MODELLING HYBRID TEACHING IN THE NEXT NORMAL FOR PHILIPPINE PRIVATE HIGHER EDUCATION

Dr. Gerby R. MUYA
ORCID: 0000-0003-1684-8914
Office of the Vice-President for Extension and Linkages
City College of Calamba
Calamba City, PHILIPPINES

Dr. Alexie Erasga BASILEYO
ORCID: 0000-0001-8463-0410
National University
PHILIPPINES

Dr. Ryan Joseph G. CALINAO
ORCID: 0000-0002-0566-5007
Department of Hospitality Management
Far Eastern University
Manila, PHILIPPINES

Dr. Jan Racky MASA
ORCID: 0000-0003-0241-3047
Department of Hospitality Management
Far Eastern University
Manila, PHILIPPINES

Salome L. MORANDARTE
ORCID: 0009-0005-2002-3386
Saint Michael's College of Laguna
Manila, PHILIPPINES

Dr. Florcelita ZAMORA
ORCID: 0000-0003-1108-4580
Silay Institute
Silay City, PHILIPPINES

Received: 08/09/2024 **Accepted:** 12/12/2024

ABSTRACT

The COVID-19 pandemic disrupted higher education globally, catalyzing a rapid shift to remote learning modalities like online and hybrid instruction. As the post-pandemic era emerges, higher education institutions face the challenge of effectively implementing hybrid teaching models that blend in-person and online components. This study investigates the factors influencing faculty members' behavioral intention to adopt hybrid teaching approaches in selected Philippine private higher education institutions. Grounded in the unified theory of acceptance and use of technology (UTAUT) model, the study examines the roles of performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value, and habit. Additionally, it introduces the novel construct of technology fit use to assess the alignment between course technologies and faculty teaching needs. Partial least squares structural equation modeling analyzed survey responses from 300 faculty members across multiple institutions. The findings indicate that performance expectancy, social influence, hedonic motivation, price value, and habit significantly influence

behavioral intention, while effort expectancy and facilitating conditions have a limited impact. Moreover, behavioral intention predicts technology fit use and actual technology use. Age moderates the effect of effort expectancy on behavioral intention, while experience moderates the habit-intention relationship. The study provides insights for educational policymakers and technology developers to foster successful hybrid teaching adoption through strategies tailored to user experiences, institutional support, and technology-pedagogy integration.

Keywords: UTAUT, hybrid teaching, PLS-SEM, Philippine private universities.

INTRODUCTION

The global health pandemic has affected many facets of organizational practices, most significantly those in higher education institutions. When the international communities locked down due to the worldwide transmission of COVID-19 in March 2020, various operations shut down, and higher education was hard hit. According to Pokhrel and Chetri (2021), the pandemic has resulted in the most significant event in higher education ever seen in human history. Due to the virus outbreak, more than 1.6 billion students across over 200 countries were devastated. Many schools were closed, and those that remained open had to discover novel methods of instruction and learning that aligned with present requirements (Singh et al., 2021). The learning format was abruptly shifted from traditional in-person sessions to online in response to an emergency. This change was made without considering the levels of expertise that both students and faculty members had with online technology tools (mainly related to designing and organising for better learning experiences and creating distinctive learning environments, with the help of digital technologies. With this article, we provide some expert insights into this online-learning-related PCK, with the goal of helping non-expert university teachers (i.e. those who have little experience with online learningLorenza & Carter, 2021; Rapanta et al., 2020). Thus, higher education managers were faced with the challenges of, among others, deciding on the most appropriate online platforms and technologies that would best cater to the needs and realities of both learners and faculty and the gravity of the transition from conventional classroom-based learning to remote, online learning, most especially in the spectrum of students' performance assessment (Singh et al., 2021). While the pandemic brought tremendous changes in how education is practiced globally, it also gave way for education researchers to reflect on challenges and lessons learned for various universities and colleges to adapt in the post-vaccine world. In their 2021 study, Singh and colleagues pinpointed four essential areas for adapting higher education following the pandemic. These areas include incorporating technology, providing structural support, encouraging faculty participation, and fostering a sense of shared responsibility in learning.

In the Philippines, the CMO No. 04 Series was enacted by the Commission on Higher Education (2020) and established a new policy for flexible learning starting in the 2021 school year and continuing thereafter. This directive requires private higher education institutions to embrace flexible learning approaches, utilizing digital and non-digital technologies. However, as private higher education institutions embark on this transition, the demands of flexible learning present significant difficulties for faculty members in effectively navigating pedagogical practices and learning strategies and meeting the conditions to implement hybrid teaching successfully.

Students' needs for more flexibility, as shaped by the learning process, can be addressed by flexible learning (Muller et al., 2023). Flexible learning is an umbrella term that refers to autonomy, which provides increased choice, convenience, and personalization to suit the learners (Joan, 2013). For conceptual clarity, blended learning integrates online tools to aid traditional in-person instruction, which often focuses on flexibility

through asynchronous (self-paced) activities, while hybrid learning specifically mixes in-person education with access to learning tools with substantial emphasis on real-time (synchronous) and asynchronous aspects (Nuankaew et al., 2023). The present study adopts blended learning as the framework due to its applicability to encompass hybrid learning strategies used by teachers. The emphasis on hybrid learning within the blended learning framework aligns with the current teaching practices of educators in Philippine private higher education, particularly during the "next normal." This context requires teachers to adapt to different modalities to meet the needs of students, blending traditional and innovative teaching methods effectively.

Hybrid learning, where professors blend online and in-person teaching – is like a new recipe in the higher education sector. Numerous research studies have looked into whether it works and how to make it a success, like trying the recipe in different kitchens. Early on, we saw how Christian colleges could find unique ways to blend faith-based teachings with this style (Bruner, 2007). Studies showed that well-designed hybrid courses increase student participation (Ernst, 2008). However, achieving the correct balance between online and in-person interactions is crucial (Trentin & Bocconi, 2014; Coates & Mahat, 2014).

Hybrid learning has positive results for students, making them more engaged and boosting satisfaction levels (Meydanlioglu & Arikan, 2014; Nava, 2015; Potter, 2015). It can even be as effective as traditional classes (Alpert et al., 2016), but we need supportive teachers on board with trying the technology (Young et al., 2016). Newer ideas like "adaptive hybrid MOOCs" offer personalized experiences to improve these courses (Garcia-Penalvo et al., 2018). Smart tech also shows promise by tailoring online tools to specific student needs (Kadhim & Hassan, 2020). Importantly, designing a great hybrid model means understanding the culture of a school, how teachers like to teach, and the tech available (Coates et al., 2021).

Furthermore, recent insights give us clues about what makes professors embrace hybrid learning. A study in Romania by Potra and colleagues (2021) and in the Philippines by Barrot and his team (2021) highlighted the difficulties students faced during the pandemic, which teachers must be aware of. The academic world is also starting to see how hybrid design impacts teacher and student outcomes (Munday, 2022). Interestingly, hybrid work setups in which professors work from home sometimes have benefits, but there is a need to ensure professors have technology or tech support to feel successful (Choudhury et al., 2024). Hybrid events, mixing online and in-person, also seem like a cost-saving and accessible way to learn (Nechita et al., 2023).

Moreover, a significant portion of the literature on people's adoption of new technologies is guided by the Unified Theory of Acceptance and Use of Technology, known as UTAUT. By examining this theory, researchers may obtain insights into the motivations behind students' decisions to participate in or steer clear of online educational platforms. Do they think it will help them? Is it easy to use? Do their friends use it? (Alblooshi & Hamid, 2021). It is not just about the tech but a whole mix of factors (Qiao et al., 2021). Even the flipped classroom model, where students do some work before class, follows these acceptance patterns (Alyoussef, 2022). Moreover, especially during COVID, factors like good tech setup, social pressure, and whether professors truly believed online learning worked all determined who would adopt these platforms (Mujalli et al., 2022; Li et al., 2022).

Specifically in the Philippines, where "flexible learning" has become prominent in recent years, students are facing unique challenges. Researchers and other literature and studies know that having the right tech tools makes a difference in how well students adapt (Ulanday et al., 2021). However, not all rural areas have excellent internet access (Gocotano et al., 2021). It is not just students like. Colleges themselves have to be ready to support teachers for this kind of change (Barrera et al., 2020). Factors like internet access, student device ownership, knowledge of how to use tech, and even individual life situations all impact if flexible learning works for a given person (Cajurao et al., 2023).

CONCEPTUAL FRAMEWORK

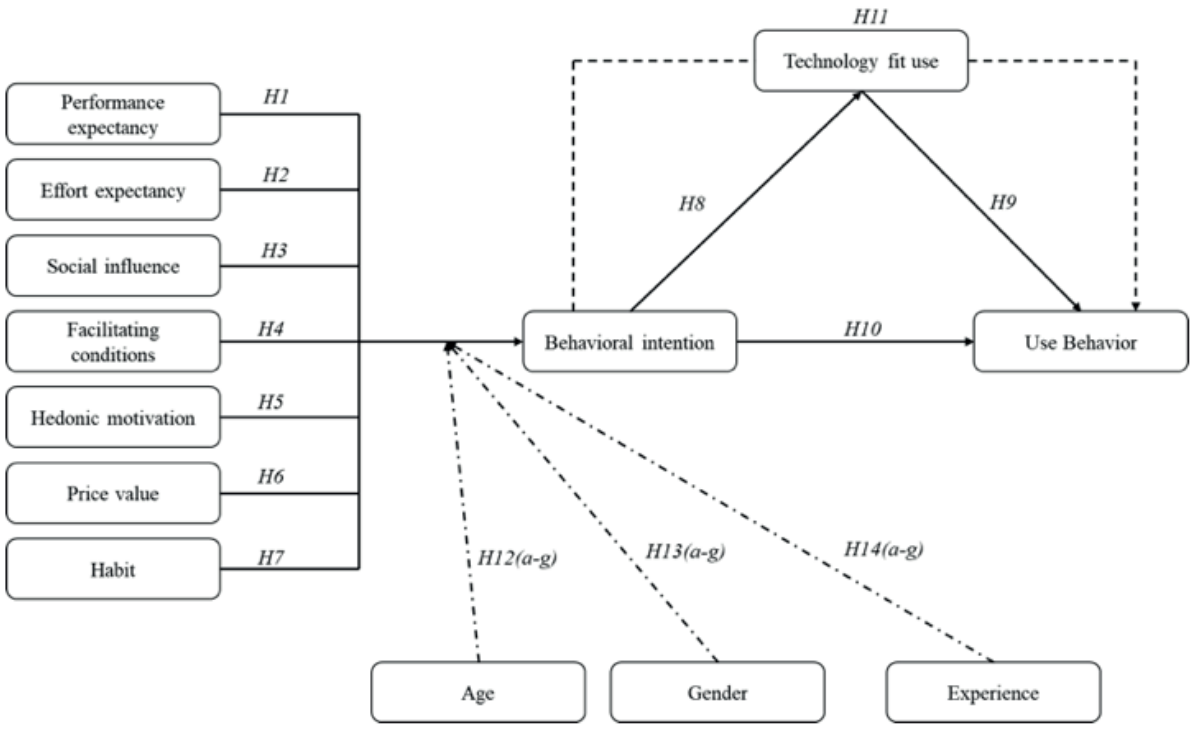


Figure 1. Proposed Hybrid Teaching Model

Figure 1 describes the association between performance expectancy (PE), effort expectancy (EE), social influence (SI), facilitating conditions (FC), hedonic motivation (HM), price value (PV), habit (HA), behavioral intention (BI), technology fit use (TF), and use behavior (US). The present study explores the effect modification pathways of age, gender, and experience between PE, EE, SI, FC, HM, PV, HA, and BI. The above scaffolding also determines how TF may explain the association between BI and US.

PURPOSE OF THE STUDY

With the successful rollout of Covid-19 vaccines, global economies have opened and are recovering. The COVID-19 cases in most countries have decreased, resulting in increased mobility and fewer restrictions on day-to-day activities. Thus, organizations are gradually going back to their normal. Higher education is no exception. While online teaching offers many advantages, it also has drawbacks (Rashid & Yadav, 2020). In the context of post-COVID-19 vaccines, where establishments would want to imagine a future with workers' performance not hindered by COVID-19, the need for higher education institutions to reform education and research strategies post-pandemic, aiming to attain the desired learning outcomes for students and uphold the standards of quality education, has intensified. One of these strategies is to blend the physical and virtual modality or the hybrid work. There is a rich literature on hybrid work and its impact on business organizations, most commonly in the business process outsourcing industries. Many colleges and universities have adopted hybrid work models during the pandemic. However, the teaching process, the learning experience, and the essential conditions for their successful implementation still lack thorough exploration regarding the impact of these models. Therefore, this study explored this area in the research questions below:

1. How do PE, EE, SI, FC, HM, PV, and HA influence BI in the context of hybrid teaching?
2. How does BI influence TF and US in the context of hybrid teaching?
3. How does TF influence US in the context of hybrid teaching?
4. How does TF mediate the relationship between BI and US in the context of hybrid teaching?

5. How do age, gender, and length of experience act as an effect modifier on the links between:
    a. PE and BI in the context of hybrid teaching?
    b. EE and BI in the context of hybrid teaching?
    c. SI and BI in the context of hybrid teaching?
    d. FC and BI in the context of hybrid teaching?
    e. HM and BI in the context of hybrid teaching?
    f. PV and BI in the context of hybrid teaching?
    g. HA and BI in the context of hybrid teaching?

Hypotheses Development

Utilizing the UTAUT model as a foundational scaffolding and integrating insights from existing literature and the characteristics of the sample under study, this research introduces a new variable, TF (standing for technology fit use). Figure 1 illustrates a suggested hypothetical model for investigating the acceptance of hybrid teaching. Each hypothesis presented below is supported by relevant literature that underpins the theoretical contribution of the variables of interest in the present study.

Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), Hedonic Motivation (HM), Price Value (PV), Habit (HA), and Behavioral Intention (BI) within the UTAUT in the context of Hybrid Teaching

Our examination of the factors of behavioral intentions toward hybrid education involving college students at three state universities in Chongqing, China, builds on the foundational research by Xie and colleagues (2022). This study investigated several key factors, such as perceived ease of use, perceived usefulness, perceived satisfaction, SI, PE, FC, and BI. The findings from their study documented that among all underlying factors, such as convenience of use perception, had the most significant effect on BI, notably influencing perceived usefulness. Furthermore, Alhramelah et al.'s (2020) examination of PE, EE, and SI within a blended learning context reinforces the applicability of the UTAUT model for understanding technology acceptance and usage in educational settings. Their study demonstrated that EE and PE significantly predict students' engagement with hybrid learning. The determinants influencing intention and usage, including PE, EE, SI, and FC, were explored by Abbad (2021). The findings demonstrate that BI to use Moodle is significantly influenced by EE, underscoring the utility of the UTAUT model in analyzing the acceptance of e-learning systems among students. Jalil et al. (2022) researched Malaysian primary school teachers' behavioral intentions regarding adopting Industry 4.0 (IR4.0) technologies. Their findings indicated that social influence significantly affects teachers' willingness to incorporate IR4.0 technologies into their practices, aligning with UTAUT's emphasis on SI as a crucial factor in technology acceptance. As explored by Mahande and Malago (2019), FC emerged as a critical contributor to e-learning acceptance, significantly influenced by students' knowledge and internet speed, which duly supports the UTAUT model, highlighting the importance of FC in technology adoption. Moreover, Zacharis and Nikolopoulou (2022) documented that HM significantly influenced the student's propensity to use eLearning platforms. They expanded the UTAUT2 model to incorporate constructs such as empowerment in learning and learning value to study this effect. In understanding price value, Twum and colleagues (2022) and Moorthy's team of researchers (2019) explored the factors influencing the propensity to engage with E-learning and mobile learning. They identified IT-related personal innovativeness, financial cost perception, PE, HM, and SI as significant determinants. These findings demonstrate the multifaceted nature of factors influencing technology adoption. Finally, Azizi et al. (2020) explored factors influencing students' inclination towards adopting blended learning, with HA significantly influencing students' propensity to make use of blended learning. These studies collectively support our first research question on how PE, EE, SI, FC, HM, PV, and HA influence BI in terms of hybrid teaching, providing a robust foundation for our investigation into faculty members' intentions toward adopting hybrid teaching methods. Given these findings, we propose that:

H1. PE has a significant association with BI in the context of hybrid teaching.

H2. EE has a significant association with BI in the context of hybrid teaching.

H3. SI has a significant association with BI in the context of hybrid teaching.

H4. FC has a significant association with BI in the context of hybrid teaching.

H5. HM has a significant association with BI in the context of hybrid teaching.

H6. PV has a significant association with BI in the context of hybrid teaching.

H7. HA has a significant association with BI in the context of hybrid teaching.

Behavioral Intention and Technology Fit Use

For this study, where BI is referred to as the willingness of faculty members to embrace hybrid teaching methods, a new variable, Technology Fit Use (TF), is introduced. TF assesses how well the course technology aligns with faculty members' specific needs and tasks within their teaching roles. TF includes evaluating whether the technology effectively supports their teaching objectives, aids in understanding course materials, facilitates active participation in teaching activities, allows for the demonstration of teaching competencies, provides essential technical support, ensures accessibility, and presents user-friendly features. Drawing from the operationalized constructs of the UTAUT, this study considers the participants' age, education, and gender. Tahir's (2023) study highlighted the impact of these variables on the intention to utilize online education, subsequently impacting its actual use, which is supported by numerous studies. For instance, in higher education, a study by Xue et al. (2024) explored mobile learning tools, such as m-learning, devices, and technologies, emphasizing the patterns of student acceptance and usage patterns in Asia and North America. However, given that TF is a novel variable, there is a gap in evidence in this area. Therefore, we duly propose that:

H8. BI is significantly associated with TF in the context of hybrid teaching.

Technology Fit Use and Use Behavior

In 2019, Cheng and colleagues conducted research to assess how students' continued engagement with e-learning platforms (cloud-based) and their perceived learning outcomes within educational environments are influenced by the Task-Technology Fit, also known as TTF. It affirmed that the compatibility between task requirements and technological features directly affects students' perception of TTF, reflecting technology's effectiveness in supporting specific tasks within a system. As a result, this connection directly affects their contentment, perceived utility, and validation of the cloud-centric e-learning platform. Whether directly or indirectly, these perceptions influence the tendency of the students to persist in utilizing the system and ultimately affect their perceived learning outcomes. As mentioned, Technology Fit Use (TF) is a novel variable in our study. It assesses how well course technology aligns with faculty members' specific needs and tasks within their teaching roles. Like TTF, TF evaluates whether the technology effectively supports teaching objectives, aids in understanding course materials, facilitates active participation in teaching activities, allows for the demonstration of teaching competencies, provides essential technical support, ensures accessibility, and offers user-friendly features. Since TTF is aligned with TF, we can infer that TF may also influence use behavior, given its focus on the fit between technology and faculty needs. Therefore, building on the established association between BI and use behavior (US) in previous studies, we propose the following hypothesis:

H9. TF is significantly associated with US in the context of hybrid teaching.

Behavioral Intention and Use Behavior

The association between BI and US is well-documented, as evidenced by several studies. For example, Xue (2024) and their research team carried out a review to assess how well the UTAUT model predicts the adoption

of technology within the context of higher education. This review predominantly involved students from North America and Asia, emphasizing mobile learning tools as the most frequently investigated technologies. The main approach for data collection was surveys, with structural equation modeling serving as the favored method of analysis which found that performance expectancy substantially influenced behavioral intention, providing valuable insights for integrating new educational technologies. The authors recommended that subsequent uses of UTAUT should include comprehensive research involving diverse populations, employ a variety of methodological approaches, and embrace different theoretical viewpoints. This approach aims to thoroughly explore the patterns of adopting technology in higher education and to create tailored strategies to integrate. Additionally, Al-Maroof et al. (2022) explored individuals' intention to adopt blended learning (b-learning), where e-learning emerged as the most effective tool for managing blended learning classrooms. Most analyzed studies focused on investigating students' adoption and acceptance of b-learning and its underlying technologies. Similarly, Granic (2022) confirmed UTAUT as a valuable framework for predicting and explaining user behavior toward accepting and adopting various technologies supporting learning and teaching processes. Given the established association between BI and US in these studies, we propose the following hypothesis:

H10. BI is significantly associated with US in the context of hybrid teaching.

Technology Fit Use as a Mediating Variable

As previously discussed, in 2019, Cheng investigated the impact of Task-Technology Fit (TTF) on students' engagement with e-learning platforms (cloud-based) and their perceptions of learning achievements in educational environments. Technology Fit Use (TF) is a novel variable in our study, designed to assess how well course technology aligns with faculty members' specific needs and tasks within their teaching roles. Like TTF, TF evaluates whether the technology effectively supports teaching objectives, aids in understanding course materials, facilitates active participation in teaching activities, allows for the demonstration of teaching competencies, provides essential technical support, ensures accessibility, and offers user-friendly features. Given that TTF is aligned with TF, we can infer that TF may mediate the association between BI and US. This suggests that the magnitude to which faculty members investigate the technology as fitting their needs and TF may influence how their behavioral intention translates into actual US. Therefore, building on the established association between BI and US in previous studies, as mentioned, we propose the following hypothesis:

H11. TF acts as an effect-modifying factor influencing the association between BI and US in the context of hybrid teaching.

Age, Gender, and Experience as Effect Modifiers

Age

The research conducted by Li and colleagues in 2021 combines the UTAUT with the concept of Connected Classroom Climate (CCC) to determine the factors influencing students' intentions to persist with Massive Open Online Courses (MOOCs). UTAUT, drawing from eight theories, examines factors such as PE, EE, SI, and FC, considering a moderation variable, age. Through moderation analysis in SPSS, the study explores how CCC acts as an effect-modifying factor influencing the association between the variables as mentioned above and the intention to use MOOCs. Results reveal significant interactions between CCC and the core variables of UTAUT, indicating that as CCC increases, the impact of these variables on continued MOOC usage also increases, affirming the effect-modifying role of CCC in shaping learners' intentions in this context. In a similar vein, Lin (2019) developed a customized research framework and hypotheses based on the UTAUT model and relevant literature, focusing on users' intentions towards utilizing e-books. The empirical investigation unveiled that effort expectancy, facilitating conditions, and individual innovation notably influenced users' intentions to adopt e-books. Moreover, the study emphasized the significant role of effort expectancy and identified the moderating factor of age influencing these associations. Additionally,

Nassar et al. (2019) reported that age negatively served as an effect-modifying factor influencing the association between SI and BI concerning ICT adoption among Palestinian administrative staff at the Ministry of Higher Education (MOHE). Hu et al. (2020) explored mobile technology readiness, acceptance, and uptake among teachers in Chinese institutions of higher education. The study highlighted that key influencers of academics' intention to use and actual usage behaviors centered around PE, FC, HM, and HA. It also noted that behavioral intentions significantly shaped how faculty members utilized mobile technologies. Furthermore, age emerged as a moderating factor. Dionika et al. (2020) tested age as a moderator in the impact of HM on the intention to use digital public services, including various applications and sites facilitating access to information and administrative services. In a different context, Na et al. (2021) documented that age difference moderates the relationship between PV and BI in using fast food self-order kiosks among customers in Korea. Furthermore, Dionika et al. (2020) observed that age significantly acted as an effect-modifying factor on the association between HA and BI toward implementing smart cities through diverse digital public services. Hence, based on these findings, it is proposed that:

H12a. Age acts as an effect-modifying factor influencing the association between PE and BI in the context of hybrid teaching.

H12b. Age acts as an effect-modifying factor influencing the association between EE and BI in the context of hybrid teaching.

H12c. Age acts as an effect-modifying factor influencing the association between SI and BI in the context of hybrid teaching.

H12d. Age acts as an effect-modifying factor influencing the association between FC and BI in the context of hybrid teaching.

H12e. Age acts as an effect-modifying factor influencing the association between HM and BI in the context of hybrid teaching.

H12f. Age acts as an effect-modifying factor influencing the association between PV and BI in the context of hybrid teaching.

H12g Age acts as an effect-modifying factor influencing the association between HA and BI in the context of hybrid teaching.

Gender

Alghamdi et al.'s (2022) research primary objective is to identify factors influencing students' willingness to embrace e-training for teaching field training courses at Imam Abdulrahman Bin Faisal University (IAU). Findings revealed that EE, FC, PE, and SI are key predictors of the intention of students to use e-training, collectively accounting for 32.1% of the variance in their BIs. Additionally, significant gender differences were observed in students' perceptions of PE, FC, and SI, providing valuable insights for IAU policymakers to prioritize factors crucial for enhancing the acceptance of students' e-training. The 2020 study by Jaradat et al. delves into the aspects that shape the willingness of students in Jordan's higher education to integrate cloud computing. It specifically points out the pivotal role of EE in influencing students' intentions toward cloud computing adoption. These results suggest that students lean more toward embracing cloud technology when they know its services are valuable and applicable across various educational aspects. Moreover, the study underscores the effect-modifying influence of gender on the association between PE and BI to adopt cloud computing. Analysis indicates that the influence of EE on BI is particularly pronounced in older respondents, implying that males, recognizing the utility of cloud computing for improving performance in the workplace, lean toward adopting this technology. In the study introducing the Unified Technology Acceptance and System Success (UTASS) model by Zhang et al. (2022), which considers gender a significant effect modifier found through the analysis of structural equation modeling that system quality, SI, and FC positively influence BI.

Additionally, no significant association was observed between FC, BI, and US, with only gender as an effect modifier being evident. These findings indicate that system quality and SI have a greater impact on male college students. Moreover, Mojarro Aliano et al. (2019) aimed to pinpoint the key factors impacting the acceptance and willingness to utilize smartphones and tablets for educational purposes in higher education environments. Furthermore, the moderation of these factors by socio-demographic variables, such as gender, was explored. Gender differences were evident in perceived FC, with women showing a stronger association than men. In addition, significant variations were observed in usage intentions, with men exhibiting a greater inclination towards usage than women. According to Dakduk and Santalla-Banderali (2018), blended learning in executive education is more likely to be accepted by men than women. The study found that 40% of the variance in BI is accounted for by the combined effect of HM and gender, with the association between HM and BI being more substantial in men than women, as indicated by the negative and significant effect modifier of gender. In the same vein, Wong et al. (2020) documented that gender moderated the relationships between price value and mobile internet adoption among mobile network service subscribers in suburban areas in Malaysia. Additionally, Dionika et al. (2020) found that gender significantly acted as an effect-modifying factor on the association between HA and BI to implement smart cities through various digital public services, including apps and websites for accessing administrative services and information. Hence, according to the findings above, we propose that:

H13a. Gender serves as an effect-modifying factor influencing the association between PE and BI in the context of hybrid teaching.

H13b. Gender serves as an effect-modifying factor influencing the association between EE and BI in the context of hybrid teaching.

H13c. Gender serves as an effect-modifying factor influencing the association between SI and BI in the context of hybrid teaching.

H13d. Gender serves as an effect-modifying factor influencing the association between FC and BI in the context of hybrid teaching.

H13e. Gender serves as an effect-modifying factor influencing the association between HM and BI in the context of hybrid teaching.

H13f. Gender serves as an effect-modifying factor influencing the association between PV and BI in the context of hybrid teaching.

H13g. Gender serves as an effect-modifying factor influencing the association between HA and BI in the context of hybrid teaching.

Experience

The study by Chang et al. (2019) revealed that experience plays a significant role in moderating how SI and PV affect customers' intentions to book hotels online. This result was observed among clients from 17 international hotels in different cities throughout Taiwan. In 2019, Aliyu and collaborators identified the vital moderating role of experience on how PE and SI relate to BI toward adopting new digitally-aided learning technologies in virtual and blended learning environments among business students in Malaysia. Izkair and Lakulu's study (2021) confirmed that the moderator variable of experience influences EE, SI, and PE regarding the inclination toward adopting mobile learning among students and academic personnel across three state universities in central Iraq. Wang and Yang's research (2005) revealed that experience with the internet, alongside neuroticism, acted as effect modifiers on the association between FC and the intention to adopt online stock trading in Taiwan. Dionika et al. (2020) investigated how experience acted as an effect modifier between HM and the intention to use digital public services, including various applications and websites enabling access to information and administrative services. Umami and Irawan (2021) documented that experience served as an effect-modifying factor on the association between HA and the intention to use the Regional Property Management Information System (SIMBMD) within a regional government in Indonesia. Therefore, grounded on the documented findings, we propose that:

H14a. Experience acts as an effect-modifying factor influencing the association between PE and BI in the context of hybrid teaching.

H14b. Experience acts as an effect-modifying factor influencing the association between EE and BI in the context of hybrid teaching.

H14c. Experience acts as an effect-modifying factor influencing the association between SI and BI in the context of hybrid teaching.

H14d. Experience acts as an effect-modifying factor influencing the association between FC and BI in the context of hybrid teaching.

H14e. Experience acts as an effect-modifying factor influencing the association between HM and BI in the context of hybrid teaching.

H14f. Experience acts as an effect-modifying factor influencing the association between PV and BI in the context of hybrid teaching.

H14g. Experience acts as an effect-modifying factor influencing the association between HA and BI in the context of hybrid teaching.

METHODS

Research Design, Sampling, and Respondents

The study utilized a quantitative predictive-causal research design with a cross-sectional sample. Purposive sampling was used to select faculty members from selected private institutions of higher education in the Philippines. A priori power analysis performed with the G*Power software established the minimum required sample size. As a result, the minimum sample size required was determined to be 253. This analysis considered a medium effect size of 0.15, an alpha level of 0.05, a statistical power of 0.95, and the inclusion of 28 predictors. The researchers collected 300 valid responses, exceeding the minimum recommended sample size, thereby ensuring the reliability of the hypothesis testing outcomes.

Instrument

The study used a revised and expanded model of the Unified Theory of Acceptance and Use of Technology (UTAUT2), as gleaned from Venkatesh and colleagues in 2012, alongside insights from Sun's 2016 study titled "Multi-dimensional alignment between online instruction and course technology: A learner-centered perspective."

Ensuring the reliability and validity of the underlying constructs is crucial during evaluating the measurement model and instrument. The authors used Cronbach's alpha (α) and composite reliability (CR) for reliability assessment for these constructs. Furthermore, convergent and discriminant validity are examined in the validity assessment process.

In the assessment of the reliability of latent constructs, it is required that the values of Cronbach's Alpha (α) and Composite Reliability (CR) should be no less than 0.70, as stated by Kock (2014). As gleaned on the results in Table 1, all latent variables – PE (α = 0.916, CR = 0.941), EE (α = 0.913, CR = 0.939), SI (α = 0.909, CR = 0.943), FC (α = 0.876, CR = 0.915), HM (α = 0.948, CR = 0.966), PV (α = 0.884, CR = 0.966), HA (α = 0.892, CR = 0.933), BI (α = 0.927, CR = 0.954), use (α = 0.906, CR = 0.935), and TF (α = 0.936, CR = 0.949) passed the internal consistent tests.

According to Kock and Lynn (2012) and Kock (2014), in order to be established as having convergent validity, it is required for the average variance extracted (AVE), as well as the factor loadings of latent constructs to be 0.50 or higher. Moreover, for significance to be attributed, a p-value of 0.05 or lower must be had by each factor loading. According to the values reflected in Table 1 – PE (AVE = 0.799), EE (AVE = 0.793), SI (AVE = 0.846), FC (AVE = 0.730), HM (AVE = 0.906), PV (AVE = 0.812), HA (AVE = 0.823), BI (AVE = 0.873), use (AVE = 0.783), and TF (AVE = 0.726) exhibit convergent validity. (see Table 1 for the complete list of reliability, convergent validity, and factor loadings).

Data Collection Procedures

The necessary approvals were obtained from various private higher education institutions before the pilot study. After the pilot study, the clarity of the items was evaluated to determine whether the participants could understand them easily. The data collection process occurred from June to July of 2023. The research instrument was distributed using Google Forms, and participants' email addresses were collected for tracking purposes. The form's URL included an electronic consent form and the research instrument. All the data gathered from the forms were compiled into a single Google Spreadsheet, which was used for statistical analyses using WarpPLS.

Ethical Considerations

Informed consent was duly obtained from the participants via Google Forms, facilitating consent collection online. The participants were duly informed about the research objectives, duration of participation, as well as the procedures involved. Participants were assured of their rights to maintain anonymity and confidentiality. To ensure confidentiality, the researchers assigned numerical codes to identify participants. Information about the potential risks and benefits of the study was provided to the participants, who were also made aware of their right to withdraw from the study at any time they wished. We shared our contact information with the participants for any concerns or inquiries about the study. Data were securely stored and processed. Through a Google Spreadsheet, accessible exclusively to us. The collected data was used solely for the study. Additionally, we obtained permission from the appropriate institutional authorities from the selected private institutions of higher education before conducting the study, with funding provided by the Philippine Association of Private Schools, Colleges, and Universities (PAPSCU) and the Private Education Assistance Committee (PEAC) under Grant No. Proj-3-2022-23.

Data Analysis

In the present study, particularly in hybrid teaching, Performance Expectancy (PE) can be defined as the teachers' perception of the advantages and positive outcomes of using this approach, as they anticipated. Effort Expectancy (EE) pertains to the preference for an easy-to-understand application that maximizes the advantages of hybrid teaching. Social Influence (SI) is the perception that using hybrid teaching is approved and influenced by peers, thereby influencing a faculty member's intention to participate. As to Facilitating Conditions (FC), it is the impact of having the necessary knowledge and resources for hybrid teaching. Hedonic Motivation (HM) reflects the pleasure of using hybrid teaching, while Price Value or PV considers the worth attributed to its implementation. Habit (HA) signifies the automatic execution of behaviors related to hybrid teaching, and Behavior Intention (BI) denotes faculty members' willingness and subjective expectations regarding its use in their teaching practices. These factors, PE, EE, SI, FC, HM, PV, and HA, shape faculty members' decisions and actions regarding adopting and utilizing hybrid teaching methods as expressed in BI.

The Partial-Least Square or PLS-SEM was used to assess how PE, EE, SI, FC, HM, price value, and HA influence BI in the context of hybrid teaching and determine if BI influences TF and US in the context of hybrid teaching and assess how TF influence US in the context of hybrid teaching. Mediation analysis was used to assess how TF acts as an effect modifier on the association between BI and US in the context of hybrid teaching.

Simple Moderation and Multigroup Analysis were used to determine and confirm if age, gender, and length of experience act as an effect modifier on the links between:

a. PE and BI in the context of hybrid teaching,
b. EE and BI in the context of hybrid teaching,
c. SI and BI in the context of hybrid teaching,
d. FC and BI in the context of hybrid teaching,

e. HM and BI in the context of hybrid teaching,
f. PV and BI in the context of hybrid teaching,
g. HA and BI in the context of hybrid teaching.

The association among the variables of interest was examined using WarpPLS 8.0 software, aligning with the research problems and objectives.

RESULTS AND DISCUSSION

We utilized Partial Least Squares-Structural Equation Modeling (PLS-SEM) to examine the suggested correlations thoroughly. The process involved two primary phases: firstly, we rigorously assessed the measurement model to ensure its validity and reliability, and secondly, we thoroughly evaluated the structural model to understand the relationships between the constructs (Lacap, 2019; Lacap, 2020; Lacap & Sicat, 2022).

Measurement Model Assessment

Validity is evaluated by conducting tests for convergent as well as discriminant validity. Additionally, reliability is measured using Cronbach's alpha and composite reliability (CR) for latent constructs. The reliability and validity of the latent constructs are to be evaluated when the measurement model is being assessed.

In measuring the reliability of the latent constructs, the values of Cronbach's Alpha (α) and CR must be at least 0.70 (Kock, 2014). As gleaned from the results in Table 1, all latent variables – PE (α = 0.916, CR = 0.941), EE (α = 0.913, CR = 0.939), SI (α = 0.909, CR = 0.943), FC (α = 0.876, CR = 0.915), HM (α = 0.948, CR = 0.966), PV (α = 0.884, CR = 0.966), HA (α = 0.892, CR = 0.933), BI (α = 0.927, CR = 0.954), US (α = 0.906, CR = 0.935), and TF (α = 0.936, CR = 0.949) passed the internal consistent tests.

For convergent validity, latent constructs with factor loadings of at least 0.50 and average variance extracted (AVE). Additionally, for each factor loading to be considered significant, the p-value must be equal to or less than 0.05 (Kock & Lynn, 2012; Kock, 2014). Again, gleaning from the findings in Table 1, the AVE values for PE, EE, SI, FC, HM, PV, HA, BI, US, and TF were 0.799, 0.793, 0.846, 0.730, 0.906, 0.812, 0.823, 0.873, 0.783, and 0.726, respectively, exhibit convergent validity.

Table 1. Reliability and convergent validity

Latent constructs and Items	Factor loading	Average variance extracted	α (CA)	C.R.
Performance expectancy		0.799	0.916	0.941
I find hybrid teaching useful in my daily teaching.	0.875			
Using hybrid teaching increases my chances of achieving things that are important to me.	0.901			
Using hybrid teaching helps me accomplish things more quickly.	0.897			
Using hybrid teaching increases my productivity.	0.902			
Effort expectancy		0.793	0.913	0.939
Teaching how to use hybrid teaching modality is easy for me.	0.894			
My interaction with hybrid teaching is clear and understandable.	0.898			
I find hybrid teaching easy to use.	0.902			
It is easy for me to become skillful at using hybrid teaching.	0.869			

Social influence		0.846	0.909	0.943
People in the academe think that I should use hybrid teaching.	0.903			
People who influence my behavior think that I should use Hybrid teaching.	0.932			
People whose opinions that I value prefer that I use hybrid teaching.	0.923			
Facilitating conditions		0.730	0.876	0.915
I have the resources necessary to use hybrid teaching.	0.874			
I have the knowledge necessary to use hybrid teaching.	0.905			
Hybrid teaching is compatible with other technologies I use.	0.854			
I can get help from others when I have difficulties using hybrid teaching	0.780			
Hedonic motivation		0.906	0.948	0.966
Using hybrid teaching is fun.	0.951			
Using hybrid teaching is enjoyable.	0.961			
Using hybrid teaching is very entertaining.	0.943			
Price value		0.812	0.884	0.928
The cost of hybrid teaching is reasonable.	0.867			
Hybrid teaching is worth the institution's investment.	0.922			
In the next normal hybrid teaching is a good value for teachers and students.	0.914			
Habit		0.823	0.892	0.933
Hybrid teaching has become a normal part of my teaching practice.	0.899			
I must use hybrid teaching.	0.909			
Hybrid teaching has become natural to me.	0.914			
Behavioral intention		0.873	0.927	0.954
I intend to continue using hybrid teaching in the future.	0.919			
I will always try to use hybrid teaching in my daily academic life.	0.939			
I plan to continue to use hybrid teaching frequently.	0.944			
Use		0.783	0.906	0.935
I use the hybrid teaching when teaching in class.	0.910			
I consider myself a regular user of hybrid teaching.	0.946			
I prefer to use LMS when necessary.	0.784			
I do most teaching tasks using hybrid teaching.	0.891			
Technology fit use		0.726	0.936	0.949
Course technology helps me reach prescribed learning objectives	0.873			
Course technology facilitates my understanding of instructional materials	0.907			
Course technology allows me to participate in learning activities	0.897			
Course technology lets me demonstrate acquired competencies	0.840			
Technical support is available when needed.	0.739			
Course tools are readily accessible.	0.847			
Course tools are user-friendly in general.	0.850			

Note: All item loadings are significant ($p < 0.001$). α-Cronbach's alpha, C.R.- Composite Reliability

To assess the discriminant validity of the latent components, the study used the heterotrait-monotrait ratio of correlations (HTMT). In order to assert that the model has discriminant validity, the HTMT ratio requirement of 0.90 must be reached, according to Gold et al. (2001). All latent constructs have HTMT ratios of less than 0.90, indicating that discriminant validity was attained, according to the data in Table 2.

Table 2. HTMT ratios for discriminant validity

	PE	EE	SI	FC	HM	PV	HA	BI	US	TF
PE										
EE	0.756									
SI	0.779	0.749								
FC	0.669	0.843	0.592							
HM	0.731	0.689	0.690	0.581						
PV	0.818	0.760	0.770	0.719	0.750					
HA	0.812	0.723	0.798	0.641	0.743	0.893				
BI	0.834	0.706	0.787	0.644	0.775	0.827	0.847			
US	0.750	0.706	0.835	0.568	0.767	0.849	0.818	0.870		
TF	0.734	0.697	0.659	0.700	0.671	0.842	0.857	0.699	0.736	

Note: PE-performance expectancy; EE-effort expectancy; SI-social influence; FC-facilitating conditions; HM-hedonic motivation; PV-price value; HA-habit; BI-behavioral intention; US-use; TF-technology fit use.

Structural Model Assessment

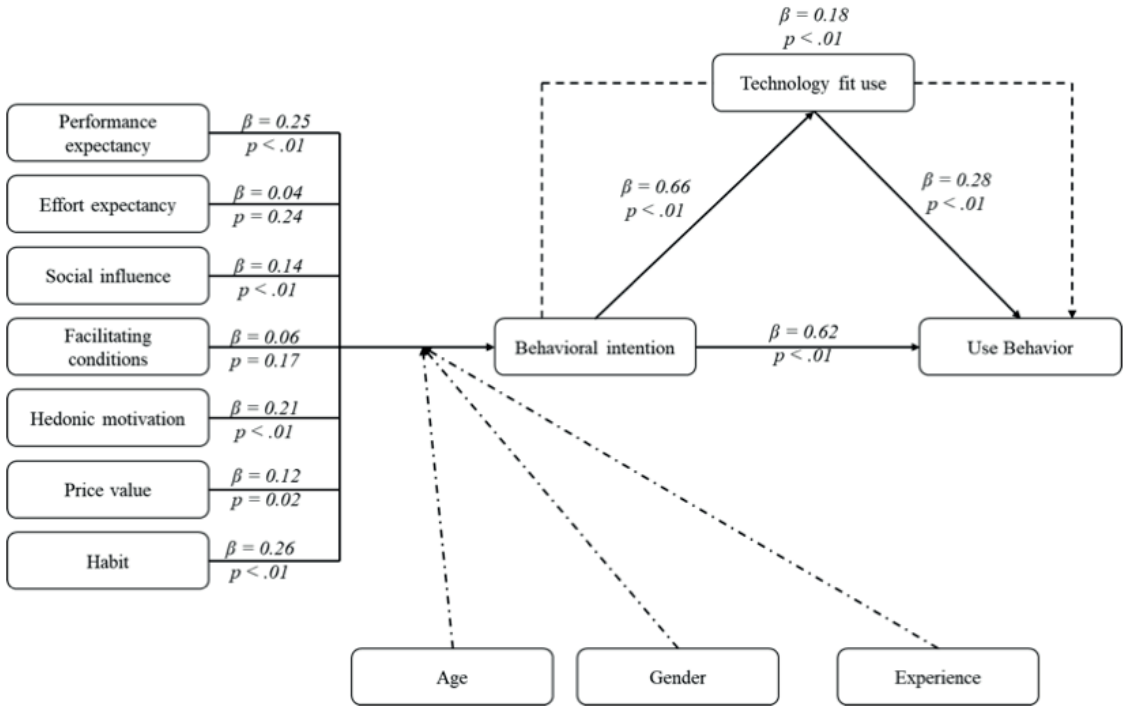


Figure 2. Structural Model of Hybrid Teaching

*As for the results of Moderating effects, refer to Table 3 and Table 5.

The structural model's evaluation includes assessing the path coefficients, p-values, standard error, and effect sizes (Lacap & Sicat, 2022). The results from the structural model evaluation are showcased in Figure 2 and Table 3.

The findings revealed that PE with a beta coefficient of 0.246 ($p < 0.001$, $f2 = 0.190$), SI with a beta coefficient of 0.144 ($p = 0.006$, $f2 = 0.104$), HM with a beta coefficient of 0.212 ($p < 0.001$, $f2 = 0.155$), PV with a beta coefficient of 0.118 ($p = 0.019$, $f2 = 0.088$), and HA with a beta coefficient of 0.257 ($p < 0.001$, $f2 = 0.200$) showed significant effect on BI, with effect sizes ranging from small to medium. Therefore, H1, H3, H5, H6, and H7 are supported.

The research identifies five significant predictors: PE, SI, HM, PV, and HA. Each of these elements demonstrated a measurable impact on behavioral intentions, with effect sizes ranging from small to medium. Specifically, PE, which relates to the anticipated performance benefits of hybrid teaching, showed a strong correlation with BI ($\beta = 0.246$), highlighting its critical role in faculty decisions. In the Philippines, adopting the hybrid teaching model can be effectively analyzed through various psychological and behavioral factors. The results from the recent study highlight significant predictors that influence educators' and students' BI toward this blended approach. PE, for example, the magnitude to which an individual believes their job performance will be improved by using the system, showed a strong positive relationship ($\beta = 0.246$, $p < 0.001$, $f2 = 0.190$). This infers that the more useful the hybrid model is perceived to be in enhancing learning and teaching effectiveness, the greater the likelihood of its acceptance and sustained use. SI and HM are also crucial factors. SI, which reflects how an individual understands that important others (like peers or authorities) believe they should use the new system, had a notable impact ($\beta = 0.144$, $p = 0.006$, $f= 0.104$). This suggests that in the educational context, encouragement or approval from colleagues and the educational community can significantly sway an individual's decision to engage with hybrid teaching methods. Similarly, HM, which refers the fun or pleasure of using the technology, also plays a significant role ($\beta = 0.212$, $p < 0.001$, $f2 = 0.155$). This underscores that enjoyment and satisfaction from interactive and versatile learning environments can enhance commitment to hybrid models.

Moreover, factors like PV and HA further reinforce BI. PV ($\beta = 0.118$, $p = 0.019$, $f2 = 0.088$) indicates the financial cost-effectiveness of adopting hybrid models compared to traditional or fully online systems. HA ($\beta = 0.257$, $p < 0.001$, $f2 = 0.200$), or the magnitude to which people tend to perform behaviors automatically because of learning, shows the strongest influence. The results are congruent with the study of Xie et al. (2022), where many variables correlate with behavioral intentions, which is the influence of the UTAUT model. Consequently, Alhramelah et al. (2020) revealed that there are intrinsic and extrinsic variables that are similar to PV and HA that also reinforce the UTAUT model by Venkatesh et al. (2007) for understanding technology acceptance and usage in educational settings, more specifically in e-learning and mobile learning modalities as revealed by both studies of Twum et al. (2022) and Moorthy et al. (2019).

On the contrary, EE with a beta coefficient of 0.041 ($p = 0.240$) and FC with a beta coefficient of 0.055 ($p = 0.168$) showed no significant influence on BI. Thus, H2 and H4 are not supported. The study reveals that EE, or the ease users expect to interact with the hybrid system, does not significantly impact their BI ($\beta = 0.041$, $p = 0.240$). This infers that the perceived simplicity or complexity of using hybrid teaching technologies might not be a primary concern for educators and students. It is possible that faculty members are either sufficiently confident in their ability to manage the technology or that other factors, such as the quality of outcomes and the support from their peers or colleagues, or even the students' ability to adapt, overshadow concerns about ease of use. Similarly, FC, referred to as the extent to which it is believed by an individual that an organizational and technical infrastructure is in place to support the use of the system, also showed no significant impact on BI ($\beta = 0.055$, $p = 0.168$). This could indicate that the users might not see the availability of resources and support as a limiting factor, possibly because the existing conditions are already adequate, or because personal motivation and institutional culture play more decisive roles in the acceptance and effectiveness of hybrid teaching.

These findings are insightful as they suggest a shift in focus from what is traditionally considered critical barriers to technology adoption, the ease of use and support structures, to more integral aspects such as intrinsic motivation, the perceived value of the technology, and cultural factors within educational institutions. This shift could guide future strategies in implementing hybrid teaching models, emphasizing

enhancing educational quality and user engagement over merely addressing technical and support concerns. This could imply that other factors, such as HA and HM, are more pivotal in shaping BI in this educational context. This contrasts with the study of Mahande and Malago (2019), that facilitating conditions, emerged as a key contributor to e-learning acceptance, significantly influenced by students' knowledge and internet speed. Additionally, Abbad (2021) and Alhramelah et al. (2020) conducted contrasting results studies. Their findings demonstrate a significant predictive relationship between students' willingness to participate in blended learning and the BI to use Moodle, with EE being a significant influencing factor. This underscores the importance of the UTAUT model in elucidating the adoption of e-learning platforms among faculty and students.

Furthermore, BI was found to have a significant impact on technology with US ($\beta = 0.656$, $p < 0.001$, $f2 = 0.430$) and on use ($\beta = 0.620$, $p < 0.001$, $f2 = 0.430$), with large effect sizes. Thus, H8 and H10 are supported. These findings underscore the critical role that educators' and students' willingness or intent to engage with hybrid teaching technologies play in perceiving them as appropriate for their needs and their practical application and integration into daily educational practices. This relationship indicates a dynamic where positive BI toward hybrid teaching tools significantly enhances the perceived alignment of these technologies with educational goals and their actual utilization in educational settings. As such, these insights should guide educational policymakers and administrators in emphasizing strategies that foster positive attitudes towards hybrid teaching to maximize the effective deployment and utilization of such technologies. Thus, the results can be supported by the study of Tahir (2023), which highlighted the influence of these factors on the propensity to adopt online education, subsequently impacting its actual use. It is also congruent with the research done by Xue et al. (2024), which shed light on the patterns of adopting mobile learning tools, including m-learning devices and technologies within higher education, are being examined, with a particular emphasis on how students in Asia and North America accept and utilize these tools.

A significant and positive relationship between TF and US was further revealed by the analysis of the data ($\beta = 0.276$, $p < 0.001$, $f2 = 0.189$), characterized by a medium effect size. Hence, H9 is supported. This outcome highlights the practical implications that when educators perceive technology as suitable and fitting well with their teaching modalities, it naturally leads to higher usage rates. This relationship underscores the importance of aligning technological tools with educational goals and teaching practices to enhance their adoption and effective integration into the educational process. Therefore, for educational technology developers and institutional policymakers, ensuring that technology solutions are available and appropriately tailored to meet the specific needs of hybrid teaching environments is crucial for their successful implementation and utilization. The results affirmed the study conducted by Cheng (2019) that the compatibility between task requirements and technological features directly affects students' perception of TTF, reflecting technology's effectiveness in supporting specific tasks within a system.

It was indicated by the mediation analysis that the use of technology served as a mediator in the association between BI and actual US ($\beta = 0.181$, $p < 0.001$, $f2 = 0.145$), with a small effect size being shown. Therefore, H11 is supported. This mediating effect suggests that merely having a strong intention to use hybrid teaching technologies is not enough for actual usage; the technology must also be perceived as appropriate and effective for the specific teaching context. This result emphasizes the necessity for educational institutions and technology developers to not only foster positive BI towards hybrid teaching technologies but also ensure that these technologies are perceived as fitting the teaching and learning needs. This dual focus can potentially increase the actual usage of technology in educational settings, thereby enhancing the effectiveness of hybrid teaching strategies. Consequently, it appears that Cheng (2019) revealed how Task-Technology Fit (TTF) influences students' use of e-learning platforms using cloud-based technology and their perceived outcomes related to learning in educational settings. Lastly, as previously mentioned, TF is a novel variable in our study, designed to assess how well course technology aligns with faculty members' specific needs and tasks within their teaching roles.

To measure the interaction effects of age and length of experience of the respondents on the hypothesized relationships, this study performed a simple moderation analysis. The findings revealed that age is shown to have an effect-modifying role in the link between EE and BI ($\beta = 0.125$, $p = 0.014$, $f2 = 0.028$) with a small effect size. This signifies that, as the age of the respondents increases, the positive association between EE and BI strengthens. Thus, H12b is supported. This moderation effect underscores the variability in

technology adoption across different age groups. Older users may require a more precise understanding and demonstration of ease of use before they form a strong intention to engage with new teaching technologies. This insight is crucial for implementing hybrid teaching strategies, suggesting that training and support systems should be tailored to general user needs and consider age-specific preferences and requirements. Enhancing EE through targeted support could effectively strengthen BI among older educators, thereby fostering more inclusive and effective adoption of hybrid teaching modalities. This is also similar to the study of Lin (2019), which found that there is a significant role of EE and identified moderating factors such as age, gender, and educational background influencing these associations. Additionally, and in support of the results, Nassar et al. (2019) documented that age negatively acts as an effect modifier on the relationship between SI and BI. In another context, Dionika et al. (2020) tested age as a moderator in the impact of HM on the intention to use digital public services, including various applications and sites facilitating access to information and administrative services. In another different context, Na et al. (2021) found that age difference moderates the relationship between PV and BI in using self-order kiosks in fast-food restaurants.

Similarly, length of experience was also found to have an effect-modifying role on the link between HA and BI ($\beta = 0.153$, $p = 0.004$, $f2 = 0.053$) with a small effect size. This indicates that, as the length of experience of the respondents rises, the positive link between habit and behavioral intention becomes stronger. Hence, H14g is supported. These findings suggest that experienced faculty members are more inclined to adopt hybrid teaching methodologies when the technologies align with their established pedagogical practices. For seasoned instructors, the integration of new tools must complement, rather than disrupt, their existing workflows. This underscores the importance of tailoring implementation strategies to consider faculty experience levels for successful technology adoption within the hybrid teaching model. The results align with the study of Aliyu et al. (2019) where experience significantly affects the PE or social pressures in a hybrid or blended and virtual learning. Izkair and Lakulu (2021) as well as Dionika et al. (2020) similarly found that university instructors' experience levels influenced their assessment of new mobile learning technologies, particularly the ease of use, SI, and anticipated outcomes.

Table 3. Direct, mediating, and moderating effects

Hypothesis	Path coefficient	p-value	Standard error	Effect size	Decision
Direct effects					
H1. PE → BI	0.246	<0.001	0.056	0.190	S
H2. EE → BI	0.041	0.240	0.057	0.026	U
H3. SI → BI	0.144	0.006	0.056	0.104	S
H4. FC → BI	0.055	0.168	0.057	0.032	U
H5. HM → BI	0.212	<0.001	0.056	0.155	S
H6. PV → BI	0.118	0.019	0.057	0.088	S
H7. HA → BI	0.257	<0.001	0.055	0.200	S
H8. BI → TF	0.656	<0.001	0.052	0.430	S
H9. TF → US	0.276	<0.001	0.055	0.189	S
H10. BI → US	0.620	<0.001	0.052	0.430	S
Mediating effect					
H11. BI → TF → US	0.181	<0.001	0.040	0.145	S
Moderating effects					
H12a. Age*PE → BI	-0.049	0.196	0.057	0.017	U
H12b. Age*EE → BI	0.125	0.014	0.057	0.028	S
H12c. Age*SI → BI	0.015	0.396	0.058	0.005	U
H12d. Age*FC → BI	0.054	0.172	0.057	0.014	U
H12e. Age*HM → BI	0.089	0.059	0.057	0.021	U
H12f. Age*PV → BI	-0.064	0.131	0.057	0.010	U

H12g. Age*HA → BI	-0.000	0.500	0.058	0.000	U
H14a. EXP*PE → BI	0.036	0.266	0.057	0.010	U
H14b. EXP*EE → BI	-0.007	0.449	0.058	0.002	U
H14c. EXP*SI → BI	0.082	0.075	0.057	0.024	U
H14d. EXP*FC → BI	0.024	0.340	0.058	0.004	U
H14e. EXP*HM → BI	0.056	0.162	0.057	0.015	U
H14f. EXP*PV → BI	0.049	0.196	0.057	0.011	U
H14g. EXP*HA → BI	0.153	0.004	0.056	0.053	S

Note: S-supported; U-unsupported. Effect sizes evaluation (Cohen, 1988): 0.02 – small; 0.15 – medium; 0.35 – large.

Multigroup Analysis

To analyze the moderating effects of respondent's sex (male vs. female), multigroup analysis (MGA) was performed.

Before performing MGA, a robustness test using measurement invariance was conducted. Measurement invariance testing is utilized to make sure that the scrutiny of the measurement model under various circumstances result to same representations of the same latent variables (Hair et al., 2010). In MGA, a measurement invariance test is required (Memon et al., 2019). In the present study, constrained latent growth with loadings using WarpPLS 8.0 was the analysis method used to gauge measurement invariance (Kock, 2014). As seen in Table 4, all items used in the present study showed no significant difference in loadings' absolute latent growth coefficients. Hence, measurement invariance was not detected in the model (Kock, 2022).

Table 4. Measurement invariance test

Item	ALGC for loadings	p-value	T-ratio
PE1	0.009	0.871	0.163
PE2	0.008	0.889	0.140
PE3	0.013	0.816	0.233
PE4	0.014	0.803	0.249
EE1	0.019	0.748	0.322
EE2	0.023	0.689	0.400
EE3	0.011	0.843	0.198
EE4	0.007	0.901	0.124
SI1	0.007	0.903	0.121
SI2	0.010	0.857	0.180
SI3	0.004	0.950	0.062
FC1	0.007	0.907	0.117
FC2	0.005	0.934	0.083
FC3	0.028	0.627	0.486
FC4	0.029	0.619	0.498
HM1	0.001	0.992	0.010
HM2	0.007	0.907	0.117
HM3	0.006	0.913	0.109
PV1	0.028	0.630	0.481
PV2	0.009	0.870	0.164
PV3	0.017	0.771	0.290
HA1	0.002	0.969	0.039

HA2	0.006	0.921	0.099
HA3	0.003	0.952	0.060
BI1	0.015	0.799	0.254
BI2	0.006	0.921	0.099
BI3	0.009	0.881	0.149
US1	0.010	0.862	0.174
US2	0.031	0.588	0.542
US3	0.017	0.774	0.288
US4	0.029	0.617	0.500
TF1	0.037	0.516	0.650
TF2	0.007	0.900	0.126
TF3	0.024	0.673	0.421
TF4	0.039	0.498	0.678
TF5	0.001	0.991	0.012
TF6	0.027	0.636	0.474
TF7	0.010	0.862	0.173

Note. ALGC – absolute latent growth coefficients; p – p-value, two-tailed.

Since the absence of measurement invariance was already established, MGA using constrained latent growth method using WarpPLS 8.0 was executed. Through MGA, differences in the hypothesized relationships (H13a-H13f) between respondent's sex (male vs. female) may be measured. Table 5 highlights the outcomes of the moderation analysis using MGA, and the results showed no moderating effects in all hypothesized relationships. Hence, H13a to H13g are not supported. This outcome suggests that the influence of PE, EE, SI, FC, HM, PV, and HA on the BI to use hybrid teaching technologies is consistent across different sexes. These findings are significant as they indicate that sex-based differences do not need to be a primary concern in designing and implementing hybrid teaching strategies. Policymakers and administrators can thus focus on factors that universally affect all users rather than tailoring interventions specifically by sex. This could streamline efforts in technology adoption and training processes, ensuring that resources are allocated efficiently across the diverse body of educators and students in the private higher education sector in the Philippines. The results are similar to the past study of Zhang et al. (2022), which considers moderator variables such as gender and significance; it was found through structural equation modeling analysis that system quality (SQ), SI, and FC positively influence BI, whereas information quality (IQ) does not. Also, both Dakduk and Santalla-Banderali (2018), Wong et al. (2020), and Dionika et al. (2020) documented that gender acted as an effect modifier on the association between habit and behavioral intention significantly across different contexts and industries.

Table 5. Multigroup analysis (MGA)

Hypothesis	Male β	Female β	ALGC	T-ratio	p	Decision
H13a. SEX*PE → BI	0.275	0.227	0.013	0.228	0.410	Unsupported
H13b. SEX*EE → BI	0.086	0.000	0.020	0.348	0.364	Unsupported
H13c. SEX*SI → BI	0.124	0.057	0.042	0.728	0.233	Unsupported
H13d. SEX*FC → BI	0.039	0.058	0.008	0.147	0.442	Unsupported
H13e. SEX*HM → BI	0.230	0.257	0.003	0.059	0.476	Unsupported
H13f. SEX*PV → BI	0.196	0.191	0.005	0.095	0.462	Unsupported
H13g. SEX*HA → BI	0.165	0.121	0.027	0.476	0.317	Unsupported

Note: p-p-value (one-tailed); β-path coefficient; ALGC-absolute latent growth coefficient.

CONCLUSION

This study examined the factors that influence the willingness of faculty members to adopt a hybrid learning approach in private higher education institutions. hypothesized framework in the study was anchored in the combined construct of the Unified Theory of Acceptance and Use of Technology and Technology Fit Use. Findings revealed that PE, SI, HM, PV, and HA are significant predictors of the BI of faculty members to adopt the hybrid learning approach. In contrast, the dimensions of EE and FC reported limited impact on the perceived willingness of faculty members in technology adoption in hybrid learning approach. These findings revealed that ease of use in adopting technology and technological requirements may potentially vary in terms of the specific circumstances of the users and the enabling environment present in their institutions. Thus, the willingness to adopt the hybrid learning model may be particularly influenced by the technological environment and training programs provided by the institutions in private higher education.

Additionally, the study presented the significant impact of positive perceived experiences on the key determinants of actual technology use in fostering behavioral intention among faculty members. This necessitates the importance of understanding user experiences and intention to ensure the effective integration of new technologies in a hybrid setting.

Furthermore, the study highlighted the moderating factor of Technology Fit Use in the association between users' behavioral intentions and their actual use of technology. Therefore, the need to customize the technological solution is advised to facilitate the effective implementation of the hybrid learning approach. This finding highlights that aligning technology with user requirements encourages adoption and ensures its integration into daily operations and contextualized approaches.

Lastly, the moderating role of demographic factors such as age and professional experience posits further understanding and alignment of strategies in adopting the technology for a hybrid learning approach. Ease of use in adopting technological innovation is more evident for older faculty members than younger counterparts. Similar findings were noted with more professional experience tend to adhere strongly to adopting technology, emphasizing an increased level of significant habitual use in technology engagement. These insights can guide developing effective technology adoption strategies in fostering the effective adoption of hybrid learning modalities within private higher education institutions.

Implications

This study is not just about how things worked in one specific Philippine university; it has implications for how the faculty members understand and implement hybrid learning everywhere. The researchers built a model that shows what makes faculty members agree to this way of teaching. This model highlights the specific things that affect how professors experience hybrid learning, offering schools a roadmap on how to make this style a success. In addition, findings show that what matters most is how well it supports teachers' goals and aligns with what they consider important.

This research supports the findings of prior research, indicating that favorable experiences with technology tend to enhance willingness and engagement. The proposed theoretical model can be useful in building insights and understanding of the gaps in future research exploring how the convergence of technological capabilities and pedagogical needs influences adoption and usage behaviors. The hypothesis posits that enhanced congruence with technological tools boosts both the motivation to utilize them and their actual use, thereby fostering more effective implementation of hybrid teaching models.

This study has significant implications for administrators and policymakers in Philippine private higher education. Factors presented in the study can aid the administrators in formulating strategies for customizing the technology integration and addressing the needs of faculty members for an effective hybrid learning approach. Understanding the importance of Technology Fit Use provides educational institutions with a construct to evaluate and design professional development programs and resource allocation to support effective hybrid teaching practices.

Limitation

This study identifies particular limitations that need to be addressed in subsequent studies. The investigation is limited to a single geographical focusing on the faculty members from private higher education institutions in the Philippines, which potentially limits the generalizability of the findings to other academic settings such as public universities and colleges. Thus, future research should aim to include a diverse number of participants across various academic institutions. Moreover, other factors, such as economic conditions, sociocultural norms, and institutional policies were not explored in the study.

To address these limitations, future research must employ a combination of quantitative and qualitative methods by augmenting the current instrument with in-depth interviews or focus group discussions, allowing deeper insights into contextual factors that shape the faculty experiences and perceptions in the hybrid learning model. Moreover, the framework proposed in this can be expanded by including socio-economic and cultural considerations to improve the reliability and relevant application across various settings.

Authors' Note: This research was funded by the Philippine Association of Private Schools, Colleges, and Universities (PAPSCU) and the Private Education Assistance Committee (PEAC) under Grant No. Proj-3-2022-23.

BIODATA and CONTACT ADDRESSES of AUTHORS

Dr. Gerby R. MUYA is currently an associate professor of the Department of Arts and Sciences and concurrently the Vice President for Extension and Linkages at the City College of Calamba (CCC), Calamba City, Laguna, Philippines. She served as the Research Director of Lyceum of the Philippines-Laguna from January 2014 to June 2021 and as chair of the research committee of NOCEI (or Network of CALABARZON Educational Institution from 2018-2020. She is at present the project leader of the Philippine Association of Private Schools, Colleges, and Universities Excellent Academic Research Link or PAPSCU PEARL, a project funded by the Department of Education through the Private Education Assistance Committee (PEAC) and an accreditor of the Association of Local Colleges and Universities Commission on Accreditation (ALCUCOA). Dr. Muya finished her doctorate in Development Communication at the University of the Philippines in Los Banos, Laguna. An associate member of the National Research Council of the Philippines (NRCP), Dr. Muya has served as project leader and researcher of both government and industry-commissioned research. She has published researches in national and international refereed journals and has presented papers at both national and international conferences. Her research interests include knowledge management, ICT and the youth, and education and social development.

Gerby R. MUYA
Office of the Vice-President for Extension and Linkages, City College of Calamba
Address: Poblacion, Calamba City, Laguna, Philippines
Phone: +639173009231
Email: grmuya@ccc.edu.ph

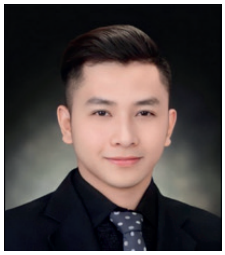
Dr. Alexie Erasga BASILEYO is an Assistant Professor at the Department of Psychology of National University – Lipa (NU Lipa) and currently serves as the Dean of the College of Psychology at Saints John and Paul Educational Foundation, Inc. He is a doctoral candidate in the International Health Program at National Yang Ming Chiao Tung University (Yang Ming Campus) in Taipei, Taiwan, pursuing a Ph.D. in International Health with a specialization in Social and Behavioral Sciences. He has published research in both national and international peer-reviewed journals and has presented papers in academic conferences in the Philippines, South Korea, and the Czech Republic. He actively serves as a peer reviewer for journals such as Current

Psychology and the International Journal of Mental Health and Addiction (Springer), as well as SAGE Open. His research interests include spirituality, mental health literacy, personality traits, anxiety, intimate partner violence, and child abuse.

Alexie Erasga BASILEYO
Department of Psychology, School of Allied Health and Sciences, National University, Philippines
Address: SM City Lipa, Ayala Highway, 4217, Lipa City, Philippines
Phone: +639219640290
E-mail: aebasileyo@nu-lipa.edu.ph

Dr. Ryan Joseph G. CALINAO is a Professorial Lecturer 10 (Professor 4 Level) at the Institute of Tourism and Hotel Management, Far Eastern University. He serves as a member of the Institute Research Committee and the FEU Manila Research Ethics Committee. Dr. Calinao's research interests include inferential statistics, regression analysis, structural equation modeling (both Covariance-Based [CB] and Partial Least Squares [PLS]), time series analysis, experimental research in culinary arts, and other social science research focusing on hospitality, tourism, and education. Additionally, Dr. Calinao has presented research papers at various international research fora in countries such as Singapore, Malaysia, Indonesia, Thailand, the Philippines, Japan, and Switzerland. To date, he has published over 25 research papers in various Scopus-indexed, local, and international journals, as well as books focusing on hospitality and tourism businesses.

Ryan Joseph G. CALINAO
Department of Hospitality Management, FEU Manila Research Ethics Office
Address: Far Eastern University, 1008, Manila, Philippines
Phone: +639626080707
E-mail: rjcalinao@gmail.com; rjgcalinao@feu.edu.ph



Dr. Jan Racky MASA is an Assist. Prof. of Hospitality Management at the Institute of Tourism and Hotel Management, Far Eastern University. Currently, he is pursuing his Ph.D. in International Hospitality and Tourism Management at Lyceum of the Philippines University. His academic interest areas are exploratory and confirmatory factor analyses, structural equation modeling on sustainability and corporate responsibility, including experimental research in culinology and social science research on gastronomy and tourism trends. He has 10 journal articles published in Scopus and international indexes. He also serves as a peer reviewer in national and international journals and conferences.

Jan Racky MASA
Department of Hospitality Management
Address: Far Eastern University,1008, Manila, Philippines
Phone: +639619442597
E-mail: masajanracky@gmail.com; jrmasa@feu.edu.ph

Salome L. MORANDARTE was a faculty member specializing in Business and Marketing at Saint Michael's College of Laguna. She held leadership positions in national academic organizations such as the Philippine Association of Private Schools, Colleges, and Universities (PAPSCU) and Unified TVET of the Philippines Inc. (UniTVET). Throughout her career, she guided students in conducting feasibility and marketing research projects and was actively involved in initiatives that promoted higher education and technical-vocational training. Her academic interests included business development, educational leadership, and institutional management.

Salome L. MORANDARTE
Saint Michael's College of Laguna
Address: Old National Road, Platero, City of Binan, 4024, Laguna, Philippines
Phone: +639619442597
E-mail: morandartesam1@gmail.com

Dr. Florcelita G. ZAMORA is a writer, researcher, educator, trainer, and administrator. She completed her AB in Mass Communication and earned 21 academic units in BSE English. She holds a Master's degree in Education (MAEd) with a specialization in Leadership and Administration. She holds two doctoral degrees: Doctor of Education (Ed.D.) and Doctor of Philosophy in Technology Management (Ph.D. TM). In addition, she has received honorary degrees – Doctor of Humanities and Doctor of Educational Leadership and Management honoris causa. Dr. Zamora has been actively involved in research and community extension projects. She spearheaded a sustainable development initiative for the Sibato Bukidnon Tribe, an indigenous group in Silay City. Her research engagements include numerous presentations at national and international conferences, as well as publications in refereed journals. She also served as the Visayas Coordinator for the Network of Professional Researchers and Educators. Before her current position as Vice President for Operations of the Multiple Intelligence Assessment and Simulation (MIDAS) Institute, Inc., she was affiliated with Silay Institute Incorporated in Negros Occidental, Philippines, where she served as School Director. She also held the position of Vice President for Academic Affairs (VPAA) at DMMC Institute of Health in Batangas, Philippines, and served as Dean of the College of Arts and Sciences at Lyceum of the Philippines – Laguna. Additionally, she held various roles in non-academic institutions related to the hospitality and tourism industry.

Florcelita G. ZAMORA
Silay Institute
Address: Silay Institute, Silay City, Negros Occidental, 6116, Philippines
Phone: +63344956390
E-mail: phlorzamora@gmail.com

REFERENCES

Abbad, M. M. (2021). Using the UTAUT model to understand students' usage of e-learning systems in developing countries. *Education and Information Technologies*, 26(6), 7205–7224. https://doi.org/10.1007/S10639-021-10573-5

Al-Maroof, R., Al-Qaysi, N., Salloum, S. A., & Al-Emran, M. (2022). Blended learning acceptance: A systematic review of information systems models. *Technology, Knowledge and Learning*, 27, 891-926. https://doi.org/10.1007/s10758-021-09519-0

Alblooshi, S., & Hamid, N. A. (2021). The role of unified theory of acceptance and use of technology in e-learning adoption in higher education institutions in the UAE. *IBIMA Business Review*, 1-16. https://doi.org/10.5171/2021.730690

Alghamdi, A. M., Alsuhaymi, D. S., Alghamdi, F. A., Farhan, A. M., Shehata, S. M., & Sakoury, M. M. (2022). University students' behavioral intention and gender differences toward the acceptance of shifting regular field training courses to e-training courses. *Education and Information Technologies*, 27(1), 451- 468. https://doi.org/10.1007/S10639-021-10701-1

Alhramelah, A., & Alshahrani, H. (2020). Saudi graduate student acceptance of blended learning courses based upon the unified theory of acceptance and use of technology. *Australian Educational Computing*, 35(1), 1-22.

Aliyu, O., Arasanmi, C. C., & Ekundayo, S. (2019). Do demographic characteristics moderate the acceptance and use of the Moodle learning system among business students?. *International Journal of Education and Development using Information and Communication Technology*, 15(1), 1-14.

Alpert, W. T., Couch, K. A., & Harmon, O. R. (2016). A randomized assessment of online learning. *American Economic Review*, 106(5), 378-382. https://doi.org/10.1257/aer.p20161057

Alyoussef, I. Y. (2022). Acceptance of a flipped classroom to improve university students' learning: An empirical study on the TAM model and the unified theory of acceptance and use of technology (UTAUT). *Heliyon*, 8(12), 1-14. https://doi.org/10.1016/j.heliyon.2022.e12529

Azizi, S. M., Roozbahani, N., & Khatony, A. (2020). Factors affecting the acceptance of blended learning in medical education: Application of UTAUT2 model. *BMC Medical Education*, 20(1), 1-9. https://doi.org/10.1186/s12909-020-02302-2

Barrera, K. I., Jaminal, B., & Arcilla, F. (2020). Readiness for flexible learning amidst COVID-19 pandemic of Saint Michael College of Caraga, Philippines. *SMCC Teacher Education Journal*, *2*, 1-15.

Barrot, J. S., Llenares, I. I., & Del Rosario, L. S. (2021). Students' online learning challenges during the pandemic and how they cope with them: The case of the Philippines. *Education and Information Technologies*, 26(6), 7321-7338. https://doi.org/10.1007/s10639-021-10589-x

Bruner, D. L. (2007). Using "hybrid" effectively in Christian higher education. *Christian Scholars' Review*, 36 (2), 115-126.

Cajurao, E., Ogaya, M., Almonicar, Jr, C., Abella, G., & Escalante, J. (2023). Exploring factors affecting the adoption of flexible learning modality by public university students in Masbate, Philippines. *East Asian Journal of Multidisciplinary Research*, 2(3), 1313-1326. https://doi.org/10.55927/eajmr.v2i3.3473

Chang, C., Liu, L., Huang, H., & Hsieh, H. (2019). factors influencing online hotel booking: extending UTAUT2 with age, gender, and experience as moderators. *Information*, 10(9), 1-18. https://doi.org/10.3390/info10090281

Cheng, Y. M. (2019). How does task-technology fit influence cloud-based e-learning continuance and impact? *Education and Training*, 61(4), 480-499. https://doi.org/10.1108/ET-09-2018-0203

Choudhury, P., Khanna, T., Makridis, C., & Schirmann, K. (2024). Is hybrid work the best of both worlds? Evidence from a field experiment. *The Review of Economics and Statistics*, 1-24. https://doi.org/10.1162/rest_a_01428

Coates, H., & Mahat, M. (2014). Threshold quality parameters in hybrid higher education. *Higher Education*, 68, 577-590. https://doi.org/10.1007/s10734-014-9729-x

Coates, H., Xie, Z., & Hong, X. (2020). Engaging transformed fundamentals to design global hybrid higher education. *Studies in Higher Education*, 46(1), 166–176. https://doi.org/10.1080/03075079.2020.1859683

Commission on Higher Education. (2020). *Guidelines on the implementation of flexible learning* (CHED Memorandum Order No. 04, Series of 2020). https://ched.gov.ph/wp-content/uploads/CMO-No.-4-s.-2020-Guidelines-on-the-Implementation-of-Flexible-Learning.pdf

Dakduk, S., & Santalla-Banderali, Z. (2018). Acceptance of Blended Learning in Executive Education. *SAGE Open*, 8(3), 1-16. https://doi.org/10.1177/2158244018800647

Dionika, B., Irwansyah, I., & Safira, M. (2020). The acceptance and use of digital public service: An influence of trust and an application of UTAUT2. In *PCCS 2019: Proceedings of the 1st Padjadjaran Communication Conference Series*. European Alliance for Innovation. https://doi.org/10.4108/eai.9-10-2019.2291112

Ernst, J. (2008). A comparison of traditional and hybrid online instructional presentation in communication technology. *Journal of Technology Education*, 19(2), 40-49.

Garcia-Penalvo, F. J., Fidalgo-Blanco, A., & Sein-Echaluce, M. L. (2018). An adaptive hybrid MOOC model: Disrupting the MOOC concept in higher education. *Telematics and Informatics*, 35(4), 1018-1030. https://doi.org/10.1016/j.tele.2017.09.012

Gocotano, T. E., Jerodiaz, M. A. L., Banggay, J. C. P., Nasibog, H. B. R., & Go, M. B. (2021). Higher education students' challenges on flexible online learning implementation in the rural areas: A Philippine case. *International Journal of Learning, Teaching and Educational Research*, 20(7), 262-290. https://doi.org/10.26803/ijlter.20.7.15

Granic, A. (2022). Educational technology adoption: A systematic review. *Education and Information Technologies*, 27(7), 9725-9744. https://doi.org/10.1007/s10639-022-10951-7

Hu, S., Laxman, K., & Lee, K. (2020). Exploring factors affecting academics' adoption of emerging mobile technologies-an extended UTAUT perspective. Education and Information Technologies, 25(5), 4615-4635. https://doi.org/10.1007/S10639-020-10171-X

Izkair, A. S., & Lakulu, M. M. (2021). Experience moderator effect on the variables that influence intention to use mobile learning. *Bulletin of Electrical Engineering and Informatic*s, 10(5), 2875-2883. https://doi.org/10.11591/eei.v10i5.3109

Jalil, H. A., Rajakumar, M., & Zaremohzzabieh, Z. (2022). Teachers' acceptance of technologies for 4IR adoption: implementation of the UTAUT model. *International Journal of Learning, Teaching and Educational Research*, *21*(1), 18-32. https://doi.org/10.26803/ijlter.21.1.2

Joan, D. R. (2013). Flexible learning as new learning design in classroom process to promote quality education. *Journal on School Educational Technology*, *9*(1), 37-42.

Kadhim, M. K., & Hassan, A. K. (2020). Towards intelligent e-learning systems: A hybrid model for predicating the learning continuity in Iraqi higher education. *Webology*, 17(2), 172-188. https://doi.org/10.14704/WEB/V17I2/WEB17023

Kock, N. (2014). Advanced mediating effects tests, multi-group analyses, and measurement

model assessments in PLS-based SEM. *International Journal of e-Collaboration*, 10(1), 1-13. https://doi.org/10.4018/ijec.2014010101

Kock, N. (2022). WarpPLS user manual: Version 8.0. Scriptwarp Systems.

Kock, N., & Lynn, G. S. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal of the Association for information Systems*, *13*(7), 546-580. https://doi.org/10.17705/1jais.00302

Lacap, J. P. G. (2019). The mediating effect of employee engagement on the relationship of transformational leadership and intention to quit: Evidence from local colleges in Pampanga, Philippines. *Asia-Pacific Social Science Review*, 19(1), 33-48. https://doi.org/10.59588/2350-8329.1200

Lacap, J. P. G. (2020). The interrelationships of economic experiential value, emotions, satisfaction, loyalty, and intention to recommend: Evidence from attendees of Angeles City's Sisig Fiesta. Asia-Pacific Social Science Review, 20(1), 78-90. https://doi.org/10.59588/2350-8329.1284

Lacap, J. P., & Sicat, A. T. (2022). Effects of experiential quality on experiential loyalty: Evidence from Starbucks coffee chains in Pampanga, Philippines. Asia-Pacific Social Science Review, 22(2), 14-36. https://doi.org/10.59588/2350-8329.1418

Li, B., Sun, J., & Oubibi, M. (2022). The acceptance behavior of blended learning in secondary vocational school students: Based on the modified UTAUT model. *Sustainability*, 14(23), 1-16. https://doi.org/10.3390/su142315897

Li, Y., & Zhao, M. (2021). A study on the influencing factors of continued intention to use MOOCS: UTAUT model and CCC moderating effect. *Frontiers in Psychology*, *12*, 1-13. https://doi.org/10.3389/fpsyg.2021.528259

Lin, C. (2019). Applying the UTAUT Model to understand factors affecting the use of e-books in Fujian, China. (Master's thesis). University of Borås, Borås, Sweden. Available from Diva Portal, ID: diva-23410.

Lorenza, L., & Carter, D. (2020). Emergency online teaching during COVID-19: A case study of Australian tertiary students in teacher education and creative arts. *International Journal of Educational Research Open*, *2*, 1-8. https://doi.org/10.1016/j.ijedro.2021.100057

Mahande, R. D., & Malago, J. D. (2019). An e-learning acceptance evaluation through UTAUT model in a postgraduate program. *Journal of Educators Online*, 16(2), 1-10.

Memon, M. A., Cheah, J. H., Ramayah, T., Ting, H., Chuah, F., & Cham, T. H. (2019). Moderation analysis: issues and guidelines. *Journal of Applied Structural Equation Modeling*, 3(1), 1-11. https://doi.org/10.47263/JASEM.3(1)01

Meydanlioglu, A., & Arikan, F. (2014). Effect of hybrid learning in higher education. *International Journal of Information and Communication Engineering*, 8(5), 1292-1295. doi.org/10.5281/zenodo.1092346

Mojarro Aliano, A., Duarte Hueros, A., Guzman Franco, M., & Aguaded, I. (2019). Mobile Learning in University Contexts Based on the Unified Theory of Acceptance and Use of Technology (UTAUT). *Journal of New Approaches in Educational Research, 8*(1), 7-17. https://doi.org/10.7821/naer.2019.1.317

Moorthy, K., Tzu Yee, T., Chun T'ing, L., & Vija Kumaran, V. (2019). Habit and hedonic motivation are the strongest influences in mobile learning behaviours among higher education students in Malaysia. *Australasian Journal of Educational Technology*, 35(4). https://doi.org/10.14742/ajet.4432

Mujalli, A., Khan, T., & Almgrashi, A. (2022). University accounting students and faculty members using the Blackboard platform during COVID-19; Proposed modification of the UTAUT model and an empirical study. *Sustainability*, 14(4), 1-18. https://doi.org/10.3390/su14042360

Muller, C., Mildenberger, T., & Steingruber, D. (2023). Learning effectiveness of a flexible learning study programme in a blended learning design: Why are some courses more effective than others? *International Journal of Educational Technology in Higher Education*, 20(1), 1-25. https://doi.org/10.1186/s41239-022-00379-x

Munday, D. (2022). Hybrid pedagogy and learning design influences in a higher education context. Studies in Technology Enhanced Learning, 2 (2), 1-16. https://doi.org/10.21428/8c225f6e.b5af8bae

Na, T. K., Yang, J. Y., & Lee, S. H. (2021). Determinants of behavioral intention of the use of self-order kiosks in fast-food restaurants: Focus on the moderating effect of difference age. *SAGE Open*, 1-11. https://doi.org/10.1177/21582440211031907

Nassar, A. A., Othman, K., & Nizah, M. A. B. M. (2019). The impact of the social influence on ICT adoption: Behavioral intention as mediator and age as moderator. *International Journal of Academic Research in Business and Social Sciences*, 9(11), 963-978. https://doi.org/10.6007/IJARBSS/v9-i11/6620

Nava, S. (2015). *The hybrid model and student learning experiences.* (Master's thesis). California State University, Sacramento, CA, United States. Available from ScholarWorks, ID: 99257830857401671.

Nechita, F., Rațulea, G. G., Borcoman, M., Sorea, D., & Leluțiu, L. M. (2023). Hybrid events as a sustainable educational approach for higher education. *Trends in Higher Education*, *2*(1), 29-44. https://doi.org/10.3390/higheredu2010003

Nuankaew, P., Jeefoo, P., Nasa-Ngium, P., & Nuankaew, W. S. (2023). Hybrid learning and blended learning in the perspective of educational data mining and learning analytics: A systematic literature reviews. *International Journal of Engineering Trends and Technology*, 71(10), 115-132. https://doi.org/10.14445/22315381/IJETT-V71I10P211

Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. *Higher Education for the Future*, 8(1), 133-141. https://doi.org/10.1177/2347631120983481

Potra, S., Pugna, A., Pop, M., Negrea, R., & Dungan, L. (2021). Facing COVID-19 challenges: 1st-year students' experience with the Romanian hybrid higher educational system. *International Journal of Environmental Research and Public Health*, *18*(6), 1-15. https://doi.org/10.3390/ijerph18063058

Potter, J. (2015). Applying a hybrid model: Can it enhance student learning outcomes?. *Journal of Instructional Pedagogies*, 17, 1-11.

Qiao, P., Zhu, X., Guo, Y., Sun, Y., & Qin, C. (2021). The development and adoption of online learning in pre- and post-COVID-19: Combination of technological system evolution theory and unified theory of acceptance and use of technology. *Journal of Risk and Financial Management*, *14*(4), 1-17. https://doi.org/10.3390/jrfm14040162

Rapanta, C., Botturi, L., Goodyear, P., Guardia, L., & Koole, M. (2020). Online university teaching during and after the COVID-19 crisis: Refocusing teacher presence and learning activity. Postdigital Science and Education, 2, 923-945. https://doi.org/10.1007/s42438-020-00155-y

Rashid, S., & Yadav, S. S. (2020). Impact of COVID-19 pandemic on higher education and research. *Indian Journal of Human Development*. 14(2), 340-343. https://doi.org/10.1177/0973703020946700

Jaradat, M. I. R. M., Ababneh, H. T., Faqih, K. M., & Nusairat, N. M. (2020). Exploring cloud computing adoption in higher educational environment: An extension of the UTAUT model with trust. *International Journal of Advanced Science and Technology*, *29*(5), 8282-8306.

Singh, J., Evans, E., Reed, A., Karch, L., Qualey, K., Singh, L., & Wiersma, H. (2021). Online, Hybrid, and Face-to-Face Learning Through the Eyes of Faculty, Students, Administrators, and Instructional Designers: Lessons Learned and Directions for the Post-Vaccine and Post-Pandemic/ COVID-19 World. *Journal of Educational Technology Systems*, 50(3), 301-326. https://doi.org/10.1177/00472395211063754

Sun, J. (2016). Multi-dimensional alignment between online instruction and course technology: A learner-centered perspective. Computers and Education/Computers & Education, 101, 102-114. https://doi.org/10.1016/j.compedu.2016.06.003

Trentin, G., & Bocconi, S. (2014). The effectiveness of hybrid solutions in higher education: A call for hybrid-teaching instructional design. *Educational Technology*, *54*(5), 12–21. http://www.jstor.org/stable/44430301

Twum, K. K., Ofori, D., Keney, G., & Korang-Yeboah, B. (2022). Using the UTAUT, personal innovativeness and perceived financial cost to examine student's intention to use E-learning. *Journal of Science and Technology Policy Management*, 13(3), 713–737. https://doi.org/10.1108/JSTPM-12-2020-0168

Ulanday, M. L., Centeno, Z. J., Bayla, M. C., & Callanta, J. (2021). Flexible learning adaptabilities in the new normal: E-learning resources, digital meeting platforms, online Learning Systems and Learning Engagement. Asian Journal of Distance Education, 16(2), 38-56.

Umami, R. F., & Irawan, M. I. (2021, December). Application of UTAUT2 for Analysis of Use Behavior Management Information System (SIMBMD) in Regional Government XYZ. In 3rd International Conference on Business and Management of Technology (ICONBMT 2021) (pp. 72-79). Atlantis Press. https://doi.org/10.2991/aebmr.k.211226.010

Wong, L. W., Tan, G. W. H., Lee, V. H., Ooi, K. B., & Sohal, A. (2020). Unearthing the determinants of Blockchain adoption in supply chain management. *International Journal of Production Research*, 58(7), 2100-2123. https://doi.org/10.1080/00207543.2020.1730463

Wang, H. I., & Yang, H. L. (2005). The role of personality traits in UTAUT model under online stocking. *Contemporary Management Research*, 1(1), 69-82. https://doi.org/10.7903/cmr.73

Xie, H., Kitcharoen, K., Leelakasemsant, C., & Varghese, M. M. (2022). The effect of behavioral intention to use hybrid education: a case of Chinese undergraduate students. *AU-GSB e-JOURNAL*, 15(2), 159–168. https://doi.org/10.14456/augsbejr.2022.81

Xue, L., Rashid, A. M., & Ouyang, S. (2024). The Unified Theory of Acceptance and Use of Technology (UTAUT) in Higher Education: A systematic review. *SAGE Open*, 1-22. https://doi.org/10.1177/21582440241229570

Young, W., Allen, L., & Warfield, K. (2016). Developing online/hybrid learning models for higher education programs. *Alabama Journal of Educational Leadership*, 3, 47-56.

Zacharis, G., & Nikolopoulou, K. (2022). Factors predicting University students' behavioral intention to use eLearning platforms in the post-pandemic normal: An UTAUT2 approach with 'Learning Value'. *Education and Information Technologies*, *27*(9), 12065-12082. https://doi.org/10.1007/s10639-022-11116-2

Zhang, Z., Cao, T., Shu, J., & Liu, H. (2022). Identifying key factors affecting college students' adoption of the e-learning system in mandatory blended learning environments. *Interactive Learning Environments*, 30(8), 1388–1401. https://doi.org/10.1080/10494820.2020.1723113