

Implementation of E-Learning:

Findings and Lessons

A Case of Zambia ICT College

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INTRODUCTION



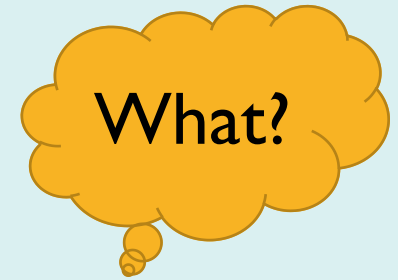
PROBLEM STATEMENT

- Because of Covid 19 pandemic, Normal learning using face to face interactions gets disrupted
 - Teaching and learning processes are expected to Continue
 - Adhoc implementation of eLearning at the College
 - College trained academic staff on how to conduct synchronous and asynchronous teaching to students using eLearning tools
- No intervention was done on the part of students.
- Thus this study seeks to assess the challenges that student's faced in accessing online learning.



RESEARCH OBJECTIVES AND QUESTIONS

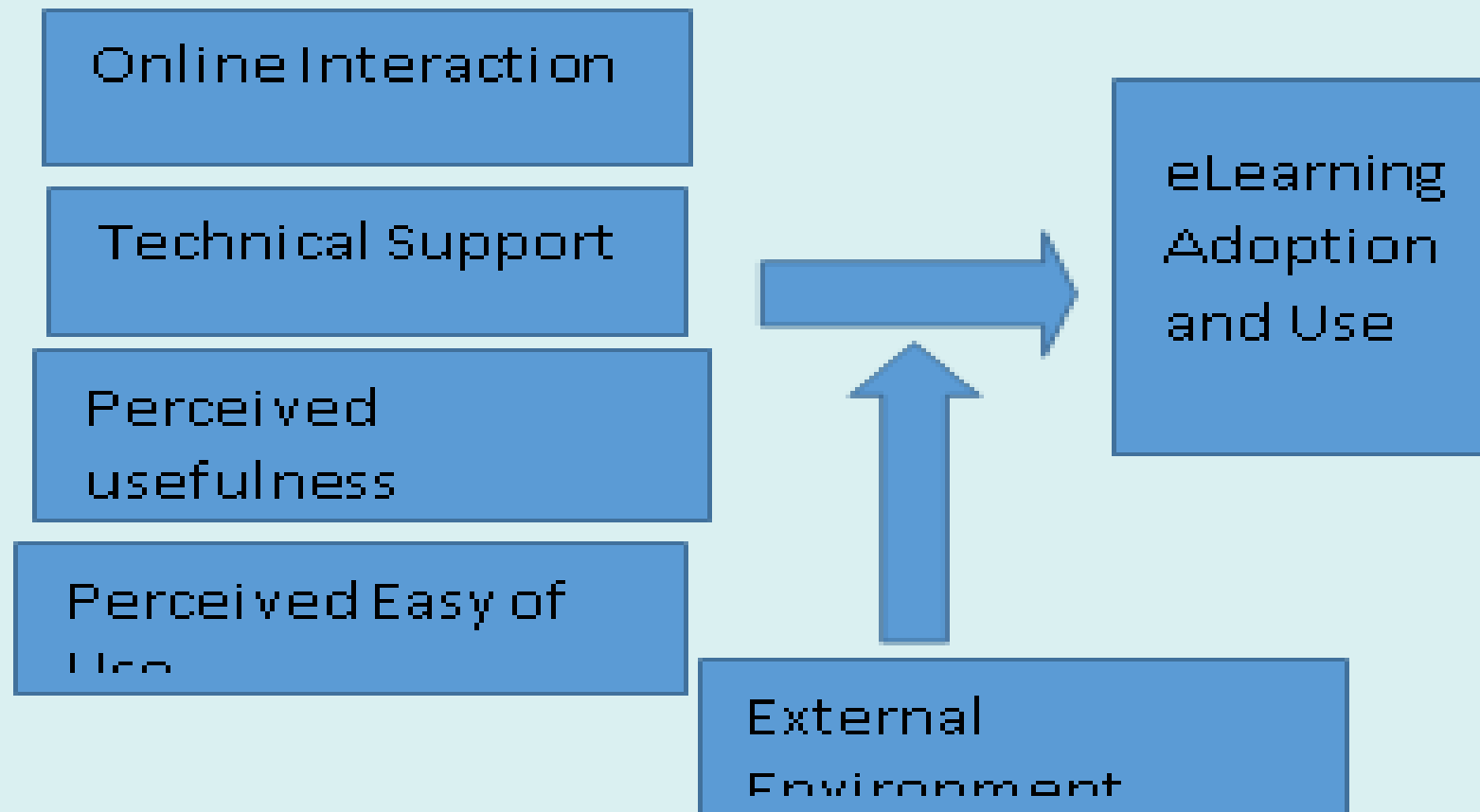
- Find out the challenges and obstacles students faced whilst accessing the online teaching and learning.
- Establish if at all there exists Significant differences in some challenges in the adoption and use of the eLearning by students at ZICTC based on demographic background
- Highlight the lessons learnt and make recommendations



CONCEPTUAL FRAMEWORK (TAM)

Based on "TAM"

- *Perceived usefulness (PU)*
- *Perceived ease-of-use (PEOU)*



SIMILAR STUDIES

- (Tanzanian universities) problem of technological infrastructures which included lack of computers in HLIs to save students all time, low internet bandwidth, low ICT-competence among the educational stakeholders which impede the successful e-learning implementation. (Mwakyusa, W. P., & Mwalyagile, N.V. (2016))
- (Nigerian Universities) challenges of e-learning :- Inadequate e-learning experts to train, internet facilities not functioning very well, Hardwares cost, Inadequate supply of electricity, Inadequate funding, Inadequate laptops or computers for both the students and staffs. [Olutola, A.T., & Olatoye
- (Zambia, UNZA) lack of ICTs hardware, connectivity and power outages; and unpreparedness for elearning. [Mwale, N., & Chita, J. (2020).

RESEARCH METHODOLOGY

- Descriptive research design in the study.
- All the learners at the college constituted the study population: 2500
- Sample used: 487
- a questionnaire was used as the main research instrument, distributed using Google forms
- The data of this study was analysed using SPSS: Statistical Package for Social Sciences

DATA ANALYSIS/DISCUSSION

- The respondents were asked to strongly disagree (1), disagree (2), strongly agree (5), agree (4) or remain neutral (3) to the statements that:
 - Internet was reliable when accessing eLearning, no unnecessary breaks experience during live lectures
 - Internet connectivity (Bandwidth) was good enough to allow me access live lectures
 - Electricity was reliable, no load shedding
 - The cost of bundles was affordable.

1. EXTERNAL BARRIERS IN ACCESSING ELEARNING					
	N	SD/D	SA/A	Mean	Std. Deviation
Internet Reliability	487	261	89	2.4682	1.07655
Electricity Stability	486	96	250	3.3498	1.07121
Bandwidth	483	231	110	2.9110	1.17651
Cost Bundles	486	281	90	2.3519	1.10559
Valid N (listwise)	481				

DATA ANALYSIS/DISCUSSION

- The College's eLearning platform was user friendly and easy to navigate through and use without prior orientation
- The eContent was packaged in such a way that it was bringing out the learning outcomes and adding value to the learning process.
- The College's technical support was readily available and easily accessible.
- There was adequate online interaction by the lecturers.

INTERNAL BARRIERS IN ACCESSING ELEARNING					
	N	SD/D	SAA	Mean	Std. Deviation
User friendliness	486	164	168	2.9074	1.14589
eContent	486	142	187	2.9918	1.09164
Lecturer interactivity	485	203	115	2.6660	1.06783
Technical support	487	220	127	2.6817	1.09776
Valid N (listwise)	483				

DATA ANALYSIS/DISCUSSION

- Hypothesis 1: Significance difference do not exist in challenges of lecturer online interactivity and cost of bundles in the adoption and use of eLearning by students at ZICTC based on gender.
- $P > 0.05$, $P = 0.379$ and 0.966
- Null Hypothesis Accepted.

i. INDEPENDENT SAMPLES TEST			
		Gender and Cost of Bundles	Gender and Lecturer interaction
	F	1.317	.732
	Sig.	.252	.393
t-test for Equality of Means	t	-.880	-.042
	df	483	482
	Sig. (2-tailed)	.379	.966
	Mean Difference	-.09447	-.00438

DATA ANALYSIS/DISCUSSION

- Hypothesis 2: Significance difference do not exist in external challenges in the adoption and use of eLearning by students at ZICTC based on residence.
- $p = 0.003, 0.005, 0.017$ for IR, BW and ES resp, therefore Null Hypothesis Rejected.
- $P = 0.072$ for CB, Null accepted.

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Internet Reliability	Between Groups	13.134	2	6.567	5.769	.003
	Within Groups	549.839	483	1.138		
	Total	562.973	485			
Bandwidth ²	Between Groups	14.873	2	7.436	5.461	.005
	Within Groups	652.291	479	1.362		
	Total	667.164	481			
Cost Bundles ²	Between Groups	6.424	2	3.212	2.641	.072
	Within Groups	586.286	482	1.216		
	Total	592.709	484			
Electricity Stability	Between Groups	9.367	2	4.684	4.129	.017
	Within Groups	546.744	482	1.134		
	Total	556.111	484			.11

DATA ANALYSIS/DISCUSSION

- Hypothesis 3: Significance difference do not exist in challenges of internal factors in the adoption and use of eLearning by students at ZICTC based on residence.
- $P=0.28$, 0.527 and 0.14 for UF, eC, TS resp and therefore the null hypothesis is accepted
- $P=0.007$ for LI, there null hypothesis is rejected.

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Userfriendliness2	Between Groups	3.349	2	1.675	1.277	.280
	Within Groups	632.288	482	1.312		
	Total	635.637	484			
eContent2	Between Groups	1.532	2	.766	.641	.527
	Within Groups	576.435	482	1.196		
	Total	577.967	484			
Lectinteractive2	Between Groups	11.414	2	5.707	5.080	.007
	Within Groups	540.363	481	1.123		
	Total	551.777	483			
techsupport3	Between Groups	4.745	2	2.373	1.974	.140
	Within Groups	580.456	483	1.202		
	Total	585.202	485			

DATA ANALYSIS/DISCUSSION

- Hypothesis 4: Significance difference do not exist in challenges of internal factors in the adoption and use of eLearning by students at ZICTC based on Year of Study.
- $P=0.045$, 0.001 , 0.040 and 0.007 for UF, eC, TS and LI resp and therefore the null hypothesis is rejected

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
eContent ₂	Between Groups	11.599	4	2.900	2.45 ₁	.045
	Within Groups	558.368	472	1.183		
	Total	569.966	476			
Userfrien dliness ₂	Between Groups	25.193	4	6.298	4.94 ₅	.001
	Within Groups	601.176	472	1.274		
	Total	626.369	476			
techsupp ort ₃	Between Groups	11.915	4	2.979	2.52 ₂	.040
	Within Groups	558.640	473	1.181		
	Total	570.554	477			
Lectinter active ₂	Between Groups	15.981	4	3.995	3.57 ₈	.007
	Within Groups	525.908	471	1.117		
	Total	541.889	475			

DATA ANALYSIS/DISCUSSION

Hypothesis 5: Significance difference do not exist in challenges of internal factors in the adoption and use of eLearning by students at ZICTC based on Mode of study. P=0.172, 0.192 and 0.274 for UF, eC and TS resp and therefore the null hypothesis is accepted P=0.001 for LI, there null hypothesis is rejected.

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
eContent ²	Between Groups	4.205	2	2.102	1.768	.172
	Within Groups	570.694	480	1.189		
	Total	574.899	482			
Userfrien dliness ²	Between Groups	4.308	2	2.154	1.654	.192
	Within Groups	625.211	480	1.303		
	Total	629.520	482			
techsupp ort ³	Between Groups	3.094	2	1.547	1.296	.274
	Within Groups	573.906	481	1.193		
	Total	577.000	483			
Lectintera ctive ²	Between Groups	16.167	2	8.084	7.255	.001
	Within Groups	533.710	479	1.114		
	Total	549.878	481			

CONCLUSION

- Implementation of eLearning faces a number of challenges which include but not limited to
 - poor internet connectivity, low bandwidth, cost of the internet access, and user unfriendliness of the eLearning platform, inadequate or lack of technical support and the inadequate or poor packaging of eContent.
- Cost of internet access having a mean 2.3 was the most significant while internet bandwidth having mean 2.91 was the least significant as perceived by respondents.
- It was also found that among the internal factors, lack of lecturer online interactivity having a mean of 2.67 was the most significant while eContent packaging having mean of 2.99 was the least significant.

RECOMMENDATIONS

- Colleges should partner with internet service providers in order for students to access internet at cheaper rates, Zamtel and MTN have this service.
- Colleges should consider packaging eContent offline to reduce the need for students to access eContent using the internet.
- Train Lecturers and students alike in eLearning skills.
- Train staff in eLearning instructional design
- Equip support staff with advanced technical support skills;
- Provide strong online technical support to students
- Total commitment and support from top management;
- Participation, cooperation and support from other learning institutions that may have experience in eLearning;
- Ubuntu.net/Zamren Needed now more than before.



Twalumba, Twatasha, Zikomo,
Luitumezi, Asante Sana, Merci,
Ngiyabonga
Thank You