

# VIRTUAL LEARNING PLATFORM AND TRANSITION AMONG ACADEMICS IN NIGERIAN UNIVERSITIES

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## ABSTRACT

Application of virtual platform is gaining acceptance in post covid-19 era among academics in the universities. The platform offers leverage for academic instructors to plan and execute lectures seamlessly at rapid productivity. Some platforms are executed using Google enhance applications, zoom meeting, Skype and YouTube. Despite increasing acceptance and utilization among academics in some universities, it is underutilized in others. Some universities have fully attained maturity in application of virtual learning, others have remained at bottom or takeoff stage. This study therefore aims to examine predictors of utilisationand knowledge among lecturers in the era of virtual learning in University of Benin and Igbinedion university. Rogers 'diffusion of innovation model guided this paper. Survey design using quantitative method and cross sectional study was adopted. Two universities were selected using 310 sample size. Data were collected and analysed quantitatively using descriptive and inferential statistics. Measuring knowledge on scale attributes a label for high, moderate and low was used. Attribute above 75% is high; score above 50% is moderate; and score below 50% is low. Attribute showed that less than half of the sample scored 75% on the scale of knowledge. Majority of the lecturers either lacked awareness of virtual platform in the university or management awareness of the platform has not translated to acceptance for core users. Lecturers in the three universities had knowledge of electronic application to solve basic needs for academic materials, but this did not transcend to high knowledge of virtual platform. Predictors for knowledge consisted of access to internet wifi, stable electricity, university policy, faculty curriculum and incentives. These factors predisposed intention to switch to virtual platform. There was high application of virtual platform in the study area. The paper recommends need for interface between university management and academics drawing upon knowledge gap, especially in the case study andsimilarinstitutions.

**Keywords:** Virtual platform, knowledge, predictors, university

## Introduction

Learning and teaching in university has witnessed significant social change in post telecommunications of the 21<sup>st</sup> century. Electronic learning, also called e-learning is grounded in the application of platforms which grant users channels to faceless interaction in the transmission of knowledge. Platforms which consist of Zoom, Google meet, Skype and YouTube have dominated use in university and academic institutions for purposes which range from teaching, conferences, workshop and statutory meetings (Akyol& Garrison,2018). There is rapid shift from physical interaction in classroom to electronic processing which offers users leverage to manage time efficiently, plan, organise and coordinate schedules of activities for high productivity. E-learning offers leverage for academics who are proficient in computer applications to conduct teaching seamlessly especially in the academic environment that is fully automated (Bates & Poole, 2017). Consequent upon global outbreak of corona virus (covid-19) which destabilized socio-economic activities, universities like other utilitarian organizations have transited to full automation learning which provides quick access to users on the platform and quick response. Automation provides applications software which is designed to accommodate users with passwords. It is a platform set up, design as interactive room which participants are equipped with tools and tabs labeled for different functional tasks. On the automated platform, there is no restricted size of users that can be connected, users are permitted to access platform with generated pass codes which is the same for all participants and it is equipped with tools for communication and interaction (Bonk& Graham, 2015). The significance of virtual learning is innumerable. There is concerted opinion that it is cheap and quick to access. This benefit derives from availability of application software which users access at no cost or charges on Google internet; such application is user friendly and it is designed to record activities and events which offer advantage as playback and repetitive learning (Conceição& Lehman, 2018). There is assumption that e-learning is operated at convenience of users, in this case, lectures, conferences and meetings are scheduled when it is most convenient and can be effectively delivered. This allows for flexible time management and energy conservation which perhaps enable academics gain sense of mental refreshment and light workload (Duffy&Kirkley, 2014). Studies have shown that academics who spent more time on automated teaching , plan schedule and execute task electronically report consistent satisfaction, are mentally healthy and more productive. This category of academics is less likely to report boredoms, nausea and absenteeism to work (Dziuban, Hartman, Cavanagh&Moskal, 2019).

Interestingly, much as effective the application of e-learning, there is concern that Nigerian universities are not fully automated despite overriding necessity for virtual learning (Garrison& Vaughan, 2018). In the real sense, less than half population of Nigerian university lecturers apply virtual learning; less than half population of users are regularly connected and less than half population connected on virtual learning rely on university WiFi services (Means,Toyama, Murphy&Baki, 2018). This current scenario provides that virtual learning operates at low ebbs in Nigerian universities despite major advantage offered by the platform. In most cases, virtual learning is operated across universities in Nigeria, however there is curious concern that benefits are yet to fully widespread and maximized. Evidence from studies revealed that there is concerted effort by Nigerian universities to migrate full automation teaching which could strongly withstand test of time and offers distance learning for large scale sized learners and without boundary limitations (Pall off, Rena, Pratt& Keith, 2017). This is particularly reinforced by havocs of covid-19 which nearly paralysed learning in most universities. It can be said that some universities have attained full automation learning in Nigeria, the percentage is however less than acceptable standard for any nation (Picciano&Dziuban, 2017). There is disparity between proportion of users or between user intention. The first case offers knowledge which distinguishes categories of users according to status hierarchies of academics. The second case, utilisation intention offers knowledge covering access to e-learning and application of the platform to process tasks. Studies are found and numerous on e-learning and application in university (Picciano, Dziuban& Graham, 2016), but this current study differs in location, time period and components of research. The study covers academics on full time employment and operated public university or otherwise government owned. It is comparative study which aims to distinguish between cases and evidence.

## Objectives of the study

Against the background of the above gap, the following items are listed as objectives.

- I. Evaluate access to virtual platforms among academics in the study area. Access is measured in the study in term of knowledge, availability of the application and service tools which enhance intention to adopt the platform.
- II. Appraise pattern of utilisation of virtual platform among academics in the study area. Utilisation is measured as uses, frequency, number of hours spent, types adopted and flexibility.

## Literature review

Telecommunication innovation has brought significant social change in the place of interaction in social space. Many studies have demonstrated the magic of innovation around telecommunication services. The configuration of science and technology found in telecommunication provides technical and brilliant world which alter social interaction positively. Telecommunication innovation occurs in different format, as hardware technology and on the other hand as software technology. Innovation around the two components is huge and this contributed to human development tremendously (Roblyer, 2016). There is global surge in models of technology which are deployed to prosecute human needs and comfort. The post telecommunication era witnessed sophisticated options in equipment and tools which are customised for easy use (Picciano & Dziuban, 2017). Telecommunication innovations are deployed across critical institutions of society in the health sector, finance, commerce, security, transport and education. There is no organisation either private or public sector that exists without configuration web and functions connected to telecommunication services. Deployment of software technology provided by telecommunication is master class which transformed speed of task processing and performance. Studies have demonstrated rapid deployment of telecommunication software in banking industry, super market, online chain stores, and numerous commercial activities which increasingly rely on use of the technology (Roblyer, 2016).

In the study by Picciano, Dziuban & Graham (2016), banks were prominent in the data matrix and discussion. The authors pointed deployment of software which not only provide machine driven accounting and transaction processing, the software offers root for security safeguard and automatic alert to detect frauds. According to Palloff, Rena, Pratt and Keith, (2017), telecommunication software provides leading role in police detective function and service which is centerpiece of police function. Deployment of telecommunication software was prominent in the work Means, Toyama, Murphy and Baki (2018). They found that there is increasing interconnectivity between organizations either vertical function or horizontal service and telecommunication is rapidly deployed to bridge communication. Organizations which offer similar service in a sector collaborate in deployment of both human capital and technology. Exchange between organisations is softly distributed when there is consistent and reliable software which make it seamless. Deployment of telecommunication software has performed wonders in the application to education. Schools, colleges and universities are increasingly becoming examples and reference point of virtual application. Virtual interaction is creation of space which allows participants connect to internet service for community interaction to exchange services. Virtual provides space for meeting either statutory, official or learning space for users (Garrison & Vaughan, 2018). In a study conducted by Palloff, Rena, Pratt and Keith (2017), the scholars noted that virtual application in education is a norm which is becoming social order in the aftermath of covid-19. The study documented pattern of utilisation and specific engagement. Against this backdrop, virtual machine is deployed as faculty policy and integrated in university rule; virtual platform is deployed as tools for teaching and created minimum standard requirement for large size class; it is rule woven round compliance and expectation for college academics (Palloff, Rena, Pratt & Keith (2017). In a study by Bonk and Graham (2015), deployment of virtual learning system is requirement for teaching and proficiency stipulates knowledge and skills requirements for academic users. The foregoing study was conducted among senior academics from the rank of senior lecturer and above. The variables measured knowledge, access and utilisation. The study found that three quarter of study population had access to virtual learning platform due to availability of software services, training, provision of internet and registration on the platform which was mandatory. Knowledge of virtual learning system was rated high especially among senior academics since it was possible to access the platform without hiccups. The

study further revealed that utilisation was high because the platform was deployed to execute teaching, meeting and faculty dialogue. The post covid-19 was major trigger for surge in utilisation of virtual platform among academics (Micah, 2021).

The case in Nigeria is similar. Virtual learning is gaining ground in Nigerian university system and there is significant size of users on the platform. Evidence from studies showed deliberate transition to virtual machine and social relations woven round proficiency in machine driven task performance (Jegede, 2019). However, there is wide gap between accessibility and utilisation. Yusuf(2019) reported findings on access to virtual learning platform. It was shown that knowledge of virtual platform was moderate and found prominent among academics with computer literate skills. This study applied survey of Nigerian academics using 1000 respondents randomly selected. Three quarter of study population reported high knowledge and moderate access, but access was also determined by availability of virtual platform in some selected institutions for the study (Yusuf, 2019). On aggregate, less than half of the institutions selected for the study had virtual platform, some platforms only exist as policy recommendation but was not physically present. In another study conducted by Palloff, Rena, Pratt and Keith (2017), the researchers focused on utilisation of virtual platform for execution of academic task among lecturers in selected universities. The study found that utilisation varied among heterogeneous population which differ between universities, but utilisation was similar in the homogeneous population within universities (Palloff et al., 2017). The study provided that aggregate utilisation was low, but high in individual cases. This was due to the fact that some universities were fully automated, some were in the threshold to full automation and some were at takeoff stage. Utilisation therefore varied in each case. But the outbreak of covid-19 was attributed to fast adjustment and impact utilisation and policy document of universities (Jegede, 2017). On the whole, application of virtual platform is becoming a norm in the face of dwindling traditional model of teaching in global academic progress and drive towards fast adoption of electronic platform to process social interaction. This means there is intellectual approach to adoption of emerging technology and innovation in pedagogical method of teaching in the university system.

Against the background of the literature review, this study attributes prevailing social change and adoption of virtual platform to Rogers' diffusion of innovation model. Diffusion of innovations is a theory that seeks to explain how, why, and at what rate new ideas and technology spread. The theory was popularized by Everett Rogers in his book *Diffusion of Innovations*, first published in 1962 (Wejnert, 2002). Rogers argues that diffusion is the process by which an innovation is communicated over time among the participants in a social system. Rogers proposes that five main elements influence the spread of a new idea; the innovation itself, adopters, communication channels, time, and a social system. This process relies heavily on social capital. The innovation must be widely adopted in order to self-sustain. Within the rate of adoption, there is a point at which an innovation reaches critical mass. The categories of adopters are innovators, early adopters, early majority, late majority, and laggards.[3]. Diffusion manifests itself in different ways and is highly subject to the type of adopters and innovation-decision process.. The criterion for the adopter categorization is innovativeness, defined as the degree to which an individual adopts a new idea.

Relying on the threshold of Rogers' theory, it must be stated that virtual platform is critical innovation which is increasing becoming social order in the university system. The place of emphasis rests on the adoption of the innovation which is centrepiece for technology deployment. This means there must be adoption of new technology once it is deployed. Adoption marks usability of technology and usefulness in public space. Rogers emphasised adoption as innovators, early adopters, early majority, late majority and the laggards. Innovators is described as persons with innovation, receptive of new technology and open minded to adjust social change. Innovator could also be inventors and designers of new idea, technology and tools useful for human kind. There is an adopter, individuals with innovative mind and open to reception of new technology, innovation and idea. The composition and group of adopters form early adopters who are quick to accept technology. There is always network of adopters distributed across locations, community, organization and boundaries of society. They are large in size and communicate the usefulness of technology of over large space and territory. This group confined to

learning the skills and techniques of new technology and also deploy it as pace setters. Early majority provides motivation for late majority who form significant beneficiary of technology. The intention of new technology is to ensure that it is accessed and used by all. There are laggards at the periphery boundary of life of technology.

The laggards are also important in the life cycle of technology, since it is possible that communication is inadequate to reach this group during the peak period of new technology. Rogers' theory hopes to ensure that communication around technology and innovation must be intensified to cover every component in the social system. Although the laggards operates the periphery lifecycle, adoption and uses of technology is most significant for all members of society notwithstanding the stage the technology is deployed to benefit them. It follows that adoption of virtual platform must be effectively communicated and intensified for users in the university system. Although there is prevailing evidence in the literature showing poor attitude of utilisation or perhaps some universities in Nigeria poorly deploy virtual platform in post covid-19 era, there is intellectual dimension that deployment can be intensified base on cultural disposition and repositioning approach to adoption. This study looks into repositioning approach and prospects for better utilisation of virtual platform in university pedagogy.

## Methodology

This study adopted cross sectional survey design. Survey was quantitatively model as method which granted the researcher random access to participants. At first stage, survey designated all elements in the study area as potential and possible participants. Next to this stage was classification of elements as inclusive criteria and exclusion criteria, the former designated inclusion as a academic staff in university and faculty base, the latter sieved out non regular and adjunct academics or employed as contract staff. The last stage was random selection of research participants which fell in the boundary of inclusion. The study was conducted in university base institutions and comprised university of Benin and Igbinedion university. The former is government owned and the latter is private owned, both universities are located within the same geographical area and distance of few kilometers apart. University of Benin is second generation federal institution which has existed more than 40 years and lends credence to contribution to socio economic development of its environs. Igbinedion university is first generation private institution established more than two decades now and it has contributed to academic and economic resources of host community and society at large.

Study population consisted of faculty academics on the rank of lecturer I and above. This criterion was the need to expand scope of literature and inclusion of academics with requisite work experience and knowledge. Participants comprised lecturers who had spent five years and above in the university uninterrupted, possessed minimum PhD qualifications and engaged full time and permanent service in the university. Sample size was 310, derived statistically with aid of Taro Yamane sample size formula. The notation of the formula is expressed as  $N/(1+N(e^2))$ , N signifies total number of target population, e is expressed as error margin of the estimate, usually constant and boundary ranges between .01 and .05 depending on the population size, the higher size, the higher the boundary. For this study, e is estimated at .05. Total population of study criteria was 1367. Estimating sample size using the formula, the outcome is expressed:  $1367/(1+1367(.05^2)) = 309.5$ . University of Benin consisted 60% of the study population and Igbinedion university has 40% component. Drawing upon sampling techniques, the study adopted purposive, random and proportionate sampling. Purposive method was adopted as criterion to define inclusion of the two universities. Virtual learning system is adopted as teaching method in the study area and it was suitable for the study to evaluate pattern of utilisation among users. Random method was applied to select faculty academics using staff rosters and stratified ranks. Proportionate sampling applied percentage distribution of population in cases for university Benin and Igbinedion university, the first case 60% of 309 (185) and second case, 40% of 309 (125).

Method of data collection was quantitative which relied on quantitative data. Data were labeled as numeric and statistically quantified. Closed ended questionnaire was applied as instrument to generate quantitative data. Method of data analysis was quantitative. Quantitative data were labeled as numeric and input as code with aid of

computer software also known as statistical package for social sciences (SPSS). Besides, reliability of instrument was estimated at 75% or .75 using Cochran reliability estimate. For reliability method, test and retest reliability was applied. In the case of validity of instrument, content validity was applied and this method ensured that content of instrument was cross checked against study variables for purpose of consistency. Ethical value of the study was verified by consent of participant, anonymity and confidentiality of identity.

## Results and Discussion

This study relied on quantitative method which consisted of 310 participants from university of Benin and Igbinedion university. The unit of analysis relied mainly on aggregate individual's subjective perception on virtual learning platform, knowledge and outcome. Discussion of finding is classified and this captures access to virtual platform and Utilisation of virtual learning innovation.

**Table 1: Access to Virtual Platform**

Question	University of Benin		Igbinedion university		Total	
	Freq. 185	Percent 100.0	Freq. 125	Percent 100.0	Freq. 310	Percent 100.0
<b>Do you know about virtual learning platform?</b>						
Sure	165	89.2	120	96.0	285	91.9
Not sure	20	19.8	5	4.0	25	8.1
<b>If you know, are the platforms available in your faculty?</b>						
Sure	102	55.1	99	79.2	201	64.8
Not sure	83	44.9	21	20.8	109	35.2
<b>If the platform is available, do you have access to the platform?</b>						
Sure	89	48.1	101	80.8	190	61.3
Not sure	97	51.9	19	19.2	120	38.7
<b>If you have access, are the platforms available for your use?</b>						
Sure	78	42.2	98	78.4	176	56.8
Not sure	107	67.8	23	21.7	134	43.2
<b>How many sources of access do you have?</b>						
Single access	21	11.4	21	16.8	42	13.5
Double access	42	22.7	69	55.2	111	35.8
Multiple access	26	14.1	11	8.8	37	11.9
Not applicable	97	51.9	19	19.2	116	37.4

<b>How can you possibly describe your access to virtual platform?</b>						
<b>Low</b>	<b>99</b>	<b>53.5</b>	<b>39</b>	<b>31.2</b>	<b>138</b>	<b>44.5</b>
<b>Moderate</b>	<b>69</b>	<b>37.3</b>	<b>58</b>	<b>46.4</b>	<b>127</b>	<b>41.0</b>
<b>High</b>	<b>17</b>	<b>9.2</b>	<b>28</b>	<b>22.4</b>	<b>45</b>	<b>14.5</b>
<b>How can you possibly describe your knowledge of virtual learning?</b>						
<b>Low</b>	<b>63</b>	<b>34.1</b>	<b>31</b>	<b>24.8</b>	<b>94</b>	<b>30.3</b>
<b>Moderate</b>	<b>89</b>	<b>48.1</b>	<b>79</b>	<b>63.2</b>	<b>168</b>	<b>54.2</b>
<b>High</b>	<b>33</b>	<b>17.8</b>	<b>15</b>	<b>12.0</b>	<b>48</b>	<b>15.5</b>

Source: Researcher's Field Survey, 2023

Table 1 listed items which probed access to virtual learning platform and sources available to users in the study area. Probing dimension of access, study participants were asked about knowledge or awareness of the platform as Integra of learning system. Against this backdrop, 91.9% reported knowledge and awareness of the platform which now operates as window of learning method (). In the case of university of Benin (UB), 89.2% reported knowledge, and 96.0% in Igbinedion university (IU) also reported knowledge and incorporation of the platform for learning. Probing further, 64.8% reported that virtual platform was available as faculty tool for learning. In this case, 55.1% in UB reported that virtual platform were available in faculty, 79.2% in IU reported similar incident. The intention of the researcher was to check availability of the virtual platforms as integral of faculty base policy and application of the platform especially in post covid-19 period which imposed restricted physical interaction in the socio-economic life. The study revealed that 61.3% reported access to virtual learning platform, however access varied between the two universities. In the case of UB, 48.1% indicated access, and 80.8% in IU. Measuring availability of the platform for use, 56.8% reported that although there was access to virtual platform, it was also available for use. Availability varied between UB (42.2%) and UI (78.4%).

Probing for sources of access, there were single access (13.5%), double access (35.8%) and multiple access (11.9%). Double access in UB was 22.7%, and 55.2% in IU. Sources of access probed availability of virtual platforms which faculty members accessed as alternatives for learning platforms. Some reported single access platform, some indicated double platforms or multiple platform which in most cases expanded scope of uses. Study participants were probed to describe access as reflection of low, moderate or high. The ranking was subjective and based perception or cognition. Results showed that 44.5% rated access as low, 41.0% rated as moderate and 14.5% was high. In IU, access was ranked 46.4% moderate and high (22.4%). Conversely, in UB, access was rated moderate (37.3%) and high (9.2%%). Participants in IU reported higher case of access than in UB. Similarly, knowledge of virtual platform was ranked by subjective perception. Results indicated that 30.3% rated knowledge as low, moderate (54.2%) and high (15.5%). In UB, knowledge was ranked low (34.1~%), moderate (48.1%) and high (17.8%). Results in IU, knowledge was rated low (24.8%), moderate (63.2%) and high (12.0%). On mean average, more participants in IU than UB showed higher knowledge of virtual platform. This difference could be marked by factors such as availability of the platform, access to available service, faculty policy and individual predisposition to the platform.



**Table 2: Regression Model**

Model	R	R square	Adjusted R square	Std. error of the estimate	Change statistics				
					R square change	F change	df1	df2	Sig. F change
1	.70	.90	.560	.50178	.90	2.437	9	24	.006

Predictors: faculty policy; availability of service; access sources; knowledge

Probing further, the researcher checked for multi variate analysis and predictive tool of explanation. Table 2 is regression model which tested independent variables listed as predictors. The coefficient of R equal .70 or 70% predictive factor possible in the analysis. The R value is significant,  $P < .006$ . Simply put, access to virtual platform can be predicted by faculty policy, availability of service, access sources and knowledge. The strength of prediction was high at .70

**Table 3: ANOVA (b)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Igbinedion	5.975	9	.664	1.637	.006(a)
	Benin	6.429	24	.252		
	Total	12.404	249			

a Predictors: faculty policy

b Dependent Variable: Access to virtual learning

Further probe in Table 3, is analysis of variance also known as ANOVA table. This statistics is useful to compare variance of two or more groups and significant of mean difference. In the case of IU, mean value is estimated at .664; while UB estimate is .252. Although ANOVA is significant at  $p < .006$ , higher incident of access is possible in the case of IU than UB. At least 66.4% reported access or there was case of every 6 from 10 possible outcome for access. It was 25.2% or 2 from every 10 which had access in UB.

**Table 4: Coefficients (a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.899	.248		3.624	.000
	Sex	.105	.066	.102	1.589	.113
	Rank	-.030	.027	-.085	-1.131	.259
	Faculty policy	-.051	.034	-.106	-1.490	.138
	Availability of service	.032	.023	.094	1.398	.163
	Access sources	-.003	.027	-.008	-.126	.900



<b>Knowledge</b>	<b>.050</b>	<b>.061</b>	<b>.051</b>	<b>.815</b>	<b>.416</b>
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a Dependent Variable: Access to virtual learning

Table 4 show regression coefficient. Constant is a component factor for independent variables. It is significant at  $p < .000$  as shown in the table. Using the Beta coefficients which measure variance of volatility and prediction, sex is the strongest possible factor. Availability of service and knowledge contributed positively to variance of prediction, however non of factors was yielded significant coefficient. The implication is that these factors as listed in the Table 4 coexist as predictors of access to virtual platform.

**Table 5: Pattern of Utilisation of Virtual Platform**

Question	University of Benin		Igbinedion university		Total	
	Freq. 185	Percent 100.0	Freq. 125	Percent 100.0	Freq. 310	Percent 100.0
<b>Do virtual platforms serve multiple uses in your faculty?</b>						
Sure	128	69.2	99	79.2	227	73.2
Not sure	57	30.8	26	20.8	83	22.8
<b>What use(s) do you engage virtual platform?</b>						
Lectures	34	18.4	87	69.6	121	39.0
Meetings	15	8.1	15	12.0	30	9.7
Conference	102	55.1	14	11.2	116	37.4
Multi purpose	35	18.9	9	7.2	44	14.2
<b>How can you describe your use(s) of virtual platform?</b>						
Regular	58	31.4	78	62.4	136	43.9
Occasional	69	37.2	29	23.2	98	31.6
Rare	58	31.4	18	14.4	76	24.5
<b>How can you describe time spent on virtual platform?</b>						
Short duration	107	57.8	32	25.6	139	44.8
Long duration	78	42.2	93	74.4	171	55.2
<b>Do you have free user' access to virtual learning</b>						
Sure	29	15.7	79	73.2	108	34.8
Not sure	156	84.3	46	36.8	202	65.2
<b>Can you switch to multiple uses of virtual platform?</b>						

<b>Yes</b>						
<b>No</b>	<b>109</b>	<b>58.9</b>	<b>98</b>	<b>78.4</b>	<b>207</b>	<b>66.8</b>
	<b>76</b>	<b>41.1</b>	<b>27</b>	<b>21.6</b>	<b>103</b>	<b>33.2</b>
<b>How can you possibly describe your utilisation of virtual platform?</b>						
<b>Low</b>	<b>23</b>	<b>12.3</b>	<b>29</b>	<b>23.2</b>	<b>52</b>	<b>16.8</b>
<b>Moderate</b>	<b>69</b>	<b>37.4</b>	<b>35</b>	<b>28.0</b>	<b>104</b>	<b>33.5</b>
<b>High</b>	<b>93</b>	<b>50.3</b>	<b>61</b>	<b>48.8</b>	<b>154</b>	<b>49.7</b>

Source: Researcher's Survey, 2023

Table 5 probed pattern of utilisation of virtual platform among faculty members in the study. It is an extension of access and how application of virtual platform differed in the study area. Participants were asked about uses of virtual platforms. Results indicated that 73.2% pointed to multiple uses of the platform; 69.2% in UB and 79.2% in IU also recognized that there were multiple uses of virtual platform. Against this background 39.0% identified uses for lectures, 9.7% identified uses for statutory meeting, 37.4% engaged virtual platform for conferences and 14.2% applied multi purpose uses. Notably, 69.6% applied the platform for lectures in IU and only 18.4% adopted it for lecture in UB. Yet uses for conferences in UB (55.1%) was rampant than it was in IU. This difference may not be unconnected with faculty policy of the use when application to prosecute lectures is emphasised. Also, engagement of the platform for conferences is discretion and personally influenced. This is because conferences are external arrangement and adoption of virtual platform optional especially due to distance, cutting cost and wide coverage.

Further probed checked disposition of users to virtual platform. There were 43.9% that engaged the platform regularly, 31.6% engaged it occasionally and 24.5% rarely applied the platform. In the case of IU, 62.4% were regular on use; and 31.4% in UB were also regular. On time spent on virtual platform, 55.2% had long duration; while in IU, it was 74.4% and 42.2% in UB. More times were spend among faculty members in IU than it was in UB. This difference cannot be separated from availability of service, access to service, personal interest and most importantly the place of faculty policy play major difference. Participants were asked about cost of free access to virtual platform. Drawing from this statement, 34.8 % reported free access; 73.2% had cost free access in UI; and only 15.7% in UB had free access. This also determined duration of time spent on virtual platforms since access to such platforms is internet source. Furthermore, 66.8% switched multiple uses; 78.4% switched multiple uses in IU; and 58.9% switched multiple uses UB. Discretion of utilisation was ranked and this consisted of low (16.8%), moderate (33.5%) and high (49.7). In IU, discretion of utilisation was rated high (48.8%) and in UB, utilisation was rated high (50.3%). There is important dimension here. Virtual platforms serve multiple purposes and it is possible to rate differently on multiple uses. Although faculty members in UB had higher proportion than IU, however such difference may not obtain in case by case rating on other items such as lectures and duration of time spent.

**Table 6: Regression Model showing Utilisation of Virtual Learning Platform**

<b>Model</b>	<b>R</b>	<b>R square</b>	<b>Adjusted R square</b>	<b>Std. error of the estimate</b>	<b>Change statistics</b>				
					<b>R square change</b>	<b>F change</b>	<b>df1</b>	<b>df2</b>	<b>Sig. F change</b>
<b>2</b>	<b>.65</b>	<b>.79</b>	<b>.660</b>	<b>.50178</b>	<b>.85</b>	<b>2.137</b>	<b>5</b>	<b>21</b>	<b>.004</b>

Dependent variable: utilisation pattern of virtual learning

The regression model above showed prediction of utilisation and factors that could help predict intention among faculty members. There was .65 or 65% strength of prediction. Also using R<sup>2</sup> value (.79), it was possible that

79% case occurrence was possible for prediction. This means faculty policy was significant at  $p < .004$  and has predictive strength above 65%.

**Table 7: ANOVA (b)**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Igbinedion	7.965	8	.654	1.837	.016(a)
	Benin	6.529	22	.452		
	Total	14.494	309			

a Predictors: faculty policy

b Dependent Variable: utilisation pattern of virtual

Table 7 further tested ANOVA for means of two groups. Mean variance for IU is estimated at .654 higher than mean for UB (.552). The implication here is that faculty members in IU were higher on utilisation than in UB. Also, there was possibility that every seven faculty member out 10 utilised virtual platform than six possible case in UB. On a whole, utilisation was relatively high in both cases.

**Table 8: Coefficients(a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	B	Std. Error
1	(Constant)	.891	.148		3.424	.000
	Sex	.109	.066	.102	1.489	.014
	Rank	.020	.027	.75	1.221	.059
	Faculty policy	.044	.034	.206	1.390	.038
	Availability of service	.032	.023	.094	1.398	.053
	Access sources	-.003	.027	-.008	1.136	.005
	Knowledge	.050	.061	.051	.815	.416

a Dependent Variable: Access to virtual learning

Table 8 tested regression coefficient for independent variables. Results showed that sex, rank, faculty policy, availability of service and access sources were significant individually as predictors and these factors were collectively significant. Predicting utilisation therefore is predicated on the factors listed above.

## Discussion of finding

Virtual platform has become centerpiece of learning in university in the post covid-19 era. Many universities and faculties have driven the pace to make learning closer and fluid which now punctured traditional method of physical contacts. This study provides that virtual platform is innovation which is relatively new and acceptance is increasing among university faculty members. There is pace of adoption of virtual learning which makes learning flexible. In the case of this study, access and utilisation were relatively high and faculty members adopted the platform to prosecute lectures, statutory meetings and conferences. Yet the pace of adopters varied in the context of this study. Leading a thought from Rogers' model, faculty members in both universities are innovators and keen to access and utilise virtual platform. However, the pace in IU is rapid and suitable for early adopters (Wejnert, 2002). Rogers emphasised that the cycle of innovation is complete until the laggards are included in

adoption. Cases in the two universities resembled cycle of adoption when some faculty members were in advance stage of utilisation and some were gradually picking in the adoption process.

## **Conclusion**

There are mediating factors which predicted utilisation intention of virtual platforms among faculty members. These factors consisted of faculty policy, availability of services, free access and knowledge of the innovation. Faculty policy is prominent as determinant due to overall requirement which ensures members adopted the platform for academic task. In the case of this study, faculties in Igbinedion university were rated high on access and utilisation since majority adopted the platform to prosecute lectures tasks. Virtual platforms were adopted more rampantly to conduct lectures, although tasks such as conferences, statutory meetings were conducted in the platform. Besides, it was possible to predict access and utilisation when autonomous factors such as faculty policy and knowledge mediate as predictor.

The study therefore listed the following recommendations base on the findings.

1. It is recommended that faculty policy should be emphasised in the drive towards adoption of new technology for faculty members like the case of virtual platform. It was shown that utilisation was influenced when policy coverage was intentional and deliberate for lecturers.
2. The policy of adoption should be woven round incentive for utilisation. This must document peculiar situation in every university. The case in the study was vital especially the Igbinedion University which recorded high adoption due to free service access, faculty policy, knowledge and access sources.

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