International Journal of Psychosocial Rehabilitation, Vol. 23, Issue 04, 2019
ISSN: 1475-7192

Analysis of Factors for Adopting E-Learning in Vocational Technical Skill Learning

[1*]Giovanna T.Gayatri, [2]Sfenrianto

***Abstract*---*The presence of information and communication technology has become a new pattern and lifestyle of people in Indonesia. E-learning is increasingly being used, both on formal and non formal education. The author interested in bringing up the study to analyze the factors affecting the adoption of e-learning at vocational technical skill training, using the Model of e-Learning adoption from Elkaseh (2015). The purpose of this study is to analyze the factors in e-learning adoption in technical skills training, which include Variables: Social Influence, Perceived Enjoyment, Social Networking Media, Mobile Devices, Perceived Ease of use, Perceived Usefulness, Attitude toward Using , and Behavioral Intention to use.The study using Structural Equation Modelling analysis, using AMOS. The result show that there are 8 hypotheses supported from totally 11 hypotheses which involves those variables. The result also show that the research model is considered valid and reliable.*

Keywords*---*SEM, e-Learning, AMOS, vocational learning, TAM

I. Introduction

The development of information and communication technology (IT) has been growing rapidly and penetrating in all aspects of life, not least in the field of education and training. The presence of information and communication technology has become a new pattern and lifestyle of people in Indonesia. Based on 2017 Kominfo research data [1], the number of internet users has reached 143.26 million people or equivalent to 54.68 percent of the total population of Indonesia. The largest composition of internet users by age is age 13-18 (75.5%) followed by people aged 19-34 (49.52%). There is a phenomenon of the transition from offline learning systems to online (e-learning), which is claimed to save more time learning, cost, and effective [2].

V-Tiga Training Center is a non-formal educational institution engaged in the field of technical skills training. In its teaching activity, this institution began to use the MOODLE e-learning platform in some of its learning activities.
Many studies on e-learning have been carried out and one of them is a study entitled "An Investigation of the Factors for Adopting E-learning in Libyan Higher Education for Learning and Teaching" (Ali Mohamed Elkaseh, 2015) [3]. The research model is based on Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), and Unified Theory of Acceptance and Use of Technology (UTAUT). In this study analyzed the factors in determining the success of e-learning adoption at university in Libya, tested on students and lecturers with Structural Equation Modeling (SEM) analysis techniques. SEM is a statistical analysis technique that can be applied in social and

[1,2]Information SystemManagement Department, BINUS Graduate Program - Master ofInformation System Management, Bina Nusantara UniversityJakarta, Indonesia 11480.
E-mail:[1]giovanna.gayatri23@gmail.com*

Received: 15 Sept 2019 | Revised: 17 Oct 2019 | Accepted: 15 Nov 2019

behavioral science. SEM to further confirm the extent to which theoretical models are supported by sample data, and test theoretical models to enhance our understanding of complex relationships between constructs.

After seeing the phenomena of e-learning development, the author's has interest to make a researching to analyze what makes students at the VTiga Training Center have the intention of using e-learning and deciding to adopt e-learning in their learning process. The author wants to bring up a study entitled "Analysis of Factors in Adopting E-Learning in Technical Skills Training", using the adoption research model e-Learning (Elkaseh, 2015) which is a new model and has never been used by author's previous research.

The purpose of this study is to analyze the factors in e-learning adoption and each factors significance impact, which include Variables of : Social Influence, Perceived Enjoyment, Social Networking Media, Mobile Devices, Perceived Ease of use, Perceived Usefulness, Attitude toward Using , and Behavioral Intention to use. The model that will be used is Elkaseh E-learning Adoption model, 2015. The data analysis will be conducted using Structural Equation Modeling (SEM) by AMOS tool.

II. Literature Review

E-Learning

E-learning is an "innovative approach to education delivery via electronic forms ofinformation that enhance the learner's knowledge, skills, or other performance" [4].

Moodle

Moodle is a learning platform designed to provide educators, administrators and learners with a **single robust, secure and integrated system** to create personalised learning environments. [5]

TRA (Theory of Reasoned Action)

Fishbein and Ajzen [6] stated: "Reasoned Action Theory is based on social psychology, according to Reasoned Action Theory, individual performance of the behaviors that have been determined will be determined by the intent of the actions to be carried out with the goal of behavior together is determined by the attitude individuals and subjective norms "

TAM (Technology Acceptance Model)

TAM is the common theory for technology adoption. It proposes that acceptance or usage is of technology is influenced by external factors, and is determined by two factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU). [7]

Social Influence

SI was equivalent to the subjective norm and defined it as other people's opinion, superior and peer influence. [8]

Perceived Enjoyment

According to (Davis et al., 1992) [7], 'Perceived Enjoyment' (PE) is defined as "the extent to which the activity of using the technology is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated".

Social Networking Media

According to Adamson [9] 'Social Networking Media' (SNM) is a vital tool for teaching and learning and should be used extensively for this purpose. the usage of SNM in education institutions can have a positive effect on students' learning outcomes

Mobile Devices

Mobile Devices (MD) offer users with more freedom, as they can access information and services anytime anywhere. The most benefit usage of MD is to share knowledge. [10]

Structural Equation Modelling

SEM is one of the multivariate analysis in social science, to analyze several research variables simultaneously [11].

AMOS (Analysis of Moment Structure)

AMOS is statistical software and it stands for analysis of a moment structures. AMOS is an added SPSS module, and is specially used for Structural Equation Modeling, path analysis, and confirmatory factor analysis. It is also known as analysis of covariance or causal modeling software [12].

III. Methodology

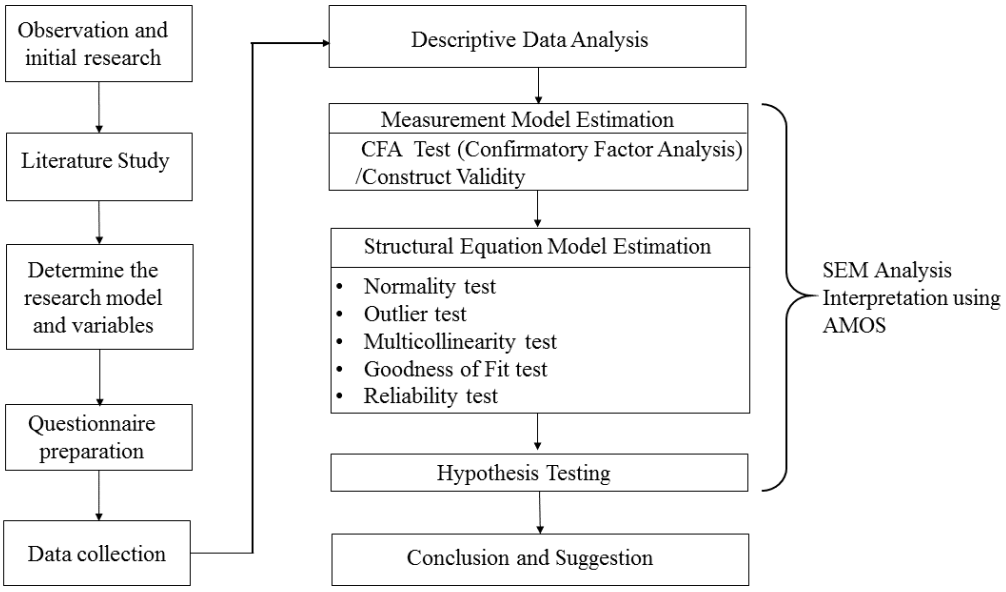

Figure : Framework

The flow of research conducted by the author is illustrated in Figure 3.1. First of all the writer made observations on the implementation of e-learning learning using MOODLE at the Vtiga Training Center. Furthermore, a literature study is carried out on e-learning, and study related research. The research model and its variables are taken from a scientific journal. The next step was to make a questionnaire and collect data from the V-Tiga Training Center students. There are 102 respondents within the study period of May-August 2019. The data obtained related to SEM will be analyzed using AMOS.

Received: 15 Sept 2019 | Revised: 17 Oct 2019 | Accepted: 15 Nov 2019

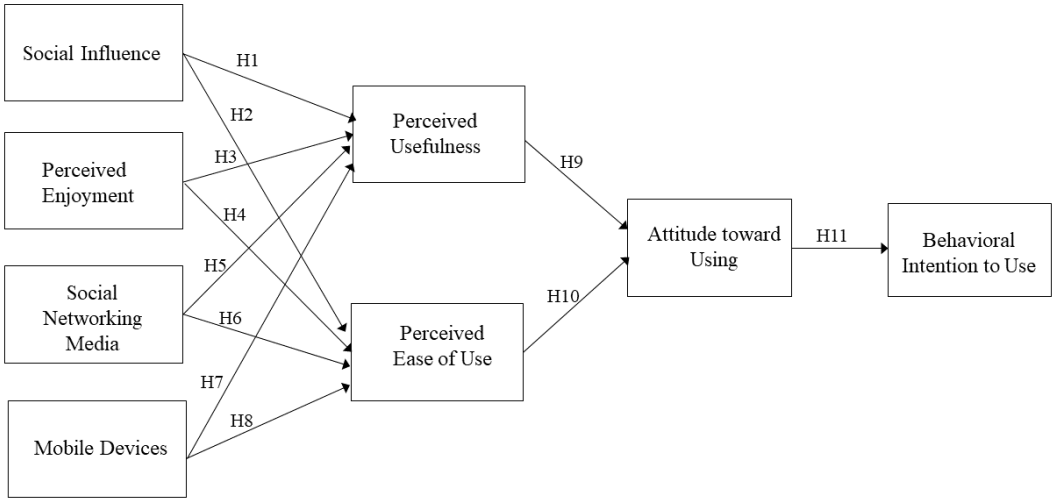

Figure : The Research Model – E-Learning Adoption (Elkaseh,2015)

Variables in this study include:

1. Exogenous or independent variables, ie variables that are not influenced by other variables. In this study, exogenous variables consisted of: Social Influence, Perceived Enjoyment, Social Networking Media, and Mobile Devices.

2. Endogenous variables or dependent variables, namely variables that are influenced by other variables. In this study, endogenous variables include: Perceived Usefulness, Perceived Ease of Use, Attitude towards Using, and Behavioral Intention to Use.

For questionnaire ,there are30 indicators from 8 variables.

Faktor	Kode	Indikator	Pertanyaan	Referensi
Perceived Usefulness	PU1	Menyederhanakan proses belajar	E-learning praktis dan berguna dalam kegiatan belajar	Venkatesh et al (2003)
	PU2	Peningkatan efektivitas dalam belajar	E-learning membuat proses belajar lebih efektif.	Davis (1989)
	PU3	Pengalaman baru yang berguna	Menggunakan e-learning menambah pengalaman belajar .	Seif et al (2012)
	PU4	Peningkatan hasil belajar	E-learning dapat meningkatkan keterampilan teknik saya.	Davis (1989)
Perceived Ease of Use	PEOU1	Menggunakan dengan mudah	Menurut saya, pembelajaran E-learning ini mudah digunakan	Davis (1989)
	PEOU2	Mempelajari dengan mudah	Menurut saya, penggunaan teknologi e-learning mudah dipelajari.	Gong et al (2004) Davis (1989)
	PEOU3	Belajar jelas dan mudah dipahami	Belajar menggunakan e-learning ini jelas dan mudah dimengerti.	Davis (1989)
	PEOU4	Mudah beradaptasi	e-learning fleksibel dalam penggunaannya	Ndubisi (2006)
Attitude towards Using	AT1	Kenyamanan menggunakan	Saya percaya diri dapat menggunakan e-learning keterampilan teknik ini	Batthaei & Hosseini (2014)
	AT2	Keyakinan akan manfaat	Saya percaya bahwa penggunaan e-learning dalam pendidikan keterampilan cukup bermanfaat	Bataineh & Bani Abdel Rahman (2006)
	AT3	Kesediaan menggunakan	Saya bersedia menggunakan e-learning meskipun manfaatnya baru akan dirasakan kemudian	Fishbein & Ajzen (1975)
	AT4	Tidak membosankan	E-learning menambah pilihan akses peserta dalam dunia pendidikan	Lee et al (2005)
Behavioral Intention to Use	IU1	Penggunaan di masa mendatang	Jika memungkinkan, saya akan terus menggunakan e-learning dalam kegiatan belajar di masa mendatang	Suh and Han (2003)
	IU2	Niat menggunakan	Saya tidak akan berpikir terlalu lama dalam memilih menggunakan e-learning dalam kegiatan belajar di kesempatan lain	Carter and Belanger (2005)
	IU3	Berbagi manfaat yang dialami	Saya akan merekomendasikan kepada orang lain untuk menggunakan e-learning	Venkatesh & Davis (2000)

Faktor	Kode		Indikator	Referensi
Social Influence	SI1	Pengaruh dari superior	Saya akan menggunakan e-learning jika pengajar merekomendasikannya.	Venkatesh and Morris (2000)
	SI2	Pengaruh pengguna lain	E-learning akan menarik bagi saya jika sebagian besar teman juga menggunakannya	Aizen (1988)
	SI3	Saran pengguna lain	Saya akan menggunakan e-learning jika teman sekelas menyarankannya	Taylor and Todd (1995)
	SI4	Pengaruh lingkungan terdekat	Orang-orang lain disekitar saya berpikir bahwa memanfaatkan e-learning adalah ide bagus.	Grandon et al (2005)
Perceived Enjoyment	PE1	Senang menggunakan	Saya lebih menyukai menggunakan e-learning daripada belajar di kelas.	Igbaria et al (1995)
	PE2	Menikmati menggunakan	Saya menyukai kegiatan belajar menggunakan e-learning	Huang et al (2007)
	PE3	Keyakinan akan kesenangan yang diperoleh	Meskipun saya tidak pernah mengikuti kelas online, saya mempunyai kesan e-learning lebih/sama menyenangkannya seperti belajar tatap muka.	Yi & Hwang (2003)
	PE4	Ingin menggunakan kembali	Saya akan menggunakan e-learning dalam proses belajar karena menyenangkan	Teo & Lim (1997)
Mobile Devices	MD1	Kenyamanan menggunakan	Setelah menggunakannya, menurut saya mobile learning mudah digunakan	Kenan et al (2013)
	MD2	Keuntungan dalam hal mobilitas	Menggunakan mobile learning membantu saya dapat belajar di manapun lokasinya.	Looi et al (2010)
	MD3	Efektif dan bermanfaat	Mobile learning membantu meningkatkan pengetahuan dan pembelajaran keterampilan teknik.	Cheon et al (2012)
	MD4	Pemanfaatan teknologi	Saya akan memilih menggunakan mobile learning jika lembaga menyediakan dukungan teknis yang baik.	Liu et al (2010) Kenan et al (2013)
Social Networking Media	SA1	Interaksi dalam belajar mengajar	Menggunakan Social Networking Media dapat meningkatkan interaksi pengajar dan pesertadalam belajar online.	Jackson (2011)
	SA2	Fitur yang berguna	Social Networking Application dapat membantu diskusi, berbagi materi dan informasi dalam proses belajar	Harris & Rea (2009) , Fischer & Mandl (2005)
	SA3	Peningkatan efektivitas	Menggunakan Social Networking Media membantu meningkatkan kualitas pembelajaran.	Kenan et al (2013) Redecker et al (2009) Downes (2005)

Figure : The Research Variables and Indicators

IV. Result and Discussion

VTiga has been using web-based MOODLE e-learning platform in the part of its learning class. The overview of e-earning used will be shown as follows:

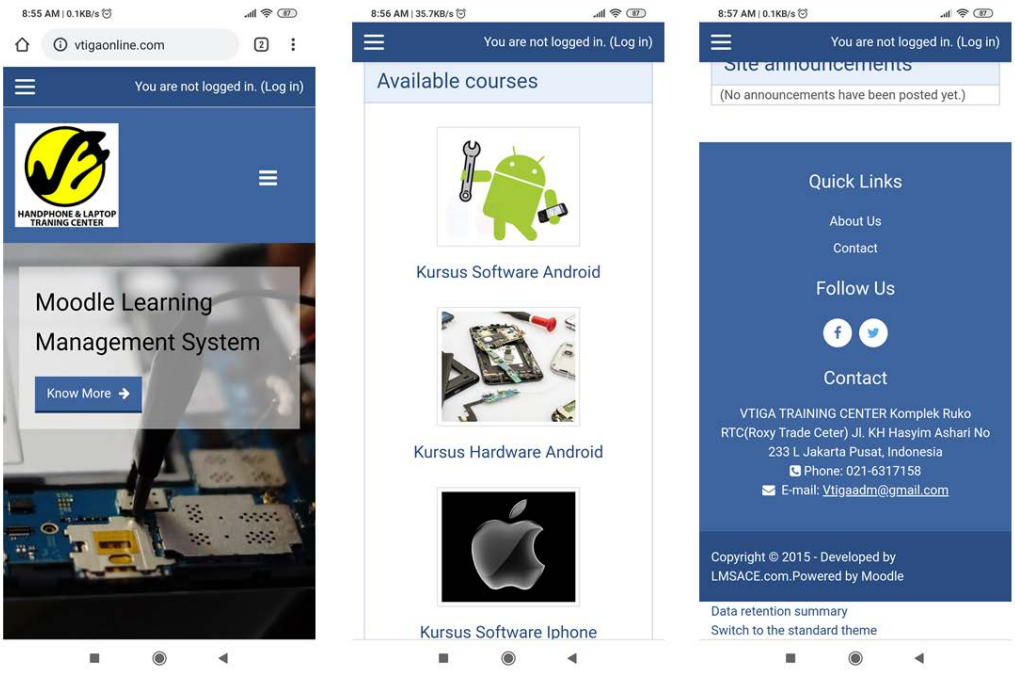

Figure : Site Home accessed from smartphone

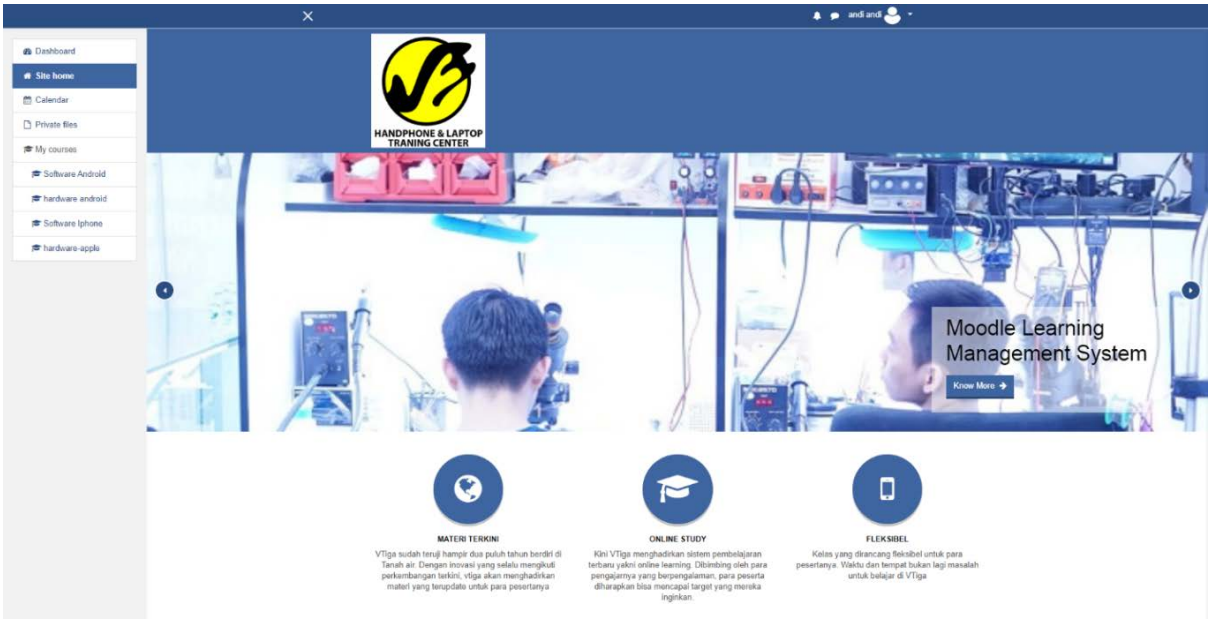

Figure : Site Home accessed from PC/Laptop

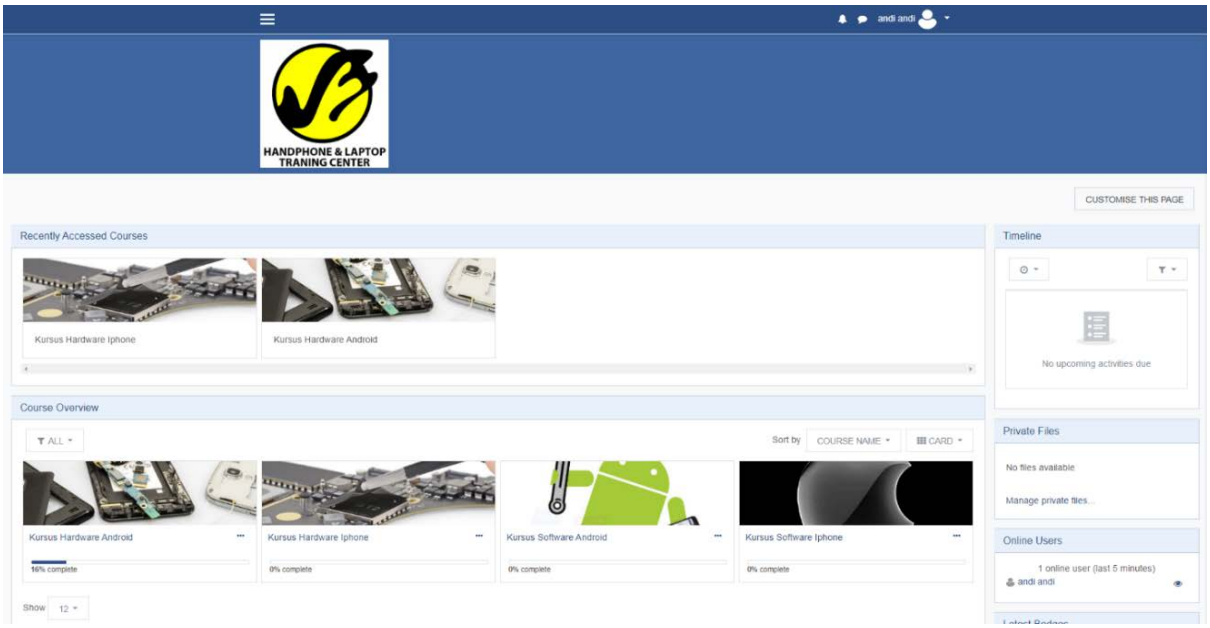

Figure : The course material

Figure : Modul of training

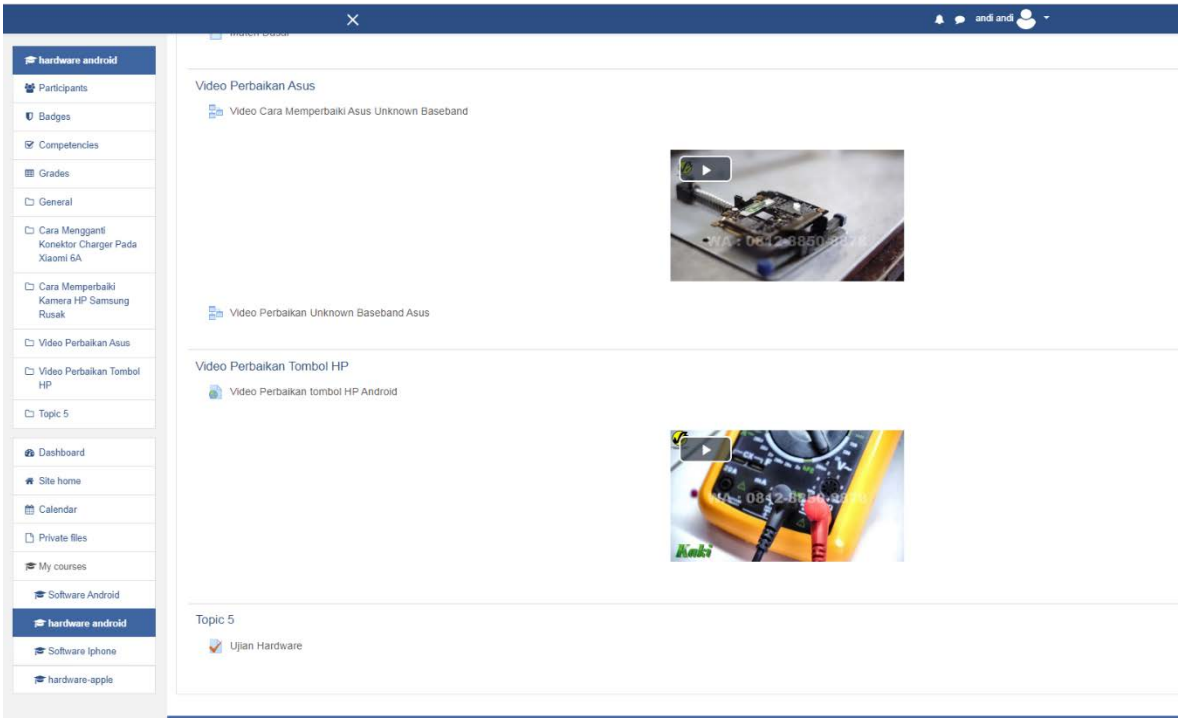

Figure : Video material

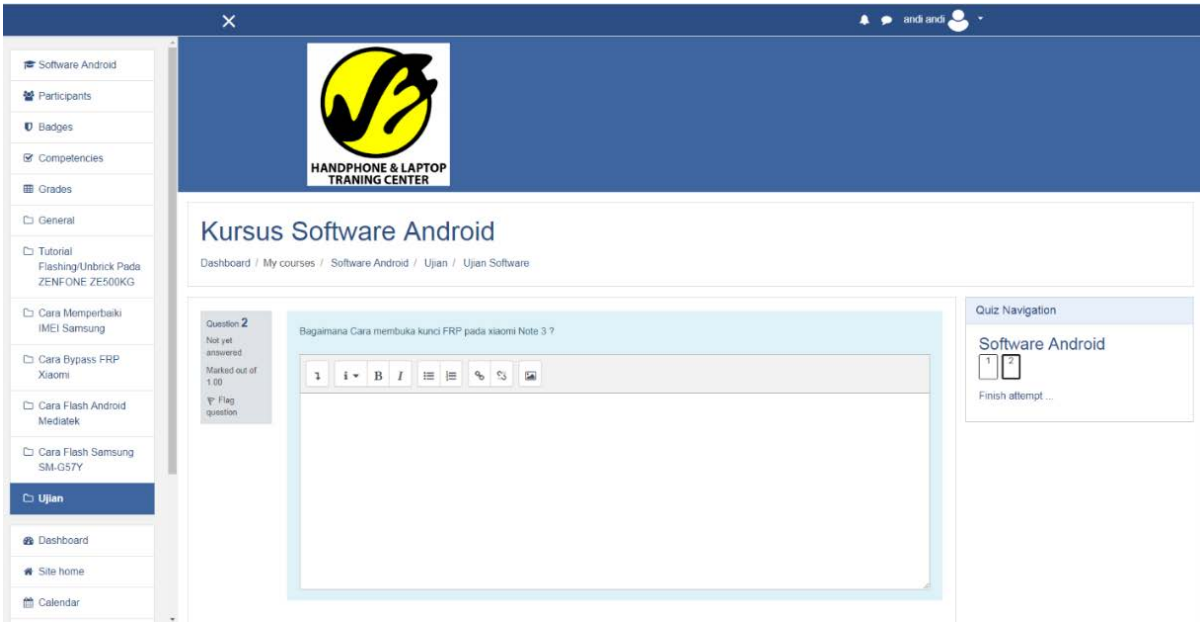

Figure : Quiz in MOODLE e-learning

Descriptive Analysis

In this part, there is summary of the results of respondents' answer to the questionnaire that has been distributed. the first part of the questionnaire was respondents' demographic information and the second was information regarding the respondents' experiences in using information technology supporting e-learning.

Table : Demographic Information

Question	Answer	Frequency	(%)
Age	15-25	52	51
	26-40	31	30.4
	>41	19	18.6
	Total	102	100.0
Gender	Male	84	82.4
	Female	18	17.6
	Total	102	100.0
Level of formal education	Junior high school	11	10.8
	Senior High school	54	52.9
	Diploma	14	13.7
	Bachelor	21	20.5
	Others	2	2.1
	Total	102	100.0

Table : Experience in using IT supporting e-learning

Question	**Answer**	**Frequency**	**(%)**
Have you ever used e-learning before?	Yes	13	12.7
	No	89	87.3
	Total	102	100.0
The Mobile Device you are using now	Smartphone	102	76.7
	Tablet	13	9.8
	Laptop	18	13.5
	Total	133	100.0
Level of experience in using Mobile Devices and komputer.	None	3	2.9
	Novice	28	27.5
	Intermediate	55	53.9
	Advance	16	15.7
	Total	102	100.0
Necessity in using mobile devices	Call and text	66	19.6
	Social Networking Media	72	21.4
	E-mail	16	4.8
	Games	64	19.0
	Internet access	57	17.0
	Mobile application	61	18.2
	Total	336	100.0
Internet usage in 1 week	0 – 5 hrs	4	3.9
	6 – 10 hrs	7	6.9
	11 – 19 hrs	25	24.5
	>20 hrs	66	64.7
	Total	102	100.0
Social Networking Media yang Anda gunakan	Whatsapp	101	28.3
	Line	72	20.2
	Facebook	63	17.6
	Instagram	67	18.8
	Discussion forum	54	15.1
	Total	357	100.0

CFA (Confirmatory Factor Analysis) Test / Construct Validity

CFA test or construct validity test, intended to find out whether each indicators can explain the existing construct. The indicator used as measuring research variables are indicators that have p value < 0.05.

Received: 15 Sept 2019 | Revised: 17 Oct 2019 | Accepted: 15 Nov 2019

Based on CFA test toward exogen and endogen variables, all indicators are validto be used for research's instruments since each p-value < 0.05 and each of the loading factor > 0.5.

Table: Confirmatory Factor Analysis Variable Exogen and Endogen

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
SI1	<---	SI	1.000				
SI2	<---	SI	.849	.068	12.468	***	par_1
SI3	<---	SI	.701	.074	9.450	***	par_2
SI4	<---	SI	.638	.069	9.279	***	par_3
PE4	<---	PE	1.000				
PE3	<---	PE	1.445	.280	5.167	***	par_4
PE2	<---	PE	1.387	.268	5.169	***	par_5
PE1	<---	PE	1.573	.273	5.759	***	par_6
SA3	<---	SA	1.000				
SA2	<---	SA	1.161	.155	7.467	***	par_7
SA1	<---	SA	1.367	.121	11.257	***	par_8
MD4	<---	MD	1.000				
MD3	<---	MD	.995	.085	11.672	***	par_9
MD2	<---	MD	.804	.097	8.304	***	par_10
MD1	<---	MD	.672	.080	8.386	***	par_11

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
SI1	<---	SI	.906
SI2	<---	SI	.926
SI3	<---	SI	.835
SI4	<---	SI	.834
PE4	<---	PE	.663
PE3	<---	PE	.754
PE2	<---	PE	.767
PE1	<---	PE	.864
SA3	<---	SA	.814
SA2	<---	SA	.787
SA1	<---	SA	.972
MD4	<---	MD	.914
MD3	<---	MD	.924
MD2	<---	MD	.804
MD1	<---	MD	.805

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
PU1	<---	PU	1.000				
PU2	<---	PU	1.467	.150	9.785	***	par_1
PU3	<---	PU	1.086	.135	8.018	***	par_2
PU4	<---	PU	1.018	.124	8.194	***	par_3
PEOU4	<---	PEOU	1.000				
PEOU3	<---	PEOU	1.271	.223	5.695	***	par_4
PEOU2	<---	PEOU	1.771	.269	6.588	***	par_5
PEOU1	<---	PEOU	1.381	.221	6.255	***	par_6
AT1	<---	AT	1.000				
AT2	<---	AT	1.035	.168	6.176	***	par_7
AT3	<---	AT	1.221	.203	6.004	***	par_8
AT4	<---	AT	1.512	.222	6.814	***	par_9
IU3	<---	IU	1.000				
IU2	<---	IU	1.022	.162	6.300	***	par_10
IU1	<---	IU	.899	.139	6.471	***	par_11

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
PU1	<---	PU	.780
PU2	<---	PU	.915
PU3	<---	PU	.743
PU4	<---	PU	.772
PEOU4	<---	PEOU	.598
PEOU3	<---	PEOU	.674
PEOU2	<---	PEOU	.854
PEOU1	<---	PEOU	.773
AT1	<---	AT	.635
AT2	<---	AT	.650
AT3	<---	AT	.623
AT4	<---	AT	.741
IU3	<---	IU	.619
IU2	<---	IU	.649
IU1	<---	IU	.665

Received: 15 Sept 2019 | Revised: 17 Oct 2019 | Accepted: 15 Nov 2019

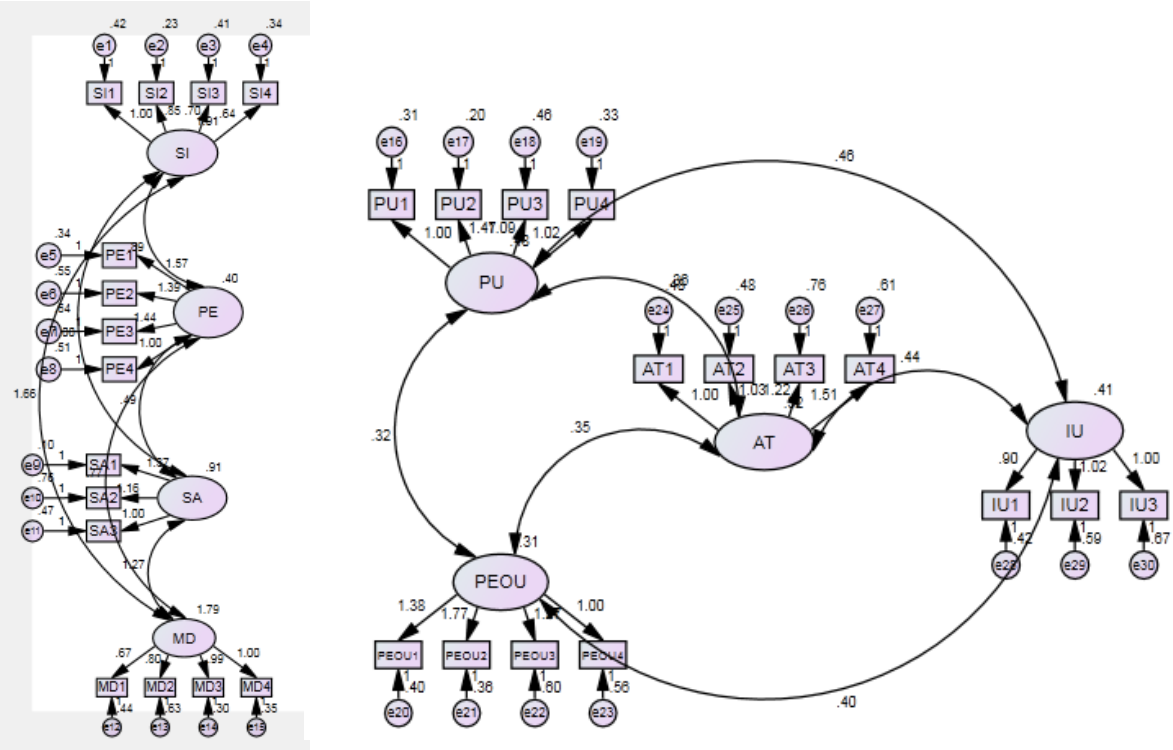

Figure : Exogen and Endogen Variables with the Loading Factors (Output AMOS)

Normality Test

Estimation using the Maximum Likelihood (ML) method requires assumptionsthat must be fulfilled, namely the distribution of the observed normal variablesmultivariate (Ghozali, 2014: 71).Evaluation of multivariate normality is done using critical criteriaratio (cr) of multivariate to kurtosis, if it is in the range of -2.58 to2.58 means that data is normally distributed multivariately (Haryono, 2017: 245).

Based on the AMOS output, the research model does not meet the assumption of normality (15.9 > 2.58)

Therefore it is necessary to delete data outlier so that laterexpected to obtain data that meets the assumption of normality.

OutlierTest

There are 2 data outliers, namely datarows 26 and 40 (the d-squared mahalanobis value is greater than 59,703). Then both data will be deleted, to get the normality data.

Multicollinearity Test

From the multicollinearity test results table, it can be seen the value of Determinant of covariance matrix sample of 0,000. Because the value is close to 0 then concluded multicollinearity occurred.

Even so, it is still acceptable because the SEM assumptions are others are fulfilled, namely: the number of samples already above 100, and based on the CFA test all SEM assumption items and requirements are valid (Haryono 2017: 249).

Reliability Test

Reliability is a measure of internal consistency of indicators notching variables that indicate the degree to which each is the indicator indicates a common variable formation.

There are 2 types of reliability tests, namely Composite (Construct) reliability and Variance

extracted. The cut off value of construct reliability is at least 0.70 ,Variance extracted at least 0.50 (Ghozali, 2014: 233).

The formula is as follows :

$$AVE = \frac{\Sigma \text{ Standardized Loading}^2}{\Sigma \text{ Standardized Loading}^2 + \Sigma \varepsilon j}$$

$$CR = \frac{(\Sigma \text{ Standardized Loading})^2}{(\Sigma \text{ Standardized Loading})^2 + \Sigma \varepsilon j}$$

Table: Calculation of Construct Reliability and Variance Extracted

Construct Reliability calculation :

	SI	PE	SA	MD	PU	PEOU	AT	IU
Estimate value	0,906	0,669	0,817	0,934	0,817	0,702	0,761	0,799
(Sum Stadardized Loading)	0,964	0,771	0,808	0,91	0,93	0,802	0,804	0,821
	0,843	0,776	0,959	0,81	0,817	0,918	0,79	0,769
	0,841	0,834		0,809	0,847	0,853	0,873	
Total	3,554	3,050	2,584	3,463	3,411	3,275	3,228	2,389
Sum Meaurement Error	0,086	0,236	0,152	0,062	0,152	0,220	0,188	0,164
	0,035	0,182	0,158	0,082	0,065	0,162	0,161	0,149
	0,134	0,179	0,039	0,157	0,152	0,076	0,170	0,183
	0,136	0,140		0,158	0,131	0,127	0,112	
Total	0,390	0,737	0,350	0,459	0,501	0,584	0,630	0,497
Construct Reliability:	**0,9957**	**0,9760**	**0,9708**	**0,9938**	**0,9924**	**0,9881**	**0,9859**	**0,9416**
Conclusion : all of the 8 variables reliable since the construct reliability value is > 0.7								
Reference: Ghozali, 2014:233								

Variance Extracted Calculation

	SI	PE	SA	MD	PU	PEOU	AT	IU
	0,821	0,448	0,667	0,872	0,667	0,493	0,579	0,638
(Square of Sum Stadardized Loadin	0,929	0,594	0,653	0,674	0,865	0,643	0,646	0,674
	0,711	0,602	0,920	0,591	0,667	0,843	0,624	0,591
	0,707	0,696			0,717	0,728	0,762	
total	3,168	2,340	2,240	2,138	2,917	2,706	2,612	1,904
Sum Meaurement Error	0,150	0,302	0,236	0,112	0,236	0,294	0,271	0,249
	0,066	0,266	0,243	0,233	0,118	0,247	0,246	0,233
	0,216	0,263	0,074	0,267	0,236	0,134	0,255	0,267
	0,217	0,223			0,212	0,207	0,187	
Total	0,648	1,054	0,554	0,613	0,803	0,882	0,959	0,750
Variance Extracted caldulation								
All 8 reliable since VE > 0.50	abel karena nilai Variance Extracted lebih dari 0,50							
Referensi: Ghozali, 2014:233								

Based on the Reliability test result, all 8 variables are reliable, by looking at construct reliability value > 0.7 and variance extracted > 0.50.

Received: 15 Sept 2019 | Revised: 17 Oct 2019 | Accepted: 15 Nov 2019

Goodness of Fit

The purpose of the fit model test or Goodnest of fit is to find out whether the model formed is fit or not, that is, whether the manifest variables (indicator variables) can explain the existing latent variables. It is done before testing the hypothesis.

Below is the structural model previously obtained from AMOS:

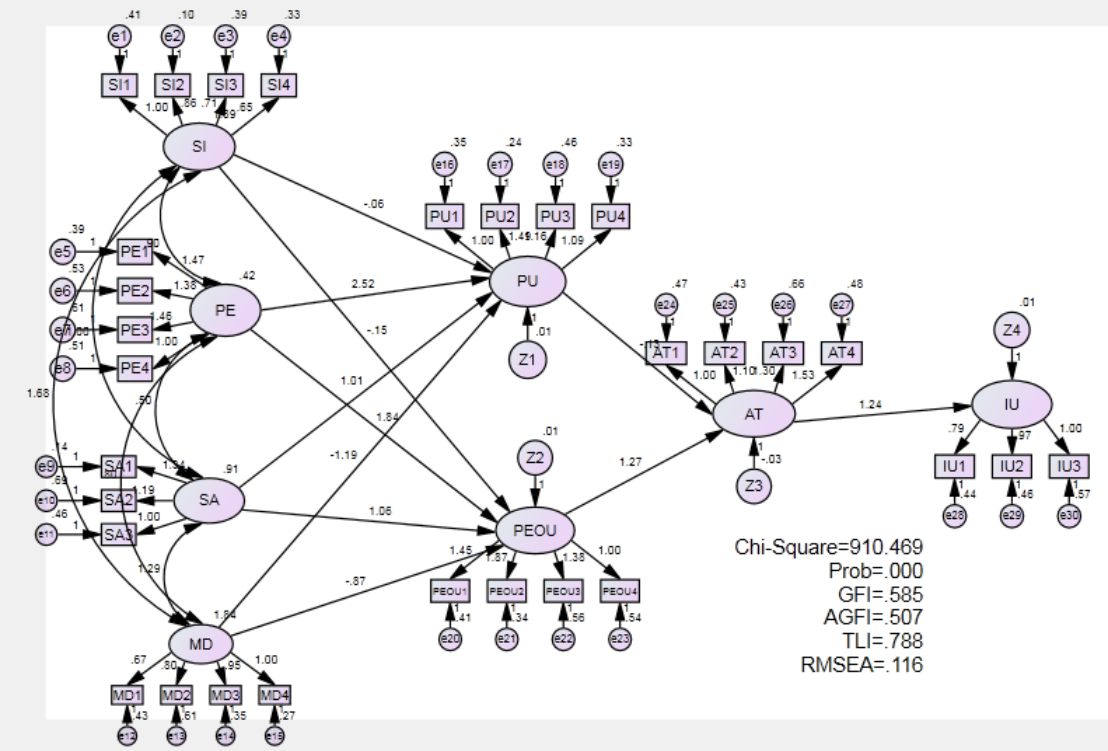

Figure : Full Structural Model - AMOS output

Table: Goodness of Fit result before model modification:

Goodness of Fit	Cut off value	Hasil	Keputusan
Probabilitas Chi Square	≥ 0,05	0,000	Bad Fit
CMIN/DF	≤ 2,00	2,323	Bad Fit
GFI	≥ 0,90	0,585	Bad Fit
AGFI	≥ 0,90	0,507	Bad Fit
CFI	≥ 0,90	0,809	Marginal Fit
TLI	≥ 0,90	0,788	Bad Fit
NFI	≥ 0,90	0,711	Bad Fit
IFI	≥ 0,90	0,812	Marginal Fit
RMSEA	≤ 0,08	0,116	Bad Fit
RMR	≤ 0,05	0,496	Bad Fit

According to Ghozali, 2012 in Haryono, 2017: 243, as a wholeGoodness of fit can be assessed based on a minimum of 5 criteria. From the above output, it can be seen that the indicator value does not meet the minimum 5

good fit indicators. So overall the model cannot yet be said to be fit, with this the model modification will be carried out, which is done by connecting with lines or covariating between variables in the model, according to those recommended by AMOS (on the Modified Indices output).

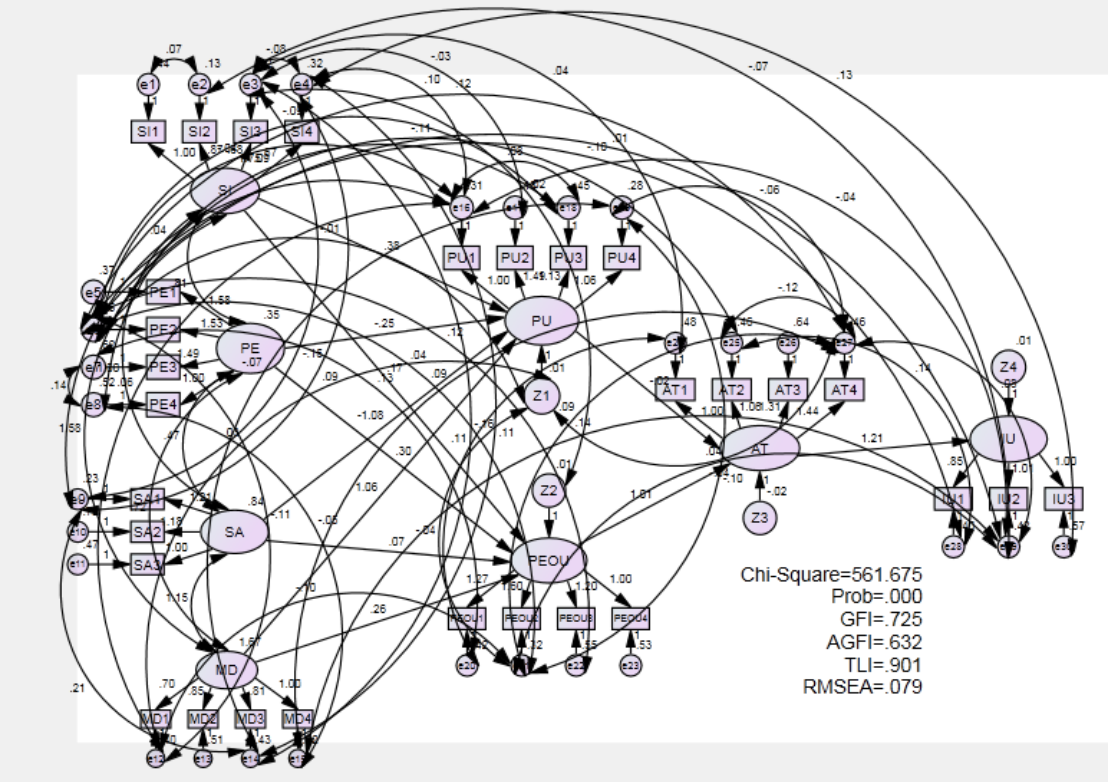

Figure : Full Structural Model after model modification

Goodness of Fit	**Cut off value**	**Hasil**	**Keputusan**
Probabilitas Chi Square	≥ 0,05	0,000	Bad Fit
CMIN/DF	≤ 2,00	1,619	Good Fit
GFI	≥ 0,90	0,725	Bad Fit
AGFI	≥ 0,90	0,632	Bad Fit
CFI	≥ 0,90	0,921	Good Fit
TLI	≥ 0,90	0,901	Good Fit
NFI	≥ 0,90	0,822	Marginal Fit
IFI	≥ 0,90	0,923	Good Fit
RMSEA	≤ 0,08	0,079	Good Fit
RMR	≤ 0,05	0,407	Bad Fit

Based on the table above, it can be seen that there are already at least 5 good fit indicators, so it can be concluded that the overall model is fit, so that it can be interpreted as indicator variables that can explain the existing construct variables.

Received: 15 Sept 2019 | Revised: 17 Oct 2019 | Accepted: 15 Nov 2019

HypothesesTest

After overall a structural model can be considered fit, the next process is to see whether there is a significant influence between the independent variable and the dependent variable.

The results of the Hypothesis Test output using are as follows:

Table: Hypotheses Test table.

Regression Weights: (Group number 1 - Default model)

Parameter	Estimate	Lower	Upper	P
PU <--- SI	-.064	...	.315	.352
PEOU <--- SI	-.153	-2.787	.184	.322
PU <--- PE	2.522	1.345	...	.010
PEOU <--- PE	1.843	.751	...	.008
PU <--- SA	1.008	.518	...	.003
PEOU <--- SA	1.059	.622	...	.000
PU <--- MD	-1.193	...	-.655	.003
PEOU <--- MD	-.869	...	-.401	.002
AT <--- PU	-.127	-2.059	.097	.334
AT <--- PEOU	1.272	.826	2.966	.003
IU <--- AT	1.243	.954	1.588	.003

There are 11 hypotheses with the result :

1. There is no significant effect between Social Influence on Perceived Usefulness. This is because the probability value is more than 0.05 (0.353> 0.05).
2. There is no significant effect between Social Influence on Perceived Ease of Use.This is because the probability value is more than 0.05 (0.322> 0.05)

3. There is a significant influence between Perceived Enjoyment on Perceived Usefulness. This is because the probability value is less than 0.05 (0.010 <0.05)
4. There is a significant influence between Perceived Enjoyment on Perceived Ease of Use. This is because the probability value is less than 0.05 (0.008 <0.05)
5. There is a significant influence between Social Networking Media on Perceived Usefulness. This is because the probability value is less than 0.05 (0.003> 0.05)
6. There is a significant influence between Social Networking Media on Perceived Ease of Use. This is because the probability value is less than 0.05 (0,000 <0.05)
7. There is a significant influence between Mobile Devices on Perceived Usefulness. This is because the probability value is less than 0.05 (0.003 <0.05)
8. There is a significant influence between Mobile Devices on Perceived Ease of Use. This is because the probability value is less than 0.05 (0.002 <0.05).
9. There is no significant effect between Perceived Usefulness on Attitude toward Behaviour. This is because the probability value is more than 0.05 (0.334> 0.05).
10. There is a significant influence between Perceived Ease of Use on Attention toward Behaviour. This is because the probability value is less than 0.05 (0.003 <0.05)
11. There is a significant influence between Attitude toward behaviour on variable Intention to Use. This is because the probability value is less than 0.05 (0.003 <0.05).

V. Conclusion

After doing the whole process of dana analytics using AMOS, we can conclude that :

1. The Model for e-Learning Adoption is considered as valid and reliable, since it has qualified value mainly for Validity Construct test and Reliability Test. With few modifications needed, the model also fulfilled the requirements of Normality test and Goodness of Fit Test.
2. The Hypothesis test shows from the total of 11 hypotheses, there are 8 which gives the significant effect, and 3 hypotheses which doesnt supported.
    - The variable of Perceived Enjoyment has influenced on both Perceive Usefulness and Perceived Ease of Use. It indicates that the activity of e-learning usage is enjoyable for the users. Institution may think of increasing their enjoyment, for example by making a user friendly and more attractive web appearance, interesting video material, or inserting gamification into the learning module.
    - The variable of Social networking media has positive influence on both Perceive Usefulness and Perceived Ease of Use. These supporting variables can be better utilized by companies for example by adding discussion menus or communication forums, promoting teaching materials through social media, given the survey results, activities using social media for respondents are quite high in value.These supporting variables can be better utilized by companies for example by adding discussion menus or communication forums, promoting teaching materials through social media, given the survey results, activities using social media for respondents are quite high in value.

- Mobile Device variable has influenced on both Perceive Usefulness and Perceived Ease of Use for e-learning. This is certainly understandable because of the trend that any activity can be done mobile at this time. Companies should provide good technical support so that the e learning platform can be accessed anytime and from anywhere, compatible for any operating system. The mobile nature can also be used to answer questions / discussions outside the participants' study hours.
- Perceived ease of use variable has positive influenced on Attitude toward Behaviour. It appears that the ease of use of e-learning platforms is more influential than perceptions of the usefulness of e-learning itself. Therefore companies must always pay attention to menus in e-learning that are easy to find and understand, with clear language and module placement.
- Attitude toward Behaviour has positive influence on variable of Intention to Use. It is understable as the theory stated that individual performance of the behaviors that have been determined will be determined by the intent of the actions to be carried out. In order to maintain the variables of Attitude toward behaviour and Intention to use, companies must continue to maintain the satisfaction of e-learning users by increasing enjoyment, interesting content, convenience, satisfaction, speed of response, and responsiveness to user complaints.

Limitation and Study Forward

From the hypothesis testing, it can be seen that the variable perceived usefulness does not affect the attitude towards usage. Future studies can be considered to choose other variables that might have more influence on the intention to use e-learning.

REFERENCES

[1] "Jumlah Pengguna Internet 2017 Meningkat, Kominfo Terus Lakukan Percepatan Pembangunan Broadband", 2017. Accessed on : Aug 15,2019 [Online]. Available :https://www.kominfo.go.id/content/detail/12640/siaran-pers-no-53hmkominfo022018-tentang-jumlah-pengguna-internet-2017-meningkat-kominfo-terus-lakukan-percepatan-pembangunan-broadband/0/siaran_pers

[2] "E-learning makin menarik perhatian di 2018', 2018.Available : https://www.liputan6.com/tekno/read/3226423/e-learning-makin-menarik-perhatian-di-2018

[3] Elkaseh, A. (2015). *An investigation of the factors for adopting E-Learning in Libyan higher education for learning and teaching* (Doctoral dissertation, Murdoch University).

[4] Siritongthaworn, Sawai, Krairit, Donyaprueth, Dimmitt, Nicholas J, & Paul, H. (2006). The study of e-learning technology implementation: A preliminary investigation of universities in Thailand. *Education and Information Technologies, 11*(2), 137-160.

[5] Moodle Docs homepage. (2019). Retrieved August 9,2019, from : https://docs.moodle.org/37/en/About_Moodle

[6] Fishbein,M. and Azjen (1975), I. Belief, Attitude, Intention and Behaviour: An indroduction to Theory and Research. Reading, MA: Addison - Wesley.

[7] Venkatesh, Viswanath, & Davis, Fred D. (2000). A theoretical extension of the technology acceptance model: four longitudinal field studies. *Management science, 46*(2), 186- 204.

[8] Taylor, Shirley, & Todd, Peter A. (1995). Understanding information technology usage: A test of competing models. *Information systems research, 6*(2), 144-176.

[9] Adamson, C. (2012). The Role of Social Media in Education. Retrieved May 2014, 2014, from http://www.icwe.net/oeb_special/OEB_Newsportal/the-role-of-social-and-mobile-media-in-education/

[10] Mobile Devices (MD) offer users with more freedom, as they can access information and services anytime anywhere.
[11] Mahfoed Sholihin, P.D (2013). Analisis SEM-PLS dengan WarpPLS 3.0. Yogyakarta : Penerbit ANDI.
[12] Santoso, S. (2014). Konsep Dasar dan Aplikasi SEM dengan AMOS 22. Jakarta: PT Elex Media Komputindo Kompas Gramedia.
[13] Haryono, Siswoyo, 2017, *"Metode SEM Untuk Penelitian Manajemen dengan AMOS Lisrel PLS"*. Cetakan I. Penerbit Luxima Metro Media, Jakarta.
[14] Priyatno, Duwi, 2013, *"Mandiri Belajar Analisis Data Dengan SPSS"*, Yogyakarta: Media Kom.
[15] Ramdhani, Asa, 2009, Jurnal Penelitian, Fasilkom UI, Universitas Indonesia.
[16] Santoso, Singgih, 2015, *"AMOS 22 untuk Structural Equation Modelling"*. PT Elex Media Komputindo. Jakarta.
[17] Ghozali, Imam, 2014, *"Konsep dan Aplikasi Dengan Program AMOS 22"*. Badan Penerbit Universitas Diponegoro, Semarang.
[18] Widarjono, Agus, 2015, *"Analisis Multivariate Terapan Dengan Program SPSS, AMOS, dan SmartPLS"*. Edisi II, UPP STIM YKPN, Yogyakarta.