technology
57.	Ms. Jemminnah Wayua Kiseli	Senior ICT Officer (User Support)	B.A. Business Administration
<b>❖ ICT Security</b>			
58.	Ms. Janet Maranga King'Oina Wesonga	Chief ICT Officer (Security)	M.Sc. Computer Science
<b>User Support and Maintenance Section</b>			
<b>❖ ICT Maintenance</b>			

59.	Dr. Michaelina Almaz Yohannis	ICT Maintenance Manager	Ph.D. Information Systems
60.	Mr. Dancan Maigua Kariuki	Chief ICT Officer (Maintenance)	B.Sc. Distributed Computing Technology
61.	Mr. Mutie Stephen Kyalo	ICT Officer (Maintenance)	M.Sc. Information Communication Technology
<b>❖ ICT User Support Services (Main Campus/CHSS)</b>			
62.	Mr. Abdisalam Aga Tuka	Chief ICT Officer /Officer-In-Charge	BSC in Computer Information Systems
63.	Mr. Geoffrey Kipruto Tanui	Senior ICT Officer	B.Sc. Information Sciences
64.	Mr. Joachim Micino Kimani	Senior ICT Officer	B.Sc. IT
65.	Mr. Peter Juma Omollo	Senior ICT Officer	B.Sc. IT
66.	Mr. Eliud Musumba Ayiro	Senior ICT Officer	Diploma
67.	Ms. Gladys Mumbua Ndolo	ICT Officer	BSc. in Information Technology
68.	Ms. Hellen Waithera Waweru	ICT Officer	Diploma in Information Technology
<b>❖ ICT User Support Services (C.A.V.S.)</b>			
69.	Mr. Nicholas Otieno Owino	Chief ICT Officer /Officer-In-Charge	B.Sc. Computer Science
70.	Mr. Samuel Nandasaba	Senior ICT Officer	B.Sc. Computer Science
71.	Mr. Wycliffe M. Muswii	Senior ICT Officer	M.Sc. Computer Science
72.	Ms. Cherry Tay	Senior ICT Officer	M.A. Management Information Systems
<b>❖ ICT User Support Services (C.A.E)</b>			
73.	Mr. Humphrey Mafwenyi Misigo	ICT Officer/Ag. Officer-In-Charge	Bachelor of Business Information Technology
74.	Miss. Faith Kavisa Mwaka	ICT Officer	B.Sc. Information Science



❖ <b>ICT User Support Services (ADD/UHS)</b>			
75.	Mr. Ndegwa Laban Kamau	Senior ICT Officer/ Ag. Officer-In-Charge	Diploma Electrical and Electronics Engineering
76.	Miss. Mary N Karanja	Senior ICT Officer	Diploma
77.	Ms. Jane Wairimu	Chief ICT Officer	MBA. in Information Systems
❖ <b>ICT User Support Services (C.B.P.S.)</b>			
78.	Ms. Patricia Wanjiku Gitonga	Chief ICT Officer /Officer-In-Charge	Master of Arts
79.	Mr. Tom Syuki Makau	Senior ICT Officer	Diploma
<b>ICT User Support Services (C.E.E.S.)</b>			
80.	Mr. Theophilus Musili Musyoka	Senior ICT Officer/ Ag. Officer-In-Charge	Higher Diploma
81.	Ms. Joyce Gathoni Muchene	Senior ICT Officer (User Support)	M.Sc Information Technology
❖ <b>ICT User Support Services (Kenya Science Campus)</b>			
82.	Mr. Gideon Nyangena Morara	Chief ICT Officer	B.Sc. Electronics
83.	Ms. Anita Wairimu Mureithi	ICT Officer	Diploma in Information Technology
❖ <b>ICT User Support Services (C.H.S.)</b>			
84.	Ms. Hada Achieng' Oketch	Chief ICT Officer /Officer-In-Charge	M.A. Information Systems
85.	Mr. Edwin Thuku Wahome	Senior ICT Officer	B.Sc. IT
86.	Ms. Laureen Emily Amateshe	ICT Officer	B.Sc. Computer Science
87.	Ms. Evelyne Adhiambo Ojal	ICT Officer	B.Sc. Information Technology

<b>❖ Parklands Campus</b>			
88.	Mr. Paul Kaloki Mulonzya	Chief ICT Officer /Officer-In-Charge	M.Sc. Computer Science
89.	Mr. George Henry Onyango Ogola	ICT Officer (User Support)	Diploma
<b>❖ Mombasa Campus</b>			
90.	Mr. Simon Nderitu Mwangi	Senior ICT Officer /Officer-In-Charge	BSc.
91.	Mr. Nicholas Akomo Odhiambo	ICT Officer (User Support)	B.Sc. Computer Science
<b>❖ Kisumu Campus</b>			
92.	Mr. Michael M. Mboya	Senior ICT Officer /Officer-In-Charge	B.Sc. IT
93.	Miss. Margaret Atieno Lumumba	ICT Officer (User Support)	Diploma in Information Technology
94.	Mr. Lamech Bob Ogola	ICT Officer (User Support)	BSc. in Informatics
<b>❖ Lower Kabete Campus</b>			
95.	Mr. Isaac Wasonga Owino	Senior ICT Officer /Officer-In-Charge	BSc in Networks and Communication Systems
96.	Mr. Mathew Nganga Ngigi	ICT Officer (User Support)	Diploma in Computer repairs and maintenance
<b>ICT Communication</b>			
97.	Mr. Jared Nyambane Onyari	Manager, Communication	M.Sc. Applied Computer Science
98.	Mr. Richard Mutua Musyoka	Senior ICT Officer (Voice services)	BSc in Electrical & Electronic Engineering
99.	Mr. Richard O Agutu	Senior ICT Officer (Tel. Operator)	Diploma (Electrical & Electronics Engineering)

100.	Mr. Christopher Josephat Owino	Senior ICT Officer (MIS)	Higher National Diploma in Electrical and Electronic Engineering
101.	Ms. Catherine Wangari Macharia	ICT Officer (Telephone Operator)	HND(Electrical & Electronics Engineering)
102.	Mr. David Gitau Kagoh	ICT Officer (User Support)	Diploma(Electrical & Electronics Engineering)
103.	Ms. Christine Chemesunde	ICT Officer (Telephone Operator)	Diploma
104.	Ms. Ruth Mbula Ndambuki	ICT Officer (Telephone Operator)	Diploma
105.	Miss. Regina W Kamau	ICT Officer (Telephone Operator)	Diploma
106.	Miss. Ruth Wanjiru Ndarwa	ICT Officer (Telephone Operator)	Diploma
107.	Mrs. Eunice Kariko Maina	ICT Officer (Telephone Operator)	Diploma
108.	Mrs. Evelyn Nyaguthi Macharia	ICT Officer (Telephone Operator)	Diploma
109.	Mrs. Jane Wairimu Ng'ang'a	ICT Officer (Telephone Operator)	Diploma
110.	Ms. Fidelis Wairimu Githu	ICT Officer (Telephone Operator)	Diploma
111.	Ms. Mary Mwihaki Njoroge	ICT Officer (Telephone Operator)	Diploma
112.	Mr. Danson Githinji Maina	ICT Officer (Telephone Operator)	Diploma
113.	Ms. Janet Nyakerario Apima	ICT Officer (Telephone Operator)	Higher National Diploma
114.	Mr. Stephen Nyakundi Bosire	ICT Officer (Telephone Operator)	Diploma

115.	Miss. Janeanne Khachiti	ICT Officer (Telephone Operator)	Higher Diploma
116.	Mrs. Alice Wesonga Patrick	ICT Officer (Telephone Operator)	Diploma
117.	Mrs. Beatrice Naswa Wanyonyi	ICT Officer (Telephone Operator)	Diploma
118.	Ms. Mildred Mutakale Lugalia	ICT Officer (Telephone Operator)	Diploma
119.	Ms. Mary Wanjiku Mbeere	ICT Officer (Telephone Operator)	BSc. In Communications and Public Relations
120.	Miss. Beatrice Aluoch Odera	ICT Officer (Telephone Operator)	Diploma
121.	Ms. Consilia Awuor Ahenda	ICT Officer (Telephone Operator)	Bachelor in Arts in Sociology
122.	Ms. Jane Sino Rajoro	ICT Officer (Telephone Operator)	A level
123.	Ms. Milca Achieng Nyangweso	ICT Officer (Telephone Operator)	Bachelor of Arts
124.	Ms. Susan Awino Odhiambo	ICT Officer (Telephone Operator)	Certificate
125.	Mr. Danson Omondi Ngiela	ICT Officer (Telephone Operator)	Diploma
126.	Miss. Grace N. M'ikigu	ICT Officer (Telephone Operator)	BSc in Counselling Psychology
127.	Mr. Thomas O Akuom	ICT Officer (Telephone Operator)	Diploma in Telephone Operations
<b>Staff on secondment</b>			
128.	Mr. James Lochomin	ICT Officer (User Support)	B.Sc. Computer Science

<b>Staff on study leave</b>			
129.	Mr. Isaac Abdow Hassan	Chief ICT Officer (Communication)	M.Sc(Electrical & Electronics Engineering
130.	Mr. Alex Munyole Luvembe	ICT Officer (User Support)	MSC. Distributed Computing Technology
<b>Staff on leave of absence</b>			
131.	Dr. Otieno		Ph.D.
132.	Mr. David Kiplagat ( <i>leave of absence</i> )	Project Leader (MIS)	M.Sc. Computer Science
133.	Miss. Purity Kemunto Mayaka ( <i>leave of absence</i> )	Chief ICT Officer (MIS)	M.Sc. Computer Science

### **6.1 Transfers to ICT Centre**

The following staff joined ICT Center having been transferred from FIMS and ODeL Campus respectively

1. Mr. David G. Chege
2. Mr. Aaron O. Olale
3. Ms. Esther W. Ndung'u
4. Mr. Josephat Mbogoh
5. Ms. Evelyne A. Odhiambo
6. Ms. Jane C. Chelule
7. Ms. Anita W. Mureiithi
8. Ms. Gladys M. Ndolo
9. Ms. Hellen W. Waweru
10. Mr. Charles O. Lwande
11. Ms. Jerusha W. Kimani
12. Ms. Angela M. Ndeke



## 7.0 PROJECTIONS

*ICT Ten year projection from 2017/2018 up to 2026/2027*

<i>Flagship Projects</i>	<i>Sub Projects</i>	<i>2017/1</i>	<i>2018/</i>	<i>2019/</i>	<i>2020/2</i>	<i>2021/</i>	<i>2022/</i>	<i>2023/</i>	<i>2024/</i>	<i>2025/</i>	<i>2026/</i>	<i>Cost in</i>
		<i>8</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>M.</i>
			<i>9</i>	<i>0</i>		<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	
<i>1. e-Services</i>												
<i>1) Develop an integrated dashboard for decision support</i>	<i>None</i>	<i>5</i>						<i>5</i>				<i>10</i>
<i>2) SMIS 2.0</i>	<i>Online admission system (OAS)</i>	<i>2.5</i>	<i>2.5</i>					<i>5</i>				<i>10</i>
	<i>Integrated front- and back-end</i>		<i>2.5</i>	<i>2.5</i>				<i>5</i>				<i>10</i>
	<i>Universal student portal</i>		<i>2</i>	<i>2</i>	<i>2</i>			<i>5</i>				<i>11</i>

<b>3) Research Management System (RMS)</b>	<i>None</i>				4	4		5				13
<b>4) Integrated enterprise resource and performance management system</b>	<i>Faculty performance management system</i>						3.5	3.5				7
	<i>Performance Management System (PMS)</i>						1.2	1.2	1.2	1.2	1.2	6
	<i>Automation of documents and</i>		20	15	5	5	0.6	0.6	0.6	0.6	0.6	48
	<i>records management</i>											
	<i>Universal staff portal</i>		2	2	2			5				11
<b>5) Library Management Information System 2.0</b>	<i>Revamped e-library with a focus on the user experience and available collections</i>			15	5	5			5			30



	<i>e-repository 2.0</i>	1	1	1	1	1	1	1	1			8
6) e-Presence	<i>Integrated e-presence platform</i>	1.5	1	1	1							4.5
7) IST Productivity & administrative system	<i>Implement collaborative development platform</i>	3	2	2	1	1	1	1	1	1	1	14
	<i>Software licensing</i>	15	15	15	15	15	20	20	25	25	30	195
8) Commercialization of flagship applications	<i>None</i>			5	3	3	3	3	3	3	3	26
<b>Total 1</b>		<u>28</u>	<u>48</u>	<u>60.5</u>	<u>39</u>	<u>34</u>	<u>30.3</u>	<u>60.3</u>	<u>36.8</u>	<u>30.8</u>	<u>35.8</u>	403.5
<b>2. ICT Infrastructure</b>												
	<i>Upgrade existing teaching and learning facility to</i>	4	5	6	5	4	3					27

9) <i>Integrate IST into Teaching and Learning</i>	<i>ICT ready</i>											
	<i>Install Inter-Campus Video Conferencing facilities</i>		7	7	7					5		26
	<i>Implement BYOD Program</i>		2	3								5
<i>10) Network upgrade and expansion in all</i>	<i>Broadband LAN</i>	20	25	35	35	25	15	10	10	10	10	195
<i>campuses</i>	<i>upgrade</i>											
	<i>Unified communications upgrade</i>	15	10	10	5	5	2	2	2	2	2	55
	<i>Broadband Internet bandwidth</i>	90	90	90	120	120	120	130	130	150	150	1190

	<i>Broadband WAN upgrade</i>	15	15	18	18	18	18	20	20	20	22	184
	<i>Broadband wireless &amp; Installation of power access points</i>		8	10	8	4	2.5	2.5	2	2	2	41
	<i>Reliable backup power</i>		7.5	7.5	7.5	7.5	7.5					37.5
	<i>Installation of smart infrastructure</i>			20	20	25	25					90
11) Data Center services upgrade	<i>Upgrade University data center (DC) to a Tier 3 DC</i>	15	15	15	10	10	10	5	5	5	5	95
	<i>Centralized server hosting services and virtualization</i>	5	5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	18.5
	<i>Build a secondary data center (Disaster Recovery Site)</i>	10	8	8	5	5	5	5	5	5	5	61

12) Establish a customer experience center	Implement an Interactive Voice Response (IVR)	1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	3
	Implement a web-based consolidate agent desktop	2	1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	4.6
	Implement a real time dashboards and historical reporting system	2	0.2	0.2	0.2	0.2	0.2	0.2				3.2
	Implement a Customer Relations Manager (CRM) system	8	4	4	2	2	2	2	2	2	2	30
	Implement virtual call centre agents for Key services with high customer interaction		6	4	4	2	2	1	1	1	1	22

<b>Total 2</b>		<u>187</u>	<u>206.8</u>	<u>242</u>	<u>250.6</u>	<u>228.6</u>	<u>213.1</u>	<u>178.7</u>	<u>178</u>	<u>203</u>	<u>200</u>	2087.8
<b>3. Human Resource Capacity</b>												
13) Establish technology training center	None				4	4	4	10	10			32
14) Customer service management training	None	5	5			5	5			5	5	30
15) Governance & leadership training	None	1					1					2
16) Technical skills enhancement training	None	2	2	2	2	2	2	2	2	2	2	20
<b>Total 3</b>		<u>8</u>	<u>7</u>	<u>2</u>	<u>6</u>	<u>11</u>	<u>12</u>	<u>12</u>	<u>12</u>	<u>7</u>	<u>7</u>	84
<b>4. Governance</b>												

17) Establish Council and UMB IST Committees	None	1.5										1.5
18) Rebrand and elevate IST Centre to College level	Implement the new organizational structure	7	4									11
19) Develop and implement an IST risk management framework	None	2.5										2.5
<b>Total 4</b>		<u>11</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	15
<b>Flagship Project Expenditure</b>		<b>234</b>	<b>265.8</b>	<b>304.5</b>	<b>295.6</b>	<b>273.6</b>	<b>255.4</b>	<b>251</b>	<b>226.8</b>	<b>240.8</b>	<b>242.8</b>	<b>2590.3</b>

