Assessing the online teaching readiness of faculty member

Bikash Barua
American International University Bangladesh, Dhaka, Bangladesh, and
Umma Nusrat Urme
Department of Business Studies, State University of Bangladesh, Dhaka, Bangladesh

Received 29 October 2022
Revised 7 February 2023
22 March 2023
7 April 2023
Accepted 10 April 2023

Abstract

Purpose – This study aims to investigate how online teaching of faculty members is affected by technological readiness (TR) of using online teaching platforms. The study sheds light on how many faculty members were ready to use different online platforms during COVID-19 period.

Design/methodology/approach – This study used TR measures to determine the impact of optimism regarding the perceived usefulness and ease of usage, impact of innovativeness in terms of perceived usability and ease of use, the influence of discomfort on perceived usefulness and ease of usage, the effect of uncertainty on perceived usefulness and ease of use and the influence of perceived usefulness and ease of use on behavior. An online questionnaire survey was conducted among 255 faculty members of different private universities of Bangladesh. The sample was chosen based on a convenience method. The responses were analyzed using partial least square (PLS) approach with the help of software Smart PLS 3.

Findings – The finding supported all of the hypotheses except that discomfort and insecurity have a positive relationship with ease of use and usefulness.

Research limitations/implications – The study will help faculty members in developing their competency in using technologies in their pedagogy. Also, this study will provide some guidelines to the university management in developing adequate technological infrastructure to aid teaching.

Practical implications – The aim of the study was to investigate the faculty members' readiness level with respect to online teaching. The technology assessment model (TAM) was used to determine the readiness index. The study intended to validate the hypotheses regarding the extent to which the faculty members perceived that TAM factors affect Ease of Use and Usefulness of online teaching. Also, this research analyzed the perception of faculty members that Ease of Using online teaching affects its Usefulness. Lastly, the study examined how their perception of Ease of Use and Usefulness affect Intention to Use online as a mode of teaching. It was found from the study that each of the TAM factors, Optimism, Innovativeness, Insecurity and Discomfort has positive and significant contribution on the Ease of Use. On the other hand, Optimism, Innovativeness, Insecurity and Discomfort have positive and significant contributions on the Usefulness. The study also revealed that Ease of Use has positive and significant contribution on the Usefulness. Lastly, it was found that Ease of Use and Usefulness have positive and significant contribution on the Intention to use. Teaching remotely is still a novel concept, and it is more difficult for people who have not done it before. Many teachers became burned out as a result of trying to adjust to new teaching methods, especially after the lockdown began. They were having a difficult time since there was so much ambiguity. When a teacher is well-versed in communication tools, it can improve learning efficiency. When they are properly trained, deploying engaging features of virtual learning, such as audio-visual lessons, quizzes, and so on, becomes simple, and

Corrigendum: It has come to the attention of the publisher that the article: Urme, U.N. and Barua, B. (2023), "Assessing the online teaching readiness of faculty member", *Journal of Research in Innovative Teaching & Learning*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/JRIT-10-2022-0070 incorrectly listed the author order as Urme, U.N. and Barua, B.

This has now been amended to Barua, B. and Urme, U.N.

This has now been amended in the online version of the paper.

Journal of Research in Innovative Teaching & Learning
Emerald Publishing Limited
2397-7604
DOI 10.1108/JRIT-10-2022-0070

students become eager to learn more. Teachers can plan their classes, prepare and master technology and create innovative and stimulating discussion topics (Mishra *et al.*, 2020). They need to utilize a variety of technological options. They can rehearse virtual classroom management with colleagues if they face any difficulty. All of the aforementioned abilities can be honed with the assistance of an integrated academic system. Teachers can be trained by educational institutions to ensure a smooth learning process through the use of ICT (information and communication technologies) (Scherer *et al.*, 2021; Mishra *et al.*, 2020). The training will assist teachers in efficiently taking online classes. Institutions should ensure that teachers are well-suited to teach online and are skilled at keeping students engaged during remote learning. To make every chapter engaging, aspects such as videos, slides, images and digital copies of books and workbooks can be used. This allows students to receive personalized support and counseling in order to maintain their motivation (Sahu *et al.*, 2022; Lapitan *et al.*, 2021). Every other day, group doubt resolution classes ensure that there are no gaps in learning (Lapitan *et al.*, 2021). All teachers require is a digital mindset, the appropriate tools and a committed approach (Sahu *et al.*, 2022). If teachers can hold their students' attention, they can easily deliver an effective learning experience (Lapitan *et al.*, 2021).

Originality/value – This study was conducted to identify technological preparedness of faculty members of private universities in Bangladesh during COVID-19 period. Some studies were there to assess such kind of preparedness but none of those used TAM and technology readiness model either in isolation or in combination. Also, this paper focused on teachers' readiness in contrast to students' readiness specific to private universities.

Keywords Technology acceptance, Technology readiness, TRAM model, COVID-19 pandemic, Online teaching

Paper type Research paper

1. Introduction

The Covid-19 pandemic and the subsequent deployment of social distancing rules resulted in a quick transition to online teaching and learning for most higher education institutions throughout the world between early 2020 to mid-2021, regardless of whether teachers were prepared (UNESCO IESALC, 2020). As a result, the rapid shift of all instruction provides a unique opportunity to observe how well teachers were prepared for online teaching and learning (Brooks and Grajek, 2020). It is critical to recognize that higher education teachers' perceptions of their preparation for online teaching and learning are a complex issue (Martin *et al.*, 2019). This move entailed significant adjustments in teaching practice, particularly in light of the rapid transition to full online teaching. Individual, institutional and cultural variables all play a role in such changes in practice, as well as the willingness to engage in change at any level (Kukulska-Hulme, 2012). Examining the relationships between these elements and teacher readiness for online teaching and learning is crucial in order to better understand teachers' readiness for online teaching and learning (Hung, 2016). Furthermore, these factors may not have the same impact on all teachers. Given varied origins, experience with online teaching and learning, and academic fields, teachers in higher education are not a homogeneous group, and the different significant relationships impacting one group may be completely different for another. Understanding some of the reasons why instructors do or do not adopt new online teaching and learning techniques is crucial in order to give appropriate support (Bruggeman *et al.*, 2020).

Education sector in Bangladesh especially private institutions also become affected due to Covid-19 pandemic. The educational institutes did not have any experience in performing teaching learning activities over online. Hence, teachers had to use different technological tools to conduct classes. Private universities in Bangladesh faced intense challenge in continuing education during the pandemic period. Therefore, they had to adopt to utilize technology in providing the education because using information and communication technologies in human resource services has become an important strategy to achieve competitive advantage for organizations (Erdoğmuş and Esen, 2011). The adoption of information systems (ISs) is based on the users' readiness, not on the system's forced use (Nugroho and Andryzal Fajar, 2017). One paradigm is system-specific, and it focuses on how the qualities of a technology influence an individual's experience of it. This, in turn, has an impact on how the technology is used (Godoe and Johansen, 2012). As a result, an instructor who does not believe in the system may not be

motivated to put up much effort for techniques that are not deemed vital, even if he or she is aware of them (Kıyıcı, 2018). This study attempted to determine the factors affecting the readiness of private university faculty members in online teaching.

Empirical studies used different factors to measure technological readiness (TR) in online teaching and learning. Brown *et al.* (2007) considered individual differences, including personality traits, generalized beliefs and affects about technology, as well as demographics, may affect the acceptance. Eslaminejad *et al.* (2010) used pedagogical knowledge, attitude, skills and habits readiness. System quality, information quality, service quality, system use, user satisfaction and net benefit were considered by Gay (2016). Another study shows that the key factors influencing teacher readiness for e-learning include attitude, technology competency, pedagogy, training and time constraint (Phan and Dang, 2017). Technical skills, experience with online teaching and learning, attitudes toward online learning, time management and time commitment were identified by Ventayen (2018). Mishra *et al.* (2020) used skills, motivations, resources, time and politics as determinant of readiness. Alea *et al.* (2020) identified factors such as knowledge and skills, technology, communication, media usage, time management and pedagogical content and method. Panol *et al.* (2020) used technical and pedagogical factors in determining readiness of teachers in online teaching. This study adopted the technology acceptance model (TAM) in determining readiness of teachers in online teaching.

2. Literature review

2.1 Teacher's readiness on online teaching

"The level of faculty preparedness" to teach online is a broad definition of readiness to teach online (Martin *et al.*, 2019). As a result, instructors' judgments of their own and their institution's readiness are linked to ideas about their own preparedness. As a result, perceptions of online preparedness will be a mix of attitudes and experiences influenced by a variety of personal attributes, contextual and cultural factors (Hung, 2016). For individuals, such perceptions may specifically rely on their future-oriented projections of their knowledge and skills concerning online teaching and learning, which are manifested in their sense of self-efficacy and experiences (Tschannen-Moran *et al.*, 1998)—these aspects represent personal readiness. One of the primary influencing elements that may affect teachers' usage of technology is their readiness, which has a large positive direct effect on technology integration in education (Inan and Lowther, 2009).

The attitude, training and behavior of teachers have a significant impact on students' online learning experiences (Shattuck, 2014). Teachers must possess all the skills necessary for online instruction. Skills and knowledge in the use of digital tools in all curriculum disciplines, as well as making students' learning extend outside the classroom, are among these competences (Bonanno, 2011). Teachers, on the other hand, may not be ready to fully engage and incorporate technology due to abrupt changes in learning delivery modalities in the educational system. Similarly, teachers and students may lack the necessary knowledge and skills to enable online learning with technology. Teachers said that they have advanced technical abilities in the use of technology for personal purposes, but that they lack the knowledge and skills to integrate technology into the curriculum (Al-Awidi and Aldhafeeri, 2017).

Teachers' willingness to adapt and attitudes toward technology play a major role in the success of technology integration and effective use of technology in education (Cavas *et al.*, 2009). These trait characteristics differ technology readiness from other related concepts. The first related construct is technology anxiety, which refers to people's concern and apprehension about using or contemplating using technological instruments (Meuter *et al.*, 2003). Technology anxiety is concerned with a user's competence and willingness to use technology-related tools" (Blut and Wang, 2019) Second, technology readiness should not be confused with "attitude," which is defined as a person's positive or negative feelings (evaluative affect) toward adopting a certain technology (Venkatesh and Bala, 2012). Although both are attitudinal variables

(Parasuraman, 2000), the former is an individual's general innate attitude toward technology (i.e. attitude toward using a specific technology) and the latter is a context-specific behavioral attitude (i.e. attitude toward using a specific technology). Third, compared to the two specific technology-related ability beliefs, technology readiness is a broader individual difference idea. Finally, technology readiness differs from "perceived risk", which includes concerns about security, system failure, reliability and other personal, psychological, or financial hazards associated with technology use (Walker *et al.*, 2002). Technology readiness considers both the positive and bad aspects of technology in general, whereas perceived risk simply considers the negative aspects of a specific technology.

2.2 Technology acceptance model (TAM)

TAM has been widely used to examine individual technology acceptance behavior in various types of ISs since its inception, and it has been applied extensively for different technologies, under different circumstances, with different control factors, and in different contexts, resulting in extensions and changes to the original model.

TAM claims that behavioral intention produced as a result of conscious decision-making processes explains the majority of IS usage behavior. Two belief components, in turn, influence behavioral intention:

(1) Perceived usefulness: perceived usefulness is defined as "the degree to which a person believes that using a particular system would enhance his or her performance" (Davis, 1989, p. 320).

(2) Perceived ease of use: perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989, p. 320).

To assess user acceptance of mobile technology applications in the healthcare industry, Mohammed (2012) used a quantitative technique based on TAM. Shroff *et al.* (2011) investigated whether TAM could be used to determine the relationship between students' intention to use an e-portfolio system, while Park (2009) found TAM to be a good theoretical tool for understanding users' acceptance of e-learning and Alsamydai (2019) adapted TAM with additional quality factors and experience to understand the use of mobile banking services. Blut and Wang (2019) used TAM to assess readiness level for technology usage. Lai and Lee (2020) used the TAM model to explain the behavior in adoption of building information technology. Buyle *et al.* (2018) predicted the use intention of data standards in smart cities using TAM model.

2.3 Technology readiness model

The TR construct is a paradigm that takes individual characteristics into account. The TR-construct is described by Parasuraman (2000) as people's inclination to adopt new technologies for completing goals in life and at business. People's propensity to adopt and use new technologies to accomplish tasks in their personal and professional lives, according to Ling and Moi (2007), is referred to as technology readiness. The construct considers four sub-dimensions that influence people's behavior in relation to technology: optimism and inventiveness, which can increase TR, and discomfort and insecurity, which can decrease it (Parasuraman, 2000). Optimism refers to a favorable attitude toward technology and the assumption that it provides individuals with more control, flexibility and efficiency (Parasuraman, 2000). The ability to be a technology pioneer and thought leader is referred to as innovativeness (Parasuraman, 2000). Discomfort was defined by Parasuraman (2000) as a feeling of being overwhelmed by technology and a perceived lack of control over it. Insecurity is a feeling of apprehension toward technology that stems from apprehension about its ability

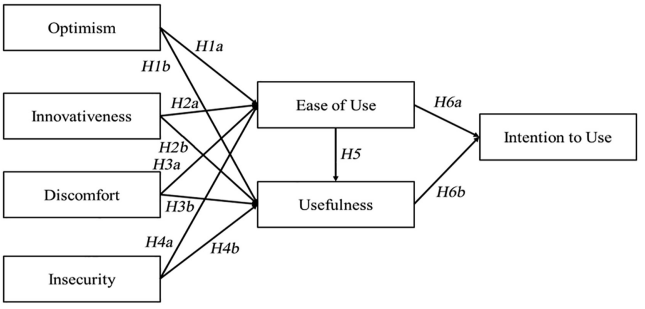
to function effectively as well as worry about possible negative repercussions (Parasuraman, 2000).

TAM and TR models are used individually in different literature in many different sectors to measure the readiness of people in accepting new technology. These two different models are combined to have technology readiness and acceptance model (TRAM) which also have widespread use. It is a very useful approach for assessing the technology readiness. The education sector is also not beyond this use. This model has been in use in education sector from different perspectives such as measuring the readiness to accept web-based attendance system (Nugroho and Andryzal Fajar, 2017); analyzing teachers' readiness to online teaching based on TRAM (Gurung and Goswami, 2022; Chan *et al.*, 2022), Rahayu and Wirza (2020), Scherer *et al.* (2021), learning management system (LMS) (Yusuf *et al.*, 2021; Bove and Conklin, 2019); Alharbi and Drew (2014), improving online learning through the use of LMS (Mufidah *et al.*, 2022). Predicting undergraduate distance learners' behavioral intention to use LMS (Munabi *et al.*, 2020); understanding most influential user experiences in successful and unsuccessful technology adoption (Partala and Saari, 2015); measuring students' acceptance to e-learning (Alyoussef, 2021); judging the readiness to accept new technology by the academic staff (Bakirtas and Akkas, 2020; Panday, 2018).

2.4 Development of research model

In this paper, we look into the possibility of predicting the intention to use data standards in Flanders using the TRAM (see Figure 1). This will be accomplished by utilizing a modified version of TRAM presented by Lin *et al.* (2007). Figure 1 illustrates how this model is built on TAM (Davis, 1989) and TR (Parasuraman and Colby, 2015).

Optimists generally hold positive attitudes toward technology, making them willing to spend more time/effort on it. Therefore, for the same level of actual effort invested, perception of effort is lower for more optimistic, compared to less optimistic consumers (Blut and Wang, 2019). Because optimists are more positive about technology in general, they tend to see more benefits (such as convenience) in specific technologies and are less concerned about drawbacks (Son and Han, 2011). Optimistic people generally expect that "good rather than bad things will happen to them" (Scheier and Carver, 1985). How they approach the world will have an impact on their attitude toward risk perception and acceptance in relation to technology (Costa-Font *et al.*, 2009). According to Parasuraman (2000), optimism is "a favorable view of technology and trust that it will offer people more efficiency, flexibility and choice and command". Lin *et al.* (2007) assert that perceived use and perceived usefulness have a balancing effect between TR and usage intentions. Using these observations. Hallikainen and Laukkanen (2016) made the case that optimism positively



Source(s): Figure by authors

Figure 1.
The Research model

impacts both the perceived use and perceived usefulness in the business-to-business healthcare sector of digital services sector. Several studies have found that optimism has positive relationship each of the perceived ease of use and perceived usefulness (Mufidah *et al.*, 2022; Gurung and Goswami, 2022; Yusuf *et al.*, 2021; Lai and Lee, 2020; Bakirtas and Akkas, 2020; Nugroho and Andryzal Fajar, 2017; Blut and Wang, 2019; Panday, 2018; Buyle *et al.*, 2018; Godoe and Johansen, 2012). Based on this study, we suggest the following:

H1a. Optimism has a positive influence on perceived ease of use of online platform for teaching.

H1b. Optimism has a positive influence on the perceived usefulness of online platform for teaching.

Innovative people seek to learn about new technologies, and thus tend to better understand how a technology works, leading to perceptions of needing less effort in use. Consumer studies have discovered that innovative traits of individual are strongly linked to novelty-seeking and creativity behaviors, such as the adoption of new products (Hirschman, 1980). As a result, we anticipate that people with a high level of natural innovativeness (i.e. openness to new experiences) will have an instinctive desire to test new technologies and become innovators or early adopters (Rogers, 2003). According to Garcia and Calantone (2002), "innovativeness" is frequently used to evaluate the "newness" of an innovation, and innovative items are typically labeled with a high degree of newness. Users who are considered "creative" are those who accept new concepts before others (Rogers, 2003). The technological dimension is introduced by Parasuraman (2000), who talks of having "a predisposition of being a technology pioneer and influencer". Technology readiness and the adoption of business process standards are directly linked favorably (Venkatesh and Bala, 2012). It is found that innovativeness has positive association with perceived ease of use and perceived usefulness (Mufidah *et al.*, 2022; Gurung and Goswami, 2022; Yusuf *et al.*, 2021; Lai and Lee, 2020; Bakirtas and Akkas, 2020; Nugroho and Andryzal Fajar, 2017; Blut and Wang, 2019; Panday, 2018; Buyle *et al.*, 2018; Godoe and Johansen, 2012). Using these findings as a foundation, we suggest the following:

H2a. Innovativeness has a positive influence on perceived ease of use of online platform for teaching.

H2b. Innovativeness has a positive influence on the perceived usefulness of online platform for teaching.

A perceived loss of control over technology and a sense of being overtaken by it are described as discomfort qualities (Parasuraman, 2000). Perceived behavioral control is expressly mentioned in the theory of planned behavior as a direct driver of both behavioral intention and actual conduct (Ajzen and Fishbein, 2005). As a result, discomfort, as a general sensation of powerlessness, should have a negative impact. People that experience a lot of discomfort find technology to be uncomfortable and overpowering, so they strive to avoid it. Due to perceived lack of control, people high in discomfort often have low confidence in using a technology, therefore finding its use more difficult. This is because confidence in one's ability forms a basis for individuals' judgment about how easy a technology is to use (Venkatesh, 2000). According to Mukherjee and Hoyer (2001), the user's learning cost makes product evaluation less favorable for features that are highly sophisticated in technology products. People who feel discomfort in using technology usually do not feel at ease in using the new technology hence they do not seem it to be useful to them. Therefore, discomfort has negative association with perceived ease of use and perceived usefulness (Mufidah *et al.*, 2022; Gurung and Goswami, 2022; Bakirtas and Akkas, 2020; Blut and Wang, 2019; Buyle *et al.*, 2018; Godoe and Johansen, 2012). Using TRAM as a foundation, we suggest the following:

H3a. Discomfort has a negative influence on perceived ease of use of online platform for teaching.

H3b. Discomfort has a negative influence on the perceived usefulness of online platform for teaching.

According to Parasuraman (2000), insecurity "implicates a suspicion of technology and the skepticism about its ability to perform correctly." According to IS research, trust is a key factor in shaping technology adoption behavior (Venkatesh and Bala, 2012). IT combines concerns about overall safety, fears of undesirable outcomes and a desire for assurance. Individuals who are innately wary about and distrustful of technology are more likely to predict risks rather than advantages from any technology and, as a result, avoid it. Even while TRAM implies that there is a detrimental impact on the perceived use and perceived usefulness, several subsequent studies (Godoe and Johansen, 2012; Walczuch *et al.*, 2007) have not been able to discover a correlation. Insecurity in using technology causes people to feel reluctant to use new technology hence they do not easily adopt new technology and do not find it useful. Therefore, Insecurity in using new technology has negative association with perceived ease of use and perceived usefulness (Mufidah *et al.*, 2022; Gurung and Goswami, 2022; Bakirtas and Akkas, 2020; Blut and Wang, 2019; Panday, 2018; Buyle *et al.*, 2018; Godoe and Johansen, 2012). Using TRAM's ideas as a foundation, we suggest the following:

H4a. Insecurity has a negative influence on perceived ease of use of online platform for teaching.

H4b. Insecurity has a negative influence on the perceived usefulness of online platform for teaching.

According to numerous studies (King and He, 2006; Lin *et al.*, 2005; Schepers and Wetzels, 2007), perceived usability affects perceived usefulness. This presumption is founded on the theoretical justification that while certain user-friendly apps might be considered valuable, not all useful applications are user-friendly. The degree to which a user believes utilizing the system will be effortless is indicated by perceived ease of use. As opposed to this, perceived usefulness refers to how much a person thinks using the technology will enhance job performance. The perceived ease of use has an impact on perceived utility, and the easier a system is to use, the more valuable it is (Kuo *et al.*, 2013). Researchers have looked into the connection between perceived usefulness and perceived ease of use (Ramayah and Ignatius, 2005). Both are assumed to be closely related in the context of data standards since it stands to reason that a user who finds data standards "simple to use" will also likely find them to be helpful. Several authors have concluded that perceived ease of use has positive relationship with usefulness (Mufidah *et al.*, 2022; Gurung and Goswami, 2022; Yusuf *et al.*, 2021; Bakirtas and Akkas, 2020; Munabi *et al.*, 2020; Nugroho and Andryzal Fajar, 2017; Blut and Wang, 2019; Bove and Conklin, 2019; Panday, 2018; Buyle *et al.*, 2018; Alharbi and Drew, 2014; Godoe and Johansen, 2012). As a result, we surmise that:

H5. The perceived ease of use has a positive influence on perceived usefulness of online platform for teaching.

According to the basic TAM model, researchers have been examining the impact of perceived use and perceived usefulness on usage intention, and they have found that these variables have a favorable impact on use intention (Davis, 1989). Pai and Huang (2011) refers to a healthcare IS as a set of standards and his study reveals that perceived ease of use favorably affects users' intention to use the IS. However, studies on the use intention of data standards are quite scarce. According to the fundamental theory of TAM, which has been validated via numerous research studies, there will be a behavioral intention to utilize a technology if it is

seen helpful and simple to use. TAM demonstrates that individual behavioral intention to use technology is jointly determined by perceived usefulness and ease of usage (Davis, 1989). According to Davis (1989), a new technology's perceived usefulness is the primary factor in determining whether it is really used. Therefore, rather than choosing new technologies based on how simple they are to use, consumers choose to accept them based on the functions they perform. Users will, for example, embrace a challenging system if it fulfills a crucial role. Nevertheless, in real-world applications, roughly 90% of TAM research demonstrates direct effects of perceived ease of use on actual use (Schepers and Wetzels, 2007). Previous studies have found that each of the perceived ease of use and perceived usefulness has positive relationship with intention to use new technology (Mufidah *et al.*, 2022; Gurung and Goswami, 2022; Yusuf *et al.*, 2021; Munabi *et al.*, 2020; Nugroho and Andryzal Fajar, 2017; Blut and Wang, 2019; Bove and Conklin, 2019; Panday, 2018; Buyle *et al.*, 2018; Alharbi and Drew, 2014; Godoe and Johansen, 2012). As a result, we suggest the following:

H6a. The perceived ease of use has a positive influence on the intention to use online platform for teaching.

H6b. The perceived usefulness has a positive influence on the intention to use online platform for teaching.

3. Research methodology

This study adopted an explanatory approach as the research methodology to establish the relationship among TAM factors, Ease of Use, Usefulness and Intention to use (Cooper and Schindler, 2014). The relationship was investigated by testing the hypotheses that have been developed in the theoretical framework section. Since the goal of this study was to test hypotheses empirically, a quantitative research method was undertaken. Primary data was gathered through the survey method. The survey was a single cross-sectional and online survey. Faculty member of different private universities of Bangladesh were the population of this study. The list of faculty members was gathered through an online portal "Private University Faculty Forum". The questionnaire was uploaded in an online group. Because of the nature of the study a convenience sampling method was used in this study hence there was no fixed sample size for the study. Primary data was gathered through a self-administered questionnaire uploaded in the online portal mentioned above. Faculty members were asked to respond to the online questionnaire in Google Forms.

The unit of analysis was the individual faculty member. The items used in this research were designed by the author based on previous empirical researches. The constructs for this study were developed from Nugroho and Andryzal Fajar (2017) for technology readiness dimensions and.

Intention to use and from Lai and Lee (2020) for perceived ease of use and perceived usefulness. All the constructs were developed using multiple item methods. They were measured using a five-point Likert scale with '1' represents 'strongly disagree' and '5' represents 'strongly agree' to provide the advantage of standardizing and quantifying relative effects.

The questionnaire was divided into two sections. The first section intended to seek opinion from the faculty members regarding their level of agreement or disagreement related to TAM factors, ease of use, usefulness and intention to use. The second part asked general characteristics of respondents such as gender, position, highest education level and teaching experience. The questionnaire was pre-tested to determine its reliability and validity.

A total of 267 questionnaires were received out of which 255 were analyzed. Data were tested for reliability by using Cronbach Alpha method. All four validity, face validity, content

validity, construct validity and criterion validity were tested to confirm the validity of the data obtained.

This study adopted structural equation modeling (SEM) to test the hypotheses. PLS-SEM was used for small or reduced sample size, normal distribution, complex models, prediction of explained variance of the dependent variable and the use of formative and reflective constructs (Cepeda-Carrion *et al.*, 2018). According to Henseler (2018), the purpose of using SEM in this study was to perform confirmatory research to understand the causal relationship between variables and explain the situation to explain dependent variables. SEM was applied to test both the measurement model and the structural model. The measurement model determines how the latent variables are affected and determined by the observed variables (Mehralian *et al.*, 2018). The significance levels chosen were 1 and 5%. The data was then analyzed in SmartPLS 3.

4. Research findings

4.1 Respondent profile

Table 1 presents details of the respondent profile. Table 1 shows that 56.9% of the respondents are male and 43.1% are female. Table 1 also found that 2% of respondents are professors, 13.7% are associate professors, 27.54% are assistant professors, 15.7% are senior lecturers and 41.1% are lecturers. Moreover, from Table 2, it is found that most of the respondents hold a master's degree (84.3%) followed by PhD degree (15.7%). Table 2 shows that 9.8% has more than 15 years of experience, 13.7% has 12–15 years, 7.8% has 9–12 years, 13.7% has 6–9 years, 29.4% has 3–6 years and 25.5% has less than three years.

Characteristics	Frequency	Percentage
Gender		
Male	145	56.9
Female	110	43.1
Position		
Professor	5	2.0
Associate professor	35	13.7
Assistant professor	70	27.5
Senior lecturer	40	15.7
Lecturer	105	41.1
Highest education level		
Post doctorate	0	0.0
PhD	40	15.7
Master's	215	84.3
Bachelor's	0	0.0
Teaching experience (Yrs.)		
More than 15	25	9.8
12–15	35	13.7
9–12	20	7.8
6–9	35	13.7
3–6	75	29.4
Less than 3	65	25.5

Source(s): Table by authors

Table 1.
Respondent profile

4.2 Assessment of model fit

Henseler *et al.* (2016) proposed an indicator to assess the overall fit of a model in PLS-SEM to extract the availability of more information beyond the specified. The study used SRMR, d_ULS, d_G1, d_G2 to measure model fit (Benitez *et al.*, 2020). The SRMR is a measure of the estimated model fit. The SRMR is an index of the average of standardized residuals between the observed and the hypothesized covariance matrices (Chen, 2007). When SRMR is < 0.08, then the study model has a good fit (Henseler *et al.*, 2014), with a lower SRMR being a better fit. Table 2 shows the SRMR values of the study. Table 2 shows that the study model's SRMR is 0.066, which reveals that this study model had a good fit. d_ULS and d_G values express the overall model fit since it is grounded on statistical inference instead of heuristic rules (Benitez *et al.*, 2020). d_ULS and d_G values of this study are less than the upper bound of 95% confidence interval showing the overall model fit (Benitez *et al.*, 2020).

4.3 Assessment of the measurement model

This study used PLS-SEM (Hair *et al.*, 2022) to evaluate the theoretical model by using the SmartPLS software tool. PLS-SEM uses factor analysis and multiple regressions to assess the model as well as test the mediation result. The objective of using the measurement model is to assess the reliability and validity of the observed and unobserved variables (Ho, 2013).

Table 3 presents the validity and reliability of all research variables. Construct validity testifies to how well the results obtained from the measure fit the theories around which the test is designed (Sekaran and Bougie, 2016). In line with Hair *et al.* (2018), the factor loading of the items could be used to confirm the construct validity of the measurement model. This study used a cutoff value for loadings at 0.5 as significant (Hair *et al.*, 2018). Table 3 shows that all the items measuring a particular construct loaded highly on that construct, thus confirming construct validity.

Cronbach's alpha and composite reliability (CR) were used for internal consistency. Table 3 also shows that the Cronbach's alpha and CR for all constructs were greater than 0.70. Thus, Cronbach's alpha and CR shows that the scales were reasonably reliable and indicated that all the latent construct values exceeded the minimum threshold level of 0.70. To verify the variables' convergent validity, each latent construct's average variance extracted (AVE) was calculated (Fornell and Larcker, 1981). The latent constructs should take the lowest 50% of the observed variable variance in the model. Hence, this indicates that the AVE for all constructs should be above 0.5 (Hair *et al.*, 2018). Table 3 shows that all of the AVE values were more than 0.5, so convergent validity was confirmed for this study model.

Table 4 displays the results for the discriminant validity. Heterotrait–monotrait ratio (HTMT) of correlations (Henseler *et al.*, 2015) is used to assess discriminant validity. The HTMT criterion is an estimate of the true correlation between two constructs if they are perfectly measured. High HTMT values indicate a problem with discriminant validity. According to Henseler *et al.* (2015), a HTMT value above 0.90 indicates a lack of discriminant validity. When the constructs are conceptually more distinct, a lower, more conservative

	Saturated model	HI 95%
SRMR	0.066	0.058
d_ULS	0.434	0.534
d_G1	0.041	0.049
d_G2	0.032	0.036

Table 2.
Model fit summary

Source(s): Table by authors

Variable	Items	Factor loading	AVE	Cronbach's alpha	Composite reliability
Optimism	1. Online class contributes to a better quality of academic life 2. Online class gives me more freedom of mobility 3. Online class makes me more productive in my personal life 4. I like online class as it allows me to tailor things to fit my own needs 5. Online class makes me more efficient in my occupation 6. Online class is much more convenient to conduct	0.719, 0.749, 0.772, 0.776, 771, 0.781	0.541	0.845	0.855
Innovativeness	1. In general, I am among the first in my circle of faculty members to start online class 2. I can usually figure out approach of conducting online class without help from others 3. I find that I have fewer problems than other people in conducting online class 4. I keep up with the latest developments in the areas of online tools of teaching	0.703, 0.849, 0.814, 0.834	0.744	0.805	0.813
Discomfort	1. Sometimes, I think that online classes are not designed for use by every faculty 2. It seems that my colleagues are learning more about conducting classes online than I am 3. I do not consider it safe to conduct classes online 4. Internet always seems to fail at the worst possible time	0.804, 0.826, 0.723, 0.733	0.693	0.774	0.794
Insecurity	1. Conducting classes over online lowers the quality of relationships by reducing personal interaction 2. I worry that information I make available over the internet may be misused by others 3. When I conduct classes over Internet, I prefer watching students rather than just listening to them 4. Whenever classes are operated through Internet, I need to check carefully that the system is not making mistakes 5. If I provide information to a student over the Internet, I can never be sure it really gets to him/her	0.712, 0.809, 0.784, 0.747	0.591	0.758	0.761

(*continued*)

Table 3.
Reliability and validity of the variables

Variable	Items	Factor loading	AVE	Cronbach's alpha	Composite reliability
Ease of Use	1. Learning to operate the classes over online is easy for me 2. I find it easy to get the online system to do what I want it to do 3. Usage of the Internet to conduct classes is clear and understandable 4. It is easy for me to remember how to perform tasks using Internet 5. In general, Internet is easy means to conduct classes	849, 0.897, 0.822, 0.920, 0.761	0.605	0.853	0.861
Usefulness	1. Online class enables me to accomplish my lectures more quickly 2. Using online class increases my performance in delivering lectures 3. Using online class enhances my effectiveness in delivering lectures 4. Using online class makes me easier in managing my lectures	0.901, 0.918, 0.680, 0.820	0.776	0.900	0.904
Intention to Use	1. In the future, I will use Internet regularly to help lecturing process 2. I will use Internet more often to support lecturing process in the future 3. I will suggest/recommend others to use Internet to support lecturing process	0.863, 0.950, 924	0.692	0.898	0.900

Table 3.

Source(s): Table by authors

	Optimism	Innovativeness	Insecurity	Discomfort	Ease of use	Usefulness	Intention to use
Optimism							
Innovativeness	0.778						
Discomfort	0.655	0.590					
Insecurity	0.547	0.613	0.490				
Ease of use	0.679	0.694	0.735	0.662			
Usefulness	0.721	0.715	0.569	0.714	0.501		
Intention to use	0.584	0.665	0.743	0.628	0.633	0.752	

Table 4.
Discriminant validity of the variables (HTMT values)

Source(s): Table by authors

threshold value of 0.85 is suggested (Henseler *et al.*, 2015). This study has found HTMT values for all latent variables are less than 0.90 confirming the discriminant validity.

4.4 Evaluation of the structural model

The next step was to measure the structural model outcomes. This included observing the model's predictive relevancy and the relationships between the constructs. The coefficient of determination (R^2), Path coefficient (β value) and T-statistics value, and model fit are the essential standards for evaluating the structural model.

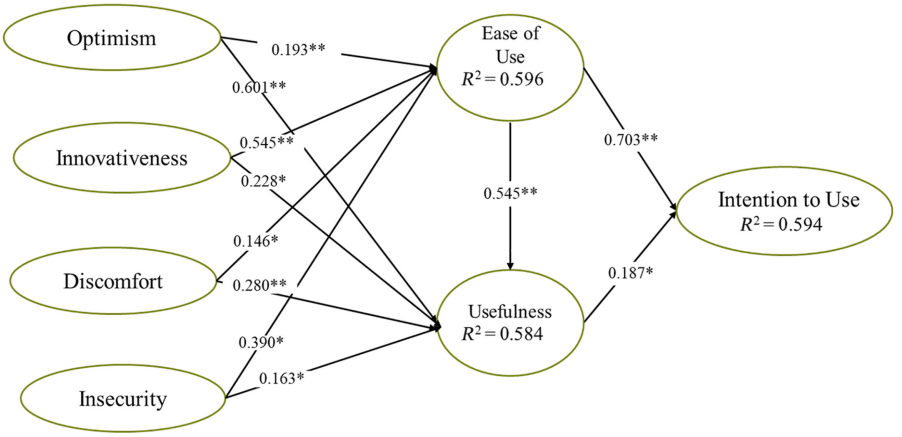
The coefficient of determination measures the overall effect size and variance explained in the endogenous construct for the structural model and is thus a measure of the model's predictive accuracy. In this study, TAM factors were able to explain 59.6 and 58.4% of the variance of ease of use and usefulness, respectively. While, ease of use was able to explain 50.5% of the variance of usefulness. Also, ease of use and usefulness together were able to explain 67.2% of the variance of intention to use. According to Hair *et al.* (2022), an R^2 value of 0.75 is considered substantial, an R^2 value of 0.50 is regarded as moderate, and an R^2 value of 0.26 is considered as weak. Hence, the R^2 values in this study were moderate. Figure 2 demonstrates the parameter estimates for the structural model applied in the present study. The figure shows the results of the SEM to validate and analyze the research model.

The path coefficients in the PLS and the standardized β coefficient in the regression analysis are similar. The β values of every path in the hypothesized model are computed. The greater the β value, the more is the substantial effect on the endogenous latent construct. However, the β value has to be verified for its significance level through the T-statistics test. The bootstrapping procedure was used to evaluate the significance of the hypothesis (Chin, 1998). A bootstrapping procedure using 5000 subsamples with no sign changes was carried out to test the significance of the path coefficients and T-statistics value.

Table 5 summarizes the SEM result of TAM factors with the ease of use and usefulness. From Table 5 it is evident that optimism ($\beta = 0.193$, $t = 1.675$), innovativeness ($\beta = 0.545$, $t = 4.183$), insecurity ($\beta = 0.390$, $t = 3.60$) and discomfort ($\beta = 0.146$, $t = 1.153$) have positive and significant contribution on the ease of use. On the other hand, optimism ($\beta = 0.601$, $t = 5.148$), innovativeness ($\beta = 0.228$, $t = 1.729$), insecurity ($\beta = 0.163$, $t = 1.497$) and discomfort ($\beta = 0.280$, $t = 2.880$) have positive and significant contribution on the usefulness. Therefore, H3a, H3b, H4a and H4b were not supported.

Table 6 summarizes the SEM result of ease of use on usefulness. From Table 6 it is evident that ease of use ($\beta = 0.545$, $t = 4.549$) has positive and significant contribution on the usefulness. Hence, H5 is supported.

Table 7 summarizes the SEM result of ease of use and usefulness with the intention to use. From Table 7 it is evident that ease of use ($\beta = 0.703$, $t = 7.126$) and usefulness ($\beta = 0.187$, $t = 1.896$) have positive and significant contributions on the intention to use. Thus, H6a and H6b were supported.



Note(s): $p = 0.05$*, 0.01**

Source(s): Figure by authors

Figure 2.
The path model

TAM Components	Ease of use β	t	p-value	Result of hypothesis test	Usefulness β	t	p-value	Result of hypothesis test
Optimism	0.193	1.675	0.001	H1a Supported	0.601	5.148	0.000	H1b Supported
Innovativeness	0.545	4.183	0.000	H2a Supported	0.228	1.729	0.011	H2b Supported
Discomfort	0.146	1.153	0.045	H3a Not supported due to significant positive relationship	0.280	2.880	0.001	H3b Not supported due to significant positive relationship
Insecurity	0.390	3.60	0.020	H4a Not supported due to significant positive relationship	0.163	1.497	0.014	H4b Not supported due to significant positive relationship

Note(s): $p = 0.05, 0.01$
Source(s): Table by authors

Table 5. SEM results of TAM components with ease of use and usefulness

Variable	Usefulness β	t	p-value	Result of hypothesis test
Ease of use	0.545	4.549	0.000	H5 Supported

Note(s): $p = 0.05, 0.01$
Source(s): Table by authors

Table 6. SEM results of ease of use with usefulness

Variable	Intention to use β	t	p-value	Result of hypothesis test
Ease of use	0.703	7.126	0.000	H6a Supported
Usefulness	0.187	1.896	0.044	H6b Supported

Note(s): $p = 0.05, 0.01$
Source(s): Table by authors

Table 7. SEM results of ease of use and usefulness with intention to use

5. Discussion

The study results found that seven hypotheses namely H1a, H1b, H2a, H2b, H5, H6a and H6b are supported and four hypotheses namely H3a, H3b, H4a and H4b are not supported.

It is found that optimism has a significant positive relation with ease of use. This finding is supported by Nugroho and Andryzal Fajar (2017), Yusuf *et al.* (2021), Bakirtas and Akkas (2020), Blut and Wang (2019), Panday (2018), Godoe and Johansen (2012). Therefore, H1a is supported. It is found that optimism has significant positive relation with usefulness. This finding is supported by Yusuf *et al.* (2021), Bakirtas and Akkas (2020), Blut and Wang (2019), Godoe and Johansen (2012). Therefore, H1b is supported. Users' perceptions of technology's usefulness will influence how much they trust it (Yusuf *et al.*, 2021). Technology users who are highly optimistic will discover that it offers many benefits for daily life (Yusuf *et al.*, 2021). A person with an optimistic view of technology may regard a system to be more helpful and simple than someone with a pessimistic view (Bakirtas and Akkas, 2020).

The study has found significant positive relationship between innovativeness and ease of use. This finding is familiar with Nugroho and Andryzal Fajar (2017), Yusuf *et al.* (2021), Bakirtas and Akkas (2020), Blut and Wang (2019), Panday (2018), Buyle *et al.* (2018), Godoe and Johansen (2012). Hence, H2a is supported. The study has found significant positive relationship between innovativeness and usefulness. This finding is familiar with Mufidah *et al.* (2022), Nugroho and Andryzal Fajar (2017), Blut and Wang (2019), Panday (2018), Buyle *et al.* (2018). Hence, H2b is supported. High-innovative people will be more critical so they can determine which technologies are simpler to use and which ones are more challenging to use (Yusuf *et al.*, 2021).

Bakirtas and Akkas (2020). A more creative person may find a system simpler to operate than a less creative person. According to Yusuf *et al.* (2021), people who are highly innovative will be more critical and able to weigh the pros and cons of technology.

H3a portrays that discomfort has significant positive association with perceived ease of use which is contrary to the usual findings. This finding is supported by Lai and Lee (2020), Nugroho and Andryzal Fajar (2017), Panday (2018). Therefore, H3a is not supported. H3b portray that discomfort has significant positive association with perceived usefulness which is contrary to the usual findings. This finding is supported by Nugroho and Andryzal Fajar (2017), Godoe and Johansen (2012), Panday (2018), Blut and Wang (2019), Lai and Lee (2020). Hence, H3b is not supported. This indicates that despite their discomfort with technology, they are nonetheless comfortable utilizing it. The more uncomfortable, it is increasingly convinced that the technology is easy to use (Panday, 2018).

Also, H4a asserts that insecurity has significant positive association with perceived ease of use which is again not supported by the literature. This finding is similar to the study of Yusuf *et al.* (2021), Lai and Lee (2020), Nugroho and Andryzal Fajar (2017), Panday (2018), Bakirtas and Akkas (2020). Thus, it can be concluded that H4a is not supported. Moreover, H4b asserts that insecurity has significant positive association with perceived usefulness which is again not supported by the literature. This finding is similar to the study of Yusuf *et al.* (2021), Lai and Lee (2020), Nugroho and Andryzal Fajar (2017). Thus, it can be concluded that H4b is not supported. This means, the more insecure in using technology, they remain confident easy to use technology. The more insecure, they become convinced that using it will be easy (Panday, 2018).

This study investigated a potential component, organizational support (Nugroho and Andryzal Fajar (2017)), that has a strong probability in the acceptance of required system in order to investigate and anticipate the causes of why these hypotheses were not supported. The authors mentioned that strong organizational backing can have a favorable impact on overcoming discomfort of online teaching platform's perceived ease of use and perceived usefulness. Due to users' mistrust in the use of online platform for teaching, the study does not support the influence of insecurity on the perception of ease of use. Organizations might have developed well secured system because of which teachers feel easy in frequently using online teaching and have more faith in modern technology.

Also, according to Howard *et al.* (2020) heterogeneity in teachers' profile in terms of knowledge, education, skill in using online platform might have caused to find positive association of discomfort and insecurity with perceived ease of use and perceived usefulness. Some faculty members involved in the study were young, very much aware of online teaching platforms. They are well accustomed to using technology frequently. So, they did not find using online platforms that problematic for them.

It is found from the study that perceived ease of use has a significant positive relationship with perceived usefulness thereby supporting H5. Similar finding is found by Nugroho and Andryzal Fajar (2017), Yusuf *et al.* (2021), Mufidah *et al.* (2022), Gurung and Goswami (2022), Godoe and Johansen (2012), Buyle *et al.* (2018), Panday (2018), Blut and Wang (2019), Bakirtas and Akkas (2020). People who found technology simple to use would experience some

benefits from using the technology (Yusuf *et al.*, 2021). The likelihood that teachers will perceive the technology as valuable to them increases when they find it simple to use (Munabi *et al.*, 2020). According to Godoe and Johansen (2012), user-friendly technologies are more useful than not user-friendly technologies.

The study has found significant positive association between ease of use and intention to use which is similar to the study of Nugroho and Andryzal Fajar (2017), Yusuf *et al.* (2021), Buyle *et al.* (2018), Panday (2018), Blut and Wang (2019). Hence, Hypothesis H6a is supported. The people who found the system easy to use in its content or procedure will continue to utilize the technology (Yusuf *et al.*, 2021). Users' negative attitudes about the cost make them less likely to see technologies as being simple to use, which discourages them from using the technology (Buyle *et al.*, 2018).

The study has found significant positive association of usefulness with intention to use which is similar to the study of Nugroho and Andryzal Fajar (2017), Yusuf *et al.* (2021), Bove and Conklin (2019), Mufidah *et al.* (2022), Gurung and Goswami (2022), Godoe and Johansen (2012), Panday (2018). Hence, Hypothesis H6b is supported. The respondents who become benefitted from the technology will continue to utilize it (Yusuf *et al.*, 2021). This indicates that once the technology is perceived as useful by the people, they are more likely to utilize it more frequently (Munabi *et al.*, 2020).

6. Conclusion and implication

The aim of the study was to investigate the faculty members' readiness level with respect to online teaching. The technology assessment model (TAM) was used to determine the readiness index. The study intended to validate the hypotheses regarding the extent to which the faculty members perceived that TAM factors affect ease of use and usefulness of online teaching. Also, this research analyzed the perception of faculty members that ease of using online teaching affect its usefulness. Lastly, the study examined how their perception of ease of use and usefulness affect intention to use online as a mode of teaching.

It was found from the study that each of the TAM factors optimism, innovativeness, insecurity and discomfort has positive and significant contribution on the ease of use. On the other hand, optimism, innovativeness, insecurity and discomfort have positive and significant contributions on the usefulness. The study also revealed that ease of use has positive and significant contribution on the usefulness. Lastly, it was found that ease of use and usefulness have positive and significant contribution on the intention to use.

Teaching remotely is still a novel concept, and it is more difficult for people who have not done it before. Many teachers became burned out as a result of trying to adjust to new teaching methods, especially after the lockdown began. They were having a difficult time since there was so much ambiguity.

When a teacher is well-versed in communication tools, it can improve learning efficiency. When they are properly trained, deploying engaging features of virtual learning, such as audio-visual lessons, quizzes and so on, becomes simple, and students become eager to learn more. Teachers can plan their classes, prepare and master technology and create innovative and stimulating discussion topics (Mishra *et al.*, 2020). They need to utilize a variety of technological options. They can rehearse virtual classroom management with colleagues if they face any difficulty.

All of the aforementioned abilities can be honed with the assistance of an integrated academic system. Teachers can be trained by educational institutions to ensure a smooth learning process through the use of ICT (information and communication technologies) (Scherer *et al.*, 2021; Mishra *et al.*, 2020). The training will assist teachers in efficiently taking online classes. Institutions should ensure that teachers are well-suited to teach online and are skilled at keeping students engaged during remote learning.

To make every chapter engaging, aspects such as videos, slides, images and digital copies of books and workbooks can be used. This allows students to receive personalized support and counseling in order to maintain their motivation (Sahu *et al.*, 2022; Lapitan *et al.*, 2021). Every other day, group doubt resolution classes ensure that there are no gaps in learning (Lapitan *et al.*, 2021). All teachers require is a digital mindset, the appropriate tools and a committed approach (Sahu *et al.*, 2022). If teachers can hold their students' attention, they can easily deliver an effective learning experience (Lapitan *et al.*, 2021).

7. Limitations and future research scope

This study assessed readiness level of the faculty member in teaching through online. The TAM model was used to measure the readiness level which was entirely considered personal issues of the faculty member. Future study can be conducted considering some other factors such as organizational, technological, economic, legal, cultural, etc. Moreover, this study was a cross sectional survey. Since faculty members have adopted online teaching mode for around one and half years, a future study can be conducted to assess the readiness level before and after adopting the online teaching method. This study was conducted for faculty member of only private universities in Bangladesh. It did not include faculty members of public universities. Hence a comparative study can be conducted in future to assess the readiness level of these to different groups. Lastly this study was conducted in Bangladesh setting. Thus, generalizability from other countries' perspectives, especially from the developed country perspective where faculty members are very much acquainted with online teaching might be questionable. Thereby, future study may include cross-cultural comparison among different countries.

References

Ajzen, I. and Fishbein, M. (2005), "The influence of attitudes on behavior", in Albarracin, D., Johnson, B.T. and Zanna, M.P. (Eds), *The Handbook of Attitudes*, Erlbaum, Mahwah, NJ, pp. 173-221.

Al-Awidi, H. and Aldhafeeri, F. (2017), "Teachers' readiness to implement digital curriculum in Kuwaiti schools", *Journal of Information Technology Education: Research*, Vol. 16 No. 1, pp. 105-126.

Alea, L.A., Fabrea, M.F., Roldan, R.D.A. and Farooki, A.Z. (2020), "Teachers' covid-19 awareness, distance learning education experiences and perceptions towards institutional readiness and challenges", *International Journal of Learning, Teaching and Educational Research*, Vol. 19 No. 6, pp. 127-144.

Alharbi, S. and Drew, S. (2014), "Using the technology acceptance model in understanding academics' behavioural intention to use learning management systems", *International Journal of Advanced Computer Science and Applications*, Vol. 5 No. 1, pp. 143-155.

Alsamydai, M.J. (2019), "Adaptation of the technology acceptance model (TAM) to the use of mobile banking services", *International Review of Management and Business Research*, Vol. 3 No. 4, pp. 2039-2051.

Alyoussef, I.Y. (2021), "E-learning acceptance: the role of task–technology fit as sustainability in higher education", *Sustainability*, Vol. 13, p. 6450.

Bakirtas, H. and Akkas, C. (2020), "Technology readiness and technology acceptance of academic staffs", *International Journal of Management Economics and Business*, Vol. 16 No. 4, pp. 1043-1058.

Benitez, J., Henseler, J., Castillo, A. and Schuberth, A. (2020), "How to perform and report an impactful analysis using partial Least squares: guidelines for confirmatory and explanatory IS research", *Information and Management*, Vol. 57 No. 2, available at: https://10.1016/j.im.2019.05.003

Blut, M. and Wang, C. (2019), "Technology readiness: a meta-analysis of conceptualizations of the construct and its impact on technology usage", *Journal of the Academy of Marketing Science*, Vol. 48, pp. 649-669.

Bonanno, P. (2011), "Developing an instrument to assess teachers' readiness for technology-enhanced learning", *14th International Conference on Interactive Computer Aided Learning (ICL2011)*, pp. 438-443.

Bove, L.A. and Conklin, S. (2019), "Using the technology adoption model to assess faculty comfort with the learning management system", *Online Journal of Distance Learning Administration*, Vol. XXII No. 3, pp. 1-9.

Brooks, D.C. and Grajek, S. (2020), "Faculty readiness to begin fully remote teaching", EDUCAUSE. submitted for publication, available at: https://er.educause.edu/blogs/2020/3/faculty-readiness-to-begin-fully-remote-teaching

Brown, J.O., Broderick, A.J. and Lee, N. (2007), "Online communities: conceptualizing the online social network", *Journal of Interactive Marketing*, Vol. 21 No. 3, pp. 2-20.

Bruggeman, B., Tondeur, J., Struyven, K., Pynoo, B., Garone, A. and Vanslambrouck, S. (2020), "Experts speaking: crucial teacher attributes for implementing blended learning in higher education", *The Internet and Higher Education*, Vol. 48, 100772.

Buyle, R., Compernolle, M.V., Vlassenroot, E., Vanlishout, Z., Mechant, P. and Mannens, E. (2018), "Technology readiness and acceptance model as a predictor for the use intention of data standards in smart cities", *Media and Communication*, Vol. 6 No. 4, pp. 127-139.

Cavas, B., Cavas, P., Karaoğlan, B. and Kisla, T. (2009), "A study on science teachers' attitudes toward information and communication technologies in education", *Turkish Online Journal of Educational Technology*, Vol. 8 No. 2, pp. 20-32.

Cepeda-Carrion, G., Cegarra-Navarro, J.G. and Cillo, V. (2018), "Tips to use partial Least squares structural equation modelling (PLS-SEM) in knowledge management", *Journal of Knowledge Management*, Vol. 23 No. 1, pp. 67-89.

Chan, E., Khong, M.L., Torda, A., Tanner, J.A., Velan, G.M. and Wong, G.T.C. (2022), "Medical teachers' experience of emergency remote teaching during the COVID-19 pandemic: a cross-institutional study", *BMC Medical Education*, Vol. 22, pp. 1-13.

Chen, F.F. (2007), "Sensitivity of goodness of fit indexes to lack of measurement invariance", *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 14 No. 3, pp. 464-504.

Chin, W.W. (1998), *The Partial Least Squares Approach to Structural Equation Modeling. Modern Methods for Business Research*, Lawrence Erlbaum Associates, Mahwah, NJ, pp. 295-336.

Cooper, D.R. and Schindler, P.S. (2014), *Business Research Methods*, McGraw-Hill/Irwin, New York, Vol. 12/e.

Costa-Font, J., Mossialos, E. and Rudisill, C. (2009), "Optimism and the perceptions of new risks", *Journal of Risk Research*, Vol. 12 No. 1, pp. 27-41.

Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance", *MIS Quarterly*, Vol. 13 No. 3, pp. 319-340.

Erdoğmuş, N. and Esen, M. (2011), "An investigation of the effects of technology readiness on technology acceptance in E-HRM", *Procedia-Social and Behavioral Sciences*, Vol. 24, pp. 487-495.

Eslaminejad, T., Masood, M. and Ngah, N.A. (2010), "Assessment of instructors' readiness for implementing E-learning in continuing medical education in Iran", *Medical Teacher*, Vol. 32 No. 10, pp. 407-410.

Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18, pp. 39-50.

Garcia, R. and Calantone, R. (2002), "A critical look at technological innovation typology and innovativeness terminology: a literature review", *Journal of Product Innovation Management*, Vol. 19 No. 2, pp. 110-132.

Gay, G.H.E. (2016), "An assessment of online instructor E-learning readiness before, during, and after course delivery", *Journal of Computing in Higher Education*, Vol. 28 No. 2, pp. 199-220.

Godoe, P. and Johansen, T.S. (2012), "Understanding adoption of new technologies: technology readiness and technology acceptance as an integrated concept", *Journal of European Psychology Students*, Vol. 3 No. 1, pp. 38-52.

Gurung, D.J. and Goswami, M. (2022), "COVID-19 pandemic and preparedness of teachers for online synchronous classes", *International Journal of Innovation and Learning*, Vol. 32 No. 3, pp. 341-358.

Hair, J.F., Jr., Babin, B.J., Anderson, R.E. and Black, W.C. (2018), *Multivariate Data Analysis*, 8th ed., Cengage Learning, Delhi.

Hair, J.F. Jr, Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2022), *A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM)*, 3rd ed., Sage Publications, Thousand Oaks.

Hallikainen, H. and Laukkanen, T. (2016), "How technology readiness explains acceptance and satisfaction of digital services in B2B healthcare sector?", *PACIS 2016 proceedings*, pp. 294-306.

Henseler, J. (2018), "Partial Least squares path modeling: Quo Vadis?", *Qual Quant*, Vol. 52, pp. 1-8.

Henseler, J., Dijkstra, T.K., Sarstedt, M., Ringle, C.M., Diamantopoulos, A., Straub, D.W. and Calantone, R.J. (2014), "Common beliefs and reality about PLS: comments on Rönkkö and Evermann (2013)", *Organizational Research Methods*, Vol. 17 No. 2, pp. 182-209.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43, pp. 115-135.

Henseler, J., Hubona, G. and Ray, P.A. (2016), "Using PLS path modeling in new technology research: updated guidelines", *Industrial Management and Data Systems*, Vol. 116 No. 1, pp. 2-20.

Hirschman, E.C. (1980), "Innovativeness, novelty seeking, and consumer creativity", *Journal of Consumer Research*, Vol. 7 No. 3, pp. 283-295.

Ho, R. (2013), *Handbook of Univariate and Multivariate Data Analysis and Interpretation with IBM SPSS*, Taylor & Francis: Abingdon-On-Thames, Oxfordshire.

Howard, S.K., Tondeur, J., Siddik, F. and Scherer, R. (2020), "Ready, set, go! Profiling teachers' readiness for online teaching in secondary education", *Technology Pedagogy and Education*, Vol. 30 No. 1, pp. 141-158.

Hung, M.L. (2016), "Teacher readiness for online learning: scale development and teacher perceptions", *Computers and Education*, Vol. 94, pp. 120-133.

Inan, F.A. and Lowther, D.L. (2009), "Factors affecting technology integration in K-12 classrooms: a path model", *Educational Technology Research and Development*, Vol. 58 No. 2, pp. 137-154.

Kıyıcı, M. (2018), "Augmented reality from Turkish researchers' perspectives", *Malaysian Online Journal of Educational Technology*, Vol. 6 No. 4, pp. 1-12.

King, W.R. and He, J. (2006), "A meta-analysis of the technology acceptance model", *Information and Management*, Vol. 43 No. 6, pp. 740-755.

Kukulska-Hulme, A. (2012), "How should the higher education workforce adapt to advancements in technology for teaching and learning?", *Internet and Higher Education*, Vol. 15 No. 4, pp. 247-254.

Kuo, K.M., Liu, C.F. and Ma, C.C. (2013), "An investigation of the effect of nurses' technology readiness on the acceptance of mobile electronic medical record systems", *BMC Medical Informatics and Decision Making*, Vol. 13 No. 1, pp. 88-101.

Lai, Y.C. and Lee, J. (2020), "Integration of technology readiness index (TRI) into the technology acceptance model (TAM) for explaining behavior in adoption of BIM", *Asian Education Studies*, Vol. 5 No. 2, pp. 10-17.

Lapitan, L.D.S. Jr, Tiangco, C.E., Sumalinog, D.A.G., Sabarillo, N.S. and Diaz, J.M. (2021), "An effective blended online teaching and learning strategy during the COVID-19 pandemic", *Education for Chemical Engineers*, Vol. 35, pp. 116-131.

Lin, C.H., Shih, H.Y., Sher, P.J. and Wang, Y.L. (2005), "Consumer adoption of E-service: integrating technology readiness with the technology acceptance model", *A Unifying Discipline for Melting the Boundaries Technology Management*, pp. 483-488.

Lin, C.H., Shih, H.Y. and Sher, P.J. (2007), "Integrating technology readiness into technology acceptance: the TRAM model", *Psychology and Marketing*, Vol. 24, pp. 641-657.

Ling, L.M. and Moi, C.M. (2007), "Professional students' technology readiness, prior computing experience and acceptance of an e-learning system", *Malaysian Accounting Review*, Vol. 6 No. 1, pp. 85-99.

Martin, F., Wang, C., Jokiaho, A. and May, B. (2019), "Examining faculty readiness to teach online: a comparison of US and German educators", *European Journal of Open, Distance and E-Learning*, Vol. 22 No. 1, pp. 53-69.

Mehralian, G., Nazari, J. and Ghasemzadeh, P. (2018), "The effects of knowledge creation process on organizational performance using the BSC approach: the mediating role of intellectual capital", *Journal of Knowledge Management*, Vol. 22 No. 4, pp. 802-823.

Meuter, M.L., Ostrom, A.L., Bitner, M.J. and Roundtree, R. (2003), "The influence of technology anxiety on consumer use and experiences with self-service technologies", *Journal of Business Research*, Vol. 56 No. 11, pp. 899-906.

Mishra, L., Gupta, T. and Shree, A. (2020), "Online teaching-learning in higher education during lockdown period of COVID-19 pandemic", *International Journal of Educational Research Open*, Vol. 1, 100012.

Mohammed, A.H. (2012), "Cycle three English language teachers' Perceptions of their ICT Use in teaching English Language in the UAE", Unpublished master thesis, UAEU, available at: http://scholarworks.uaeu.ac.ae/all_theses/193/

Mufidah, I., Husaini, L.R. and Caesaron, D. (2022), "Improving online learning through the use of learning management system platform: a technology acceptance model-technology readiness index combination model approach", *Industrial Engineering Journal*, Vol. 24 No. 1, pp. 61-71.

Mukherjee, A. and Hoyer, W.D. (2001), "The effect of novel attributes on product evaluation", *Journal of Consumer Research*, Vol. 28 No. 3, pp. 462-472.

Munabi, S.K., Aguti, J. and Nabushawo, H.M. (2020), "Using the TAM model to predict undergraduate distance learners behavioural intention to use the makerere university learning management system", *Open Access Library Journal*, Vol. 7 No. 9, pp. 1-12.

Nugroho, M.A. and Andryzal Fajar, M. (2017), "Effects of technology readiness towards acceptance of mandatory web-based attendance system", *Procedia Computer Science*, Vol. 124, pp. 319-328.

Pai, F.Y. and Huang, K.I. (2011), "Applying the technology acceptance model to the introduction of healthcare information systems", *Technological Forecasting and Social Change*, Vol. 78 No. 4, pp. 650-660.

Panday, R. (2018), "The effect of technology readiness on technology acceptance in using services delivery of academic information system", *12th Ubaya International Annual Symposium on Management*, pp. 578-590.

Panol, R.F., Caballes, D.G. and Vasquez, A.G. (2020), "Teachers' readiness level on online teaching: embracing distance learning modality", *CiiT International Journal of Software Engineering and Technology*, Vol. 12 No. 4, pp. 75-81.

Parasuraman, A. (2000), "Technology readiness index (TRI): a multiple-item scale to measure readiness to embrace new technologies", *Journal of Service Research*, Vol. 2, pp. 307-320.

Parasuraman, A. and Colby, C.L. (2015), "An updated and streamlined technology readiness index: TRI 2.0", *Journal of Service Research*, Vol. 18 No. 1, pp. 59-74.

Park, S.Y. (2009), "An analysis of the technology acceptance model in understanding university students' behavioral intention to use e-learning", *Educational Technology and Society*, Vol. 12 No. 3, pp. 150-162.

Partala, T. and Saari, T. (2015), "Understanding the most influential user experiences in successful and unsuccessful technology adoptions", *Computers in Human Behavior*, Vol. 53, pp. 381-395.

Phan, T.T.N. and Dang, L.T.T. (2017), "Teacher readiness for online teaching: a critical review", *International Journal of Open Distance E-Learn*, Vol. 3 No. 1, pp. 1-16.

Rahayu, R.P. and Wirza, Y. (2020), "Teachers' perception of online learning during pandemic covid-19", *Journal of Educational Research*, Vol. 20 No. 3, pp. 392-406.

Ramayah, T. and Ignatius, J. (2005), "Impact of perceived usefulness, perceived ease of use and perceived enjoyment on intention to shop online", *Journal of Systems Management*, Vol. 3 No. 3, pp. 36-51.

Rogers, E.M. (2003), *Diffusion of Innovations*, Free Press, New York, NY, Vols 5/e.

Sahu, P.K., Dalcik, H., Dalcik, C., Gupta, M.M., Chattu, V.K. and Umakanthan, S. (2022), "Best practices for effective implementation of online teaching and learning in medical and health professions education: during COVID-19 and beyond", *AIMS Public Health*, Vol. 9 No. 2, pp. 278-292.

Scheier, M.F. and Carver, C.S. (1985), "Optimism, coping, and health: assessment and implications of generalized outcome expectancies", *Health Psychology*, Vol. 4 No. 3, pp. 219-247.

Schepers, J. and Wetzels, M. (2007), "A meta-analysis of the technology acceptance model: investigating subjective norm and moderation effects", *Information and Management*, Vol. 44 No. 1, pp. 90-103.

Scherer, R., Howard, S.K., Tondeur, J. and Siddik, F. (2021), "Profiling teachers' readiness for online teaching and learning in higher education: who's ready?", *Computers in Human Behavior*, Vol. 118, 106675.

Sekaran, U. and Bougie, R. (2016), *Research Methods for Business: A Skill-Building Approach*, 7th ed., John Willey & Sons, New Jersey.

Shattuck, K. (2014), *Assuring Quality in Online Education: Practices and Processes at the Teaching, Resource, and Program Levels*, Stylus Publishing LLC, Sterling, VA.

Shroff, R.H., Deneen, C.C. and Ng, E.M.W. (2011), "Analysis of the technology acceptance model in examining students' behavioural intention to use an e-portfolio system", *Australasian Journal of Educational Technology*, Vol. 27, pp. 600-618.

Son, M. and Han, K. (2011), "Beyond the technology adoption: technology readiness effects on post-adoption behavior", *Journal of Business Research*, Vol. 64 No. 11, pp. 1178-1182.

Tschannen-Moran, M., Hoy, A.W. and Hoy, W.K. (1998), "Teacher efficacy: its meaning and measure", *Review of Educational Research*, Vol. 68 No. 2, pp. 202-248.

UNESCO IESALC (2020), "COVID-19 and higher education: today and tomorrow. Impact, analysis, policy responses and recommendations", UNESCO IESALC, available at: http://www.iesalc.unesco.org/en/wp-content/uploads/2020/04/COVID-19-EN-090420-2.pdf

Venkatesh, V. (2000), "Determinants of perceived ease of use: integrating control, intrinsic motivation, and emotion into the technology acceptance model", *Information Systems Research*, Vol. 11 No. 4, pp. 342-365.

Venkatesh, V. and Bala, H. (2012), "Adoption and impacts of inter-organizational business process standards: role of partnering synergy", *Information Systems Research*, Vol. 23 No. 4, pp. 1131-1157.

Ventayen, R.J. (2018), "Teachers' readiness in online teaching environment: a case of department of education teachers", *Journal of Education, Management and Social Sciences*, Vol. 2 No. 1, pp. 94-106.

Walczuch, R., Lemmink, J. and Streukens, S. (2007), "The effect of service employees' technology readiness on technology acceptance", *Information and Management*, Vol. 44 No. 2, pp. 206-215.

Walker, R.H., Craig-Lees, M., Hecker, R. and Francis, H. (2002), "Technology-enabled service delivery", *International Journal of Service Industry Management*, Vol. 13 No. 1, pp. 91-106.

Yusuf, F., Mirantika, N., Syamfithriani, T.S., Darmawan, E. and Irawan, D. (2021), "Technology readiness and acceptance model as a factor for the use intention of LMS E-learning in Kuningan university", *Journal of Physics: Conference Series*, Vol. 1933 No. 1, pp. 1-7.

Corresponding author
Umma Nusrat Urme can be contacted at: ummanusraturme@yahoo.com