Exploring the Impact of the State

by Irwan Gani

Submission date: 02-Aug-2019 08:53AM (UTC+0700)
Submission ID: 1156908249
File name: Artikel_1.pdf (1.35M)
Word count: 2217
Character count: 11742

ATLANTIS PRESS

Advances in Economics, Business and Management Research (AEBMR), volume 35

Mulawarman International Conference on Economics and Business (MICEB 2017)

Exploring the Impact of the State of Family Towards Life Quality of the Youth Using Structural Equation Modelling-Partial Least Square

Muliati[1], Irwan Gani[2]

Faculty of Economics and Business, Mulawarman University, Indonesia

[1]muliati@feb.unmul.ac.id

[2]irwan.gani@feb.unmul.ac.id

Abstract— **The main objective of this study is to explore the quality of youth in East Kalimantan Province, Indonesia. Using survey data the study sets out four variables i.e. quality of the youth that is reflected by indicators related to drug abusive behaviour and youth educational level; indicators represent the role of family of the youth; knowledge regarding the healthy and responsible way of life; and indicators to reflect variable of economic status of the family. Research problems in the study are: first, to determine whether the role of the family are significant in explaining the life quality of the youth; second, to discover if knowledge regarding healthy way of life are significant towards the youth' quality of life; and third, to figure out the impact of economic status towards the life quality of the youth. This study uses annual data on youth in East Kalimantan Province since 2010-2015 published by National Family Planning Coordinating Board (BKKBN), Indonesia. The hypothesis developed in the study were tested using Variance-Based Partial Least Square (SEM PLS), and the result showed that weighted indicators in variables are valid and reliable with the goodness of fit accounted for 0.98.**

Keywords— **youth, quality of life, structural equation modeling, partial least square**

I. INTRODUCTION

The awareness of enhance human resources quality in Indonesia has grown rapidly during the past two decades which is reflected in programs and budget allocation of government spending related to investment in human capital. Most programs are intensified on the young and adult population ranging from education and health to social security that has broader population coverage.

The process of preparing human resources begin from assuring the life quality of the youth, which is by definition, determined as those who are in 0-25 years old. In Indonesia youth population accounted for 37.4%, whereas in East Kalimantan it is 47% of total population. Based on [1] report the highest young population are in between 15 to 25 years old, or 27% of total population. Refer to high population share of the youth and the urgency of preparing high quality of human resources, it is highly necessary to prepare the human resources especially among the youngest.

Numerous economic theories and model stated that there is a significant relationship between education and health throughout economy of a country. Reference [5] has shown the connection between education and economic growth which is suggest educational attainment in the production function. However, [2] proved that Phelps model only adequately replicate poverty traps in less developed countries whilst in the 'rich' countries the approach does not satisfactorily explain the relationship dynamics. Reference [4] demonstrated that Solow Model used education capital as a production factor explained the variation of per capita real income. Reference [3] exploring multivariate time series techniques found significant and positive effect of accumulation of human capital towards economic growth rate in the long run. Health is also considered as an equally important factor as human capital in explaining economy. Health can directly augment labor force productivity in terms of physical capacity and mental aptitude.

II. METHODS

A. Structural Equation Modelling (SEM) Techniques

There are two different approaches used in Structural Equation Model [6]:

- Covariance Based Structural Equation Modeling (CB-SEM)
- Variance Based Structural Equation Modeling (VB-SEM) referred as Partial Least Square Structural Equation Modeling (PLS-SEM)

Theoretically CB-SEM develop matrix that minimize the difference between theoretical

covariance matrix and estimated covariance matrix, which resulted in obtaining goodness of fit that imply correlation matches the observed. Whilst th PLS-SEM is aimed to maximizing the explained variance of the dependent latent construct, and maximize prediction rather than goodness of fit.

As stated beforehand PLS-SEM is a multivariate method for specifying and estimating models of linear relationships between exogenous latent variables and endogenous latent variables. Some of the benefit using this method is it does not require a lot of assumption nor samples. Furthermore, the data collected is analyzed using smart PLS v.2.0 software.

III. Results

Data used in this research is mainly from Indonesian Demographic and Health Survey, Teen Health Survey, East Kalimantan in Figures, and other relevant publications in various edition. Information employed are the number of incidence of drug abusive behaviour of the youth, youth educational level, percentage of youth that are aware of the role of family in life, percentage of youth in knowledge regarding health and responsible way of life, economic status of the family. Research problems in the study are: first, to determine whether the role of the family is significant in explaining the life quality of the youth; second, to discover if knowledge regarding healthy way of life are significant towards the youth' quality of life; and third, to figure out the impact of economic status toward the life quality of the youth. Figure 1 shown data input from SmartPLS software, the yellow rectangle manifest thirteen variables, where the blue round shape represent endogenous latent variables. The path diagram of the model is constructed as follow:

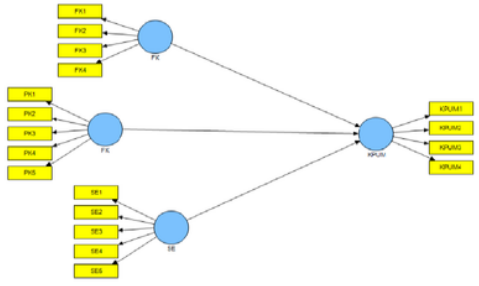

Fig. 1 Path diagram of the model

The latent variables and indicators explored in the model are listed in Table I below:

TABLE I
LATENT VARIABLES AND INDICATORS

Quality of the youth	**KPUM (Y)**
Primary Education	KPUM1
Middle Education	KPUM2
Higher Education	KPUM3
Drug Abuse amongst Youth	KPUM4
Role of the family	**FK (X1)**
Physical	FK1
Mental	FK2
Social	FK3
Spirituality	FK4
Health Knowledge	**PK (X2)**
Menstrual Cycle	PK1
Contraception	PK2
Anemia	PK3
HIV/AIDS	PK4
Drugs abuse	PK5
Economic Status of Family	**SE (X3)**
Lowest level	SE1
Low level	SE2
Middle level	SE3
Higher level	SE4

A. Measurement Model (outer model)

Convergent validity of construct is assessed based on item reliability (loadings), composite reliability (CR) and Average Variance Extracted (AVE) value. Smart PLS has calculated of the value in Figure 2.

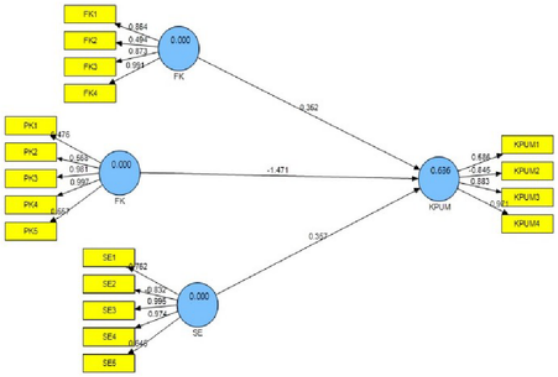

Fig. 2 PLS Model Result

TABLE II
CONSTRUCT VALIDITY OF MODEL

Construct	Factors	Loadings	AVE	CR
FK	FK1	0.866881	0.687403	0.893114
	FK2	0.498284		
	FK3	0.875694		
	FK4	0.991466		
KPUM	KPUM1	0.495079	0.668555	0.657976
	KPUM2	-0.79394		
	KPUM3	0.919676		
	KPUM4	0.976207		
PK	PK1	0.478878	0.565427	0.855644
	PK2	0.5707		
	PK3	0.981924		
	PK4	0.997046		
	PK5	0.560214		
SE	SE1	-0.76305	0.725809	0.431585
	SE2	-0.83138		
	SE3	0.995065		
	SE4	0.973917		
	SE5	0.645708		

Figure 2 and Table II show the detail of parameters calculated for assessing the measurement model which is discussed as below:

KPUM: loading value for the entire variables vary with one factor loading value 0.49 which is below 0.5. The value of AVE and CR are 0.68 and 0.65 respectively whichbelow the cut-off value.

FK: this construct showsthat one factor (FK2) has loading value below 0.7. However other factors in the construct havehigher value than 0.7. The value of AVE and CR show slightly below the cut off point 0.7 which are 0.68 and 0.89, respectively. In generalit means the factors has good reliability.

PK: there are three factors in this construct that show slightly less than 0.5, which are PK1, PK2, and PK5. Whereas the value of other two factors are 0.98 and 0.99, respectively. The AVE and CR value of PK are 0.56 and 0.85, respectively.

SE: four out of five factors in the construct showed higher value than cut off point, but factor SE5 somewhat lower than the requirement point. The AVE and CR value for this construct are 0.72 and 0.43.

B. Structural Model (inner model)

Structural model evaluated by assessing the goodness of fit and reseach hipotheses in the research. According to Urbach & Ahleman (2010) two of criterias are:

1) *The coefficient of determination (R2):* Chin (1998) suggested that the explanatory power is considered substantial, moderate, and weak if R square is approximately around 0.67, 0.33, and 0.19 respectively. Calculation showed that R2 of this study is 0.72 which is substantially powerful;

2) *Path coefficient:* Observing the direction and significance of path coefficient allow us to test the hypotheses. This test can use bootstrap procedure in Smart PLS and result of R2 of this study is 0.72, whereas result of bootstrapping calculation of this study can be seen in figure 3.

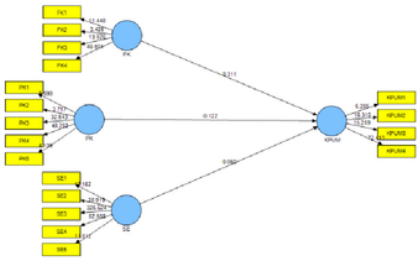

Fig. 3 Bootstrapping Result

C. Second Model

Based on the loadings of factors and t statistic it is known that there are no exogenous latent variables significantly explain the endogenous latent variable. Therefore, the second phase calculation should be done by omitting factors that has loading value lower than 0.7. Calculation output is presented in Figure 4.

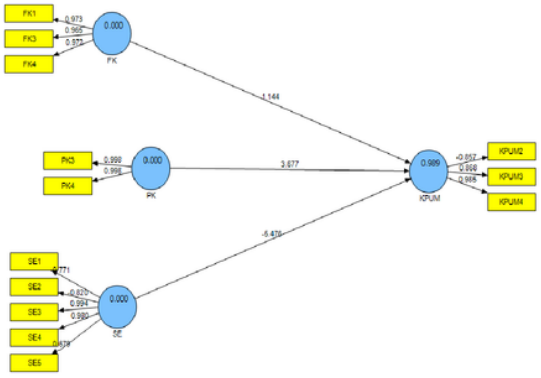

Fig. 4 PLS Model (omit) Result

IV. DISCUSSION

Several indicators of each construct have been omitted due to its value does not meet the cut off point. In KPUM, indicator KPUM1 that represent incidence rate of drug abuse in youth has been removed from the calculation. In result, all three indicators showed higher loadings around 0.89. Within FK construct there is one indicator has been eliminated from the calculation. It resulted 0.98 loading point, which is higher compare to the previous model. The third exogenous variable is PK that consist of four indicators, and denote knowledge of health amongs teen. We have to eliminate two of indicators in the construct because of its lower loadings. After removing those two the value of loading is significantly higher and counted as 0.98. Last construct of indicators employed in this study is symbolized as SE, represent level of economic status. Previous result of SmartPLS showed that there is no indicator of construct necessarily be removed from model. The result showedfour out of five indicators have loading valueshigher than cut off point 0.70. However, loading of indicator SE5 is below the cut off point and should be cautioned.

Compare to the first model, the second one has a better value of R2 (0.98), which based on [7] work, is substantially powerful in explaining the model. Path coefficients of the model can be examined in Table III, and t statistic of each indicators in the construct is presented in Figure 5.

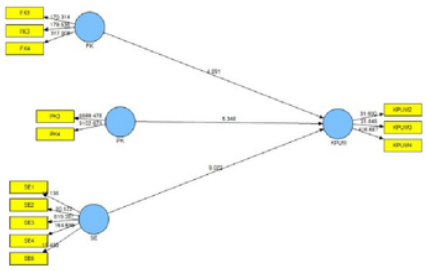

Fig. 5 Bootstrap (omit) Result

T test for each variable is calculated from coefficient in original sample divided by its standard error. Using 95% level of confidence it is known that that all of exogenous latent variables is significant in exlpaining endogenous latent variable. Furthermore, bootstrap result for each indicators in the developed construct is provided below:

TABLE III
PATH COEFFICIENT OF STRUCTURAL MODEL

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	Standard Error (STERR)	T Statistics (|O/STERR|)
FK -> KPUM	1.144379	1.15765	0.233958	0.233958	4.891386
PK -> KPUM	3.676511	3.6801	0.687495	0.687495	5.347689
SE -> KPUM	-5.47583	-5.4979	0.606939	0.606939	9.02204

V. CONCLUSIONS

This study focused on the assesing factors affecting quality of the youth in East Kalimantan Indonesia. The quality itself consist of four factors whereas the three exogenous latent variables contain four and five factors respectively. However after evaluating result of SmartPLS calculation the original model do not meet the criteria required. Consequently, some of indicators in the construct have been removed and recalculated to encounter the problem. Based on the output of second model it is concluded that:

- Role of the family is significant in explaining the life quality of the youth;
- Knowledge of the youth regarding healthy way of life and responsible way of living are significant towards the youth' quality of life;
- Level of economic status of the family is significant on the life quality of the youth

REFERENCES

[1] East Kalimantan in Figures. (2016). *Statistical Board of East Kalimantan Indonesian Demographic and Health Survey*. National Family Planning Coordinating Board (BKKBN), Indonesia

[2] Lucas, Robert E. (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics, 22*, 3–42.

[3] Maksymenko, S. & M. Rabbani. (2011). Economic Reforms, Human Capital, and Economic Growth in India and South Korea: A Cointegration Analysis. *Journal of Economic Development, 36* (2), 39-59.

[4] Mankiw, N G. D, Romer. & David, N Weil. (1992). A Contribution to the Empirics of Economic Growth. *Quarterly Journal of Economics, 107* (2): 407-437.

[5] Nelson, Richard R. & Phelps, Edmund S. (1966). Investment in Humans, Technological Diffusion, and Economic Growth. *The American Economic Review, 56* (1/2), 69-75.
[6] N. Urbach. & F, Ahlemann. (2010). Structural Equation Modeling in Information Systems Research Using Partial Least Squares. *Journal of Information Technology Theory and Application,11* (2), 5-40.
[7] W, W Chin. (1998). Issues and Opinion on Structural Equation Modeling. *MIS Quarterly, 22* (1), vii–xvi.

Exploring the Impact of the State

ORIGINALITY REPORT

16%	9%	11%	11%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Zainun, Noor Yasmin, Nadzirah Roslan, and Aftab Hameed Memon. "Assessing Low-Cost Housing Demand in Melaka: PLS-SEM Approach", Advanced Materials Research, 2013. Publication	6%
2	Submitted to Universitas Diponegoro Student Paper	3%
3	Submitted to Universiti Tenaga Nasional Student Paper	1%
4	download.atlantis-press.com Internet Source	1%
5	Submitted to Universiti Teknologi MARA Student Paper	1%
6	mpra.ub.uni-muenchen.de Internet Source	1%
7	Wulan I R Sari. "The Role of Regulations on Administrative and Practices in Improving Quality of Services in Public Organizations",	1%

	Cogent Business & Management, 2017 Publication	
8	ir.lib.stust.edu.tw Internet Source	<1%
9	www.jed.or.kr Internet Source	<1%
10	Submitted to Higher Education Commission Pakistan Student Paper	<1%
11	Submitted to Fatih University Student Paper	<1%
12	Lee, Ke Hwa, and Shih Chih Che. "Introduction to Partial Least Square: Common Criteria and Practical Considerations", Advanced Materials Research, 2013. Publication	<1%
13	Bouznit, Mohammed, Mohamed Yassine Ferfera, and María del P. Pablo-Romero. "The Slow Economic Growth in Algeria: A Comparative Study with Respect to South Korea : The Slow Economic Growth in Algeria", African Development Review, 2015. Publication	<1%

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		