



## Predicting Intention to Choose the Online Degree During the COVID-19 Pandemic: The Mediating Role of Perceived Effectiveness

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### ABSTRACT

This study examines the relationship between the theory of planned behaviour model (TPB: attitude, subjective norm, and perceived behaviour control) and its effect on students' choosing the online degree during the COVID-19 pandemic through the mediating role of perceived effectiveness. The online questionnaires of 215 online degree students were used for the quantitative study through convenience sampling. The collected data were analysed using the SPSS Version 27 and PLS-SEM program. The results show that perceived effectiveness is the significant mediator between the TPB model and the intention to choose the online degree during the COVID-19 pandemic. Moreover, perceived behavioural control has the highest impact on perceived effectiveness, followed by the attitude and subjective norm. The educational leaders and programme directors should consider TPB model adoption in the educational sector because it is related to perceived effectiveness and turn it to intention to choose the online degree during the COVID-19 pandemic.

**Keywords:** *theory of planned behaviour (TPB), intention to choose, online degree, perceived effectiveness, COVID-19*

## 1. INTRODUCTION

### 1.1. Background of the Study

The COVID-19 pandemic has put enormous strain on the educational system in all aspects of teaching and learning worldwide. Besides, the effectiveness of traditional learning methods have dwindled in recent years (Almonacid-Fierro et al., 2021; Barzani, 2021). In this digital age, people are more efficient and effective at learning and advancing in their careers by utilising digital tools and the internet. As the popularity of online self-learning has grown, many prestigious local and international universities are now offering classes to anyone who wishes to participate (Tohara et al., 2021; Limna & Siripipatthanakul, 2021). The delivery of online degree programs has become a popular target for many institutions, particularly the online Master of Business Administration (MBA) programs. Likewise, online degree programs are

popular among students (Hergert, 2003). Many factors influence a student's decision to choose an online degree, such as the learning model (4Cs) and student satisfaction (Limna & Siripipatthanakul, 2021), perceived enjoyment (Maheshwari, 2021) and perceived value (Li et al., 2021). However, perceived effectiveness is one of the critical factors influencing an individual's intention (Bigsby et al., 2013). Active learning methods are essential skills, and personality may affect learning method preferences and academic performance. There was a relationship between students' characters, learning methods preferences, and academic performance. The perceived effectiveness of various learning methods was evaluated over time. There were minor correlations between personality and the perceived effectiveness of learning methods. Remarkably, perceived effectiveness for the lecture decreased over time when it increased for problem-based learning (Arain et al., 2021). Furthermore, the theory of planned behaviour (TPB), which contains attitude, subjective norm, and perceived behavioural control, plays a critical role in shaping individuals' intentions and engagement in a specific behaviour (Bagheri et al., 2021). The theory of planned behaviour provides an appropriate framework for predicting behavioural intention in the healthcare sector and measuring farmers' behaviour towards safe pesticide handling (Shmueli, 2021; Bagheri et al., 2021). Also, the TPB model was used to predict the behavioural intention of tourism destinations, such as revisit intention (Soliman, 2021). Therefore, the theory of planned behaviour (TPB model) is related to the students' effectiveness perceptions and behavioural intention. The theory of planned behaviour is critical in determining its effect on perceived effectiveness and behavioural intention in the educational sector.

## **1.2. Problem Statement**

As a result of the COVID-19 pandemic, education has evolved enormously, especially online education. Educational sectors worldwide are forced to adapt and restructure their structures and systems from traditional to blended or entirely online systems (Kim, 2021; Limna et al., 2021). Despite rapid growth in online learning and a growing body of research demonstrating comparable levels of effectiveness and student satisfaction, faculty remain concerned about online education. It is significant because faculty acceptance can be critical to the success or failure of online education (Levin et al., 2018). Online delivery methods, student satisfaction, perceived effectiveness of institutions, and perceived flexibility of courses are significant factors influencing students' decisions to choose online degree programs (Choi et al., 2021; Limna & Siripipatthanakul, 2021). The theory of planned behaviour (TPB) is a theoretical model used to predict an individual's intention-based behaviour (Shmueli, 2021). Many studies implement the theory of planned behaviour model to investigate individuals' behavioural intention, such as intention to get COVID-19 vaccination (Limna et al., 2022), individuals' willingness to wear face masks during the COVID-19 (Irfan et al., 2021), and university students' intention to use mobile learning (Buabeng-Andoh, 2021). However, few studies support the mediating role of perceived effectiveness between the theory of planned behaviour model and individuals' intention. As a result, this study investigates the role of perceived effectiveness in mediating the relationship between the theory of planned behaviour model and the intention to pursue an online degree among online degree students. It may be beneficial for educational leaders, program directors, and teachers to develop an appropriate strategy to respond to the needs and expectations of students wishing to enrol in any online degree program and beyond.

## **1.3. Research Objective**

This study examines the mediating role of perceived effectiveness between the theory of planned behaviour model (attitude, subjective norm, and perceived behavioural control) and the intention to choose the online degree among online degree students.

#### **1.4. Research Question**

Is there any relationship between the theory of planned behaviour, perceived effectiveness among online degree students, and intention to choose the online, and how?

## **2. LITERATURE REVIEW**

### **2.1. Online Degree During the COVID-19 Pandemic**

COVID-19 has an undoubtedly significant impact on students, instructors, and educational organisations worldwide. It is unpredictable when this pandemic will be completely eradicated, so educational institutions have decided to use the available technical resources to create online learning material for students of all academic fields (Adnan & Anwar, 2020). As more universities expand this mode of delivery, online degrees are becoming more common (Limna & Siripipatthanakul, 2021). Online education, particularly a Master of Business Administration programme (MBA), is becoming more common due to the changing needs of a student population and increased competition in the education market. Compared to their more traditional classroom counterparts, online learning and teaching business face unique challenges. Effective online teaching promotes the concepts of a lean organisation from managers' perspectives. It necessitates teacher and student preparation training and consistent planning (Cong, 2020; Gryaznov, 2021; Szopiński & Bachnik, 2022). The COVID-19 pandemic exposed the shortcomings of the existing systems and forced their revision. The pandemic has sparked debate about online curricula and whether they should become a component of universities' and business schools' competitive advantage and a permanent feature of their development strategy (Szopiński & Bachnik, 2022).

### **2.2. Intention to Choose an Online Degree Programme**

An online degree is becoming more prevalent (Limna & Siripipatthanakul, 2021). It is critical to explore factors affecting students' intention to choose an information technology (IT) programme. The factors influencing students' behavioural intention to choose an IT program were classified into two categories: attitudes toward selecting an IT program and subjective norms. The most effective strategy to gain students is to build up the reputation of the IT program (Sathapornvajana & Watanapa, 2012). Many factors influence a student's intention to choose an online degree programme, such as student satisfaction, perceived enjoyment, instructional factors, virtual teams, collaborative learning, schedule flexibility, convenience, the effectiveness of online classes, a good fit with their goals, professional development, obtaining an advanced degree in the field, and the university's strong reputation (Lee & Choi, 2011; Limna & Siripipatthanakul, 2021; Maheshwari, 2021; Wang et al., 2021). In this study, an individual's intention to choose an online degree programme is the outcome of students' perceptions towards the theory of planned behaviour model (TPB model) and the mediator role of perceived effectiveness.

### **2.3. Perceived Effectiveness**

The perceived effectiveness of a pedagogical technique is a crucial construct for understanding the success of teaching innovations. Besides, student satisfaction is based on students' overall perceptions of course performance, implying that perceived effectiveness is a direct predictor of student satisfaction (Duque 2014; Pérez Ruiz et al., 2019). There was a relationship between personality traits, self-perceived effectiveness of learning strategies, and academic performance in medical students. Medical students' perceptions were compared to assess any changes in the perceived effectiveness of various learning strategies at different stages of the curriculum. Personality and perceived effectiveness of learning methods were found to be related. Surprisingly, perceived effectiveness for the lecture decreased over time while it increased for problem-based learning styles (Arain et al., 2021). Furthermore, Lousã and Lousã (2021) investigated the factors that facilitate or constrain students' perceived effectiveness and

skill development in a remote learning context during the second COVID-19 lockdown. Technological issues, difficulties in learning, and demotivation all influenced the effectiveness of education and the improvement of students' skills. Thus, the ease of access and a greater variety of study materials aided learning effectiveness. Students improved their skills regarding their remote learning experience (Lousã & Lousã, 2021).

#### **2.4. The Theory of Planned Behaviour (TPB Model)**

Many psychological theories and models explain the relationship between people's thoughts, beliefs, decisions, and behaviours. The theory of planned behaviour (TPB) is one of these theories. The theory of planned behaviour, which includes attitudes, subjective norms, and perceived behaviour control, captures important individual beliefs that influence people's intentions to engage in a specific behaviour (Alhamad & Donyai, 2021; Opoku et al., 2021). Virti et al. (2021) investigated changes in university students' online distance learning behaviour during the COVID-19 outbreak and the development of a model of forced distance online learning preferences. The models were based on general theories, including the theory of planned behaviour. Only attitudes were a significant predictor of satisfaction among the hypothesised constructs, while the rest were not (Virti et al., 2021). Alhamad and Donyai (2021) explored the validity of the TPB for understanding people's intentions to engage in medicine reuse by comparing it to other long-standing health-related psychological theories of behavioural change. The TPB's validity was demonstrated in developing a Medication Reuse Questionnaire (MRQ) to investigate people's beliefs and intentions toward reusing medicines (Alhamad & Donyai, 2021). Mouloudj et al. (2021) used the TPB approach to assess students' intentions to use an online learning system in the context of the COVID-19 pandemic. The TPB model can explain the variation in behavioural intention among Algerian students. The findings validated the use of the TPB model in examining behaviour intention to use online learning in the context of the COVID-19 pandemic (Mouloudj et al., 2021). In this study, the theory of planned behaviour is used to investigate an intention to choose an online degree programme and their perceptions of its effectiveness.

##### **2.4.1. Attitude (ATT)**

Attitude reflects people's personal beliefs about a particular behaviour or action. Such opinions can be positive or negative, and they influence how individuals engage in that specific behaviour, whether they act or do not act. As a result, the more favourable and advantageous behaviour is perceived, the stronger the intention is to engage in it (Al-Jubari, 2019). Bagheri et al. (2021) used the TPB to investigate farmers' behaviour in safe pesticide use (disposal of spray solution leftovers, places for washing sprayers, disposal of rinsates, and use of personal protective equipment) in Ardabil, Iran. Attitudes toward safe pesticide use had the highest mean score and positively influenced intention. As a result, improving farmers' attitudes and perceived behavioural control toward safe pesticide use through extension education should be prioritised to enhance farmers' intention and behaviour toward secure pesticide handling (Bagheri et al., 2021). Limna et al. (2022) investigated factors affecting Thai people's intention to get COVID-19 vaccination. Fear and perceived infectability of COVID-19 perceived behavioural control, and subjective norm indirectly affected the intention to receive COVID-19 vaccination via a mediating effect of attitude. Thus, increasing perceptions through attitude may increase Thai people's intention to receive COVID-19 vaccination (Limna et al., 2022). Furthermore, Wang et al. (2021) investigated the effect of policy support on psychological factors and pro-environmental behaviour in residents. Perceived policy effectiveness was found to have a significant and positive impact on attitude, implementation intention, and pro-environmental behaviour. The attitude significantly impacted perceived effectiveness (Wang et al., 2021). Therefore, attitude is related to perceived effectiveness and the intention to choose an online degree programme.

*H1: Attitude has a significant impact on perceived effectiveness.*

#### **2.4.2. Subjective Norm (SN)**

Subjective norms refer to a person's perception of how people in their immediate circle of influential other people, such as family members, friends, and colleagues, would perceive them acting or not acting on a particular behaviour, such as engaging in business ventures. Subjective norm is also known as social pressures (Al-Jubari, 2019). Lan et al. (2021) investigated the factors that influence choosing an e-wallet when shopping online from 600 e-wallet users in Ha Noi. One of the factors that influenced the decision to use an e-wallet was subjective norms. Customers' intentions to use e-wallets were most influenced by media information (Lan et al., 2021). Sumarliah et al. (2021) investigated the effects of the COVID-19 outbreak, as well as subjective norms and attitudes, on shopper intentions to buy Hijab online. Subjective norms could indeed predict shopper attitudes toward online Hijab purchases. There was also a connection between subjective norms and online Hijab purchase intention (Sumarliah et al., 2021). Therefore, the subjective norm is related to perceived effectiveness and the intention to choose an online degree programme.

*H2: Subjective norm has a significant impact on perceived effectiveness.*

#### **2.4.3. Perceived Behavioural Control (PBC)**

Perceived behavioural control refers to the individual's assessment of how easy or difficult the behaviour is to be performed. If a task is perceived as simple, it is more likely that it will be completed, whereas if it is perceived as complex, it is more likely that it will not be completed (Al-Jubari, 2019). Lim and An (2021) used the TPB model and its core constructs to predict consumers' purchase intentions of Yak-sun, a well-being food. Perceived behavioural control was discovered to be a significant predictor of intention to purchase Yak-sun food among Korean consumers. Also, perceived behavioural control had the most significant impact on behavioural intention to purchase Yak-sun food (Lim & An, 2021). Moon (2021) used the extended TPB to investigate the customer belief structures underlying the cognitive process of green restaurant patronage. In the Korean green restaurant context, perceived behavioural control emerged as the most important determinant of consumer green restaurant patronage, followed by attitude and subjective norm (Moon, 2021). Amireault et al. (2008) identified moderators of the intention-behaviour and perceived behavioural control-behaviour relationships for leisure-time physical activity. Intention-behaviour and PBC-behaviour relationships were moderated by age and annual income. However, only the interaction term of PBC by annual income, along with intention and past behaviour, significantly contributed to the prediction of behaviour in the final model predicting behaviour (Amireault et al., 2008). Therefore, perceived behavioural control is related to perceived effectiveness and the intention to choose an online degree programme.

*H3: Perceived behavioural control has a significant impact on perceived effectiveness.*

#### **2.4.4. The Mediating Role of Perceived Effectiveness Between TPB Model and Behavioural Intention**

There was a relationship between perceived effectiveness, the theory of planned behaviour, and entrepreneurial intention. The TPB, precisely the attitude of entrepreneurs toward entrepreneurship, changes over time, so does their entrepreneurial intention. Therefore, higher education may affect such change through training or experience, which may boost students' perceived effectiveness and feasibility of entrepreneurship (Su et al., 2021). Ghorbanzadeh et al. (2021) determined the predictors of intention and COVID19 preventive behaviours using

the TPB model. There was a positive and statistically significant correlation between the COVID-19 preventive behaviours and constructs, namely attitude, subjective norms, perceived behavioural control, and behavioural intention. The TPB and its effective constructs, particularly behavioural intention, can be used to develop educational programs and interventions to change citizens' attitudes toward COVID-19 (Ghorbanzadeh et al., 2021). Also, some studies confirmed that attitude, subjective norm and perceived behavioural control are related to intention to follow the preventive COVID-19 protocols and intention to get COVID-19 vaccination among Thai people (Jandawapee et al., 2022; Limna et al., 2022). Therefore, there is a relationship between the theory of planned behaviour (TPB model), perceived effectiveness and intention to choose an online degree programme.

*H4: Perceived effectiveness significantly impacts intention to choose an online degree programme.*

*H5: Perceived effectiveness is a significant mediator between the theory of planned behaviour and intention to choose an online degree programme.*

## 2.5. Conceptual Framework

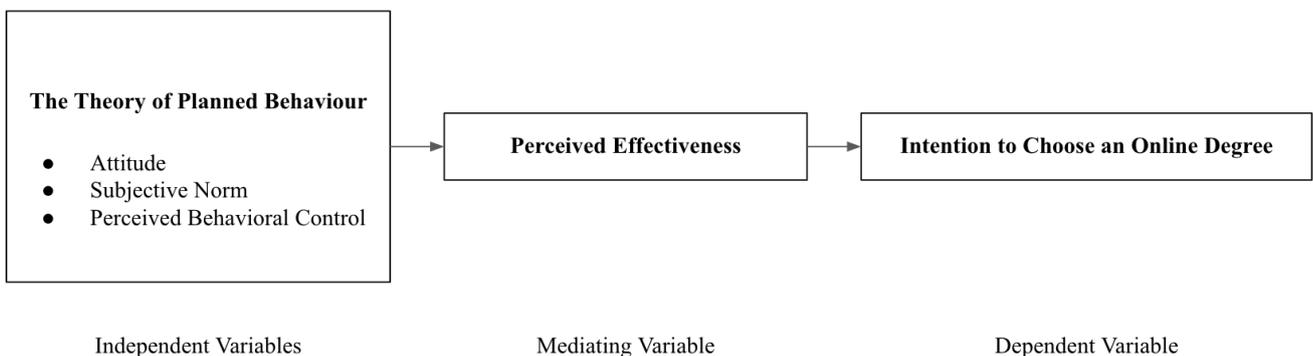


Figure 1. Conceptual Framework

## 3. RESEARCH METHODOLOGY

### 3.1. Research Method

Closed-ended questionnaires (Likert's Rating Scale) were used to gather the information. Testing was done on measuring instruments to determine their reliability and validity. It is necessary to understand that validity refers to how well a tool measures the researcher's concept (Kanyama et al., 2022). The main variables in this study were evaluated using a five-point Likert Scale ranging from 5 (strongly agree) to 1 (strongly disagree). The questionnaire items in attitude, subjective norm, perceived behavioural control, and intention to choose an online degree were based on Mouloudj et al. (2021). The questionnaire items in perceived effectiveness were based on Prasetyo et al. (2020). The demographics of those who responded to the survey questions were derived from a survey conducted by Kaewnaknaew et al. (2022), Si Dah et al. (2022) and Jandawapee et al. (2022). The questionnaire was proved for criterion and content validity by five experts (three PhD faculties in business, one PhD faculty in public health and one PhD faculty in education).

### 3.2. Population and Sample

The study's intended audience consisted of an undetermined number of online higher education students. Students enrolled in bachelor's, master's, and doctoral degree programs at the time were selected as samples. Additionally, all respondents were 18 years old or over. The study's sample size was two hundred and fifteen (215). According to Hair et al. (2012), the general guideline is to have a minimum of ten participants per one question item (10:1). The researchers determined the sample size from 15 question items multiplied by 10 equal 150 required participants. Therefore, the study's sample was two hundred and fifteen (215), over a minimal sample size of 150 through convenience sampling.

### 3.3. Data Collection

According to the institution settings, the information was gathered through online self-administered questionnaires (convenience sampling). Three different regions, according to the institution settings were Thailand, other countries in Asia, and other countries outside Asia. The researchers explained the study's purpose to the respondents before distributing online questionnaires to obtain participation in the study. Data collection duration was between November 15<sup>th</sup> 2021, to January 5<sup>th</sup>, 2022.

### 3.4. Data Analysis

The respondents' demographics were analysed using SPSS Version 27 for descriptive statistical analysis (frequency and percentage). Mean analysis and standard deviation were used to calculate each variable's results and questionnaire items. The Cronbach's Alpha was used to determine the reliability of the data set at 0.7. The validity test was carried out using the factor loadings and was set at 0.7 following the recommendation of Limna et al. (2022). The completed data was analysed using a partial least square structural equation model (ADANCO 2.3) to test the hypotheses.

## 4. RESULTS

Table 1. Demographic Characteristics of the Respondents (n= 215).

Demographics		Frequency	Percentage
<b>Gender</b>	Female	112	52.1%
	Male	103	47.9%
<b>Status</b>	Single	184	85.5%
	Married	30	14.0%
	Divorced	1	0.5%
<b>Age</b>	18-25 years old	99	46.1%
	26-30 years old	49	22.8%
	31-35 years old	28	13.0%
	36-40 years old	16	7.4%
	41 years old or over	23	10.7%
<b>Educational Level</b>	Diploma/Certificate	24	11.2%
	Bachelor's degree	64	29.8%
	Master's degree	103	47.9%
	Doctoral degree	24	11.1%
<b>Major</b>	Business	139	64.7%
	Healthcare	9	4.2%

	Education	28	13.1%
	Psychology	12	6.5%
	Others	27	11.5%
<b>Institution's Settings</b>	Thailand	70	32.6%
	Other countries in Asia	81	37.7%
	Other countries outside Asia	64	29.7%
<b>Salary</b>	Less than or equal THB 10,000	51	23.7%
	THB 10,001-20,000	46	21.4%
	THB 20,001-30,000	22	10.2%
	THB 30,001-40,000	25	11.6%
	THB 40,001-50,000	19	8.8%
	More than THB 50,001	52	24.3%
<b>Total</b>		215	100%

Two hundred and fifteen (215) respondents of online degree students completed online questionnaires, which were coded and analysed. The findings revealed that most respondents were female (52.1%), single (85.5%), aged ranged between 18 and 25 (46.1%), and earned a salary of more than 50,001 baht (24.3%). Most respondents were online degree students with an education level of master's degree (47.9%) in a major of business (64.7%). The institutions' settings were from Thailand (32.6%), other countries in Asia (37.7%) and other countries outside Asia (29.7%). Therefore, the demographics represented online degree students in Thailand, other countries in Asia and other countries outside Asia.

Table 2. Factor Loadings, Cronbach's Alpha, and Average Variance Extracted (n=215)

Items	Factor Loadings	Cronbach's Alpha	AVE
<b>Attitude (AT)</b>		0.906	0.841
1. Choosing an online degree during the COVID-19 Pandemic is a good idea. (Mean=4.27, SD.=0.969)	0.920		
2. I like to choose the online degree during the COVID-19 Pandemic. (Mean=4.16, SD.=1.057)	0.909		
3. It is desirable to choose an online degree during the COVID-19 Pandemic. (Mean=4.17, SD.=0.991)	0.922		
Items	Factor Loadings	Cronbach's Alpha	AVE
<b>Subjective Norm (SN)</b>		0.871	0.795
4. People essential to me supporting my choosing an online degree during the COVID-19. (Mean=4.07, SD.=1.029)	0.857		
5. People who influence me think I should choose the online	0.920		

degree during the COVID-19 Pandemic. (Mean=3.98, SD.=1.057)

6. People whose opinions I value prefer that I should choose the online degree during the COVID-19 Pandemic. (Mean=3.95, SD.=1.067) 0.896

Items	Factor Loadings	Cronbach's Alpha	AVE
<b>Perceived Behavioural Control (PBC)</b>		0.873	0.798
7. Choosing the online degree during the COVID-19 is entirely within my control. (Mean=4.05, SD.=1.114)	0.855		
8. I have the resources to choose the online degree during the COVID-19 Pandemic. (Mean=4.19, SD.=0.949)	0.903		
9. I have the ability to choose the online degree during the COVID-19 Pandemic. (Mean=4.18, SD.=1.008)	0.921		

Items	Factor Loadings	Cronbach's Alpha	AVE
<b>Perceived Effectiveness (PE)</b>		0.756	0.675
10. Choosing the online degree during the COVID-19 Pandemic is effective. (Mean=4.08, SD.=1.073)	0.856		
11. The online degree on social media during the COVID-19 Pandemic is informative. (Mean=4.04, SD.=1.004)	0.877		
12. Choosing the online degree during the COVID-19 lockdown is an effective way to prevent its transmission. (Mean=4.30, SD.=0.874)	0.723		

Items	Factor Loadings	Cronbach's Alpha	AVE
<b>Intention to Choose Online Degree (IC)</b>		0.840	0.757
13. I decide to choose an online degree during the COVID-19 Pandemic. (Mean=4.14, SD.=1.045)	0.862		
14. I predict I will choose an online degree after the COVID-19 Pandemic. (Mean=3.90, SD.=1.172)	0.850		
15. I plan to continue the online degree during the COVID-19 Pandemic. (Mean=4.08, SD.=1.102)	0.897		

Table 3. The Goodness of Model Fit (n=215)

Saturated Model	SRMR=0.0588
Estimated Model	SRMR=0.0777

Table 4: R-Squared (n=215)

Construct	Coefficient of Determination (R <sup>2</sup> )	Adjusted R <sup>2</sup>
Perceived Effectiveness	0.695	0.690
Intention to Choose Online Degree	0.599	0.598

Table 5: Effect Overview (n=215)

Effect	Beta	Indirect Effect	Total Effect	Cohen's f <sup>2</sup>
Attitude → Perceived Effectiveness	0.3101		0.3101	0.1260
Attitude → Intention to Choose		0.2401	0.2401	
Subjective Norm → Perceived Effectiveness	0.3051		0.3051	0.1301
Subjective Norm → Intention to Choose		0.2362	0.2362	
Perceived Behavioural Control → Perceived Effectiveness	0.3256		0.3256	0.1758
Perceived Behavioural Control → Intention to Choose		0.2521	0.2521	
Perceived Effectiveness → Intention to Choose	0.7742		0.7742	1.4966

Table 6: Total Effects Inference (n=215)

Effect	Original Coefficient	Standard Bootstrap Results					Percentile Bootstrap Quantiles		
		Mean Value	Standard Error	T-Value	P-Value (2-Sided)	P-Value (1-Sided)	0.5%	2.5%	97.5%
AT → PE	0.3101	0.3141	0.0831	3.7310	0.0002	0.0001	0.0888	0.1470	0.4755
AT → IC	0.2401	0.2449	0.0670	3.5848	0.0004	0.0002	0.0679	0.1132	0.3725
SN → PE	0.3051	0.2973	0.0739	4.1259	0.0000	0.0000	0.0901	0.1465	0.4324
SN → IC	0.2362	0.2312	0.0576	4.1015	0.0000	0.0000	0.0712	0.1124	0.3371
PBC → PE	0.3256	0.3315	0.0749	4.3489	0.0000	0.0000	0.1242	0.1807	0.4841
PBC → IC	0.2521	0.2579	0.0587	4.2941	0.0000	0.0000	0.0968	0.1389	0.3834
PE → IC	0.7742	0.7783	0.0286	27.1179	0.0000	0.0000	0.7010	0.7182	0.8308

Attitude (AT), Subjective Norm (SN), Perceived Behavioural Control (PBC), Perceived Effectiveness (PE), Intention to Choose (IC)

Table 7. The Summary of Hypothesis Testing Results

Hypotheses	Results	Actions
H1: Attitude → Perceived Effectiveness	$\beta=0.310$ at $p<0.001$	Accepted
H2: Subjective Norm → Perceived Effectiveness	$\beta=0.305$ at $p<0.001$	Accepted
H3: Perceived Behavioural Control → Perceived Effectiveness	$\beta=0.326$ at $p<0.001$	Accepted
H4: Perceived Effectiveness → Intention to Choose	$\beta=0.774$ at $p<0.001$	Accepted
H5: Perceived effectiveness is a significant mediator between the TPB and intention to choose an online degree programme.	$R^2=0.695$ at $p<0.001$	Accepted Overall explanation power equals 59.9% $R^2=0.599$ .

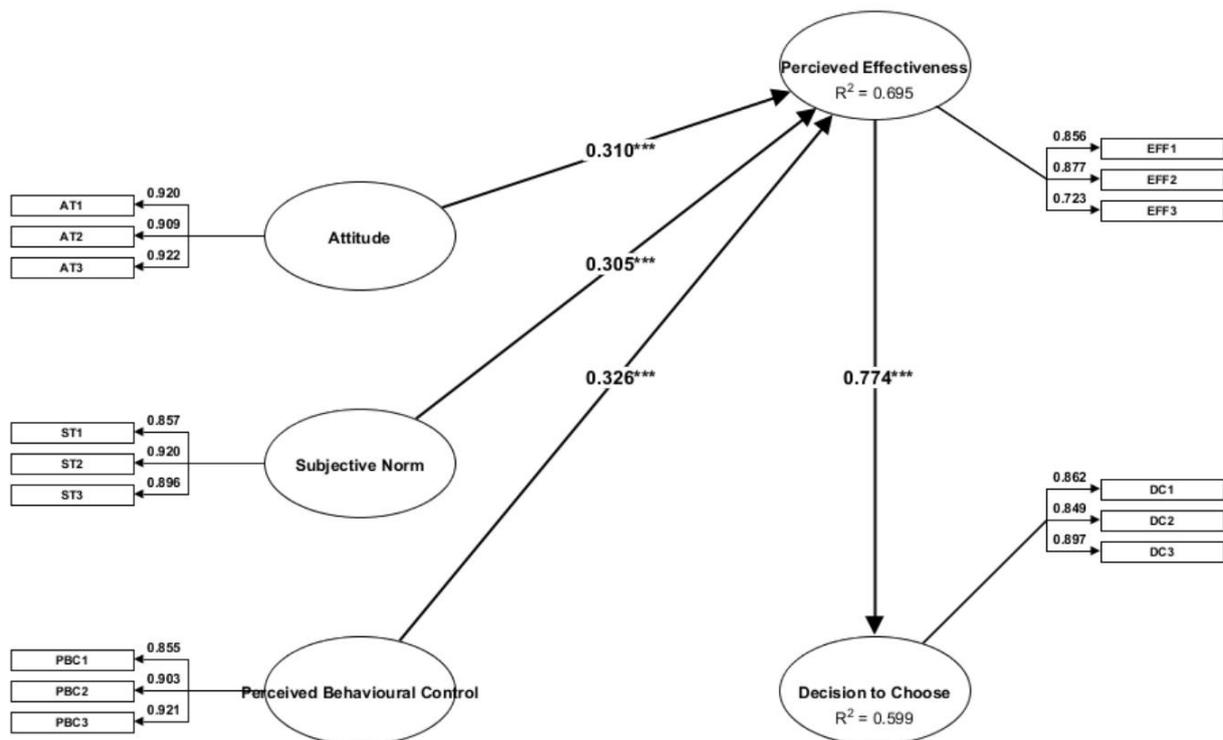


Figure 2. PLS-Structural Equation Model of the Study.

Attitude can predict perceived effectiveness at  $\beta=0.310$ ,  $p<0.001$  (Two tails at 0.0002 and one tail at 0.0001). Subjective norm can predict perceived effectiveness at  $\beta=0.305$ ,  $p<0.001$  (Two tails at 0.000 and one tail at 0.000). Perceived behavioural control can predict perceived effectiveness at  $\beta=0.326$ ,  $p<0.001$  (Two tails at 0.000 and one tail at 0.000). Perceived effectiveness can predict intention to choose an online degree at  $\beta=0.774$ ,  $p<0.001$  (Two tails at 0.000 and one tail at 0.000). Perceived effectiveness is a significant mediator between the TPB model (attitude, subjective norm, perceived behavioural control) and intention to choose an online degree by about 69.5% ( $R^2=0.695$ ). Finally, the relationship phenomenon can explain by about 59.9% ( $R^2=0.599$ ).

## **5. DISCUSSION AND CONCLUSION**

### **5.1. Discussion of the Research Finding**

Trade tensions, monetary policy tightening, and the crisis resulting from the COVID-19 outbreak impacting the global economy experienced a slower downturn than in previous years (Siripipatthanakul, 2021). The educational sector is also impacted. Thus, the study's objective explores the relationship between the theory of planned behaviour (attitude, subjective norm, and perceived behaviour control), perceived effectiveness and the intention to choose the online degree among online degree students during the COVID-19 Pandemic. The relationship explanation could benefit all educators and program directors, especially in the online degree program sector. The study's PLS-SEM model confirmed the proposed conceptual framework. The findings indicated that perceived effectiveness is the significant mediator between the theory of planned behaviour model and the intention to choose the online degree during the COVID-19 pandemic. The findings supported the previous research of Bagheri et al. (2021), Jandawapee et al. (2022), Limna et al. (2022), and Wang et al. (2021) that an individual's intention is positively related to their attitude. Attitude is related to perceived effectiveness and the intention to choose an online degree programme. The findings supported the previous research of Jandawapee et al. (2022), Lan et al. (2021), and Sumarliah et al. (2021) that the subjective norm and the individual's intention are related. The subjective norm is related to perceived effectiveness and the intention to choose an online degree programme. The findings supported the previous research of Amireault et al. (2008), Lim & An (2021), and Moon (2021) that an individual's intention is influenced by perceived behavioural control. Perceived behavioural control is related to perceived effectiveness and the intention to choose an online degree programme. The findings supported the previous research of Jandawapee et al. (2022) and Limna et al. (2022) that the theory of planned behaviour is positively related to an individual's intention. Also, the findings supported the previous research of Ghorbanzadeh et al. (2021) and Su et al. (2021) that there is a correlation between perceived effectiveness, the TPB, and an individual's intention. Perceived effectiveness significantly impacts intention to choose an online degree programme. Furthermore, perceived effectiveness is a significant mediator between the TPB and intention to choose an online degree programme.

### **5.2. Conclusions**

The findings indicate that perceived effectiveness is a significant mediator between the TPB model and the intention to choose an online degree during the COVID-19 pandemic. Moreover, perceived behavioural control has the highest impact on perceived effectiveness, followed by the attitude and subjective norm. Therefore, educational leaders and program directors should pay attention to these factors because of the influence on the intention to choose an online degree during the COVID-19 pandemic. Educational leaders and program directors can increase the intention to choose an online degree during the COVID-19 pandemic by, for example, increasing perceived effectiveness toward selecting the online degree is an effective way to prevent viral transmission during the COVID-19 lockdown. Students' decision to choose an online degree can be enhanced if they have high perceptions of the TPB model and

perceived effectiveness. Also, courses' perceived effectiveness can increase because of attitude, subjective norm, and behavioural control. In other words, choosing an online degree during the COVID-19 Pandemic is a good idea that reflects the online degree students' attitude. Educational leaders and program directors can increase subjective norms because their family and friends support choosing an online degree. Finally, perceived behaviour control can enhance students on the online degree through perceived effectiveness. As a result, educational leaders, program directors, and teachers can devise a strategy to meet the needs and expectations of students interested in any online degree program and beyond.

### **5.3. Research Contribution**

The represented respondents explain the phenomenon of sector relationships in the online education sector. The age range of the target customers in this sector is between 18 and 25 years old, and they are both female and male in an approximate proportion in numbers. Because they are only online degree students and do not have any other source of income, the target customers have a monthly salary of fewer than 10,000 baht per month. In contrast, according to the institutions' settings, the target customers who earn a salary of more than 50,001 baht may be managers or business owners who wish to improve their academic skills, particularly business administration. These customers are representatives from Thailand, other Asian countries, and other countries outside Asia. It demonstrates the growing popularity of online degrees in this sector. As a result, in the overview, the demographics are beneficial to educators and program directors in strategic planning. This study may aid educational leaders, programme directors, and teachers to implement appropriate strategies to respond to the needs and expectations of students wishing to enrol in any online degree programme and beyond. Furthermore, the findings indicate that perceived effectiveness is a significant mediator between the TPB and the intention to enrol in an online degree programme. The findings could be applied to all online degree institutions to develop strategic management using the TPB model and perceived effectiveness.

### **5.4. Limitations & Recommendations**

This study is a self-administered questionnaire. Qualitative research, such as interviews and focus groups, could provide more insight into future research. Furthermore, numerous studies support the antecedents of students' intention to choose an online degree. Other factors such as perceived enjoyment (Maheshwari, 2021), student satisfaction (Limna et al., 2021), the e-learning quality model (Muqtadiroh et al., 2020), and educational relationship management (Limna & Siripipatthanakul, 2021) are recommended for further study.

Primary data, such as surveys and research and development, can help organisations improve their operations (R&D). Big data analytics, also known as artificial intelligence (AI), benefit in predicting and responding to customer needs (Siripipatthanakul & Sixl-Daniell, 2021). There is no exception for the educational sector. Thus, further research is recommended for big data analytics to respond to online students' needs and expectations.

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## APPENDIX

### Instrumentation of the Constructs for Independent, Mediator, and Dependent Variables

Original Questions	Modified Questions
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**Attitude** (Mouloudj et al., 2021)

- |  |   |
|--|---|
| 1. Using an online learning system is a good idea.   | 1. Choosing an online degree during the COVID-19 Pandemic is a good idea.   |
| 2. I like using the online learning system.          | 2. I like to choose the online degree during the COVID-19 Pandemic.         |
| 3. It is desirable to use an online learning system. | 3. It is desirable to choose an online degree during the COVID-19 Pandemic. |
- 

**Subjective Norm** (Mouloudj et al., 2021)

- |   |  |
|---|--|
| 4. People important to me support my use of the online learning system.               | 4. People essential to me supporting my choosing an online degree during the COVID-19.                       |
| 5. People who influence me think that I should use the online learning system.        | 5. People who influence me think I should choose the online degree during the COVID-19 Pandemic.             |
| 6. People whose opinions I value prefer that I should use the online learning system. | 6. People whose opinions I value prefer that I should choose the online degree during the COVID-19 pandemic. |
- 

**Perceived Behavioural Control** (Mouloudj et al., 2021)

- |   |   |
|---|---|
| 7. Using an online learning system is entirely within my control. | 7. Choosing the online degree during the COVID-19 is entirely within my control.  |
| 8. I have the resources to use the online learning system.        | 8. I have the resources to choose the online degree during the COVID-19 Pandemic. |
| 9. I have the ability to use an online learning system.           | 9. I have the ability to choose the online degree during the COVID-19 Pandemic.   |
- 

**Perceived Effectiveness** (Prasetyo et al., 2020)

- |   |  |
|---|--|
| 10. I think the preventive protocols for the COVID-19 outbreak in my country are effective.     | 10. Choosing the online degree during the COVID-19 Pandemic is effective.                                    |
| 11. I think the preventive protocols for the COVID-19 outbreak in my community are informative. | 11. The online degree on social media during the COVID-19 Pandemic is informative.                           |
| 12. I think lockdown is an effective way to prevent COVID-19.                                   | 12. Choosing the online degree during the COVID-19 lockdown is an effective way to prevent its transmission. |
- 

**Intention to Choose an Online Degree** (Mouloudj et al., 2021)

- |   |   |
|---|---|
| 13. I intend to use the online learning system in the future. | 13. I decide to choose an online degree during the COVID-19 Pandemic. |
|---|---|

14. I predict I will use the online learning system in the future.

14. I predict I will choose an online degree after the COVID-19 Pandemic.

15. I plan to use the online learning system in the future.

15. I plan to continue the online degree during the COVID-19 Pandemic.

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