

A Study on Taiwan Technical & Vocational Colleges or Universities Instructors' Behavior Intentions on Participating in Leisure Travel

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Abstract: This study aims to verify and to understand Taiwan technical college instructors' behavior intentions on participating in leisure travel. The research population is the Instructors (full-time lecturer position and above) of technical & vocational colleges in Taiwan. The Stratified Random Sampling method is used to sample the population, while PLS-SEM is adopted to verify the overall research model and the fitting effect of its Inner Model and Outer Model. The Bayesian Estimation method is adopted to analyze the path coefficients between "implicit (unobservable) variables" of the Inner Model to determine the model's path effect. The Sobel test is applied to learn if the inner model's direct effect, mediating effect or total effect, is significant. These results show that, for instructors of technical & vocational colleges or universities in Taiwan: (1) Attitude has a positive and significant effect on behavior intentions, indicating that the more teachers are aware of the positive benefits brought forth by participating in leisure travel activities, the more their intentions of such behavior are strengthened; (2) Subjective norms have a positive and significant effect on behavior intentions, that is, most teachers involved in leisure activities will listen to and follow the opinions of influential others, with whom they join together in the participation of such activities, which also enhances the participation motives and wishes; and (3) Perceptual behavior control has a positive and significant effect on behavior intentions, that is, tour operators may encourage college instructors' participation in leisure activities during weekends, or winter and summer vacations, by increasing internal/external conditions, abilities, and external resources and opportunities when planning travel activities or incentive activities. Additionally, these research findings may serve tour operators as a reference for business decision-making.

Keywords: Attitude, Subjective Norms, Perceptual Behavior Control, Behavior Intention

I. INTRODUCTION

Taiwan, situated in the tropics with the Tropic of Cancer running across the island, has abundant animal and plant resources, as well as precious natural scenery, in addition to the special characteristics of agriculture, forestry, fisheries, animal husbandry and indigenous culture, which provide good development conditions for leisure travel. With the implementation of the two-day weekend, which extends the time for partaking in leisure travel, people in Taiwan are gradually learning by example from western countries about the concept of participating in leisure activities [1] .

In recent years, the gradual increase in national income and living standards enables the public to have more time and energy to participate in various leisure activities. Today, with the booming of leisure travel and the government's active promotion of national tourism, the public is paying more attention to participating in leisure activities during their spare time than in the past. The rise of leisure activity awareness increases the Taiwanese people's fervor for leisure travel.

In addition, travel has become one of the most popular leisure activities in recent years. Not only is public demanding more leisure travel activities, the quality of these activities is becoming more important. With the lengthening of leisure time, and increasing work pressure for teachers, leisure travel has become an important activity in helping teachers release tensions.

Furthermore, teachers are the important motivators, cultivating future masters of the country. As the society changes, the demands on teachers become higher. In addition to the constant pressure that comes with this professional line of work, such as: curriculum, teaching, student problems, and administrative activities, there are also the challenges of the second battlefield after work, such as family affairs, children's homework, and caring for the elders. Therefore, relieving stress and balancing life is a major issue for people in the profession of teaching [2] . In particular, college instructors in Taiwan are facing the pressure brought on by a low birth rate (fewer students), making it even more important to relieve stress and balance life with leisure travel activities.

The motivations described above are the basis of this study, to understand Taiwan Technical College instructors' Behavior Intentions in Participating in Leisure Travel. The research population of this study is the Instructors (full-time lecturer position and above) of technical & vocational colleges in Taiwan. The Stratified Random Sampling method is adopted to sample the population, while PLS-SEM is applied to verify the fitting effect of the Inner Model and Outer Model of this paper. Therefore, the main objective of this study is to understand, for technical & vocational college or universities instructors in Taiwan, the following;

(1) Does attitude have a positive and significant effect on behavior intentions? That is, will the teachers' awareness of the positive benefits brought forth by participating in leisure travel activities strengthen their intentions on such behavior?

(2) Do subjective norms have a positive and significant effect on behavior intentions? That is, will most teachers involved in leisure activities listen to and follow the opinions of influential others, with whom they join together in the participation of such activities, which also enhances their participation motives and wishes?

(3) Does perceptual behavior control have a positive and significant effect on behavior intentions? That is, will tour operators be able to encourage college instructors' participation in leisure activities during weekends, or winter and summer vacations, by increasing internal/external conditions, capabilities, and external resources and opportunities when planning travel activities or incentive activities?

II. LITERATURE REVIEW

The literature review concerning major constructs of this study, which include attitude, subjective norms, perceptual behavior control and behavior intention, is discussed as follows:

The Definition of Attitude

The Conceptual Definition of "Attitude"

The conceptual definition of attitude in this study refers to "an individual's positive or negative psychological inclination towards, and evaluation of, a particular object. The main construct of attitude includes two sub-constructs: personal interest and social interest. The former (personal interest) refers to that which can help improve an individual's interest, such as: increased monetary income and/or assets, or enhanced confidence and improved quality of life; while, the latter (social interest) refers to that which can enhance the interests of others, such as: promoting industrial development, or enhancing the country's image." The conceptual definition of the above is summarized from the following literature:

Zhang [3] stated that psychologists define attitude as: The individual's positive or negative assessment of a particular event, or matter.

Weng, Zhang and Weng [4] believed that experts and scholars often define Attitude in three aspects: Cognition, affect and behavioral tendency; while, others define attitude in psychological state, reaction or evaluation aspects.

Cheng [5] argued that attitude is the positive or negative cognitive evaluation that individuals hold persistently towards the things, with which they come into contact, and that it influences the behavior or decision-making of individuals, and it is consistent with behavior.

Hu [6] pointed out that attitude usually refers to the individual's psychological inclination towards, and evaluation of a particular object. In other words, it is the opinion of an individual of a certain object, whether it is like or dislike, close or alienation, and the special reactionary tendency inspired by it.

The Operational Definition of Personal Interest and Social Interest

Chen [7] pointed out that personal interest refers to that which can help improve an individual's interest, which can be tangible, such as increased monetary income and/or asset, or intangible, such as enhanced confidence, or improved quality of life; While, social interest refers to that which can enhance the interests of others, such as: promoting industrial development, or enhancing the country's image.

The Definition of Subjective Norms

The Conceptual Definition of Subjective Norms

The conceptual definition of subjective norms in this study refers to "the social pressure an individual may experience that comes from important others or groups when engaging in a specific behavior. The main construct of subjective norms includes two sub-constructs: main groups (such as: immediate family members) and subgroups (such as other relations, colleagues, friends, and others). The former (main groups) refers to people, with whom the individual often comes in contact; while, the latter (subgroups) is a source of information. By referencing the information provided by such a source, the individual may have a guideline when engaging in the behavior." The conceptual definition of the above is summarized from the following literature:

Ajzen [8] proposed that subjective norms could be expressed as the product of normative belief and motivation to comply. Normative belief refers to the opinions of others or groups on a particular behavior of an individual; while, motivation to comply refers to the extent of compliance of an individual to the opinions of others or groups. The product of the two can be used to predict the individual's subjective norms on a specific behavior.

Ajzen [9] pointed out that subjective norms refers to the belief people have about how they are perceived with a certain behavior by the people they care about; that is, the social pressure an individual must endure when adopting a certain behavior in terms of whether the behavior is expected, supported or liked.

Karahanna, Straub, Chervany [10] believed that subjective norms are a social impact process, which includes two categories: (1) Normative influence and (2) informational influence.

Hsu [11] believed that subjective norms refer to the social pressures, felt by an individual, from important others or groups around the individual when engaging in a particular behavior.

Lee [12] argued that subjective norms refer to the social perception pressure an individual experiences when participating in action concerning a specific event or matter, such as: The pressure from elders, parents, teachers, siblings, peers or friends, concerning whether to support the individual in taking part in a certain event or matter. If an individual's participation in the behavior is supported, the more likely the individual is to participate in the behavior; conversely, the possibility of engaging in such a behavior is less likely.

The Operational Definition of Main Group and Subgroups

Hsu [11] proposed that main group refers to the people with whom an individual often comes in contact; While, subgroups refer to a source of information. By referring to the information provided by such a source, the individual may have a guideline when engaging in the behavior.

Hu [6] pointed out that the measurement of subjective norms in his study was calculated from the "degree of approval" and the "degree of compliance" of the behavior from individuals or groups who are capable of influencing the consumer. The distinguishing between "main group" (family members) and "subgroups" (relations, colleagues, friends, and others) is determined based on the degree of intimacy, continuity, and emotional display.

The conceptual definition of main group and subgroups in this study is derived from the definition proposed by Hu [6] .

The Definition of Perceptual Behavior Control

The Conceptual Definition of Perceptual Behavior Control

The conceptual definition of perceptual behavior control in this study refers to "the belief that an individual has about his/her ability to complete a certain behavior when participating in a specific matter or thing, and the main construct of perceptual behavior control includes two sub-constructs: Self-Ability and Convenient Conditions. The former (Self-Ability) refers to the individual's self-perception about the ability to complete such a behavior, such as: the levels of knowledge, experience, and ability to complete the decision-making; while, the latter (Convenient Conditions) refers to the level of an individual's perception concerning the needed opportunity and the facilitation of resources, such as: the accessibility to acquire energy." The conceptual definition of the above is summarized from the following literature:

Ajzen [8] pointed out that perceptual behavior control represents the performance level an individual has over controllable behaviors, and is determined by three factors: Ability, opportunity, and resource. It also reflects the expected obstacles and experiences that an individual has had when engaging in similar behaviors in the past.

Ajzen & Madden [13] argued that the performance of a behavior is not only determined by individual intentions but also includes some non-motivational factors, such as personal knowledge, time, skills required, and others. When an individual has more control over the opportunities and resources required to take actions, he/she has a higher "perceptual behavior control" and is more likely to adopt the behavior.

Ajzen [14] pointed out that when an individual considers himself or herself to have the ability to perform the action and has more opportunities that are relevant or resources, he or she will have greater perception about the controlled enforcement of the action.

Lee [12] believed that perceptual behavior control refers to the belief an individual has about his/her ability to complete a certain behavior when participating in a specific event or matter. When the resistance factor of an individual's expectation to accomplish a certain event or matter is small, the stronger the ambition of participating in the action; conversely, when the resistance is great, the lower the willingness of the individual to participate. The study shows that an individual's ability to control the perceived difficulties is an important variable of participation intentions. Behavioral control perception can be divided into internal self-ability and

external resource facilitation, the former refers to the perceived behavior of an individual about whether the individual can complete a specific event or matter, the latter refers to the availability and the facilitation of the resources that an individual can obtain. In simple terms, the anticipated difficulty level that an individual can complete a certain event or matter, and the hindrance factors when an individual performs a perceived behavior and the accessibility of resources can directly affect the participation behavior.

The Operational Definition of Self-Ability and Convenient Conditions

Ajzen [9] pointed out that it is proposed in the Theory of Planned Behavior that the resources and opportunities required by an individual to perform behaviors must be in concert with convenient conditions, such as: the availability of resources when performing a particular behavior, whether the access is convenient, and whether there is sufficient time and money.

Bandura [15] believed that the level of self-ability would not only affect the individual's thinking patterns, but also have a direct or indirect effect on the choice of behavior, the amount and duration of efforts, the ups and downs of emotions, and achievements. He thinks that everyone has his or her own system of self, which is the cognitive mechanism, and self-ability is an important core concept in the cognitive mechanism. "Self-ability" represents an individual's self-perception about his/her ability to complete a behavior, indicating that the higher the self-ability, the higher the perceptual behavior control [6] .

Ajzen [16] pointed out that self-ability refers to the difficulty level of performing the behavior itself, and that cognitive controllability refers to the extent to which an individual has control over the behavior.

Hsu [11] believed that Self-Ability refers to the individual's self-perception about the ability to complete such a behavior, such as: the levels of knowledge, experience, and ability to complete the decision-making; while, Convenient Conditions refers to the level of an individual's perception concerning the need of the opportunity and the facilitation of resources, such as: the accessibility to acquire energy.

The "operational definitions" of self-ability and convenient conditions in this study are derived from the proposal made by Hsu [11] .

The Conceptual Definition of Behavior Intention

The conceptual definition of Behavior Intention in this study refers to "the best indicator to predict the occurrence of behaviors, which can be used to explore the subjective probability that an individual is expected to engage certain behaviors. Its formation is affected by three factors: attitude, subjective norms, and perceptual behavior control. The higher the intention an individual has to engage a certain event or matter, the higher the probability of actual participation. The main construct of behavior intention includes: (1) positive behavior intentions: loyalty, pay more; (2) negative behavior intentions: switch, internal response, and external response." The conceptual definition of the above is summarized from the following literature:

Ajzen and Fishbein developed a Theory of Reasoned Action (TRA) in 1980 to explain the process of decision making of individuals, which assumes that individuals think "rationally" about their behaviors before they act, and the decisive factor of the behavior is the behavior intention. Other factors that may affect this behavior will indirectly affect their performance through the behavior intention.

Ajzen and Driver [17] believed that behavior intention is the best indicator to predict the occurrence of behaviors, and it can be used to explore the subjective probability that an individual is expected to engage certain behaviors.

Parasuraman, Zeithaml and Berry [18] pointed out that the main construct of behavior intention includes positive behavior intentions: Loyalty, pay more; and negative behavior intentions: switch, internal response, and external response.

Wang [19] believed that the determinants of behavior intention may be divided into (1) whether the individual is interested in certain events, or matters; (2) Whether the individual has the subjective norms supported by important relations when participating in a certain event, or matter.

McKnight, Choudhury and Kacmar [20] argued that behavior intention refers to the individual's assessment of the intention and feasibility of engaging in a particular event or matter, a spontaneous characterization of behavior intention to the event or matter in question.

Li [21] pointed out that the formation of behavior intention is affected by three factors: Attitude, subjective norms, and perceptual behavior control. The higher the intention an individual has to engage a certain event or matter, the higher the probability of actual participation.

According to Hu [6] , behavior intention refers to the extent to which an individual wants to take a particular course of action. It may be measured based on one's willingness to try, and the efforts paid to realize such a behavior.

The Correlation between Attitude and Behavior Intention

Literature review pertaining to the correlation between attitude and behavior intention is briefly described below:

Hsu [22] pointed out that attitude has a significant and positive effect on behavior intention.

The research of Lu and Cheng [23] shows that attitude, subjective norms and behavioral controlled perception positively affect behavior intention.

Shei [24] pointed out that attitude has a positive and significant effect on behavior intention.

Hong and Fu [25] found that the attitude of energy saving and carbon reduction is significantly and positively correlated with behavior intention.

Wang [26] pointed out that attitude has a significant and positive impact on purchase intention.

The research of Wang [27] showed that global warming attitude positively affects behavior intention.

Hsu [11] points out attitude and behavior intention are positively correlated; If an individual's attitude toward a behavior is more positive, the intention of performing such a behavior will be higher.

The study of Tseng [28] showed that the attitude of recycling waste edible oil and behavior intention are significantly and positively correlated.

Lai [29] believed that the attitude of Taiwanese people going abroad to participate in sports and tourism has a positive and significant effect on behavior intention.

Summarizing aforementioned literature, following hypotheses are deduced in this study:

H_{1a} : Personal Interest has a positive and significant effect on attitude.

H_{1b} : Social Interest has a positive and significant effect on attitude.

That is, Hypothesis 1 (H₁): attitude has a positive and significant effect on behavior intention.

Summarizing the above, the research target of each paper is different from this study. To verify that the hypothesis 1 (H₁), i.e. Taiwan technical & vocational college or universities instructors' attitude about participating in leisure travel has a positive and significant effect on behavior intention, proposed by this study is valid, it is necessary to use interview/questionnaire/data collection and statistics methods.

The Correlation between Subjective Norms and Behavior Intention

Literature review pertaining to the correlation between attitude and behavior intention is briefly described below:

The research of Fan [30] showed that the subjective norms, attitude, and behavioral controlled perception of college students relating to their participation in ecotourism have significant and positive effects on behavior intention, that is, if subjective norms, attitude, and behavioral controlled perception are more positive, then the behavior intention of participating in ecotourism is stronger.

Chou [31] suggested that subjective norms, attitude and perceptual behavior control have a significant effect on behavior intention.

Shei [24] pointed out that subjective norms have a positive and significant effect on behavior intention.

Tan [32] found that the three variables: Subjective norms, attitude, and perceptual behavior control, are positive and significantly correlated with the behavior intention of organ donation.

Wang [26] pointed out that subjective norms have a significant and positive impact on purchase intention.

The research of Hu [6] found that consumers' behavior intention of buying Chinese medicine is positively affected by purchase intention; While, purchase intention is positively affected by subjective norms, attitude, and perceptual behavior control.

The research findings of Chen [33] showed that subjective norms, attitude and perceptual behavior control positively affect the behavior intention of the public to engage in independent overseas travel.

Hong and Fu [25] found that the subjective norms of energy saving and carbon reduction is significantly and positively correlated with behavior intention.

Summarizing aforementioned literature, following hypotheses are deduced in this study:

H_{2a} : The main group has a positive and significant effect on subjective norms.

H_{2b} : The subgroups have a positive and significant effect on subjective norms.

That is, Hypothesis 2 (H₂): Subjective norms have a positive and significant effect on behavior intention.

Summarizing the above, the research target of each paper is different from this study. To verify that the hypothesis 2 (H₂), i.e. Taiwan technical & vocational college or universities instructors' subjective norms about

participating in leisure travel has a positive and significant effect on behavior intention, proposed by this study is valid, it is necessary to use interview/questionnaire/data collection and statistics methods.

The Correlation between Perceptual Behavior Control and Behavior Intention

Ajzen & Fishbein [34] argued that perceptual behavior control also refers to the perceived ease or difficulty to complete the behavior, when an individual adopts a certain behavior. The higher the perceptual behavior control, the higher the behavior intention; conversely, the lower the perceptual behavior control, the lower the behavior intention.

Lin [35] believed that perceived value has a positive and significant effect on behavior intention.

Lin [36] found that perceptual behavior control is the most important impact factor on the behavior intention of retired teachers to volunteer at schools.

Chang and Lin [37] pointed out that the cognition of product extension perceived fit of a brand affects consumers' behavior intention about product extension.

The research of Chan [38] showed that the three variables: Perceptual behavior control, attitude and subjective norms, affect the behavior intention of Taiwanese people to travel in Hokkaido; where perceptual behavior control has the highest impact, followed by subjective norms and attitude.

Shei [24] pointed out that perceptual behavior control has a positive and significant effect on behavior intention.

The research of Mei, Yu and Wu [39] found that the perceived value of a telecom company affects customer loyalty and customer satisfaction, and in turn affects consumers' behavior intention to purchase the products of the telecom company.

Hong and Fu [25] found that the perceptual behavior control of energy saving and carbon reduction is significantly and positively correlated with behavior intention.

Wang [26] pointed out that perceptual behavior control has a significant and positive impact on purchase intention.

The research of Lai [29] found that the perceptual behavior control of Taiwanese people going abroad to participate in sports and tourism has a positive and significant effect on behavior intention.

Summarizing aforementioned literature, the following hypotheses are deduced in this study:

H_{3a} : Self-ability has a positive and significant effect on perceptual behavior control.

H_{3b} : Convenient conditions have a positive and significant effect on perceptual behavior control.

That is, Hypothesis 3 (H₃): Perceptual behavior control has a significant positive effect on behavior intention.

Summarizing the above, the research target of each paper is different from this study. To verify that the hypothesis 3 (H₃), i.e. Taiwan technical & vocational college instructors' perceptual behavior control about participating in leisure travel has a positive and significant effect on behavior intention, proposed by this study is valid, it is necessary to use interview/questionnaire/data collection and statistics methods.

Research Structure

Following the research objectives, hypotheses and literature review described above, the research framework of this study is modified, from Ajzen's [9] theoretic framework model to a "Three-Factor" model, for verification as listed below:

As shown in Figure 1:

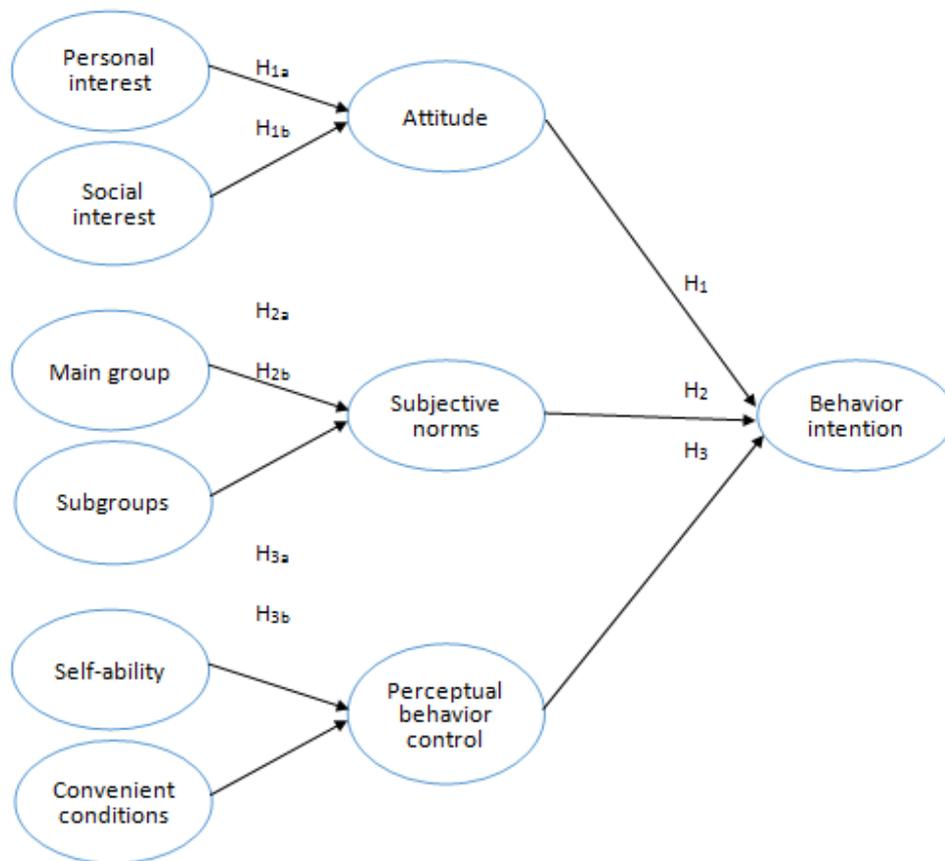


Figure 1 Research Framework

III. RESEARCH METHODOLOGY

Research Subjects and Questionnaire Design

This study issues questionnaires to the instructors (full-time lecturer position and above) of technical & vocational colleges in Taiwan via Stratified Random Sampling. To enhance the content validity and reliability of the questionnaire, this study conducts an expert questionnaire survey in the design phase and performs a pilot test to modify or eliminate unsuitable questions. A post-test is then administered with 150 questionnaires issued. The number of recovered effective questionnaires is 63, at an effective recovery rate of 42%. Table 1 summarizes the question allocations to different variables in the main construct (conceptual).

Table 1 Question Structure of the Questionnaire

Main construct	No. of questions	Reference
Attitude	4	Cheng [5] , Hu [6]
Subjective norms	4	Hsu [11] , Lee [12]
Perceptual behavior control	4	Lee [12]
Behavior intention	4	Li [21] , Hu [6]

Partial Least Squares Regression- Lineal Structural Model (PLS-SEM)

There are two SEM families: covariance-based SEM (CBSEM) and variance-based SEM, a.k.a. partial least square SEM (PLS-SEM). Table 2 shows the differences of these two models. This study uses PLS-SEM due to its following advantages: (1) model complexity; (2) exploratory research; (3) non-normal data; (4) focus on prediction; (5) theory development; (6) convergence ensured; (7) use of categorical variables; (8) theory

testing etc. [40] . Meanwhile, the PLS-SEM model is employed to understand the goodness of fit in the inner model and the outer model.

Table2

	PLS-SEM
Goal	Greatest explanatory power for dependent variables
Data source	raw data (format: .csv or .txt)
Software	Smart PLS, PLS-Graph, Visual PLS etc.

Source: Hair et al [40] & this study

Questionnaire Data Processing and Measurement System

This study sets up four inner (latent) variables, i.e. attitude, subjective norms, perceptual behavior control and behavior intention. Each latent variable can be further divided into outer (observable) variables, and a number of questions are allocated to each observable variable. The original surveyed data is processed into data files. To understand the goodness of fit of the inner model and the outer model, this study employs the PLS-SEM model to examine the path coefficients of individual latent (unobservable) variables in the inner model. This study uses the Bayesian estimation to analyze the path effects of the structural models and then conducts the Sobel tests, to gauge the significance of direct effects, mediating effects and total effects.

CMV test

Using Latent marker variable with PLS and One marker variable for control to test common-method bias, it is determined that common method variance does not exist in the questionnaire designed by this study. Figure 2 shows the "model after using the marker variable".

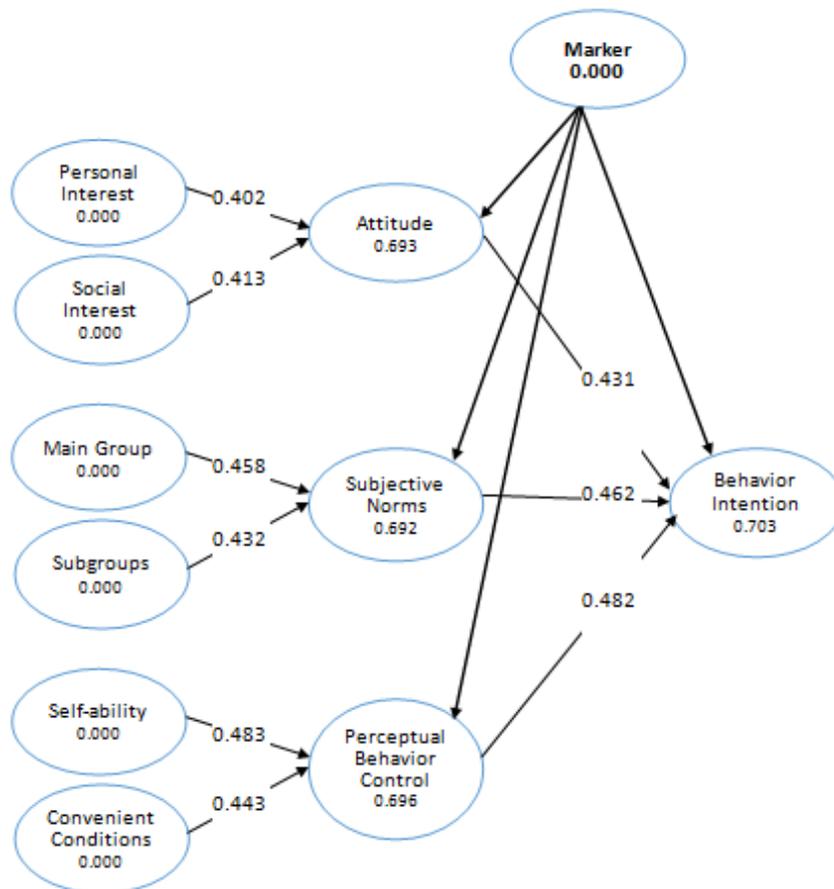


Figure 2 Latent marker variable with PLS

IV. RESEARCH ANALYSIS & FINDINGS

Outer Model

The outer model in this study is a reflective one. Table 3 shows the assessment of this reflective model. The Cronbach's α is greater than 0.8, Composite Reliability (CR) greater than 0.5, Average Variance Extracted (AVE) greater than 0.5. Hence, the outer model has convergence validity. Meanwhile, the AVE is larger than square of constructs correlation, indicative of the discriminate validity in the outer model. Table 4 indicates that the factor loading is higher than low cross loading, another indication of the discriminate validity in the outer model [41] .

Table3 Indicators for Convergence Validity and AVE Discriminate Validity of Outer Model

	AVE	Composite Reliability	Cronbach's α	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) PI→AT	0.682	0.793	0.781	0.682								
(2) SI→AT	0.743	0.721	0.713	0.403	0.743							
(3) AT→BI	0.632	0.732	0.724	0.431	0.442	0.632						
(4) MG→SN	0.682	0.801	0.783	0.431	0.424	0.413	0.682					
(5) SG→SN	0.671	0.732	0.721	0.424	0.432	0.414	0.431	0.671				
(6) SN→BI	0.672	0.733	0.711	0.424	0.441	0.421	0.432	0.421	0.672			
(7) SA→PBC	0.653	0.714	0.782	0.402	0.423	0.422	0.431	0.414	0.421	0.653		
(8) CC→PBC	0.653	0.713	0.731	0.401	0.422	0.412	0.424	0.413	0.414	0.413	0.653	
(9) PBC→BI	0.682	0.751	0.723	0.421	0.431	0.441	0.432	0.421	0.432	0.411	0.413	0.682

Note:

- (1) PI (Personal Interest)→AT (Attitude) ; (2) SI (Social Interest)→AT (Attitude)
- (3) AT (Attitude)→BI (Behavior Intention) ; (4) MG (Main Group)→SN (Subjective Norms)
- (5) SG (Subgroups)→SN (Subjective Norms) ; (6) SN (Subjective Norms)→BI (Behavior Intention)
- (7) SA (Self-Ability)→PBC (Perceptual Behavior Control) ; (8) CC (Convenient Conditions)→PBC (Perceptual Behavior Control) ; (9) PBC (Perceptual Behavior Control)→BI (Behavior Intention)

Table 4 Discriminate Validity

	PI	SI	MG	SG	SA	CC	AT	SN	PBC	BI
PI1	.822	.321	.232	.344	.242	.243	.232	.263	.233	.234
PI2	.831	.333	.263	.354	.273	.314	.313	.311	.234	.212
SI1	.262	.821	.344	.311	.341	.302	.244	.321	.333	.323
SI2	.242	.812	.342	.343	.312	.311	.332	.324	.322	.311
MG1	.211	.331	.801	.333	.321	.311	.353	.314	.320	.312
MG2	.291	.323	.802	.294	.324	.262	.334	.312	.323	.312
SG1	.252	.232	.231	.833	.313	.294	.201	.294	.312	.314
SG2	.292	.251	.222	.821	.323	.201	.322	.313	.311	.323
SA1	.233	.221	.222	.392	.841	.311	.292	.284	.253	.281
SA2	.243	.232	.243	.223	.823	.243	.243	.351	.251	.243
CC1	.211	.341	.241	.321	.213	.831	.234	.322	.301	.241
CC2	.224	.234	.240	.313	.224	.812	.261	.313	.313	.312
AT1	.213	.252	.321	.252	.213	.252	.842	.252	.341	.231
AT2	.234	.242	.321	.211	.242	.222	.831	.250	.332	.211
SN1	.331	.243	.254	.341	.231	.243	.342	.782	.311	.334
SN2	.242	.243	.251	.354	.242	.243	.331	.813	.312	.237
PBC1	.313	.311	.321	.251	.321	.232	.321	.222	.823	.321
PBC2	.341	.312	.322	.250	.311	.242	.323	.243	.821	.314
BI1	.331	.243	.331	.244	.331	.243	.342	.244	.463	.821
BI2	.342	.241	.334	.254	.232	.222	.351	.254	.482	.823

Remarks:

- (1) Factor loadings are in Bold font
- (2) Cross loadings are in Serif font

Inner Model

The validity indicators of the inner model are as follows: (1) Coefficient of determination (R^2): According to Hair et al [40] , if R^2 of the dependent inner variables are greater than 0.67, they are of practical value; if $R^2=0.33$, they are of a medium level of explanatory power; if $R^2=0.19$, they are of a weak level of explanatory power; (2) Path Coefficient; and (3) Effect size (f^2): this indicator represents the influence of independent variables on dependent variable. According to Cohen [42] , if $f^2>0.35$, it suggests strong influence of the independent variables on dependent variable; if $f^2=0.15$, it suggests medium influence and if $f^2=0.02$, it suggests weak influence. Meanwhile, if predictive relevance (Q^2) >0 , it indicates the influence of independent variables on dependent variable. The greater the Q^2 , the stronger the predictive relevance is. This is derived with the blindfolding function; (4) Goodness of fit (GOF): the equation is $\sqrt{R^2*AVE}=\sqrt{\text{redundancy}}$. If $GOF_{\text{small}}=0.1$, $GOF_{\text{medium}}=0.25$, $GOF_{\text{large}}=0.36$. Table 5 shows the path coefficients of the inner model. The p-values of all the path coefficients are smaller than 0.001, and are statistically significant. Additionally, according to Table 6, the R^2 of dependent variables (AT, SN and PCB) are 0.563, 0.582 and 0.593, respectively. The redundancy value is 0.692, indicative of goodness of fit in the inner model.

Table 5 Path Coefficients (Mean, STDEV, t-Values)

	Original Sample (O)	Standard Deviation (STDEV)	t-Statistics (O/STERR)	p-value
(1) PI→AT	0.402	0.113	3.557	0.000
(2) SI→AT	0.413	0.122	3.385	0.000
(3) AT→BI	0.431	0.094	4.585	0.000
(4) MG→SN	0.458	0.101	4.534	0.000
(5) SG→SN	0.432	0.093	4.645	0.000
(6) SN→BI	0.462	0.083	5.566	0.000
(7) SA→PBC	0.483	0.112	4.313	0.000
(8) CC→PBC	0.443	0.092	4.815	0.000
(9) PBC→BI	0.482	0.082	5.878	0.000

Remarks:

- (1) The bootstrap procedure is just used to compute standard error and t-values of outer loadings, outer weights, and path coefficients. For these reasons: $t = \text{original} / \text{std. error}$
- (2) Report→Html Report
- (3) $t > 1.96$ at $p < 0.05$; $t > 2.58$, at $p < 0.01$; $t > 3.29$ at $p < 0.001$ for two-tailed tests

Table 6 R Square Value of Dependent Variables (AT, SN & PCB) and Redundancy Value

	R^2	Communality	AVE	Redundancy
AT1	0.000	0.682	0.682	0.692
AT2	0.000	0.682	0.682	
SN1	0.000	0.743	0.743	
SN2	0.000	0.743	0.743	
PBC1	0.000	0.654	0.654	
PBC2	0.000	0.653	0.653	
AT	0.563	0.682	0.682	
SN	0.582	0.743	0.743	
PBC	0.593	0.654	0.654	
BI	0.603	0.686	0.686	

Remarks :

- (1) Factor loadings > 0.7
- (2) $AVE = \text{Communality} > 0.5$ (reflective index)
- (3) Composite Reliability = Cronbach's $\alpha > 0.7$
- (4) Redundancy = $\sqrt{\text{Average Communality} * \text{Average AVE}}$, and the greater the Redundancy, the better the model.
- (5) The six sub-constructs (AT1, AT2, SN1, SN2, PBC1, and PBC2) of this research model are Independent Variables.

Overall Model Estimates

Figure 3 shows the standardized model estimates, regression path coefficients and R squares of the dependent variables.

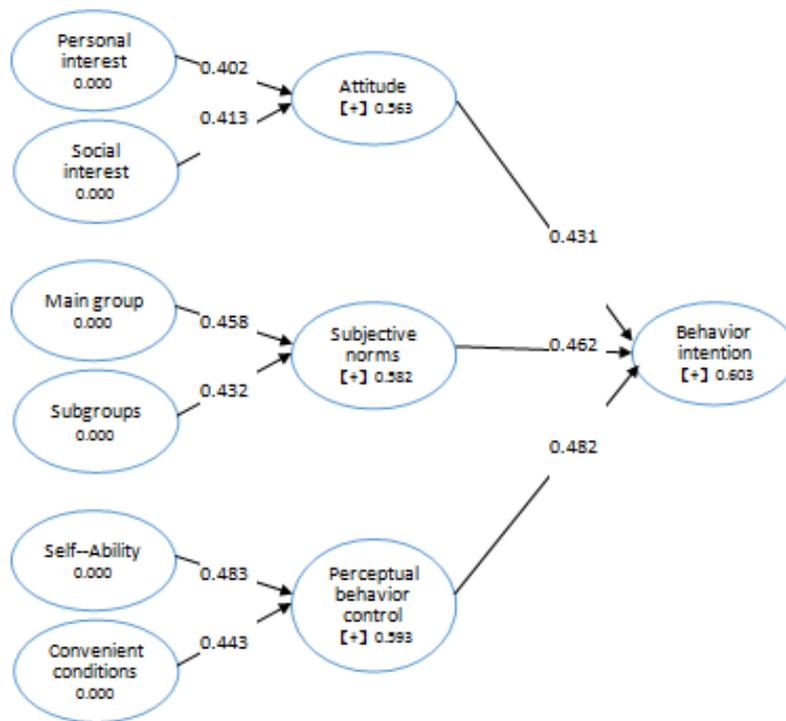


Figure 3 The standardized results of estimated overall model

Significance Tests

Figure 4 shows that the significance tests on the model by using Smart PLS. The numbers on the line of the inner model indicate *t* values. The *t* values of greater than 1.96 indicate statistical significance. The unstandardized numbers in the outer model indicate measurement coefficients.

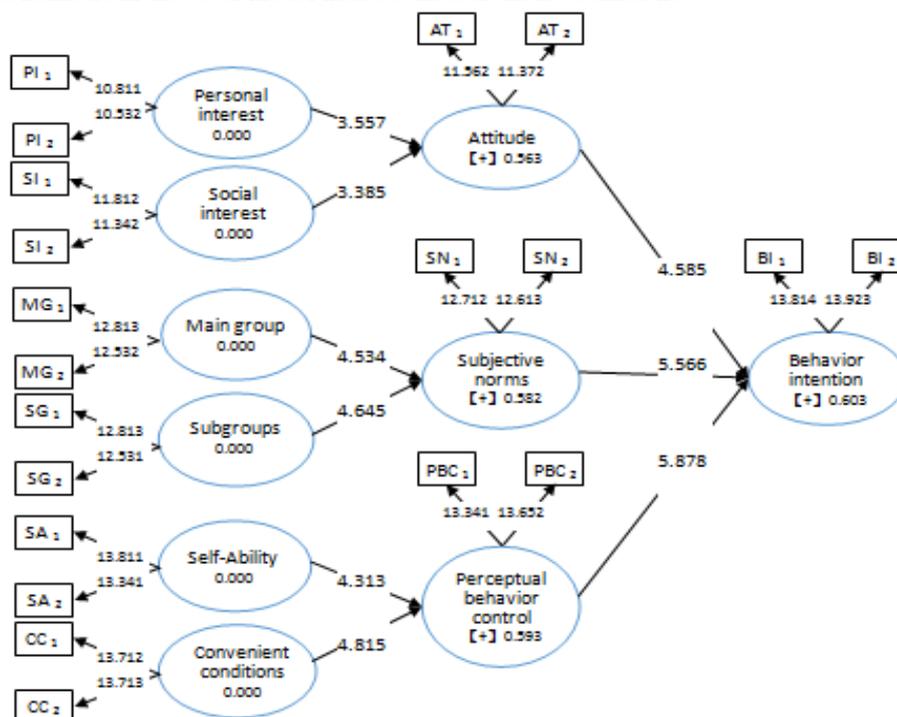


Figure 4 Significance Test Results

Analysis & Tests on Path Effects of Inner Model

This study uses Bayesian estimations to examine the path coefficients of latent (unobservable) variables in the structural model. This is followed with the Sobel tests to gauge the significance of the mediating effects, using attitude, subjective norms and perceptual behavior control as mediating factors. Tables 7 and 8 show:

- (1) T statistics of PI to AT (O/STERR) 3.557 > 3.29, indicative of significant indirect effects.
- (2) T statistics of SI to AT (O/STERR) 3.385 > 3.29, indicative of significant indirect effects.
- (3) T statistics of AT to BI (O/STERR) 4.585 > 3.29, indicative of significant indirect effects.**
- (4) T statistics of MG to SN (O/STERR) 4.534 > 3.29, indicative of significant indirect effects.
- (5) T statistics of SG to SN (O/STERR) 4.645 > 3.29, indicative of significant indirect effects.
- (6) T statistics of SN to BI (O/STERR) 5.566 > 3.29, indicative of significant indirect effects.**
- (7) T statistics of SA to PBC (O/STERR) 4.313 > 3.29, indicative of significant indirect effects.
- (8) T statistics of CC to PBC (O/STERR) 4.815 > 3.29, indicative of significant indirect effects.
- (9) T statistics of PBC to BI (O/STERR) 5.878 > 3.29, indicative of significant indirect effects.**

In addition, Variance Account For (VAF)=TIE/TE=88.64% is greater than 80.00% (Table 8), which shows that service quality, brand equity, and relationship quality are "complete mediating factors".

Table7 Sobel Test: Bootstrapping→ Path Coefficients (Mean, STDEV, t-Values)

	Original Sample(O)	Standard Deviation(STDEV)	t-Statistics (O/STERR)	p-value
(1) PI→AT	0.402	0.113	3.557	***
(2) SI→AT	0.413	0.122	3.385	***
(3)AT→BI	0.431	0.094	4.585	***
(4) MG→SN	0.458	0.101	4.534	***
(5) SG→SN	0.432	0.093	4.645	***
(6) SN→BI	0.462	0.083	5.566	***
(7) SA→PBC	0.483	0.112	4.313	***
(8) CC→PBC	0.443	0.092	4.815	***
(9) PBC→BI	0.482	0.082	5.878	***

Remark:

- (1) PI→AT (Indirect Effect); SI→AT(Indirect Effect); AT→BI (Indirect Effect); MG→SN (Indirect Effect); SG→SN(Indirect Effect); SN→BI (Indirect Effect); SA→PBC (Indirect Effect); CC→PBC (Indirect Effect); PBC→BI(Indirect Effect) ; RQ→OP (Indirect Effect)

Table8 Variance Account For (VAF)

	PI	SI	MG	SG	SA	CC	AT	SN	PBC	BI	VAF
Indirect Effect(IE)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2624	0.3613	0.3627	0.0000	0.8864 (88.64%)

Remarks:

- (1) Total Effect (TE) = Direct Effect+ Indirect Effect
- (2) When VAF>80%, it indicates a complete mediating effect [40] . The model of this study shows VAF=88.64%, which indicates that attitude, subjective norms and perceptual behavior control have "complete" mediating effects.

Summarizing aforementioned Table 7 and Figures 3 & 4, following research findings are deduced in this study:

- (1) H_{1-a}: The personal interest of Taiwan technical & vocational colleges or universitiesinstructors has a positive and significant effect on attitude (regression path coefficient=0.402; t value=3.557); Hypothesis 1-a (H_{1-a}) is thusly supported. (Hypothesis substantiated)
- (2) H_{1-b}: The social interest of Taiwan technical & vocational colleges or universitiesinstructors has a positive and significant effect on attitude (regression path coefficient=0.413; t value=3.385); Hypothesis 1-b(H_{1-b}) is thusly supported. (Hypothesis substantiated)

- (3) **H₁: The attitude of Taiwan technical & vocational colleges or universities instructors has a positive and significant effect on behavior intention (regression path coefficient=0.431; t value=4.585); Hypothesis 1(H₁) is thusly supported. (Hypothesis substantiated)**
- (4) H_{2-a}: The good main groupsof Taiwan technical & vocational colleges or universities instructors has a positive and significant effect on subjective norms (regression path coefficient=0.458; t value=4.534); Hypothesis 2-a (H_{2-a}) is thusly supported. (Hypothesis substantiated)
- (5) H_{2-b}: The subgroups of Taiwan technical & vocational colleges or universities instructors has a positive and significant effect on subjective norms (regression path coefficient=0.432; t value=4.645); Hypothesis2-b (H_{2-b})is thusly supported. (Hypothesis substantiated)
- (6) **H₂: The subjective norms of Taiwan technical & vocational colleges or universities instructors has a positive and significant effect on behavior intention (regression path coefficient=0.462; t value=5.566); Hypothesis 2 (H₂) is thusly supported. (Hypothesis substantiated)**
- (7) H_{3-a}: The Self-ability of Taiwan technical & vocationalcolleges or universities instructors has a positive and significant effect on perceptual behavior control (regression path coefficient=0.483; t value=4.313); Hypothesis 3-a (H_{3-a}) is thusly supported. (Hypothesis substantiated)
- (8) H_{3-b}: The convenient conditions of Taiwan technical & vocational colleges or universities instructors has a positive and significant effect on perceptual behavior control (regression path coefficient=0.443;tvalue=4.815); Hypothesis 3-b (H_{3-b}) is thusly supported. (Hypothesis substantiated)
- (9) **H₃: The perceptual behavior control of Taiwan technical & vocational colleges or universities instructors has a positive and significant effect on behavior intention (regression path coefficient=0.482; t value=5.878); Hypothesis3 (H₃) is thusly supported. (Hypothesis substantiated)**

V. CONCLUSIONS AND SUGGESTIONS

Based on the above analysis and findings, this study presents the following conclusions as its contributions, and then articulates the research limitations and suggestions to future studies.

Conclusions

Summarizing the above: the research population of this study are the instructors (full-time lecturer position and above) of technical & vocational colleges or universities in Taiwan, while the research model adopted in this study is PLS-SEM, so that this study may explore the correlations between the said colleges or universities instructors' attitude, subjective norms, perceptual behavior control and behavior intention. The conclusions are explained in the followings:

- (1) Concerning personal interest on attitude

The research findings substantiate hypothesis 1-a (H_{1-a}), that is, the personal interest of Taiwan technical & vocational college or universities instructors has a positive and significant effect on attitude.

- (2) Concerning social interest on attitude

The research findings substantiate hypothesis 1-b (H_{1-b}), that is, the social interest of Taiwan technical & vocational collegesor universities instructors has a positive and significant effect on attitude.

- (3) Concerning attitude on behavior intention

The research findings substantiate hypothesis1 (H₁), that is, the attitude of Taiwan technical & vocational collegesor universities instructors has a positive and significant effect on behavior intention.

- (4) Concerning main groups on subjective norms

The research findings substantiate hypothesis 2-a (H_{2-a}), that is, the main groups of Taiwan technical & vocational collegesor universities instructors has a positive and significant effect on subjective norms.

- (5) Concerning subgroups on subjective norms

The research findings substantiate hypothesis 2-b (H_{2-b}), that is, the subgroups of Taiwan technical & vocational collegesor universities instructors has a positive and significant effect on subjective norms.

- (6) Concerning subjective norms on behavior intention

The research findings substantiate hypothesis 2 (H₂), that is, the subjective norms of Taiwan technical & vocational colleges or universities instructors has a positive and significant effect on behavior intention.

- (7) Concerning Self-ability on perceptual behavior control

The research findings substantiate hypothesis 3-a (H_{3-a}), that is, the Self-ability of Taiwan technical & vocational collegesor universities instructors has a positive and significant effect on perceptual behavior control.

- (8) Concerning convenient conditions on perceptual behavior control

The research findings substantiate hypothesis 3-b (H_{3-b}), that is, the convenient conditions of Taiwan technical & vocational collegesor universities instructors has a positive and significant effect on perceptual behavior control.

- (9) Concerning perceptual behavior control on behavior intention

The research findings substantiate hypothesis 3 (H₃), that is, the perceptual behavior control of Taiwan

technical & vocational colleges or universities instructors has a positive and significant effect on behavior intention.

Summarizing from the aforementioned conclusions, the main constructs of the research model in this study are correlated with each other, and the inner and outer models have goodness-of-fit, while attitude, subjective norms and perceptual behavior control have "complete" mediating effect.

Research Contributions

The research findings of this study may serve as a reference for technical & vocational college or universities instructors' leisure travel and tour operators' business decision-making.

Research Limitations

Given the limited resources, this study seeks to accomplish the research tasks as robustly as possible. However, there are certain limitations. This study uses Stratified Random Sampling to achieve a lower effective recovery rate. However, there may be a bias if the effective sample is not representative of the population.

Suggestions to Future Studies

Because the correlated study on attitude, subjective norms, perceptual behavior control and behavior intention is applicable to every industry, and not confined to technical & vocational colleges or universities instructors in Taiwan, and because of the fact that this study only sampled the said instructors, subsequent researchers should attempt to explore the impacts on various industries for the sake of information extensiveness, or breakthrough innovation.

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