

A Structural Equation Modeling Analysis on Practicum Satisfaction of the Vietnamese Business Students

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Abstract

Practicum in a given host company provides an opportunity for Business students to practice and enhance their knowledge and skills that can likely promote their motivation and later marketability. In doing the practicum, students are not only considered as learners, but they are also regarded as workers in the job force. Many students might need support from their universities as well as from the supporting system in the host companies. The purpose of this research was to investigate the students' satisfaction with their practicum programs and the individual and organizational factors that would affect it. Participants were 269 (68 males and 201 females) sophomore and junior undergraduate Business students from a university of southern Vietnam. Each completed a survey collected after they finished their practicum which consists of demographic information, questions about the organizational factors (19 items), individual factors (20 items), and overall practicum satisfaction (4 items). Confirmatory factor analysis was conducted and deleted 6 items to achieve convergent and discriminant validity. Structural equation modeling was used to analyze the potential mediating effects of organizational factors on the relationship between individual factors and Practicum satisfaction. Results showed the direct effect between individual factors and Practicum satisfaction. A further multi-group analysis found a similar pattern of the path on females and males. The results suggest the student's knowledge and skills are crucial factors which related to their practicum satisfaction, organizational factors, on the other hand, are positively correlated with individual factors, however, do not affect their practicum satisfaction.

Keywords: Business students; Practicum satisfaction; Structural equation model.



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1. Introduction

Practicum is an internship-like experience that combines field experience and academic activities. Practicums allow a student to observe and document how working professionals perform their job responsibilities and participate to a limited extent in performing work-related tasks. A major difference between a practicum and an internship involves the degree of expected involvement of the student with hands-on work that internship allows a student to take on a real job focusing on application of skills and knowledge in the workplace setting (Khalil and Khalil, 2015; Ryan *et al.*, 1996). Because both involve a student working in a professional setting under the supervision and monitoring of practicing professionals. Given the close relationship between practicum and internship for students and, in general, internship satisfaction is associated with job satisfaction (Kawai and Kawai, 2012). The present study attempted to explore the factors that would affect student's satisfaction of their practicum. Practicum satisfaction can be considered as an early indication of whether a student can take care of certain kinds of work, can find the work as meaningful, and be persistent in taking challenges on job requirements. The practicum satisfaction can also provide a bridge in between student's training in university and their performance on specific work in job market.

The practicum is considered as a core for the Business major students and usually have taken by students after they completed major requirements in their program so they can have basic knowledge and skills for certain work position and equip with appropriate attitude for doing the assigned work in a business company. In Vietnam, each business student must attend two practicum courses. The first one is a 6-week session for second year students, students are mainly had some observation of the management in a assigned company. The second session is 4 weeks typically for the third year business students. They can come in a group of maximum of 5 students and they can observe or participate in various modules of a company such as sales, finance, personnel, production, and/or quality control etc. In general, practicum includes an orientation week, following a six weeks of practice with rotations in various departments under supervision, and finally an evaluation week. It is important to point out that while more

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research on internship, fewer research work and therefore little exploration on the practicum satisfaction of business students especially in Vietnam. The present study would like to explore the relationship between the student's training and support from their university and the company for practice to formulate an evaluation of their experience during practicum. In the following, we based on previous research work (Khalil and Khalil, 2015; Mohd and Mohd, 2007) to discuss the framework related to the measures to be used in the present study.

1.1. The Proposed Framework

Basically, we are interested in at least two major aspects in the present study. The first related to the individual factors including student knowledge, student skills, and student attitude; and the second are the organization factors including host company's support, university support, and academic supervisor support. Research on both practicum and internship satisfaction suggest that the host companies would take the students' satisfaction as a valuable feedback to adjust their arrangements to allow different levels of students to have appropriate settings to learn and become a potential co-worker in the future. Many host companies even consider hire some of the brilliant interns to take a more permanent position later when the students complete their university (Huang *et al.*, 2010; Hurst and Hurst, 2007; Karunaratne *et al.*, 2015). In general, internship satisfaction has been shown to be positively related to support from site supervisors (Klee and Klee, 2011; Moghadam and Moghaddam, 2011; Nelson and Nelson, 1994) and staffs (Auburn *et al.*, 1993; D'abate *et al.*, 2009; Hurst and Hurst, 2007; Nelson and Nelson, 1994).

On the other hand, it is essential for the academic supervisors to work with students at a distance and function as consultants when emergencies or problems regarding internship arise (Fagan *et al.*, 2000). For the university support, the most frequently mentioned campus-based academic component is pre-internship orientation meeting (Auth and Auth, 1990). It has been suggested that agents of the school must communicate frequently with students to foster the school-student relationship (Eyler, 1993) and offering a manual before the internship would also help the students in their training (Moghadam and Moghaddam, 2011). Furthermore, a critical factor for the learning process for any individual intern is forming a supportive relationship with their academic supervisor (Knouse *et al.*, 2008) who can provide suggestions to promote students' performance and solve their individual problems (Papadimitriou *et al.*, 2009), well-being, and satisfaction (Klee and Klee, 2011; Ramos *et al.*, 2002; Tarquin *et al.*, 2006).

Interns with adequate skills and knowledge are more likely to achieve internship satisfaction (Bourland *et al.*, 1997; Clark and Clark, 2003; Knouse *et al.*, 2008). Brown *et al.* (1993) introduced task characteristics as one of the antecedents of job satisfaction. Indeed, the better the fit between the skills of interns and the relevant task characteristics, the higher the probability that the individual will find the experience satisfying (Lord *et al.*, 2011). Students' positive attitude to the company is also related to internship satisfaction (Basow *et al.*, 1992; Beard and Beard, 1997; Braswell *et al.*, 2000; Feldman *et al.*, 1990). It has been shown that newcomers' information acquisition behavior (Huang *et al.*, 2010; Saks *et al.*, 1997) and respect the norm of the company (Beard *et al.*, 1998) are positively related to internship satisfaction. Moreover, students who have weak leaning skills but with good attitude will help them reduce negative effects in internship training (Phoebe and Phoebe, 2010).

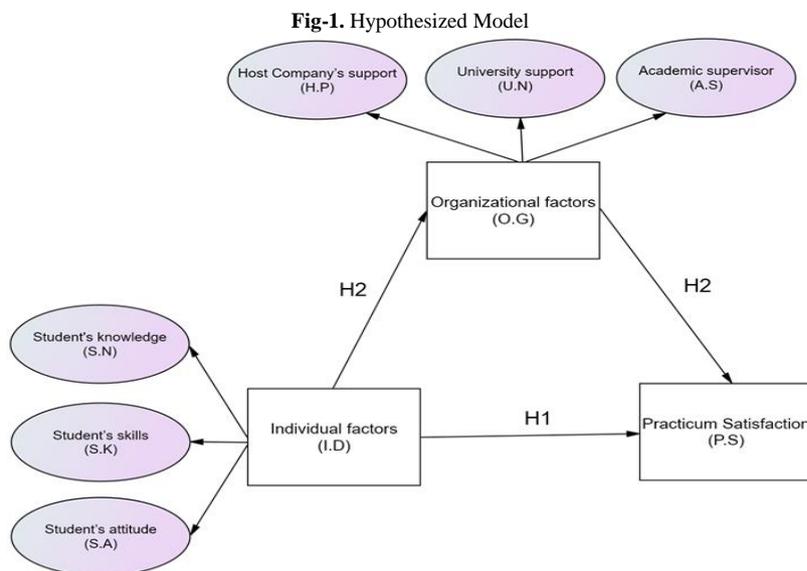
Only a few research Wen (2010) has been conducted to study the relationship between organization factors, individual factors, and practicum satisfaction. The present study attempted to examine the possible relationship among the organization, individual factors, and practicum satisfaction in a sample of business students. Structural equation modeling were conducted to examine the potential mediating effects of organizational factors on the relationship between individual factors and Practicum satisfaction. We hypothesize that individual factors are associated with practicum satisfaction and that both organizational and individual factors are associated with practicum satisfaction. Multi-group analyses were conducted to determine whether the mediation model differed between males and females.

Based on the framework (see Figure 1), the hypothesis in the present study are:

H₁: Individual factors have significant effects on organization factors.

H₂: Organization factors mediates the relationship between the Individual factors and practicum satisfaction.

H₃: There is a significant difference between males and females students' practicum satisfaction.



2. Methods and Materials

2.1. Participants

Students ($N=269$, 74.7% female and 25.3% male) business students who completed their practicum courses were voluntarily recruited from a university of Southern Vietnam. Participants consisted of sophomores (33.8%) and juniors (66.2%). The sample size was calculated based on five participants per item of a questionnaire as suggested by Bentler and Chou (1987) for Structural Equation Models with a total numbers exceeded the required minimal sample size, i.e. 215 participants, for factor analysis.

Measurement Design

The Practicum Satisfaction Scale (PSS) consisted of four sections, including demographic background, 19 items of organization scale, 20 items of individual scale, and 4 items of the evaluation of practicum satisfaction. The demographic background included information such as gender and school year of the participants. In Table 1, the Organization scale (O.G) consisted of three dimensions, namely host company’s support (H.P), university support (U.N), and academic supervisor (A.S) (D’abate *et al.*, 2009; Karunarathne *et al.*, 2015; Kawai and Kawai, 2012; Moghadam and Moghaddam, 2011; Phoebe and Phoebe, 2010). The Individual scale covered three dimensions: student’s knowledge (S.N), student’s skills (S.K), and student’s attitude (S.A) (Beard and Beard, 1997; Beard *et al.*, 1998; Boatwright *et al.*, 1988; Feldman *et al.*, 1990; Floyd *et al.*, 1998; Gault *et al.*, 2000; Karakaya *et al.*, 1996; Kawai and Kawai, 2012; Kelley *et al.*, 1990; Phoebe and Phoebe, 2010). And, the evaluation of practicum satisfaction (P.S) included items of the overall evaluation of satisfaction of practicum (Kawai and Kawai, 2012; Phoebe and Phoebe, 2010). All items were rated on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5).

The Cronbach’s alphas were computed to assess the internal consistency reliability. Since the Cronbach’s Alpha Coefficients of all the constructs are more than 0.75 in the present study, the reliability of our measurements are acceptable (Nunnally and Nunnally, 1978).

Table-1. Constructs and number of items

Construct	Number of items	Cronbach’s Alpha (α)	Label
Organizational	19		
University support	3	0.812	uni1, uni2, uni3
Academic supervisor	5	0.883	as1, as2, as3, as4, as5
Host company’s support	11	0.923	hp1, hp2, hp3, hp4, hp5 hp7, hp8, hp9, hp10, hp11
Individual	20		
Student knowledge	4	0.807	sn1, sn2, sn3, sn4
Student skills	11	0.897	sk1, sk2, sk3, sk4, sk5 sk7, sk8, sk9, sk10, sk11
Student attitude	5	0.842	sa1, sa2, sa3, sa4, sa5
Practicum satisfaction	4	0.766	ps1, ps2, ps3, si4

2.2. Procedure

The research project was approved by university ethics committee. All participants signed the written informed consent form. Students who met the selection criteria and agreed to participate in the research completed a package of questionnaires independently without time limit in answering the questionnaires. They were encouraged to answer each and every question of the package.

2.2. Data Analyses

Data were analyzed via SPSS 22 and AMOS 2.0 statistical software. Descriptive statistics (i.e., means, standard deviations, skewness, and kurtosis) were calculated for the subscales and Pearson's correlations were computed to assess the associations between any two scales and subscales. A confirmatory factor analysis (CFA) was used to construct a measurement model and test if an acceptable fit based on the data in the present study. The analysis of the hypothesized mediation model was based on a two-step procedure of structural model testing (Anderson and Gerbing, 1988). The hypothesized structural model comprised one supposed latent antecedent variable (individual), one latent mediator variable (organization), and one latent outcome variable (practicum satisfaction). The latent individual variables included three subscales of S.N, S.K, and S.A. The latent organization variables consisted of three subscales of H.P, U.N, and A.S. The practicum satisfaction latent variable was assessed using the four items of general satisfaction evaluation.

The selected model fit indices were chi-squared value (χ^2), the ratio of χ^2 and degrees of freedom (df), comparative fit index (CFI) and Tucker Lewis index (TLI), goodness of fit index (GFI) and root mean square error of approximation (RMSEA). Hair *et al.* (2010), recommended that a ratio of less than 3 is acceptable for χ^2 /df value. Moreover, CFI and TLI the values of 0.90 or higher were regarded as acceptable model fit. While Baumgartner *et al.* (1996) recommended that a GFI value greater than 0.8 is acceptable. For RMSEA, the value of 0.08 or lower for close model fit (Kline and Kline, 2013). Multi-group analyses were conducted to determine whether the hypothesized model performed equivalently across genders.

3. Results

3.1. Preliminary Analysis

The descriptive statics for the valid 269 survey respondents (93% out of 289) were shown in Table 2. 66.2% of the sample were junior students and 74.7% were female respondents.

Table-2. Descriptive statistics for the total sample and by gender

School year	Female <i>n</i> =201 (74.7%)	Male <i>n</i> =68 (25.3)	Total <i>N</i> =269 (100%)
Sophomores	69 (75.8%)	22 (24.2%)	91 (33.8%)
Juniors	132 (74.2%)	46 (25.8%)	178 (66.2%)

The means, standard deviations, skewness, and kurtosis of the 43 observed variables were calculated to check the normality of distribution. In Table 3, both absolute values of skewness (from -0.609 to 0.114) and kurtosis (from -0.867 to 0.727) were smaller than 2, thus, our data were not against the assumption of normality (Kim and Kim, 2012; Tabachnick *et al.*, 2006).

Table-3. Means, standard deviations, Standard loading λ , skewness, and Kurtosis for the 43 observed variables

	Variable	Mean	Standard Deviation	Standard loading λ	Skewness	Kurtosis
O.G	uni1	3.03	0.934	0.714	-0.392	-0.131
	uni2	2.48	1.046	0.812	0.114	-0.867
	uni3	2.94	1.047	0.784	-0.069	-0.691
	as1	3.26	1.000	0.769	-0.347	-0.311
	as2	3.30	0.956	0.844	-0.489	-0.049
	as3	3.57	0.767	0.784	-0.396	0.306
	as4	3.46	0.924	0.756	-0.431	0.087
	as5	3.83	0.830	0.744	-0.609	0.418
	hp1	3.24	0.932	0.708	-0.435	0.089
	hp2	2.97	0.932	0.730	-0.115	-0.417
	hp3	3.34	0.886	0.711	-0.556	0.267
	hp4	3.08	0.962	0.787	-0.291	-0.424
	hp5	3.25	0.998	0.716	-0.343	-0.415
	hp6	3.54	0.895	0.565	-0.349	0.032
	hp7	3.12	0.957	0.651	-0.156	-0.221
	hp8	3.10	0.957	0.801	-0.195	-0.033
	hp9	3.34	0.935	0.769	-0.530	0.106
hp10	3.14	0.882	0.752	-0.280	0.000	
hp11	3.27	0.933	0.746	-0.455	0.066	
I.D	sn1	2.88	0.826	0.749	-0.408	0.277
	sn2	2.68	0.853	0.778	-0.054	0.014
	sn3	3.26	0.829	0.690	-0.329	0.238
	sn4	3.19	0.824	0.656	-0.131	0.128
	sk1	3.31	0.732	0.638	-0.219	0.677
	sk2	3.13	0.859	0.689	-0.139	-0.069
	sk3	3.28	0.787	0.687	0.017	0.159
	sk4	3.46	0.848	0.638	-0.240	-0.111
	sk5	2.86	0.918	0.668	-0.102	-0.254
	sk6	3.33	0.780	0.716	-0.123	0.140
	sk7	3.01	0.813	0.659	-0.273	0.000
	sk8	2.74	0.838	0.674	-0.160	-0.214
	sk9	2.99	0.908	0.694	-0.219	-0.189
	sk10	3.64	0.732	0.660	-0.477	0.688
	sk11	3.70	0.765	0.610	-0.426	0.237
	sa1	3.88	0.829	0.673	-0.606	0.429
	sa2	3.72	0.810	0.792	-0.478	0.524
	sa3	3.63	0.821	0.781	-0.316	0.032
	sa4	3.51	0.836	0.711	-0.327	0.202
	sa5	3.68	0.865	0.640	-0.447	0.101
P.S	ps1	3.57	0.748	0.752	-0.399	-0.173
	ps2	3.36	0.707	0.599	-0.198	-0.063
	ps3	3.67	0.645	0.737	-0.399	0.727
	ps4	3.77	0.751	0.616	-0.559	0.570

A Pearson product-moment correlation coefficient was computed to assess the relationship between the organization factors (including university support, host Company’s support, and academic supervisor) and individual factors (student’s knowledge, student’s skills, and student’s attitude), and practicum satisfaction. Results showed that, except student’s attitude, positive correlations were found in between organization factors, individual factors and the practicum satisfaction ($p < .05$). There was no correlation between the student’s attitude (S.A) and practicum satisfaction ($r = -.109, N=269, p =.73.$).

Negative correlations were found between school year and the university support ($r = -0.381, p < .05$), academic supervisor support ($r = -.164, p < .05$) and host Company’s support ($r = -.147^*, p < .01$). There was no individual factors found to be significantly correlated with the school year ($p > .05$).

Table-4. Correlations between the demographic variable and the latent variables

	School year	U.N	A.S	H.P	S.N	S.K	S.A	P.S
School year	1							
U.N	-.381**	1						
A.S	-.164**	.638**	1					
H.P	-.147*	.615**	.651**	1				
S.N	-.098	.381**	.364**	.479**	1			
S.K	-.075	.423**	.486**	.623**	.683**	1		
S.A	-.111	.299**	.381**	.455**	.505**	.532**	1	
P.S	-.051	-.168**	-.126*	-.129*	-.227**	-.183**	-.109	1

Note: U.N: University support; A.S: Academic Supervisor; H.P: Host Company’s support; S.N: Student’s Knowledge; S.K: Student’s Skills; S.A: Student’s Attitude; P.S: Practicum satisfaction.

* $p < .01$; ** $p < .05$.

3.1. Analysis on the Mediation Model

3.1.1. The First Step: the Measurement Model

The initial analysis found that data and statistics were below the criteria below the hypothesized model required ($\chi^2(851) = 1673.283, p < .05, \chi^2/df = 1.966$) and the fit indices (GFI=0.767, CFI=0.868, TLI=0.860) were below 0.90 while RMSEA=0.060. Therefore, modifications were made to improve the goodness of fit of the model, especially the deletion of items with low factor loadings (Hair *et al.*, 2010). Since the sample size is greater than 200, items with factor loading below 0.60 were dropped. The initial standardized loading showed that two items (hp6 = 0.565, is = 0.599) have a standardized loading below 0.60 and this items were deleted (Table 3). After some items of the model were trimmed, the data achieved a level of acceptable goodness of fit indices. Six items (as3, hp9, hp11, sn2, sk8, sk11) were deleted due to their high modification indices (above 15) and cross loading on other indicators (Bryne and Byrne, 2016). And, the fit indices of the model were improved (GFI=0.836, CFI=0.913, TLI=0.907, RMSEA=0.052, $\chi^2(551) = 950.047, p < .05, \chi^2/df = 1.724$) (see Table 5).

After the model was modified, we conducted several tests to assess the convergent and discriminant validity of the constructs. The composite reliability and the average variance extracted were used to measure the convergent validity of the constructs. Constructs are deemed to have convergent validity when the composite reliability (CR) exceeds the criterion of 0.70 (Hair *et al.*, 2010) and the average variance extracted (AVE) is above 0.50 (Fornell *et al.*, 1981). To assess discriminant validity, we compared the absolute value of the correlations between the constructs and the square root of the average variance extracted by a construct (Tabachnick *et al.*, 2006). When the correlations are lower than the square root of the average variance extracted by a construct, constructs are said to have discriminant validity (Fornell *et al.*, 1981).

Table-5. Summary of Fit Indices

	χ^2	Df	χ^2/df	p	RMSEA	GFI	CFI	TLI
Hypothesized model	1673.283	851	1.966	< .001	0.060	0.767	0.868	0.860
Trimmed model	950.047	551	1.724	< .001	0.052	0.836	0.913	0.907

As shown in Table 6, the CR of the three constructs: 0.874, 0.892, and 0.758 were all higher than 0.7. The AVEs of the three constructs: 0.701, 0.734, and 0.518 were all higher than 0.5. Thus, this modified model possessed adequate validity and was ready to test the hypothetical structural model.

Table-6. Validity matrix

	CR	AVE	I.D	O.G	P.S
I.D	0.874	0.701	0.837		
O.G	0.892	0.734	0.718	0.857	
P.S	0.758	0.518	-0.267	-0.153	0.720

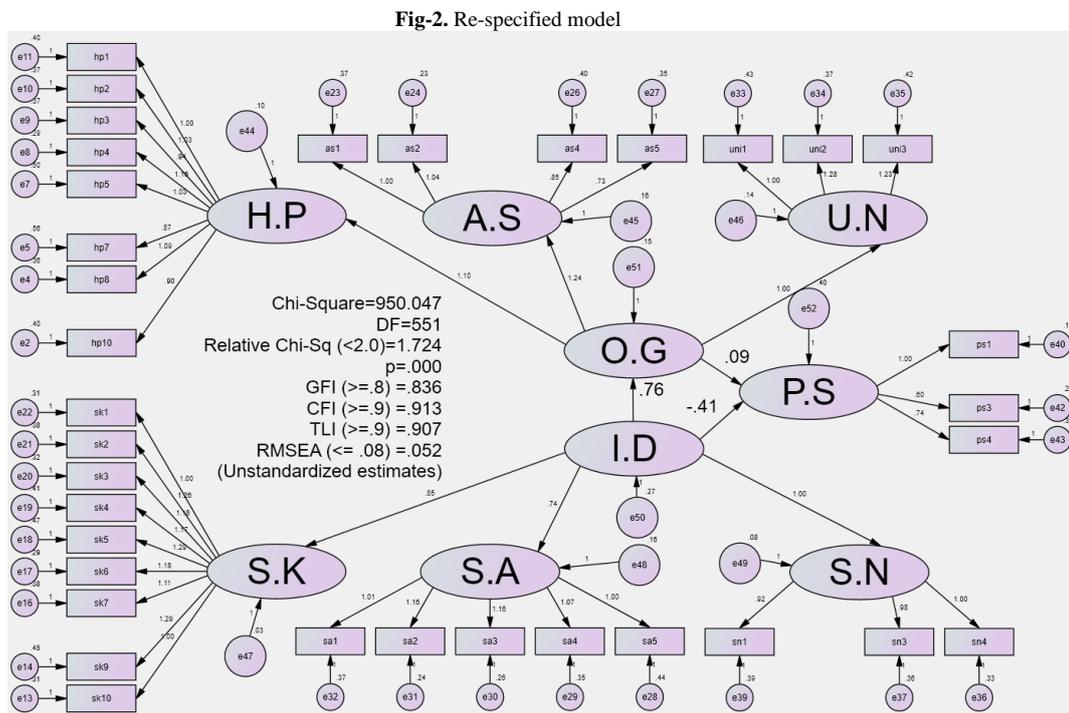
Note: O.G: Organization factors; I.D: Individual factors; P.S: Practicum satisfaction. The diagonal elements (bolded) represent the square root of AVE values.

3.1.2. The Second Step: Structural Equation Model

The structural equation model was tested using the maximum-likelihood method. Testing for mediation effects in structural equation modeling involves the evaluation of three models (Holmbeck and Holmbeck, 1997). First, in Phase 1, a direct-effect model was used to assess the effect of the predictor (individual) on the outcome variable (practicum satisfaction) in absence of the mediator (organization). It is necessary to determine that there is a direct connection between the predictor and the outcome variables (individual, practicum satisfaction, respectively). The direct path coefficient from individual to practicum satisfaction was significant.

Phase 2 involved testing a partial mediation structural model that estimated the direct relationship between individual and practicum satisfaction and added paths from individual to the organization and from organization to practicum satisfaction. The partial mediation structural model was an appropriate fit ($\chi^2 = 950.047$, $df = 551$, $p = .000$, CFI = 0.913, TLI = 0.907, RMSEA = 0.052).

In Phase 3, the partial mediation model was compared with a full mediation model in which the direct path from individual to practicum satisfaction was constrained to zero. The fit indices for the full mediation model indicated very good fit ($\chi^2 = 957.188$, $df = 552$, $p = 0.000$, CFI = 0.912, TLI = 0.905, RMSEA = 0.052). Comparison of the chi-squared values indicated no significant difference between the partial and full mediation models, ($\Delta\chi^2 = 7.141$, $df = 1$). There was a significant direct effect of individual factor on organization factor in the partial mediation model ($\beta = 0.764$, $p = 0.001$). But there was no significant direct effect of organization on practicum satisfaction in the partial mediation model ($\beta = 0.094$, $p = 0.519$). The *Re-specified model* is shown in Figure 2.



As shown in Table 7, H_1 was supported and H_2 was not supported suggesting that there is a direct-only non-mediation and all the variance in individual attribute to practicum satisfaction is direct, not mediated through the mediator (Zhao *et al.*, 2010).

Table-7. Findings from the structural equation model

Path		Estimate	S.E.	C.R.	p
O.G	← I.D	0.764	0.108	7.083	***
P.S	← I.D	-0.411	0.159	-2.584	.010
P.S	← O.G	0.094	0.146	0.644	.519

Note: O.G=Organization factors, I.D=Individual factors, P.S=Practicum satisfaction
 ***p < .001

3.2. Multi-Group Analysis for Gender Comparison

Multi-group analyses were performed to examine whether the direct-only non-mediation structural equation model was similar for females and males. The first phase in these analyses involved assessing the hypothesized structural model with no constraints based on gender; all regression coefficients, correlations, and means were free to take different values for females and males. This unconstrained model was then compared to models in which various gender constraints were used. The results revealed that an unconstrained model was a slightly better fit to the data ($\chi^2 = 1878.659$, $df = 1102$, $p = .000$ CFI = 0.846, TLI = 0.834, RMSEA = 0.051) than the constrained model ($\chi^2 = 1883.226$, $df = 1105$, $p = .000$ CFI = 0.846, TLI = 0.834, RMSEA = 0.051). Results were shown in Table 8 which included that the *multi-group* (moderation) test is significant since the difference in Chi Square ($\Delta\chi^2$) value

between the constrained and unconstrained model was greater than 3.84 (Kline and Kline, 2013). The difference in Chi Square ($\Delta\chi^2$) value was 4.567 (1883.226 – 1878.659), while the difference in Degrees of Freedom (Δdf) is 1105 – 1102 = 3. Using Excel software to check with the formula CHIDIST (4.567, 3) = 0.206 > 0.05.

Table-8. The Chi-square Difference Test for Gender as a Moderator

Model	χ^2	df	p
Constrained Model	1883.226	1105	.000
Unconstrained Model	1878.659	1102	.000
Model Comparison	4.567	3	.206

Note: P-values can be calculated in MS Excel formula [= CHIDIST (Chi-square difference, df difference)]. If the chi-square difference is significant, the p-value is less than .05 (Werner *et al.*, 2010).

Therefore, comparison of the models revealed no difference between the unconstrained and the constrained models implying that the hypothesized model functioned equivalently for both females and males (see Table 9).

Table-9. Multiple-group Path Analysis

			Unconstrained model								Constrained model			
			Male				Female							
			Estimate	S.E	C.R	p	M	S.E	C.R	p	M	S.E	C.R	p
ID	→	O.G	.861	.315	2.735	.006	.771	.119	6.469	***	.780	.111	7.050	***
ID	→	P.S	-.794	.402	-1.973	.049	-.322	.184	-1.745	.081	-.367	.159	-2.318	.020
O.G	→	P.S	-.029	.232	-.126	.900	.095	.179	.529	.597	.047	.144	.326	.745

Note: *** $p < .001$.

4. Discussion

In the present study, structural equation modeling was used to analyze the relationship between individual factors and practicum satisfaction and to test if organizational factors were having potential mediating effects in between individual factors and practicum satisfaction. The method chosen could be considered as a combination of factor analysis and multiple regression analysis, and it was used to analyze the structural relationship between measured (43 observed/manifest/indicator) variables (hp1, hp2, hp3, ..., sk1, sk2, ...) with 6 latent endogenous variables (host company’s support, university support, academic supervisor support, student knowledge, student skills, student attitude, and practicum satisfaction), and 2 latent exogenous variables (individual and organization factors). Multi-group analyses were conducted to determine whether the mediation model differed between female and male participants (Patrick and Patrick, 2012). No significant difference was found between genders on overall satisfaction during the practicum which is consistent with earlier report that found no difference in gender (Yuliana, 2016).

In line with previous studies, our findings confirm that the individual factors influence to overall satisfaction (Kawai and Kawai, 2012; Phoebe and Phoebe, 2010) and in our research individual factors demonstrated a negative effect on the practicum satisfaction. Marlborough (1999) examined several variables (especially compensation and duration) which may account for differences in student perceptions of their college internship satisfaction. Similarly, in an early work, (Rea, 1982) found that internships during semester break created dissatisfaction among supervisors at host firms when the duration is as short as 4 to 5 weeks, while better satisfactory results were usually produced when the duration was between 4 to 30 weeks. The duration of practicum was considered as relatively short in the present study. It would be expected that students who had longer internships might tend to evaluate their internship more favorably with greater satisfaction than students who underwent shorter internships (Wylie and Clark, 1994). Results based on practicum might be especially valuable in understanding the students’ evaluation of short-term practicum or internship.

It is speculated that short-term internship might not enough for students who have good knowledge and well prepared to really learn from. In addition, if practicum took place in the season that firms and business experienced seasonal lulls that would reduce the benefits to the students and also could be influential for their satisfaction. Training and education are involved in the development of personnel to the desired level of skill, knowledge, and attitude. Empirical studies do not produce a strong correlation between education and job satisfaction, and sometimes the relationship is nonlinear or even goes into reverse (Clark and Clark, 1997). The likely reason is that better-educated workers have higher expectations of their job, and hence report job satisfaction in relation to these higher norms. Another reason why higher skills may not mean more satisfaction is that skills and effort tend to come in a package in the internship.

It has also been shown that the practicum satisfaction in both female and male students are not influenced by organizational factors. All of the participants in this studies are sophomores and juniors. The format they experienced in a given practicum is generally working at the practicum site typically for two or three times per week with a few hours on each day. The limit amount of time coverage might not be enough to allow the effects of host firms (or organizational factors) to have significant impact on the students’ satisfaction.

University support is crucial in prior to their undergraduates’ practicum. However, the university and faculty generally do not often engage in students’ career placement nor their career orientation sessions for students before engaging in professional practice. They only provide materials such as practicum guidebook and references. In our results, students were highly value their academic supervisors for comments and suggestions. They also expected

academic supervisors to strengthen their career orientation. It is recommended the university to increase support for students before and during the involvement in practicum.

The strategic roles of site supervisors determine whether an internship experience is positive, satisfying or otherwise. The clarity of tasks given improves internship experiences while the periodic lack of work and work assignments that are poorly planned will elicit dissatisfaction in terms of frustration among interns (Rothman, 2007). Therefore, it is necessary that the university require students to write practice diary so that record of all assignments from the site supervisor can be helpful for students to reflect their learning process during practicum and/or internship. On the other hand, it is also important for the university to negotiate with the companies so that they can be more closely monitoring the performance of students.

In sum, our findings indicated that organization factors act as a direct-only non-mediator of the relationship between individual factors and practicum satisfaction in both females and males. The results offered satisfactory confirmation for the hypothesized structural model. Indices of fit indicated that overall the model was a good fit to the data. Despite its limitations, the current research increases significantly our understanding of the relationship between individual factors and practicum satisfaction in the practicum. Moreover, the direct-only path from individual factors through organization factors to practicum satisfaction sheds further light on the complex relationships among these variables. It is likely that highlight the need to consider that students with good learning skills might expect a higher level of the training program from the host company.

In further research, this empirical evidence may be improved and better represented for faculty of business administration in any regions in Vietnam with a larger sample and continuous data collection across years. Besides, demographic variables may be taken into consideration as controlling variables to discuss the different impacts of organization and individual factors on practicum satisfaction among different sample groups. Future research may also want to examine the relationship between practicum satisfaction and the rate of conversion of students to have permanent hires within the same company as well as whether a satisfied student who had done their practicum in a particular company will also be a satisfied permanent employee when they actually working in the former practicum company.

5. Conclusion

The study examined the association of each independent variable with internship satisfaction to determine the factors that contribute towards practicum satisfaction among business undergraduates. The literature was reviewed to form theoretical premises for this study. It was revealed that individual factors are imperative factors contributing towards practicum satisfaction. Organization factors did not have an effect to account for the variation of practicum satisfaction. Students should pay attention to those relevant factors in determining practicum satisfaction. Furthermore, students' knowledge, skills, and attitudes are the main players capable of affecting and shaping practicum satisfaction. The findings of this study showed that the hypothesis developed were generally supported except for the factors in regards to organization factors.

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References

- Anderson, J. C. and Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3): 411-23.
- Auburn, Auburn, T., Ley, A. and Arnold, J. (1993). Psychology undergraduates' experience of placements: A role-transition perspective. *Studies in Higher Education*, 18(3): 265-85. Available: <https://doi.org/10.1080/03075079312331382211>
- Auth and Auth, M. L. (1990). Survey report: the instructional practices of graduate level public administration internship programs. *International Journal of Public Administration*, 13(1-2): 235-55. Available: <https://doi.org/10.1080/01900699008524672>
- Basow, Byrne, Basow, R. R. and Byrne, M. V. (1992). Internship expectations and learning goals. *The Journalism Educator*, 47(4): 48-54. Available: <https://doi.org/10.1177/107769589304700407>
- Baumgartner, Homburg, Baumgartner, H. and Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International journal of Research in Marketing*, 13(2): 139-61. Available: [https://doi.org/10.1016/0167-8116\(95\)00038-0](https://doi.org/10.1016/0167-8116(95)00038-0)
- Beard and Beard, F. K., 1997. "Inside the advertising and public relations internship." In *Paper presented at the Annual Conference of the Association for Education in Journalism and Mass Communication, Chicago, IL*.
- Beard, Morton, Beard, F. and Morton, L. (1998). Effects of internship predictors on successful field experience. *Journalism & mass communication educator*, 53(4): 42-53. Available: <https://doi.org/10.1177/107769589805300404>
- Bentler, P. M. and Chou, C.-P. (1987). Practical issues in structural modeling. *Sociological Methods & Research*, 16(1): 78-117.
- Boatwright, Stamps, Boatwright, E. and Stamps, M. B. (1988). Employers' importance ratings of student characteristics: a conjoint analysis approach. *Journal of Marketing Education*, 10(2): 74-78. Available: <https://doi.org/10.1177/027347538801000212>

- Bourland, D., Bourland Davis, P. G., Graham, B. L. and Fulmer, H. W. (1997). Defining a public relations internship through feedback from the field. *Journalism & Mass Communication Educator*, 52(1): 26-33. Available: <https://doi.org/10.1177/107769589705200103>
- Braswell, Cobia, Braswell, C. M. C. and Cobia, D., 2000. ". ." In *Paper presented at the annual meeting of the Southern Association for Institutional Research*, Myrtle, SC.
- Brown, Peterson, Brown, S. P. and Peterson, R. A. (1993). Antecedents and consequences of salesperson job satisfaction: Meta-analysis and assessment of causal effects. *Journal of marketing research*, 30(1): 63-77. Available: <http://dx.doi.org/10.2307/3172514>
- Bryne and Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming*. Routledge.
- Clark and Clark, A. E. (1997). Job satisfaction and gender: why are women so happy at work? *Labour economics*, 4(4): 341-72. Available: [https://doi.org/10.1016/S0927-5371\(97\)00010-9](https://doi.org/10.1016/S0927-5371(97)00010-9)
- Clark and Clark, S. C. (2003). Enhancing the educational value of business internships. *Journal of Management Education*, 27(4): 472-84. Available: <https://doi.org/10.1177/1052562903251350>
- D'abate, D'abate, C. P., Youndt, M. A. and Wenzel, K. E. (2009). Making the most of an internship: An empirical study of internship satisfaction. *Academy of Management Learning & Education*, 8(4): 527-39. Available: <http://dx.doi.org/10.5465/AMLE.2009.47785471>
- Eyler, J. (1993). Comparing the impact of two internship experiences on student learning. *Journal of Cooperative Education*, 29(1): 41-52.
- Fagan, Wise, Fagan, T. K. and Wise, P. S. (2000). School psychology: Past, present, and future: ERIC.
- Feldman, Weitz, Feldman, D. C. and Weitz, B. A. (1990). Summer interns: Factors contributing to positive developmental experiences. *Journal of vocational Behavior*, 37(3): 267-84. Available: [http://dx.doi.org/10.1016/0001-8791\(90\)90045-4](http://dx.doi.org/10.1016/0001-8791(90)90045-4)
- Floyd, Gordon, Floyd, C. J. and Gordon, M. E. (1998). What skills are most important? A comparison of employer, student, and staff perceptions. *Journal of Marketing Education*, 20(2): 103-09. Available: <https://doi.org/10.1177/027347539802000204>
- Fornell, Larcker, Fornell, C. and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1): 39-50. Available: <https://www.jstor.org/stable/pdf/3151312.pdf>
- Gault, Gault, J., Redington, J. and Schlager, T. (2000). Undergraduate business internships and career success: are they related? *Journal of Marketing Education*, 22(1): 45-53. Available: <https://doi.org/10.1177/0273475300221006>
- Hair, Hair, J. F., Anderson, R. E., Babin, B. J. and Black, W. C. (2010). *Multivariate data analysis: A global perspective Upper Saddle River*. Pearson Education: New Jersey. 7:
- Holmbeck and Holmbeck, G. N. (1997). Toward terminological, conceptual, and statistical clarity in the study of mediators and moderators: examples from the child-clinical and pediatric psychology literatures. *Journal of consulting and clinical psychology*, 65(4): 599-610. Available: <http://dx.doi.org/10.1037/0022-006X.65.4.599>
- Huang, Jia, Huang, H. and Jia, J., 2010. "Factors affecting internship satisfaction: Based on organizational socialization theory." In *Paper presented at the Artificial Intelligence and Education (ICAIE), 2010 International Conference*.
- Hurst and Hurst, J. L. (2007). *Factors involved in increasing conversion rates of interns into full-time employees, unpublished dissertation*. Michigan State University: East Lansing, MI.
- Karakaya, Karakaya, Karakaya, F. and Karakaya, F. (1996). Employer expectations from a business education. *Journal of marketing for Higher Education*, 7(1): 9-16. Available: <https://eric.ed.gov/?id=EJ532709>
- Karunaratne, Perera, Karunaratne, K. and Perera, N., 2015. "Students' perception on the effectiveness of industrial internship programme." In *Paper presented at the Proceedings of the International Conference on Global Business, Economics, Finance and Social Sciences*. Bangkok, Thailand.
- Kawai and Kawai, H. (2012). Internship satisfaction : a preliminary study on undergraduates from the Faculty of Business and Finance of Universiti Tunku Abdul Rahman. Universiti Tunku Abdul Rahman. Available: <http://eprints.utar.edu.my/616/>
- Kelley, Gaedeke, Kelley, C. A. and Gaedeke, R. M. (1990). Student and employer evaluation of hiring criteria for entry-level marketing positions. *Journal of Marketing Education*, 12(3): 64-71. Available: <https://doi.org/10.1177/027347539001200309>
- Khalil and Khalil, O. E. (2015). Students' experiences with the business internship program at Kuwait University. *The International Journal of Management Education*, 13(3): 202-17. Available: <https://doi.org/10.1016/j.ijme.2015.05.003>
- Kim and Kim, H. Y. (2012). Statistical notes for clinical researchers: assessing normal distribution (1). *Restorative Dentistry & Endodontics*, 37(4): 245-48. Available: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3568647/>
- Klee and Klee, C. R. (2011). *Recent school psychology graduates: A preliminary survey of their internship experience, satisfaction, and support, dissertation abstracts*. State Universtiy of New York: Albany.
- Kline and Kline, P. (2013). *Handbook of psychological testing*. Routledge.

- Knouse, Fontenot, Knouse, S. B. and Fontenot, G. (2008). Benefits of the business college internship: A research review. *Journal of Employment Counseling*, 45(2): 61-66. Available: <http://dx.doi.org/10.1002/j.2161-1920.2008.tb00045.x>
- Lord, Lord, K., Sumrall, D. and Sambandam, R. (2011). Satisfaction determinants in business internships. *Interdisciplinary Journal of Contemporary Research in Business*, 2(10): 11-22. Available: https://www.researchgate.net/profile/Kenneth_Lord/publication/50366360_Satisfaction_Determinants_in_Business_Internships/links/56f2d8aa08ae81582beba544/Satisfaction-Determinants-in-Business-Internships.pdf
- Marlborough, K. (1999). Development and validation of an instrument to assess student satisfaction with community college internships.
- Moghaddam and Moghaddam, J. (2011). Perceived effectiveness of business internships: Student expectations, experiences, and personality traits. *International Journal of Management*, 28(4): 287-303. Available: <http://connection.ebscohost.com/c/articles/67679400/perceived-effectiveness-business-internships-student-expectations-experiences-personality-traits>
- Mohd, S. and Mohd, S. S. (2007). An effective industrial practicum training program for operations management students in malaysia. Universiti putra Malaysia.
- Nelson and Nelson, A. A. (1994). Hospitality internships: The effects of job dimensions and supportive relationships on student satisfaction. Available: https://www.researchgate.net/publication/254725661_Hospitality_internships_The_effects_of_job_dimensions_and_supportive_relationships_on_student_satisfaction
- Nunnally and Nunnally, J. (1978). *Psychometric theory*. New York City. McGraw-Hill Education: New York.
- Papadimitriou, Mardas, Papadimitriou, A. and Mardas, D., 2009. "Developing synergetic relationships with the market: The design, implementation, and evaluation of an internship program for students in a Department of Economics from a Greek public university." In *Paper presented at the Decowe Conference*. Ljubljana, Slovenia.
- Patrick and Patrick, A. O. (2012). Unequal achievement of science undergraduates: Does sex influence the differences? *US-China Education Review*, B(6): 578-94. Available: <https://files.eric.ed.gov/fulltext/ED535484.pdf>
- Phoebe and Phoebe, K. W. (2010). Determinants of internship effectiveness for university students in Hong Kong. Hong Kong baptist university Hong Kong.
- Ramos, S., Ramos, S. L., Esnil, E., Goodwin, A., Riggs, S., Touster, L. O., Wright, L. K. and Rodolfa, E. (2002). Negative supervisory events: Effects on supervision and supervisory alliance. *Professional Psychology: Research and Practice*, 33(2): 197-202. Available: <http://psycnet.apa.org/buy/2002-12134-011>
- Rea, R. C. (1982). Internship programs: what CPA firms should know. *Journal of Accountancy*, 154(4): 112-14.
- Rothman, M. (2007). Lessons learned: Advice to employers from interns. *Journal of Education for Business*, 82(3): 140-44.
- Ryan, Ryan, G., Toohey, S. and Hughes, C. (1996). The purpose, value and structure of the practicum in higher education: A literature review. *Higher Education*, 31(3): 355-77. Available: <https://link.springer.com/article/10.1007/BF00128437>
- Saks, Ashforth, Saks, A. M. and Ashforth, B. E. (1997). Organizational socialization: Making sense of the past and present as a prologue for the future. *Journal of vocational Behavior*, 51(2): 234-79. Available: <https://doi.org/10.1006/jvbe.1997.1614>
- Tabachnick, Fidell, Tabachnick, B. G. and Fidell, L. S. (2006). *Using multivariate statistics*. Allyn & Bacon: Boston.
- Tarquin, Truscott, Tarquin, K. M. and Truscott, S. D. (2006). School psychology students' perceptions of their practicum experiences. *Psychology in the Schools*, 43(6): 727-36. Available: <http://dx.doi.org/10.1002/pits.20182>
- Wen, K. P. (2010). *Determinants of internship effectiveness for university students in Hong Kong*. Hong Kong Baptist University: Hong Kong, China.
- Werner, Schermelleh, E., Werner, C. and Schermelleh, E. K. (2010). Deciding between competing models: Chi-square difference tests. C. Werner, & k. Schermelleh-engel, introduction to structural equation modeling with lisrel–version february. Available: http://www.psychologie.uzh.ch/dam/jcr:fFfffff-b371-2797-0000-00000fda8f29/chisquare_diff_en.pdf
- Wylie, V. L. and Clark, E. H. (1994). Personal observations of using peer coaching to improve the administrative internship. *Journal of School Leadership*, 4(5): 543-56.
- Yuliana (2016). Hospitality student satisfaction regarding internship in Jakarta, Indonesia. *Pertanika Journal Social Science & Humanities*, 24: 99-108. Available: [http://www.pertanika.upm.edu.my/Pertanika%20PAPERS/JSSH%20Vol.%2024%20\(S\)%20Jun.%202016/09%20JSSH%20Vol%2024\(S\)%20June%202016_0166-2016_pg99-108.pdf](http://www.pertanika.upm.edu.my/Pertanika%20PAPERS/JSSH%20Vol.%2024%20(S)%20Jun.%202016/09%20JSSH%20Vol%2024(S)%20June%202016_0166-2016_pg99-108.pdf)
- Zhao, Chen, Zhao, X., Lynch, J. G. and Chen, Q. (2010). Reconsidering baron and kenny: Myths and truths about mediation analysis. *Journal of consumer research*, 37(2): 197-206. Available: <http://dx.doi.org/10.1086/651257>