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Abstract

Purpose: The purpose of the study was to determine the factors influencing the use of e-learning in Public Universities in Kenya.

Methodology: A descriptive survey design was used in finding out the factors influencing the use of e-learning in Public universities in Kenya. The Population of this study will be the 19,205 employees (Academic and non-Academic staff) in all public universities. The sample size was 96 employees. A questionnaire was the preferred data collection instrument for this study. Descriptive and inferential statistics were used.

Results: Results revealed perceived usefulness was important in explaining the use of e-learning. This is supported by a p value 0.000 which means that perceived usefulness is a statistically significant predictor of the use of e-learning. Results further revealed that such perceived ease of use is important in determining use of e-learning as demonstrated by a p value of 0.000. Analysis showed that supporting infrastructure is a key determinant in use of e-learning in Kenyan universities and this was supported by a correlation coefficient of 0.398

Unique contribution to theory, practice and policy: The universities should ensure that e-learning saves time compared to face to face learning. They should also be in such a position that ensures that e-Learning saves money compared to face to face learning for the students.

Key words: *e-learning, public universities, usefulness*

1.0 INTRODUCTION

1.1Background of the Study

E-learning generally refers to the methods of learning which use electronic instructional content delivered via the internet and is a term which is synonymous with Web-based or online learning (Trombley and Lee, 2002). In this age of globalization knowledge acquisition has become the critical means for gaining competitive advantage, and as such learning has become a crucial element of knowledge acquisition, application and creation (Longworth and Davies, 1996).

According to John Chambers (in Rosenberg, 2001), "the biggest growth in the Internet, and the area that will prove to be one of the biggest agents of change, will be in e-learning." The demand for a well-educated workforce has driven many countries to rethink their education systems. An education system has to be suited to the demands of the technological age so that a competitive edge can be maintained. Such demand for a technology savvy workforce is reflected in Alvin Toffler's declaration (in Rosenberg, 2001), that "the illiterate of the 21st century will not be those, who cannot read and write but those who cannot learn, unlearn, and relearn." An ancient proverb says: "if we don't change our direction, we'll end up exactly where we are headed" (in Rosenberg 2001: 41). This indicates that learning institutions will have to constantly change and adapt in their environments if they are not to lag behind.

Kenya recognizes that the education and training of all Kenyans is fundamental to the success of the Vision 2030. Education equips citizens with understanding and knowledge that enables them to make informed choices about their lives and those facing Kenyan society. The education sector will, therefore, provide the skills that will be required to steer Kenyans to the economic and social goals of Vision 2030. Vision 2030 is based on the creative talents capable of raising Kenya's international competitiveness through enhanced productivity at the microeconomic (industry) and national levels. Throughout the education system, learning will inculcate the use of knowledge in science, technology and innovation (STI) to create wealth, improve social welfare and promote democratic governance. Appreciation of the critical role of STI to the Vision is based on the understanding of today's knowledge-based economies (KBEs) and the role that innovation plays in such economies. A knowledge economy creates, adopts, and adapts information on production and distribution of goods and services, making it the focal point and the engine of rapid economic growth. That is where Kenya wishes to position itself (Vision 2030).

Effective use of knowledge is becoming the most important factor for creating wealth and improving social welfare and for international competitiveness. Implementing Vision 2030 will require more knowledge-based skills. This calls for more training in science-related and technology-related courses. Kenya's road to become a KBE will therefore not be restricted to the realm of high technology, but will extend to the application of science and technology in the economy, targeting areas such as pharmaceuticals, scientific instrumentation, and information and communication technologies. These are expected to increase the growth momentum in the priority factors thereby giving a boost to the economy as a whole.

However, Vision 2030 also notes that, at the college and university level, there is a serious shortage of capacity, both in public and private institutions, as only about 30 per cent of those with minimum entry requirements can be admitted. Although enrolment in public universities

has increased over time, the high cost continues to limit access for a large number of qualified students. As for private universities, enrolment remains low at 12.7 per cent of total admissions. It is therefore justified to employ emerging technologies such as e-learning to solve the capacity and cost problems stipulated in Vision 2030.

1.2Problem Statement

The education sector has been pinpointed as a crucial sector in ensuring that Kenya meets the objectives stipulated in Vision 2030 such as the achievement of annual economic growth of 10%. In addition, the Millennium Development Goals have earmarked the education sector as crucial in bringing about socio economic change to Kenya and other developing economies. Nyamute (2007) argues that the reason for the economic prosperity of the Asian Tigers stems from development of human capital through an effective education and learning system. It is noted that the education infrastructure in developing countries in general and Kenya in particular is a far cry from ideal. In addition, capacity constraints bedevil the education sector; hence, a paradigm shift is necessary in delivering education and training to citizens through unconventional means such as e-learning. Advocates of E-learning concept may allude to the concept of mobile money transfers such as Mpesa, that is, the ability to use technology to leap frog some stages of socioeconomic development.

While, the e-learning concept is noble and novel, its successful adoption and use by economic agents such as households and firms has been wanting. This study argues that there are factors that affect the adoption and use of e-learning by universities. It is also possible to argue that those universities (teachers and students) who are doing better in the use of e-learning may possess some distinct factors that distinguish them from the poor users/non users of e-learning. The study therefore wishes to establish these factors that influence the use of e-learning.

1.3Objectives of the Study

The objective of the study was to determine the factors influencing the use of e-learning in Public Universities in Kenya.

2.0LITERATURE REVIEW

Sun, Tsai, Finger, Chen and Yeh (2008), conducted a study on what drives a successful e-Learning. The study developed an integrated model with six dimensions: learners, instructors, courses, technology, design, and environment. A survey was conducted to investigate the critical factors affecting learners' satisfaction in e-Learning. The results revealed that learner computer anxiety, instructor attitude toward e-Learning, e-Learning course flexibility, e-Learning course quality, perceived usefulness, perceived ease of use, and diversity in assessments are the critical factors affecting learners' perceived satisfaction. The results showed institutions how to improve learner satisfaction and further strengthen their e-Learning implementation.

Wenger (1998) argued that participation is an intrinsic part of learning; hence a key challenge for e-learning was to enhance student participation. It was believed that learner participation would be enhanced by the use of computer-mediated media in both traditional and e-learning settings (Haythornwaite, 2002; Leidner & Jarvenpaa, 1995; Bento & Schuster, 2003). Online learner participation has been defined as a process of learning by taking part and maintaining relations with others, a complex process comprising doing, communicating, thinking, feeling and

belonging, which occurs both online and offline (Hrastinski, 2008). Hrastinski (2009) provided a review of the literature in the area of online learner participation and claims that participation and learning are intricately interrelated and that, in order for learners to take full advantage, the participation experience needs to be satisfactory.

Mahdizadeh, Biemans and Mulder (2007) conducted a study on determining factors of the use of e-learning environments by university teachers. This study was designed to identify factors that can explain teachers' use of e-learning environments in higher education. A questionnaire was completed by 178 teachers from a wide variety of departments at Wageningen University in the Netherlands. The authors found that 43% of the total variance in teacher use of e-learning environments could be explained by their opinions about web-based activities and their opinions about computer-assisted learning (predictors) and the perceived added value of e-learning environments (mediating variable). In other words, teachers' use of e-learning environments could be explained to a high extent by their perceptions of the added value of these environments, which in turn were substantially influenced by their opinions about web-based activities and computer-assisted learning.

Al-adwan and Smedley (2012) conducted a study on the factors affecting impact of Implementing e-learning in the Jordanian Higher Education System. The study explored the factors that influenced the development of learning through technology at two Jordanian universities, focusing on full-time staff and students. They noted that the increased involvement of technology in all aspects of our lives places educational institutions under pressure to include these aspects at the heart of their learning. This ensures that they continue to be competitive in a constantly changing market with international and cultural links. The study also considered the general attitude towards engaging in learning through technology with outcomes demonstrating that training and development was required prior to implementation to adequately support the e-learning transition. The organisational infrastructure often presents the greatest barrier to such developments. Informed by the outcomes of the study, a training and development programme was designed, developed and implemented to support the cultural change and increase its impact.

Abdel-Wahab (2005) wrote on "modeling students' intention to adopt e-learning: a case from Egypt", and the results of the study suggested that the best subset of predictors that can be used in modeling a student intention to adopt e-learning includes: attitudes towards e-learning, usefulness of e-learning, ease of e-learning use, pressure to use e-learning, and the availability or resources needed to use e-learning. Ndubisi (2004) also found out from his study that 'attitude has an important direct influence on intention to adopt e-learning'. Attitude is anchored usefulness, ease of use, and system's security. Perceived behavioural control was also noted as another important determinant of interaction. Ndubisi concluded that "in order to enhance e-learning adoption intention and in turn acceptance among Malaysian students, interested parties to this learning arrangement must try to build favourable attitude through enhanced usefulness and ease of use perceptions, as well as security.

Brown (2009) and Sahlfeld (2009) both agreed that availability of a good variety of reliable ICT equipment enhanced learners' ICT competencies and literacy. Gobbo and Girardi (2001), Ritz (2009), and Sang et al (2009) all indicated that teachers' ICT literacy level influenced how learners used ICT in a school. Zhao and Bryant (2009) in their study found out that besides teachers' ICT literacy level, availability of ICT support staff improved learner's competencies

and ICT usage. It was noted in this study that there was total lack of ICT support staff in all the study schools. It could therefore be stated that this affected the learners negatively since the ICT laboratory remained closed once the teachers were busy elsewhere.

Friesen (2009) noted that school rules and regulations affected the ICT components learners access. At the same time, McCarthy and Berger (2008) further indicated that a school's ICT policy greatly affected whether a student chooses to pursue studies in technology. According to Juma (2003), AVU was established because of the realization that, "tertiary institutions in their present forms, overwhelmed with problems related to access, finance, quality and internal and external efficiency are unable to bridge the knowledge gap. Limited space and declining budgets prevent universities from servicing the growing demands of higher education" (p.210).

Mbogo (2008) conducted a study on the determinants of employee dropout in corporate web-based learning and took a case study on Hilton Hotel Nairobi. The author concluded that younger employees were more likely to continue with e-learning courses compared to older employees. In addition, gender did not seem to matter in the corporate web base e-learning. Possession of basic computer training was negatively and significantly related with drop out Technical courses such as financial management experienced a higher dropout rate than basic courses such as customer care and time management. In conclusion, the author advocated that organizations should take this factor into consideration when designing corporate web-based learning programs.

Sang (2003) conducted an assessment of the readiness of institutions to offer electronic learning and took a case of Egerton University. The research study assessed the institutions readiness for e-learning, it identified the several factors of e-learning readiness in the literature and through the use of questionnaires and observation. These factors were explored further to determine the effect of lectures attitude, perception and exposure, on e-learning readiness. A convenient number of Egerton University lecturers were sampled through stratified random selection procedure. Correlation analysis was used to analyze the data and in testing the hypotheses. The data analyzed showed that the there is no relationship between the attitude, perception and exposure of-the lecturers and the institution readiness to offer e-learning. The findings can be used by lecturers and administrators to come up with an effective e-learning strategy.

3.0 METHODOLOGY

A descriptive survey design was used in finding out the factors influencing the use of e-learning in Public universities in Kenya. The Population of this study will be the 19,205 employees (Academic and non-Academic staff) in all public universities. The sample size was 96 employees. A questionnaire was the preferred data collection instrument for this study. Descriptive and inferential statistics were used.

4.0 DATA ANALYSIS FINDINGS AND DISCUSSION

4.1 Sample Demographics

4.1.1 Gender of the Respondents

The study sought to establish the gender of the respondents in relation to e-learning. From the findings it was found that majority of the respondents were male who comprised of 55.07%.

Female respondents were relatively close range at 44.93% as presented in Figure 4.1.This can be explained by the fact that majority people, irrespective of gender, have access to e-learning tools in their daily life.

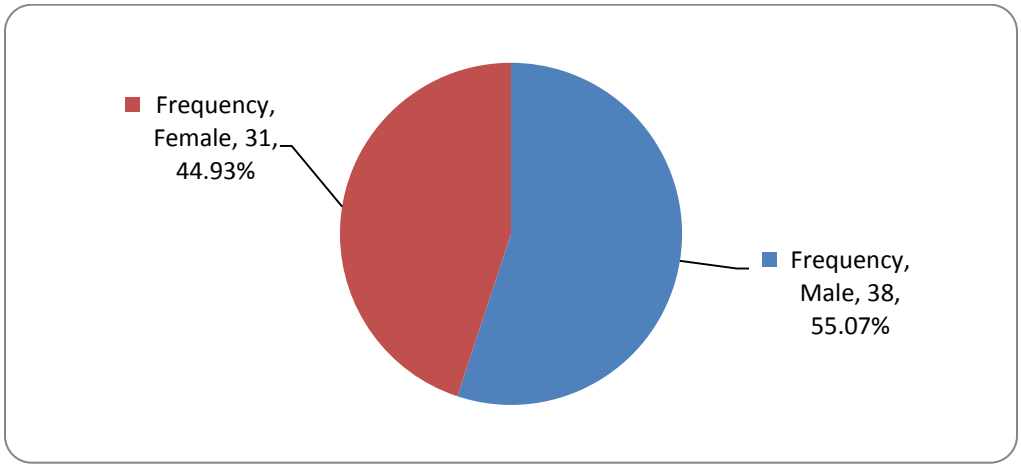

Figure 4.1 Gender

4.1.2 Age of the Respondent

The respondents were asked to indicate their age and the findings are presented in Figure 4.2. Majority of the respondents 50.72%, were persons aged between 36 to 50 years. This can be explained by the fact that e-learning is currently predominantly used in non-academic career enhancing training. This particular age group is involved in this phase of study. Those aged between 21 to 35 years comprised a statistically large proportion at 31.88%. This can be explained by the factor those in this age bracket are just getting into employment and starting on career enhancing training which is the area that is predominantly using e-learning. Respondent who were below 20 years of age comprised 8.70% of the respondents. This can be explained by the fact that majority of people in the below 20 years age bracket are still pursuing basic education and majority are yet to be employed. The respondents who were above 51 years were also minimal with 8.70% which can be explained by the fact that most of them have little exposure to computers as this technology was recently implemented.

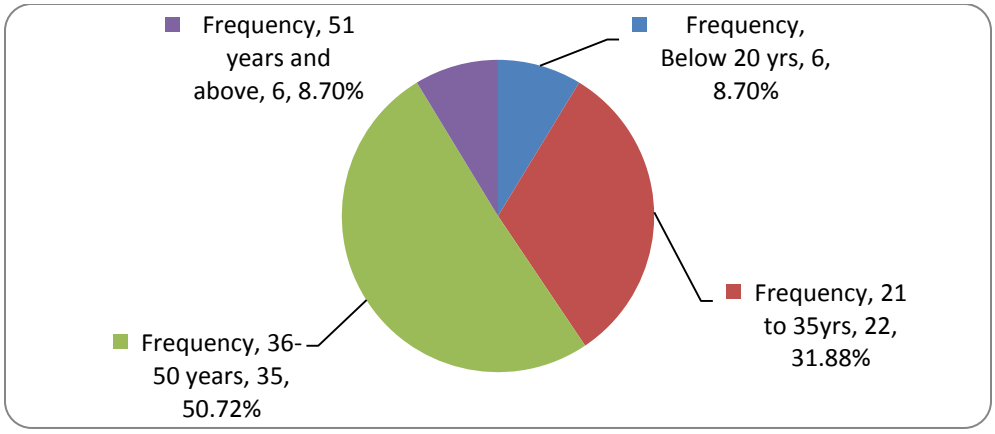

Figure 4.2 Age

4.1.3 Level of Education

The study also sought to establish the level of education of the respondents. The findings are presented in Figure 4.3. The results indicate that 49.28 % of the respondents were found to be have master degree qualifications and this can be explained by the fact that the respondents were university staff and majority facilitate their staff in acquiring knowledge as well universities as requiring high caliber staff in their ranks. Over thirty three percent (33.33%) of the respondents had a degree level while 10.14% were of the PhD level. About 7.25% had diploma as their highest level of education. Overall, this implies that the respondents were highly educated.

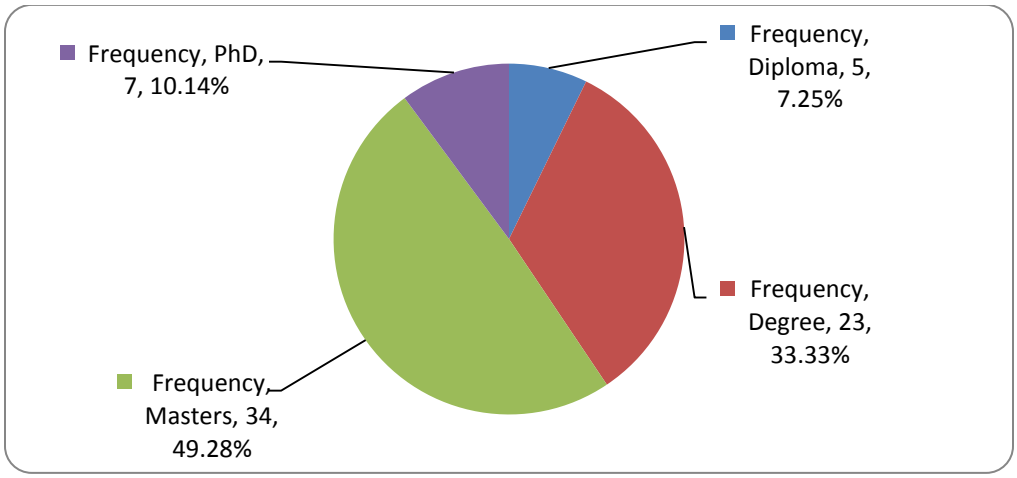

Figure 4.3 Level of Education.

4.1.4 Years of Internet Use

The study sought to find out the experience in terms of number of years of internet use. The findings are presented in Table 4.2. Forty six percent of the respondents were staff who had experience in internet use for more than ten years. Above thirty seven percent (37.7%) had used the internet for three to ten years while those who had less than three years experience comprised

of 14.50 %. The respondents who had no experience comprised of 1.4%. These findings imply that the respondents were people who had adequate exposure of internet use.

Table 4.1 Years of Internet Use

Years of Internet Use	Frequency	Percent
No experience	1	1.40%
Less than 3 years	10	14.50%
3-10 years	26	37.70%
More than 10 years	32	46.40%
Total	**69**	**100%**

4.1.5 Setting a Reading Timetable

The study also sought to establish the discipline rating of people by enquiring whether the respondents had set a reading timetable. The findings are presented in Table 4.3. Ninety one percent (91.3%) of the respondents agreed that they had set a reading timetable while 8% had not set such reading timetable. These findings imply that the respondents were disciplined people.

Table 4.2 Setting a timetable

I have set a reading timetable	Frequency	Percent
Yes	63	91.30%
No	6	8.70%
Total	**69**	**100.00%**

4.1.6 Adhering to the Timetable

Regarding whether the respondent strictly adhered to the timetable, 88.4% of the respondents replied in the affirmative while 11.6% stated that they did not strictly adhere to their timetables. The findings are presented in Table 4.4 and they depict that most of the staff had a positive rating in terms of discipline.

Table 4.3 Adhering to the timetable

I have strictly adhered to the timetable	Frequency	Percent
Yes	61	88.40%
No	8	11.60%
Total	**69**	**100.00%**

4.2 Descriptive Results

This section presents the descriptive results. These findings comprised the mean and standard deviations.

4.2.1 E-learning

The study sought to establish the extent of use of e-learning in Public Universities in Kenya as indicated by the number of online courses the respondents attended. The findings were presented in Table 4.5. Majority of the respondents undertook business accounting and finance courses as shown by a mean of 2.81 and a standard deviation of 2.06. The mean number ICT courses

undertaken by a respondent were 1.88 while languages were 1.17 with a standard deviation of 1.399 and 0.985 respectively. The mean of other courses undertaken by each respondent was 0.83 with a standard deviation of 0.766. The overall mean courses undertaken by each respondent was 1.6725 with a standard deviation of 1.3025. The findings imply that majority of respondents pursue social sciences courses and more so business related courses through e-learning.

Table 4.4 E-learning

	Minimum	Maximum	Mean	Std. Deviation
Business, Accounting and Finance Courses	0	6	2.81	2.06
ICT Courses	0	4	1.88	1.399
Languages	0	3	1.17	0.985
Others	0	2	0.83	0.766
Average			**1.6725**	**1.3025**

4.2.2 Perceived Usefulness and E-learning Use.

The study sought to establish the relationship between perceived usefulness and e-learning use. The findings in table 4.6 indicate that 95.60% of the respondents agreed with the statement that e- learning saves time compared to face to face learning. Above seventy eight percent (78.2%) agreed that e-Learning saves money compared to face to face learning ,and 71% also agreed with the statement that e-Learning saves them the inconvenience of walking to a class. About fifty eight percent (58%) of the respondents neither agreed nor disagreed with the statement that they scored better marks when they undertook online courses. On a likert scale of one to five where one represents strongly disagree and five represents strongly agree, the overall mean of 4.0675 with a standard deviation of 0.78275 which implies that perceived usefulness is a key determinant of e-learning use.

Table 4.5 Perceived usefulness and e-learning

Statement	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Mean	Std. Deviation
E- Learning saves time compared to face to face learning	0.00%	1.40%	2.90%	27.50%	68.10%	4.62	0.621
E-Learning saves money compared to face to face learning	2.90%	10.10%	8.70%	56.50%	21.70%	3.84	0.980
E-Learning saves me the inconvenience of walking to a class	1.40%	1.40%	2.90%	23.20%	71.00%	4.61	0.752
I score better marks	2.90%	8.70%	58.00%	26.10%	4.30%	3.20	0.778

when I undertake online courses		
Average	**4.0675**	**0.78275**

4.2.3 Perceived Ease of Use and use of E-learning.

The study sought to find out whether perceived ease of use influenced e-learning. The findings are presented in Table 4.6. About fifty six percent (56.5%) of the respondents agreed that they found it easy to use computers during online lessons while another 59.2% agreed that they found it easy to navigate through online courses. When asked whether they were comfortable with the online experience, 53.6% agreed that they did and 71% of the respondents agreed that they found it easy to use online instructions during reading. The overall mean was 3.44 with a standard deviation of 1.03 and these results indicate that perceived ease of use has a big effect on the use of e-learning in Kenyan universities.

Table 4.6 Perceived ease of use and e-learning

Statement	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Mean	Std. Deviation
I find it easy to use the computer during online lessons	1.40%	20.30%	21.70%	50.70%	5.80%	3.10	0.843
I find it easy to navigate through online courses	2.90%	13.00%	24.80%	46.20%	13.00%	3.43	0.977
I am comfortable with the online experience	2.90%	11.60%	31.90%	36.20%	17.40%	3.54	1.008
I find it easy to use online instructions during reading	10.10%	11.60%	7.20%	43.50%	27.50%	3.67	1.280
Average						**3.44**	**1.03**

4.2.4 Supporting Infrastructure and E-learning Use.

The study sought to find out whether supporting infrastructure influences the use of e-learning in public universities in Kenya. The findings are presented in Table 4.8. 92% of the respondents agreed with the statement that they had a computer and/or a laptop to facilitate e-learning. Above seventy five percent (75.4%) agreed that they had adequate internet access to facilitate e-learning while 84% of the respondents agreed that they had adequate access to an e-learning centre that is conducive to e-learning. However 94.1% disagreed to the statement that they had access to a qualified online instructor. The overall likert mean was 3.66 with a standard deviation of 0.947 and this implies that supporting infrastructure greatly influence the use of e-learning in Kenyan universities.

Table 4.7 supporting infrastructure and e-learning

Statement	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Mean	Std. Deviation
I have a computer and /or a laptop to facilitate e-learning	1.40%	0.00%	5.80%	31.90%	60.90%	4.51	0.740
I have adequate internet to facilitate e-learning	4.30%	13.00%	7.20%	34.80%	40.60%	3.94	1.187
I have adequate access to an e-learning centre/room that is conducive to e-learning	1.40%	8.70%	5.80%	47.80%	36.20%	4.09	0.951
I have access to a qualified online instructor	20.30%	63.80%	2.90%	11.60%	1.40%	2.10	0.910
Average						**3.66**	**0.947**

4.3 Pearson's Correlation Analysis

Bivariate correlation indicates the relationship between two variables. It ranges from 1 to -1 where 1 indicates a strong positive correlation and a -1 indicates a strong negative correlation and a zero indicates lack of relationship between the two variables. The closer the correlation tends to zero the weaker it becomes. Findings in Table 4.9 indicate that the correlation between e-learning and usefulness was strong and positive (0.472) and statistically significant (0.000). The correlation between e-learning and ease of use, and supporting infrastructure was 0.581 and 0.398 respectively with statistical significance of 0.000 0.001 respectively.

Table 4.8 Pearson's Correlation

Statement		E-learning	Usefulness	Ease of use	Supporting infrastructure
E-learning	Pearson Correlation	1			
	Sig. (2-tailed)				
Usefulness	Pearson Correlation	0.472	1		
	Sig. (2-tailed)	0.000			
Ease of use	Pearson Correlation	0.581	0.458	1	
	Sig. (2-tailed)	0.000	0.000		
Supporting infrastructure	Pearson Correlation	0.398	-0.029	0.031	1
	Sig. (2-tailed)	0.001	0.812	0.802	

Correlation is significant at the 0.01 level (2-tailed).

4.4 Factor Analysis

Factor analysis conducted on four statements measuring usefulness indicated that one factor can be extracted. The findings were presented in Table 4.10. The extracted factor explains 56.246% of the total variance. The extracted factor used the basis of Kaiser maximum criteria which indicates that an Eigen value of more than one constitutes a factor.

Table 4.9 Perceived usefulness

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.250	56.246	56.246	2.25	56.246	56.246
2	0.757	18.936	75.182			
3	0.598	14.958	90.14			
4	0.394	9.86	100			

Extraction Method: Principal Component Analysis.

The factor loadings indicated that the first statement "E- Learning saves time compared to face to face learning" attracted a factor loading of 0.855.The second statement "I score better marks when I undertake online courses" attracted a factor loading of 0.746 The statement "E-Learning saves me the inconvenience of walking to a class" attracted a factor loading of 0.708 while the statement 'E- Learning saves time compared to face to face learning" had a factor loading of 0.679.Overall, all statements loaded heavily (loadings were above 0.5) on the factor perceived usefulness. The findings are presented in Table 4.10.

Table 4.10 Component matrix for perceived usefulness

Statement	Component
E-Learning saves money compared to face to face learning	0.855
I score better marks when I undertake online courses	0.746
E-Learning saves me the inconvenience of walking to a class	0.708
E- Learning saves time compared to face to face learning	0.679

Extraction Method: Principal Component Analysis.

Factor analysis conducted on four statements measuring perceived ease of use indicated that one factor can be extracted. The findings were presented in Table 4.10. The extracted factor explains 66.195 % of the total variance. The extracted factor used the basis of Kaiser maximum criteria which indicates that an Eigen value of more than one constitutes a factor.

Table 4.11 Perceived ease of use

Total Variance Explained	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.648	66.195	66.195	2.648	66.195	66.195
2	0.579	14.474	80.668			
3	0.486	12.156	92.824			
4	0.287	7.176	100			

Extraction Method: Principal Component Analysis.

The factor loadings indicated that the first statement "I am comfortable with the online experience" attracted a factor loading of 0.876.The second statement "I find it easy to use the computer during online lessons" attracted a factor loading of 0.802.The statement "I find it easy to navigate through online courses" attracted a factor loading of 0.793 while the statement 'I find it easy to use online instructions during reading" had a factor loading of 0.780. Overall, all statements loaded heavily (loadings were above 0.5) on the factor perceived usefulness. The findings were presented in Table 4.12.

Table 4.12 component matrix for perceived ease of use

Statement	Component
I am comfortable with the online experience	0.876
I find it easy to use the computer during online lessons	0.802
I find it easy to navigate through online courses	0.793
I find it easy to use online instructions during reading	0.780

Extraction Method: Principal Component Analysis.

Factor analysis conducted on four statements measuring supporting infrastructure indicated that one factor can be extracted. The findings were presented in Table 4.13. The extracted factor explains 65.438 % of the total variance. The extracted factor used the basis of Kaiser maximum criteria which indicates that an Eigen value of more than one constitutes a factor.

Table 4.13 Supporting infrastructure

Total Variance Explained	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.618	65.438	65.438	2.618	65.438	65.438
2	0.635	15.871	81.309			
3	0.391	9.766	91.074			
4	0.357	8.926	100			

Extraction Method: Principal Component Analysis.

The factor loadings indicated that the first statement "I have a computer and /or a laptop to facilitate e-learning" attracted a factor loading of 0.827.The second statement "I have adequate internet to facilitate e-learning" attracted a factor loading of 0.852.The statement "I I have adequate access to an e-learning centre/room that is conducive to e-learning" attracted a factor loading of 0.844 while the statement 'I have access to a qualified online instructor" had a factor loading of 0.780. Overall, all statements loaded heavily (loadings were above 0.5) on the factor perceived usefulness. The findings were presented in Table 4.14.

Table 4.14 component matrix for supporting infrastructure

Statement	Component
I have a computer and /or a laptop to facilitate e-learning	0.827
I have adequate internet to facilitate e-learning	0.852
I have adequate access to an e-learning centre/room that is conducive to e-learning	0.844
I have access to a qualified online instructor	0.705

Extraction Method: Principal Component Analysis.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

Based on the findings of the study, the following conclusions are arrived at. Perceived usefulness is key in determining the use of e-learning in Public Universities in Kenya. Many e-learning students perceive the benefits related to such programs hence the reason for similar conclusion in this current study.

Perceived ease of use influences the use of e-learning. The way the student navigates through the e-learning process without difficulties is key in determining the use of such programs. If the program poses difficulties, less people are likely to use it as explained by the results.

It was concluded that supporting infrastructure such as provision of laptops was a key factor influencing e-learning in public universities in Kenya. Therefore, an increase in support infrastructure may improve the use of e-learning.

5.2 Recommendations

The universities should ensure that e-learning saves time compared to face to face learning. They should also be in such a position that ensures that e-Learning saves money compared to face to face learning for the students.

Universities should also ensure that e-learning saves the students the inconvenience of walking to a class and put the program in a way to enable the students score better marks when they undertake online courses.

Learning institutions should ensure that students find it easy to use the computer during online lessons. They should also implement measures to enable students find it easy to navigate through online courses and ensure that such students are comfortable with the online experience. Furthermore, they should ensure that the students find it easy to use online instructions during reading, for instance they could enhance this through training students on how such online programs are taken.

Regarding infrastructure learning institutions should ensure that the students have a computer and /or a laptop to facilitate e-learning and that they have adequate internet to facilitate e-learning. They should also ensure that the students have adequate access to an e-learning centre or room that is conducive to e-learning. Moreover they should ensure the students have access to a qualified online instructor. This will help the students to have more appreciation of the program.

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