Readiness of Engineering Students at King Mongkut's Institute of Technology, Ladkrabang for Thailand's Entry into the Asean Economic Community

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ABSTRACT

The objectives of this research were: to study readiness of engineering students at KMITL (King Mongkut's Institute of Technology, Ladkrabang) for the 2015 entry of Thailand entry AEC, and to investigate the relationship between personal factors and the readiness. The sample included 402 undergraduate engineering students who had enrolled for classes at King Mongkut's Institute of Technology Ladkrabang during the 2013 academic year. The research instrument for data collection was a self-assessment questionnaire. The statistics of parameters studied were frequency, percentage, average ($\bar{x}$), standard deviation (S.D.), t-test results, and results from a one-way Analysis of Variance (ANOVA). The hypothesis testing thresholds were set at the 0.05 and 0.01 levels of significance. The results concerning students' readiness to Thailand joining AEC were as follows: 1. The overall readiness was moderate ($\bar{x}$= 3.31); 2. The readiness along each skill dimension was moderate: leadership ($\bar{x}$= 3.57), professional career and working capacity ($\bar{x}$= 3.33), culture ($\bar{x}$= 3.20), and language and communication ($\bar{x}$= 3.15); 3. The relationship between students' level of English fluency and readiness for AEC was statistically significant at the 0.01 level; 4. The differences between students' experience of travelling or visiting an AEC country has no statistically significant effect on the differences between students' readiness to join AEC; 5. Professional skills and working capacity, language and communication, and culture were statistically significantly different at 0.01 level, and; 6. The relationship between students' experience to travel or visit an AEC country and the students' readiness in the dimension of language and communication skills was statistically significant at 0.01 level.

Keywords: Readiness, AEC.

1. INTRODUCTION

The sample studied consisted of all Engineering students enrolled into KMITL during the 2013 academic year. Some for them nurture expectations of working in an ASEAN (Association of Southeast Asian Nations) country. So there is a need to know how well Thailand's citizens are prepared for getting integrated with the population of AEC.
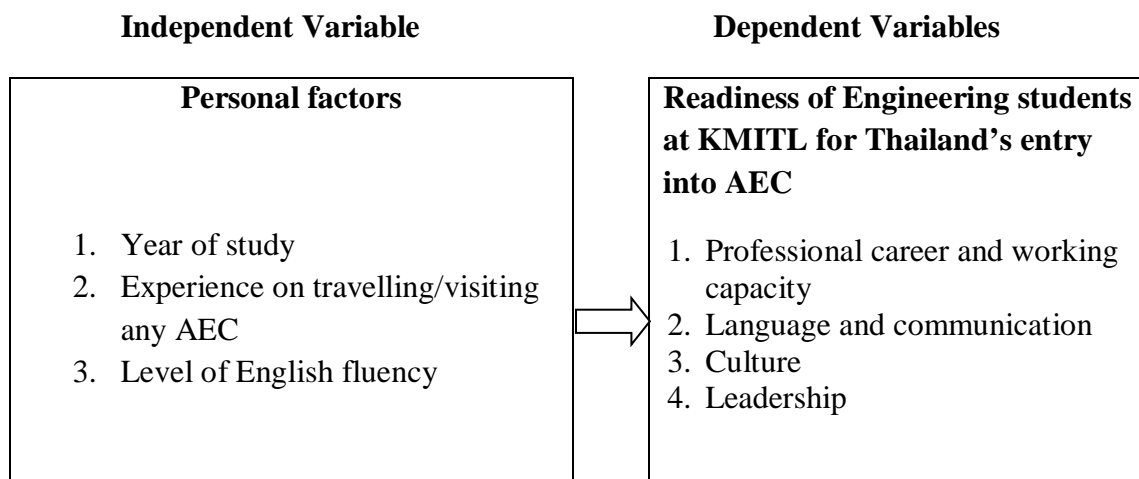
2. OBJECTIVES

1. To study the opinion of Engineering students who enrolled in King Mongkut's Institute of Technogy Ladkrabang (KMITL) during the 2013 academic year on ASEAN Economy Community: AEC

2. To investigate the relationship between personal factors, and the readiness of students when Thailand joins AEC.

3. THE RESEARCH HYPOTHESIS

Engineering Students at King Mongkut's Institute of Technology Ladkrabang are ready for Thailand's entry into AEC.

4. CONCEPTUAL FRAMEWORK

Independent Variable

Dependent Variables

Personal factors
1. Year of study
2. Experience on travelling/visiting any AEC
3. Level of English fluency

Readiness of Engineering students at KMITL for Thailand's entry into AEC
1. Professional career and working capacity
2. Language and communication
3. Culture
4. Leadership

5. RESEARCH INSTRUMENT

Research instrument consisted of a self-assessement questionnaire divided into 2 parts. Part 1 was a set of questions about general information on personal factors including year of study, experience of travelling/ visiting any AEC, and level of English fluency. Part 2 was a set of dimensions indicating student readiness for Thailand joining the ASEAN Economic Community (AEC) in 2015.

6. DATA COLLECTION AND ANALYSIS

The questionnaires were distributed to the whole population. 402 were returned and used as the study sample. The data were analyzed using SPSS for Windows. The statistics used included percentage, arithmetic mean and standard deviation. Research hypotheses were tested using t-test and one-way ANOVA. Student readiness scores for students' opinion on the degree of their readiness of engineering students were interpreted as follows:

- Average score 4.50 to 5.00 means the degree of readiness is the highest.
- Average score 3.50 to 4.49 means the degree of readiness is high.
- Average score 2.50 to 3.49 means the degree of readiness is moderate.
- Average score 1.50 to 2.49 means the degree of readiness is lower.
- Average score 1.00 to 1.49 means the degree of readiness is the lowest.

7. RESEARCH RESULTS

Table 1 Descriptive statistics

Personnel Characteristics	Number	Percentage
1. Gender		
Male	288	71.64
Female	114	28.36
Total	402	100.00
2. Year of study		
Year 1	77	19.15
Year 2	33	8.21
Year 3	103	25.62
Year 4	189	47.01
Total	402	100.00
3. Place of living		
Bangkok and metropolitan	183	45.52
Other provinces	219	54.48
Total	402	100.00
4. Immediate plan after graduation		
Work	250	62.19
Study	52	12.94
Both	100	24.88
Total	402	100.00
5. Immediate workplace		
Bangkok and metropolitan	287	71.39
Other province	67	16.67
Other country	48	11.94
Total	402	100.00
6. Experience of travelling within AEC		
No	255	63.43
Yes	147	36.57
Total	402	100.00
7. English proficiency		
Weak	76	18.91
Medium	251	62.44
Good	67	16.67
Excellent	8	1.99
Total	402	100.00

Table 1 (cont.)

Personnel Characteristics	Number	Percentage
8. How proficiency in English was acquired		
From classroom	285	41.07
Self-study instructional media	229	33.00
Other	180	25.94
Total	694	100.00
9. Self-preparation for the AEC labor market		
High	21	5.22
Medium	211	52.49
Less	139	34.58
None	31	7.71
Total	402	100.00
10. Preparation		
Learn more English by oneself	320	32.69
Follow selected media regularly	211	21.55
Keep track of advances in science and the profession of interest	153	15.63
Technology education (besides learning from classroom) Focus on modern technology	150	15.32
Cultural traditions in AEC countries	61	6.23
Laws and regulations concerning the operation of the AEC	53	5.41
The national language of the AEC country of interest	31	3.17
Total	979	100.00
11. Sources to get Information about the AEC		
Television	354	21.66
Media / Internet	321	19.65
Information from instructor in class	210	12.85
General newspapers	196	12.00
Socializing with classmates / colleagues	136	8.32
Magazines online	118	7.22
Data attending training / seminars / training that does not come from the classroom	112	6.85
Other publications	96	5.88
Radio	91	5.57
Total	1,634	100.00
12. Factors in need of improvement (in the descending order)	256	63.68
Language of communication	193	48.01
Culture and tradition	170	42.29
Legal regulations	125	31.09
Advanced knowledge and science related to the field of study	114	28.36
Technological advances and applications	96	23.88
Personality and leadership		
Total	954	100.00

Table 1 (cont.)

Personnel Characteristics	Number	Percentage
13. Countries students want to work with		
Singapore	179	44.53
Others	223	55.47
Total	402	100.00
14. AEC knowledge		
Medium	295	73.38
High	107	26.62
Total	402	100.00

Table 2 Descriptive Statistics of Engineering Student's Opinion about AEC

Readiness of students on AEC	$\overline{X}$	S.D.	Level	Rank
Professional career and working capacity	3.33	.590	Medium	2
Language and communication	3.15	.755	Medium	4
Culture	3.20	.724	Medium	3
Leadership	3.57	.605	High	1
Total Average	3.31	.526		

Table 3 Analysis of variance: Relationship between years of study and student opinion about readiness to join AEC

Readiness of student on AEC	Years of study ($\overline{X}$)				P-Value
	1 (n=77)	2 (n=33)	3 (n=103)	4 (n=189)	
Professional career and working capacity	3.19	3.15	3.28	3.44	.002**
Language and communication	2.96	2.91	3.08	3.31	.001**
Culture	3.06	3.08	3.09	3.33	.007**
Leadership	3.47	3.61	3.58	3.60	.440
Total Average	3.16	3.19	3.26	3.42	.001**

** 0.01

Readiness of student on AEC	Year (yr.)	$\overline{X}$	Group	1	2	3	4
Professional career and working capacity	Yr. 1	3.19	1	-	.718	.312	.002**
	Yr. 2	3.15	2	-	-	.256	.008**
	Yr. 3	3.28	3	-	-	-	.024*
	Yr. 4	3.44	4	-	-	-	-
Language and communication	Yr. 1	2.96	1	-	.736	.307	.001**
	Yr. 2	2.91	2	-	-	.263	.005**
	Yr. 3	3.08	3	-	-	-	.012*
	Yr. 4	3.31	4	-	-	-	-
Culture	Yr. 1	3.06	1	-	.854	.721	.005**

	Yr. 2	3.08	2	-	-	.937	.069
	Yr. 3	3.09	3	-	-	-	.008**
	Yr. 4	3.33	4	-	-	-	-
Total Average	Yr. 1	3.16	1	-	.794	.213	.000**
	Yr. 2	3.19	2	-	-	.502	.019*
	Yr. 3	3.26	3	-	-	-	.012*
	Yr. 4	3.42	4	-	-	-	-

* 0.05
** 0.01

Table 4 Analysis of Variance of Experience in travelling AEC on the Dimension of Engineering Students' Opinion about readiness

Readiness of student on AEC	Experience on travelling ($\overline{X}$)		P-Value
	No (n=255)	Yes (n=147)	
Professional career and working capacity	3.33	3.33	.888
Language and communication	3.07	3.29	.004**
Culture	3.18	3.22	.564
Leadership	3.56	3.57	.864
Total Average	3.28	3.36	.173

** 0.01

Table 5 Analysis of Variance of the Level of English fluency on Dimension of Engineering Students' Opinion about readiness

Readiness of student on AEC	Level of English fluency ($\overline{X}$)				P-Value
	Weak (n=76)	Medium (n=251)	Good (n=67)	Excellent (n=8)	
Professional career and working capacity	3.07	3.34	3.54	3.72	.000**
Language and communication	2.52	3.15	3.75	4.19	.000**
Culture	3.15	3.15	3.38	3.66	.028*
Leadership	3.39	3.57	3.77	3.60	.003**
Professional Career and Working Capacity	3.03	3.30	3.60	3.79	.000**

Readiness of student on AEC	Level of English fluency	$\overline{X}$	Group	1	2	3	4
Professional career and working capacity	Weak	3.07	1	-	.000**	.000**	.002**
	Medium	3.34	2	-	-	.012**	.063
	Good	3.54	3	-	-	-	.392
	Excellent	3.72	4	-	-	-	-
Language and communication	Weak	2.52	1	-	.000**	.000**	.000**
	Medium	3.15	2	-	-	.000**	.000**
	Good	3.75	3	-	-	-	.068
	Excellent	4.19	4	-	-	-	-
Culture	Weak	3.15	1	-	.997	.053	.058
	Medium	3.15	2	-	-	.019*	.050*
	Good	3.38	3	-	-	-	.310
	Excellent	3.66	4	-	-	-	-
Leadership	Weak	3.39	1	-	.026*	.000**	.341
	Medium	3.57	2	-	-	.016*	.863
	Good	3.77	3	-	-	-	.469
	Excellent	3.60	4	-	-	-	-
Total Average	Weak	3.03	1	-	.000**	.000**	.000**
	Medium	3.30	2	-	-	.000**	.006**
	Good	3.60	3	-	-	-	.308
	Excellent	3.79	4	-	-	-	-

* 0.05
** 0.01

8. DISCUSSION

This research indicated that the dimension of overall strength of engineering students' opinion about the readiness for joining AEC was moderate ($\bar{x} = 3.31$).
Also, the analysis, using ANOVA, found that

1) Student's readiness for AEC was at a moderate level along each skill dimension: leadership ($\bar{x} = 3.57$), professional career and working capacity ($\bar{x} = 3.33$), culture ($\bar{x} = 3.20$), and language and communication ($\bar{x} = 3.15$). 3).
2) The relationship between English fluency and readiness for AEC was statistically significant at the 0.01 level. Most students felt that their English was not yet good enough for fluent communication with other ASEAN population.
3) The relationship between experience on visiting an AEC country and readiness for AEC was not statistically significant.

The implication is that the government and related agencies should pay more attention to the preparation of Thai citizens, in all dimensions including English skill so

that students can fit well and gain benefits from AEC. Consistent with previous findings, it suggests that English teaching should be directed essentially towards communication at the workplace. Reading and writing English are still the major weaknesses of Thai education. Thai people have very low English proficiency. Thai ranks 53 out of 54 countries in the world, and ranks 12 of 12 countries in the Asian region.

Moreover, from the cultural viewpoint, respondents felt enthusiastic about traveling through AEC countries. They were eager not only to travel but also to conduct business with AEC countries. Also, they are interested in working in those countries, especially, Singapore. 44.57% of the respondents said that they would like to work in Singapore if there is a chance. This study also found that Thai people have positive attitude towards the cultures of other AEC countries. This could help promote activities among AEC people for mutual benefit.

Table 1 shows that the respondents were confident that they were in possession of the leadership characteristics necessary to assume the role of a good leader. As it was supported by the highest average score ($\overline{X}$, the leadership dimension, should be a source of pride for the students and any agencies/units involved. It is important that everyone should have such confidence, especially when he/she works with a foreigner. However, one thing that should be considered was that the respondents were not comfortable about teaching, training and even just cooperating with others in their work. This is consistent with earlier findings indicating that Thai people need to develop skills in communication, teamwork, initiative, problem-solving, leadership, and awareness of cultural issues, especially cross culture learning. This is the only aspect of the leadership dimension in which the average was at a moderate level; the rest were at a high level. This points to the need for Thai people to learn more about how to work with others. They need to be trained better about how to contribute, teach, and cooperate with others in their work. They should be able to work as a team with coworkers of diversified race and personality. Also, they should keep up with modern technology and practices so they are able to solve the complex problems that inevitably arise in the modern world of work especially while working with foreigners. Especially, they need to improve their English proficiency in terms of reading, writing as well as speaking. They also need to learn how to work with foreigners and conform to international working standards. Our results also revealed certain weak points concerning Thai people as compared to other ASEAN people:

(1) The knowledge for the way to communicate with others who are from a different culture
(2) Working as a team with others from the AEC countries
(3) Professional expertise and skills to work with others from AEC countries
(4) English Proficiency with reading, writing and speaking
(5) The knowledge and understanding about laws and professional conventions of each AEC country
(6) Nuanced knowledge about and perceptions of each of the AEC countries along with their cultures and norms.

Having a vision is good. But AEC people also need the correct information to shape it. What is necessary in Thailand and other ASEAN members, including the least-developed countries like Cambodia, Laos and Myanmar, are concerted efforts to keep monitoring progress in integration.

9. RECOMMENDATION

1. Given the positive information provided by the present research that Thai people have positive attitudes towards the cultures of other AEC countries, one can be optimistic towards promoting activities among AEC people for mutual benefits.

2. Thai people need to learn more about how to work with others. They need to be trained on how to contribute, teach, and cooperate in the context of their work. They should become more able to work as a team involving members drawn from different countries' coworkers with diversified race and personality.

3. Thai people should keep up with modern technology and practices for solving complex problems that inevitably arise in the modern world of work, particularly while working with foreigners.

4. Thai people need to improve their English proficiency in terms of reading, writing as well as speaking.

5. Thai people need to learn how to adjust to the ways of foreigners. They should learn to conform with international working standards.

6. Thai people should promote and communicate by fully utilizing the following sources of information about the AEC: television, media / internet, in-class instruction, general newspapers, socializing with classmates / colleagues, magazines online, attending training / seminars / training (beyond the classroom), other publications, and radio.

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