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# ALLEVIATING DIGITAL ANXIETY IN ONLINE TEACHING: ASSESSING THE ACADEMICS CHALLENGES IN DIGITAL TRANSFORMATION

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**ABSTRACT**

Although online teaching has experienced an explosive growth rate, digital anxiety is still persistent in many situations; in this context, it has evolved into online teaching anxieties that are yet to be understood. This pilot study aims to investigate the digital anxiety faced among academicians in conducting online teaching. Research is scarce in this area, and studying it helps to understand its significance and impact. A mixed-method approach was used to explore the study. A sample of 65 participants was obtained to conduct the feasibility assessment. The findings showed that academicians are impacted by digital anxiety, which may positively or negatively impact their willingness to accept online teaching. The academicians seem to experience digital anxiety with online teaching due to reasons and factors. It is critical to identify and address sources of anxiety and provide an indication of self-evaluation and assessment of their online teaching experience. Therefore, digital anxiety in online teaching should take centre stage because it represents academicians' readiness to incorporate various online tools and digital technology into their pedagogical delivery to successfully transform the field of education.

**Keywords:** *Digital Anxiety, Digital Transformation, Education, Online Teaching, and Technology*

## 1. INTRODUCTION

Higher education continues to favour online teaching techniques to streamline and improve student learning from remote locations, encourage collaboration and creativity, and prepare academicians for work and living in a world that is becoming increasingly digitized. The accessibility of digital tools and resources is the foundation of these cutting-edge technologies intended to promote technology-based teaching and learning [1]. Thus, the transformation of digital education is the process of changing human thinking patterns in learning from traditional ways to more sophisticated digital technology. Previous research has also revealed an increase in demand for digital transformation as well as the availability of digital tools and resources to support teaching and learning [2]. One of the essential elements of the increasing demand for digital education is to support face-to-face learning to be more adaptable, efficient, and effective [3]. Hence, digitalization can be advantageous by generating better educational content and enhancing a more collaborative learning environment.

Meanwhile, online teaching provides the advantage of expanding technology in education to give academicians a more comprehensive range of instructional strategies and resources. Technology for learning and teaching needs to be improved at all educational levels in tandem with the growing digitization of everyday life that requires both academicians and students to adapt and become tech-savvy [2]. Academicians are expected to learn about new technologies, including using digital platforms to operate and implement online teaching [4]. It has the potential to dramatically benefit

higher education as a whole, with varying positive impacts for universities and individuals [5]. It is clear that online teaching assists in preparing professionals for this shift to online work, which necessitates their familiarity with digital platforms in addition to keeping up with the ever-increasing pace of technological development.

On the other hand, online education presents many difficulties, such as an unclear online teaching strategy [6]. Creating technology-based learning environments appears to be challenging, especially in academicians' engagement and contribution [1]. In the online teaching context, academicians may have reservations about the swift advancement of technology, which could contribute to a high level of teaching anxiety [7]. Whether academicians liked online learning or not, it was mandated to conduct online teaching during the pandemic; thus, it is crucial to fully comprehend academicians' acceptance of online teaching [8]. As a result, as technological capabilities have accelerated, academicians' perceptions and concerns about conducting online teaching should be addressed. Lacking the ability to address the concerns may lead to acceptance, and utilization of online teaching remains unclear, especially since one of the academicians' motivation constraints is digital anxiety. It is necessary to investigate digital anxiety as fundamental to understanding academicians' feelings of fear or tension in online teaching [4]. Further research needs to be conducted on digital anxiety since its interrelations and impact on the digital acceptance that affect academicians' attitudes towards online teaching are not studied enough [9].

Therefore, it is necessary to explore the factors related to academicians' adoption and acceptance of online teaching to ensure their enthusiasm and attitude in embracing technology. Thus, this study explores the academicians' digital anxiety toward individual acceptance of online teaching in higher education. It is crucial to investigate digital anxiety to address the digital gaps in education sectors [4]. It is believed that anxiety levels can negatively or positively influence the perceptions and usage of digital platforms [9]. As a result, this study was conducted to investigate academics' digital anxiety status and its significant relationship with TAM factors related to online teaching acceptance and to comprehend academics' perspectives on digital anxiety. There is a dearth of research on this topic, and exploring this area helps comprehend its significance and effects. Thus, this study aims to explore and report the perceptions of digital anxiety in online teaching among academicians at one Malaysian public university. The objectives of the study are as follows:

i. To analyze the relationships between digital anxiety and TAM factors.
ii. To explore the discouraging factors that lead to digital anxiety and the motivating factors that prevent digital anxiety.

## 2. LITERATURE REVIEWS

As the pace of technology evolves, the field of education is taking huge steps forwards in switching to online learning and planning the necessary changes for digital transformation. The implementation of online learning has been put into practice and has happened in stages. However, since the spread of Covid-19, regular face-to-face classroom teaching is considered dangerous and forces academicians to adapt to online teaching quickly [10]. Thus, most higher education institutions have switched from traditional classroom teaching to online teaching as an alternative to continuing the learning session [11]. Though, the implementation of online learning gives some difficulties and challenges to academicians [12]. In particular, digital anxiety created a motivation issue for academicians to struggle with online teaching. Most academicians believe that this transition period was marked by intense pressure to adopt new distance learning techniques and competencies needed to work on digital platforms, as well as high anxiety levels [9].

### 2.1 Digital Anxiety

Digital anxiety can be described as a human emotion of feelings such as anxiety, trepidation, and unease towards the acceptance of technology [4]. It also refers to emotions and attitudes caused by unawareness towards virtual environments, which results in distress, dissatisfaction and uncertainty [9]. It leads to negative adaptabilities such as anxiety, frustration, and hopelessness of digital readiness for digital transformation [13]. Regarding this, digital anxiety views as a bad feeling like stress, anxiety, or depression while taking digital online teaching. Many academicians perceive online teaching and learning as excruciatingly painful, stressful, and anxiety-provoking [12]. It is highlighted by the researchers that many academicians face digital anxiety associated with online teaching, which degrades the quality of teaching and leads to stressful situations [9]. In online education environments, digital anxiety is an emotional aspect that can bring positive or negative reactions towards technology

use [14]. Thus, it is essential to understand the academicians' perceptions of online environments as emotionally-supportive academicians' behaviour associated with technology-based environments. Further research should be conducted to evaluate the digital anxiety and challenges of teaching online [9]. Thus, to understand the perception and attitude of academicians towards online teaching, Technology Acceptance Model (TAM) was employed in this study to analyze the digital anxiety to the acceptance of online teaching.

### 2.2 Technology Acceptance Model (TAM)

Different researchers adapted TAM differently based on several factors, including their needs, contexts, research focus and conceptualization of the TAM [15]. Although TAM is an old model, it is dependable for multi-variable research and is still evolving to understand how individuals accept technology. The TAM model is a framework for investigating user adoption of emerging technology that has proven effective in explaining user behaviour to technology acceptance [15]. This model is able to explain how people's attitudes and behaviours predict technology adoption in the presence of other external variables [16]. It appeared to identify the factors that influence users' behaviour and intention to use technology, and new factors can be added to improve the model for more complex research [17]. Thus, this study included digital anxiety due to the need to examine academicians' prior online teaching experiences on their perceived ease of use, perceived usefulness, and behavioural intention.

Perceived ease of use (hereafter PEU) indicates a person's decision to use a given system with no or with little effort [18]. One of the fundamental elements of TAM determines individual expectations that using specific applications will be free or with little effort. Thus, it refers to the judgement of a particular system user who makes no or minimal effort. The studies revealed that perceived ease of use positively impacts attitude [19] [20] [21] [22] [23] [24] in various domains of online learning. However, PEU has shown insignificant results for attitude [25] [26]. Thus, the study examines the relationship between the variables in higher education institutions to better understand future online teaching planning.

Perceived usefulness (hereafter PU) is the construct associated with dependability, quality, and performance at work [18]. It assesses how much someone believes technology will benefit them in their intentions. PU was considered a strong variable that influenced peoples' attitudes toward adopting technology [16]. It revealed that PU would improve the attitude toward online learning experience [20] [21], which users' belief that useful technology services can contribute to support PU and was found to be a significant result for attitude [19] [21] [22] [23] [8] [24] [25]. However, in another study, perceived usefulness was found insignificant for attitude [27]. This pilot study will investigate the relationships between PU and attitude.

Academicians' attitudes (hereafter ATT) provide an essential aspect towards the intention to adopt online teaching. The ATT fill learning gaps and creates a more thorough learning system through positive interaction and engagement, which has proven to be a prominent predictor [21]. According to the studies, ATT was discovered positively affects technology acceptance behaviour [19] [20] [21] [22] [24] [25] [26] [18]. ATT was ranked the challenging element of designing and adopting digital transformation plans and strategies [28]. On the other hand, ATT has indicated no significance for behaviour intention [8]. Thus, it is a prediction in this study that academicians' attitudes toward online teaching initiatives may be influenced by online technology's ability to support a safe and secure environment.

Finally, the behavioural intention (hereafter BI) will be the TAM model's outcome to determine the technology's acceptance. The BI will be the indicator of the behavioural tendency to keep using online teaching in the future. However, the relationships among the TAM model may not always be significant [24]. In this pilot study, BI is a dependent variable, and the aim was to examine the relationships between digital anxiety among factors of TAM to understand the academicians' acceptance of using online teaching.

## 3. CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

The acceptance of information systems has been examined using several models; among the proposed models are the Theory of Planned Behavior (TPB); Technology Acceptance Model (TAM); Unified Theory of Acceptance and Use of Technology (UTAUT); Diffusion of Innovation (DOI); and the Technology-Organization-Environment (TOE) [29]. However, the TAM model can be considered the conceptual foundation of the study in behavioural intention to the acceptance of technology such as online teaching. TAM is regarded as a terrific theoretical framework for investigating an individual's behavioural intentions toward embracing technology [30]. In

fact, the TAM model has been widely used and is an effective way to describe digital acceptance [31]. It is emphasized that TAM is one of the many theories that have been used to predict how people will react to technology [26].

TAM has emphasized that external factors may have a mediated impact on perceived usefulness and ease of use, which may affect actual use. The factor emphasized by this study is digital anxiety. *Figure 1* shows the study's research model adopted from TAM. There are a total of 5 variables altogether. A total of 6 hypotheses were formulated and subsequently explained below.

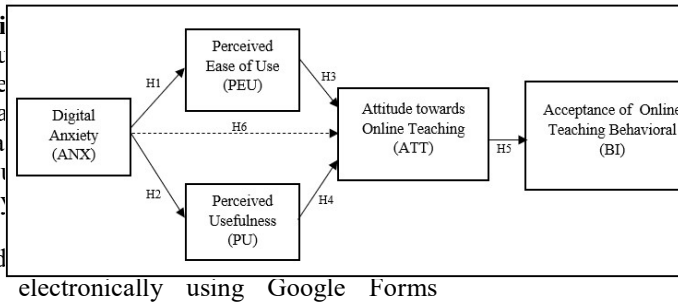


*Figure 1: The research model*

There are three independent variables: ANX, PEU, and PU, and one mediating variable is ANX towards attitude in online teaching. Thus, the following hypotheses are developed to investigate whether there is a relationship between these three independent variables and one mediating variable regarding the acceptance of online teaching behaviour:

H1: ANX significantly affects PEU.
H2: ANX significantly affects PU.
H3: PEU significantly affects ATT towards online teaching.
H4: PU significantly affects ATT towards online teaching.
H5: Attitude towards online teaching significantly affects acceptance of online teaching behaviour.
H6: PEU mediates the effect on ANX and ATT towards online teaching.

## 4. METHODOLOGY

In light of the aforementioned factors, this study uses an explanatory sequential mixed-method approach to investigate the relationships between TAM factors. Mixed methods are the approach in which the researcher interconnected qualitative and quantitative components to have more comprehensive and meaningful results. In this study, mixed methods were used to improve the precision of the constructs and analyze the representativeness of items for the target construct; to comprehend latent constructs more fully. It allows the researchers to evaluate the content validity and perform theory-based item analyses [32]. A solid mixed methods research question or objective is the foundation of a solid mixed methods study [33]. In this study, the quantitative findings indicate digital anxiety towards the attitude and the acceptance of online teaching among academicians (to achieve objective 1 of the study), while the qualitative findings provide an overview of participants' experiences and recommendations (to achieve objective 2 of the study).

### 4.1 Partici

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distributed electronically using Google Forms through their official email. The academicians were given two weeks to respond to the questionnaire.

Thereafter, the qualitative analysis is composed to explore academicians' responses to their view of digital anxiety. Ten (10) respondents were chosen to take part in interview questionnaires that lasted between 15 and 30 minutes using the purposive sampling technique. The questions were created accurately reflect the academicians' experience with online teaching to guarantee the validity of the qualitative data. The interview questions need to reflect respondents' experiences to enable them to express their feelings [27]. The sessions were recorded and transcribed to identify the themes, make data easier to analyze and provide a meaningful context for the findings.

### 4.2 Instruments

The questionnaires were divided into two sets: survey and interview questionnaires. For the quantitative survey, a total of 30 question items were used based on the five constructs. All items were presented using a five-point Likert scale, ranging from 1 for 'strongly disagree' and 5 for 'strongly agree.' The respondents completed the questionnaire the same way the actual study will be conducted.

Then, in the final parts of the questionnaire, open-ended questions were asked to encourage respondents to provide feedback on their digital anxiety as an essential component in the qualitative

data communication process. For qualitative data, the questions asked during the interview are:

Q1: What causes academicians to experience igital anxiety?

Q2: What recommendations do you have for addressing academicians' digital anxiety?

All the findings were then analyzed and reviewed to define a relationship between variables and identify the reasons for the acceptance of online teaching.

### 4.3 Analysis

The findings of the study were based on qualitative and quantitative data. The partial least squares structural equation model (PLS-SEM) was used to analyze quantitative data to test the constructs' reliability and validity (including construct reliability, convergent validity, and discriminant validity) and the hypotheses mentioned above. Following the guidelines proposed by [21], this study was constructed into two models: a measurement model (the outer model) and a structural model (the inner model). The outer model assesses the reliability and validity of all constructs, and the inner model is to test the hypotheses developed that estimate the relationship between all the constructs. The measurement is preferable to a two-step approach (standard approach in presenting SEM results), which implies testing the measurement and structural models [34]. The measurement model and the structural model, including demographic results, will be presented in the following section.

## 5. RESULTS AND DISCUSSION

Since this pilot study employed a mixed-method approach, this result will be discussed based on quantitative and qualitative data. The discussion will first present the statistical data, then was followed by a thematic analysis to identify the root causes of academicians' digital anxiety and possible solutions factors.

### 5.1 Analysis of the Quantitative Data

For the quantitative data, the data discussed here is based on a measurement model and structural model to identify the overall acceptance of online teaching.

#### 5.1.1 Demographic

*Table 1: Demographic data*

| Characteristic | | Frequency | and % | Valid (%) | Cumulative (%) |
|---|---|---|---|---|---|
| Gender | Male | 22 | 33.8 | 33.8 | 33.8 |
| | Female | 43 | 66.2 | 66.2 | 100.0 |
| | **Total** | **65** | **100.0** | **100.0** | |
| Age | 31 – 40 years | 41 | 63.1 | 63.1 | 63.1 |
| | 41 – 50 years | 23 | 35.4 | 35.4 | 98.5 |
| | > 51 years | 1 | 1.5 | 1.5 | 100.0 |
| | **Total** | **65** | **100.0** | **100.0** | |
| Academic Rank | Professor | 1 | 1.5 | 1.5 | 1.5 |
| | Associate Professor | 4 | 6.2 | 6.2 | 7.7 |
| | Senior Lecturer | 45 | 69.2 | 69.2 | 76.9 |
| | Lecturer | 15 | 23.1 | 23.1 | 100.0 |
| | **Total** | **65** | **100.0** | **100.0** | |

The population is determined based on the study's objective to examine the digital anxiety among academicians regarding the acceptance of online teaching. Therefore, the sample of this pilot study is the academicians from one public university in Malaysia. The questionnaire responses from specific participants could not be identified because they were anonymously submitted via an online form. *Table 1* shows the frequencies of respondents' demographic profiles. As depicted in *Table 1*, 65 respondents participated in this pilot study. Female respondents represented 66.2% (n=43), whereas males represented 33.8% (n=22). The respondents between 31 to 40 years old held the highest percentage at 63.1% (n=41), while those aged 41 to 50 years old and above were 51 years old at 35.4% (n=23) and 1.5% (n=1), respectively. The respondents who answered the questionnaire held academic rank from lecturer to professor with the following section; lecturer 23.1% (n=15), senior lecturer 69.2% (n=45), associate professor 6.2% (n=4), and professor 1.5% (n=1).

#### 5.1.2 Measurement model

The initial step to examine the findings is to develop the measurement model used to assess the measures' validity and reliability. The measurement model displays evidence of constructs in the theoretical measurement model. It is represented by measuring variables in latent constructs to look into possible problems with the measured item or data [34]. The following *Figure 2* presents the results showing the relationship between dependent and independent variables.

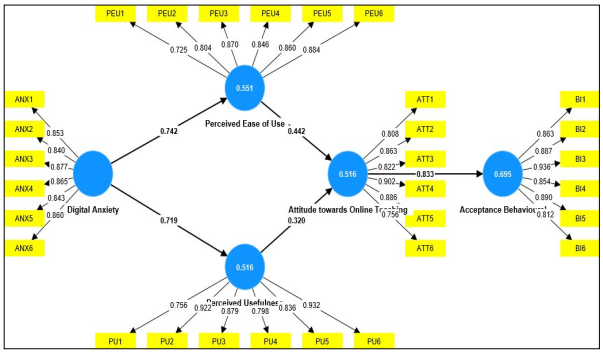


*Figure 2: The measurement model*

Then, the model was evaluated using indicator reliability via outer loadings, reliability and internal consistency via Cronbach's alpha, and composite reliability (CR) and validity via average variance extracted (AVE) and Heterotrait-Monotrait ratio (HTMT) as presented in *Table 2* and *Table 3*.

*Table 2: Result of the measurement model*

| Construct | Item | Factor Loadings | Cronbach's Alpha | CR | AVE |
|---|---|---|---|---|---|
| Digital Anxiety | ANX1 | 0.853 | 0.927 | 0.943 | 0.733 |
| | ANX2 | 0.840 | | | |
| | ANX3 | 0.877 | | | |
| | ANX4 | 0.865 | | | |
| | ANX5 | 0.843 | | | |
| | ANX6 | 0.860 | | | |
| Perceived Ease of Use | PEU1 | 0.725 | 0.911 | 0.931 | 0.660 |
| | PEU2 | 0.804 | | | |
| | PEU3 | 0.870 | | | |
| | PEU4 | 0.846 | | | |
| | PEU5 | 0.860 | | | |
| | PEU6 | 0.884 | | | |
| Perceive Usefulness | PU1 | 0.756 | 0.926 | 0.942 | 0.733 |
| | PU2 | 0.922 | | | |
| | PU3 | 0.879 | | | |
| | PU4 | 0.798 | | | |
| | PU5 | 0.836 | | | |
| | PU6 | 0.932 | | | |
| Attitude | ATT1 | 0.808 | 0.917 | 0.935 | 0.707 |
| | ATT2 | 0.863 | | | |
| | ATT3 | 0.822 | | | |
| | ATT4 | 0.902 | | | |
| | ATT5 | 0.886 | | | |
| | ATT6 | 0.756 | | | |
| Acceptance Behavioural | BI1 | 0.863 | 0.938 | 0.951 | 0.765 |
| | BI2 | 0.887 | | | |
| | BI3 | 0.936 | | | |
| | BI4 | 0.854 | | | |
| | BI5 | 0.890 | | | |
| | BI6 | 0.812 | | | |

The first step taken to evaluate the measurement model is to assess the internal consistency reliability (Cronbach's alpha and composite reality), convergent validity (factor loadings and AVE), and discriminant validity (HTMT) with the specific indicator [35]. The acceptable value for both Cronbach's alpha and composite reality were recorded in the range of 0.68 to 0.96 to indicate a satisfactory instrument's consistency [36]. A measured value for factor loadings should be ≥0.70, and AVE should be ≥0.50 [34]. In this pilot study, as shown in *Table 2*, all the item loadings exceeded 0.70, the Cronbach's alpha was above 0.68, and the AVE exceeded 0.5 for all constructs, thus indicating adequate validity and reliability of the measurement model.

While discriminant validity using the HTMT with a confidence interval of value should be ≤ 0.85, the stricter criterion and the mode lenient criterion should be ≤ 0.90 to indicate no problem with the constructs [27]. Discriminant validity indicates the differentiation across the constructs to ensure that every construct is truly distinct [35]. As shown in *Table 3*, the HTMT values were all less than the lenient criterion of 0.90, indicating that the respondents were aware of the differences between the five constructs. When both validity tests are combined, they show that the measurement items are valid and reliable.

*Table 3: Discriminant validity*

| Constructs | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. Acceptance Behavioural | | | | | |
| 2. Attitude towards Online Teaching | 0.892 | | | | |
| 3. Digital Anxiety | 0.774 | 0.652 | | | |
| 4. Perceived Ease of Use | 0.645 | 0.736 | 0.797 | | |
| 5. Perceived Usefulness | 0.641 | 0.693 | 0.757 | 0.829 | |

### 5.1.3 Structural model

Data analysis further tests the hypotheses; the results were then discussed based on the structural model used to identify the overall acceptance of online teaching. The hypotheses were tested by running bootstrapping procedures that produced the beta values, standard errors, t-values, p-values, and effect sizes [35]. *Table 4* shows the results of the hypothesis testing.

*Table 4: Hypotheses testing*

| Relationship | Std. Beta | Std. Error | t-values | p-values | BCI LL | BCI LL | R |
|---|---|---|---|---|---|---|---|
| H1: ANX -> PEU | 0.742 | 0.070 | 10.625 | 0.000 | 0.603 | 0.879 | S |
| H2: ANX -> PU | 0.719 | 0.067 | 10.754 | 0.000 | 0.598 | 0.855 | S |
| H3: PEU -> ATT | 0.442 | 0.194 | 2.280 | 0.023 | 0.057 | 0.82 | S |
| H4: PU -> ATT | 0.320 | 0.201 | 1.594 | 0.111 | -0.071 | 0.719 | NS |
| H5: ATT -> BI | 0.833 | 0.055 | 15.157 | 0.000 | 0.718 | 0.928 | S |
| H6: ANX -> PEU -> ATT | 0.328 | 0.147 | 2.228 | 0.026 | 0.046 | 0.623 | S |

*Note: t-value ≥1.645 and p-value <0.05, R=Result, S=Support, NS=Not Support

*Table 4* shows the results of the relationship between the tested constructs. The p-values used by the statisticians' community as statistical reporting as the path coefficient will be significant if the t-values are ≥1.645 and a threshold value of $p<0.05$ indicate the accepted hypothesis [35]. Based on the results, digital anxiety significantly affects perceived ease of use ($t = 10.625$, $p<0.05$) and perceived usefulness ($t = 10.754$, $p<0.05$); thus, H1 and H2 were supported. Similarly, the perceived ease of use significantly affects attitude towards online teaching ($t = 2.280$, $p<0.05$), indicating support for H3. On the contrary, the relationship between perceived usefulness and attitude showed insignificant results ($t = 1.594$, $p>0.05$); thus, H4 was not supported. Meanwhile, attitude towards online teaching has a significant relationship with the acceptance behaviour of online teaching ($t = 15.157$, $p>0.05$). Finally, the data analysis also shows that perceived ease of use mediates the relationship between digital anxiety and attitude towards online teaching ($t = 2.228$, $p<0.05$), that indicate H6 was supported. Therefore, to summarize the results, H1, H2, H3, H5 and H6 are supported, while H4 was not supported in this study.

## 5.2 Analysis of the Interviews

After analyzing the findings of the quantitative survey, this pilot study was further to more in-depth analysis to understand academicians' perceptions of digital anxiety of online teaching by conducting interviews. The researchers will be able to use various data sources to validate and cross-check findings if they use a variety of data collection methods [37].

Two (2) research questions were asked of the volunteer participants; discouraging factors that lead to digital anxiety (Q1) and motivating factors that help address digital anxiety (Q2), which will be discussed in this section. Thematic analysis was used to break down the interview data into key conclusions by carefully examining the data to find recurring themes (topics, ideas, and patterns of meaning). The analysis of academicians' feedback generated themes that are summarized in *Table 5*.

*Table 5: Factors that lead to or prevent digital anxiety*

| Discouraging factors (Q1) | Motivating factors (Q2) |
|---|---|
| i. Fast technology changes<br>ii. Feeling pressure<br>iii. Lack of facilities and infrastructure<br>iv. Excessive technology use | i. Training<br>ii. Better communication<br>iii. Available resources<br>iv. Positive attitudes |

### 5.2.1 Discouraging factors

In response to question (Q1), there were four (4) factors found to cause digital anxiety among academicians, including fast technology changes, feeling the pressure, lack of facilities and equipment, and excessive use of technology that lead to discouraging factors to more digital anxiety among the academicians to conduct online teaching.

*A. Fast technology changes*

Technology development can bring significant changes in the teaching and learning system. However, academicians need to have knowledge of what, where and how to teach by applying technology. The ability of academicians to connect knowledge related to technology, pedagogy and subject content can help improve the effectiveness of teaching delivery [38].

When exploring the participants' emotional state in conducting online teaching, it is noticed that rapid technological perceived challenges on teaching. For some academicians, the application of technology in teaching presents various challenges. The speed of technology affects the academicians in the teaching and learning process. In their response, the academicians express that '*it is hard to keep up; the anxiety increases as the technology changes much faster,*' which raised concerns for

some academicians due to their perceived inability to keep up with rapid technological development. It would be challenging for academicians to keep up with changing technology trends because it is suffocating to maintain inquisitiveness about new technology. The respondents also shared their concerns *"there are times that I choose to use online teaching, but I am worried that it is going to be updated too fast, and I am not comfortable to keep adapting and embracing new technology"*.

In addition, keeping up with the latest technology changes is the key to technology adoption. For some academicians, however, adjusting to the quick advancement of technology is taxing. The respondents have described that "*the pace of technology changes so fast without giving us a chance to adapt"*. In order to stay relevant, academicians must be willing to change and adapt to new changes, yet for some academicians, adapting to the fast changes in technology could be challenging. Disruption and rapid technological changes are significant components of education that necessitate learning, developing, and acquiring new knowledge and skills.

*B. Feeling pressure*

One of the main factors leading to digital anxiety among academicians is feeling pressure during online teaching due to technology anxiety and work engagement [9]. Especially when they realize that the teaching objectives can only be achieved if students give engagement. The respondents emphasized that *'the concern is more on the effectiveness of online teaching that demands the students' engagement during the class',* which is growing pressure on academicians to address digital implications.

Additionally, to continue studying in synchronous mode, a real environment with a social presence must be created in online education. If it fails to create such an environment, the feeling of isolation will increase, putting the academicians under pressure to continue online teaching. It is expressed by the participants that *'online teaching needs to factor in a sync mode as the student is not availing of some of the fixed time'*. Therefore, academicians and students should work together to develop an interactive learning process that allows both groups to experience social presence. On the other hand, academicians' acceptance of online teaching is reflected in the students' positive attitudes; for example, *"online teaching is good, but it depends on students acceptance, there are has pros and cons*". The respondents also expressed their concern that *"it is good to have online teaching, but the concern is more on the effectiveness of online learning to the students"*. Thus, the implementation of online teaching by academicians was significantly influenced by the students' attitudes, which can either promote or hinder the acceptance and adoption of online teaching among academicians.

*C. Lack of facilities and infrastructure*

Proper facilities and well infrastructure could make academicians and students interested in online learning. All the academicians agreed that the decision to use online teaching was determined by good facilities and well infrastructure, which are the driving factors encouraging them to accept online teaching. As emphasized by the respondents that *"I can accept to use of online teaching that I am forced to use, but my considerations depend on the facilities and infrastructure provided"*. These indicators make academicians anxious about the readiness of facilities and infrastructure for online teaching [4]. Besides that, the respondents also mentioned that *"universities should provide facilities for conducting online teaching, such as a strong internet connection on campus"*. Thus, it is believed that a lack of facilities and infrastructure makes academicians feel inadequate in many ways and that when they are motivated by adequate facilities and infrastructure provided, it may be possible for them to accept online teaching much more.

In addition, technology glitches were also highlighted by the respondents. Poor internet connectivity and stability become the major concerns for academicians to conduct online teaching. In the interview, the respondents stated that *"the major obstacle in online teaching and learning is internet connection stability",* which causes online teaching to be disrupted. The findings showed that academicians are distracted and demotivated to continue online teaching when communication delays or information is missed due to an unreliable internet connection. Thus, the pace and delivery of carefully planned lessons are ruined by connection instability, which results in low-level behavioural acceptance of online teaching.

*D. Excessive technology use*

Using digital technology frequently significantly impacts both the positive and negative

sides; however, for some academicians, online teaching demands excessive use of technology and creates digital anxiety. It is found from the interview that *"online teaching is challenging as we need to spend more time looking at screens that might contribute to health symptoms"*. This evidence shows that some academicians believe that overuse of technology can have negative consequences that lead to digital anxiety. For academicians themselves, they thought overuse of technology might significantly impact physical health and contribute to more serious health conditions, such as depression.

On the other hand, digital integration and excessive use of technology in daily life also may affect social development, leading to social isolation and a lack of social connections. According to the respondents, *"being online most of the time cause to lack of social connections and quality relationships with others, as we have to spend much of our screen time preparing teaching materials"*. The interviews found that some academicians who spend a lot of time in front of a screen appear to have unfavourable social interactions and are vulnerable to depression and anxiety. Accordingly, this study found that excessive technology use among academicians may result in digital anxiety related to the frequency and duration of usage.

### 5.2.2 Motivating factors

For motivating factors (Q2) to conduct online teaching, the analysis resulted in four (4) themes that correspond to the research questions: training, better communication, available resources, and positive attitudes were the factors that encouraged the academicians to accept online teaching.

*A. Training*

The training provided to the academicians was the first influential factor in the acceptance of online teaching. Based on interview results, the academicians express their feeling that *'training on the use of online teaching platforms assisted in changing my conservative attitude into a gradual acceptance'*, which anxieties involving technology waned as a result of training in its use. This suggests that higher education institutions should first provide training for all academicians in any implementation of technology to make them comfortable and willing to accept the technology. It is supported by [39] that training should be provided to academicians to support online teaching implementation.

In addition, training provided to academicians helps them familiarize themselves with the technology and enhance their skills while fostering a positive attitude towards accepting technology. As mentioned by the respondents, *"more training must be exposed to lecturers to increase their skills in using online platforms"*. This study confirmed that training was an important factor in influencing academicians to accept technology and among the motivating factors towards the positive attitude influencing technology acceptance. It is emphasized by [9] to support better online teaching, training and collective guidance should be provided to academicians as strategies for positive changes and to reduce anxiety levels.

*B. Better communication*

In order to adjust to the changes in educational and communication technologies, the educational systems have to develop good ways of remote interaction to facilitate the shift from face-to-face communication to virtual space [9]. The results of the interviews revealed that communication is a crucial component in facilitating the learning process, and getting students involved in the process is the first step toward achieving virtual engagement; the respondents express that *"to ensure successful online teaching, lecturers always have to encourage the students to participate in online learning through responsive communication and active participation"*. The findings reveal that academicians unanimously agreed that students' participation in online learning and virtual activities could improve communication, contributing to the acceptance of online teaching among academicians. The respondents mentioned that *"we don't want students to just listen to us, their involvement is our priority, and their cooperation in virtual activities motivates us to continue teaching virtually"*.

Moreover, the interview indicated that proper communication between academicians and students in online classes drives academicians toward online teaching. According to respondents, "*for me, online teaching is interesting, but sometimes it is hard to get attention and commitment from the student (but not all of), but overall I can manage my class session very well"*. Although getting all students to participate in online classes can be challenging, effective communication between academicians and students helps them deliver their content well and motivates them to keep teaching online.

*C. Available resources*

Some resources are needed to support the implementation of online teaching. In this study, it was found that there were three categories of resources highlighted by the respondents: internal, external, and organizational. In this respect, preparing the resources can be crucial in making resources available to support online teaching. Thus, to support an online teaching environment, preparing suitable resources can lead to the powerful acceptance of technology, as emphasized by the respondents *"better facilities and integration into our environment encourage us to explore more digital platforms"*. Teaching resources may encourage academicians to participate more in online environments that help facilitate online learning and acquiring digital knowledge.

On the other hand, the academicians also believed that available digital resources could change students' behaviours toward participating in the online environment. The study conducted by [39] reveals that most students prefer their study to be conducted online with a proper information systems environment and supported resources. In this study, the respondent also highlighted that *"universities need to support online teaching by providing appropriate resources to influence students and make them interested"*. Therefore, proper resources were among the factors supporting academicians in implementing online teaching and believed to be encouraging factors for students to participate online, which need to be refined in the future.

*D. Positive attitude*

The positive attitude was found to have a strong influence among the academicians to accept online teaching. In this study, most academicians agreed that a positive attitude toward technology could encourage academicians to accept online teaching. The respondent said, *"I wish this learning method would be retained as an elective technique in delivering knowledge"*. Therefore, it is anticipated that online education will become a flexible teaching implementation that is tailored to allow academicians and students to enjoy more flexible learning while benefiting from technological advancements.

Interestingly, despite the challenges they faced, those who were sceptical of technology and reluctant to use online teaching could arm themselves with a positive attitude. As mentioned by the respondent, *"although some students (but not all of them) can be challenging to focus on and commit to during online lessons, overall, I am very good at managing my class sessions"*. Even though academicians struggle to retain students throughout the length of the course, positive attitudes to increased interactivity and class engagement help academicians deal with and address the problem. As a result, most respondents agreed that academicians' positive attitude makes them feel more optimistic, allowing them to focus on their tasks and learn new things more quickly.

### 5.3 PMI (Plus Minus Interesting) Facts

Finally, the PMI (Plus Minus Interesting) strategy would make the findings from the above results more interesting. PMI is a method of delivering information and analysing ideas through creative and brainstorming processes that promote analytical thinking [40]. This approach structures the ideas or information in a framework by listing the plus (positive), minus (negative), and interesting (remarkable attribute, it can be either positive or negative) [41]. Therefore, this study employs the PMI strategy to highlight the findings succinctly as follows:

*Table 6: PMI facts*

| Plus | Minus | Interesting |
|---|---|---|
| This study proves:<br>- Digital anxiety has positive effects on PEU and PU.<br>- ATT showed a positive effect on acceptance intention.<br><br>Academics believe that:<br>- Training has been a significant factor in online teaching success.<br>- Communication makes them feel connected.<br>- A good environment and resources motivated them to conduct online teaching.<br>- Their optimistic outlook affects the acceptance of online teaching. | This study found:<br>- PU has not influenced academicians ATT toward online teaching.<br><br>Some academics feel that:<br>- Rapid technology development causes them to worry about missing out.<br>- The student's demeanour and behaviour during online classes put them under pressure.<br>- They are discouraged from online teaching due to a lack of resources and infrastructure.<br>- Excessive use of technology could harm physical health and contribute to more severe health problems. | - Digital anxiety among academics still exists even after the experience of online teaching during the pandemic<br>- PU, thought to be a decisive factor influencing people's attitudes, does not produce the same results in this study. |

It is interesting to note that the PMI strategy is somewhat helpful right after the analysis, as it aids in capturing the conclusions and analyzing essential data that can be used for future research. Thus, *Table 6* has distinctly displayed the details crucial for understanding online teaching perspectives and may indicate future research directions for online teaching. The PMI strategy aids in the collective evaluation of data in a creative and simple manner, allowing the findings to be easily understood. It promotes analytical thinking by reflecting ideas and emphasising topics on both sides of an argument [40].

## 6. CONCLUSION

This study intended to gain some preliminary understanding of academicians' perceptions of digital anxiety and challenges to online teaching. The results of this study prove that digital anxiety does affect the attitude and behaviour of academicians in acceptance of online teaching. Digital anxiety was found to be the predictor of academicians' assessments resulting in positive or negative attitudes and behaviours in accepting online teaching. The results confirmed that digital anxiety impacts academicians, which can bring positive or adverse reactions to the academicians to accept online teaching. However, this study only portrays the results of one public university in Malaysia and a pilot study; thus, the results cannot be generalized due to the population under study.

Generally, this study aimed to understand academics' perceptions of digital anxiety and online teaching challenges. The findings indicate the academicians' experiences with online teaching and how it affects their behaviour towards online teaching in the future. The novelty of this study relies on academicians' perspectives on whether digital anxiety is still present and how it may influence their acceptance of online teaching after the COVID-19 pandemic. Understanding the academicians' perceptions of digital anxiety can provide vital information to predict their future expectations, attitudes, and intentions regarding online teaching. It is revealed by [39] that the impact of online teaching is different before and after the Covid-19 pandemic; therefore, analyzing the opinions of academicians is essential to understand the current situation. Thus, this study sheds light on the academicians' digital anxiety in online teaching contexts to address online teaching adoption in the future.

Overall, academicians are not afraid of switching from traditional teaching methods to online teaching since better digital penetration is a relatively inevitable result of the transformation of higher education. However, due to potential future applications and roadblocks that could determine whether or not digital transformation - which in relation to this study, refers to online teaching- is accepted, digital anxiety is still a concern. In order for higher education institutions to design their future course of action, it is crucial to discuss and, in fact, to emphasize the perspective of success and barriers. Thus, analyzing the real-world scenario aids in capturing the current online teaching strategy used in higher education institutions. However, ignoring obstacles can undoubtedly cause a delay or even lead to the initiative's failure.

Based on the results, it can be concluded that academicians still face digital anxiety about using technology in their distance classrooms. With the accelerated digitalization of the worldwide higher education system and the sudden switch to online teaching due to the pandemic, academicians' positive and negative experiences provide solid evidence for adapting digital technology in education. The finding reveals that digital anxiety is valid to be used in the academic context on the productivity of academicians to support an effective and efficient online teaching environment. It is recognized that the analysis of the data presented here is too preliminary to support any conclusions; however, this study aims to look into the possibility of additional analysis and research. Understanding academicians' concerns about online teaching and the limitations they face has received little attention. Thus, future studies could extend this research to include the psychological and technological components to decipher the concern of using technology in education to the academicians' perceptions.

## 7. CONFLICTS OF INTEREST

The author(s) declare(s) that there is no conflict of interest in publishing this paper.

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