

# Modelling The Multimediator On Motivation Among Youth In Higher Education Institution Towards Volunteerism Program

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## Abstract

This study aimed to evaluate the factors used for develop a best model of multimediating effect on motivation among youth in higher education institution towards volunteerism program. The data be collected through questionnaires distributed at four higher education institution. This questionnaire is constructed based on five dimension which is motivation, benefits, goverment support, barrier and challenges. The data were distributed by using stratified sampling technique and involving 453 respodents . In this case, the data were analyzed through Structural Equation Modelling (SEM) by using Analysis Moment of Structural (AMOS) 18.0 in order to examine the influence of exogenous and endogenous variables. As a result showed that the goverment support is significant and direct influences on motivation, benefits, challenges and barrier. Moreover, the benefits and barrier is significant and direct influence on motivation while the challenges is insignificant influence on motivation. In generals, the findings revealed that benefits influence is most crucial for motivation of volunteerism.

**Keywords:** Stratified Sampling Technique, Volunteerism, Structural Equation Modelling, Multimediating Effect

## 1.0 INTRODUCTION

This study emphasize the level of involvement in volunteerism program especially among youth from higher education institution chosen. One of these factors can be examined by the reason of volunteer which considered as motivation (Rhyne,1995). The other four variables include are benefits, challenges, barrier, and goverment support. All of these factor is regarding on the literature review previous. Volunteerism is defined as a professional or non-professional person who provides a services to a welfare or development organization, usually without reimbursement ( The White Paper for Social Welfare, 1998). Barrier is referred as not about supported volunteering specifically (Eva Schindler-Raiman, 1987). According to (Dingle, 2001), the benefits is extremely important if had supported by the contribution of goverment. Thus, this barrier hinder the growth of volunteery activities. Besides, the challenges also influence towards the volunteerism program especially when comes from the forces of globalization ( Rothenberg, 2003). In this study, the benefits, barrier, and challenge play a role as mediator variable since these variables can become exogenous and endogenous variable simultaneously. However, the measurement model which is for Confirmatory Factor Analysis (CFA) should be conducted before furthering the structural model. According to (Hair et. al, 2006) explain CFA can be namely as the measurement model. In structural equation modelling (SEM), there are two types of model which is measurement model and structural model. The measurement model is frequently used nowadays among researchers to undergoes the CFA procedure In this case, this study apply CFA procedure before furthering the structural model in order to achieve the validity of latent constructs. First and foremost, the unidimensionality procedure should be apply for whole measurement model to remove the measuring items that have the lower standardized factor loadings (<0.50). According to (Zainudin, 2012) present the unidimensionality procedure is achieved when the measuring items have acceptable factor loadings for the respective latent construct. In order to achieve unidimensionality, the factor loading of items must be at least 0.50 for a newly developed scales and 0.60 for established scales. Therefore, the prior studies is to examine the relationship between goverment support, benefits, challenges and barrier on motivation as well as their different relationships. In generals, this study employ the mediating effect in order to achieve the objective research.

## 2.0 METHODOLOGY

The target population for this study is among youth from the selected university which is majority of respodent age's must be between 15 to 40 years old. Since the university campuses are widely scattered in term of geographical location, the study applied the staratified sampling technique whereby in Terengganu only. Then,

four higher education institution are selected randomly among the university available in Kuala Terengganu which is Universiti Malaysia Terengganu (UMT), Universiti Teknologi Mara (UiTM) Chendering, Universiti Sultan Zainal Abidin (UNISZA), and Institut Pengajian Guru Batu Rakit (IPGBR). Thus, all students in the selected university are taken as respondents in the study. In other words, the number of students from both university that encompassed by variety faculty are as a population of the study. The data were collected are 453 respondents by using questionnaire distributed.

## 2.1 THE MEASURING INSTRUMENTS IN THE STUDY

The study adopts the questionnaires developed by emerged of the literature review based on the previous research, to measure the level of involvement in volunteerism program among youth. Hence, the variable of motivation is referring of level of involvement is measured to determine the relationship of variable that related with other variable such as benefits, challenges, barriers, and government support. Thus, the instruments was encompassed of five section provided for the respondents. Since this research is developed for the students from higher education institution, this study would customized the items accordingly an order to suit students in the education industry.

## 3.0 THE PROCEDURE DATA ANALYSIS

The following table presented summarized the type of reliability and validity with literature supported. In the instance, the Confirmatory Factor Analysis (CFA) should be used to validate the measuring items in order to enhance the validity and reliability of measurement model before further the analysis. The multimediator can be proceed if the validity and reliability is achieved.

Validity	Technique	Description
<b>Construct Validity</b>		
Convergent validity	CFA used in covariance-based SEM only	GFI>0.90, NFI> 0.90, AGFI> 0.9 and an insignificant $\chi^2$ to show unidimensionality. In addition, item loadings should be above 0.707, to show that over half the variance is captured by the latent construct (Chin,1998, Hair et Al, 1998, Segars, 1997, Thompson et Al, 1995).
Discriminant Validity	CFA used in covariance-based SEM only	Comparing the $\chi^2$ of the original model with an alternative model where the constructs in question are united as a construct. If the $\chi^2$ is significantly smaller in the original model, discriminant validity has been shown (Segars, 1997)
Convergent and discriminant validity	PCA used in PLS can assess factor analysis but not as rigorously as a CFA in LISREL does and without examining unidimensionality	Each construct AVE should be larger than its correlation with other constructs, and each item should load more highly on its assigned construct than on the other constructs.
<b>Reliability</b>		
Internal Consistency	Cronbach Alpha	Cronbach alpa should be above 0.60 for explanatory research and above 0.70 for confirmatory researc (Nunally, 1967, Nunally, 1978, Nunally and Bernstein, 1994, Peter, 1979)
	SEM	The internal consistency coefficient should be above 0.70(Hair et al., 1998, Thompson et al 1995)
Unidimensionality Realibility	Covariance-based SEM only	Model comparison favor unidimensionality with a sognificantly smaller $\chi^2$ in the proposed measurement model in comparison with alternative measurement models (Segars, 1997)

**Table 1: Type Of Realibility And Validity**

Then, the assesing of fitness indexes should be referred after have done the unidimensionality procedure. This is because this procedure can remedy the multicollnearity problem. Based on the statistics assumption, the error

should be uncorrelated or independently. Thus, the constraints or double headed arrow should be employed. The following table presented shows the type of fitness indexes with literature supported:

Name of Category	Name of Index	Index Full Name	Level of Acceptance	Literature
<b>Absolute Fit</b>	GFI	Goodness-of-fit Index	GFI > 0.90	Joreskog and Sorbom (1986)
	AGFI	Adjusted Goodness-of-fit test	AGFI > 0.90	Joreskog and Sorbom (1986)
	SRMR	Standardized root mean square residual	SRMR < 0.08	Bentler (1995)
	RMSEA	Root mean Square Error Approximation	RMSEA < 0.06	Steiger & Lind (1980)
<b>Comment</b>	Higher values of GFI and AGFI as well as lower value of SRMR and RMSEA indicate better model data fit.			
<b>Incremental Fit</b>	NFI	Normed Fit Index	NFI > 0.90	Bentler & Bonett (1980)
	TLI	Tucker Lewis Index	TLI > 0.95	Tucker and Lewis (1973)
	RNI	Relative noncentrality Index	Rni > 0.90	McDonald & Marsh (1990)
	CFI	Comparative Fit Index	CFI > 0.95	Bentler (1989,1990)
	IFI	Incremental Fit Index	IFI > 0.90	Bollen (1989)
<b>Comment</b>	Higher values of incremental fit indices indicate larger improvement over the baseline model in fit			
<b>Parsimonious Fit</b>	Chisquare/Df	Chisquare/degree of Freedom	Chisq/Df < 5.0	Marsh and Hancock (1985)
<b>Comment</b>	Very sensitive to the sample size.			

**Table 2: Type Fitness Indexes**

#### 4.0 DATA ANALYSIS

Structural Equation Modelling (SEM) have two types of model which is measurement model and structural model. Basically, measurement model is frequently used nowadays among researcher to analyze for Confirmatory Factor Analysis (CFA). Hence, the researcher needs to run CFA procedures for each construct involved in the study. All measurement models must be validated and accepted prior to modelling the structural model. In this case, there are have 5 dimension which is motivation (16 items), challenges (6 items), government support (9 items), barrier (8 items), and benefits (14 items). According to (Hair et.al, 2010), the factor loadings for each items should be greater than 0.6. However, factor loading which greater than 0.50 is also accepted depend on the decision by the researcher if have strong reason not to do so. The table below shows the territory items results leave after remove:

Construct	Number of items before remove	Number of items after remove
Motivation	16	15
Benefits	14	11
Challenges	6	6
Barrier	8	4
Government Support	9	6

**Table 3: Result Of Unidimensionality Procedure**

The CFA procedure produces several indices which indicates the goodness of the measurement model. This procedure can be namely as the model fits. Some indices provide meaningful explanation, together with proper literature review support, concerning the fitness of the model. There are three categories of fitness which is absolute fit, incremental fit, and parsimonious fit. The researcher should choose any one represent for each categories. This study elect to employ the baseline comparison represent for incremental fit, RMSEA represent for absolute fit, and the chisquare/ Df represent for parsimonious fit. The RMSEA is fit when the default model should be less than 0.08. Other than that, the baseline comparison which include CFI, IFI, TLI should be greater than 0.9 to achieve the fitness of measurement model. Moreover, the parsimonious fit should be less than 5.0.

Variables	Chi/Squ	RMSEA	IFI	CFI	TLI
Type of fit	Parsimonious Fit	Absolute Fit	Incremental Fit		
Motivation	5.584	0.101	0.904	0.903	0.887
Benefits	7.028	0.115	0.899	0.898	0.876
Barrier	13.75	0.168	0.949	0.948	0.845
Challenges	11.067	0.149	0.916	0.915	0.859
Government Support	8.867	0.132	0.927	0.927	0.878

**Table 4: Fitness Indexes Before Constraints**

In this case, the baseline comparison and RMSEA is not a good fit to data at hands. Thus, the modification model is required in order to improve its fit. Also, the modification indeces should be employ to determine if there is any pair of measurement error happen to correlate with each other. If the items are correlated, the constrains should be employ to remedy the multicollinearity problem. The modification indices result is produced by AMOS 18.0. If there have any pair is above 15.0, the researcher needs to apply constraints.

Variables	ChiSqu/Df	RMSEA	IFI	CFI	TLI
Type of fit	Parsimonious Fit	Absolute Fit	Incremental Fit		
Motivation	2.209	0.052	0.978	0.978	0.970
Benefits	2.133	0.05	0.984	0.964	0.978
Barrier	1.093	0.014	1.000	1.000	0.999
Challenges	2.314	0.054	0.991	0.991	0.982
Government Support	3.700	0.077	0.981	0.980	0.958

**Table 5: Fitness Indexes After Apply Constraints**

Then, the internal reliability, convergent validity and discriminant validity achieve the fitness for each measurement model. The convergent validity and discriminat validity should be apply in order to enhance the validity of measurement model. The table below shows the result for convergent validity:

Construct	Items Loadings	Factor Loading	Cronbach Alpha	CR	AVE
Benefits	B1	0.636	0.923	0.898	0.503
	B3	0.669			
	B4	0.711			
	B5	0.775			
	B6	0.871			
	B7	0.871			
	B9	0.643			
	B10	0.726			
	B11	0.824			
	B12	0.776			
B14	0.644				
Motivation	M1	0.591	0.941	0.941	0.519
	M2	0.783			
	M3	0.755			
	M4	0.733			
	M5	0.799			
	M6	0.809			
	M7	0.569			
	M8	0.702			
	M10	0.777			
	M11	0.742			
M12	0.715				
M13	0.634				
M14	0.767				
M15	0.706				
M16	0.698				
Challenges	C1	0.688	0.849	0.844	0.477
	C2	0.798			
	C3	0.595			
	C4	0.748			
	C6	0.633			
Barrier	Bar1	0.627	0.761	0.758	0.452
	Bar2	0.705			
	Bar3	0.705			
	Bar4	0.522			
Government Support	G1	0.688	0.835	0.838	0.467
	G2	0.798			
	G3	0.595			
	G4	0.748			
	G5	0.721			
	G6	0.633			

**Table 4: Convergent Validity**

#### 4.1 CONVERGENT VALIDITY

According to (Fornell and Larcker, 1981) proposed three procedures to asses for convergent validity of the measurement items which is include tradisional method (cronbach alpha), composite realibility, and the average variance extracted. According to (Nunally & bernestein, 1994) explore the Cronbach Alpha with a value of 0.7 or higher being recomended.

#### 4.2 DISCRIMINANT VALIDITY

According to (Fornell et.all, 1982) proposed discriminant validity is present when the variance shared between construct and any other construct in the model is less than the variances that construct shares with its indicators. The result for discriminant validity is presented as below:

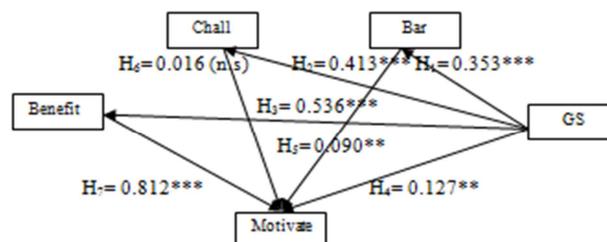
Benefits	Motivation	Challenges	Barrier	Government_Support
<b>0.709</b>				
0.690	<b>0.721</b>			
0.219	0.229	<b>0.691</b>		
0.287	0.297	0.390	<b>0.672</b>	
0.451	0.449	0.277	0.261	<b>0.683</b>

**Table 5: Discriminant Validity**

The diagonal values with bold are the square root of Average Variance Extracted (AVE) while other value are the correlation between the respective construct from pooled confirmatory factor analysis. The diagonal value is higher than in its row and column.

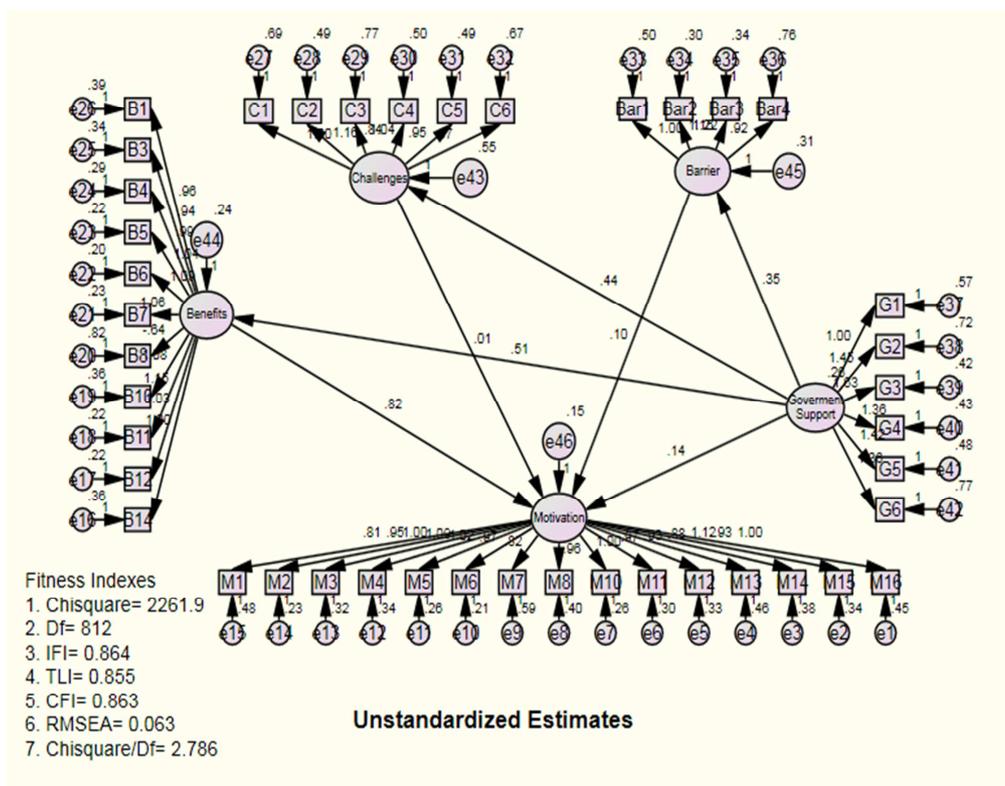
#### 4.2 STRUCTURAL EQUATION MODELLING (MULTIMEDIATING EFFECT)

After the measurement model have been validated, the next step is to assemble these construct in the structural model. The path coefficient from the structural equation modelling are shown in Figure 1. This model can be namely as the multigroup mediating effect since there had three model classify as the mediator which is benefits, challenges, and barrier. As usual, the structural model should run for for the goodness of fit-test in order to achieve the fitness of model data-fits. In this case, this study also elect the baseline comparison and RMSEA for fitness. Hypotheses 1,2,3,4,5, and 7 were all supported. Therefore, barrier and benefits construct were partially mediate which had significant direct effect. However, the construct for challenges is fully mediate which had a non-significant direct effect. The figure 1 shows the result in conceptual design with hypothesis presented:



**Figure 1: Mediating Effect In Conceptual Design**  
 \*\*\* =  $p < 0.001$  \*\* =  $p < 0.05$  n.s= non-significant

The following figure also present the result for mediating effect with hypothesis in order to make it more clearly from the AMOS graphic:



**Figure 2: Unstandardized Estimate For Multimediator**

## 5.0 DISCUSSION AND CONCLUSION

Using the volunteerism as a research model, the findings revealed all the reliability and validity of measurement model which is CFA procedure is achieved. The CFA procedure is very important before furthering the analysis. Hence, the reliability and validity applied to remedy the multicollinearity problem. Then, the structural model is conducted by assemble of whole measurement models in order to obtain the results for multimediating effect. The findings show that benefits, barrier, and government support are significant direct effect on motivation while the challenges is insignificant different effect. In addition, the type of mediator variables is also included based on the significant value produced. As a result, the benefits and barrier are partially mediation while challenges is fully mediation.

There are some limitation of this study. The scope of the study is only limited to the youth at higher education institution at Kuala Terengganu. Hence, the results might only be generalised to the above population. In the other words, the findings might be different if the scope is increase to include more categories might pose different characteristics. Future research may include additional variables and the characteristics of respondents to enhance their impact on the motivation.

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