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Readiness Assesment Model for Creative Industries in Improving Competitiveness in Central Java

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Abstract:

Purpose: *This study aims to investigate the readiness factors of competitive advantage as a determinant of success in facing competition as well as developing measurement models and its scorecards. The resulting scorecard is used to measure readiness to create a comprehensive competitive advantage (multilevel perspective).*
Design/Methodology/Approach: *The population in this study are creative industry players in the centers of creative regions in Central Java. Measurement of readiness assessment as a competitive advantage that is carried out comprehensively and periodically can provide technical and strategic advantages. Besides being able to be used to measure the strength or weakness of certain dimensions, it can also be used for continuous improvement. In addition, to optimize the efficiency and effectiveness of the process, knowledge transfer between creative industries is highly encouraged.*
Findings: *The results of the study are four variables measuring the readiness of information technology, improving competitiveness, namely optimism, inconvenience, innovativeness and security. Data was collected by using a survey method with questionnaires using AMOS software. In general, the research findings indicate that SMEs in creative industries in Central Java have readiness to adopt IT. However, the research findings also indicate that perceptions of discomfort and insecurity are key issues that could potentially hamper IT adoption by SMEs creative industries in Central Java.*
Practical Implications: *The contribution of the creative industry to the economy in Indonesia is without doubt. However the seriousness of the government in developing creative industries is being questioned, especially in terms of competitiveness. Therefore the Readiness Assessment Scorecard is offered to measure the extent to which the readiness of the creative industry has a competitive advantage.*
Originality/Value: *With a specific measurement model of competitive advantage, it will facilitate both intellectuals, business people and the government in carrying out its role in developing the creative industry.*

Keywords: *Readiness assessment scorecard, technology readiness index, competitive advantage.*

JEL codes: *M11, O21.*
Paper type: *Research article.*

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1. Introduction

Creative economy in which includes creative industry is believed to be able to answer basic problems in the short and medium term, such as: 1) Low economic development post economic crisis (averaging 4.5% per year). 2) High unemployment (9-10%), 3) High poverty (16-17%), and 4) Low industrial competitiveness in Indonesia. In addition, the creative economy is expected to address some challenges such as global warming, renewable energy use, deforestation and reduced carbon emissions because the goal of developing creative industries is to create environmentally friendly products and services based on the intellectuals owned by Indonesia as a source of renewable energy (Pangestu, 2008, Ministry of Commerce of the Republic of Indonesia). Some of the problems faced by Indonesia in developing the creative industries are: the readiness of creative human resources, competent educational institutions to produce creative Indonesian human resources, socio-cultural diversity, the readiness of government apparatus to encourage creative industries based on intellectual property to face global free market, and financial institutions to capitalize creative industry (Ministry of Trade of Republic of Indonesia, 2008). Research on the competitive advantage of creative industry in Indonesia has been done by some researchers such as Fitriati *et al.* (2013) on mapping the creative industry related to regional competitiveness, Aritenang (2013) on regional development or innovation, Naomi (2011) on dynamic competitiveness of industry creative and manufacturing. Later, Setyorini *et al.* (2013) suggested that SMEs need to develop human resources and technological capabilities to improve innovation and competitiveness. Jerusalem (2009) concludes that to strengthen the role of triple helix (intellectual, business and government) as this is a factor the key to achieving competitive advantage.

Based on previous studies, it can be concluded about the importance of creative industries to have competitive advantage. Readiness to deal with competition is a major obstacle in the development of creative industries which is believed to have a major contribution to the improvement of the economy in Indonesia. Therefore the Readiness Assessment Model Scorecard is offered to measure the extent to which the creative industry's readiness has competitive advantage. A specific measurement model of competitive advantage will make it easier for intellectuals, businessmen, and government in doing its role to develop the creative industry From this fact, the need for research that is specifically aimed at investigating the factors of readiness of competitive advantage as a determinant of success in facing competition becomes urgent.

2. Literature Review

2.1 Creative Industries

Berg and Hassink (2013) identified in early 2000 there was a debate among policy makers about the definition of the creative industry, especially about what sectors should be included and excluded. After this debate, from a wide range of discussions finally came a consensus based on the UNESCO definitions that included the following sectors (UNESCO 2007): publishing and literature, artistic performances, music, film, video and photography, broadcasting (television and radio), art visuals and crafts, advertising, design, including fashion, museums, galleries, and libraries, and interactive media (web, games, mobile, etc).

2.2 Competitive Advantages

Porter (2008) said that *"competitive advantage is the heart of industrial performance in a competitive market situation"*. In addition, competitive advantage means having a low cost, differential advantages, or a successful focus strategy. Wingwon, Boonthawan (2012) describes the competitive advantage of Small and Medium Enterprises (SMEs) into 5 aspectsas follows. (1) increase market share, (2) firm asset growth (3) general competitiveness (4) lower cost than competitor and (5) product uniqueness as explained by Porter (2008).

2.3 Balanced Scorecard and Its Development

Chapman *et al.* (2009) on the basic concept of Balanced Scorecard (BSC) introduced by Kaplan and Norton (1992) explains the roots and motivations of BSC and innovations that are related to management literature. Kumari (2011) further said that BSC can be used as a management strategy system that will clarify and translate strategic vision and strategy, communication and networking objectives and strategic measurements, plan and prepare targets with strategic alliance initiatives, improve strategic feedback and learning. Thus Nzuve and Nyaega (2013) recommend a balanced scorecard used by the company in its strategy implementation and as a performance measurement.

The results of Chan and Hiap review (2012) recommend four BSC perspectives less focus on customer relationships in the perspective of consumers and customer management on the internal business process perspective. Further suggested recommendations relating to this gap, a list of key performance measures for the construction industry in Malaysia has been selected by linking each trust strategy with relevant performance measurements. Gomes and Romao (2014) combine various tools and approaches to prepare for corporate strategic alliances as replace the statistical evaluation framework.

Divandri and Yousefi (2011) extend the BSC to measure the competitive advantage of port users especially in container terminals. It is concluded that the use of BSC is helpful in scheduling more efficient equipment in reduction of time used by ships in ports and increasing terminal productivity. Wegmann (2008) using BSCs that connect two theories as background, strategic control approaches and knowledge management theory. On the other hand Cheng *et al.* (2010) integrates Corporate

Social Responsibility with Balanced Scorecard for the development of the company's sustainability.

2.4 Readiness Assessment

Readiness assessment has been studied by previous researchers such as Ramayah *et al.* (2007) studied 300 SMEs in Penang, Kedah and Perlis. His findings explain that SMEs in northern Malaysia are ready to implement e-business, e-commerce, and the internet in general. It also explains that in general the commitment of management and infrastructure and technology has a significant influence on the readiness of SMEs. Furthermore Hourali *et al.* (2008) said that the concept of readiness assement for SMEs still get little attention in the literature. His research investigates the e-readiness assessment model offered by several countries and then tries to develop a model for measuring readiness assumptions for SMEs with exploratory studies.

Janom and Zakaria (2010) studied the developing the value of internal and external barriers indicators of the impact of B2B e-commerce development on agricultural-based SMEs. A process hierarchy analysis (AHP) is used in this study to create ranking list so that the key elements can be determined. The use of AHP results in more accurate and more consistent assessment. Thus the company can identify the level of readiness to implement B2B e-commerce and every aspect needed to improve before implementing this application.

Kirori and Achieng (2013) report on research findings related to readiness access of SMEs and financial institutions in Kenya in using information technology and challenges. Furthermore Chanyagorn and Kungwannarongkun (2011) explain the readiness model of information and communication technology information especially designed to measure readiness level of benefits and penetration on SMEs in developing countries. This technology assessment model includes 15 important indicators, mathematical models, development factors and interpretation guidelines for readiness of information and communication technology.

Alam and Noor (2009) evaluated the relationship between ICT adoption and the five factors that resulted in benefits, costs, ICT knowledge, external pressure and government support. The results of this study illustrate that three factors are significantly important in ICT adoption in determining adoption. This study resulted in a better understanding of SMEs' perceptions of ICT adoption in their business services. While Nezakati *et al.* (2012) found that the technical knowledge of e-commerce is significantly no different between Malaysia, Singapore and Thailand both in manufacturing and service industries, but in technical knowledge and skills have the same challenge that is the influence of e-commerce in these countries.

This research uses theory, namely Technology Readiness Index (TRI) which adapted from Parasuraman (2000). The reason for using the theories is because it is relevant to explain the issue and purpose of research, that is measuring and predicting the level of readiness of information technology adoption by creative industry. Technology Readiness Index (TRI) adapted from Parasuraman (2000). TRI measures the tendency of a person to accept and use technology to accomplish goals in domestic life or at work. The constructs in the TRI model are an overall thought statement that results from the mental of the impulse and inhibitor that collectively determines the tendency to use new technology. TRI is a framework that explains the relationship of individuals with technology, namely the relationship of individual characteristics and beliefs to various aspects of technology. The relative strength of each characteristic indicates one's openness to technology (Parasuraman, 2000). TRI defines four main constructs of individual readiness adopting IT based on common personality characteristics and motivator or inhibitor factors on new technologies.

The constructs in the TRI model (Parasuraman, 2000) are as follows: 1) Optimism, which is a positive view of technology. Positive beliefs about technology can improve control, flexibility, and efficiency in life because of technology. 2) Innovation which is the tendency to become the first user of a new technology. 3) Inconvenience, is the overwhelming feeling and inability to control new technology. 4) Insecurity, is the distrust of new technology for security and privacy reasons.

Based on the explanation of theoretical basis, it can be concluded that TRI can explain and predict the degree of readiness of individual adoption in receiving IT.

3. Methodology

Data collection methods used in this study are Focus Group Discussion (FGD) and field survey. FGDs are intended to verify validated readiness assessments scorecard of creative industry competitiveness and to generate initial concept implementation methodologies of the scorecards that have been produced. While the field survey conducted by distributing questionnaires to a number of potential respondents which is creative industry players in creative industries centers in Central Java region, total number 267 respondents.

4. Results and Discussion

Based on the data and the results of verification of researchers on the number of creative industries in Central Java in 2017, there are 500 companies. Out the 300 questionnaires distributed, 267 were returned and can be further processed. The following is a creative industry type of 267 samples as described in Table 1.

Table 1. *Types of Creative Industry*

Types of Industry	Frequency	Percentage
Craft	30	11.24
Advertising	20	7.49
IT software and services	15	5.62
Design	20	7.49

Apparel design	10	3.75
Film / video / photography	5	1.87
Music	5	1.87
Architecture	10	3.75
Antique and Artistic Goods	2	0.75
Batik	65	24.34
Bed linen, pillowcases	25	9.36
Gray Fabrics	20	7.49
Publishing and Printing	10	3.75
Interactive games	15	5.62
Art Performance	5	1.87
Others	10	3.75
Total	267	100

Based on Table 1 the greatest result is in batik and then in craft followed by bed linen and pillowcases. The type of technology used is as follows:

Table 2. *Types of IT used*

Types of	**Frequency**	**Percentage**
Website	131	49.06
Email	6	2.25
Handphone	67	25.09
Telephone	52	19.48
Fax	1	4.12
Total	267	10

Based on Table 2 the type of information technology used by the largest creative industries is the website. This means that web is primarily used as a means of communication. These findings indicate that the growth of creative industries based on information technology in Central Java is quite good and the selected samples are distributed equally and relevant in the adoption of information technology. Key findings identified through interviews from key person and employees of the creative industries are as follows:

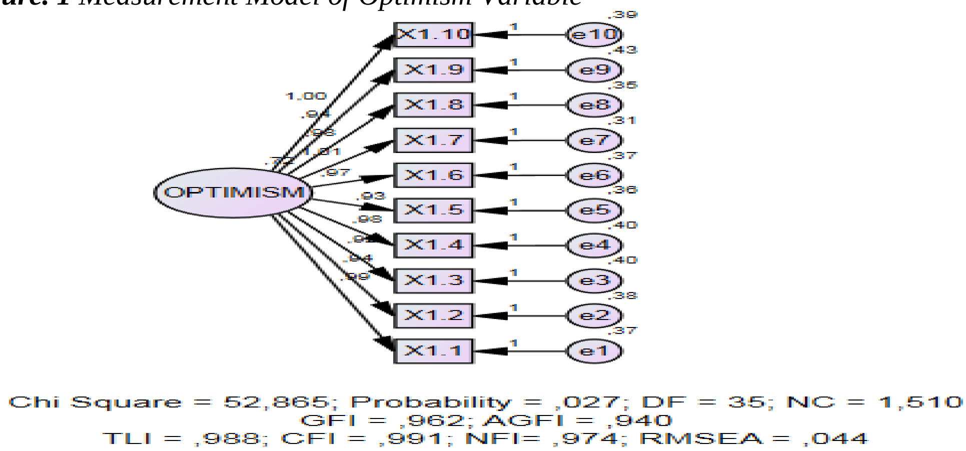
1. Understanding of information technology shows that most businessmen do not have difficulty in its use.
2. An innovation is the progress of technology and the rapid development of technology, so the information technology system is relatively brief.
3. The use of information technology is based on the amount of contribution earned.
4. The perception of convenience and usability by adopting information technology.

4.1 Measurement Model Analysis

Confirmatory Factor Analysis (CFA) is used to test dimensionality of a construction. The first phase prior to analyzing structural model is analyzing measurement model of every variable, because a decent model is supported by variables that is measured by a valid and reliable indicator. Analysis of confirmatory factor of exogenous variable is used to test indicators that shape exogenous construction. The flowchart of measurement model of exogenous variable can be found in Figure 1 below.

1. OPTIMISM variable

Figure. 1 *Measurement Model of Optimism Variable*



The results of the confirmatory analysis of the optimism variable in the form of the diagram above showed that the standardized loading for all indicators has a loading factor greater than 0.50 which means that all the indicators that make up the optimism construction are valid. To get the confidence whether the measurement model can be stated in accordance with the research data, the calculation of the general match test model measurement statistics is carried out. Evaluation of the suitability of the model, the measurement model on the optimism variable is done by comparing the value of the model compability indexes produced with the recommended model match index, as presented in Table 3 below:

Table 3. *Compatibility Evaluation of Measurement Models of Optimism Variable*

Fit Measurement	Value	Cut-off	Description
P-value from Chi-square	0,027	> 0,05	Moderate
Normed Chi-square (NC)	1,510	< 3	Very Good
GFI	0,962	> 0,90	Very Good
AGFI	0,940	> 0,90	Very Good
TLI	0,988	> 0,90	Very Good
CFI	0,991	> 0,90	Very Good
NFI	0,974	> 0,90	Very Good
RMSEA	0,044	< 0,08	Very Good

Suitability evaluation of the measurement model on the optimism variable shows that the indices are good, that is according to what is required. Furthermore, based on Regression Weights, it shows that all indicators have a p-value smaller than 0.001

(***). Therefore it can be concluded that all indicators are significant as OPTIMISM variable measurement. This can be seen in Table 4 below:

Table 4. *Regression weights: (Group 1- Default Model)*

			Estimate	S.E.	C.R.	P	Label
X1.10	<-	OPTIMISM	1,000				
X1.9	<-	OPTIMISM	,937	,066	14,186	***	par_1
X1.8	<-	OPTIMISM	,981	,064	15,391	***	par_2
X1.7	<-	OPTIMISM	1,013	,063	16,030	***	par_3
X1.6	<-	OPTIMISM	,967	,064	15,073	***	par_4
X1.5	<-	OPTIMISM	,927	,062	14,844	***	par_5
X1.4	<-	OPTIMISM	,975	,066	14,838	***	par_6
X1.3	<-	OPTIMISM	,919	,064	14,359	***	par_7
X1.2	<-	OPTIMISM	,944	,064	14,724	***	par_8
X1.1	<-	OPTIMISM	,987	,065	15,151	***	par_9

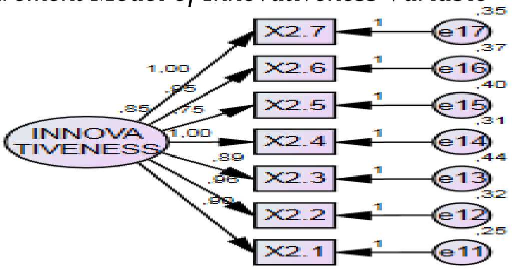
Based on Table 5 it is known that all measurement items have a loading factor greater than 0.70. This means that all indicators meet convergent validity as a variable measure of optimism.

Table 5. *Stardardized Regression Weights: (Group 1- Default Model)*

			Estimate
X1.10	<-	OPTIMISM	,804
X1.9	<-	OPTIMISM	,770
X1.8	<-	OPTIMISM	,817
X1.7	<-	OPTIMISM	,840
X1.6	<-	OPTIMISM	,805
X1.5	<-	OPTIMISM	,796
X1.4	<-	OPTIMISM	,796
X1.3	<-	OPTIMISM	,777
X1.2	<-	OPTIMISM	,791
X1.1	<-	OPTIMISM	,808

2. INNOVATIVENESS Variable

Figure 2. *Measurement Model of Innovativeness Variable*



Chi Square = 15,124; Probability = ,370; DF = 14; NC = 1,080
GFI = ,984; AGFI = ,969
TLI = ,999; CFI = ,999; NFI= ,989; RMSEA = ,017

The results of the confirmatory analysis of the Innovativeness variable in Figure 2 above showed that the standardized loading for all indicators has a loading factor greater than 0.50 which means that all the indicators that make up the construct of innovativeness are valid. To get confidence whether the measurement model can be stated in accordance with the research data, then the calculation of the general match test model measurement statistics is carried out. Evaluation of the compatibility of measurement models in the innovativeness variable is done by comparing the value of the model matched indices produced with the recommended model match index, as presented in Table 6 below :

Table 6. *Compatibility Evaluation of Measurement Models of Innovativeness Variable*

Fit Measurement	Value	Cut-off	Description
P-value from Chi-square	0,370	> 0,05	Very Good
Normed Chi-square (NC)	1,080	< 3	Very Good
GFI	0,984	> 0,90	Very Good
AGFI	0,969	> 0,90	Very Good
TLI	0,999	> 0,90	Very Good
CFI	0,999	> 0,90	Very Good
NFI	0,989	> 0,90	Very Good
RMSEA	0,017	< 0,08	Very Good

Compability evaluation of the measurement model in the innovativeness variable shows that the indices are good, that is according to what is required. Furthermore, based on Regression Weights, it is pointed out that all the analysts have a p-value smaller than 0.001 (***), so it can be concluded that all indicators are significant as indicators of innovativeness indicators. This can be seen in Table 7.

Table 7. *Regression Weights (Group 1- Default Model)*

			Estimate	S.E.	C.R.	P	Label
X2.7	<-	INNOVATIVENESS	1,000				
X2.6	<-	INNOVATIVENESS	,946	,057	16,506	***	par_1
X2.5	<-	INNOVATIVENESS	,753	,053	14,072	***	par_2
X2.4	<-	INNOVATIVENESS	,996	,056	17,662	***	par_3
X2.3	<-	INNOVATIVENESS	,893	,059	15,236	***	par_4
X2.2	<-	INNOVATIVENESS	,956	,056	17,187	***	par_5
X2.1	<-	INNOVATIVENESS	,898	,051	17,613	***	par_6

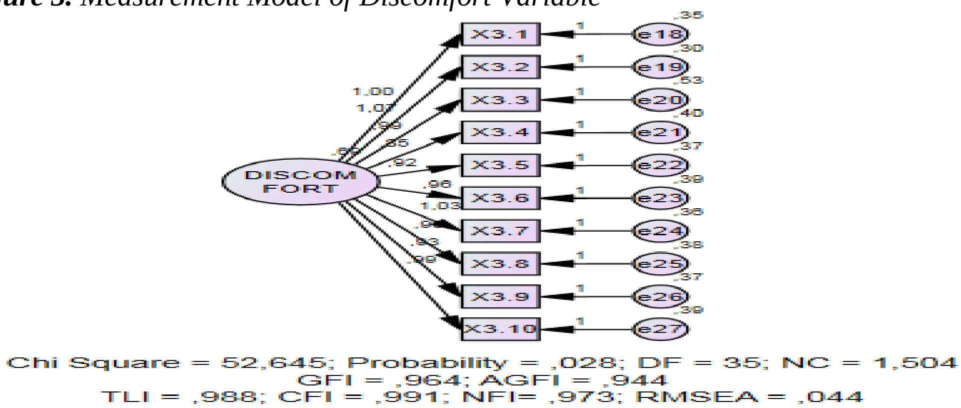
According to Raghunathan *et al.* (1999), all measurement items (indicators) which have a standardized loading value smaller than 0.45 should be removed from the analysis at once. From Table 8 it is shown that all measurement items have a loading factor greater than 0.45, therefore they are all eligible to measure the latent indicators. This means that all indicators fulfill the convergent validity test as a measurement of innovativeness variable.

Table 8. *Stardardized Regression Weights: (Group 1- Default Model)*

			Estimate
X2.7	<-	INNOVATIVENESS	,843
X2.6	<-	INNOVATIVENESS	,821
X2.5	<-	INNOVATIVENESS	,740
X2.4	<-	INNOVATIVENESS	,856
X2.3	<-	INNOVATIVENESS	,780
X2.2	<-	INNOVATIVENESS	,842
X2.1	<-	INNOVATIVENESS	,854

3. DISCOMFORT Variable

Figure 3. *Measurement Model of Discomfort Variable*



The results of the confirmation analysis of the discomfort variable in the diagram above indicating that the standardized loading for all indicators has a loading factor greater than 0.50 which means that all the indicators that make up the discomfort construct are valid. To get confidence whether the measurement model can be stated in accordance with the research data, the calculation of the general match test model measurement statistics is carried out. Evaluation of the compatibility of the model, the measurement model for the discomfort variable, is done by comparing the value of the model matched indices produced with the recommended model match index, as presented in the following Table 9. Compatibility evaluation of the measurement model in the discomfort variable shows that the indices are good, that is according to what is required.

Table 9. *Compatibility Evaluation of Measurement Models of Discomfort Variable*

Fit size	Value	Cut-off	Remarks
P-value of Chi-square	0,028	> 0,05	Moderate
Normed Chi-square (NC)	1,504	< 3	Very good
GFI	0,964	> 0,90	Very good
AGFI	0,944	> 0,90	Very good
TLI	0,988	> 0,90	Very good
CFI	0,991	> 0,90	Very good
NFI	0,973	> 0,90	Very good
RMSEA	0,044	< 0,08	Very good

Furthermore, based on Regression Weights, it was pointed out that all indicators had a p-value smaller than 0.001 (***), so it could be concluded that all indicators were significant as a measurement of discomfort indicators. This can be seen in the following Table 10.

Table 10. *Regression Weights: (Group number 1 - Default model)*

			Estimate	S.E.	C.R.	P	Label
X3.1	<---	DISCOMFORT	1,000				
X3.2	<---	DISCOMFORT	1,074	,064	16,793	***	par_1
X3.3	<---	DISCOMFORT	,991	,071	13,932	***	par_2
X3.4	<---	DISCOMFORT	,852	,061	13,884	***	par_3
X3.5	<---	DISCOMFORT	,915	,062	14,710	***	par_4
X3.6	<---	DISCOMFORT	,962	,065	14,909	***	par_5
X3.7	<---	DISCOMFORT	1,034	,065	15,860	***	par_6
X3.8	<---	DISCOMFORT	,986	,065	15,252	***	par_7
X3.9	<---	DISCOMFORT	,930	,063	14,845	***	par_8
X3.10	<---	DISCOMFORT	,988	,065	15,154	***	par_9

From Table 11 it is shown that all measurement items have a loading factor greater than 0.70, therefore they are all eligible to measure the latent indicators. This means that all indicators fulfill the convergent validity test as a measurement of the discomfort variable.

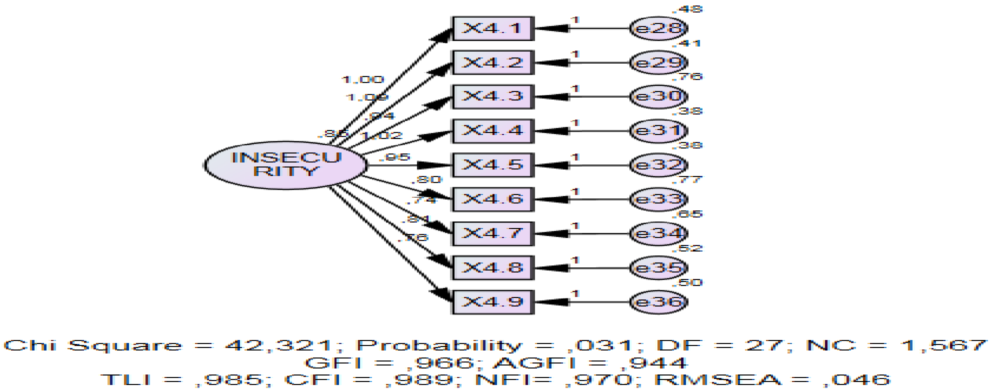
Table 11. *Standardized Regression Weights: (Group number 1 - Default model)*

			Estimate
X3.1	<---	DISCOMFORT	,817
X3.2	<---	DISCOMFORT	,853
X3.3	<---	DISCOMFORT	,750
X3.4	<---	DISCOMFORT	,748
X3.5	<---	DISCOMFORT	,780
X3.6	<---	DISCOMFORT	,787
X3.7	<---	DISCOMFORT	,821
X3.8	<---	DISCOMFORT	,800
X3.9	<---	DISCOMFORT	,785

			Estimate
X3.10	<---	DISCOMFORT	,796

4. INSECURITY Variable

Figure 4. *Measurement Model of Security Variable*



The result of confirmatory analysis of insecurity variable in the form of the diagram above shows that the standardized loading for all indicators has a loading factor greater than 0.50 which means that all the indicators that make up the insecurity construct are valid. To get confidence whether the measurement model can be stated in accordance with the research data, the calculation of the general match test model measurement statistics is carried out. Evaluation of the compatibility of the model, the measurement model of the insecurity variable is done by comparing the value of the model matched indices produced with the recommended model match index, as presented in the following Table 12.

Table 12. *Compatibility Evaluation of Measurement Models of Insecurity Variable*

Fit size	Value	Cut-off	Remarks
P-value of Chi-square	0,031	> 0,05	Moderate
Normed Chi-square (NC)	1,567	< 3	Very good
GFI	0,966	> 0,90	Very good
AGFI	0,944	> 0,90	Very good
TLI	0,985	> 0,90	Very good
CFI	0,989	> 0,90	Very good
NFI	0,970	> 0,90	Very good
RMSEA	0,046	< 0,08	Very good

Compatibility evaluation of the measurement model on the insecurity variable shows that the indices are good, that is according to what is required. Furthermore, based on Regression Weights, it is pointed out that all narrators have a p-value that is smaller than 0.001 (***), so it can be concluded that all significant indicators as indicators of insecurity variable can be seen in the following Table 13 with the stardardized regression weights in Table 14.

Table 13. *Regression Weights: (Group number 1 - Default model)*

			Estimate	S.E.	C.R.	P	Label
X4.1	<---	INSECURITY	1,000				
X4.2	<---	INSECURITY	1,091	,070	15,698	***	par_1
X4.3	<---	INSECURITY	,937	,076	12,383	***	par_2
X4.4	<---	INSECURITY	1,021	,066	15,524	***	par_3
X4.5	<---	INSECURITY	,946	,063	15,009	***	par_4
X4.6	<---	INSECURITY	,803	,072	11,113	***	par_5
X4.7	<---	INSECURITY	,741	,066	11,149	***	par_6
X4.8	<---	INSECURITY	,810	,064	12,717	***	par_7
X4.9	<---	INSECURITY	,760	,061	12,361	***	par_8

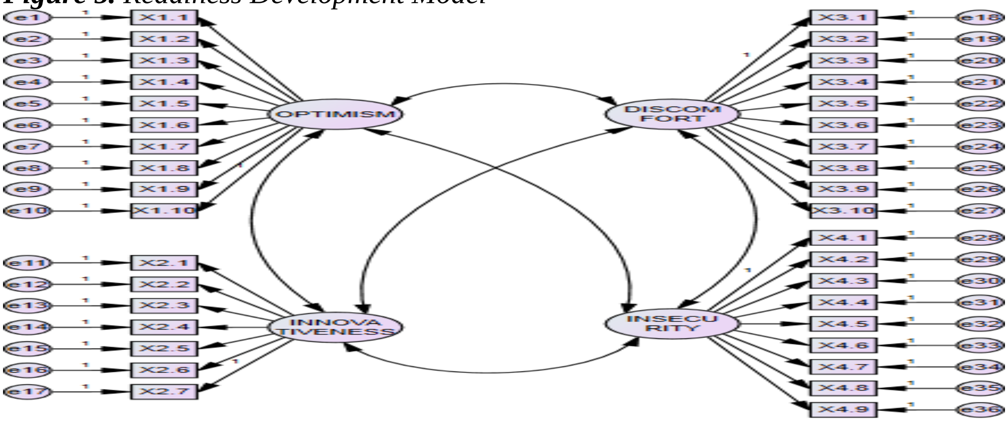
Table 14. *Standardized Regression Weights: (Group number 1 - Default model)*

			Estimate
X4.1	<---	INSECURITY	,800
X4.2	<---	INSECURITY	,844
X4.3	<---	INSECURITY	,704
X4.4	<---	INSECURITY	,837
X4.5	<---	INSECURITY	,816
X4.6	<---	INSECURITY	,645
X4.7	<---	INSECURITY	,647
X4.8	<---	INSECURITY	,719
X4.9	<---	INSECURITY	,703

Table 14 shows that the loading factors (estimation) for all indicators were > 0.70, except for X4.6 and X4.7 which have loading values 0.645 and 0.647 respectively. Although the loading of these two indicators is smaller than 0.7, but still far greater than 0.5, so they are maintained in the analysis (not deleted). Thus, all indicators fulfill the convergent validity test as an INSECURITY variable measurement.

5. Full Measurement Model Analysis

Figure 5. *Readiness Development Model*



In Figure 5, besides being used for data checking purposes, it is also used to test the validity and reliability of the factors simultaneously. The results of non-standardized estimation (regression weight) are as shown in Table 15 below.

Tabel 15. *Non standardized estimation result*

Variable	min	max	skew	c.r.	kurtosis	c.r.
X4.9	4,000	9,000	,302	-2,011	,058	,192
X4.8	4,000	9,000	-,536	-3,566	-,060	-,199
X4.7	4,000	9,000	-,407	-2,707	-,312	-1,038
X4.6	4,000	9,000	-,327	-2,177	-,682	-2,271
X4.5	4,000	9,000	-,027	-,178	-,615	-2,048
X4.4	4,000	9,000	-,078	-,518	-,479	-1,594
X4.3	4,000	9,000	-,411	-2,736	-,334	-1,112
X4.2	4,000	9,000	-,180	-1,199	-,683	-2,274
X4.1	4,000	9,000	-,330	-2,200	-,392	-1,305
X3.10	4,000	9,000	,023	,156	-,508	-1,690
X3.9	4,000	9,000	-,166	-1,103	-,075	-,250
X3.8	5,000	9,000	,081	,540	-,609	-2,029
X3.7	4,000	9,000	-,142	-,943	-,619	-2,060
X3.6	4,000	9,000	-,336	-2,239	-,348	-1,158
X3.5	4,000	9,000	,036	,240	-,505	-1,682
X3.4	5,000	9,000	-,028	-,184	-,367	-1,222
X3.3	4,000	9,000	-,224	-1,495	-,407	-1,355
X3.2	4,000	9,000	,166	1,103	-,530	-1,764
X3.1	5,000	9,000	,053	,355	-,744	-2,476
X2.1	4,000	9,000	-1,006	-6,700	,911	3,032
X2.2	4,000	9,000	-1,093	-7,277	,947	3,154
X2.3	4,000	9,000	-,587	-3,909	,714	2,375
X2.4	3,000	9,000	-1,019	-6,782	1,079	3,592
X2.5	4,000	9,000	-,935	-6,227	,921	3,065
X2.6	3,000	9,000	-1,037	-6,903	,866	2,882
X2.7	4,000	9,000	-,808	-5,381	,561	1,869
X1.1	4,000	9,000	-,887	-5,906	,709	2,360
X1.2	4,000	9,000	-,980	-6,528	1,020	3,395
X1.3	4,000	9,000	-,822	-5,474	,649	2,162
X1.4	4,000	9,000	-,725	-4,825	,145	,481
X1.5	3,000	9,000	-,747	-4,973	1,140	3,794
X1.6	3,000	9,000	-1,013	-6,746	1,169	3,891
X1.7	4,000	9,000	-,815	-5,428	,085	,283
X1.8	4,000	9,000	-,775	-5,162	,059	,196
X1.9	4,000	9,000	-,844	-5,618	,304	1,013
X1.10	4,000	9,000	-,817	-5,439	,215	,717
Multivariate					31,872	4,969

Based on the critical ratio (c.r.) of the kurtosis coefficient, the resulting multivariate value is 4.969. Thus, the value of c.r. is greater than 2.58, so multivariate normality condition is not met. Then the Outlier test is done as in Table 16 below:

Tabel 16. *Outlier Test*

Observation number	Mahalanobis d-squared	p1	p2
223	70,911	,000	,115
6	67,522	,001	,037
201	61,281	,005	,173
250	59,976	,007	,132
48	59,167	,009	,088

Some variables were identified as outliers, because they have p1 and p2 values from Mahalanobis distance (Mahalanobis d-square) smaller than 1% (0.01). Observations identified as outliers will be excluded from the analysis one by one. There were 9 observations identified as outliers, namely observations with respondent numbers as follows: 223, 6, 201, 250, 77, 48, 11, 54, 257 and the nine observations were excluded from the analysis because they contributed to multivariate abnormalities. Thus the sample size used is 267. The next step is to repeat the data checks as presented in Table 17.

1) Multivariate Normality Test

Table 17. *Assessment Of Normality (Group Number 1)*

Variable	min	max	skew	c.r.	kurtosis	c.r.
X4.9	4,000	9,000	-,291	-1,905	,059	,193
X4.8	4,000	9,000	-,611	-3,996	-,040	-,132
X4.7	4,000	9,000	-,426	-2,789	-,260	-,851
X4.6	4,000	9,000	-,309	-2,024	-,678	-2,219
X4.5	4,000	9,000	-,012	-,077	-,592	-1,937
X4.4	4,000	9,000	-,074	-,484	-,433	-1,417
X4.3	4,000	9,000	-,392	-2,569	-,367	-1,201
X4.2	4,000	9,000	-,174	-1,139	-,698	-2,285
X4.1	4,000	9,000	-,336	-2,200	-,372	-1,218
X3.10	4,000	9,000	,042	,277	-,462	-1,511
X3.9	4,000	9,000	-,152	-,994	-,120	-,391
X3.8	5,000	9,000	,084	,552	-,620	-2,028
X3.7	4,000	9,000	-,113	-,739	-,637	-2,084
X3.6	4,000	9,000	-,321	-2,103	-,344	-1,127
X3.5	4,000	9,000	,001	,007	-,543	-1,778
X3.4	5,000	9,000	-,045	-,297	-,418	-1,368
X3.3	4,000	9,000	-,254	-1,661	-,414	-1,353
X3.2	4,000	9,000	,175	1,146	-,519	-1,698
X3.1	5,000	9,000	,056	,369	-,715	-2,339
X2.1	4,000	9,000	-1,014	-6,634	1,016	3,325
X2.2	4,000	9,000	-1,097	-7,182	,995	3,256
X2.3	4,000	9,000	-,599	-3,921	,701	2,293

Variable	min	max	skew	c.r.	kurtosis	c.r.
X2.4	3,000	9,000	-1,065	-6,968	1,195	3,912
X2.5	4,000	9,000	-,952	-6,231	1,006	3,290
X2.6	3,000	9,000	-1,085	-7,101	1,105	3,616
X2.7	4,000	9,000	-,807	-5,285	,604	1,976
X1.1	4,000	9,000	-,858	-5,616	,625	2,045
X1.2	4,000	9,000	-,999	-6,540	1,095	3,582
X1.3	4,000	9,000	-,832	-5,442	,723	2,365
X1.4	4,000	9,000	-,761	-4,978	,271	,888
X1.5	3,000	9,000	-,755	-4,940	1,093	3,578
X1.6	3,000	9,000	-1,022	-6,691	1,211	3,962
X1.7	4,000	9,000	-,844	-5,524	,183	,600
X1.8	4,000	9,000	-,783	-5,121	,063	,205
X1.9	4,000	9,000	-,873	-5,712	,447	1,461
X1.10	4,000	9,000	-,833	-5,450	,326	1,067
Multivariate					15,688	2,404

Based on the critical ratio value (c.r.) of the resulting multivariate kurtosis coefficient of 2.404 which is smaller than 2.58, the multivariate data normality as a condition for using the Maximum Likelihood method has been fulfilled.

2) Outlier Test: Outliers is then carried out as in the following Table 18:

Table 18. *Outlier Test*

Observation number	Mahalanobis d-squared	p1	p2
120	57,907	,012	,952
10	57,618	,013	,834
8	55,683	,019	,872
34	55,138	,022	,806
72	53,979	,028	,837

Table 18 shows that there are no more observations identified as outliers, because they have p1 and p2 values from Mahalanobis distance (Mahalanobis d-square) which are all greater than 1% (0.01). The next step is to carry out complete measurement of goodness of fit model. Figure 6 and Tables 19 and 20 show that the fitted model is complete as a whole and can be accepted.

4.2 Evaluation of Validity and Reliability of Construct

Evaluation of convergent validity, discriminant validity, and reliability was carried out using confirmatory factor analysis (CFA). Convergent validity indicates the extent to which each indicator of a construct is convergent or shares proportion of variance. Convergent validity can be evaluated using standardized loading estimates, which have a minimum value of 0.5, or ideally above 0.7. In addition, all loading factors must be statistically significant (Hair *et al.*, 2014).

Figure 6. *Readiness Development Model after some improvement*

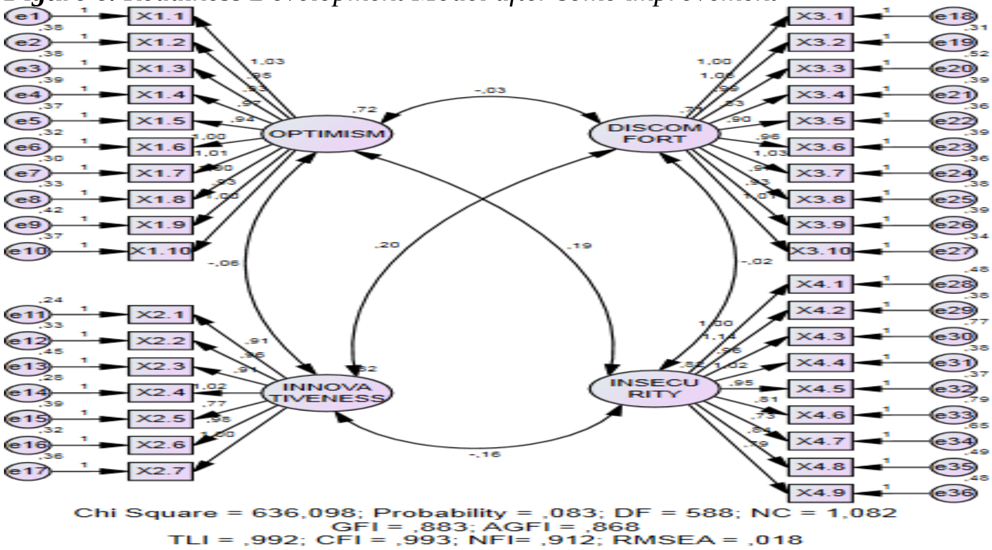


Table 19. *Evaluation of Model Compatibility*

Fit size	Value	Cut-off	Remarks
P-value dari Chi-square	0,083	> 0,05	Very good
Normed Chi-square (NC)	1,082	< 3	Very good
GFI	0,883	> 0,90	Moderate
AGFI	0,868	> 0,90	Moderate
TLI	0,992	> 0,90	Very good
CFI	0,993	> 0,90	Very good
NFI	0,912	> 0,90	Very good
RMSEA	0,018	< 0,08	Very good

Table 20. *Regression Weights: (Group 1- Default Model)*

			Estimate	S.E.	C.R.	P	Label
X1.10	<---	OPTIMISM	1,000				
X1.9	<---	OPTIMISM	,928	,065	14,178	***	par_1
X1.8	<---	OPTIMISM	,995	,064	15,641	***	par_2
X1.7	<---	OPTIMISM	1,012	,062	16,189	***	par_3
X1.6	<---	OPTIMISM	1,002	,063	15,823	***	par_4
X1.5	<---	OPTIMISM	,939	,063	14,849	***	par_5
X1.4	<---	OPTIMISM	,969	,065	14,861	***	par_6
X1.3	<---	OPTIMISM	,932	,064	14,675	***	par_7
X1.2	<---	OPTIMISM	,947	,064	14,777	***	par_8
X1.1	<---	OPTIMISM	1,026	,065	15,797	***	par_9
X2.7	<---	INNOVATIVENESS	1,000				
X2.6	<---	INNOVATIVENESS	,981	,059	16,718	***	par_10
X2.5	<---	INNOVATIVENESS	,774	,056	13,863	***	par_11
X2.4	<---	INNOVATIVENESS	1,018	,058	17,490	***	par_12
X2.3	<---	INNOVATIVENESS	,912	,062	14,626	***	par_13

			Estimate	S.E.	C.R.	P	Label
X2.2	<---	INNOVATIVENESS	,965	,059	16,463	***	par_14
X2.1	<---	INNOVATIVENESS	,906	,053	17,174	***	par_15
X3.1	<---	DISCOMFORT	1,000				
X3.2	<---	DISCOMFORT	1,061	,063	16,849	***	par_16
X3.3	<---	DISCOMFORT	,989	,070	14,166	***	par_17
X3.4	<---	DISCOMFORT	,835	,060	13,867	***	par_18
X3.5	<---	DISCOMFORT	,901	,060	14,926	***	par_19
X3.6	<---	DISCOMFORT	,957	,064	15,050	***	par_20
X3.7	<---	DISCOMFORT	1,031	,064	16,017	***	par_21
X3.8	<---	DISCOMFORT	,969	,063	15,324	***	par_22
X3.9	<---	DISCOMFORT	,929	,062	14,878	***	par_23
X3.10	<---	DISCOMFORT	1,012	,063	16,130	***	par_24
X4.1	<---	INSECURITY	1,000				
X4.2	<---	INSECURITY	1,141	,073	15,656	***	par_25
X4.3	<---	INSECURITY	,964	,080	12,087	***	par_26
X4.4	<---	INSECURITY	1,017	,068	14,935	***	par_27
X4.5	<---	INSECURITY	,951	,065	14,584	***	par_28
X4.6	<---	INSECURITY	,806	,076	10,664	***	par_29
X4.7	<---	INSECURITY	,733	,069	10,673	***	par_30
X4.8	<---	INSECURITY	,837	,066	12,750	***	par_31
X4.9	<---	INSECURITY	,786	,064	12,321	***	par_32

All indicators have a p-value that is smaller than 0.001 (***), so that all indicators are significant to measure each of the latent constructs. Table 21 shows the stardardized loading estimates.

Table 21. *Stardardized Loading Estimates*

Variable	**Indicator**	**Description**	**Loading**
OPTIMISM	X1.1	Technology makes people easier to control things in their lives	0,831
	X1.2	Products and services that use the latest technology are more convenient to use	0,794
	X1.3	I like to do work using computers online, because I don't need to be fixated on monotonous working hours	0,790
	X1.4	I prefer to use the most advanced technology in my activities	0,797
	X1.5	I like to use a computer program that can be tailored to my needs	0,796
	X1.6	Technology makes me more efficient at doing work.	0,832
	X1.7	I feel new technologies can fuel creativity	0,845
	X1.8	Technology gives me more freedom in activities	0,826
	X1.9	By learning about technology, I don’t miss information in the world	0,771

	X1.10	I am sure if the computer and machines will follow instructions that I gave them	0,812
INNOVATIVENESS	X2.1	Many people came to me to ask for opinions about technology	0,859
	X2.2	It seems that my friends know and learn more about technology than me	0,837
	X2.3	Usually, I'm the first person to know the latest technology compared to my friends	0,775
	X2.4	I am able to know the development of products and services through technology without help from others	0,869
	X2.5	Saya biasanya selalu menerapkan teknologi-teknologi terbaru dalam bidang pekerjaan saya	0,746
	X2.6	I always apply the latest technologies in my field of work	0,845
	X2.7	I am able and do not experience many problems in using technology products	0,834
DISCOMFORT	X3.1	Technical support sometimes doesn't help much	0,831
	X3.2	Sometimes I think that technology that is designed and created actually makes my work more complicated	0,848
	X3.3	Guidelines for operating products and services are very difficult to read and understand	0,757
	X3.4	I feel uncomfortable if I have to change my computer password too often for fear of forgetting	0,746
	X3.5	When buying a product or service, I prefer the standard with cheaper price than the one with many features but the price is expensive	0,784
	X3.6	I feel uncomfortable when playing with information technology systems, because it can damage the system and I will be blamed	0,789
	X3.7	There should be more attention when a system generates data for use in work because the data may be wrong	0,822
	X3.8	Many technologies have health and safety risks but are not seen until everyone uses them	0,798
	X3.9	Technology makes governments and companies are able to spy on people easily	0,783
	X3.10	Technology is always problematic when we need it the most	0,825
INSECURITY	X4.1	I feel unsafe if I have to give my credit card number via a computer.	0,794
	X4.2	I feel unsafe to do online financial transactions.	0,860

	X4.3	I am worried that the information I send via the internet can be seen by others.	0,704
	X4.4	I feel uncomfortable if I have to do business online.	0,830
	X4.5	All business transactions made electronically or online must have a written confirmation	0,816
	X4.6	Every time the process takes place automatically, I must always check again to make sure the computer or machine does not make a mistake	0,635
	X4.7	The touch of a human hand is very important in doing business in a company	0,635
	X4.8	When doing business, I prefer to interact with humans directly rather than with a computer	0,735
	X4.9	I feel unsafe if I have to give my PC / Laptop password to someone else	0,715

All indicators have a loading factor (standardized estimation value) greater than 0.7, with the exception of X4.6 and X4.7, each of which has a loading value of 0.635 against the INSECURITY construct. Although these two indicators have a loading value below 0.7, they are still greater than 0.5 and significant so that they can be retained in the model.

Both indicators will be deleted one by one if they cannot support the fulfillment of discriminant validity and construct reliability. Thus, all indicators have a large loading factor which are also statistically significant, so the convergent validity of this complete measurement model is fulfilled.

4.3 Discriminant Reliability and Validity

Reliability explains the internal consistency of each measurement indicator in measuring each of the latent constructs. Evaluation of reliability can be done using Cronbach's alpha statistics, composite reliability (CR), and average variance extracted (AVE). Each latent construct must at least 0.7 or higher, and AVE at least 0.5 or higher (Hair *et al.,* 2014) as shown in Table 22 for the correlation between contructs and Table 23 for the discriminant reliability and validity tests.

Table 22. *Estimation of Correlation between Constructs*

			Estimate
OPTIMISM	<-->	DISCOMFORT	-,038
INNOVATIVENESS	<-->	INSECURITY	-,194
DISCOMFORT	<-->	INSECURITY	-,025
OPTIMISM	<-->	INNOVATIVENESS	-,080
OPTIMISM	<-->	INSECURITY	,253
INNOVATIVENESS	<-->	DISCOMFORT	,268

Table 23. *Statistic a Cronbach, CR, AVE and Quadratic Correlation*

Variables	Total Indicator	α Cronbach	CR	OPTI-MISM	INNOVA-TIVENESS	DISCOM-FORT	INSECU-RITY
OPTIMISM	10	0,950	0,950	*0.656*			
INNOVATIVENESS	7	0,936	0,937	0,006	*0.680*		
DISCOMFORT	10	0,946	0,946	0,001	0,072	*0.638*	
INSECURITY	9	0,919	0,920	0,064	0,038	0,001	*0,564*

Note: *The value written in italic of the main diagonal is AVE, while the values under the main diagonal are the square of the correlation estimation between the 2 constructs.*

From Table 23 above it can be seen that all latent constructs have alpha Cronbach and CR statistics which are all greater than 0.7. Besides that AVE for all constructs is also quite large, all above 0.5. Thus it can be concluded that all constructs are declared reliable, measured by each indicator. Each construct is stated to have fulfilled discriminant validity when the construct is completely different from other constructs, namely if the indicators do not show high inter correlations with other indicators that measure different constructs. Discriminant validity can be shown by comparing the AVE for 2 constructs with the square of the correlation between the two constructs. Discriminant validity is fulfilled when AVE for both constructs are greater than the estimate of the square of the correlation of the two constructs (Hair *et al.*, 2014).

Based on the above, it can be seen that AVE of each construct is much greater than the square of the estimated correlation between a construct and the others. For example, the AVE construct OPTIMISM is 0.656, and this value is far greater than the square of the estimated correlation between the OPTIMISM construct and other constructs, which is INNOVATIVENESS (0.006), DISCOMFORT (0.001), and INSECURITY (0.064).

There were several inputs from FGD participants, including:

1. Coaching is needed from relevant party in connection with the development of this technology so that business players can be more competitive.
2. More in-depth study related to the advantages and disadvantages of the use of information technology that continues to grow.

5. Conclusions

The results confirmed in this study lead to the following conclusions:
1. The low competitiveness of creative industries in the global market is due to the low level of information technology usage that is limited to the domestic market.

2. Ready to adopt information technology that is predicted to facilitate easy use and perception usability, character of innovation, optimism and insecurity.
3. Potential development of creative industry is very big, so it need assistance and supervision from various parties involved.

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