

Research Article:

Determinants in the Use of Web 2.0 Tools in Teaching among the Philippine Public University Educators: A PLS-SEM Analysis of UTAUT

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ABSTRACT

A myriad of studies related to the technology acceptance and use in different organisations have been conducted, but little is known from the perspective of the educators in Philippine public university. To address this gap in literature, this study aims to determine the factors that best influence the use Web 2.0 tools in teaching among educators prior to the onset of COVID-19 pandemic. To investigate this phenomenon, the data of this study was collected from 300 educators in a Philippine public university located in Northern Mindanao through online survey. The hypothesised model was analysed using Partial Least Squares Structural Equation modelling using the SmartPLS software. The data analysis revealed that performance expectancy and effort expectancy are significant determinants while social influence is not a significant determinant of behavioural intention; behavioural intention and facilitating conditions are significant determinants of the use behaviour with 46.9% and 22% explained variance, respectively. The results of the study contribute to further research on the use of Web 2.0 tools among educators investigating the influence of SI towards BI. Further implications and recommendations for future studies are discussed in this study.

Keywords: Social Science and Humanities, Philippine public university faculty, PLS-SEM, UTAUT, Web 2.0 tools, Philippines

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INTRODUCTION

No one saw COVID-19 pandemic coming (Di Matteo, 2021). The turn of educational landscape brought about by the COVID-19 pandemic (Czerniewicz et al., 2020) caused education system all around the globe to shift to flexible learning program. However, prior to the onset of pandemic, months before the World Health Organization declared that COVID-19 has become pandemic (Cucinotta & Vanelli, 2020), are the Philippine higher education educators prepared to face such a global shift of face-to-face into online instruction (Gorey, 2020; Lemay et al., 2021)? Online instruction demands that an educator must be equipped with skills and knowledge to use educational technology tools (Tejedor et al., 2020), such as Web 2.0. This pressing question demands an empirically-evidenced data in order to shed light and provide background to the readiness of the Philippine public university educators as they faced the demands of online teaching brought about by the COVID-19 pandemic. This knowledge will provide the readers an insight and understanding why most of the educators are experiencing unexplained anxieties in conducting online classes during the COVID-19 pandemic (Fernández-Batanero et al., 2021; Robosa et al., 2021).

The online modality of learning warrants the integration of technology in teaching (König et al., 2020). The higher education institutions are expected to equip the educators to adequately use technology in their practice (Kasim & Khalid, 2016; Singh, 2018) in order to improve the teaching and learning experience of the learners that will equip them with the demands of the workplace for the 21st century (den Exter et al., 2012; Lye & Churchill, 2013). As such, educators are given the opportunity to first-hand experiences as to how such technology can support teaching and learning (Tondeur et al., 2017). Henceforth, educators in higher education institutions are expected to be equipped with knowledge and skills in using educational technologies such as Web 2.0 tools. However, almost two years since the lockdown of school premises to minimise the spread of the virus, Philippine educators are still not equipped for the demands of the COVID-19 pandemic (Jamon et al., 2021).

Looking at the global context, higher education institutions around the world have enforced the role of Web 2.0 tools in the teaching and learning processes (Banas & Polly, 2016). In Croatia, Web 2.0 tools are used primarily for exchanging audio and video learning materials (Marković et al., 2012). In China, it is integrated in education that includes technology competencies for students, adoption of learning management systems, delivering instruction, and online delivery of national assessment (Xiong, 2015). In Taiwan, instructors use Web 2.0 tools to “support and supplement classroom instruction” (Yuen et al., 2011, p. 9). In the Philippine context, the use of technology in education is enforced by the constitution as it is viewed as an indispensable tool to catalyse significant change in the educational system. The Philippine government provided its strong legislative support into this area (The 1987 Constitution of the Republic of the Philippines).

Studies on Web 2.0 tools acceptance and use from higher education institutions were likewise conducted from private and public institutions located in Northern Philippines (Lucero et al., 2019; Moralista & Oducado, 2020; Olea, 2019). These reports about the integration of Web 2.0 tools in the teaching and learning practice are insightful towards understanding the educators' intention and actual use of the technology. However, the focus of the previous studies was on the level of perception of readiness and acceptability. Determining what factors and the magnitude of the effect of each factor towards the intention and actual use of Web 2.0 tools in teaching is scarce in literature. Empirical evidence to this research gap may be useful for policy-makers and curriculum designers in Philippine public university to better address the issue that Philippine educators are still not equipped for the demands of the COVID-19 pandemic.

Web 2.0 Tools as Teaching and Learning Platform

As technology is integrated into teaching and learning activities, Web 2.0 tools are gaining a powerful potential of enhancing effective learning (Klopfer et al., 2009). Web 2.0 tools is the term given for online service that transforms the consumers into active users, allowing them to have active role in the creation and sharing of information (Virkus & Bamigbola, 2015). These learning tools can support innovative and creative teaching methods, and augment personal learning environment both in formal and non-formal education (Bingimlas, 2017; Khanzode & Sarode, 2016).

Web 2.0 tools have the huge potential to facilitate student learning. As such, these tools can enhance student motivation, encourage their participation both on and off-class discussions, facilitate learning and social skills, stimulate higher order, cognitive skills, as well as help augment their self-directed learning capabilities (Bingimlas, 2017; Ertmer & Ottenbreit-Leftwich, 2013). Furthermore, the huge potential of Web 2.0 tools to enhance effective learning encourages the educators to experiment with and integrate technologies into their practice (Choudhury, 2014; Sadaf et al., 2016). In this study, the different categories of Web 2.0 tools investigated are presented in Appendix A. The choices of such are based on their functionality in the development of learning materials, delivery of instruction, assessment of learning and communication purposes as presented in the reports of Chicioeanu et al. (2015), Eickelmann and Vennemann (2017) and Sadaf et al. (2016).

The UTAUT Model

Currently, there exist different theories and models that measure the extent of peoples' technology acceptance and use. The most robust, comprehensive and parsimonious model that contributes an explained variance up to 70% in the use of technology is the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). This model features a large number of determinants that explain the use of technology. The model is comprehensive, and the structures of the model are expressed in the aspect of its practicality and actuality of use (Durak, 2019).

The UTAUT model explains that performance expectancy (PE), effort expectancy (EE) and social influence (SI) are significant determinants towards the behavioural intention (BI) of a person to use technology. Moreover, the BI together with the facilitating conditions (FC) also significantly determine the actual use behaviour (UB) of a person towards technology. The development of the hypotheses of this study is anchored on UTAUT model. Figure 1 shows the hypothesised model.

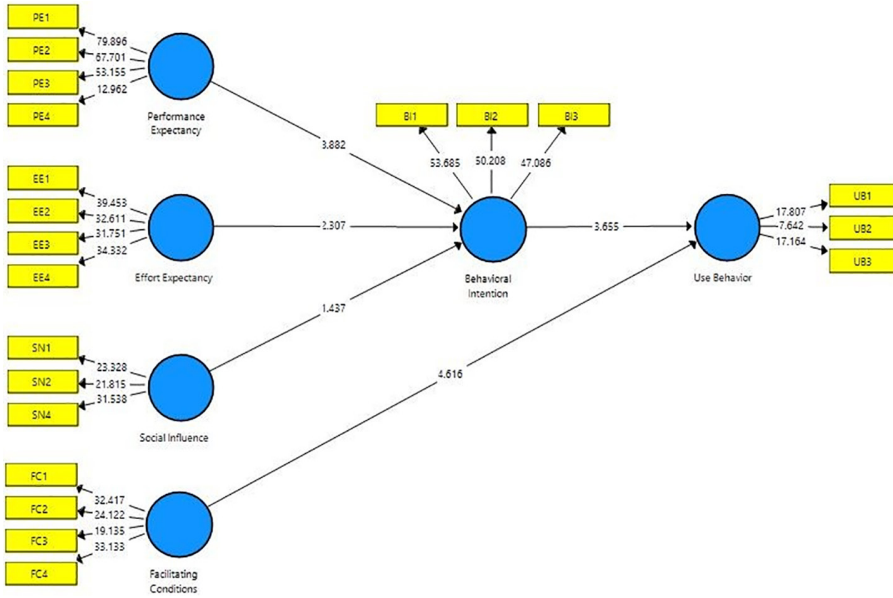


Figure 1. Path coefficient of the hypothesised model

Influence of performance expectancy towards behavioural intention

Performance expectancy refers to the “the degree to which an individual believes that using the system will help him/her to attain gains in job performance” and this is, by far, the strongest predictor of behavioural intention (Venkatesh et al., 2003, p. 447). In the context of this study, it is believed that Web 2.0 tools helped the educators facilitate their teaching-learning activities such as development of instructional materials, delivery of lesson, and assessment of learning. In the study of Mohammad-Salehi et al. (2021), among 160 English as a foreign language teachers, PE has the highest mean value of 4.07, and supported the hypothesis that it has a positive and significant influence towards BI ($\beta = 0.31, p = 0.01$). This confirms that PE has a strong significant influence towards BI to use technology in teaching and learning (Cruz et al., 2014; Durak, 2019). Based on these literatures, the first hypothesis of this study is:

- H1: There exists a significant influence of performance expectancy towards behavioural intention to use Web 2.0 tools.

Influence of effort expectancy towards behavioural intention

The EE is defined as “the degree of ease associated with the use of the system” (Venkatesh et al., 2003, p. 450). In the context of this study, this variable refers to the extent of convenience or perceived ease of using the Web 2.0 tools by the higher education institution educators for instructional purposes. In the cross-sectional study of Chao (2019) among 1,562 respondents among ten universities in Taiwan regarding the use of mobile learning, it was reported that EE significantly and positively influenced BI ($\beta = 0.07, p = 0.05$). According to Byun and Finnie (2011), when users of technology find ease and comfort associated with the use of technology, no matter if the system is complex and difficult to navigate, it becomes interesting to the user. Furthermore, Ertmer et al. (2016) ascertained in their study that when educators observe the convenience and comfort in using technology, they consequently view the technology as useful which implies that the comfort of using the technology influences their intention to use the same. Nair et al. (2015) and Bhatiasevi (2016) likewise, reported that EE has a positive influence on the BI to use technology as indicated ($\beta = 0.31, p = 0.01$) and ($\beta = 0.31, p = 0.01$), respectively. Hence, in the context of this study and based on literatures, the second hypothesis is:

H2: There exists a significant influence between effort expectancy towards behavioural intention to use Web 2.0 tools.

Influence of social influence towards behavioural intention

The SI is defined as the degree to which an individual perceives that an important other believes that he or she should use the new system (Venkatesh et al., 2003). In the context of this study, SI refers to the degree to which the educator perceives that important people influences them to use the Web 2.0 tools into the teaching activities. Important people could be the friends, colleagues, family members or the immediate superior such as department chairmen or college deans. In the study of Bhatiasevi (2016), among undergraduate and graduate students in two universities in Thailand regarding acceptance and use of mobile banking, it was ascertained that SI significantly influence BI ($\beta = 0.125, p < 0.05$). The reason of this results could be attributed to Thai’s strong extended relationship culture. Similarly, Nair et al. (2015) confirmed that social influence has a significant influence on usage intention within higher education sector ($\beta = 0.150, p < 0.01$). Scholars Abrahão et al., (2016) and Palau-Saumell et al. (2019) likewise reported a significant influence of SI towards BI. Therefore, for the third hypothesis, the researcher assumed that:

H3: There exists a significant influence between social influence towards behavioural intention to use Web 2.0 tools.

Influence of facilitating condition towards use behaviour

The FC is defined as “the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system” (Venkatesh et al., 2003, p. 453). In the context of this study, this variable refers to the degree to which a faculty member believes that an organisational support and technological infrastructure exist to support the use of the Web 2.0 tools into their teaching activities. Evidence from recent studies showed that users have the impression that they are well supported in a variety of ways related to the use of the technology, they will be more motivated to use the system. Attuquayefio and Addo (2014) reported that FC significantly influences the UB ($\beta = 0.22$, $p < 0.05$) suggesting that as FCs are improved, the respondents will use ICT available for learning. Similarly, in the study of Tarhini et al. (2016), to understand the behaviour of 408 customers’ acceptance and use of internet banking in Lebanon, FC was found to affect the actual UB ($\beta = 0.22$, $p < 0.05$) and explained 64% of its variance. Based on literatures, the researcher proposed the fourth hypothesis as stated:

H4: There exists a significant influence between facilitating condition towards use behaviour of Web 2.0 tools.

Influence of Behavioural Intention towards Use Behaviour

Consistent with the results of Technology Acceptance Model (TAM) (Davis, 1989), UTAUT model (Venkatesh et al., 2003) and the Theory of Reasoned Action (TRA) (Sheppard et al., 1988), the variable behavioural intention is a strong predictor of the behaviour to use technology. Recent studies on technology use supported this result with their findings that BI has a significant effect towards the UB of technology as reported in the studies of Bhatiasevi (2016) ($\beta = 0.47$, $p < 0.001$) which clearly indicates continuous usage of technology in mobile banking among Thai users. In the same manner, Tarhini et al. (2016) unraveled a significant effect of BI towards UB ($\beta = 0.45$, $p < 0.001$). Naranjo-Zolotov et al., (2018), in their study among 210 citizens’ intention to use and recommend e-participation, BI has a significant effect towards UB ($\beta = 0.23$, $p < 0.01$). In the context of this study, it is expected that if the educators find the Web 2.0 tools to be facilitative in performing their teaching tasks, also used by the significant people around them, easy to use, and has available facilities to use with, then they are more likely to use and adopt it. On the contrary, if the users find the Web 2.0 tools to be difficult to use, then they are less likely to adopt it. Therefore, based on literatures, the fifth hypothesis was:

H5: There exists a significant influence between behavioural intention towards use behaviour of Web 2.0 tools.

Research Objectives

Based on the literature cited above, it is verified that Web 2.0 tools are beneficial in the teaching practice, however, this has not been widely investigated in the context of Philippine public university educators. It is therefore imperative to investigate the factors that influence the intention and actual use of Web 2.0 tools in the teaching practice of Philippine public university educators prior to the onset of the COVID-19 pandemic through the UTAUT model. Specifically, this study seeks to:

1. Examine the influence of expectancy towards the behavioural intention.
2. Assess the influence of effort expectancy towards the behavioural intention.
3. Determine the influence of social influence towards the behavioural intention.
4. Ascertain the influence of facilitating condition towards the actual behaviour to use.
5. Evaluate the influence of behavioural intention towards the actual behaviour to use the Web 2.0 tools.

METHODOLOGY

Research Design

This study employed the survey research design and analysed using the structural equation modelling technique which investigated the factors that predict the factors that influence the behavioural intention and use behaviour to integrate Web 2.0 tools of the Philippine public university educator' teaching activities based on the constructs of the UTAUT model.

Sample and Sampling Procedure

The respondents of this study were 300 educators of a public university system located in Northern Mindanao, Philippines. The respondents were selected using purposive sampling technique (Creswell, 2012). When employing purposive sampling, pre-determined inclusion and exclusion criteria is necessary to ensure that the respondents are the people who are most appropriate to provide answer to the research questions (Salkind, 2010), and thereby satisfy the information needed for this study (Xia et al., 2018). For the respondents to be qualified, they must be a regular teaching faculty member of the university under study, and must have been employed for at least two years to have a full grasp of the teaching experience. Knowledge about and use of Web 2.0 tools in their teaching practice is not a part of the inclusion criteria as this study seeks the respondents' intention to use the tools. Finally, any employee of the said university who are not teaching job are excluded as respondents. The demographics of the respondents are presented in Appendix B.

Research Instrument

The research instrument employed in this study consisted of two parts: (a) two filtering questions and (b) 24 question items about the constructs of the UTAUT model that were adopted from Venkatesh et al. (2003). The former was answerable with yes or no, and the latter was measured using five-point Likert scale, with 1 = “Strongly Disagree,” 2 = “Disagree,” 3 = “Neither Disagree nor Agree,” 4 = “Agree,” and 5 = “Strongly Agree.” The filtering questions were used to ensure that only qualified respondents answered the online survey questionnaire (Research Administration and Compliance, 2019). The research questionnaire was pre-tested before the administration of the survey (Hulland et al., 2018) using the cognitive interview technique (Memon et al., 2017). This is to ensure that the respondents clearly understand the question items. Appropriate corrections were made on the questionnaire according to respondents’ feedback after the pre-testing. Question items is appended as Table 1.

Table 1. Research instrument question items

Performance Expectancy	
PE1	I would find the Web 2.0 tools useful in my job.
PE2	Using the Web 2.0 tools enable me to accomplish task more quickly.
PE3	Using the Web 2.0 tools increases my productivity.
PE4	If I use the Web 2.0 tools, I increase my chances of getting a job promotion.
Effort Expectancy	
EE1	My intention to use Web 2.0 tools is clear and understandable.
EE2	It is easy for me to become skillful at using the Web 2.0 tools.
EE3	I would find the Web 2.0 tools easy to use.
EE4	By using the Web 2.0 tools, teaching activities would be easy for me.
Social Influence	
SI1	My immediate boss, such as the dean/director/ chairman, think that I should use the Web 2.0 tools.
SI2	People who are close to me, such as my family and friends, think that I should use the Web 2.0 tools.
SI3	I will use the Web 2.0 tools if my colleagues use them.
SI4	In general, the university management encourages the faculty members to used Web 2.0 tools in the teaching activities.

(Continued on next page)

Table 1. (Continued)

Facilitating Condition	
FC1	I have the necessary resources to use the Web 2.0 tools.
FC2	I have the knowledge necessary to use the Web 2.0 tools.
FC3	The web 2.0 tools are compatible with other technology that I use, like handphone, tablets, laptop, desktop and projectors.
FC4	I have friends who are available to help me with any technical problem that I may encounter in using Web 2.0 tools.
Behavioural Intention	
BI1	I intend to use the Web 2.0 tools in the future.
BI2	I predict I would use the Web 2.0 tools in the future.
BI3	I plan to use the Web 2.0 tools in the future.
Use Behaviour	
UB1	I use Web 2.0 tools in my teaching activities because it is available and relevant.
UB2	I use Web 2.0 tools with another person.
UB3	I use Web 2.0 tools by myself, but I face frequent/major difficulty in using it.
UB4	I use Web 2.0 tools by myself, but I face minor difficulty in using it.
UB5	I use Web 2.0 tools by myself and have no difficulty in using it.

Data Gathering Procedure and Ethical Consideration

The collection of data was conducted through online survey (Sue & Ritter, 2012) using Google Form. The Google Form link was sent through messenger private messages to identified educators of the public university under study. The online survey was conducted from February to April 2020. To ensure ethical considerations, appropriate measures such as seeking official permission was undertaken before the online survey questionnaires were sent to the target population. Permission letters were sent to the university officials. In addition, the respondents of the study were assured of the confidentiality of their answers as well as the anonymity of their identity. They were also informed that the results of the study will be published. Signed letters of approval to conduct the study were emailed to the researcher from the university administrators.

Data Analysis and Results

The descriptive statistics were analysed using licensed SPSS version 23, while the estimation of the relationships of the constructs in the hypothesised model were analysed using the PLS-SEM method via licensed SmartPLS 3.2.8 (Ringle et al., 2015). The PLS-SEM analysis enables all relationships to be analysed simultaneously in a single analysis (Hair et al., 2017).

Measurement Model Assessment

The measurement model assessment determines the reliability and validity of the measurement items. This study assessed the reflective model assessment which includes assessment of convergent and discriminant validity. The convergent validity of the research instrument used in this study was assessed using three criteria: internal consistency, indicator loading, and average variance extracted (AVE). An indicator loading with value of 0.708 or higher is much preferred (Hair et al., 2014). Result of indicator loadings analysis, as reflected in Table 2, revealed that items SI3, UB4_Recode and UB5 were deleted in adherence to the recommendation of Hair et al. (2017) that all loadings below 0.40 should always be deleted from the construct.

Table 2. Assessment of convergent validity

Construct	Items	Loadings	Composite reliability	AVE
Behavioural Intention (BI)	BI1	0.88	0.909	0.769
	BI2	0.88		
	BI3	0.87		
Effort Expectancy (EE)	EE1	0.83	0.899	0.689
	EE2	0.83		
	EE3	0.83		
	EE4	0.84		
Facilitating Condition (FC)	FC1	0.82	0.878	0.643
	FC2	0.80		
	FC3	0.76		
	FC4	0.82		
Performance Expectancy (PE)	PE1	0.90	0.904	0.706
	PE2	0.89		
	PE3	0.89		
	PE4	0.66		
Social Influence (SI)	SI1	0.83	0.877	0.703
	SI2	0.83		
	SI3	0.86		
Use Behaviour (UB)	UB1	0.78	0.762	0.518
	UB2	0.61		
	UB3_Rec	0.75		

Note: Items SI3, UB4_Rec and UB5 were deleted due to low loadings.

The lowest loadings among the remaining 22 items are UB2 and PE4 with values of 0.61 and 0.66, respectively. However, these two items were retained because the AVE of their respective constructs have a value of more than 0.50. The rest of the 20 items have loadings higher than the 0.708 set by Hair et al (2014). It can be deduced at this stage, that all items have satisfied the convergent validity guidelines in assessing reflective model. Following Joreskog’s (1970) recommendation of reporting composite reliability, it can be deduced that constructs BI, EE, FC, PE, SI and UB have satisfactorily met the requirements to establish the internal consistency.

Discriminant Validity

One criteria for evaluating the discriminant validity is Heterotrait-Monotrait ratio (HTMT) (Henseler et al., 2016; Mourad & Valette-Florence, 2016). As shown in Table 3, the result of the assessment of statistical discriminant validity test indicated that all constructs had satisfied the criterion by fulfilling the guidelines of HTMT_{.90} (Gold et al., 2001) and HTMT_{.85} (Kline, 2011). The values indicated that there were no values above 0.85, hence it showed that discriminant validity among and between constructs had been established.

Table 3. Discriminant validity (HTMT.85) criterion

Latent Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Behavioural Intention						
(2) Effort Expectancy	0.639					
(3) Facilitating Condition	0.558	0.706				
(4) Performance Expectancy	0.764	0.760	0.518			
(5) Social Influence	0.348	0.469	0.460	0.437		
(6) Use Behaviour	0.536	0.457	0.576	0.449	0.563	

Structural Model Assessment

Before evaluating the structural model, a complete bootstrapping was performed at 5000 resamples to estimate the standard errors and the significance of parameter estimates in the study (Ringle et al., 2011). Structural model assessment involves evaluation of the Collinearity Through Variance Inflation Factor (VIF), Structural Model Path Coefficients, Coefficient Determination (R^2), and the Effect Size (f^2). Figure 1 presents the path coefficient of the hypothesised model.

Table 4 shows that all the VIF values for the predictive constructs are less than 3.3. Results indicated that collinearity was not an issue in this study, and that each predictor construct is distinct by itself and is not dependent on another predictive construct. Hence, it can be inferred that the collinearity issue in this study is satisfied.

Table 4. Inner VIF values of the model

Predictive constructs	Behavioural intention	Use behaviour
Effort Expectancy	1.833	
Performance Expectancy	1.764	
Social Influence	1.181	
Facilitating Condition		1.258
Behavioural Intention		1.258

Table 5 presents the impact of PE, EE and SI towards BI; and FC and BI towards UB. The results for testing the hypothesis showed that performance expectancy ($\beta = 0.535$, $p < 0.001$) and effort expectancy ($\beta = 0.172$, $p < 0.021$) both have positive and significant relationship towards behavioural intention. Thus, H1 and H2 of this study are supported. However, social influence ($\beta = 0.061$, $p < 0.179$) has no significant relationship with behavioural intention. Therefore, H3 is not supported in this study. Regarding the influence towards use behaviour, the results of the analysis showed that both facilitating condition ($\beta = 0.309$, $p < 0.001$) and behavioural intention ($\beta = 0.240$, $p < 0.001$) have positive and significant relationship. Thus, the H4 and H5 are supported in this study.

The results of predictive accuracy analysis of this study revealed that behavioural intention has a substantial explained variance of 46.9% ($R^2 = 0.469$) from PE, EE and SI constructs. Meanwhile, use behaviour has a moderate explained variance of 22% ($R^2 = 0.220$) from FC and BI constructs (see Table 6).

Table 5. Testing the hypotheses among the relationships in the UTAUT model

Hypotheses	Relationships	Beta values	Standard Error	Confidence Interval Bias Corrected		t-values	p-values	Decision
				LL (5%)	UL (95%)			
H1	PE -> BI	0.535	0.061	0.409	0.652	8.707	p<0.001	Supported
H2	EE -> BI	0.172	0.075	0.027	0.321	2.300	p=0.021	Supported
H3	SI -> BI	0.061	0.045	-0.019	0.156	1.343	p=0.179	Not Supported
H4	FC -> UB	0.309	0.067	0.185	0.442	4.637	p<0.001	Supported
H5	BI -> UB	0.240	0.067	0.107	0.372	3.579	p<0.001	Supported

Table 6. R^2 values of endogenous latent variables

Endogenous/Criterion constructs	(R^2)	Variance explained
Behavioural Intentions	0.469	Substantial effect (Cohen, 1988)
Use Behaviour	0.220	Moderate effect (Cohen, 1988)

The results for the effect size (f^2) analysis, as shown in Table 7, reveals that PE yielded a medium, and has the biggest impact towards the BI in the model under study ($f^2 = 0.305$). The rest of the latent variables yielded a small impact towards IB and UB.

Table 7. Direct effect size (f^2)

Relationships	f^2	Description of effect size
Performance Expectancy > Behavioural Intention	0.305	Medium
Effort Expectancy > Behavioural Intention	0.030	Small
Social Influence > Behavioural Intention	0.006	Small
Facilitating Conditions > Use Behaviour	0.097	Small
Behavioural Intentions > Use Behaviour	0.058	Small

DISCUSSION

The positive and significant influence of PE towards the BI to use Web 2.0 tools in the teaching practice of the respondents of this study implied that using Web 2.0 tools facilitates convenience in carrying out the teaching tasks of the educators. Results are consistent with the previous literatures (Cruz et al., 2014; Rahi et al., 2018; Durak, 2019). According to Zhao et al. (2002), when individuals view technology as a valuable tool in the performance of their task, they are more likely to use it. In the case of this study’s respondents, the benefits are both the perceived physical convenience in facilitating the teaching job as well as the psychological recognition that they received from superiors, colleagues and students for implementing the technology.

As predicted, the positive and significant influence of EE towards the BI to use Web 2.0 tools of the educators in their teaching activities validated the findings of the original UTAUT model (Venkatesh et al., 2003) and consistent with the findings of previous related studies (Nair et al., 2015; Ertmer et al., 2016; Arif et al., 2018). This result could be attributed to the perceived ease of using the Web 2.0 tool in the teaching practice. If the technology is user-friendly and if can be easily navigated, it follows that it is also easy for the educators to add visual effects to the instructional materials that they are creating so that the students can have the video-like presentations in the class.

Contrary to the hypothesis, the SI of the educators in this study is the only variable that has no significant influence towards and has the smallest effect size towards BI to use Web 2.0 tools in the teaching activities. This result opposes the result of the original

author of the model, Venkatesh et al. (2003) and the findings of other related studies (Abrahão et al., 2016; Bhatiasevi, 2016; Palau-Saumell et al., 2019). According to Schultz et al. (2015), the intrinsic motivation of the educator is a major driving force that leads them to use technology. This motivation is characterised by values such as the satisfaction with the use of technology, the level of interest and happiness in using the same, and the entertainment that the technology brings. Moreover, Ertmer and Ottenbreit-Leftwich (2010) stressed in their study that when the use of technology among educators are geared towards achieving the desired learning goals, they are likely motivated to use technology into their teaching practices.

The FC has a positive and significant influence towards the UB of Web 2.0 tools in the educators' teaching activities. These findings are congruent to the UTAUT theory (Venkatesh et al., 2003) and other related previous studies (Bhatiasevi, 2016; Tarhini et al., 2016; Naranjo-Zolotov et al., 2018). The positive and significant influence of FC to UB in this study could be attributed to the perceived importance of the organisational support and the technology infrastructure which are deemed necessary in integrating Web 2.0 tools into the educators' teaching activities. The contention agrees with the findings of Windschitl and Sahl (2002). They reported that while the educator's belief strongly influences their use of technology, the context of their institution and profession still shapes their actual implementation of this belief. In the same manner, Guzey and Roehrig (2009) asserted that the context and the condition of the working environment of an educator constrains or limits their individual efforts. This implies that when facilities are provided adequately, then the educators are motivated to employ these technologies into their teaching practices.

The influence of BI showed a positive and significant influence towards the behaviour to use Web 2.0 tools in teaching activities. The results of this study are in agreement the findings of the UTAUT model (Venkatesh et al., 2003) and with literatures related to the study (Nair et al., 2015; Palau-Saumell et al., 2019). The positive and significant influence of BI towards UB could be attributed to the fact that the educators perceived the use of Web 2.0 tools into their teaching practice as helpful in their teaching job, easy to use, and that they themselves are willing to learn and are intentional to use the technology. This finding is in congruence with the previous study conducted by Phua et al. (2012) which reported that when the BI of the educators is established, it is reflected in the actual use of the technology in the conduct of their teaching practice.

CONCLUSION

This study sheds deeper understanding as to what factors drive Philippine university educators to integrate Web 2.0 tools into their teaching practice prior to the COVID-19 pandemic. The results of this study showed that PE and EE significantly influence BI, and FC and BI also significantly effect UB. However, SI is not significant. Perhaps, during the pandemic time, it will become the most influential variable towards BI?

Theoretical Implications

This study contributes to the body of knowledge by highlighting that while significant people around the educator do not influence them to use Web 2.0 tools into their teaching practice, the best driving force is their intrinsic motivation. This study marks the first step towards establishing intrinsic motivation which may be further investigated as a mediating moderator between SI towards BI to extend the UTAUT model.

Practical Implications

The findings revealed that facilitating condition, while it conveys a significant influence towards BI, it has a small effect. Therefore, the suggests that to motivate the educators to use Web 2.0 tools into their teaching practice, academe administration may reconsider prioritising the technological infrastructure to empower the educators in its full use of the technology to unleash the full potential of student learning.

LIMITATIONS AND RECOMMENDATION

There exists limitation to this current study as this investigated only the educators of a public university. It is recommended that future studies may be conducted in the context of private universities as they may have different policies governing the provision of technological infrastructure for teaching. Secondly, as the data of this study were collected at the onset of the pandemic, the respondents who may have answered the survey on a pre- pandemic period and during the pandemic were not included. The respondents at that time do not have the full grasp of the demands of online learning brought about by the pandemic, hence the information they shared are limited to their experiences and perspectives up to that point. It is recommended that future studies may be done to evaluate the educators' perceptions and experiences on their intention and use of Web 2.0 tools during the pandemic. It can be recalled that Social Influence in this study is the only variable that does not influence and has the smallest effect size towards the use of Web 2,0 tools. It would be interesting to look into this aspect for future studies. Another limitation of this study is that the investigation is conducted from the empiricist's point of view. A qualitative investigation that will explain the results of the numerical results may provide in-depth understanding of the phenomenon. For curriculum-makers, the pedagogical-technological knowledge of educators may be tapped in designing the curriculum so as to meet both the needs of the educators and those of the students. Policy-makers may also be informed of the findings of this study as such policies about the bandwidth of internet connection of the country may be addressed.

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APPENDIX A

Categories of Web 2.0 tools investigated in this study

Web 2.0 tools categories	Examples of Web 2.0 tools
Use of Open Educational Resources (OERs)	Khan Academy, Lumen, Coursera
Use of presentation infographics	Prezi, SlideShare, Piktochart, Canva
Use of multimedia production tools	Screencast–O–Matic, Jing, Camtasia
Use of computer-based information resources	Google Scholar, Google Chrome, Yahoo, EduTube, YouTube, TEDTalk
Learning Management System	Moodle
Use of interactive digital learning platform	Edmodo
Use of interactive digital learning resources/ Assessment tools	Kahoot, Mentimeter, EdPuzzle, Socrative, Quizlet
Use of website platforms for disseminating academic information	Edublog, WordPress, Weebly
Use of concept map strategy in classroom or discussion with colleagues	Bubbl.us, Wise Mapping, MindMapple, MindMap, SpiderScribe
Use of communication/instant messaging tools for academic purposes	Facebook Messenger, WhatsApp, Viber, Skype
Use of social media for social and academic networking	Facebook, Twitter, Instagram, LinkedIn
Use of online board	Padlet
Use of animated video maker tools	Powtoon, Moovly, GoAnimate
Use of website platforms for disseminating academic information	Edublog, WordPress, Weebly

APPENDIX B**Profile of the respondents**

Characteristics	Values	Frequency	Percentage
Sex	Female	157	52
	Male	143	48
Age	Below 25 years old	39	13
	26 to 35 years old	130	43
	36 to 45 years old	76	25
	46 to 55 years old	39	13
	56 to 65 years old	14	5
	Above 65 years old	2	1
	Total	300	100
Educational qualification	Bachelor's Degree	97	32
	Masters Units/On-Going	40	13
	Master's Degree	107	36
	Doctoral Unit/On-Going	12	4
	Doctoral Degree	41	14
	Post-Doctoral	3	1
	Total	300	100
Academic rank	Instructor	213	71
	Assistant Professor	47	16
	Associate Professor	34	11
	Professor	6	2
	Total	300	100