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Drivers and Barriers to eLearning Adoption by Academic Staff in Bayero University, Kano, Nigeria

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Abstract
eLearning is the utilization of electronic technology and media for teaching and learning. This type of pedagogy has become a main stay in higher institutions in developed countries. Despite its advantages over traditional methods of teaching as found in the literature, only few have made it requirement for teaching or have adopted it their pedagogy. As such, this paper seeks to uncover the drivers and barriers to eLearning adoption by academic staff in Bayero University, Kano one of the Second generation universities in Nigeria. A descriptive cross-sectional approach was adopted for this study which involved 187 respondents (179 retrieved). Data was descriptively analyzed using SPSS version 27. Majority of the respondents reported to have a Master degree as their highest level of qualification. Also, more than half of the respondents (58.1%) strongly disagreed that the management is aware of the benefits of eLearning while more than one third of the respondents stated that they intend to use eLearning if given the opportunity. Furthermore, nearly half of the respondents strongly disagreed that eLearning increases workload, and more than half of the respondents representing (59.8%) strongly agreed that eLearning eases work and more than one third of the respondents (45.3%) believed that access to ICT is a facilitating factor in adoption of e-leaning among academic staff in Bayero University, Kano. In this regard, the university management need to encourage staff to use eLearning including provision of supportive infrastructure and personnel.

Keywords: *eLearning, Academic staff, Technology acceptance model, Drivers, Barriers*
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Introduction

Since 2007, Nanayakkara noted that digital technologies are bringing and will continue to bring changes in the practices and methods of teaching and learning processes in higher education institutions globally (Nanayakkara, 2007). Thus with the advent of eLearning, which encompasses different computer applications, processes, and learning methods to promote access to both teaching and learning, it might be assumed that indeed technology has transformed education. Authors such as Wentling et al. (2000) and Liu and Wang (2009) suggested the definition of eLearning to mean knowledge acquisition and application facilitated and transmitted through electronic means. Though Haythornthwaite, Andrews, Fransman, and Meyers (2016) identified that eLearning is often synonymous with the implementation of institutional learning management systems or virtual learning environments. Irrespective of the definition, eLearning is seen to be the use of technology with both learning and teaching which is often used in learning institutions. As posited by Al-alak and Alnawas (2011), eLearning consists of three components; technology and infrastructure, instructors/teachers, and students. As such these components must need to balance each other in order to ensure successful delivery of eLearning. However, this is not often the case, especially in developing countries (Al-alak & Alnawas, 2011). The adoption of eLearning

by academic staff is intended to strengthen the socio-constructivist strategy in pedagogy (Shin & Yunus, 2021). Even though there might be the availability of resources for eLearning such as the internet, network-enabled computers, and applications in most universities in Nigeria, adoption by academic staff is still not very (Omobolaji, Charles, Oni, Tomilayo, Okezie & Udenwagu, 2019). Often the technologies may be procured without input by the end-user leading to abandonment or inappropriate uptake due to unreliability (Button, Harrington, & Belan, 2014), teacher/student poor computer literacy (Bhardwaj, Nagandla, Swe, & Abas, 2015; Button et al., 2014), or non-availability of infrastructure for eLearning entirely.

All these are likely to have a wider impact on the transformation of education especially in higher institutions. This was apparent during the COVID-19 pandemic where most institutions in developing countries including Nigeria that were lacking uptake of eLearning had their academic calendars carried forward because teaching and learning were dependent on traditional didactic methods. One can reasonably conclude that despite the challenges in transiting to eLearning in higher institutions, eLearning will continue to grow as an alternative and reliable means to education delivery (Rouleau et al., 2019). In this regard, this paper seeks to examine drivers and barriers to eLearning adoption by academic staff in an institution of higher learning in Bayero University, Kano, Nigeria.

Materials and Method

The research adopted a descriptive cross-sectional approach. One hundred and seventy-eight respondents were drawn from across 3 campuses of the university comprising of 95 departments. Respondents were selected using stratified sampling in which each department was identified as a homogenous block. Final respondents were chosen randomly from a list of academic staff within a randomly selected department. Information elicited were from three domains on the adoption of technologies; perception of adoption of eLearning (7 items), barriers to eLearning adoption (8 items), and drivers to eLearning adoption (8 items). Items used to examine participants' barriers and drivers to eLearning adoption were adapted from the available literature on Unified Theory of Acceptance and Use of Technology (UTAUT) and the Technology Acceptance Model (TAM) (Pai & Huang, 2011; Shin & Yunus, 2021; Venkatesh, Morris, Davis, & Davis, 2003). These items were drawn from key constructs of perceived usefulness, perceived ease of use, facilitating conditions, and social influence. Analysis for these domains was done using Statistical Package for Social Sciences (SPSS) for means of the test items generated from Likert scales.

Results

The results are presented according to the three domains mentioned in the previous section. All results are presented in means and percentages.

Table 1: ***Socio-demographic characteristics (N=179)***

Variable	Frequency (n)	Percentage (%)
Age (in years)		
<30	1	0.6
30-40	60	33.5
41-50	98	54.7
>50	20	11.2
Gender		
Male	142	79.3
Female	37	20.7
Marital status		
Married	163	91.1
Single	1	0.6
Widow/widower	15	8.3

Variable	Frequency (n)	Percentage (%)
Religion		
Islam	158	88.3
Christianity	21	11.7
Ethnicity		
Hausa	89	49.7
Yoruba	6	3.4
Igbo	29	16.2
Others	55	30.7
Highest level of education		
Masters	139	77.7
PhD	40	22.3
Rank		
Professor	2	1.1
associate professor	17	9.5
senior lecturer	59	33.0
lecturer I	95	53.1
lecturer II	6	3.3
Campus		
AKTH	23	12.9
Old site	62	34.6
new site	94	52.5
working experience		
<5 years	35	19.6
6-10	41	22.9
11-15	67	37.4
>15	36	20.1

Table 2: *Perception of Academic staff towards eLearning adoption (N=179)*

Variables	**1** **F**	**(%)**	**2** **F**	**(%)**	**3** **F**	**(%)**	**4** **F**	**(%)**	**5** **F**	**(%)**
I intend to use the internet to support my teaching **(Mean= 3.70 SD= ± 1.249)**	17	(9.5)	13	(7.3)	33	(18.4)	60	(33.5)	56	(31.3)
I feel confident that i can teach a successful eLearning course **(Mean= 3.51 SD= ± 1.330)**	16	(8.9)	35	(19.6)	22	(12.3)	54	(30.2)	52	(29.1)
I will not enjoy using computers in my teaching **(Mean= 1.94 SD= ± 1.217)**	96	(53.6)	33	(18.4)	19	(10.6)	26	(14.5)	5	(2.8)
eLearning is an effective medium for learning. **(Mean= 2.17 SD= ± 1.306)**	72	(40.2)	59	(33.0)	5	(2.8)	31	(17.3)	12	(6.7)
I can teach effectively through eLearning **(Mean= 3.50 SD= ± 2.040)**	34	(19.0)	15	(8.4)	17	(9.5)	71	(39.7)	42	(23.5)
The management is aware of the benefits of eLearning.	104	(58.1)	32	(17.9)	18	(10.1)	20	(11.2)	5	(2.8)

Variables	1 F	(%)	2 F	(%)	3 F	(%)	4 F	(%)	5 F	(%)
(Mean= 1.83 SD= ± 1.165)										
I intend to teach eLearning courses when I am given the opportunity. **(Mean= 3.99 SD= ± 1.173)**	4	(2.2)	26	(14.5)	21	(11.7)	44	(24.6)	84	(46.9)

1= Strongly disagree, 2= Disagree, 3= Uncertain, 4= Agree & 5 = Strongly agree

Table 3: *Perceived barriers to eLearning adoption by academic staff*

Variable	1 F	(%)	2 F	(%)	3 F	(%)	4 F	(%)	5 F	(%)
Lack of familiarity with the information and communication technology **(Mean= 2.89 SD= ±1.512)**	51	(28.5)	33	(18.4)	15	(8.4)	47	(26.3)	33	(18.4)
Time consuming and time constrain **(Mean= 2.37 SD= ±1.332)**	56	(31.3)	61	(34.1)	21	(11.7)	21	(11.7)	20	(11.2)
Lack of awareness **(Mean= 2.78 SD= ±1.360)**	38	(21.2)	51	(28.5)	27	(15.1)	39	(21.8)	24	(13.4)
Lack of agreement with the ICT applicability at the institution **(Mean= 308 SD= ±1.289)**	17	(9.5)	60	(33.5)	23	(12.8)	49	(27.4)	30	(16.8)
Challenge to autonomy **(Mean= 3.39 SD= ±1.083)**	9	(5.0)	28	(15.6)	54	(30.2)	60	(33.5)	28	(15.6)
Lack of motivation to use ICT **(Mean= 3.40 SD= ±0.963)**	5	(2.8)	21	(11.7)	53	(29.6)	75	(41.9)	53	(14.0)
Confidentiality and security related concern **(Mean= 3.01 SD= ±1.213)**	24	(13.4)	45	(25.1)	28	(15.6)	69	(38.5)	13	(7.3)
Increase workload **(Mean= 2.20 SD= ±1.485)**	87	(48.6)	38	(21.2)	11	(6.1)	17	(9.5)	26	(14.5)

1= Strongly disagree, 2= Disagree, 3= Uncertain, 4= Agree & 5 = Strongly agree

Table 4: *Perceived drivers to eLearning adoption by academic staff*

Variables	1 F	(%)	2 F	(%)	3 F	(%)	4 F	(%)	5 F	(%)
Ease of work **(Mean= 4.41 SD= ± 1.026)**	11	(6.1)	6	(3.4)	6	(3.4)	49	(27.3)	107	(59.8)
Familiarity with ICT **(Mean= 3.89 SD= ±1.164)**	10	(5.6)	15	(8.4)	26	(14.5)	61	(34.1)	67	(37.4)
Access to ICT **(Mean= 4.39 SD= ±5.396)**	9	(5.0)	14	(7.8)	24	(13.4)	81	(45.3)	51	(28.5)
Management support **(Mean= 3.97 SD= ±1.101)**	5	(2.8)	32	(17.8)	10	(5.6)	59	(33.0)	73	(40.8)
Compatibility **(Mean= 3.77 SD= ±1.160)**	9	(5.0)	23	(12.8)	22	(12.3)	71	(39.7)	54	(30.2)
Students' attitude and preferences **(Mean= 3.90 SD= ±0.984)**	3	(1.7)	16	(8.9)	30	(16.8)	77	(43.0)	53	(29.6)
Participation of end-users in implementation strategy **(Mean= 4.04 SD= ±1.043)**	6	(3.4)	12	(6.7)	21	(11.7)	69	(38.5)	71	(39.7)
Applicability to the characteristic of student **(Mean= 4.12 SD= ±1.058)**	13	(7.3)	2	(1.1)	6	(3.4)	87	(48.6)	71	(39.7)

1= Strongly disagree, 2= Disagree, 3= Uncertain, 4= Agree 5 = Strongly agree

Discussion

The discussion of the findings examines the relationship of the current results with corresponding literature across as it applies to the perception of adoption of eLearning by the respondents, their perceived barriers, and their perceived drivers to the adoption of eLearning in the pedagogy.

Perception of adoption

Findings from this study show that more than half of the respondents strongly disagreed that management is aware of the benefits of eLearning and more than one-third (46.9%) of the respondents strongly agreed that they intended to use eLearning if they were given the opportunity. This supports the findings of Xhaferi, Bahiti, and Farizi (2021) where they identified that all lecturers that participated in their study had a positive attitude towards the adoption of eLearning for their teaching. Though as suggested earlier by Shin and Yunus (2021), the eLearning technologies may be available (provided by the management of the institution), adopting it for use might be challenging without the

management's active support and encouragement. In the same regard, more than one-third of the respondents representing (39.7%) agreed that they can teach effectively using eLearning. This might be connected to their intention to use the internet (33.5%) to support their teaching. Al-alak and Alnawas (2011) also identified that lecturers within their study indicated a strong attitude towards the use of eLearning even though they highlight the need for incentive for use by institutional management.

Perceived barriers

Findings from this study indicate that nearly half of the respondents (48.6%) strongly disagreed eLearning increased workload and more than one third (41.9%) agreed that lack of motivation is a barrier in the adoption of eLearning. In this regard, Al-alak and Alnawas (2011) report that though lecturers might want to adopt eLearning, pressures from management might demotivate them since they might not have had the requisite training and poor deployment of the technology. In the same line, some authors (Rouleau et al., 2017; Rouleau et al., 2019) suggest that barriers to eLearning in addition to those identified by this study might also include lack of computer/digital competence, preference to traditional didactic methods, and slow information communication. Though it is important to note that even those who show a strong attitude towards adoption might not have the necessary infrastructures such as the internet and sustained power supply within the workplace. Unlike most public universities in developed settings where staff is provided with internet-enabled computers, academic staff in universities in most developing countries including Nigeria are responsible for both their technology hardware and software (and in most cases including internet subscription).

Perceived drivers

In this study, more than half of the respondents (59.8%) indicate that eLearning could ease their work while more than one-third of the respondents (45.3%) agreed that access to ICT (Rouleau et al., 2019) is an important facilitating factor in the adoption of eLearning. Also, about 40% of the respondents indicated that management support will also be an important facilitating factor for eLearning adoption. The latter was also supported by the findings of Al-alak and Alnawas (2011) who in addition to management support highlighted that computer knowledge and experience were strong drivers for the adoption of eLearning among academic staff in universities. Bhardwaj et al. (2015) suggest that a good motivator for adopting an eLearning approach is to involve the educators in the design of the eLearning tool. This is expected to go a long way as they will be able to contextualize it within their areas of teaching. Giannakos, Mikalef, and Pappas (2021) suggest also that studies agree that the use of eLearning users an opportunity to learning in differentiated/individualized (Shin & Yunus, 2021) times which often suits both the educator and the student. Thus this can serve also as a driver to the adoption of these learning technologies.

It is important to note that social connections as suggested by Wasserman and Migdal (2019) are also viewed as perceived drivers. This is so because it tends to remove the anxiety and empowers the student to contribute more through engagements on taught topics.

These findings suggest that there is a need for an active engagement between university management and staff regarding the benefits of eLearning both to the staff and the students. The management needs to engage the staff in selecting the most appropriate resources needed for rolling out this type of didactic approach. Also, staff needs to be ready to move away from their comfort zones and accept the eLearning resources provided by the management. This will improve both the quality and efficiency of teaching.

Conclusion

A move away from traditional didactic methods will always be challenging in the absence of institutional support (including provision infrastructure, technical and training

support) and motivation in addition to academic staff involved in the development/choice of eLearning. As seen in the current study, though some academic staff perceived that the University is not supportive in the use of eLearning for teaching and learning nonetheless only less than half of them are willing to adopt this method of teaching. The world of technology and innovation is moving fast, especially in the academic arena. Though not without its challenges (as suggested by some literature) but the use of eLearning has been shown to be invaluable globally, especially during the COVID19 pandemic. Academic staff needs to harness this indispensable partner in engagement with their students. Though this study did not investigate the relationship between socio-demographic attributes and eLearning adoption, it will be interesting to examine how characteristics such as rank, gender, years of teaching experience, and age might affect the adoption of eLearning in academic institutions in developing countries.

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