The Knowledge Measurement Model Provided to the ASEAN Economic Community

Pornpawee Worasatepongsa[1]
Department of Commerce and Management,
Mahidol University Kanchanaburi Campus, Thailand
[1]pornpawee.wor@mahidol.ac.th

Chanidapa Deesukanan[2]
Department of Accounting,
Bangkok Thonburi University, Thailand
[2]jumbo.999@hotmail.com

Abstract **- The purposes of this research aim to analyze the proficiency knowledge preparation step readiness for the member country of ASEAN Economic Community and to determine the questions quality for the knowledge level preparation readiness for the member country of ASEAN Economic Community. The 400 samples were the residents whose residential in the area of Kanjanaburi, Suphanburi, Nakhonpathom and Ratchaburi. The exploratory factor analysis was performed with rotation the scene by Varimax method. The statistical program was used to confirm the factor analysis of the Knowledge Measurement provided to the ASEAN Economic Community. The results showed that the knowledge elements in preparation for the ASEAN Economic Community compose of 10 factors which each element loading factors ranged between 0.11 to 2.45 The quality of the model test results with empirical data found that chi - square score indicated at 36.94, the probability score indicated at 0.12, the degrees of freedom score indicated at 28, the adjusted score indicated at 0.96, the root of mean square error of approximation indicated at 0.028.**

Keywords **- AEC, Knowledge, Preparation**

I. INTRODUCTION

AEC (ASEAN Economic Community) is one of the third pillar for the establishment of the ASEAN (ASEAN Community) or the united of 10 countries in ASEAN for the economic benefits similarity to the Euro Zone countries. The combination form of the ASEAN member countries will have the empowerment to negotiate with partners and to gain the attraction for foreign investment into the region even more.

The ASEAN countries would be promoted as a single market and production base for product movement, services, investment and skilled labor freely. The AEC combination takes officially effective on 1 January 2015, later there has been postpone to the date of 31 December 2015 (Performance Research ROC between Mahidol University and Interior Ministry, 2013) [1].

The AEC Blueprint or the goal of AEC, performs with four keys main functions, namely: 1) to promote ASEAN as a single market and production base for product movement, services, investment and skilled labor freely and capital investment flow freely, 2) to promote ASEAN as a region with a high capacity of competitive, 3) to promote ASEAN as a region with the development of economic equality, and 4) to promote the integration of ASEAN which effects to the government provide the allocation funds for public, agencies and all sectors gain more knowledge and understanding that can lead the immunity to adapt themselves to survive. This is the finding problem of this research that aims to

determine the effectiveness of the preparedness implementation.

A preliminary study in 2013 and colleagues measured the knowledge levels with basic knowledge and the advancement of knowledge (the test of ROC project 2013) of the 400 samples consisted of the residents in Nakhon Pathom at 100 persons, Kanchanaburi at 100 persons, Suphanburi at 100 persons and Ratchaburi 100 persons from various occupational groups, including government officials, employees, farmers and entrepreneurs. The findings found that average level of the samples knowledge indicated at 5.47 (SD 2.068) from the totally score of 10 points. To consider at each aspect of ASEAN overall knowledge, AEC general knowledge at the totally score of 4 points, the samples performed their average score at 1.458 (SD 1.182) and 2.915 (SD 0.980) respectively. The progressive knowledge level at the totally score of 2 points, the samples performed their average score at 1.135 (SD 0.727) After the field research knowledge test of three dimensions in 2013 that made the researchers wanted to find out the proficiency composition for the knowledge preparation in ASEAN economic member countries, and what to do to gain the basic knowledge about the AEC for Thai people throughout the country.

II. OBJECTIVES

This study aims: 1) To analyze the elements of Knowledge Measurement for proficiency step preparation provided to the ASEAN Economic Community and 2) To determine the questions quality for the knowledge level preparation readiness for the member country of ASEAN Economic Community.

III. METHODOLOGY

The 400 samples used in this research, randomized by simple random sampling, consisted of government officials, employees, farmers and entrepreneurs in Nakhon Pathom, Kanchanaburi, Suphan Buri, and Ratchaburi.

The instrument used in this study was questionnaire about the AEC knowledge with the total of 10 questions which used to analyze the composition of knowledge proficiency measurement level in preparing to step into the ASEAN Economic Community. Exploratory Factor Analysis and Confirmation Factor Analysis were used to analyze the data.

IV. THE DATA ANALYSIS

Questionnaires were returned 400 and were determined the suitability of the data in table I.
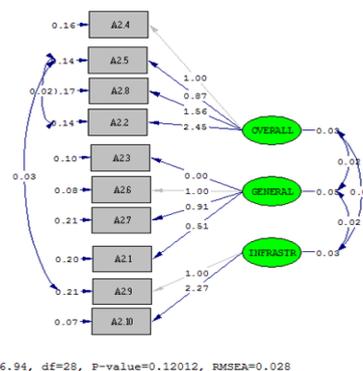
TABLE I
KMO AND BARTLETT'S TEST

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.702
Bartlett's Test of Sphericity	Approx. Chi-Square	324.821
	df	45
	Sig.	.000

From table I, the results of Kaiser-Meyer-Olkin Measure of Sampling Adequacy (MSA) indicated at 0.702 means that it is in the range of (0.70 to 0.79), The 10 question items is suitable for the analysis (Hair et al, 2006: 114-115) [2] whereas other testing whether the questions are related or not, it is determined by the Bartlett's Test of Sphericity a statistically significant (Sig. 0.000), the relationship between variables can be analyzed elements.

V. RESULTS OF CONFIRMATORY FACTOR ANALYSIS

From the above study, the researchers used the model to determine a confirmatory factor analysis shown in Fig. 1.

Chi-Square=36.94, df=28, P-value=0.12012, RMSEA=0.028

Fig. 1 The Result of a Confirmatory Factor Analysis

TABLE II
RELATED INDEX OF THE MODEL RELATED
TO EMPIRICAL DATA

Index Referred to as	Recommended value	Free Model value	Reference
(x^2/df)	< 2	1.319	[6]
P – value	> 0.05	0.12	[5]
GFI	>0.95	0.99	[5]
AGFI	>0.95	0.96	[5]
CFI	>0.95	0.98	[7]
RMSEA	<0.05	0.028	[5]

It can be concluded that the model is in harmony with the empirical data at high level.

A. Model Evaluation

This study will determine the effectiveness of the measurement. Then consider the validity and reliability. The validity is determined by statistically significant (t-Value) (1.96). The results of the analysis of the t-Value model indicated between 2:56 to 13:51 The observed variables or indicators (questions) in the model were statistically significant while the reliability of the variables that were used to measure the reliability of latent variables and the average variance extracted as follow:

(ρ_c) measure the reliability of latent variables

(ρ_v) measure the variance extracted

$$\rho_c = \frac{(\Sigma\lambda)^2}{(\Sigma\lambda)^2 + \Sigma(\Theta)}$$

λ is a weight of standard component

Θ is a variant of standard deviation

The results showed that the reliability of the latent variables indicated at 0.826, and the average variance extracted indicated at 0.615, which was higher than 0.6, and the average variance extracted should be more than 0.5. (Diamantopoulos and Siguaw, 2000)

$$\rho_c = \frac{(5.494)^2}{(5.494)^2 + (4.745)}$$

$$= 0.826$$

$$\rho_v = \frac{(\Sigma\lambda^2)}{(\Sigma\lambda^2) + \Sigma(\Theta)}$$
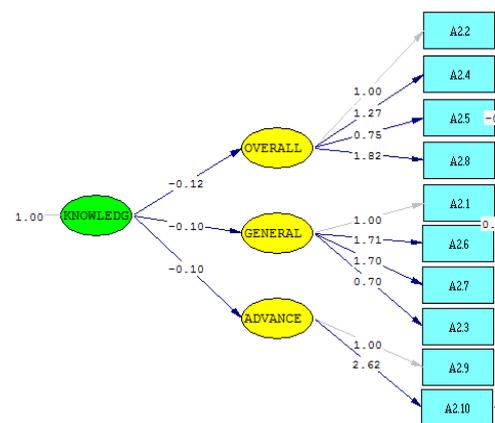
$$\rho_v = \frac{(7.5863)}{(7.5863) + (4.745)}$$

$$= 0.615$$

The results of the model evaluation determined by the validity and reliability was found that the model can be used to measure the public knowledge for the readiness preparation for the ASEAN Economic Community.

VI. CONCLUSIONS

Although empirical data was related to the model, researcher performed the confirmatory factor analysis with the second process of questionnaires in order to measure the public knowledge level for the readiness preparation for the ASEAN Economic Community. The finding found that each aspect indicated the same weight element which equal at the level of statistical significance at the .05 Fig. 2, the indicator indicates the model effectiveness that can be used for the readiness preparation for the ASEAN Economic Community.

Chi-Square=21.33, df=15, P-value=0.12652, RMSEA=0.033

Fig. 2 The Result of Confirmatory Factor Analysis with the Second Process of Questionnaires

Pornpawee Worasatepongsa and Chanidapa Deesukanan

TABLE III
RELATED INDEX OF THE MODEL RELATED
TO EMPIRICAL DATA

Index Referred to as	Recommended value	Free Model	
		value	Reference
(x^2/df)	< 2	1.422	[6]
P – value	> 0.05	0.12	[5]
GFI	>0.95	0.98	[5]
AGFI	>0.95	0.95	[5]
CFI	>0.95	0.96	[7]
RMSEA	<0.05	0.033	[5]

The average score indicated at the average level, reflected the result of public lack of correct understanding which supported the results of the analysis above. Upon this finding, the suggestions would propose to government agencies and others associated concerned for further consideration.

VII. SUGGESTIONS

The finding scores upon 10 items of questionnaires indicated at 5.4 points. Even though, the questions are general knowledge, fundamental knowledge at totally 8 items, advance knowledge at 2 items. So public sectors should encourage the knowledge providing for public rapidly as well as to assess their knowledge after training such as inserted the content about ASEAN in all levels or sending experts to give the activities on a regular basis at their village.

1. Campaign banners should post at a crossroad or distinctive point in order to accelerate public awareness and preparedness of the ASEAN Economic Community at the end of the year of 2015.

In addition, the researcher also revealed the limitations of this research that samples are the residents in the area of 4 provincials in the lower Central Region only, not all through the country. The suggestions provided for further research as following:

1. The samples should select from each region of Thailand and should compare between them.

2. The finding score should be compare from the various occupational groups such as government official, farmers, employees and entrepreneurs for the authorities concerned encouraging them upon their requirements.

3. The test should be ready to test the differences between the prior knowledge about the AEC and after knowledge providing or training in various fields about AEC.

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