#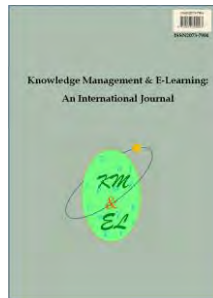 The influence of individual and organizational factors on readiness to accept online learning among higher education lecturers in Nigeria

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The influence of individual and organizational factors on readiness to accept online learning among higher education lecturers in Nigeria

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Abstract: Information and communication technology have revolutionised many aspects of human interactions. One area which has received profound transformation is education and learning. Although technology-enhanced learning has widened access, and improved performance and quality; little has been achieved in many developing countries. The study is aimed at examining the predictors of readiness to accept online learning methods among faculty members (lecturers) in higher education institutions in Nigeria. Following the literature reviews, five factors (online learning attitude, online learning self-efficacy, management support, online content readiness and perceived benefit) were identified as the possible predictors of readiness to accept the online learning method. Using a sample of 277 valid respondents selected through proportional stratified sampling in 3 higher education institutions, it was found that online learning self-efficacy, management support, online content readiness and perceived benefit had statistically significant effects on readiness to accept online learning platforms among faculty members. Online learning attitude has no statistically significant effect on readiness to accept online learning methods. The study implies that faculty members (lecturers) who are confident in their ability to use the online learning method together with management support, institution E-content readiness and perception of benefit would accept the online learning method in teaching and learning.

Keywords: Attitude; Self-efficacy; E-content readiness; Management support; Online learning

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1. Introduction

At the beginning of 2020, the world witnessed a new and devastating Covid-19 pandemic that completely changed our lives and livelihoods. As countries wrestled with the impact of the Covid-19 pandemic, many unanswered questions still linger about what the future holds. Although the new development has improved education and learning in many countries, it has also reduced access in many developing countries. In an increasingly interconnected, diverse and largely digitalized world; education and learning present opportunities and challenges. The World Economic Forum (2018), future of jobs report and OECD (2018) competence assessment survey acknowledged the need for sustained investment in education and learning as an important enabler to achieve improved competitiveness, poverty reduction, social inclusion and shared prosperity.

One aspect of our lives that will never be the same in the post-pandemic era is the pattern of learning that will support the new normal (Ali, 2020). Higher institutions of learning have witnessed increased technological revolutions in terms of internet technologies, digital devices and numerous learning management systems. This technology-enhanced learning, according to Schweighofer, Weitlaner, Ebner, and Rothe (2019) has dramatically transformed education and learning in a way that has never been seen before. Technology-enabled learning in higher institutions is expected to increase in the post-Covid-19 era as the new normal settles (Schweighofer et al., 2019).

Although Nigeria has 434 higher institutions of learning (Universities, Polytechnics and Colleges of Education), (NBTE, 2019; NUC, 2017), the existing institutions are far below the astronomical demand for higher education in Nigeria. While relevant social and demographic factors have changed in recent years, the opportunities for higher education are yet to match the current and future trends. For example, in Nigeria, the total number of students enrolments grew from 2000 in 1962 to 1.9 million in 2017 (NUC, 2017). Similarly, out of 1,653,127 students that took the university matriculation examination in 2018 only 549,763 got admission into Nigeria universities (NBS, 2019). More than a million unsuccessful admission seekers have been the trend since the year 2000. While previous studies have been conducted in respect of technology-enabled learning in higher educational institutions (Nardi & Ranieri, 2019; Yildiz Durak, 2018; Zimmerman & Kulikowich, 2016), the majority of them focused on students' perspectives. The general belief is that learners' acceptance of technological devices and learning management solutions are essential in adoption and usage

(Nyagorme, 2018; Quintero, 2020). While these writers agree with most of their findings, it becomes imperative to examine the readiness capabilities of higher education lecturers to deliver online teaching in the first place.

The primary aim of the present study is to examine individual and organizational factors that would be used to predict lecturers' readiness to accept online learning method in selected tertiary institutions in Enugu state, Nigeria. The above study is driven by insufficient studies in Nigeria's higher institutions of learning, where the traditional face-to-face method has been the preferred method of teaching and learning.

1.1. Objectives of the study

RO1: To determine the levels of online learning attitude, online learning self-efficacy, management support, e-content readiness, perceived benefits and readiness to accept online learning among teaching staff in higher educational institutions in Nigeria.

RO2: To determine the contributions of online learning attitude, online learning self-efficacy, organizational support, e-content readiness and perceived benefits on readiness to accept online learning methods among teaching staff in higher educational institutions in Nigeria.

2. Literature review

2.1. Readiness to accept e-learning

Readiness is not a stagnant state of an event; instead, it's a continuously evolving process which gauges the state of an individual, group or organisational preparedness or willingness to undertake and complete a given task (Weiner, 2009). Employee readiness is increasingly becoming an important concept of study, especially in training and learning activities due to the consensus that personal and organizational characteristics such as attitude, ability, motivation, training content and context are crucial to achieving desired individual and organizational goals (Khan, Sarwar, Chen, & Khan, 2022; Lestianawati, 2020; Noe & Colquitt, 2002; Ocak & Karakus, 2022). Understanding the status of readiness is the precursor to effective organizational intervention (Weiner, 2009). Consistent with Bandura's concept of self-efficacy, readiness is equally viewed as the ability of the individual to engage and complete a given task (Bandura, 1977).

Organisational resources, endowment, and situational factors are believed to have a significant influence on the collective ability of the employees to implement relevant organizational interventions (Holt et al., 2010; Weiner, 2009; Yildiz Durak, 2018). The choice of the word "readiness "as used to explain e-learning acceptance in higher institutions of learning in Nigeria is due to strong theoretical and empirical support in explaining individual behavioural disposition towards information system adoption (Adiyarta et al., 2018; Ayub, Zaini, Luan, & Jaafar, 2017; Obi et al., 2018; Yokoyama, 2019). It follows that an employee with strong "readiness status" towards a given task, idea or concept such as e-learning is more likely to accept its implementation in the organization (Bayrak, 2022; Widyanti, Hasudungan, & Park, 2020). Accordingly, employees usually evaluate the cognitive aspects of technology readiness before cognitive-specific evaluative features such as ease of use and benefits (Alhumsi & Alshaye, 2021; Lin, Shin, & Sher, 2007; Oladele et al., 2022). Online learning requires effective integration of appropriate technologies into the educational space (OECD,

2019). While this integration is noble, it may not automatically translate to effective acceptance by the teachers. Maximization of online learning intervention requires the determination of the readiness status of users such as the teachers who are going to use the online learning platforms to deliver learning solutions (Bayrak, 2022; Ocak & Karakus, 2022; Rohayani, kurnibudi, & Sharipuddin, 2015).

Readiness to accept online learning is the willingness to accept online learning method (Joosten & Cusatis, 2020; Keskin & Yurdugül, 2020), which should be ascertained before actual implementation (Pham, et al., 2019; Yu, 2018). This particular line of research which Has not been fully developed in a developing country such as Nigeria would provide policy-informed action necessary to achieving effective online learning strategies.

Higher institutions, just like other organizations must adopt continuous improvement through learning in order to be competitive and ready to deliver improved teaching experience to the students and other stakeholders. While poor technological infrastructures and institutional bureaucracy are major impediments to technology-enhanced learning in many developing countries (Nardi & Ranieri, 2019; Quintero, 2020; Schweighofer et al., 2019), it is important to examine other critical drivers of improved teaching and learning in higher education institutions. According to Docebo's (2020) report on the online learning trend, organizations across sectors are investing in employee continuous learning as a strategic differentiator in optimizing talent, developing capability and connecting expectations with organizational outcomes.

Online learning denotes the application of relevant technological solutions to deliver knowledge, skills and abilities to learners to achieve desired individual and organizational outcomes (Tan & Mohd Rasdi, 2017). Within the domain of adult education (andragogy), online learning is mostly suitable for matured and experienced adults with a high degree of independence and high locus of control (Di Fabio & Saklofske, 2019; Makoe, Richardson, & Price, 2008). In the study conducted by Tan and Mohd Rasdi (2017), the authors found that personality traits and attitudes are essential in championing employee online learning participation. However, there is a need to examine other relevant variables in the context of online learning acceptance among the teaching staff of higher education institutions in Nigeria. Accordingly, the study will examine: online learning attitude, online learning self-efficacy (individual factors), management support, E-content readiness and perceived benefits (organizational factors) in order to predict online learning acceptance among teaching staff of tertiary institutions in Enugu Nigeria.

3. Hypotheses development

3.1. Online learning attitude

Attitude is an individual behavioural disposition towards something (Ajzen, 1991). Learning attitude is the individual evaluative disposition towards learning (Saborit et al., 2016; Salleh, Amin, & Mamat, 2017). According to Ajzen (1991), individual evaluative judgment towards something will influence how the person responds to the attitudinal object. Accordingly, positive evaluative judgment will lead to a positive attitude while a negative viewpoint will result in a negative attitude. From the above perspective, Ajzen (1991) suggested that general attitude should be differentiated from specific attitude. While general attitude is important in explaining individual behavioural personality,

"learning attitude" is expected to offer improved insights and perspectives on employee attitude concerning readiness to accept online learning platforms. An individual with a positive attitudinal disposition towards learning will be more likely to accept online learning. Even though some of the previous studies on online learning were mostly focused on students' samples (Ayub et al., 2017; Bovermann, Weidlich, & Bastiaens, 2018; Groessl & Vandenhouten, 2018; Saborit et al., 2016), adults' positive attitude towards learning will be positively associated with readiness to accept online learning (Kamal, Aghbari, & Atteia, 2016; Salleh et al., 2017). Grabinski, Kedzior, Krasodomska, and Herdan (2020) found with a sample of 79 university lecturers from Poland that easiness of online learning, perceived benefits and competency were the major factors influencing lecturers' readiness to accept online learning. Zareie and Navimipour (2016) found with a sample of 175 employees from Islamic Azad University that online learning participation had a statistically significant effect on employee acceptance of online learning. From the above reviews, it is hypothesised as follows:

H1: Online learning attitude will have a significant effect on readiness to the accept online learning method.

3.2. Online learning self-efficacy

Perception of one's ability to engage in an activity is very important in the successful completion of such an activity. Self-efficacy according to Bandura (1977, 1986) is the perceived ability of an individual to engage in a task and persistency to complete the said task successfully. It follows that an individual with a strong perception of his/her ability to undertake a task would most likely complete the given task. As one of the most widely studied organizational development concepts, self-efficacy plays an important role in managing a range of organizational outcomes (Celestine & Yufen, 2018; Mohamad & Osman, 2017). Online learning self-efficacy is the belief by an individual to undertake and complete online learning activities. Individual perception of his/her ability to successfully engage in any activity should be differentiated with general self-efficacy to provide informed insights on one's ability to remain with a challenging task (Bandura, 1986).

Scholars have argued that task-specific self-efficacy is better at explaining individual ability in a given situation (Nardi & Ranieri, 2019; Olivier, Archambaut, Clercq, & Galand, 2019; Yokoyama, 2019). In the adult learning context, self-efficacy is particularly vital in online learning methods in developing countries where infrastructural inadequacies pose significant challenges to lecturers' ability to adopt appropriate learning management systems for teaching and learning (Baleghi-Zadeh, Ayub, Tan, & Rasdi, 2017). In many instances, poor implementation of online learning interventions in many educational institutions is attributed to poor perception of staff members' ability to utilize such online learning platforms (Olowonisi, 2016). Proper utilization of online learning systems in higher institutions of learning not only depends on technological features but also on the ability of the teachers to use the system successfully in teaching and learning (Nyagorme, 2018). Individuals with high learning self-efficacy are more likely to persist with rigorous online learning systems or platforms (Sadi & Uyar, 2013). Self-efficacy being context and task-dependent implies that high learning self-efficacy among lecturers would lead to high readiness to accept online learning. From the above reviews, online learning self-efficacy is expected to influence online learning acceptance as stated thus:

H2: Online learning self-efficacy will have a significant effect on readiness to the accept online learning method.

3.3. Management support

The perception of support from an organization in terms of policies, structures, cultures and systems is believed to be associated with work-related outcomes (Chiang & Hsieh, 2012; Pazzy & Ganzach, 2010). Social exchange theory assumes that employees who receive positive organizational support are more likely to reciprocate with positive work-related outcomes in the organization (DeConinck & Johnson, 2009). Accordingly, employees who are motivated in terms of perceived management support are in a better position to deliver, promote and sustain desired organizational objectives (DeConinck & Johnson, 2009; Rhoades & Eisenberger, 2002). While supervisory support in terms of feedback and encouragement is a critical component for positive organizational outcomes (Kim, Park & Kang, 2019; Park, Kang, & Kim, 2018), organization support provides the needed foundation for sustained organizational performance by providing a conducive work environment for learning (Eisenberger et al, 2002; Zumrah, 2015).

Even though substantial studies have shown a positive association between organizational support and employee work-related behaviours (Chiang & Hsieh, 2012; Kim et al, 2019; Park et al., 2018; Pazzy & Ganzach, 2010), little is known about the context of readiness to accept online learning platform in higher educational institutions. Feriady et al (2020) examined the influencing factors of online learning among lecturers. Using a sample of 277 lecturers from Semarang university in Indonesia, it was found that organizational support has a significant influence on the intention to use the online learning method. Similar results were also reported by Bazelais, Doleck, and Lemay (2018) and Wingo, Ivankova, and Moss (2017) on the influence of perceived management support on acceptance of online learning technologies. The influence of management support on readiness to accept online learning is hypothesised thus:

H3: Management support will have a significant effect on readiness to accept online learning.

3.4. E-content readiness

Electronic learning (online learning) is the application of web-based technologies such as the internet and digital solutions to support teaching and learning (Azhari & Ming, 2015). Technology-enhanced learning has become the dominant part of 21st-century knowledge and skill acquisition due to cost competitiveness, access and user ability to customize the application to suit personal learning trajectory (Azhari & Ming, 2015). Many higher institutions of learning in developed countries have invested significantly in massive open online courses in order to deliver online learning content to users (Margaryan, Bianco, & Littlejohn, 2015). However, the case is not the same in many developing countries due to challenging technological infrastructures, users' indifference to accept online learning, lack of trained lecturers and overall poor institutional readiness to adopt online learning (Azhari & Ming, 2015; Schweighofer et al., 2019; Tan & Mohd Rasdi, 2017). Determining the appropriate level of readiness in terms of faculty, students and institutions are important in order to achieve strong online learning delivery. In this study, E-content readiness is the preparedness of educational institutions to use appropriate learning solutions to deliver teaching and learning to students. Gay (2016) found that institutional support through online help desk is vital in building strong faculty acceptance of online learning facilities. Lichoro (2015) found that faculty staff may be less enthusiastic to accept online learning due to poor online learning content. Martin, Budhrani, and Wang (2019) found with a sample of 205 faculty members (professors, associate professors, assistant professors and senior lecturers) from the USA, that strong

e-content readiness includes appropriate instructional materials, quality, timely feedback and ability to use the system with minimal efforts. Lakshmi, Das, and Majid (2020) found with a sample of 83 teaching staff from Gujirat in India, that unreliable technology and lecturers' lack of confidence were the major barriers to effective online learning acceptance. From the above reviews, it is hypothesized thus:

H4: E-content readiness will have a significant effect on readiness to accept online learning.

3.5. *Perceived benefits*

Advancement in information technology has transformed teaching and learning in the higher education sector. Such advancement has provided huge opportunities and challenges as many institutions of higher learning strive to adopt best practices to deliver improved teaching and learning experience to students and other stakeholders (Eze, Chinedu-Eze, & Bello, 2018). Usability perception according to Davis (1989), is the degree to which a given information system will improve individual performance of a task. It follows that an individual who perceives a given information system to be beneficial in the performance of a given task would most likely accept using the information system in the performance of his/her job (Nardi & Ranieri, 2019; Nyagorme, 2018).

Although system design feature is often regarded as the main influencing factor for information system adoption, perceived benefit in the context of job and task performance is vital for any successful implementation of an online learning platform (Lakshmi, Das, & Majid, 2020; Persico, Manca, & Pozzi, 2014). In some of the previous studies, greater focus has been on the potential benefits of online learning to the students with little or no emphasis on how lecturers would benefit (Lakshmi et al., 2020; Nardi & Ranieri, 2019; Nyagorme, 2018).

It is suggested that a holistic perspective particularly on the benefits to the lecturers would provide improved insights into the successful implementation of online learning in the Nigerian higher education sector. While faculty members have expressed positive desires to adopt online learning to conform to the current trend (Fathimath, 2016; Ncube, Dube, & Ngulube, 2014), very little is known about its usefulness in the context of job performance. As the purveyor of teaching and learning in higher institutions, effective readiness to accept online learning by faculty members should be linked with job-specific performance. Without examining online learning benefits (usefulness) for the faculty members, online learning acceptance may not be effectively implemented in many higher education institutions in Nigeria. From the above reviews, it is hypothesized thus:

H5: Perceived benefit will have a significant effect on readiness to accept online learning.

4. Theoretical underpinning of the study

Online learning has become popular in recent years due to advancements in information systems. Accordingly, many theoretical frameworks and models have been adduced to explain users' behavioural dispositions (Bayrak, 2022; Ocak & Karakus, 2022; Rohayani et al., 2015) and actual usage (adoption) of such technology-enabled learning (Joosten & Cusatis, 2020; Keskin & Yurdugül, 2020). For example, Roger's (1983) theory of

diffusion of innovation recommended five constructs: relative advantage, complexity, compatibility, trialability and observability to explain information system adoption. The central tenet of the theory of diffusion of innovation is that innovation (new idea) is spread within a community, society or group by the members of the social system (adopters). Accordingly, the pattern and timing of diffusion differentiate early adopters and late adopters.

The technology acceptance model (TAM), by Davis (1989) is another broadly used model to explain information system adoption. TAM proposes that perceived ease of use and usefulness would influence attitude and intention, which effectively determines the actual use (adoption) of the information system (Davis, 1989). Essentially, TAM assumes that the core determinants of the actual adoption of an information system are perceived ease of use and perceived usefulness. It follows that a user would be positively disposed towards information system acceptance if the particular information system will help the person to do its job, being user-friendly and beneficial. Venkatesh et al. (2003) developed the unified theory of acceptance and use of technology (UTAUT), which comprises four major independent variables: performance expectancy, efforts expectancy, social influence and facilitating conditions, which would determine the behavioural intention and usage.

4.1. Choice of variables

Previous studies suggest that learning and behavioural theories such as social learning theory, social connectivism, self-efficacy and cognitivism have become the dominant theories used to explain virtual learning context (Drumm, 2019). These theories have provided deeper insights such as conceptualization of how teachers and students operate in the online learning environment (Bawa, 2016). Furthermore, motivation theories have provided a deeper understanding of the study of online learning readiness especially self-efficacy and attitudinal disposition towards technology-enabled learning (Bawa, 2016; Drumm, 2019). Theoretically, previous studies have shown that individual attitude and self-efficacy have strong effects on individual behavioural dispositions toward technology (Adnan & Anwar, 2020; Perienen, 2020; Yokoyama, 2019). Individuals with positive attitudes and strong self-efficacy towards online learning are more likely to exhibit positive behavioural dispositions towards tech-enabled learning.

Self-efficacy is believed to be task, content and context-specific (Bandura, 1977; Olivier et al., 2019), hence previous researchers agreed that self-efficacy beliefs should be accessed under the target performance outcome (Nardi & Ranieri, 2019; Quintero, 2020; Yildiz Durak, 2018). The perception of usefulness or benefit has been established as an important determinant of individual intention and behaviour, especially in the domain of technology-powered learning (Lakshmi et al., 2020; Nardi & Ranieri, 2019; Nyagorme, 2018). Accordingly, teachers would be favourably disposed towards online learning if there is a high perception of benefits from the online platform. The perception of support from the management is known to influence a range of employee-related outcomes (Feriady et al. 2020; Kim et al, 2019; Park et al., 2018; Wingo et al., 2017). Thus, teachers who perceive strong organisational support from the universities would be more receptive to the online learning platform. Although online learning attitude, online self-efficacy, management support and perceived benefit are crucial in determining readiness to accept online learning, without e-content readiness, many desired educational goals would be elusive in Nigerian universities. Previous studies agree that E-content readiness enhances one's ability to accept online learning platforms (Yildiz Durak, 2018; Zimmerman & Kulikowich, 2016). E-content readiness is necessary for

teachers to interact effectively in an increasingly dominant online learning model. Fig. 1 outlines the conceptual framework of this study.
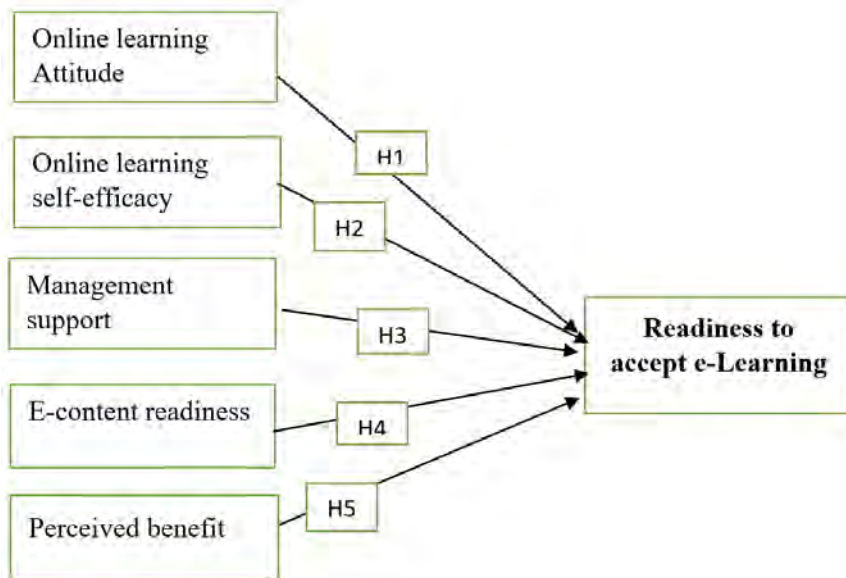

Fig. 1. Conceptual framework

5. Method

From the literature reviews, five factors were identified as the possible predictors of readiness to accept online learning platforms in public higher education institutions. Individual factors include (online learning attitude and online learning self-efficacy). Organizational factors comprise (management support, e-content readiness and perceived benefit). Survey deductive design which is the preferred method to accomplish the objectives of the study was chosen because of the following reasons: Survey deductive design is most suitable when the researcher is interested to explain and predicting the population characteristics. Also, the survey method is easily amenable to the self-report method of data collection, especially from a large population frame (Field, 2013). Finally, the survey method is mostly preferred when the objective is to use a sample of the population to generalize to the target population. In the current study, it is aimed that, through the probability method of stratified sampling, a sample of the respondents (higher institution lecturers) will be studied and used to generalize to all public higher institution lecturers in Nigeria.

5.1. Measurement

The questionnaire was divided into two main sections (A and B). Section A contains the demographic profiles of the respondents (gender, age, education level, academic status). Section B contains all the applicable questions for each of the six variables of the study (Online learning attitude, Online learning self-efficacy, Management support, E-content readiness, Perceived benefits and Readiness to accept online learning). Data were collected with the questionnaire on a five-point Likert scale (1) strongly disagree (2)

disagree (3) neutral (4) agree (5) strongly agree. Online learning attitude was measured with four items, which were adapted from Obi et al. (2018). Sample question includes: I'm in favour of e-learning and ready to accept it. Online learning self-efficacy was measured with five items adapted from He and Freeman (2010). Sample question includes: I believe I can operate an online learning platform.

Management support was assessed with six items which include three items adapted from Miglani and Awadhiya (2017) and three items adapted from Obi et al. (2018). Sample question includes: The university provides learning opportunities irrespective of place, pace and time. E-content readiness was assessed with four items adapted from Obi et al. (2018). The sample question includes: the availability of e-learning teaching materials. The perceived benefit was measured with eight items adapted from Miglani and Awadhiya (2017). Sample question includes: Share any course-related pictures, audio, videos, and links with students. Readiness to accept online learning was measured with seven items adapted from Obi et al. (2018). Sample question includes: Ready to move beyond a predominant reliance on classroom training to an e-learning approach.

5.2. Population and sampling

The population of the study are the faculty members (teaching staff) from higher institutions of learning in Enugu state, Nigeria. It should be noted that Enugu state is one of the states in Nigeria with a high number of higher institutions of learning with six universities, five polytechnics and colleges of education (NBS, 2019; NBTE, 2019). Instructively, the study was conducted in three public higher education institutions. A stratified sampling method based on the population cluster of the respective institutions was adopted in selecting the samples. The researcher in agreement with senior officers in each of the institutions agreed that the names of the institutions should be private. Accordingly, X, Y and Z were adopted to represent each institution.

5.3. Instrument validation

Instrument validation was performed to determine the consistency and accuracy of the measuring instrument (questionnaire). While reliability focuses on the consistency of the measuring instrument validity ensures that the instrument is measuring what it was supposed to measure (Middleton, 2022). Although the items of the questionnaire were adapted from previously validated scales used in the previous studies, it is a good practice to subject the instruments to proper validity and reliability test before conducting the desired statistical analysis needed to achieve the research objectives. From the validity perspective, content and construct validity were applied. From the content perspective, the instruments were validated by five independent experts from University Putra Malaysia (3), human resource development experts and 2 information system adoption experts). Their comments were useful in achieving clarity on some of the questions. From the construct perspective, validity was assessed with the Pearson correlation coefficient which was also confirmed by comparing the Pearson correlation coefficient with the critical value table. By convention, if the calculated value (total value from Pearson correlation) is greater than the table value, the item of measure is significant and valid. This was performed for each of the items of the questionnaire which confirmed the validity of the items.

5.4. Assumptions of multiple regression

Multiple regression is a statistical technique used to access the relationship between multiple predictors (independent variables) and a dependent variable. The choice of applying this method of statistical technique is dependent on ensuring that four key assumptions are satisfied. These assumptions are linear relationship, No multicollinearity, homoscedasticity and multivariate normality (Tabachnick & Fidell, 2001). The easiest way to check multiple regression linearity is the creation of a scatter plot. In the present study, the scatter plot largely shows a linear relationship which is suggestive that the dataset met the first assumption.

Multicollinearity assessment ensures that the multiple independent variables are not correlated. This assumption was met through the VIF which is less than 5 for each of the predictors. In general, a VIF of greater than 5 is indicative of the presence of multicollinearity (Tabachnick & Fidell, 2001). The multiple regression assumptions of homoscedasticity assume that the residuals enjoy constant variance within the regression model otherwise this assumption is violated. In the present study, a scatter plot of standardized residuals against predicted values was created which showed no pattern which is suggestive that the assumption of homoscedasticity was achieved. Finally, the multivariate normality assumption showed that the dataset was normally distributed as the residuals follow a normal distribution pattern.

6. Results

The demographic information of the respondents is presented in Table 1. It shows that the distribution is largely male dominated (67.1%) with the majority of them having a PhD (60.3%).

Table 1
Demographic Information (N = 277)

Characteristics	Frequency	Percent (%)
Gender		
Male	186	67.1
Female	91	32.9
Age group		
25-35	17	6.1
36-46	83	30.0
47-57	109	39.4
58-68	68	24.5
Education		
Bachelor	28	10.1
Masters	82	29.6
PhD	167	60.3
Status/rank		
Graduate assistant	28	10.1
Lecturer 2	54	19.5
Lecturer 1	95	34.3
Senior Lecturer	72	26.0
Associate professor	20	7.2
Professor	8	2.9

As shown in Table 2, the reliability coefficient of the pilot study on a sample of 40 respondents ranges from 0.847 for online learning self-efficacy to 0.953 for management support. In the main study on a sample of 277 respondents, the reliability coefficient ranges from 0.855 for online learning self-efficacy to 0.911 for management support. Based on the literature, Cronbach alpha of 0.70 and above is generally deemed acceptable in social science and educational research (Hair et al., 2010; Sekaran & Bougie, 2010).

Table 2
Reliability analysis

Variable	No of Items	Cronbach Alpha. Pilot (N = 40)	Cronbach Alpha. Main study (N = 277)
Online learning attitude	4	0.950	0.864
Online learning self-efficacy	5	0.847	0.855
Management support	6	0.953	0.911
E-content readiness	4	0.949	0.864
Perceived benefits	8	0.935	0.901
Readiness to accept online learning	7	0.922	0.890

The information in Table 3 (mean and standard deviation) shows that E-content readiness has the highest mean among the six variables (Mean: 3.94, SD: 0.75). Michael (2017) suggested that data transformation should be properly calibrated under the measurement scale to achieve effective interpretation. Accordingly, the five-point Likert scale was calibrated into four parts using the range (1-5). 1-2.00 (low), 2.01-3.00 (moderately low), 3.01-4.00 (moderately high) and 4.01-5.00 (high) (Norasmah & Sabariah, 2007; Norasmah & Salmah, 2011). From the mean score in Table 3, it may be concluded that all the six variables (online learning attitude, online learning self-efficacy, management support, e-content readiness, perceived benefits and readiness to accept online learning) were between (3.01- 4.00) which is moderately high.

Table 3
Mean and standard deviation

Variable	Mean	Standard deviation
Online learning attitude	3.75	0.82
Online learning self-efficacy	3.92	0.68
Management support	3.84	0.76
E-content readiness	3.94	0.75
Perceived benefits	3.85	0.68
Readiness to accept online learning	3.84	0.75

Similarly, online learning self-efficacy and e-content readiness were the highest determining factors for readiness to accept online learning platforms by the faculty members. This is suggestive that faculty members who believe in their ability to use online learning and are assured of E-content readiness by the institutions will have high readiness to accept online learning platforms. This critical insight is vital to achieving effective and strong online learning culture where weak technological infrastructures

have institutionalized face-to-face teaching and learning among faculty members of higher education institutions in many developing countries.

There were positive associations between online learning attitude and faculty members readiness to accept online learning ($r = 0.655$), management support ($r = 0.684$), E-content readiness ($r = 0.738$) and perceived benefit ($r = 0.819$), as shown in Table 4. However, online learning self-efficacy was not statistically significant with faculty members' readiness to accept online learning platforms ($r = 0.016$). The findings show that the perceived benefit of online learning, E-content readiness, management support and online learning attitude will have a positive association with the lecturer's readiness to accept online learning. Expectedly, online learning self-efficacy has no significant association with lecturers' readiness to accept online learning because most of them believed that they could use online learning platforms if other factors as indicated in the study are addressed. This finding is particularly revealing unlike most of the previous studies that focused on student samples with the attendant influencing effect of self-efficacy on online learning usage.

Table 4
The correlation coefficient of the variables

	Online learning attitude	Online learning self-efficacy	Management support	E-content readiness	Perceived benefits
RTA	0.655	0.016	0.684	0.738	0.819
Sig	0.000	0.789	0.000	0.000	0.000

Note. **. Correlation is significant at the 0.01 level (2-tailed),
    RTA: Readiness to accept online learning

As indicated in Table 5, the adjusted R square or the coefficient of determination is 0.741 (74.1%) which is the proportion of variance in the dependent variable explained by all the independent variables. Accordingly, (online learning attitude, online learning self-efficacy, management support, e-content readiness, and perceived benefits) accounted for 74.1% of the variance in the faculty members' readiness to accept online learning platforms. The closeness between R square and adjusted R square values indicates that the current model is predictive.

Table 5
Regression model significance (model summary)

R	R Square	Adjusted R Square	Standard Error of the estimates
0.863	0.746	0.741	0.38500

Note. The regression model shows the proportion of variance (74.1%) of readiness to accept
    online learning which was explained by the five predictors

The five predictors (online learning attitude, online learning self-efficacy, management support, e-content readiness, and perceived benefits) reliably predicted readiness to accept an online learning method because the test statistic was statistically significant at 0.05 significance level [$F(5,276) = 158.833$, $p = 0.000$]. The significance of the F-value implies that the five predictors reliably and significantly predicted readiness to accept online learning platforms by the faculty members.

The Anova model shows in Table 6 indicates that the readiness to accept online learning was reliably predicted by the five predictors platform because the test statistic was statistically significant at a 0.05 significance level.

Table 6
ANOVA (Multiple regression)

Model	Sum of squares	*df*	Mean square	*f*	Sig
Regression	117.716	5	23.543	158.833	0.000
Residual	40.169	271	0.148		
Total	157.885	276			

Table 7 shows that online learning attitude has no statistically significant effect on faculty members' readiness to accept online learning platforms ($\beta = 0.024$, $p > 0.05$), hence H1 is rejected. Online learning attitude is not a significant predictor of readiness to accept online learning platforms by the faculty members. Online learning self-efficacy has a statistically significant effect on faculty members' readiness to accept online learning platforms ($\beta = 0.061$, $p < 0.005$) thus, H2 is accepted. Online learning self-efficacy is a significant predictor of readiness to accept online learning platforms by faculty members. Management support was equally statistically significant with readiness to accept online learning platforms ($\beta = 0.193$, $p < 0.005$). H3 is accepted which implies that management support is a significant predictor of readiness to accept online learning platforms by the faculty members. E-content readiness shows a significant effect on readiness to accept online learning platforms ($\beta = 0.338$, $p < 0.005$). H3 is accepted which suggests that E-content readiness is a significant predictor of readiness to accept online learning platforms by the faculty members. Finally, the perceived benefit has a statistically significant effect on readiness to accept online learning platforms ($\beta = 0.774$, $p < 0.005$). H5 is accepted, which is indicative that perceived benefit is a significant predictor of readiness to accept online learning platforms by the faculty members.

Table 7
Coefficients (Multiple regression)

| | Unstandardized Coefficients | | Standardized Coefficients | | |
	β	Std. Error	*β*	*t*	Sig
(Constant)	0.284	0.198		1.433	0.153
Online learning attitude	0.022	0.061	0.024	0.362	0.717
Online learning self-efficacy	0.068	0.034	0.061	1.990	0.048
Management support	0.190	0.077	0.193	2.470	0.014
E-content readiness	0.338	0.041	0.338	8.146	0.000
Perceived benefits	0.822	0.080	0.774	10.233	0.000

7. Discussion and implications

The pace of technology-enabled learning has increased in recent times as policymakers strive to increase access, improve quality and boast human capital development. In Nigeria and other developing countries, online learning is yet to be institutionalised in the

higher education sector due to the weak technological infrastructures needed to support a virtual learning environment. User acceptance and use of technology have been studied extensively in the literature. Accordingly, various theories and models have been introduced to explain and predict users' behavioural dispositions towards information systems. The technology acceptance model (TAM), theory of planned behaviour (TPB), diffusion of innovation theory and unified theory of acceptance and use of technology (UTAUT) have been used by scholars to predict and explain information system adoption (Ajzen, 1991; Davis, 1989; Rogers, 1983; Venkatesh et al., 2003). Since the online learning environment is content, context, domain and task-dependent (Bandura, 1977; Bawa, 2016; Drumm, 2019; Yokoyama, 2019), it is vital to identify relevant constructs which would help the researchers to achieve the aim and the objectives of the study.

The technology acceptance model (TAM) was primarily designed for information system adopting behaviour in the work setting (Davis, 1989). Adopting its meaning in the virtual learning environment requires proper task-specific conceptualisation to suit the peculiarity of the online setting (Bandura, 1977; Drumm, 2019; Yokoyama, 2019). From the perspective of the technology acceptance model, the actual use of an information system is determined by the user's intention which is jointly influenced by perceived ease of use and perceived usefulness (Davis, 1989). Within the domain of the present study, the word "readiness" has been used to explain the acceptance of online learning to highlight, users' drive and energy which these writers considered vital in accessing the current and future trajectory of the online learning environment, particularly from a developing country perspective. There is growing support that individuals with strong "readiness" status to accept online learning would be more likely to continue to use the online learning system together with a high propensity to try further innovation (Akomea et al., 2022; Ardiasih, Yundayani, & Juhana, 2020, Bayrak, 2022; Joe et al., 2022; Ocak & Karakus, 2022; Ogbodoakum, Ayub, & Abiddin, 2020; Rohayani et al., 2015). From the review of previous studies, it was discovered that greater emphasis was on students' acceptance of online learning platforms (Ayub et al, 2017; Bovermann et al, 2018; Groessl & Vandenhouten, 2018; Nyagorme, 2018; Saborit et al., 2016). The consensus among scholars is that the effective introduction of online learning is dependent on students' acceptance of and use of the platform. Although, these writers agree with the prevailing consensus. However, in many developing countries where online learning method has not been institutionalised due to weak technological infrastructures, it is vital to examine the readiness of teachers to use online learning method.

The present study is designed to examine how online learning attitude, online learning self-efficacy management support, E-content readiness and perceived benefits would be used to predict the readiness of higher institution lecturers to accept online learning methods in Nigeria. From the results of the study, the following implications were identified. First, it was discovered that online learning attitude has no statistically significant effect on readiness to accept online learning by the faculty members. Although the finding may be surprising, due to the expected positive relationship between attitudinal disposition and the range of individual behavioural outcomes (Ajzen, 1991; Davis, 1989). However, a critical examination of the findings would suggest that faculty members (lecturers) in higher institutions of learning may be less disposed to a negative attitude towards online learning if other supportive factors are provided. This may be different in students' sample-based studies.

Secondly, it was also found that online learning self-efficacy has a statistically significant effect on readiness to accept online learning. This particular result was consistent with the results of previous studies on the role of self-efficacy on individual

behavioural dispositions toward technology-enhanced learning (Ayub et al, 2017; Bubou & Job, 2022; Nyagorme, 2018; Zimmerman & Kulikowich, 2016).

Thirdly, management support was found to have a statistically significant effect on readiness to accept the online learning method. It means that when faculty members are assured of management support for e-learning, readiness to accept e-learning will be positive. E-content readiness was found to have a significant effect on readiness to accept the online learning method. This finding is in agreement with the results from other studies on individual behavioural disposition toward technology-enhanced learning (Drumm, 2019; Kilicer, Bardaci, & Arpaci, 2018; Salloum et al., 2019). The strong and positive effect of perceived benefit on readiness to accept online learning underscores the overwhelming evidence that, perception of benefit has a positive individual behavioural disposition, especially in the technology-related learning context. When faculty members perceive that the online learning method would benefit them in teaching and learning activities, their readiness to accept technology-driven learning methods would be high.

Fourth, another important insight from the present study in the context of individual readiness to accept online learning systems, from the perspective of faculty members (university lecturers) is that it highlighted the role of individual-driven virtual learning readiness in policy decision-making processes. Previously, university management has focused on the student's perspective with little or no emphasis on faculty members, in deciding on virtual learning. The assumption is that knowledgeable faculty members will always accept relevant technology interventions, especially those which are related to teaching and learning. The results of the findings support the tenet of the technology readiness and acceptance model, which assumes that individuals with strong technology readiness are much favourably disposed to information system adoption, especially in the context of a virtual learning environment (Lin et al, 2007; Parasuraman, 2000).

8. Conclusion

Although technology-enhanced learning has widened access, and improved performance and quality; little has been achieved in many developing countries. Unlike most other studies which have examined technology adoption in an educational setting; the focus has been on students' samples with little emphasis on the faculty members. From the literature reviews, five factors (online learning attitude, online learning self-efficacy, management support, e-content readiness and perceived benefits) were identified as the most likely predictors of readiness to accept online learning methods in Nigeria's higher education institutions. Essentially, without ascertaining the readiness status of faculty members who are the major drivers of the online learning program in higher institutions, any planned implementation of online learning intervention would be counter-productive.

From the study, it was discovered that four of the predictors (online learning self-efficacy, management support, E-content readiness, and perceived benefits) have a statistically significant effect on readiness to accept online learning platforms. Also perceived benefit has the largest effect, followed by e-content readiness, which is suggestive that faculty members (lecturers) who are confident in their ability to use online learning method together with management support, institution E-content readiness and perception of benefit would most likely accept online learning method.

The non-significant effect of online attitude on readiness to accept online learning by the faculty members is indicative that faculty members (university lecturers) would be

receptive to intervention unlike in student sample driven study (Ayub et al, 2017; Salleh et al., 2017). Consistent with overwhelming literature evidence that links prior experience with favourable information system adoption (Adiyarta et al., 2018; Bayrak, 2022; Obi et al., 2018; Yokoyama, 2019; Widyanti et al., 2020), faculty members who are knowledgeable and experienced with applicable technology-enabled learning tools would be favourably disposed to online learning.

The results of the study amplify the theoretical foundation of TAM and UTAUT by arguing that individual acceptance and use of online learning methods would increase if the energy and drive of "readiness" are ascertained before introduction, especially in a mandated environment such as the university (Bubou & Job, 2022; Ogbodoakum et al., 2020). Also, individual readiness to accept online learning being espoused in the study is consistent with the postulation of the technology readiness and acceptance model in the context of applying the psychographic profile of faculty members in determining their readiness to accept e-learning.

The present study provided additional insight into the faculty members' readiness to accept online learning in the following context. Teachers in a mandated environment such as a university would be favourably disposed toward the virtual learning method if critical factors such as online self-efficacy, management support, E-content readiness and perceived benefits are addressed. First, online self-efficacy requires targeted training so that faculty staffers will have the needed skills to command students' trust and commitment. Second, management support and E-content readiness require effective virtual learning infrastructures from the university leadership while the perception of benefits would fast-track seamless transition from brick and mortar to a high-quality online learning environment.

The findings from this study are particularly insightful in the context of online learning intervention especially in developing countries with weak technology-enabled infrastructures, by examining relevant factors which would deliver strong online learning intervention instead of exclusive reliance on system characteristics which have dominated the domain of information system adoption.

Finally, the results from this study agree that online learning is context, domain and task-dependent (Bayrak, 2022; Ocak & Karakus, 2022; Ogbodoakum, et al., 2020; Quintero, 2020; Yokoyama, 2019), hence proper and effective readiness status of those involved in its adoption should be ascertained before full-scale intervention is implemented.

8. Limitations and recommendations

While the current findings from the study have offered new insights on readiness to accept online learning methods by the faculty members of higher education institutions, there are a few limitations which deserve further examination. First, the present study used self-report which is vulnerable to common error bias. Secondly, only five possible predictors of readiness to accept online learning were investigated in the context of the study. There are other predictors which could influence readiness to accept online learning methods.

Thirdly, while the findings may be generalised to other developing countries, it is advised that respondents' differences due to nationality and level of development, which could influence individual behavioural disposition towards technology-enhanced learning should be factored in. Further studies may examine other possible factors in the context

of technology-enhanced learning. Finally, the role of the online learning attitude may be further examined due to its non-significance effect on faculty members' readiness to accept the online learning method.

Author Statement

The authors declare that there is no conflict of interest.

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Appendix I

Measurement items

Constructs	No of items
Online learning attitude	4
I'm in favour of e-learning and ready to accept it	
E-learning is a complex process	
E-learning leads to social isolation	
E-learning lacks the face-to-face interaction between students and teachers	
Online learning self-efficacy	5
I believe I can describe how online learning platform works	
I believe I can operate an online learning platform	
I believe I can identify and correct common operational problems with an online learning platform	
I believe I can remove information from online learning platforms that I no longer need	
I believe I can use an online learning platform to present information in the desired manner	
Management support	6
The university provides learning opportunities irrespective of place, pace and time	
The university provides rich learning resources at fingertips	
Provides access to e-learning based educational opportunities to everyone	
Have access to a dependable computer/laptop	
Availability of E-learning infrastructure in the university	
Professionals are available in the university to carry out E-learning training programs	
E-content readiness	4
Availability of E-learning teaching materials	
Have attended E-learning training in the university	
Have the required basic ICT skills for E-learning	
Reliable IT infrastructure that can support e-learning in the university	
Perceived benefits	8
Share any course-related pictures, audios, videos, or links with students	
Access syllabus and assignments by students	
Access course materials, Notes etc. by students	
Perform activities like quizzes for students	
Participate in discussions forums with students	
Provide student support Services like administrative information	
Supports a collaborative learning environment	
Saves efforts and time for students	
Readiness to accept online learning	7
Personal commitment to e-learning	
Experienced with technology-based training, e.g., multimedia	
Willingness to collaborate and share information and knowledge through e-learning	
The design of the e-learning content is important for attracting users	
Technology is the most critical readiness factor in e-learning	
Ready to move beyond a predominant reliance on classroom training to an e-learning approach	
Need more training for e-learning content development	

Note. Measurements items were adapted from previously validated scales: The sources have been acknowledged in the main report (see section 5.1).