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Impediments to Acceptance of Online Learning in Two Developing International Locations

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Several studies claimed that the benefits of online learning cannot be ignored, the statement yet endorsed in most of the developing countries. However, this current study compared online learning acceptance within the context of two developing international locations. Technology acceptance model was adopted to recommend and compare impediments to learning through the use of technology among learners in Nigeria and Philippines. Version three of SmartPLS was utilized as the statistical instrument to scrutinize over 1300 respondents. Hypothesized; the impact of electric power, technical resources, simple to use and perceived usefulness on learning through the technology found significant. Furthermore, the total variance explained of 53% for Nigeria and a total of 50 % variance explained achieved in the case of the Philippines. Impact of electric power regressed on the simple to use also supported in both models. Thus, replication of this study might also increase the generalizability of the results achieved.

Keywords*: Impediments; Online learners; Technology Acceptance; Electric; Nigeria; Philippines.*

Introduction

Users of this technology will learn effortlessly both at home and place of labour provided there are compatible resources. Education via net expands the level of knowledge and will increase the learners' confidence. The online learning mode is becoming extraordinarily excellent compared to a regular sort of learning which has become out-dated (Ehlers, 2009).

Studies agreed that education via web provides more comfort ability and cost relatively considered internationally (Rosenblit, 2009, Richter, Backer & Vogt, 2009, Hung, Chou, Chen & Own, 2010). Students' experiences towards an electronic mode of learning in higher education, the study affirmed that online mode of learning develops the self-esteem of the students in the study (Ellis & Goodyear, 2013).

Nigeria placed eight and also the Philippines placed the position twelve among high twenty countries with high growth proportion usage of net (Internet Live Stats.Com, 2017), showing that each country has reliable access to the use the technology (Solomon, Shamsuddin, Wahab, Ajagbe & Enegbuma, 2013a, Oni & Ayo, 2010, Ayo, Adewoye & Oni, 2011, Joseph & Aisha, 2015).

In spite of the fact that National University Commission (NUC) of Federal Republic of Nigeria supports the acceptance of online learning for the learners in the country, learners in the Federal Republic of Nigeria are still ignoring the relative advantages associated with getting an education via online technology (Zainab, Muhammad, Faizuniah & Mohamed, 2015).

In 2002, the Commission on Higher Education within the Philippines (CHED) supported Open Learning and Distance Education (OLDE) in accordance with pertinent provisions of Republic Act (RA) No.7722, tagged "the Higher Education Act of 1994 (CHED Series). Similarly, in the year 2012, the Commission of Higher Education issued memorandum order number 46 to promote the adoption of learner-centered learning in the Philippines. The initiative seems promising but, the readiness of universities and colleges to accept was the major challenges (Doculan, 2016). Online learning is supposed to surpass traditional mode of study for learners, especially in the working class (Lim, 2016).

Nevertheless, this current study reviewed related publications on technology acceptance, more on online learning to support and generate adoptable instruments needed to examine why learners in Philippines and Nigeria are not fully accepting technology. This study focuses on the impediments to acceptance of online learning in these aforementioned developing international locations. The conceptual framework for this study based on TAM.

Related Literature Review

Acceptance of any technology could be based on usefulness perception and ease of use, Davis (1989) defined usefulness as the extent someone can use a system to enhance performance, ease of use as the extent someone feel that system is not as simple to use. Attitude could be defined as extent to someone that has an optimistic/pessimistic assessment towards its usage. Behavioral intention measures strength of individual's intention to perform a specific (Davis, 1989).

Several studies supported the robustness of the elements propounded by Davis, Bagozzi & Warshaw (1989) the model (TAM) has been widely validated by several social sciences study's authors Shittu, Fakomogbon, Gambari & Owodunni, 2016, Jung, Chia-chi & Ai-Hua, 2014, Solomon, Alina, Eta & Ojo, 2013b) ,in the area of e-learning (Shittu, et.al., 2016, Jung, et.al., 2014), in aspect of technology acceptance in the relationship based on trust (Solomon, Shamsuddin & Wahab, 2015, Hossein, 2015).TAM integrated towards structural modelling technology acceptance (AliSaleh & Nor Khalil, 2013, Lin, Wang & Hwang, 2010, Park, 2009).

TAM as a conceptual model for understanding self-learning (Song & Hill, 2007), TAM adopted as instrument to assess consumers' awareness of online businesses Loaiacono, Watson & Goodhue, 2007). Additionally, Arimbuyutan, Kim, Song & So (2007) study on electronic mode of learning in the Philippines, identified impediments to technology acceptance, but ignore aspects of the learners in the study. Arinto (2013) found consistent, Shittu, et.al. (2016) and Oshinaike & Adekunmisi (2012) study predicting behavioral expectation to online acceptance adopted TAM in the direction of the study's objectives.

Further, Mtebe & Raisamo (2014) identifying students' intention to use smart mobile phone for electronic learning in East part of Africa utilized technology acceptance model and unconcealed that added facilitating condition factor in the model has a sway towards intent to embrace specific technology. Moreover, Oghenetega & Emojorho (2015) claimed electric power supply has an influence on technology acceptance; the study additionally supported the strength of TAM.

Obasike, Umeji & Kurbu (2010) study on the electronic resources hindering academic libraries in the African nation, the study extended TAM and justified that factors such as level of power supply, ability to perceived ease of use, and technical resources required future investigation. Pena-Bandalaria (2009) focused on the trends, and impediments of e-learning education in the Philippines, the study urged that e-learning management systems might be main mechanism to confirm customary quality education.

Towards technology readiness for university learners, e-learning is one of the means to achieve quality education (Arinto, 2016, Garcia-Gonzales, Gayo & Paule-Ruiz, 2017). Meanwhile, Doculan (2016) study also was found consistent. Nevertheless, these studies recommended trainings, technical use of tools, and usefulness recognition of technology and time management. But, ignore the impact of electric supply on distance learning education. Studies validated precise strength of TAM features along sides other technology factors within similar conceptual framework (AliSaleh, et.al., 2013, Jung, et.al., 2014, Solomon, et.al., 2015, Garcia-Gonzales, et.al., 2017). This current study assumed that an electric power source has impact on simple to use of online learning among learners.

Furthermore, relationship between technical resource, usefulness and electric power sources also hypothesized in the context of mentioned developing international locations. Study framework illustrated in figure 1.

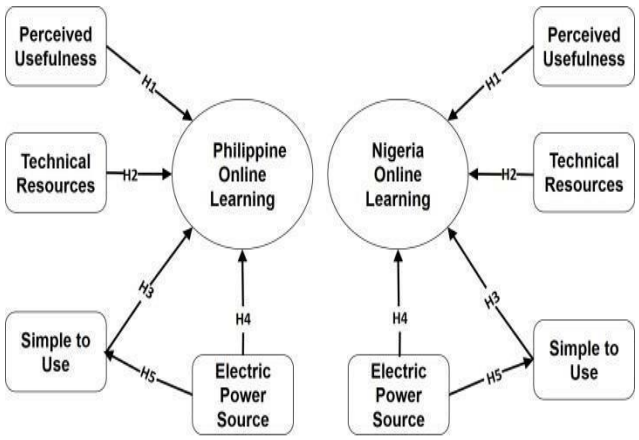

Figure 1. Philippines and Nigeria Hypothetical Framework.

Moreover, hypothetical statements presented as demonstrated in the figure 1. Nonexistence of ability to perceived usefulness may be impediment to acceptance of the technology (H1), nonexistence of ability to perceive technical resources may be an impediment to acceptance (H2), nonexistence of ability to perceive simple use of the technology may be an impediment to acceptance of the technology in Philippines and Nigeria (H3). Furthermore, uneven electric power source might be an impediment to online learning acceptance in the Philippines and Nigeria (H4), and uneven electric power supply may upset simple to use online learning acceptance in the Philippines and Nigeria (H5).

Thus, the context of this study was to investigate factors hindering online learning in two developing international locations (Philippines and Nigeria). The major objective was how low electricity supply could hinder elements TAM and perceive technical resources. Also, to compare the most hindering factors to online acceptance in the two mentioned countries.

Methodology

This is a quantitative study; developing countries lagging behind in terms technology acceptance, resources towards usage not sufficient (Solomon, et.al., 2013a), the study recommended revalidation of technology acceptance in other developing countries, Nigeria is known as second poor country in terms of electric supply and that suggested as one the major reasons why technology acceptance in Nigeria inched slowly forward. Furthermore, impact of electricity distribution was not over emphasized that could affect productive efficiency in the Philippines (Pacudan & De Guzman, 2002). Therefore, Philippines and Nigeria justified the reasons why these locations were considered. Questionnaire was based on publications related to technology acceptance and interviews with twelve students in Nigeria and fifteen students studying at Asia Institute for Distance Education, Philippines (Baker, Beesley, Fletcher, Ablett, Holcombe & Salmon, 2016). Analyzing the impediments to online learning acceptance in two developing international locations, version three of Smartpls utilized.

However, students at the University of Lagos, University of Ibadan, Lagos State University and the Covenant University adopted for Nigeria case. Meanwhile, UP Open University, AIDE, PUP Open University and AMA OEd were adopted for the Philippines, publications within the range from 1989 to 2018 reviewed to establish the framework of this study.

Instruments based on online-learning studies and attributes of TAM were adopted as well in this study (AliSaleh, et.al., 2013, Jung, et.al., 2014, Solomon, et, al., 2015, Garcia-Gonzales, et.al., 2017). A likert scales options from 1 as strongly disagree to 5 as strongly agree adopted (Creswell & Creswell, 2017). A pilot study performed to ascertain clarity of the questionnaire at the National Open University, Nigeria and at Open University, Philippines. Cronbach's alpha coefficient of 0.7 achieved for each construct in this study.

A total of 1301 were returned out of a total number of 1400 questionnaires distributed in both international locations. This implied that 93 percent of the questionnaires returned, distribution details reported in the table 1of this study.

Table1. Distribution of Questionnaire

Questionnaire Survey in Nigeria		
Distribution	University of Lagos	179
	Lagos state University	186
	Covenant University	191
	University of Ibadan	174
*Total Distributed (200*4=)800*		*Returned = 730*
Questionnaire survey (Philippines)		
Distribution	UP Open University	142
	AIDE	141
	PUP Open University	149
	AMA OEd	139
*Total Distributed (150*4) =600*		*Returned = 571*
Total Distributed		Total Returned
Nigeria and Philippines = 1400		NG & PH = 1301

A principal factor analysis using the varmax rotation performed, inspection of the correlation matrix showed that all above 0.5, Kaiser-Meyer-Oklin of 0.818 was achieved in the Nigeria case and 0.843 achieved in the case of the Philippines in this study (Kaiser, 1974, Bartlett, 1954). Discriminant validity assumption and outliers test justified using SmartPLS. An average variance extracted of 0.5 achieved, all standardized reliability and validity assumptions achieved as recommended (Hair, Anderson & Marko, 2012). Output estimates was *p-values significant* < *.05* and square multiple weights (R2) to describe the variance of the models adopted (Hair, et.al., 2012, Goha, Mohamad & Amran, 2014, Ayodele, Endozo & Ogbari, 2018, Oluyinka, Endozo & Calma, 2018).

Furthermore, version three of SmartPLS utilized to structure the online learning acceptance in two developing international locations. The analysis and details is presented in the subsequent section.

Analysis and Findings

Data Analysis

Analysis based on a total number of 650 cases for Nigeria and 505 cases for Philippines.

Demographics

Demographic details report that male dominated by 59%, in Nigeria and female dominated by 61% in the Philippines. The demographics details reported in the table 2 of this study.

Table 2. Demographics of the Respondents

Factors	Categories	Frequency Total N = 1155			
		Nigeria (N=650)		Philippines (N =505)	
Gender					
	Male	384	59%	198	39%
	Female	266	41%	307	61%
Age					
	20-30	266	41%	261	52%
	31-40	345	53%	179	35%
	45-50 above	39	6%	65	13%
Mode of Study					
	Modules	78	12%	168	33%
	Part-time	572	88%	337	67%
Certificate					
	Bachelor	312	48%	347	68%
	Master	256	39%	129	26%
	Doctoral	82	13%	29	6%
Consistent Electricity?					
	Yes	78	12%	491	97%
	No	572	88%	14	3%
Online Education Awareness					
	Yes	565	87%	492	98%
	No	85	13%	13	2%

Students in both countries embraced part-time mode of study. The percentage number of students with the degree certificates were 48% in the case of Nigeria and the Philippines was 68%. Furthermore, master students in the case of Nigeria were 39%, while, a total of 26% in the case of the Philippines noted. Stable electric power supply noticed in the Philippines compared to Nigeria. The respondents confirmed their on-line education awareness. Thus, examined why students ignoring the technology.

Model Path Estimates

Consequently, the impediments to online learning acceptance in the Philippines presented in figure 2. In figure 2, all path coefficients were consistent at p-values < 0.05 a total variance explained of 50% achieved in the case of the Philippines as exhibited in the figure 2 of this study. However, a total of 53% variance explained achieved and all hypothesized supported at p-value < 0.05 in the case of Nigeria as showed in figure 3.

Statistically, this concluded study justified that technology acceptance in the two countries maybe hindered by lack of perceived usefulness, technical resources, simplicity of the technology and uneven electric power source, also observed that there is relationship between uneven electric power source and perceived simplicity of the technology. Thus, summary of findings presented in the table 3 of this study.

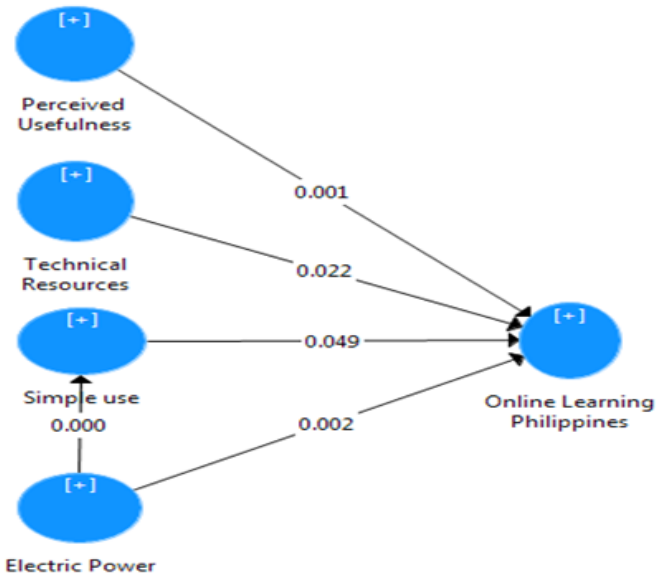

Figure 2. Path Coefficients for Philippines

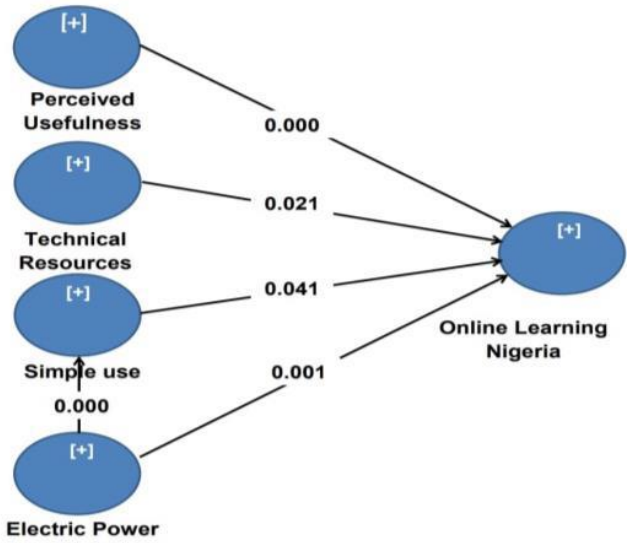

Figure 3. Path coefficients for Nigeria

Table 3. Summary objective achieved

Philippines paths constructs		Supported?	
Online learning	<	Perceived usefulness	Yes
Online learning	<	Perceived Ease	Yes
Online learning	<	Electric Supply	Yes
Online learning	<	Technical Resources	Yes
Online learning	<	Electric Supply	Yes
Philippine R2 =*50%*			

Nigeria paths constructs		Supported?	
Online learning	<	Perceived usefulness	Yes
Online learning	<	Perceived Ease	Yes
Online learning	<	Electric Supply	Yes
Online learning	<	Technical Resources	Yes
Online learning	<	Electric Supply	Yes
Nigeria R2 =*53%*			

Conclusion and Recommendation

This is a comparative study about impediments to online learning acceptance in two developing international locations (Nigeria and Philippines). An established model called TAM was adopted as the foundation of study. Mainly, the findings of this study suggested that acceptance of online-learning maybe hindered by technical resources and inability in perception simple use and uneven electric power source in the developing countries. This implied that acceptance of technology could depend on the infrastructural facilities readiness.

Contributions of the study compared to previous studies have investigated the impediments to acceptance of online learning in two developing international locations. Thus, the context of this study is to investigate also how poor electricity supply could hinder other factors. Other than that, the study will help in identifying other factors that will contribute to the integration of online-learning portals in the universities. This concluded study will justify direction for investment on technology and infrastructural for mentioned developing countries. It will also contribute to database on the impact of perceived behavioral control in relation to the influence of perceived low electricity supply and TAM in the developing countries mentioned. More importantly, this will help other developing countries towards identifying their technology acceptance readiness.

The concluded study also affirmed perceived usefulness, technical resources, simple use of the technology and poor electric power as factors that may affect online learning. To the best of knowledge, this study expected to contribute to the existing studies comparing technology acceptance in two developing countries. Also, the results of the study will further support the effective development of higher levels of online learning acceptance systems, empowering and facilitating the utilization of online learning portals.

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