

Commonly Requested ICT Technical Support Services by Students in Public Universities in Kenya: A Case Study of Kibabii University

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Abstract

The COVID-19 pandemic disrupted traditional methods of instruction and learning, leading educational institutions to adopt online learning environments heavily reliant on ICT. However, providing effective and consistent ICT technical support posed challenges, with limited staffing and absences. This study aimed to investigate the commonly requested ICT technical support services by students in public universities in Kenya. The research questions focused on identifying the commonly requested ICT services and the frequently requested ICT technical support per service. The study utilized a case study research design, focusing on Kibabii University and involving 389 students and 16 ICT staff members. The student sample was selected through stratification into different faculties and schools, followed by random sampling. Data were collected through interviews and an online survey, and a descriptive analysis was conducted. The findings of the study revealed that the most frequently requested technical support services by students were related to eLearning services, email services, and online application and clearance services. Among these, eLearning support emerged as the most popular technical support service, while ERP support was the least popular. The results of this study hold significance for policy makers and university administrators as they seek to enhance the provision of technical support for ICT. The findings can inform decision-making processes regarding resource allocation, training, and infrastructure development to meet students' ICT support needs effectively. Moreover, the study sets the foundation for the development of a student-centered ICT technical support and infrastructure provision architecture, leveraging AI-powered virtual assistants to cater to students' ICT support requirements on behalf of ICT staff. In summary, this research sheds light on the commonly requested ICT services and technical support needs of students in public universities in Kenya, emphasizing the importance of a student-centric approach to ICT support.

Key words: ICT Technical Support Services, AI-Powered Virtual Assistant, ICT Infrastructure

1. Introduction

Since the early months of 2020, the globe had been dealing with an unparalleled public health crisis caused by the global spread of a novel coronavirus (COVID-19). COVID-19 was declared a pandemic by the World Health Organization (WHO) on March 11, 2020, with 62 million confirmed illnesses and 1.5 million confirmed deaths affecting 220 nations, areas, or territories by November 30, 2020. According to WHO, there were 285,654 confirmed cases of COVID-19 in Kenya from 3 January 2020 to 4:14pm CET on 29 December 2021, with 5,364 deaths (WHO, 2021). Right from its inception, the pandemic continued to pose a serious threat to organizations

with regards to continuity in business activities, in addition to being an extreme health and social emergency (Alessandro & Marikka, 2021). Organizational responses to critical events have therefore piqued scholarly interest in recent years. Organizations today are under pressure to establish resilience in the face of a slew of events that threaten the viability of their operations (Sahebjamnia, S. Ali, & S.Afshin, 2018). To maintain their reputation, be more robust, and ensure continuity, organizations seek to deal with catastrophes and key situations (Parker & Ameen, 2018; Soufi, Torabi, & Sahebjamnia, 2019). During the said period, corporate relocation and complete closure were common in practically every industry. Governments set aside their economies in favor of stockpiling essential supplies (Shihui, et al., 2021). This condition resulted in not just actual social but also economic distancing, putting the global economy in jeopardy. In order to provide accumulative, accurate, and trustworthy communication, Information Technology is critical. Information Technology provides medical and economic benefits associated with the right to information access; additionally, IT appears to be the only way out of lockdown and social isolation, compensating for economic and business losses (Xiang, et al., 2021). In such a case, its economic benefits are numerous, including quick communication and unique compensating ways. According to Shihui, et al., (2021), manufacturing, retail, public services, entertainment, media, transportation industry, tourism, and education sector, particularly universities, were among the industries hardest damaged by the lockdown. The focus of this paper is on the education sector, public universities in Kenya to be precise.

The essence of any learning institution is to provide core services to customers in the most effective and efficient manner possible. This is typical in the vast majority of nations. Traditional methods of instruction and learning were ineffective during COVID-19, which forced the majority of educational institutions to halt in-person instruction in favor of online learning environments that heavily relied on ICT. Different technical challenges came with services that were provided using ICT. Those difficulties were beyond the capabilities of students. It was challenging to guarantee the consistency, effectiveness, and availability of ICT technical support. ICT staff requests predominated as a result of staffing shortages and absences. This paper examined the ICT resources possessed by students that would facilitate automation of ICT technical support provision, general barriers to ICT technical support provision, and ultimately the frequently requested ICT technical support services by students in public universities in Kenya, as a pre-requisite for developing a student-centered ICT technical support and infrastructure provision

architecture based on AI-powered virtual assistants that provide ICT technical support to students on behalf of ICT staff.

2. Methodology

The main drive of this section was to describe the methodology that the researcher employed in order to meet the study's objectives. It explains the research process, including the research design, location of the study, sample frame, and data collection methods.

The study adopted case study research design. The study test environment was Kibabii University (KIBU). KIBU is a public university in Kenya that is located along the Bungoma-Chwele route in Bungoma County. This is attributed to the fact that there is homogeneity with regards to how most public universities in Kenya provide ICT technical support services to their respective students. The population for this study included students and staff in public universities in Kenya, who request for and render ICT technical support services respectively.

The study test sample was derived using purposive, stratified and simple random sampling. Purposive sampling technique was used to select ICT staff within the university staff population. The criterion that was used in purposive sampling was based on experience, expertise and availability of data on ICT Technical support provision to students. Stratified sampling was used to classify students into strata (Faculties/Schools). Stratified sampling entails classifying the population's members into mutually exclusive and collectively exhaustive categories (kenpro, 2012). Table 2.1 shows the total student population in Kibabii University as at July 2022.

Table 2.1: No. of Students per Faculty/School (Kibabii University).

Faculty/School	Number of Students
Faculty of Arts and Social Sciences	1980
Faculty of Science	1529
School of Business and Economics	2557
School of Computing and Informatics	1010
School of Education	6490
School of Graduate Studies	243
School of Nursing	65
Total	13,874

Source: (KIBU Admissions Office as at July 2022)

As depicted in Table 2.1, the sample for this study was obtained using a simplified formula for proportions Yamane (1967:886) formula $n = \frac{N}{1+N(e)^2}$. Using this formula, **n** is the desired sample size of the study population, **N** is the population size and **e** is the level of precision. This study used 95% (0.95) confidence level which corresponds to 5% (0.05) level of precision, and N being the target population at 13,874 (KIBU Admissions office as at July 2022). Using the simplified formula for proportions, the students' sample was estimated to be 389 students as shown;

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{13874}{1+13874(0.05)^2} = 389 \text{ students}$$

Due to their small number, the entire of ICT staffs & Technologists were sampled. Table 2.2 Sample Population, summarizes the samples by specifying the category of respondents, accessible population and Sample.

Table 2.2: Sample Size (Students and ICT staff)

Category of Respondent	Accessible Population	Sample
Students	13,874	389
ICT Staff & Technologist	16	16
Total	13,890	405

From each Stratum, an independent simple random sample was drawn proportional to the Sample size. The formula for obtaining proportional samples was as outlined below:

$$\text{Proportional Sample per Stratum} = \left(\frac{\text{Number of Students in a Stratum}}{\text{Total number of students}} * 389 \right)$$

The approach's key benefit is that it can provide the most representative sample of a population (Hunt & Tyrrell, 2001).

Table 2.3: Proportionality of Samples per Faculty/Schools

Faculty/School	Number of Students Per Faculty/School	Proportional Sample per Stratum
Faculty of Arts and Social Sciences	1980	56
Faculty of Science	1529	43
School of Business and Economics	2557	72
School of Computing and Informatics	1010	28
School of Education	6490	181
School of Graduate Studies	243	7
School of Nursing	65	2
Total	13,874	389

Online survey questionnaires and structured interviews were used to for data collection from students and ICT staff. The questionnaires asked about the respondents' gender, age range, study level, year of study, and faculty/school. The questionnaire was also used to get the respondents' opinions on the factors related to provision of ICT technical support services. The questionnaires were the ideal tool since they were simple to use, quick to complete, and quick to analyze owing the sample size. Because identical questions were used, it was simple to construct and validate a questionnaire and to identify trends in the replies. Interview was chosen in addition to the questionnaire as a validation strategy because it gave insight into the data gathered by the questionnaire and helped the researcher learn more about frequently sought ICT Technical Support Services.

3. Data Analysis and Findings

This section presents and analyzes the collected data from the field using research tools as deliberated in the section (2). The section gives the instrument's response rate; respondents' demographic information; ICT resources possessed by students, commonly requested ICT technical support services; and frequency with which the students request for ICT technical support. The results are presented in descriptively in tables.

3.1 Data Collection Response Rate

The rate of instruments response was obtained through the sample that partook in the study in all research procedures. Out of the 389 expected responses from questionnaires which were administered to the respondents (Students) on commonly requested ICT technical support services, only 344 were dully filled and returned for analysis as indicated in table 3.1.

Table 3.1: Student Response Rate

Response	Frequency	Response Rate (%)
Responded	344	88.43
Not Responded	45	11.57
Total	389	100

This represented a response rate of 88.43% of all questionnaires administered. Mugenda (2012) notes that when the response rate is 50% or more, it is then deemed adequate. According to Babbie (2004), rates of return of 50% are okay to do analysis and publication, 60% is said to be good but 70% is characterized as very good. Guided by these thoughts from the prominent academic research giants, the rate of response for the research study was said to be sufficient in founding assumptions and generalization of the population under study. The 11.57% represent respondents who did not fill the online survey due to their unwillingness and lack of time to participate in the exercise.

3.2 Demographic Information

This part presents and analyzes general data on responses per Faculty/School, respondents' gender, age-bracket, study level as well as respondents' year of study.

3.2.1 Response Rate per Faculty/School

The study sought to collect and analyze data of the respondents based on their faculties/schools. The data was collected and tabulated as in Table 3.2.

Table 3. 2: Students’ Response Rate Per Faculty/School

	Faculty/School	Frequency	Response Rate (%)
Valid	Faculty of Arts and Social Science	48	85.71
	Faculty of Science	43	100
	School of Business and Economics	62	86.11
	School of Computing and Informatics	28	100
	School of Education	154	85.08
	School of Graduate Studies	7	100
	School of Nursing	2	100
	Total	344	88.43

Table 4.2 reveals that the Faculty of Arts and Social Science had a response rate of 85.71%. Faculty of Science, School of Computing and Informatics, School of Graduate Studies and School of Nursing had a response rate of 100% each. School of Business and Economics recorded 86.11% while School of Education recorded a response rate of 85.08% as summarized in table 4.2. This was a balanced response across the 5 schools and 2 Faculties implying that the results of this study can equally be generalized across the students in Kibabii University.

3.2.2 Gender of Student Respondents

Gender of the student respondents in the study is represented in table 3.3.

Table 3. 3: Gender of Student Respondents

	Gender	Frequency	Percent (%)
Valid	Male	235	68.3
	Female	109	31.7
	Total	344	100.0

Table 3.3 indicates that 68.3% of the respondents were male and the remaining 31.7% were female. Thus, there is a clear indication that males were the majority of the respondents who participated in the research. This implies that the male gender had more interest in the research than their female

counterparts which goes a long way to explain the level of consumption of ICT dominated by male.

3.2.3 Age of Respondents

The research study also collected data on the age intervals of the respondents. The findings were as presented in Table 3.4.

Table 3. 4: Age of Respondents

Age (Range)		Frequency	Percent
Valid	16-25	332	96.5
	26-35	10	2.9
	36-45	2	.6
	Total	344	100.0

Table 3.4 indicates that majority of the respondents fall in the age category of between 16 and 25 years, representing 96.5% of the respondents while 2.9% represented respondents with age range between 26 and 35 years. 0.6% represented respondents of age between 36 and 45. This implies that the study relied mostly on the youthful category, of age bracket between 16 and 35 years, that constituted of about 99.4% of the general response. This can be attributed to the fact that the youthful population are more likely to embrace technology as compared to the elderly population and as such are more likely to be disoriented in an event the service is interrupted. This also implies that most active population in public universities, when it comes to use of ICT, fall in the age-range of between 16 and 35 years of age.

3.2.4 Student Respondents' Level of Study

The study also collected data with regards to the level of study of student respondents and the findings were as summarized in Table 3.5.

Table 3. 5: Respondents' Level of Study

Level of Study		Frequency	Percent (%)
Valid	Undergraduate	334	97.1

Postgraduate	7	2.0
Diploma	2	.6
Certificate	1	.3
Total	344	100.0

Table 3.5: Respondents' level of study indicates that most of the respondents were at undergraduate level with 97.1%, followed by Postgraduate at 2.0%, Diploma at 0.6% and certificate level respondents at 0.3%. This implies that majority of the respondents were undergraduate who are the majority of the subjects in public universities in Kenya.

3.2.5 Year of Study of Student Respondents

The study also sought to establish the year of study of student respondents as presented in table 3.6.

Table 3. 6: Year of Study of Student Respondents

Year of Study	Frequency	Percent (%)
Year One	60	17.4
Year Two	134	39.0
Valid Year Three	110	32.0
Year Four	40	11.6
Total	344	100.0

The findings, as in table 3.6 indicate that majority of the respondents were in their year two and year three of study representing 71.0% of the total response. Those in year one represented 17.4% while those in year four accounted for 11.6% of the total response. This implies that majority of the respondents, about 71.0% had fairly enough experience with ICT technical support service requisition, providing a basis for getting reliable data on commonly requested ICT technical support services. The said population were also affected by the paradigm shift from face-to-face learning to blended learning due to the COVID-19 where ICT was the enabling technology.

3.3 ICT Resources Possessed by Student Respondents

Apart from the year of study, the study also sought to find out the ICT resources that were in students' possession. The findings are presented in Table 3.7.

Table 3. 7: ICT Resources Possessed by Students’ Respondents

ICT Resources Possessed by Student				
Respondents		Yes	No	Total
Valid	Laptop	139 (40.4%)	205(59.6%)	344(100%)
	Internet router	122 (35.5%)	222(64.5%)	344(100%)
	Smart Phone	318(92.4%)	26(7.6%)	344(100%)

Table 3.7 reveals that 59.6% of the respondents did not have laptops, 64.5% did not have internet routers and 7.6% did not have Smart Phones, indicating that ICT resource possessed by most students is smartphones at 92.4%. This implies that most students use smartphones as a mode of access to E-Learning and ERP related services. Also, the 64.5% of students with no access to internet router implies that the students are not able to distribute the university LAN through various data ports to the respective smart phone for internet access. The 40.4% of students in possession of laptops implies that a portion of students use laptops to access various ICT related services and learning needs such as simulation in programming which cannot be handled by smartphones.

3.4 Challenges Affecting Requisition of ICT Technical Support Service

Apart from establishing the commonly requested ICT technical support services, the study went further to establish the general barriers/ challenges related to access to ICT technical support service within the campus. In this quest, the study interviewed all the Sixteen (16) technical ICT staff from the directorate of ODEL and ICT whose designations included Database Administrator, System Administrator, User Support Technologist, Web master, ODEL Technologist, Network Administrator and Computer Engineer. The findings were presented in terms of thematic areas as discussed below

i. Office Carrying Capacity

Carrying capacity refers to the maximum number of individuals of a species that the environment can carry and sustain. In this case the study established the carrying capacity of the office where the ICT Technical related services were being offered. This was done via an interview schedule

to sampled ICT Staff and students. Most ICT staff reckoned that the office space was too small to accommodate more than 20 students at a time. The fact that the same office, apart from serving the entire students, was also serving the staff who are always given more priority to the students. Most of them complained of congestion, which was worse during COVID-19, when Technology-enabled learning had just been introduced, despite the strict MoH guidelines on social distancing.

“You find most of the students in tune of 100-200 crowded at the ICT especially when faced with problems such as unregistered units, unable to report to session among others. At the same time the office space is too small to accommodate such big numbers ...” cited from the Interview

This implies that most students are usually faced with challenges related to ICT technical support provision that are beyond their technical know-how and are at such times compelled to visit the ICT department in quest for the solutions to their respective ICT related challenges.

ii. Number of Service Points (Staff)

In system environment, the number of service points denotes the parallel servers, in this case, the number of staff rendering ICT technical support to students and other staff at a particular point in time. It was noted from the interviews that ICT services are devolved into Hardware related services, ERP related services, e-mail related services and E-Learning related services, each of which has a single staff designated to handle the technical support. For example, ERP related services has one service point serving the entire university in which denial of service is always witnessed in an event the service point (staff) is missing which has been a critical concern by most students due to indefinite waiting for the services.

“Sometimes we are forced to wait for long in the event you are sent from the department to the ICT only to find out that the officer in-charge of the service you are seeking is not available. It can span for a whole day, two, three or even a week just going back and forth in search for the officer, who happens to be the only one designated to perform the service....” cited from the Interview

This implies that there is no guarantee on the consistent availability of the ICT technical support service provider when needed by the affected clients.

iii. Service Time

Service time according to the study is taken to be the time taken for a request to be successfully serviced by the server. In this case, the time taken to serve an individual student or a staff. Some of the services were reported to be very prompt including email services, eLearning. However, most students reported to have had problem with ERP services which is devolved to a single management point. Students raised a concern of taking too long to receive technical support service from ERP which may require approval from department, admission office, faculty, and the systems administrator.

“We don’t serve student requests directly unless authorized by Staff from a specific department through an authentic service requisition document or note...” cited from the Interview

“We students suffer a lot. Like for example, I have been sent from my department to this place (ICT department) to monitor my clearance application. Unfortunately, am told I have to go back to admissions and ask whether they’ve approved, then move to department, then to faculty....” cited from the Interview

This implies that a lot of time is wasted by the students walking through respective offices while tracking the approval status of their applications leading to poor customer feedbacks.

iv. Number of People Requesting for the Service

This goes hand in hand with the office carrying capacity. Most of the staff that were interviewed complained that the student and staff population requesting for ICT technical support is overwhelming considering the small number of ICT technical support staff. That sometimes it compels them to work until late hours handling student and staff requests since some of those requests are critical and urgent.

“In a single day, you may be required to serve 300 ICT technical support requests on a busy day as an individual which is unrealistic to an ideal human being. The pressure that comes with it is enormous and we are sometimes not able to withstand, thus you likely to commit errors that arise from boredom and monotony....” Cited from interview

This implies that the ICT staffs are likely to commit numerous errors due to monotony in service provision. The ICT staff are also likely to be overwhelmed by the massive number of ICT technical support requests.

v. Solution Provision Rate

According to Gartner Glossary (2022), a solution is the integration of people, processes, information, and technologies into a specific system, in order to support a group of business or technological capabilities that address one or more business challenges. In this case solution rate was used to refer to number of students served per unit of time (day). Averagely, it was noted from most staff interviewed that on a day when the ICT technical support requests are high (100 - 200 students) averagely, they would comfortably serve 120 students physically.

“We can comfortably serve 120 requests per given day especially on a busy day....” Cited from interview

This implies that the number of requests that can successfully be attended to by ICT staff are limited due to their human nature of boredom.

3.5 ICT Technical Support Services

In the delivery of ICT related services, there is always a need to address the challenges associated with either failure of a technology, a service, or reconfiguration. ICT technical support service is an assistance service provided by a designated ICT technical support staff to clients with ICT-related technical challenges either online or physical to assure the continuation and smooth provision of the service by the related ICT device. This section presents and analyzes data on commonly requested ICT Technical Support Service, respondents' experience on ICT technical support service provision, barriers limiting access to provision of ICT technical support service and the remedies to the barrier that limit access to the provision of ICT technical support services.

3.5.1 Commonly Requested ICT Services Sought by Students

The study sought to establish the commonly requested ICT services as presented in Table 3.8.

Table 3. 8: Commonly requested ICT Service

ICT Services		Yes	No	Total
Valid	eLearning	302 (87.8%)	42(12.2%)	344(100%)
	ERP	149 (43.3%)	195(56.7%)	344(100%)
	Email	192(55.8%)	152(44.2%)	344(100%)
	Online Application & Clearance	250(72.7%)	94(27.3%)	344(100%)

Table 3.8 reveals that 87.8% of the respondents agreed to have sought for eLearning services, 55.8% confirmed to have sought for technical support on email services from the directorate of ICT, 43.3% noted that they had sought for ERP technical support services while 72.7% confirmed that they had sought for support service on Online Application & Clearance. This implies that eLearning, email and Online Application & Clearance are the commonly requested ICT services by students from the directorate of ODEL and ICT. This also agrees with the current teaching convention (during and after COVID-19), where most institutions shifted from face- to face to blended learning and dedicated most services to take place online. ERP, having 43.3% of the respondents confirming to have sought for the technical support on the service, was the lowest sought ICT service. This implies that most students faced few challenges on technical support on ERP and these challenges were quite easily handled by the student portal or at respective academic departments by chairpersons of department. Furthermore, this can also be attributed to the fact that most of the bulk work on the ERP services are done by ICT technical staff.

3.5.2 Frequency of ICT Technical Support Requests by Students

The study further collected data to understand frequency with which the respondents (students) requested for technical support rendered on the various ICT services: ERP services, eLearning

Services, Email Services and Online Clearance Services. The responses were gauged on a 5-point Likert scale: (1) Never; (2) Rarely; (3) Sometimes; (4) Often; and (5) Always as presented in Table 3.9, 3.10, 3.11, and Table 3.12.

Table 3. 9: Frequency of Requests for Technical Support on ERP Services

ERP Technical						
Support	1	2	3	4	5	Total
Account	15	24	94	92	119	344
Creation	(4.4%)	(7.0%)	(27.3%)	(26.7%)	(34.6%)	(100.0%)
Reporting to	27	36	66	95	120	344
Session	(7.8%)	(10.5%)	(19.2%)	(27.6%)	(34.9%)	(100.0%)
Unit	14	31	84	85	130	344
Registration	(4.1%)	(9.0%)	(24.4%)	(24.7%)	(37.8%)	(100.0%)
Academic	31	35	78	85	115	344
Results	(9.0%)	(10.2%)	(22.7%)	(24.7%)	(33.4%)	(100.0%)
Generation						
Fee Statement	15	22	65	97	145	344
Generation	(4.4%)	(6.4%)	(18.9%)	(28.2%)	(42.2%)	(100.0%)
Eduroam	91	32	88	58	75	344
Password	(26.5%)	(9.3%)	(25.6%)	(16.9%)	(21.8%)	(100.0%)
Configuration						

Table 3.9 assesses Six (6) technical support parameters on ERP services including Account Creation, Reporting to Session, Unit Registration, Academic Results Generation, Fee Statement Generation, and Eduroam Password Configuration. The findings reveal that 34.6% of the respondents confirmed that they always request for technical support rendered on account creation, 26.7% noted that they requested for the technical support often, 27.3% indicated that they sometime request for the technical support (neutral), 7.0% noted that they rarely do requests to the technical support, while 4.4% of the respondents noted that they have never requested for technical support on account creation. This implies that most students, about 61.3% always or often request

for technical support on account creation. The remaining 11.4% either never or rarely request for technical support on account creation.

The findings further reveal that 34.9% of the respondents confirmed that they always request for technical support rendered on reporting to session, 27.6% noted that they often request for the technical support, 19.2% indicated the frequency of request as sometime, 10.5% as rarely, while 7.8% of the respondents noted that they have never requested for technical support on reporting to session as a technical support for ERP services. This implies that most students, about 62.5% always or often request for technical support on reporting to session. The remaining 18.3% either never or rarely request for technical support on reporting to session.

Table 3.9 further reveals that 37.8% of the respondents confirmed that they always request for technical support rendered on unit registration, 24.7% noted that they often request for the technical support, 24.4% indicated the frequency of request as sometime, 9.0% as rarely, while 4.1% of the respondents noted that they have never requested for technical support on unit registration as a technical support for ERP services. This implies that most students, about 62.5% always or often request for technical support on unit registration. The remaining 13.1% either never or rarely request for technical support on unit registration.

Furthermore, 33.4% of the respondents confirmed that they always request for technical support rendered on academic result generation, 24.7% noted that they often request for the technical support, 22.7% indicated the frequency of request as sometime, 10.2% noted the frequency as rarely, while 9.0% of the respondents noted that they have never requested for technical support on academic results generation as a technical support for ERP services. This implies that most students, about 58.1% always or often request for technical support on academic results generation. The remaining 19.2% either never or rarely request for technical support on academic results generation.

In addition, 42.2% of the respondents confirmed that they always request for technical support rendered on fee statement generation, 28.2% noted that they often request for the technical support, 18.9% indicated the frequency of request as sometime, 6.4% noted the frequency as rarely, while 4.4% of the respondents noted that they have never requested for technical support on fee statement generation as a technical support for ERP services. This implies that most students, about 70.1%

always or often request for technical support on fee statement generation. The remaining 10.8% either never or rarely request for technical support on fee statement generation.

Further Table 3.9 reveals that 21.8% of the respondents confirmed that they always request for technical support rendered on Eduroam Password Configuration, 16.9% noted that they often request for the technical support, 25.6% indicated the frequency of request as sometime, 9.3% noted the frequency as rarely, while 26.5% of the respondents noted that they have never requested for technical support on Eduroam Password Configuration as a technical support for ERP services. This implies that most students, about 38.7% always or often request for technical support on Eduroam password configuration. The remaining 35.8% either never or rarely request for technical support on Eduroam password configuration.

The next section addresses the findings on technical support on E-learning services as presented in table 3.10.

Table 3. 10: Frequency of Requests for Technical Support on E-Learning Services

Technic3l						
Support						
on E-Learning 1	2	3	4	5	Total	
Enrollment for	15	16	70	84	159	344
a Course	(4.4%)	(4.7%)	(20.3%)	(24.4%)	(46.2%)	(100.0%)
Submission of	26	17	73	108	120	344
Assignment	(7.6%)	(4.9%)	(21.2%)	(31.4%)	(34.9%)	(100.0%)
Assessment						
Results	24	20	82	99	119	344
Generation	(7.0%)	(5.8%)	(23.8%)	(28.8%)	(34.6%)	(100.0%)

Table 3.10 assesses Three (3) technical support parameters on E-Learning services including Enrollment for a Course, Submission of Assignment, and Assessment Results Generation. The findings reveal that 46.2% of the respondents confirmed that they always request for technical support rendered on enrollment for a course in the Learning Management System (LMS), 24.4% noted that they often request for the technical support, 20.3% indicated the frequency of request

as sometime (neutral), 4.7% noted the frequency as rarely, while 4.4% of the respondents noted that they have never requested for technical support on enrollment for a course as a technical support for E-Learning service. This implies that most students, about 70.6% always or often request for technical support on enrollment for a course on the LMS. The remaining 9.1% either never or rarely request for technical support on enrollment for a course on the LMS.

The findings further reveal that 34.9% of the respondents confirmed that they always request for technical support rendered on submission of assignment on the LMS, 31.4% noted that they often request for the technical support, 21.2% indicated the frequency of request as sometime (neutral), 4.9% noted the frequency as rarely, while 7.6% of the respondents noted that they have never requested for technical support on submission of assignment on the LMS as a technical support for E-Learning services. This implies that most students, about 66.3% always or often request for technical support on submission of assignment on the LMS. The remaining 12.5% either never or rarely request for technical support on submission of assignment on the LMS.

Table 3.10 further reveals that 34.6% of the respondents confirmed that they always request for technical support rendered on assessment result generation, 28.8% noted that they often request for the technical support, 23.8% indicated the frequency of request as sometime (neutral), 5.8% noted the frequency as rarely, while 7.0% of the respondents noted that they have never requested for technical support on assessment result generation as a technical support for E-Learning services. This implies that most students, about 63.4% always or often request for technical support on assessment result generation. The remaining 12.8% either never or rarely request for technical support on assessment result generation.

The next section addresses the findings on technical support on E-Mail services as presented in table 3.11.

Table 3. 11: Frequency of Requests for Technical Support on E-Mail Services

Technical					
Support on					
Email Services	1	2	3	4	5
Total					

Email Account Creation	20 (5.8%)	15 (4.4%)	53 (15.4%)	96 (27.9%)	160 (46.5%)	344 (100.0%)
Password Reset	16 (4.7%)	29 (8.4%)	71 (20.6%)	88 (25.6%)	140 (40.7%)	344 (100.0%)
Sending Bulk Email	23 (6.7%)	37 (10.8%)	86 (25.0%)	92 (26.7%)	106 (30.8%)	344 (100.0%)

Table 3.11 assesses Three (3) technical support parameters on E-Mail services including email account creation, password reset, and sending bulk email. The findings reveal that 46.5% of the respondents confirmed that they always request for technical support rendered on email account creation, 27.9% % noted that they often request for the technical support, 15.4% indicated the frequency of request as sometime (neutral), 4.4% noted the frequency as rarely, while 5.8% of the respondents noted that they have never requested for technical support on email account creation as a technical support for E-Mail services. This implies that most students, about 74.4% always or often request for technical support on email account creation. The remaining 10.2% either never or rarely request for technical support on email account creation.

The findings further reveal that 40.7% of the respondents confirmed that they always request for technical support rendered on email password reset, 25.6% noted that they often request for the technical support, 20.6% indicated the frequency of request as sometime (neutral), 4.9% noted the frequency as rarely, while 7.6% of the respondents noted that they have never requested for technical support on email password reset. This implies that most students, about 66.3% always or often request for technical support on email password reset. The remaining 12.5% either never or rarely request for technical support on email password reset.

Table 3.11 further reveals that 30.8% of the respondents confirmed that they always request for technical support rendered on sending bulk emails, 26.7% noted that they often request for the technical support, 25.0% indicated the frequency of request as sometime (neutral), 10.8% noted the frequency as rarely, while 6.7% of the respondents noted that they have never requested for

technical support on sending bulk emails as a technical support for E-Mail services. This implies that most students, about 57.5% always or often request for technical support on sending bulk emails. The remaining 17.5% either never or rarely request for technical support on sending bulk emails.

The next section addresses the findings on technical support on Online Clearance services as presented in table 3.12.

Table 3.12: Frequency of Requests for Technical Support on Online Application & Clearance Services

Technical Support on Online Clearance Services	1	2	3	4	5	Total
Online Clearance Application	34 (9.9%)	35 (10.2%)	103 (29.9%)	86 (25.0%)	86 (25.0%)	344 (100.0%)
Online Application Progress (Admission)	39 (11.3%)	33 (9.6%)	77 (22.4%)	97 (28.2%)	98 (28.5%)	344 (100.0%)
Monitoring Clearance Progress	31 (9.0%)	44 (12.8%)	85 (24.7%)	100 (29.1%)	84 (24.4%)	344 (100.0%)

Table 3.12 assesses Three (3) technical support parameters on online clearance services including online clearance application, online application progress and monitoring clearance progress. The findings reveal that 25.0% of the respondents confirmed that they always request for technical support rendered on online application for clearance, another 25.0% noted that they often request for the technical support, 29.9% indicated the frequency of request as sometime (neutral), 10.2%

noted the frequency as rarely, while 9.9% of the respondents noted that they have never requested for technical support on online application for clearance as a technical support for online clearance services. This implies that most students, about 50.0% always or often request for technical support on online application for clearance. The remaining 20.1% either never or rarely request for technical support on online application for clearance.

The findings also reveal that 28.5% of the respondents confirmed that they always request for technical support rendered on online application progress, 28.2% noted that they often request for the technical support, 22.4% indicated the frequency of request as sometime (neutral), 9.6% noted the frequency as rarely, while 11.3% of the respondents noted that they have never requested for technical support on online application progress as a technical support for online services. This implies that most students, about 56.7% always or often request for technical support on online application progress. The remaining 20.9% either never or rarely request for technical support on online application progress.

The findings further reveal that 24.4% of the respondents confirmed that they always request for technical support rendered on monitoring clearance progress, 29.1% noted that they often request for the technical support, 24.7% indicated the frequency of request as sometime (neutral), 12.8% noted the frequency as rarely, while 9.0% of the respondents noted that they have never requested for technical support on monitoring clearance progress as a technical support for online services. This implies that most students, about 53.5% always or often request for technical support on monitoring clearance progress. The remaining 21.8% either never or rarely request for technical support on monitoring clearance progress.

4 Conclusion

Based on the findings of this study, the researcher makes the following conclusions:

- i. The study's first objective was to establish the commonly requested ICT services by students in public universities in Kenya. The findings reveal that ELearning Services were the most commonly requested ICT Services by students in public universities in Kenya While ERP services are the least requested ICT services. The objective was achieved.
- ii. The second objective was to establish the frequently requested ICT Technical Support per Service by students in public universities in Kenya. Enrollment for a Course in the LMS

was the most frequently requested E-Learning Service Technical Support, Online Application Progress was the most frequently requested online Clearance & Application Technical Support. Email Account Creation was the frequently requested Email Services Technical Support. Fee Statement Generation was the frequently requested ERP Services Technical Support. The objective was achieved.

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