INDONESIAN JOURNAL OF EDUCATIONAL RESEARCH AND REVIEW
Volume 7 Nomor 2 2024, pp 253-262
E-ISSN: 2621-8984; P-ISSN: 2621-4792
DOI: https://doi.org/10.23887/ijerr.v7i2.67963

Institutional and Students' Factors Influencing Adoption of E-Learning in Higher Educational Institutions in Kenya: A Case of Public Universities

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Abstrak

E-learning sebagai aspek penting dari TIK adalah model baru dispensasi pendidikan di Perguruan Tinggi (HEI) di seluruh dunia. Namun, model pendidikan yang ditingkatkan secara teknologi ini masih berada pada tahap awal di negara-negara berkembang, termasuk di Kenya. Tujuan dari penelitian ini adalah untuk menilai faktor-faktor kelembagaan dan siswa yang mempengaruhi adopsi e-learning di Perguruan Tinggi Pembelajaran di Kenya. Tujuan spesifiknya adalah: untuk mengetahui dampak kebijakan e-learning institusional (IEP) terhadap penerapannya di Perguruan Tinggi di Kenya, untuk mengetahui dampak persepsi kemudahan penggunaan (PEU) dosen atas e-learning terhadap penerapannya di Perguruan Tinggi dan untuk mengetahui pengaruh manfaat yang dirasakan siswa (PU) dari e-learning terhadap penerapannya di Perguruan Tinggi. Penelitian ini didasari oleh Technology Acceptance Model. Penelitian ini mengkaji 69 literatur empiris relevan menggunakan metaan alisisis. Studi ini menemukan bahwa persepsi kemudahan dosen dalam menggunakan e-learning mempengaruhi pengadopsiannya, bahwa kebijakan e-learning institusi mempunyai hubungan yang signifikan dengan adopsi e-learning dan persepsi kegunaan e-learning mahasiswa mempunyai pengaruh yang besar terhadap pengadopsiannya di dunia pendidikan. Universitas. Temuan penelitian ini mempunyai implikasi pada pengawasan ketat terhadap kebijakan e-learning universitas terhadap implementasinya; pemberian pelatihan e-pedagogis kepada dosen dalam rangka peningkatan kapasitas e-learning; implikasinya pada persiapan mahasiswa Departemen TIK universitas untuk model pendidikan e-learning. Singkatnya, temuan penelitian ini akan menginformasikan praktik organisasi terbaik menuju efektivitas e-learning.

***Kata kunci*:** *Kelembagaan, Faktor yang Mempengaruhi, E-learning, Perguruan Tinggi*

Abstract

E-learning as a crucial aspect of ICT is a new model of education dispensation in the Higher Educational Institutions (HEIs) across the world. However, this technologically enhanced educational model is still at the infancy stage in the developing countries, Kenya not exceptional. The purpose of the study was to assess the institutional and students' factors influencing adoption of e-learning in Higher institutions of Learning in Kenya. The specific objectives were: to establish the impact of institutional e-learning policy (IEP) on its adoption in HEIs in Kenya, to establish the impact of lecturers' perceived ease of use (PEU) of e-learning on its adoption in HEIs and to establish effect of students' perceived usefulness (PU) of e-learning on its adoption in HEIs. The study was underpinned by Technology Acceptance Model. This study reviewed 69 relevant empirical literatures whose meta- analysis was guided. The study established that lecturers' perceived ease of use of e-learning affects its adoption, that institutional e-learning policy has significant relationship with e-learning adoption and that students' e-learning perceived usefulness has a great effect on its adoption in the university. The study findings have implications on close scrutiny of universities' e-learning policies toward its implementation; on provision of e-pedagogical training to lecturers toward e-learning capacity building; implications on universities' ICT Departments' preparation of students for e-learning educational model. In a nutshell the study finding would inform the best organizational practices towards e-learning effectiveness.

Keywords: Institutional, Influencing Factors, E-learning, Higher Education

History:
Received : September 07, 2023
Accepted : January 05, 2024
Published : July 25, 2024

Publisher: Undiksha Press

1. INTRODUCTION

The purpose of the study was to assess the institutional and students' factors influencing adoption of e-learning in higher institutions of Learning in Kenya. The specific objectives were: to establish the impact of institutional e-learning policy (IEP) on its adoption in HEIs in Kenya, to establish the impact of lecturers' perceived ease of use (PEU) of e-

learning on its adoption in HEIs and to establish effect of students' perceived usefulness (PU) of e-learning on its adoption in HEIs (Elshami et al., 2021; Rajabalee & Santally, 2021). The study objectives guided the logical flow of information. The study established that lecturers' perceived ease of use of e-learning affects its adoption, that institutional e-learning policy has significant relationship with e-learning adoption and that students' perceived usefulness of e-learning has a great effect on its adoption in the university (Asamoah, 2021; Santelli et al., 2020). The study findings have implications on close scrutiny of universities' e-learning policies towards its implementation; on provision of e-pedagogical training to lecturers toward e-learning capacity building; implications on universities' ICT Departments' preparation of students for e-learning educational model (Dimova, 2020; Nungu et al., 2023; Tawafak et al., 2019). The growth of technological expansion in the globalized digital approach toward educational dispensation brings the novelty of the practice in the modern society (Akimov & Malin, 2020; Blau et al., 2020). The study is presented as follows: introduction, materials and methods, results and discussions, conclusions and implications of the study findings.

E-learning is an electronically enhanced education that is today gaining popularity not only in higher institutions of learning but too in basic education (Ainon & Rosmaizura, 2018; Cohen et al., 2020). Previous study that focus on factors affecting adoption of e-learning at university level in Poland maintain that the dynamic development of e-learning got greatest impetus from the global issue of Covid-19 Pandemic that compelled governments to close down institutions of learning to keep necessary distances to control the rapid spread of this destructive human threatening virus (Ozdal & Ozdamli, 2017). Institutions of learning would alternatively resort to e-learning as an alternative means of educational dispensation as opposed to traditional face-to-face model. However, despite the new approach to educational implementation through e-learning, multiple challenges have come with this innovation. That in the era of competition today, HEIs need to improve business models or build new ones, with intention to make them more effective (Schunk & DiBenedetto, 2020; Tawafak et al., 2019).

The study explains the relationships of six input variables namely perceived usefulness (PU); Perceived ease of use (PEU); Facilitating condition (FC); Computer Self efficacy (SE); the Preparedness level (PL); Previous experience and output variables visa self-satisfaction and personal development (SPD) (Azman et al., 2020; Liaw & Huang, 2013). The study explored web-interview technique to collect data. Results gotten showed that perceived usefulness played a critical role in attitudes of students towards e-learning and achieved satisfaction and personal development. That men scored higher in their computer self-efficacy and variable facilitating conditions got a higher score from female respondents. The results gotten may form a focus for building strategies of universities' building business models in e-learning (Erdem, 2017; Qodr et al., 2021).

E-learning adoption in HEIs has been a concern in various parts of the world, for example a study on e-learning readiness at the Open University of Malaysia, while cognizant of the significant role played by e-learning in implementation of Open, Distance and E-learning programs, for students and lecturers (Smaldino & Lowther, 2017; Tessmer, 2013). Their study established that there existed a weak corporate policy framework on e-learning and consequently rendering its implementation uphill. Base on the problem this study have purpose to establish the institutional and students' factors influencing the adoption of e-learning in Public Universities in Kenya. This novelty of research focuses on higher education institutions in Kenya, a country that has different challenges and dynamics compared to other countries, both in technological infrastructure and e-learning acceptance patterns.

2. METHODS

The research involved review of empirical literature on Institutional and Students' Factors Influencing Adoption of E-Learning in Higher Educational Institutions in Kenya: A Case of Public Universities. The research methodology involved the use of meta-analysis through which the data from a number of independent studies that used different tools and approaches but addressing the same theme were utilized in order to determine the overall trends. The main reason for using the meta-analysis technique is to help in combining the results of a number of different reports addressing a single common theme in order to create a more precise estimate of an affect (Grant, 2019). Some of the methods used by various researchers whose work were analysed include: Descriptive survey design; Descriptive statistics and Heckman PR obit Model; Mixed method approach; Heckman Sample selective model; Focus group discussions; Participatory and Epidemiological methods; Consensus model; Qualitative and quantitative approaches and Literature review design. Below is a map of Kenya showing geospatial locales of higher institutions of learning in Kenya.

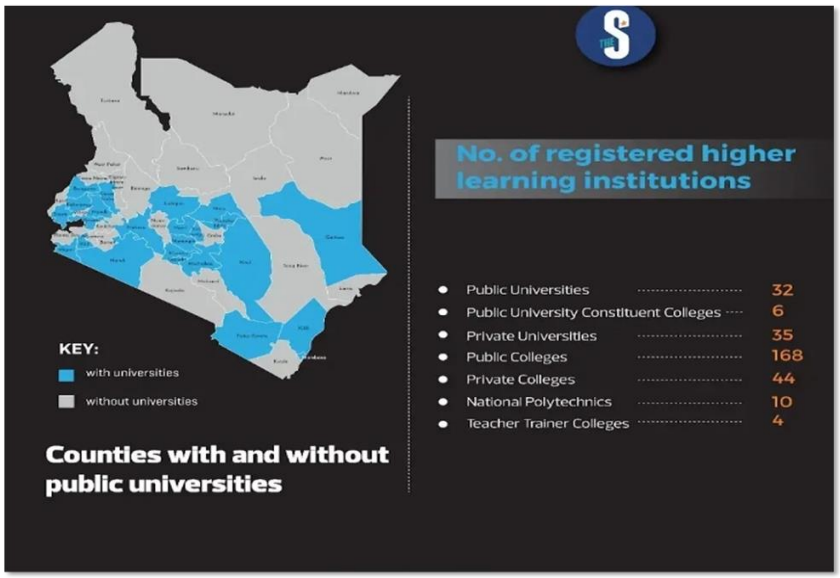

Figure 1. Map of Kenya showing the Locations of Registered Higher Educational Institutions

The central issues of the study were underpinned by Technology acceptance model developed by Davis (1989) that has three essential components namely; Perceived ease of Use (PEU); Ease of Use (PU) and Intention to use (IU).

3. RESULTS AND DISCUSSION

Results

The Impact of Institutional E-Learning Policy on its Adoption in Kenya's Universities

The effects of institutional support factors on lecturer adoption of e-learning in a conventional university focused on implementation of e-learning at Maseno University's e Campus on an evaluational statistics on the institutional learning management system (LMS) two years from the time of its implementation (Tessmer, 2013; Zimmer & Matthews, 2022). The study established that lecturers had positive perceptions of e-learning and self-efficacy on its adoption. The gap in the e-learning adoption in the university was perceived by the respondents to be due to inadequate institutional support for the program (Blumberg & Fisch, 2013; Schunk & DiBenedetto, 2020). Implications of the study findings on lecturers'

likelihood of better adoption of e-learning model but also where the institution work towards community e-learning support on its mainstream policy dispensation.

Another study on the status of e-learning quality in Kenya: a case of Jomo Kenyatta University of Science and Technology Post Graduate Students acknowledges the significance of learning management system (LMS) support in higher educational institutions more so the developing nations. There is evidence from empirical literature on quality challenges of e-learning implementation including a gap in course design, a gap in content support, administrative support, course assessment, learner characteristics, instructor characteristics and institutional factors (Kumar & Nanda, 2019; Tessmer, 2013). That with regard to e-learning adoption in institutions of learning it is evident that the venture is still at the infancy stage. The study used literature review design and established the quality of e-learning adoption in Jomo Kenyatta University demonstrates shortfalls due to the aforementioned factors above. The findings have implications for the institutional management to provide a framework for ensuring quality of e-learning is ensured through appropriate interventions like having senate supported e-learning policy, university management's ICT infrastructure investment, provision of corporate e-training opportunities for the lecturers and students (Karunaratne et al., 2018; Qodr et al., 2021).

The barriers to e-learning adoption in higher education: roadmap to successful implementation observe that e-learning is essential to Moroccan universities, especially open access to institutions to help them face mystification of education or increasing student demand, and quality concerns (Jensen & Konradsen, 2018; Lassoued et al., 2020). Despite the initiatives towards technology-assisted learning, various barriers exist that bottleneck this orientation especially e-learning. The study focused on more significant e-learning barriers in the Moroccan universities, with view to addressing them through appropriate interventions to help towards full and efficient operationalization of this great technology enhanced educational innovation (Akram et al., 2022; Regmi & Jones, 2020).

The Effects of Lecturers' Perceived Ease of Use of E-Learning on Its Adoption

Previous study revealed lack of significant relationship between lecturers' preparedness for e-learning and knowledge of the existence of ICT training program ,that the existing ICT training program is acutely underdeveloped in-terms of funding (Eze et al., 2018; Mardiah, 2020). Lecturer preparedness has close association with perceived adequacy of budgetary allocation for ICT program at the departmental level. Internet connectedness and timely ICT technical support is closely associated with lecturers' preparedness for e-learning. The findings imply that poor setting of the university necessitates consideration of partnerships towards creating awareness on e-learning and resource sharing and to revamp existing ICT training programs more financial support and create necessary linkages with program funding institutions (Palupi, 2022; Simamora et al., 2020).

Other study finding were analysed using descriptive statistics, while the inferential statistics were adopted in analysis of data on correlational study, and principal component study analysis. The study established that: computer literacy highly relates to learning management system (LMS) (Potter & Thai, 2019; Rand & Morrow, 2021). Perceived e-learning usefulness and job relevance were predictor variables of behavioural intention to use e-learning. The finding had implications on efforts towards e-learning adoption through putting place opportunities for improving computer literacy (Craig Gamble, 2017; Kumar & Nanda, 2019). The faculties had negative perceptions of institutional e-learning support and also schools' e-learning support, consequently institutions need to enhance e-learning support in its mainstream policy direction.

Adoption of e-learning in public universities in Kenya used a descriptive survey design in which 420 lecturers and 210 students were sampled for the study (Tawafak et al.,

2019). Lecturers ranked heavy workload as the greatest challenge they faced towards adopting e-learning, fouled by inadequate internet connectivity, lack of copyright their developed learning modules, limited ICT skills, lack of incentives, deficient ICT equipment and infrastructure, insufficient time for online interaction. The finding has implications on a more focused ICT training for lecturers to equip them with relevant knowledge and skills for e-learning, provision of adequate ICT equipment and infrastructure as a mainstream avenue toward making e-learning implementation effective (Apostolou, 2020; Tran et al., 2020).

The Impact of Students' Perceived Usefulness of E-Learning

Previous study in Kenya on readiness to adopt e-learning: a case study of Alupe university, Kenya used quantitative and descriptive case study designs (Sulo et al., 2012). Trends, specific sections for describing, evaluating and understanding technical skills of 300 Alupe University College (AUC) students. The study established amongst other limitations of e-learning: inadequate access to e-learning equipment, deficient ICT technical support for both students and lecturers, lack of senate originated e-learning policy, perceived ease of use and perceived usefulness have strong prediction of acceptance of e-learning (Amaris et al., 2022; Lytvyn et al., 2020). Implications of the study findings on management reorientation of e-learning programs towards improving in the practice. Necessary training and timely university ICT technical support for the students and lecturers as a way of smoothening e-learning adoption at Alupe University, Kenya (Hanafi et al., 2017; Pewkam & Chamrat, 2022).

Other study on factors influencing the adoption of intention of things for e-learning in higher educational institutions in developing nations dealt with the concept intention of things (Zimmer & Matthews, 2022). Intention of things as an emerging paradigm of educational application and innovative technology in the current era. While capabilities are increasing day by day there are still limitations and challenges of using this teaching within e-learning in HEIs. IOT is successfully implemented in the USA, Japan and China. Finding showed the national culture has significant role in enhancing technological orientation within the framework of socio-economic inclination in developing countries (Abbas, 2020; Ghani et al., 2022).

Previous study on barriers and enablers to adoption and diffusion of e-learning :a systematic review of literature –a need for an integrative approach had analysis of 300 articles (Mailizar et al., 2020). The study established barriers to e-learning adoption including negative attitudes of the consumers, lack of e-learning policy directions by the organizational management, while enablers could include proper organizational e-learning policies ,basic literacy framework for the e-learning consumers-learning pedagogical training for the instructors, amongst others (Boahene et al., 2019; Díez et al., 2020). Lack of sound ICT and e-learning modes has been blamed for sluggish adoption of the program in the universities in the developing nations (Fernández-Batanero et al., 2022; Parra, 2021). A gap in institutional ICT infrastructure coupled with lack of or a weak institutional policy framework on the same has been blamed for slow adoption of technology enhanced learning. Such concerns have been raised by scholars such as.

Discussion

Guided by the Technology Acceptance Model as a reference point of questioning, analysis and discussions of the central theme of this paper (Yıldırım, 2016), the aspect of independent variable of Institutional e-learning policy on e-learning adoption in HEIs in regard to this subject scholar gave a detailed look at the policy issues on implementation of e-learning in Libyan Universities, established that: e-learning policy gaps have been a bottle-neck to its operationalization; Lecturer' perceived ease of use of e-learning (PEU) on e-

learning adoption in HEIs and students' perceived e-learning usefulness (PU) on its adoption; That PEU and PU affected its intention to use (IU) and consequently impacting on its adoption; That there is quite a slow pace of adoption of e-learning in HEIs in less developed countries as compared to those in the developed nations; That more needs to be done including exposing students and instructors and offering continuous support to them by the institutions to help them acquire the requisite technological skills in computer towards e-learning orientation (Abbas, 2020; Tschand et al., 2020). This may help in smoothening the realization of e-learning especially in the developing nations.

The technology integrated and driven approach is the new dynamic approach to educational service dispensation through well-developed e-learning programmes, which have proven handy in the event of unforeseen emergencies like the recently globally experienced Covid-19 Pandemic that witnessed the countries locking down the institutions of learning (Jeong, 2017; Wu et al., 2021). That e-learning paradigm is new globally technology driven learning and teaching approach that is rapidly spreading and being adopted in the HEIs, for purposes of self-efficacy, efficiency, collaborative, learner -centred, learning anytime, anywhere, it works well with the scarcity of teaching force for face-to-face traditional conventional teaching/learning approach in the HEIs toward, cost effectiveness and cost saving for students' travel engagements that otherwise characterize the traditional face-to-face teaching/learning approach (Beesoon & Cant, 2023; Mulenga & Marbán, 2020).

Studies have shown how perceived usefulness of educational technologies usually have a bearing on its adoption in HEIs-that it affects both the students' lecturers' administrative assistance to accept or reject technology. That Ease of use of technology will influence intention to use technology-the context of the current study Intention to use technology in the current study, e-learning (Chávez Arcega, 2010; Ilic, 2021). The study findings have implications on the universities' re-engineering their e-learning policy frameworks towards providing an enabling environment for ensuring e-learning effectiveness in the mainstream university program practice. In a nutshell it will ensure that the digitized educational dispensation within the framework of Globalized trends would be adequately given due attention (Fitriansyah et al., 2020; Roy, 2019). The study of this magnitude is essential since it is addressing an area so pertinent concern within educational theory and practice. That technology enhanced education is a requirement in the 21st Century essential educational skills, a scenario that is being adopted in countries of the world, Kenya not exceptional.

4. CONCLUSION

In conclusion, the paper has presented that e-learning paradigm to content delivery is rapidly being adopted especially in the HEIs and that the degree to which e-learning is being adopted vary from amongst countries so that it appears to be sluggish in less developed countries as compared to the developed nations. It has also been presented that E-learning model/paradigm requires clear institutional policy framework for it to sufficiently operationalized. The paper has also illustrated that Perceived usefulness and perceived ease of use of e-learning in a HEIs education set up will affect the attitudes of the its consumers. i.e. students and the lecturers and other stakeholders which impact on its adoption and that studies should be done on effects of e-learning of university students' academic performance, on impacts of university's e-learning policy its quality and implementation, on e-assessment and its effects on students' performance on university examinations.

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