RESEARCH ARTICLE

Integrating Trialability and Compatibility with UTAUT to Assess Canvas Usage During COVID-19 Quarantine Period

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Abstract: The unexpected community quarantine period in the Philippines due to the COVID-19 pandemic has brought about a total switch from traditional classroom teaching to online teaching. The unprecedented challenges of whether teachers were prepared enough in terms of materials and their capability in delivering their lessons from traditional to online teaching prompted the researchers to conduct this study. Thus, this study attempted to investigate the robustness of UTAUT constructs and an aspect of IDT and explore the integration of trialability and compatibility to find out the preparedness of the teachers in using Canvas features during their lockdown days. Empirical data were collected through online surveys among university faculty (N=786) that used Canvas online features. Modeling and structuring approaches, such as a statistical tool called *SmartPLS 3*, were used. Results indicated that all the eight hypotheses tested, integrating trialability and compatibility with UTAUT constructs, were supported at p <0.000. Most particularly, the findings revealed the following: (a) Trialability of Canvas usage affects effort expectancy of users; (b) Social influence is directly related to facilitating conditions; (c) Compatibility on Canvas usage is directly related to facilitating conditions to use; (d) Effort expectancy influences usage of Canvas features; (e) Facilitating conditions affect the usage of Canvas features directly; (f) Performance expectancy is directly related to the usage of Canvas features; (g) Compatibility has a direct effect on performance expectancy; and (h) Trialability is directly related to compatibility in using the technology. Thus, the actual usage and acceptance of Canvas had been justified, giving evidence that the faculty were ready for online teaching during the quarantine period. It was recommended that educators continue with the online learning mode that meets learners' needs. The models used in the study may be tried by future researchers using the same Canvas features.

Keywords: Canvas features, trialability, compatibility, performance expectancy, social influence

The World Health Organization confirmed the emergence of a global catastrophe called COVID-19. Educational systems around the world experienced a major impact, resulting in near-total closure of schools, colleges, and universities. The temporary closure of schools/universities would reduce the spread of the disease in the community by breaking down main transmission chains (Di Domenico et al., 2020). Due to the coronavirus crisis, 49 countries instituted class suspension to ease the widespread transmission of the virus. Social distancing has become a mandate, and measures have been considered for the prevention of the epidemic and the reduction of its damage to the population. Universities around the world have been under increasing pressure to move from face-to-face delivery of courses to digitally-enabled distance learning and teaching.

This crisis represents an opportunity for universities to expand the use of digital resources in higher education for improved learning and teaching experience. Using the learning management system is a significant ingredient in this paradigm change, but this pandemic hastened the transition to online learning. With most universities embarking on this mode, different mechanisms and approaches have been introduced to ensure that online teaching and learning is feasible and efficient during this pandemic time. The value of the learning management framework ensures an effective transition in the universities to a more versatile and sustainable teaching and learning environment. Learning management systems (LMS) are extensive platforms that respond to the concerns of academic learning and management training by providing different online learning course works and encouraging learners to improve their performance. This is an alternative for those who want to move from classroom to online learning (Dobre, 2015; Oluyinka et al., 2015; Oluyinka & Endozo, 2019). LMS enables learners to access interactive lessons, exchange ideas with their teachers, compile course materials, take online exams, and send classroom assignments (Fathema et al., 2015; Nielson, 2017; Solomon et al., 2014).

In a recent article, about five top free learning management systems are commonly adopted by universities and colleges, and Canvas claimed fourth place among the 20 best learning management systems mentioned (Baran, 2019). Over 300,000 Canvas users are involved in the sharing, collaboration, and shaping of Canvas. Öztürk and Gürler (2020) conducted a comparative study between Blackboard and Canvas. Findings revealed that the adoption of Canvas improved student learning and performance better. With the use of Canvas, communication between the teacher and the learner is highlighted, making it easy for both parties to collaborate smoothly in the process of discovery (Dobre, 2015; Fathema et al., 2015). Canvas is recommended globally as one of the most reliable teaching and learning systems due to its uptime reliability of about 99.9%. Canvas makes it easy for everyone to learn and teach (Bloomfield, 2020). Despite the impressive Canvas advantages, Endozo et al. (2018) discovered that Canvas had been partially used before the pandemic. They noticed that some teachers were not fully familiar with the use of Canvas. Thus, there is a need to investigate the teachers' preparedness to handle an online program using the LMS.

Previous studies involved only two Philippine universities using Canvas. There is a need to expand the number of respondents by including some other universities using Canvas like De La Salle-Manila. Moreover, models under consideration for this analysis include Venkatesh et al.'s (2003) unified theory of acceptance and use of technology (UTAUT), which involves acceptance and use of technology, and Rogers' (2010) IDT, which uses innovation diffusion theory. The two models were more related to this study because UTAUT is about technology acceptance, whereas Rogers' IDT is about the early and intermediate stages of using technology. Hence, studies related to UTAUT were considered in the next section of this study.

UTAUT Towards E-Learning

Venkatesh et al. (2003) advocated a theoretical model that explains how technology is accepted by its users. The model includes main factors, namely: performance expectancy (users feel that their work performance skills had been achieved due to the technology used), effort expectancy (users think about how easy the technology could be used), social influence (users think about how other people use the technology), and facilitating conditions (users think about the technological infrastructure that supports how the technology is used).

Another study emphasized UTUAT's efficacy in developing the model (Ifenthaler & Schweinbenz,

2016; Dwivedi et al., 2019), which verified the impact of gender as well as experience in their study. The use of interactive whiteboard as part of the study of Tosuntaş et al. (2015) revealed that intention and facilitating conditions could be affected by other UTAUT indicators. Similarly, Bardakcı (2019) used UTAUT to explore YouTube's academic use among middle school students. Findings showed that behavioral intent to use was influenced by performance expectancy and social influence. There is a need to integrate diffusion of innovation theory to explain the rate at which consumers would adopt a new product or service. This theory would help users understand how trends occur, which helps assess the likelihood of success or failure of new technology usage.

In like manner, Dumpit and Fernandez (2017) applied UTAUT to build teachers' technology acceptance in higher educational institutions. Performance expectancy (PE) was considered a very important element in UTAUT's variables for accepting and using technology. In another study, Mafunda et al. (2016) evaluated the acceptance of electronic books. It was revealed that UTAUT indicators were significant in promoting the use of electronic books, considering age and other variables like gender and experience.

Innovation Diffusion Theory (IDT) Towards E-learning

For more than 20 years, IDT was used to explain the innovation-decision cycle (Rogers, 2010). The *diffusion of innovation* was therefore defined as the advancement of technology and change of patterns identification between individuals of a societal structure through certain platforms, as reflected in the innovation features, the individual characteristics, timing of distribution, systems uploaded, technology, and the system of individual acceptance aimed to identify the factors influencing the use of Moodle as a Learning Management Systems (LMS) in the academic context. To fulfil this objective, a quantitative study was carried out through a questionnaire directed to Portuguese university students, which obtained a total of 631 valid answers. The results obtained, based on structural equation modelling, show that the characteristics of Moodle LMS, proposed by Innovation Diffusion Theory and Personal Innovativeness in Information Technology influence the use of this tool positively. This research contributes to advancing the literature on this subject, and for practice the importance of elaborating student-centred LMS is highlighted.

Using the same model, Sasaki (2018) tried to analyze how three national curriculum policy administrations aligned the objectives, classroom policies, and academic performance of students for English language learning in Japan. Rogers' (2010) IDT was used to evaluate each policy's acceptance rate. The survey revealed that the policies seemed to have been influenced to some degree by innovation characteristics such as comparability, complexity, and trialability, and more importantly, were observability (university entrance exams better inspire them to learn English) and relative advantage (English does not have large social benefits). Al-Rahmi et al. (2019) utilized TAM and IDT to assess the intentions of 1,286 Malaysian students seeking to implement the e-learning system. The report showed that users accepted the technology if it is relatively advantageous, if it can be easily tried, if it can be observed, if it is compatible with other gadgets, if it is not complicated to use, and if it is perceived to be useful. At this stage, there is a need to provide operational terms or terminologies to justify and enrich the hypothetical framework.

Hypothetical and Operational Framework

Applying the models of Venkatesh et al. (2003) and Rogers (2010), this study ventured to examine the acceptance of Canvas among its users in the Philippines, particularly at Baliuag University, Angeles University Foundation, and De La Salle University-Manila. Indicators of the UTAUT model are performance expectancy of the respondents mentioned towards canvas usage, effort expectancy, social influence to investigate the use of technology (canvas), and facilitating conditions, whereas the indicator of IDT was trialability. Trialability was used on effort expectancy and social influence in terms of preparedness. Compatibility in facilitating conditions and performance expectancy of the devices towards usage of canvas features were assessed to determine such preparedness.

Hypothetical Framework

In 2003, Venkatesh et al. identified performance expectation as an extent to which users think the

system can actually help them achieve a skill in their work performance. The easier to use a system is, the more the user exerts an effort to use it. Furthermore, as expressed by social influence, users are more motivated to use a system when observing that other people are using the same system. The next section deals with related hypothetical statements.

Based on the diffusion innovation theory of Rogers (2010), trialability is the likelihood of testing the technology before the person actually uses it. This leads to improvements in technology acceptance (Strömberg et al., 2016). The technology that the users try or test improves their attitude towards using it (Zolkepli & Kamarulzaman, 2015). The people would prefer to try the technology first, thus increasing their comfort level or effort expectancy (Ain et al., 2016). Prior studies have shown that there is a strong link between trialability and users› effort expectancy towards technology use. The findings indicated that trialability has major effects on effort expectancy in their plan to use e-learning. Thus, the current research tried to test the first hypothesis (HP1): *Trialability of Canvas usage affects users' effort expectancy***.**

The significance of social influence has affected human behavior, particularly in the acceptance of technology through history; the context of technology adoption has been implemented with various interpretations and indicators of social influence, leading to an increasingly complicated construct framework that challenges the conceptual integrity of the discipline (Graf-Vlachy et al., 2018). Social influence is important to assess user behavior, as it plays an integral part in justifying decisions to adopt or use any technology (Venkatesh & Morris, 2000). The scope of use is to maximize the technology required to perform work assignments (Wu & Chen, 2017). Prior research indicates that technology could be used by one person or group of individuals (Ayodele et al., 2018; Oluyinka et al., 2013; Yalung et al., 2020). Thus, social influence can involve people like coworkers, friends, family, educators, or even the head of the institution. Social influence is a construct developed for analyzing the use of technology among individuals (Albalawi, 2018). For example, if a workplace colleague advises that a new system is helpful in the performance of a project, people are inspired by it, and therefore, start using it (Venkatesh & Davis, 2000). In this context, the perception that new technology is made accessible to the users, which positively supports facilitating conditions. The organizational infrastructure and the technological assistance available for its use are valuable for the customers (Mallmann et al., 2018). Thus, HP2 is stated as: *Social influence is directly related to facilitating conditions.*

According to Rogers (2010), compatibility is the perception of users regarding how technology matches their current desires, views, and previous experiences. The more compatible the technology is to the users' demands and expectations, the greater its acceptance (Zolkepli & Kamarulzaman, 2015). Rai et al. (2020) asserted that facilitating conditions (FCs) correspond to the external factors that facilitate an operation. FCs include hardware availability, software, quick on-campus internet connectivity, technical staff support, among others, which facilitate users accessing and using the technology. Although students tend to use their computing devices, they are also reliant on university facilities. Rogers (2010) argued that compatibility acceptance would mean the availability of the product anytime and is well supported by suitable environmental conditions. Besides, there is less confusion about adopting the use of the system (Alalwan et al., 2017). Therefore, HP3 is: *Compatibility on Canvas usage is directly related to facilitating conditions to use.*

Through the analysis of variables, Sung et al. (2015) found out that features such as database queries, ratio analysis, and audit sampling were more recognized than other features. As the complexity of the function increased, the effort expectancy to use the system decreased. Thus, HP4 is: *Effort expectancy influences usage of Canvas features.*

The user's optimal use of the system depends on the resources available (human and materials) and the necessary technological features needed for optimum efficiency. This study explored the impact of facilitating conditions on system features' usage to empirically test its functionality and efficacy (Kintu et al., 2017). Hence, HP5 is: *Facilitating conditions directly affect usage of Canvas features.*

The manner of assuming that one's learning output would be improved because of using the system is related to a construct called *performance expectancy.* Researchers claim that this key construct is directly related to technology system features and is one important factor in the acceptance and ultimate adoption of LMS. With the enhanced search capabilities and features of a system, users can access

large quantities of knowledge in various disciplines. Thus, if users believe that the system can make a substantial contribution to improving performance, they surely use the system favorably. Therefore, HP6 is hypothesized as: *Performance expectancy is directly related to the usage of Canvas features.*

Rogers (2010) included compatibility as a construct to which technology use conforms to the beliefs, past experiences, and needs of future adopters. Moreno et al. (2017) held a similar belief expressing that e-learning systems should be consistent with the opinions, expectations, or perspectives of learners; as such, compatibility would be highly regarded. Furthermore, previous literature found that perceived compatibility had a substantial relationship with performance expectancy (Gao & Waechter, 2017). Thus, HP 7 is: *Compatibility has a direct effect on performance expectancy.*

The degree whereby users believe they should explore technology prior to determining whether they should adopt it or not is *trialability.* Other researchers found out that attitude is affected by trialability and compatibility (Folorunso et al., 2010). It is hypothesized (HP8), therefore, that: *Trialability is directly related to compatibility in using technology.* Nevertheless, the hypothetical statements are presented in Figure 1.

Figure 1 presents a hypothetical framework that describes different factors affecting Canvas usage and their significant impact on the suspension of the traditional mode of teaching and learning during the COVID-19 Enhanced Community Quarantine (ECQ) in the Philippines.

Methods

This study employed a quantitative-descriptive research design. The questionnaire was formatted in Google survey form consisting of 37 relevant questions. Four were about the respondents' profile, and 33 were related questions generated from the study of Venkatesh et al. (2003) and Rogers (2010). Respondents indicated their age, gender, academic level, and level of technology experience. The section on Canvas usage was based on the UTAUT-IDT variables used. A 4-point Likert scale was considered to assist the respondents in making decisions. The succeeding section on Canvas usage was based on the UTAUT-IDT variables used. Due to Covid 19, where movement was restricted and contact was not allowed, this study adopted an online survey. A letter of consent to take part in this survey was uploaded via Google survey.

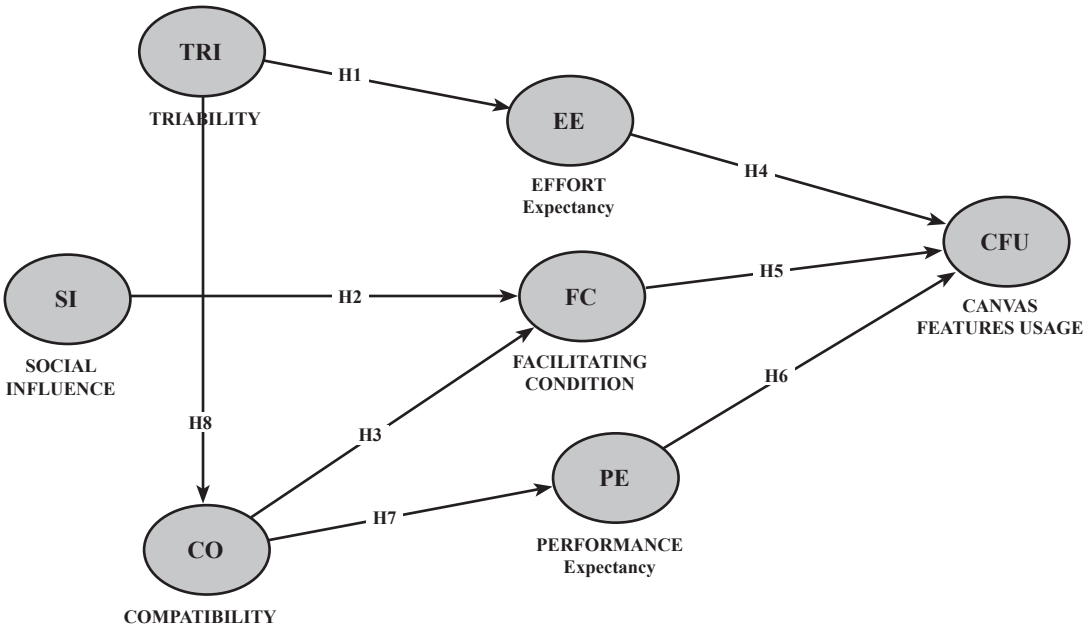

Figure 1. Hypothetical Framework

The administration of the online survey questionnaire was done in a period of eight weeks. Only universities using Canvas for academic purposes, such as Baliuag University, Angeles University Foundation, and De La Salle University-Manila, were included, as purposive sampling was considered in selecting participants. Due to internet inaccessibility and the perceived behavioral situation during the COVID 19 pandemic, only 786 questionnaires were retrieved through personal email, Facebook friends, and messenger.

Smart PLS software, an analytical tool that assesses reliability and validity, was used to measure the structural/hypothesized model. Hair et al. (2019) reported that SmartPLS is a user-friendly software application with an intuitive graphical user interface. Coherent with the study of Vijayabanu et al. (2019), SmartPLS software has an advantageous method for managerial science that plans, develops, and authenticates models (Endozo, 2019). It provides a latent variable score that eliminates the problem of small sample size and effectively manages complex models of multiple factors (Ronkko et al., 2016). In addition, SmartPLS is considered as a statistical tool for structural equation modeling (SEM), based on variance, and is suitable in predicting variable relationships or correlations (Hair et al., 2012; Ringle et al., 2018).

Partial least squares regression was used to check the hypotheses, in line with the research done by Vijayabanu and Arunkumar (2018). It is a covariance structure analysis and is more suitable for studies with many latent constructs (Cepeda et al., 2019; Henseler et al., 2012). PLS-SEM has been used in numerous ways, such as behavioral analysis, management of information system, and business strategies. It retains the second generation of multivariate statistical analysis to measure the relationships among various factors, including latent constructs (Hooi et al., 2018). Similar to previous studies (Hair et al., 2012; Ringle et al., 2018; Streukens & Leroi-Werelds, 2016), the researchers utilized algorithm and bootstrapping properties.

Instrument Reliability and Validity Analysis

Reliability is the average value of coefficients obtained for possible combinations of constructs (Mai et al., 2018; Solomon et al., 2014). Composite reliability describes the factor loadings of the composite in the model, and this could be used to validate measurement models. Nevertheless, the recommended composite reliability above 0.7 (Hair et al., 2013; Hair et al., 2019) is shown in Figure 2.

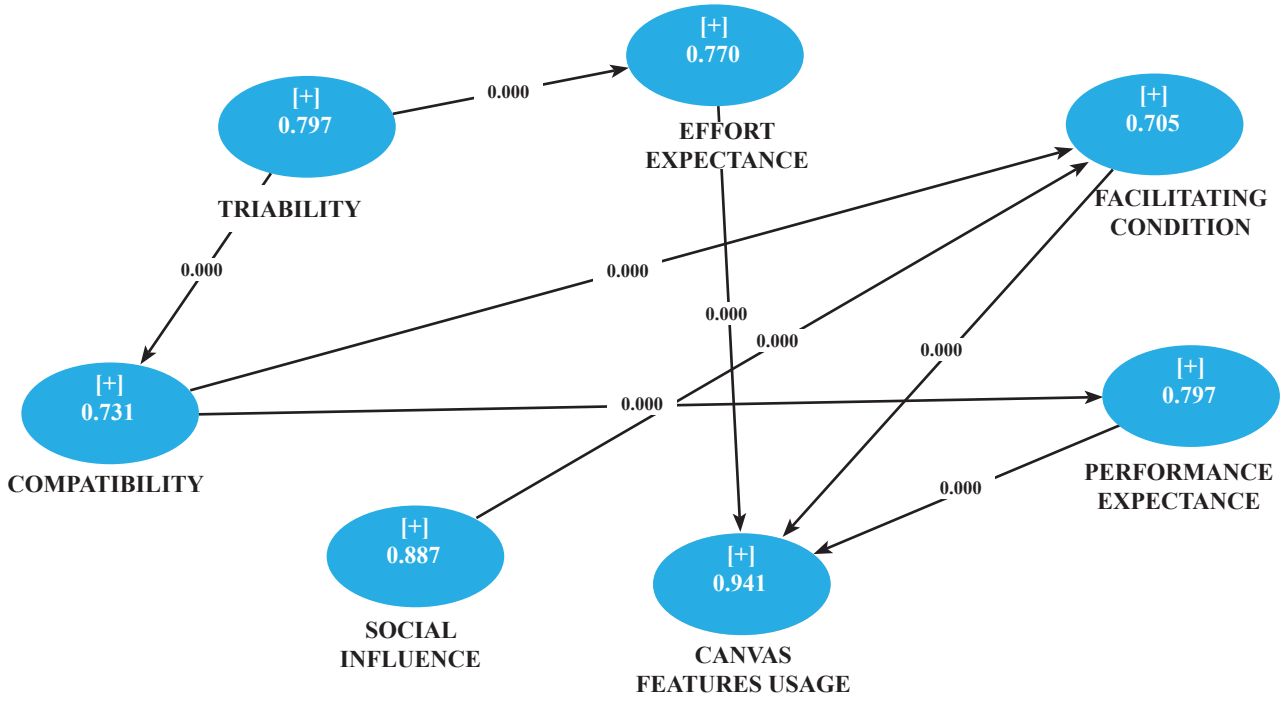

Figure 2. Graphical Demonstration of Composite Reliability

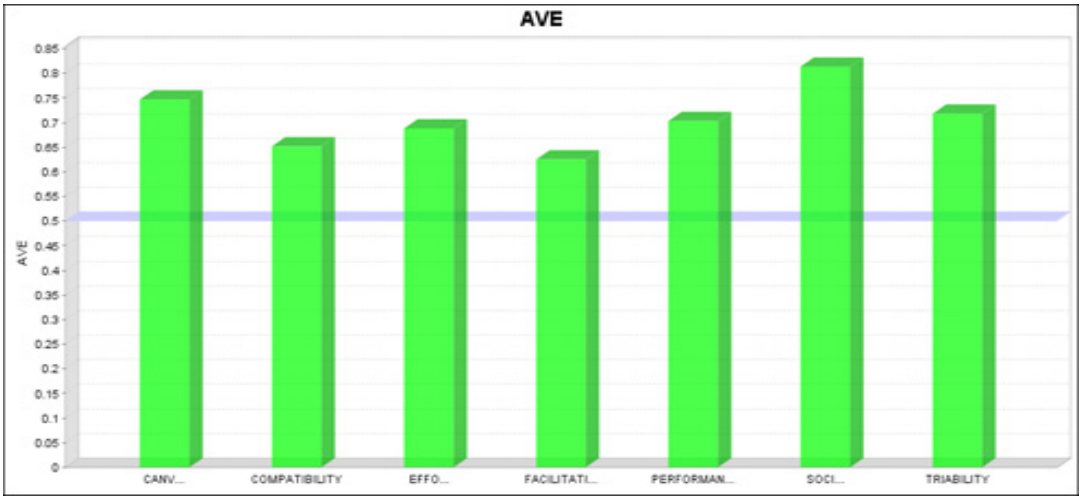

Figure 3. Achieved Average Variance Extracted (>0.5)

All the achieved alpha indicated in the circle, direct or indirect, are supported at p>.000 in Figure 3. Convergent validity defines the extent to which two measures of constructs are positively correlated, and discriminant validity is associated with convergent validity as a subtype of construct validity. The validity could be based on average variance extracted (AVE); that is, above 0.5 thresholds (Hair et al., 2013; Pangilinan et al., 2020; Roman et al., 2020; Yalung et al., 2020). The achieved AVE is demonstrated in Figure 3 of this study.

Discriminant validity was performed to confirm the existence of a linear combination of independent and dependent variables (Hair et al., 2019). Accordingly, the findings presented in Table 1 are supported by other studies,discriminant validity has become a generally accepted prerequisite that analyzes relationships between latent variables and gauges if the statements associated with each latent variable are not confusing. Moreover, it tests whether the statements related to one variable, (Henseler et al., 2015; Lacap, 2019). Thus, the reliability and validity of the measurement model support the usage of Canvas features among the participants.

Table 1

Discriminant Validity via Criterion of Fornell-Larckner

UTAUT-IDT	Canvas Features	Compatibility	Effort Expectancy	Facilitating Condition	Performance Expectancy	Social Influence	
Canvas Features	0.864						
Compatibility	0.900	0.807					
Effort Expectancy	0.969	0.843	0.830				
Facilitating Condition	0.726	0.811	0.658	0.791			
Performance Expectancy	0.668	0.692	0.581	0.407	0.839		
Social Influence	0.480	0.520	0.374	0.677	0.225	0.902	
Trialability	0.779	0.735	0.736	0.898	0.451	0.715	0.848

Results

Demographic Details

The study is dominated by females, with a total of 60.3% and 39.7% for males. For the academic level of the respondents, those with a bachelor's degree are 61.5% compared to those who obtained a master's degree (26.2%) and doctorate degree (12.3 %). For the level of technology know-how, the majority of the respondents fell under the intermediate level of 41.9 % and beginner level of 35.4 %. A very low percentage of 22.8 % was achieved by the advanced level.

Retained and Used Instruments for Each Construct (UTAUT-IDT Model)

A total number of 33 instruments were projected for the structural equation modeling of this research, and 25 were found valid with a recommended factor loading of above 0.6. Results of the retained instruments are reported in Table 2, which provides details of variables used in developing the UTUAT-IDT model. After obtaining the structural measurement confirmation through the (PLS) algorithm, bootstrapping was performed. This was done to stabilize the number of sub-samples which were originally 786, adjudged to 5000 samples, to justify the results of path specifications and estimations.

The Tested Hypotheses

Based on the quantitative statistical treatment performed, the following are the results of the tested hypotheses included in Figure 1:

H1: Trialability of Canvas usage affects effort expectancy of users.

This study verified the factor loading values of the construct. It ascertained that TR2, TR3, and TR4 are valid as indicated in Table 2 and Figure 4 and that it supports H1 at p <0.000. Trialability has been conceived as a concept that would encourage the acceptance of a system. It has a significant connection to users' effort in using a device.

H2: Social influence is directly related to facilitating conditions.

As established in Table 2 and Figure 4, SI1, SI2, and SI4 are useable. H2 has been confirmed at p <0.007. Social influence is a condition where users believe that they should use technology or program because other people think that they must use it. Past technology-based service analysis supports this condition as an important determinant in using the technology (Brata & Amalia, 2018).

H3: Compatibility on Canvas usage is directly related to facilitating conditions to use.

The functions of CO1, CO2, and CO3 had been ascertained, as shown in Table 2 and Figure 4. Thus, HP3 has been supported at p <0.000. Compatibility is characterized as the extent to which a technology is considered consistent with existing standards, past experiences, and expectations (Rogers, 2010). Furthermore, he asserted that potential adopters might not understand that they need technology until they are conscious of the novel concept or its effects (Rogers, 2010).

H4: Effort expectancy influences usage of Canvas features

On the aspect of effort expectancy construct, EE1, EE2, and EE3 were considered useable as justified in Table 2 and Figure 4. As projected, H4 has been supported at p <0.000. The effort expectancy construct was considered to determine its effect on Canvas features usage of the system. With effort expectancy, knowledge on how to use suitable infrastructure is a pre-condition for use, and ease of use may depend on the functionality of system features (Barnard et al., 2013).

H5: Facilitating conditions directly affect usage of Canvas features.

Facilitating conditions (FC2, FC3, and FC5) are considered useable, as shown in Table 2 and Figure 4. It was revealed that the study had been supported at p <0.000. The same theoretical basis was used in other studies.

H6: Performance expectancy is directly related to the usage of Canvas features.

The performance expectancy construct consists of PE1, PE2, and PE4. Supporting the model output

Table 2

Valid Retained Instruments for Each Construct

Constructs		Retained Instruments	Loading
Canvas Features Usage	CF1	Canvas can be used to post and organize academic content	0.897
	CF2	Canvas system can be used for monitoring and sending	0.650
	CF3	I use a Canvas to check the grade	0.870
	CF4	I could use Canvas to monitor my overall course	0.832
	CF5	I think Canvas can serve as a means of communication	0.948
	CF6	Canvas can be used to analyze the questionnaires and the answers given to the students	0.929
	CF7	Canvas audio/video feedback is available to my students	0.888
Compatibility	CO1	I think the Canvas is compatible with my teaching style	0.892
	CO2	I think the features of the Canvas are compatible with all the content that I teach	0.731
	CO3	I think using Canvas to teach online lessons is compatible with my subjects	0.791
Effort Expectancy	EE1	I consider Canvas easier to use for the teacher	0.699
	EE2	Canvas is easily compatible with other devices	0.856
	EE3	Canvas fits perfectly into my teaching	0.918
Facilitating Conditions	FC1	It is the University's policy to adopt the use of Canvas	0.697
	FC2	I use Canvas because I need to confirm the resources needed to use the system	0.783
	FC3	Person or campus service support is available for the use of Canvas	0.881
	FC4	Canvas has improved my efficiency as a teacher	0.837
Performance Expectancy	PE1	I enjoyed using Canvas in my class	0.863
	PE2	Canvas is a valuable help to me in my teaching	0.815
Social Influence	SI1	Co-faculty that influences my actions thinks I should use Canvas	0.964
	SI2	Faculty that is important to me thinks that I should use Canvas	0.855
	SI3	I am using CANVAS because teachers from other colleges are also using it	0.732
Trialability	TR1	I think that before deciding whether or not to use Canvas, I should explore its features	0.942
	TR2	I think I should explore all aspects of the Canvas before deciding whether or not to make full use of it	0.855
	TR3	I think that Canvas is reasonably available for me to test-run its services before deciding whether or not to use it	0.732

Source: Research results (2020)

is shown in Table 2 and Figure 4. As predicted, H6 has been confirmed at p <0.000. Research contends that the most important determinant in the adoption of technology is performance expectancy. Indicators of performance expectancy, according to Tan and Lau (2016), are (a) usefulness of the system in conducting tasks, (b) quick accomplishment of tasks, (c) the system keeps a record very well, (d) it augments the traditional means of conducting tasks, and €it can accomplish the tasks anytime and anywhere.

H7: Compatibility has a direct effect on performance expectancy.

Previous research was aimed at exploring students' intent to adopt a system voluntarily. The findings showed the model's high predictive accuracy supporting H7 at p <0.000. Compatibility substantially affects a state of performance expectancy consistent with previous results (Mohammadi, 2015). An effort should be made to fulfill performance expectations through program compatibility, which may contribute to the effective use of the system. This study has shown that a greater level of compatibility results in higher rates of expectation of performance, social influence, and expectation of effort, which support higher behavioral intent.

H8: Trialability is directly related to compatibility in using the technology.

In utilizing the system as a key aspect of effective teaching approaches, trialability is considered an essential step to the process of pre-adoption. Centered on Rogers' IDT model, the previous researches explored users' perception of the relationships between system trialability and functionality of the learning management system. This study, therefore, explored how the system's trialability specifically impacts compatibility in teaching (Lin & Bautista, 2017). Figure 4 demonstrates the assertions and the path coefficients, supporting H8 at p <0.000.

All the relations effect tests were supported at p <0.007 based on the results taken from the conceptual and structural equations modeling with SmartPLS V3. System usage and adopting the UTAUT model had been found consistent in several studies, and that consistency with the IDT model could not be ignored in relation to technology acceptance (Rogers, 2010). The role of the trialability relationship from

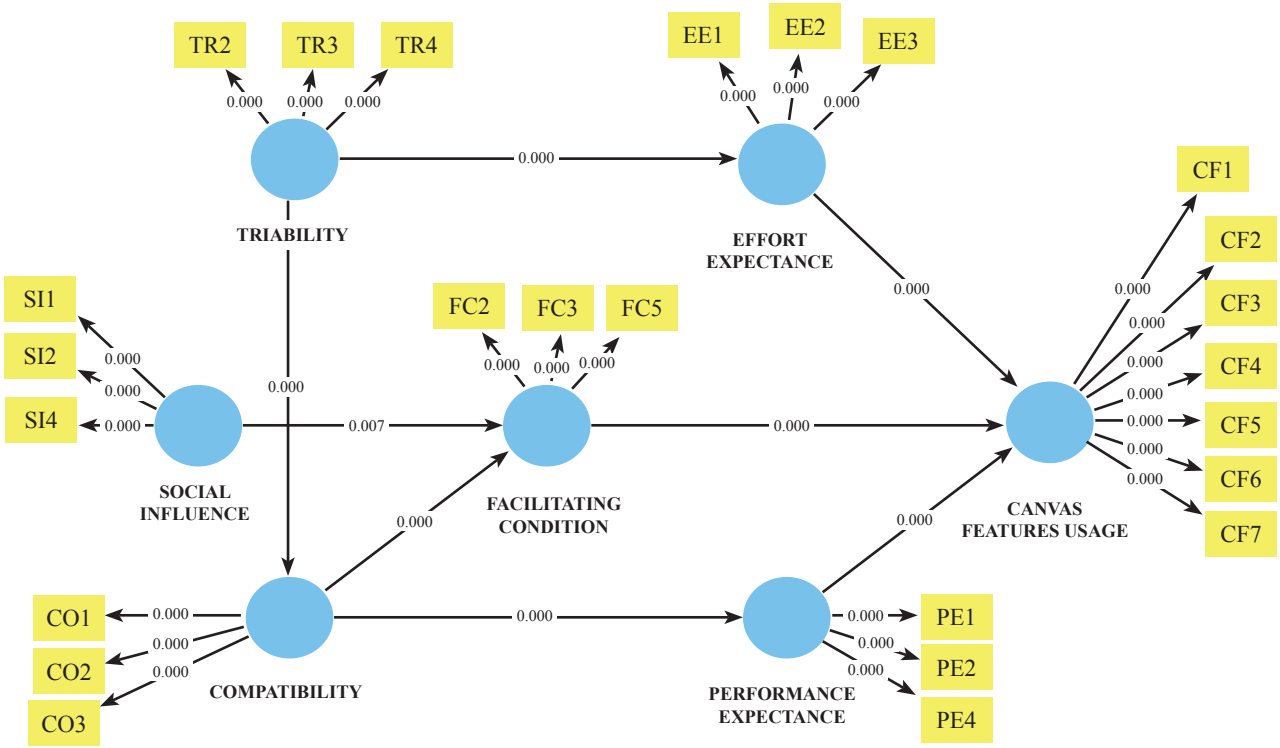

Figure 4. Demonstrated Assertions and Path Coefficients

compatibility and facilitating conditions to Canvas features usage were confirmed (Alshalan, 2019). Apart from trialability, impact on compatibility noted, the university's policy, resources required, and service support all justified the readiness of teachers to use Canvas in the three universities. This implies that trialability confirmed why Canvas is easier to use and that it is perfectly compatible with teachers' devices and teaching styles, as shown in Figure 1 (H1, H4, and H5) and confirmed in Figure 4.

Alfarani (2016) investigated the influences of trialability, social norms, and facilitating conditions regarding the acceptance of m-learning by faculty members. In the present study, compatibility confirmed its effect in relation to UTAUT integration towards the readiness of teachers (Chao, 2019). Furthermore, this study supported that performance expectancy, as well as facilitating conditions, were influenced by compatibility in relation to readiness using Canvas features. Similarly, social influence affected facilitating conditions (see H2 and H5, Figure 1), as affirmed in Figure 4. The projected hypotheses (H3, H5, H6, and H7) in Figure 1 imply that the faculty members are familiar with the learning management system known as Canvas. For several institutions adopting LMS, this has been a significant contribution because it improves teaching and learning (Endozo et al., 2019).

Al-Rahmi et al. (2019) confirmed the robustness of incorporating the IDT model with other models in their studies related to e-learning. Likewise, it has been verified in this study that all of the factors described in both UTAUT and IDT models impact the acceptance of Canvas and its functionality. The integration of trialability and compatibility with UTAUT constructs, to assess Canvas usage and acceptance by the university faculty, were supported at p <0.000. Therefore, it is evident that the university instructors using Canvas during their lockdown days were prepared enough to accept and use Canvas as an alternative to their conventional face-to-face classroom teaching. Figure 5 indicated R^2 was achieved and shows that facilitating conditions achieved 74%; effort expectancy achieved 54%; compatibility obtained 54%, and performance expectancy, 74%. In this study, a 96% variance was achieved, which implies that the suggested factors are truly reliable and valid. Hence, the conceptual framework has been finalized.

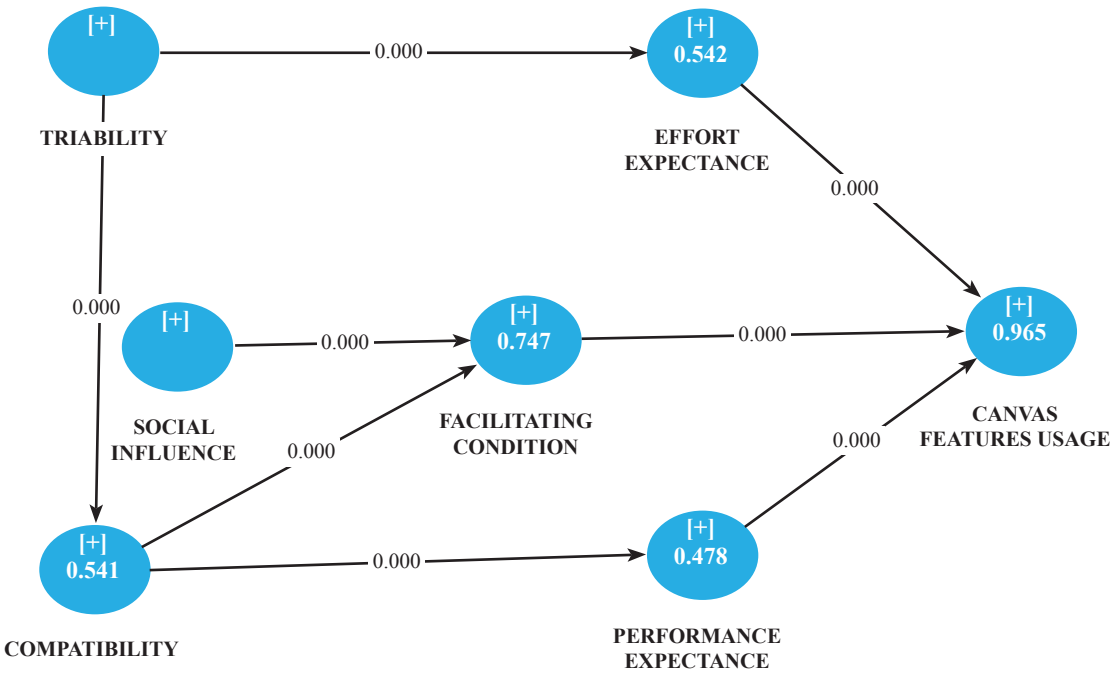

Figure 5. Finalized Conceptual Framework

Discussion

There is a growing trend in the use of Canvas in some universities – developments in technologies that fundamentally transform and enhance higher education are widely assumed (Altbach et al., 2019). The primary reasons for this concluded study are to investigate the robustness of UTAUT and an aspect of IDT in connection with how the teachers accepted and made use of Canvas features. Target samples from three selected universities using Canvas were asked to fill out online survey questionnaires. Reviews have been developed in this study to describe how the teachers use the learning management program. Before and during the lockdown period, target samples were asked to fill out online survey questionnaires at the selected universities using Canvas. Results show substantial impacts on academic level and level of experience with technology.

As a consequence of the study, this is understandable. The higher the educational level, the more likely new LMS systems will be adopted, according to the previous survey conducted; the higher a person's experience, the more likely they will be to view a new LMS positively. It is consistent with some research that finds an effect on the adoption of new learning management systems from various levels of preparedness, technology usage, and education rates. Regression analysis revealed few associations to UTAUT and some elements of IDT variables. The results supported that trialability has an influence on compatibility and effort expectancy towards Canvas features usage. Canvas usage affects the effort expectancy of users. This means that the opportunity to explore facilitates technology adoption. If they discover that the technology is convenient to use, they could not refrain from using it. This is relevant to the study conducted by Chua et al. (2018).

Furthermore, it was confirmed in this study that compatibility influences facilitating conditions and performance expectancy towards canvas features usage. Canvas usage is directly related to facilitating conditions to use. Reasons for this may include the perception and significance of usefulness. Despite the overwhelming familiarity of technology, it is likely that faculty are worried about the usefulness and complexity of the learning management system Canvas. Though the more educated, there is higher expectation and certainty to use the technology wisely during the pandemic. Findings from the new report found major increases in online learning nationally. Thus, this survey was distributed to teachers that assessed multiple factors to explore the integration of trialability and compatibility (IDT factors) with unified technology acceptance and usage of technology model (UTAUT) constructs to assess the acceptance and use of Canvas during COVID-19 quarantine season.

Besides the expertise in the fields of research, the analysis of regression offered insight into the relationships between variables from the perspective of the UTAUT model. It appears most variables of the UTAUT model are dependent on the relationship. The results supported that the trialability of Canvas usage affects the effort expectancy of users; this means that the opportunity to explore facilitates technology adoption yield to use the system and convenient to use will be discovered, they could not refrain from using it. This was found relevant to the study conducted by Chua et al. (2018). Furthermore, compatibility on Canvas usage is directly related to facilitating conditions to use confirmed as well in the study. This justified that potential adopters may not understand that they need a technology until they are conscious of the novel concept or its effects after expectation is confirmed; this was ascertained that compatibility affects facilitating conditions (Islam, 2016).

Social influence (SI) is directly related to facilitating conditions; this justified supported in this concluded study. This implied that the adoption of a high-tech system is affected not only by somebody's attitude toward the system but also by factors of social interaction aligned with the urge to conform to referent social norms (family, friends, coworkers, etc.). Raza et al. (2019) and Brata and Amalia (2018) found supported as one of the factors influencing the utilization of technology.

Additionally, all UTAUT factors investigated found supported (Effort expectancy, Performance expectancy, and Facilitating conditions were directly related to the usage of Canvas features). This means that with effort expectancy, knowledge on how to use suitable infrastructure is a pre-condition for use, and ease of use may depend on the functionality of system features (Barnard et al., 2013). Likewise, performance expectancy has significant impact in

terms of the usefulness of the system in conducting teaching and learning tasks. The results also supported several studies (Tan & Lau, 2016; Ayodele et al., 2016). We agree that if a system has all the desired features, it is regarded by users as a beneficial system. They build a better outlook and have a willingness to use it. Nonetheless, findings gave evidence that facilitating conditions and Canvas features usage affect technology usage behavior. This implied that faculty could be influenced by facilities such as laptops, Ipad, smartphones, and reliable internet connections to enhance usage. Several studies recorded similar outcomes (Dumpit & Fernandez, 2017; Kintu et al., 2017).

The findings of the previous studies further stressed the importance of paying careful attention to the process of developing and implementing the technology. In addition, study findings showed that the faculty is somewhat ready and satisfied with Canvas. This is consistent with a previous study by Wilcox et al. (2016). Generally, research suggested that choosing an LMS is not an independent decision-making process, but rather one that is made based on the goals of the course, the educational philosophy of a teacher, the types of communication required, and the best means of transmitting knowledge (Masood et al., 2019; Abdullateef et al., 2016). Simply put, Canvas is a learning management program that provides versatility from both an instructional and a learning perspective. Canvas functions by appearance to be a more user-friendly experience that does not require additional functionality. Not only do educators consider Canvas versatile and more efficient, but the platform allows them the ability to engage more with course material rather than be hampered by needless technical constraints.

In addition, the results and relevance of this study may be significant for both LMS providers and universities alike. The study showed that when universities survey teachers to adopt a new LMS, they should concentrate their efforts on the new system's performance expectancy (efficient and effective achievement of work performance with the use of technology) and effort expectancy (ease of use and effectiveness). Therefore, secondary strategies should be the social influence towards the systems, real usage, and facilitating conditions (how users think about the technological infrastructure that supports how the technology is used). Furthermore, LMS's should give emphasis also on trialability and compatibility for full acceptance of the technology.

Conclusion

The new situation has become the major moment for online learning to be implemented. This fact has prompted the faculty to adopt online teaching unexpectedly during the suspension of classes. Aside from Canvas, teachers used emails, messenger, and other platforms. The two models, UTAUT and IDT, supported the robustness of the database, which includes the constructs on trialability and compatibility. Both justified that LMS helped fill in the gap to continue with the education of Filipino students even in the absence of the traditional face-to-face means of learning. The models are appropriate for various technologies and surveys, which are also applicable in various cultures in other countries.

This study assumes some limitations. First, a limited sampling of only three private institutions were investigated. Hence, the results of the study could not be fully generalized. Second, only the instructors were asked to participate; excluded were the deans and other administrators who may have used Canvas as well in their graduate classes. Third, among other statistical tools, only Smart PLS was adopted and modified. Based on the limitations, future studies may include public and private institutions in the Philippines for a wider sampling. Faculty and administrators in the university who are tasked to use Canvas may participate. To ascertain the generalizability of the study, future researchers may validate the modified Smart PLS. Other statistical tools such as AMOS, SPSS, IBM, and WAP may be used. Therefore, it is recommended that replicating the study be considered by other researchers in the Philippines and other countries. In Africa and Asia, recent surveys in various regions have shown that UTAUT-IDT integration could be introduced to promote technology acceptance studies (Zhang et al., 2015; Abdekhoda et al., 2016; Sasaki, 2018). In doing so, they may consider innovations in technology, ready to conform to school rules to implement new learning approaches (Dziuban et al., 2018). Research

may also equate community college teachers and university teachers on the national level considering their technological preparation. It may be enlightening to compare survey findings based on both the UTAUT and the IDT models.

Declaration of ownership

This research is our original work.

Conflict of interest

None.

Ethical clearance

This study was approved by our institutions.

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