

PAPER

# Factors Affecting YouTube Acceptance for Student Learning Needs

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## ABSTRACT

This study was conducted to demonstrate the factors that influence Vietnamese students' acceptance of YouTube for educational purposes. Qualitative and quantitative research methods are combined to test the research hypotheses. Research data was collected using quota sampling, with a sample size of 306 students studying at universities in Vietnam. Structural equation modeling (SEM) helps demonstrate that five factors positively affect the intention to use YouTube for student learning needs. These factors include performance expectancy, effort expectancy, hedonic motivation, social influence, and flexibility. Furthermore, research has demonstrated the positive impact of intentional use on the behavioral usage of YouTube for the educational requirements of Vietnamese students. The study provides a valuable reference for educational administrators and researchers.

## KEYWORDS

YouTube, learning need, usage intention, usage behavior, student

## 1 INTRODUCTION

The current educational trend applies technology to the learning process [1], [2]. The integration of technology at every stage of the learning process has brought about significant convenience, enabling learners to be more engaged and have better control over their study time [3]. Teaching and learning activities that incorporate mobile devices and digital platforms are becoming increasingly common. For example, YouTube is being used for educational purposes [4], [5], [2]. In 2005, YouTube was launched and has since become the most popular platform for sharing free user-created content (UCC) or user-generated content (UGC) [6], [7]. YouTube plays an essential role in education and provides valuable information to learners [4], [5]. According to [8], online video content helps students enhance their understanding of educational concepts and cultivate an interest in learning. Many studies have shown that videos enhance learner interest [9, 10] and improve learning performance [11], [12]. In the last decade, several studies have identified

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factors that impact the acceptance of technology information in education [13–25]. The majority of studies are conducted in developed countries, while few studies have been conducted in developing countries, such as Vietnam. Additionally, there is a lack of research on YouTube acceptance for the learning needs of students in these countries. Therefore, this study was carried out to demonstrate the factors that affect the acceptance of YouTube for meeting the learning needs of Vietnamese students.

## 2 THEORETICAL FRAMEWORK AND RESEARCH HYPOTHESES

### 2.1 Theoretical framework

**Unified theory of acceptance and use of technology.** The unified theory of acceptance and use of technology (UTAUT) model was developed by [26]. The proposed model is based on eight component models and theories, including the theory of rational action (TRA), theory of planned behavior (TPB), technology acceptance model (TAM, TAM2), motivation model (MM), integrated model (TAM and TPB), model of personal computer utilization (MPCU), innovation diffusion theory (IDT), and social cognitive theory (SCT). The UTAUT model includes four core variables that determine user behavioral intentions when using technology: performance expectancy (PE), effort expectancy (EE), social influence (SI), and favorable conditions (FC) [26]. UTAUT provides a useful tool for managers to assess the success of new technologies and helps them understand the factors that influence the acceptance or rejection of new technology. Based on the aforementioned basis, managers design interventions (including training, marketing, etc.) aimed at users, particularly those who have a fear of change [26].

**Usage intention.** According to [27], intention represents an individual's motivation and willingness to engage in a specific behavior. As presented by [28], intention to use refers to the measurement of an individual's level of intention to engage in a specific behavior. Usage intention is considered an antecedent of usage behavior and indicates an individual's willingness to engage in a specific behavior [29], [30]. Intention to use is seen as a predictor of whether a person will adopt a technology [31]. The intention to use technology can be understood as the acceptance of technology [32].

**Usage behavior.** According to [33] actual usage behavior is primarily influenced by behavioral intention. Behavior refers to the level of complexity with which an individual performs a particular behavior [34]. The direct influence of behavioral intention on usage behavior has been tested and confirmed during the development of the UTAUT [26]. Usage behavior refers to the frequency of technology use for learning purposes, specifically through the utilization of YouTube channels. This concept is derived from Davis's TAM model [28], [35], and UTAUT [26].

### 2.2 Research hypotheses

**Relationship between performance expectancy and usage intention.** Performance expectancy is the extent to which an individual believes that using information technology helps them achieve high job performance [26], [36]. Performance expectancy positively affects the intention to use YouTube [4], [37]. Several studies in the field of education have shown that performance expectancy is an important factor affecting students' intentions to use technology [38–42]; [1]; [19–24]. The study, therefore suggests the following hypothesis:

*H1: Performance expectancy has a positive impact on students' intention to use YouTube for their learning needs.*

**The relationship between effort expectancy and usage intentions.** Effort expectancy refers to the level of complexity associated with using a specific system [26], [36]. According to [37], the factor of effort expectancy has a positive impact on students' intention to use YouTube. In the field of education, several studies have shown that effort expectancy significantly affects students' acceptance of technology [1], [20–24], [38], [42], [43]. Therefore, the study proposes the following as its second hypothesis:

*H2: Effort expectancy has a positive effect on students' intention to use YouTube for their learning needs.*

**The relationship between hedonic motivation and usage intention.** According to [44], hedonic motivation refers to the pleasure or enjoyment that arises from the adoption or usage of technology. Hedonic motivation is a factor that directly affects the adoption and usage of technology [44–47]. In the field of education, hedonic motivation is believed to have a positive effect on learners' intention to adopt new technology [38], [48–50]. Hence, the study proposes its third hypothesis:

*H3: Hedonic motivation positively impacts the intention to use YouTube for student learning needs.*

**Relationship between social influence and usage intention.** Social influence is the extent to which an individual perceives that significant people encourage them to adopt new technologies [26], [51]. According to [41], social influence is a factor that directly affects learners' intention to use technology. Several studies have demonstrated the positive impact of social influence on learners' intention to use technology [17], [22], [36], [50–55]. The study proposes the following as its fourth hypothesis:

*H4: Social influence has a positive impact on students' intentions to use YouTube for learning purposes.*

**Relationship between flexibility and usage intention.** According to [56], flexibility or mobility refers to the ability to access services anywhere using wireless networks and multiple mobile devices. [57] argued that flexibility is an advantage of mobile technology. Many studies have shown that flexibility has a positive impact on the intention to use and accept technology [58–61]; [55]. The study proposes the following as its fifth hypothesis:

*H5: Flexibility has a positive impact on students' intention to use YouTube for learning purposes.*

**Relationship between usage intention and usage behavior.** According to [62], the intention to use is a dominant factor in the acceptance and usage of technology. Intention to use is an important factor that affects students' acceptance of technology [13], [36]. In the field of education, numerous studies have shown a positive correlation between the intention to use technology and actual usage behavior [14], [19], [37], [20–23]. Thus, the study has the following as its sixth hypothesis:

*H6: The intention to use YouTube for student learning needs has a positive impact on actual usage behavior.*

Based on the literature review and research hypotheses, the research model for the factors influencing the acceptance of YouTube for educational purposes among students is established as follows (see Figure 1 and Table 1):

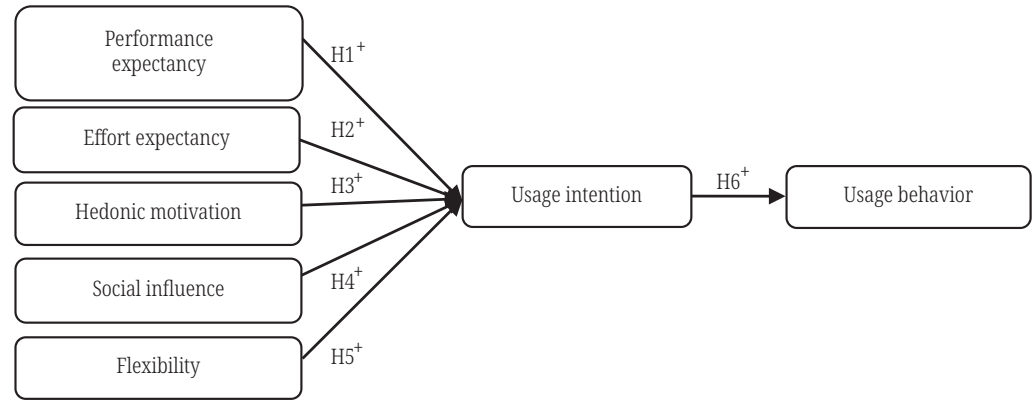


Fig. 1. Proposed research model

Table 1. Interpretation of observed variable in the research model

Factor	Observed Variable	Scale	Reference Resources
Performance Expectancy (PE)	PE1. YouTube helps me be more successful in my courses.	Likert 1–5	[26], [37]
	PE2. Using YouTube for learning needs helps me improve my learning efficiency.	Likert 1–5	
	PE3. Learning on YouTube channels makes learning easier.	Likert 1–5	
	PE4. I usually learn faster when using YouTube.	Likert 1–5	
	PE5. I find educational YouTube channels very useful.	Likert 1–5	
Effort Expectancy (EE)	EE1. I find YouTube very easy to use.	Likert 1–5	[26], [62], [39]
	EE2. Teaching programs on YouTube channels are clear and easy to understand.	Likert 1–5	
	EE3. Educational YouTube channels offer extended self-study opportunities.	Likert 1–5	
	EE4. I think it is easy that YouTube suggests me materials that I am looking for.	Likert 1–5	
Hedonic Motivation (HM)	HM1. Learning through YouTube channels brings interesting experiences.	Likert 1–5	[44], [46]
	HM2. It is fascinating to learn through YouTube channels.	Likert 1–5	
	HM3. I like YouTube’s design and interface.	Likert 1–5	
	HM4. I prefer using YouTube for my learning.	Likert 1–5	
Social Influence (SI)	SI1. My friends and relatives suggest learning through YouTube channels.	Likert 1–5	[26], [63], [51]
	SI2. My friends encourage me to learn through YouTube channels.	Likert 1–5	
	SI3. The people around me all use YouTube to learn.	Likert 1–5	
	SI4. Influencers have all learned through YouTube.	Likert 1–5	
	SI5. My friends recommend me YouTube channels that support my learning.	Likert 1–5	
	SI6. Learning through YouTube is becoming a social trend.	Likert 1–5	

(Continued)

**Table 1.** Interpretation of observed variable in the research model (*Continued*)

Factor	Observed Variable	Scale	Reference Resources
Flexibility (FLE)	FLE1. I can learn through YouTube channels at any time.	Likert 1-5	[57], [59], [61]
	FLE2. I can learn through YouTube channels anywhere.	Likert 1–5	
	FLE3. Learning through YouTube channels is convenient because I always have mobile devices with me.	Likert 1–5	
	FLE4. I can learn through YouTube channels when I need to without being affected by personal plans.	Likert 1–5	
Usage Intention (UI)	UI1. I will use YouTube for information searching and learning in the future.	Likert 1–5	[38], [64], [37]
	UI2. I will use YouTube as an active self-study method.	Likert 1–5	
	UI3. I will use YouTube for learning needs regularly.	Likert 1–5	
	UI4. I will recommend others to use YouTube for learning demands.	Likert 1–5	
Usage Behavior (UB)	UB1. I learn with guidance provided on YouTube channels.	Likert 1–5	[26], [37]
	UB2. I use YouTube to search for information related to my courses.	Likert 1–5	
	UB3. I use YouTube to learn regularly.	Likert 1–5	
	UB4. I am satisfied with my decision to use YouTube for my learning needs.	Likert 1–5	

### 3 RESEARCH METHODOLOGY

#### 3.1 Research scale

The measurement scales used in the study were adapted from relevant studies and modified to suit the specific context of this study. The scale for performance expectancy was updated from [26] and [37] to include five observed variables. The scale for effort expectancy was updated based on [26], [63], and [39], using four observed variables. The scale for hedonic motivation was updated from [44] and [46] to include four observed variables. The scale for social influence was updated based on the findings of [26] and [63], incorporating six observed variables. The scale for flexibility was updated based on [57], [59], and [61], using four observed variables. The scale for usage intention was updated based on [38], [62], and [37], incorporating four observed variables. Lastly, the scale for usage behavior was updated from [26] and [37] to include four observed variables. All measurement scales in the research model were assessed using a 5-point Likert scale ranging from “Strongly Disagree” (1) to “Strongly Agree” (5).

#### 3.2 Analytical method

Multiple research methods are used to test research hypotheses, including qualitative and quantitative research. The study utilized the group discussion method, a qualitative research approach, with 12 students enrolled at Can Tho University and RMIT University Vietnam. Due to the accessibility of the research subjects and the potential to explore highly specialized topics [65], the study utilized the group discussion method. This method helps assess the interviewees’ understanding of the content of measurement scales inherited from previous studies and adjust the

research measurement scales accordingly. In quantitative research, analyses are applied in the following order: (1) testing the reliability of the scale using Cronbach's alpha coefficient; (2) conducting exploratory factor analysis (EFA) to evaluate convergent and discriminant validity; (3) performing confirmatory factor analysis (CFA) to assess the relevance of the data to the market; and (4) utilizing structural equation modeling (SEM) to test the research hypotheses.

### 3.3 Data collection method

To ensure reliability in the SEM step, a large sample size is needed because it is based on the theory of sample distribution [66]. In the SEM test, to achieve reliability, a sample size between 100 and 200 observations is considered acceptable [67]. However, the sample size should be at least 200 observations [68]. In this study, quota sampling is used to collect the data. The study includes universities from various categories to ensure a representative research sample size, such as national universities, regional universities, public universities, and private universities. The survey subjects are students who are in their third and final year. Surveyed universities include the University of Science and Technology—Vietnam National University, Ho Chi Minh City; the University of Economics, Hue University; Can Tho University; RMIT University Vietnam; Ton Duc Thang University; and Van Hien University. An official survey was conducted between October and November 2022. An online Google Form was used to collect detailed information from students. This survey method was chosen because of several advantages, notably the elimination of paper and data entry costs as well as the ability to reach survey participants beyond geographical boundaries [69].

The number of questionnaires obtained was 310. After removing the unsuitable questionnaires (due to unreliable data and incomplete answers), 306 valid questionnaires were used to test the research hypotheses. The characteristics of the research sample include the following universities: 48 students (15.69%) from Ho Chi Minh City University of Technology, 46 students (15.03%) from the University of Economics at Hue University, 60 students (19.61%) from Can Tho University, 45 students (14.71%) from RMIT University Vietnam, 52 students (16.99%) from Ton Duc Thang University, and 55 students (17.97%) from Van Hien University. Regarding the study year, there are 161 students (52.61%) in the third year and 145 students (47.39%) in the fourth year. Regarding gender, there were 141 male students (46.41%) and 164 female students (53.59%).

## 4 RESEARCH RESULTS AND DISCUSSION

### 4.1 Research results

**Evaluate the reliability of the scales.** To assess the reliability of the scales, the study measures their reliability using Cronbach's alpha coefficient. This coefficient is used to eliminate "garbage" variables and variables with corrected item-total correlation values less than 0.3 [70–72]. The scale is considered acceptable if its Cronbach's alpha values are greater than 0.6 [73]. According to Table 2, the scales are reliable, as all Cronbach's alpha values are greater than 0.7. The smallest value is the flexibility scale (0.784), and the largest is the usage intention scale (0.917). Furthermore, all of the corrected item-total correlation values for the observed variables are greater than 0.3, indicating that no observed variables have been excluded from the research model.

**Table 2.** Evaluate the scale reliability

Observed Variable	Mean	Standard Deviation	Factor Loading	Cronbach's Alpha
<b>Performance Expectancy (PE)</b>				<b>0.864</b>
PE1	3.74	0.670	0.753	
PE2	3.94	0.691	0.716	
PE3	3.93	0.728	0.657	
PE4	3.70	0.738	0.815	
PE5	3.91	0.786	0.680	
<b>Effort Expectancy (EE)</b>				<b>0.855</b>
EE1	3.89	0.757	0.697	
EE2	3.76	0.714	0.762	
EE3	3.85	0.765	0.699	
EE4	3.77	0.716	0.805	
<b>Hedonic Motivation (HM)</b>				<b>0.841</b>
HM1	3.90	0.758	0.738	
HM2	3.72	0.781	0.867	
HM3	3.74	0.843	0.708	
HM4	3.63	0.804	0.591	
<b>Social Influence (SI)</b>				<b>0.854</b>
SI1	3.44	0.886	0.819	
SI2	3.48	0.873	0.891	
SI3	3.44	0.915	0.689	
SI4	3.51	0.892	0.504	
SI5	3.78	0.820	0.648	
SI6	3.72	0.785	0.505	
<b>Flexibility (FL)</b>				<b>0.784</b>
FL1	3.84	0.630	0.729	
FL2	3.89	0.653	0.724	
FL3	3.88	0.600	0.634	
FL4	3.87	0.763	0.538	
<b>Usage Intention (UI)</b>				<b>0.917</b>
UI1	4.04	0.618	0.734	
UI2	4.04	0.629	0.799	
UI3	3.93	0.628	0.794	
UI4	3.98	0.660	0.767	
<b>Usage Behavior (UB)</b>				<b>0.807</b>
UB1	3.88	0.721	0.732	
UB2	3.84	0.785	0.679	
UB3	3.76	0.740	0.538	
UB4	4.16	0.756	0.791	



After conducting the reliability test, the study proceeded to perform exploratory factor analysis (EFA) in order to assess the convergent and discriminant validity [74]. Bartlett’s test on variable correlation is satisfactory with a significance level of 0.000( $p < 0.001$ ) [74]. The suitability test is guaranteed with a KMO value of 0.916 [74]. The cumulative variance test reaches 67.5%, which is higher than the threshold of 50% [75]. This indicates that the variables included in the model have a sufficient explanatory power. Factor loading values of variables are satisfied with a value higher than 0.5 [74]. The results of EFA reveal 7 factors comprising 31 observed variables, with no disturbances observed between research scales.

Following the exploratory factor analysis (EFA) step, confirmatory factor analysis (CFA) is used to assess the fit of the data to the theoretical model. Based on Table 3, all requirements are met as follows: Chi-square/df = 1.807 < 2 [76] with  $P = 0.000 \leq 0.05$ . The TLI and CFI reach values of 0.925 and 0.933, respectively, both higher than 0.9 [77]. RMSEA = 0.036, which is less than 0.08 [78]. Evidence shows that the model fits the market data.

**Table 3.** CFA and SEM analytical result

Criteria	CFA	SEM	Comparative Index	Reference Resources
$\chi^2/df$	1.807	1.821	$\leq 2$	[75], [79]
P-value	0.000	0.000	$< 0.05$	
TLI	0.925	0.924	$\geq 0.9$	
CFI	0.933	0.932	$\geq 0.9$	
RMSEA	0.036	0.037	$\leq 0.08$	

Based on Table 4, the composite reliability values ( $P_c$ ) are all greater than 0.7, indicating that the scales meet the reliability requirements [80]. Although the average variance extracted value (AVE) of the flexibility scale is slightly low (0.49), its  $P_c$  value is greater than 0.7, indicating that the scale still meets the reliability requirements [81]. Thus, all scales are suitable for testing the research hypotheses.

**Table 4.** Scale testing result

Factor	Number of Observed Variables	Composite Reliability ( $P_{vc}$ )	Average Variance Extracted ( $P_{vc}$ )	Reference Resources
Performance Expectancy (PE)	5	0.87	0.56	[81]
Effort Expectancy (EE)	4	0.86	0.60	
Hedonic Motivation (HM)	4	0.86	0.60	
Social Influence (SI)	6	0.85	0.50	
Flexibility (FL)	4	0.79	0.49	
Usage Intention (UI)	4	0.92	0.73	
Usage Behavior (UB)	4	0.81	0.51	

**Testing the research hypotheses.** Structural equation modeling is used to test research hypotheses. Based on the results in Table 5, all research hypotheses are accepted at the 1% significance level. This study demonstrates that performance



expectancy, effort expectancy, hedonic motivation, social influence, and flexibility have a positive impact on the intention to use YouTube for student learning needs. The statistical analysis reveals a significant relationship at a 1% significance level. Furthermore, there is a positive correlation between the intention to use YouTube for student learning needs and the actual usage behavior, with a statistical significance level of 1%.

**Table 5.** Research hypothesis test

Relationship	Unstandardized			Standardized Estimated Value	Significance	Hypothesis
	Estimated Value	Standard Error S.E.	Critical Ratio C.R.			
UI <- PE	0.237	0.064	3.696	0.229	***	H1: accepted
UI <- EE	0.197	0.058	3.383	0.208	***	H2: accepted
UI <- HM	0.188	0.063	2.977	0.209	***	H3: accepted
UI <- SI	0.166	0.048	3.420	0.178	***	H4: accepted
UI <- FL	0.296	0.078	3.810	0.266	***	H5: accepted
UB <- UI	0.530	0.068	7.849	0.524	***	H6: accepted

## 4.2 Discussion

Hypothesis H1: Performance expectancy positively influences students' intention to use YouTube for their learning needs. The results in Table 5 indicate a positive correlation between performance expectancy and intention to use YouTube, with a standardized estimated value of 0.229 and statistical significance ( $p = 0.000$ ). If students find that YouTube brings benefits such as easy access to courses, improved learning efficiency, and helping them achieve their academic goals, their intention to use YouTube for learning increases. This result further strengthens the foundation of the UTAUT theory [26]. The research by Shittu and Taiwo [82] also demonstrated that Nigerian students perceive WhatsApp as an effective online learning tool, contributing to improved learning outcomes and influencing their intention to use WhatsApp.

Hypothesis H2: Effort expectancy is expected to positively influence the intention to use YouTube for learning purposes. This hypothesis is accepted with a standardized estimated value of 0.208 and a statistical significance level of  $p = 0.000$ . It shows that there is a positive relationship between the expectation of effort and the intention to use YouTube for learning purposes. The finding, however, contradicts the research conducted by Shittu and Taiwo [82]. It suggests that the effort expectancy does not have an impact on the intention to use WhatsApp as a learning platform among Nigerian students. Indeed, if students find that YouTube is easy to use and easy to search for learning materials, their intention to use YouTube increases. Additionally, if the instructional programs on YouTube channels are clear and easy to comprehend, the inclination to utilize YouTube may be greater.

Hypothesis H3: Hedonic motivation has a positive effect on students' intentions to use YouTube for learning purposes. Table 5 indicates a positive relationship between hedonic motivation and the intention to use YouTube for learning purposes, with a standardized estimated value of 0.209 and a statistically significant level of  $p = 0.000$ . This means that if students enjoy learning through YouTube channels and find YouTube to provide interesting learning experiences, their intention to

use YouTube for learning increases. This result emphasizes the influence of hedonic motivation on the use of technology in learning through YouTube, further reinforcing the views of Venkatesh et al. [62] and Iten and Petko [83]. Similarly, Decman [84] also demonstrated that using technology for learning through Facebook is not challenging for students, as Facebook has become a habit and students are familiar with the platform.

Hypothesis H4: Social influence has a positive impact on students' intention to use YouTube for their learning needs. This hypothesis is accepted with a standardized estimated value of 0.178 and a statistical significance level of  $p = 0.000$ . The fact shows that technology acceptance is always influenced by influential individuals [26]. If students are encouraged or recommended by friends, relatives, or influencers to utilize YouTube channels for studying, their inclination to use YouTube as a learning resource increases. Furthermore, as students perceive learning on YouTube to be a popular social trend, the demand for utilizing YouTube as an educational tool will increase. This result once again confirms the significance of social influence on the intention to accept technology. Similarly, Shittu and Taiwo [82] demonstrated that social influence has a positive impact on the intention to use WhatsApp as a learning platform among Nigerian students.

Hypothesis H5: Flexibility has a positive impact on students' intention to use YouTube for their learning needs. Table 5 shows a positive correlation between flexibility and the intention to use YouTube for learning purposes, with a standardized estimated value of 0.266 and a statistically significant  $p$ -value of 0.000. The result has indicated that flexibility is an advantage of mobile technology [57]. If students find that YouTube offers flexible learning time, learning location, learning plans, and learning devices, their intentions to use YouTube increase. Similarly, Schroeder et al. [85] affirmed that the reasons for using social networks in learning are the functionality, popularity, and convenience of social media technology. The research finding aligns with studies on technology usage intention and acceptance proposed by [60], [61], [55].

Hypothesis H6: The intention to use YouTube for learning purposes positively influences students' usage behavior. This hypothesis is accepted with a standardized estimated value of 0.524 and a level of statistical significance of  $p = 0.000$ . This shows that the intention to use YouTube is positively correlated with the behavior of using YouTube for learning purposes. The results have confirmed that the intention to use is an important factor influencing the acceptance and use of technology [62], particularly in the field of education [13].

## 5 CONCLUSION

Online learning is one of the most tangible results of digital transformation. Educational institutions, authorities, and society have been promoting the legitimization of online learning through technological platforms such as YouTube, Facebook, and Twitter. However, these technological platforms were not initially developed for educational purposes. They were created for sharing, communication, chatting, and interaction among online users. Nowadays, these technological platforms are increasingly being used in the field of education, completely transforming the landscape of contemporary e-learning environments.

The adoption of technology in education has been extensively studied in developed countries, while there have been few studies conducted in developing countries with contexts similar to Vietnam. Hence, investigating the acceptance of YouTube for

educational purposes among Vietnamese students is a new topic in Vietnam. Applying UTAUT, the study has demonstrated the factors that affect the acceptance of YouTube for the learning needs of Vietnamese students. The five factors that positively affect the intention to use YouTube for student learning needs include performance expectancy, effort expectancy, hedonic motivation, social influence, and flexibility. The study has shown that students' intention to use YouTube for learning purposes has a positive influence on their actual usage behavior. The study provides a valuable reference for educational administrators and researchers. Alongside the achieved results, the study still has some limitations, including a small sample size compared to the total number of students enrolled in various institutions. Furthermore, the study has not examined the role of moderating variables, such as students' demographic characteristics, that might influence the acceptance of YouTube for learning. Therefore, future studies should increase the size of the research sample and investigate the influence of moderating variables to improve the explanatory ability to understand students' acceptance of YouTube for online learning.

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