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EVALUATION OF COMPETENCIES AND PREPAREDNESS OF VIETNAMESE COMPANIES FOR ASEAN INTEGRATION

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ABSTRACT

ASEAN integration and internalization may help the developing countries in Asia to effectively exploit the scientific and technological achievements of the world, attract foreign resources and technology. Moreover, it may raise and develop the level of science and technology of these countries for economic development. Therefore, most of the countries in Asia want to integrate the ASEAN organization including Viet Nam. In this study, the author aim to evaluate the competencies and preparation of Vietnamese companies for Asian integration. For doing this, a total of two companies in Vietnam with 250 employees were surveyed and questioned during the last two years (2015 and 2016). The questionnaires were distributed to all the participants to collect data to answer the research questions. Structural equation modeling (SEM), independent samples t-test, and one way ANOVA were used to test the impact level of factors (professional knowledge, foreign language proficiency, work management, labor environment, company policies, conditions for research and invention that affect the capability of engineering technologist working in the companies and validate the significant difference on the assessment of different competencies and preparedness of engineering technologists. The results shows that engineering technologists of these companies should be trained more to improve competencies for Asean integration. The present study has provided useful data to have a comprehensive picture of the capacities of engineering technologists in the ASEAN integration process. It is expected that the findings of the study would contribute to the understanding of capacities of Vietnamese technology engineers.

Keywords: ASEAN integration, competencies, preparation, Vietnam

INTRODUCTION

According to many experts in the area of business management (e.g., Burk 2007; Case 2002; Ivancevich 2009), any firm or organization that wants to maintain its operation or move forward always requires a lot of resources such as capital, technology, information, communication, and human. Among these, human is the most important resource in order to establish, orient and

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develop and organization; as a result, qualified human resources is greatly concerned by managers. In recent years, in the context of economic integration, business expansion and penetration, which has led to intensive competition, companies have to look deeply into how to employ competent employees because only when they are appropriately educated and trained, that they can devote themselves, show the ability of creativity, have strong attachment to the job and the organization they are working for; thus improve the individual efficiency, significantly contributing to the general business performance and reducing the possibility of labor scarcity, especially for senior positions.

In the period of accelerated industrialization and modernization, international integration in science and technology, there are many agreements, convention and accord among different countries in specific regions to collaborate together to set up common training and education system with the same evaluation criteria and methods. A typical example is the case of Bologna Accord signed in June 1999, when 29 European countries signed a document called the Bologna Declaration, agreeing to reform higher education in Europe. ASEAN in general and Vietnam in particular have been affected by integration and internalization in education, science and technology. Schools, Colleagues, and University need to be aware of and prepared for the reforms, as well, because soon the results will affect their applicant pools

The ASEAN integration and internalization in education, science, and technology may help the countries in this region to effectively exploit the scientific and technological achievements of the world, attract foreign resources and technology. Otherwise, it may raise and develop the level of science and technology in the country, contribute to economic development. - Social and gradually integrate into the knowledge economy of the ASEAN in particular and the world in general.

The process of international integration in science and technology of Vietnam has begun to be linked with the practical requirements of branches and localities, initially serving effectively for economic development tasks and the society of the country. The contents and forms of international integration in science and technology are more diversified (including joint research, technology transfer, expert exchange, seminars, conferences, technology demonstration, technology fair, etc.). Areas of integration have expanded, from basic research to applied research, technology transfer, social sciences - humanities, natural sciences, interdisciplinary research. International integration of science and technology in recent years has contributed to strengthening technical facilities for scientific research and technological development organizations, improving the level of cadres, promoting the process.

However, human resources in science and technology in Vietnam are currently not sufficiently qualified to participate effectively in international and regional science and technology activities.

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The contribution of science and technology to international and regional scientific and technological activities remains low. The scientific research and technological development institutions, universities are not able to promote the expansion of international integration activities due to the lack of synchronous facilities and technical environment, the lack of professionalism, leading researchers, and technical staff. Most of the international cooperation in science and technology in recent years has only been implemented in the framework of bilateral or multilateral cooperation agreements. This leads to dependence on partners and unequal obligations and interests of each party. The enforcement of intellectual property law has not been effective, although the system of legal documents on intellectual property has met the adequacy and in accordance with international commitments that Vietnam is a member. Besides, the awareness of leaders at all levels and the whole society on this issue is limited. Technology transfer activities in key enterprises are only at the level of receiving through direct investment projects or foreign aids, without investment in research, ownership and technological innovation. Businesses often lack scientific and technological information at home and abroad. The link between scientific research and technological development and science and technology human resources training as well as integration needs of Vietnamese enterprises is limited.

Moreover, in the context of Vietnam in the development process in general and in transportation development in particular, it is vital to have engineering technologists who are qualified and skilled enough to promote the process. In the meanwhile, it is realized that this is a weak area that needs improvement. Realizing the importance of this section for the economic development of Vietnam, the author would like to have a comprehensive investigation into the area of competencies and preparedness of Vietnamese engineering technologists in the process of integration in the ASEAN region, aiming to establish the bases for an enhancement program.

In this study, the main objective is to evaluate the competencies and preparation of Vietnamese companies for Asian integration. For doing this, a total of two companies in Vietnam with 250 employees were surveyed and questioned during the last two years (2015 and 2016). The questionnaires were distributed to all the participants to collect data to answer the research questions. Structural equation modeling (SEM), independent samples t-test, and one way ANOVA were used to test the impact level of factors (professional knowledge, creative thinking and initiatives, foreign language proficiency, work management, attitudes and discipline, college curriculum, Labor environment, company policies, conditions for research and invention, and Personal factors) that affect the capability of engineering technologist working in the companies and validate the significant difference on the assessment of different competencies and preparedness of engineering technologists.

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METHODOLOGY

Methodology of the presnet study includes several steps such as the research design, the population, sample size and sampling technique, the description of respondents, the research instrument, the data gathering procedures and statistical treatment of used by the researcher (Figure 1).

Pilot study

A pilot study was carried out by interviewing 100 at Vietnam Automobile Technology Joint Stock Company and VINFAST. In addition to previous studies, trial research is the basis for the design of a follow-up survey questionnaire.

Preliminary questionnaires are designed to identify indicators of the factors that constitutive the capability of Engineering Technologist and the factors affecting to capability of engineering technologist. The questions selected in the questionnaire were developed based on the results of the previous studies, the results of the in-depth interviews, and the author's recommendations.

The basic information in the questionnaire includes: personal information (sex, age, income, Field of activity, position, educational attainment, work experience) and the lecturers' assessment of capability of Engineering Technologist, and the assessment of the factors that affect the capability of Engineering Technologist. Trial study is an important basis for completing questionnaires for subsequent studies.

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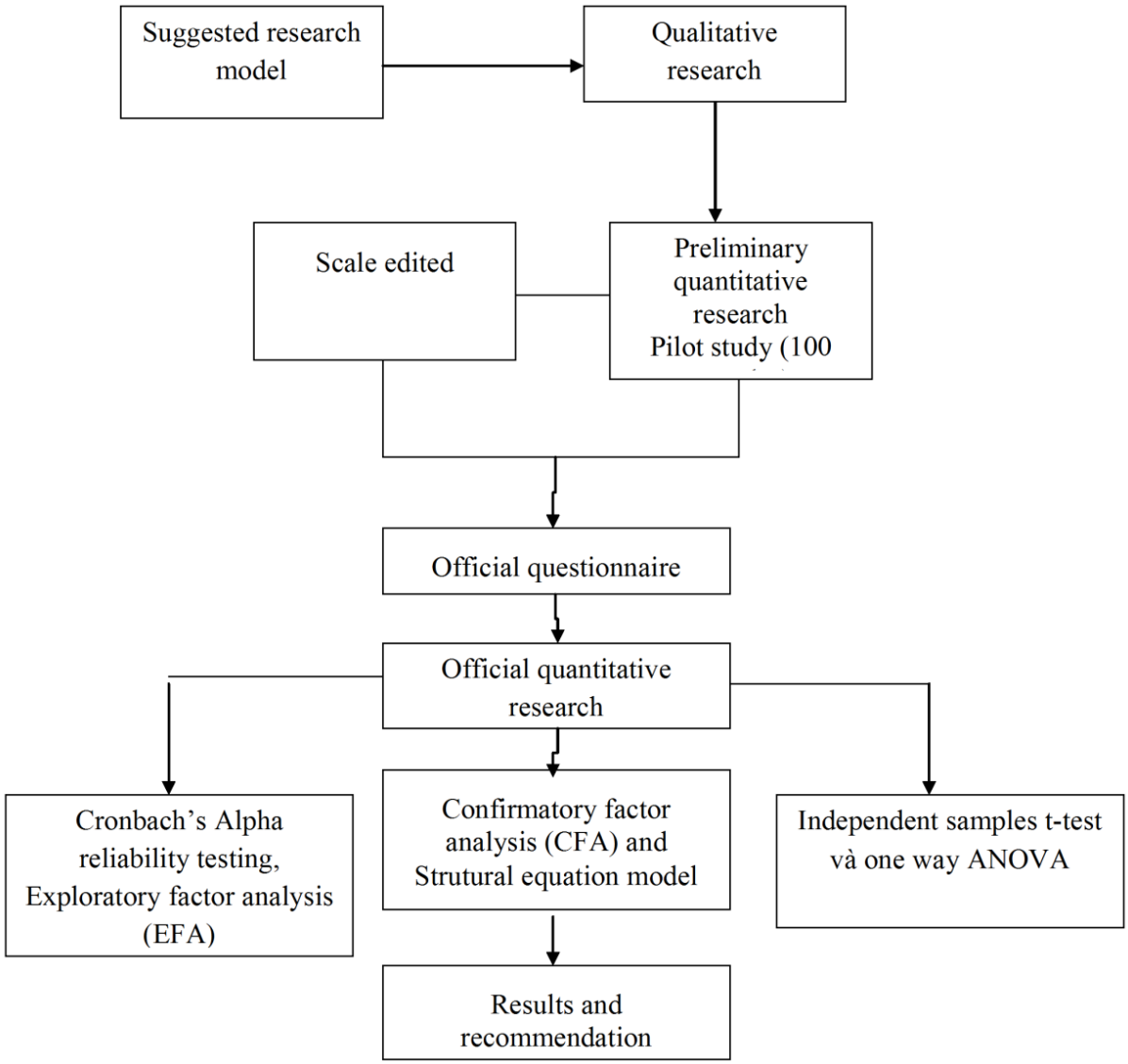

Figure 1: Methodology chart of the present study

Population and sample size

The method of determining the sample size in the research is consulted from the method of determining the sample size of Hair et al. (2006); meaning that the sample size was determined based on: minimum and variable quantities included in the analysis of the model, where the minimum is usually 50 (Hair et al., 2006). Hair et al. (1998) suggested that if the sample size was about 100, the Factor Loading criterion should be greater than 0.5 and also the author has proposed a 5:1 ratio for sample size selection versus the number of parameters in the multivariate analysis. The researcher's model identified 31 variables, using the Likert scale. The original

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sample size was 58 * 5 = 290. Excluding ineligible questionnaires, the researcher decided to choose the number of the questionnaire is 400.

Statistical techniques for modeling

Questionnaires after collection will be checked to avoid errors and inconsistent information. After that, all collected questionnaires will be encoded and entered into SPSS 20.0 and AMOS 20 software to filter for subsequent studies.

Scale reliability testing

Cronbach's Alpha reliability index only indicates whether the measurements are linked or not, but the index does not indicate which observation variable should be discarded or retained. Then, the calculation of the correlation coefficient between variables would help to eliminate the observation variables which did not contribute much to the description of the concepts (Hoang Trong and Nguyen Mong Ngoc, 2005).

Exploratory factor analysis

An exploratory factor analysis (EFA) is a quantitative analysis method used to shorten the set of interdependent observation variables into a meaningful set of variables (Hair et al., 2009). In the study, Principal Axis Factoring method was used. According to Hair et al. (1998), factor loading is an indicator to ensure a realistic level of exploratory factor analysis. Bartlett's test of sphericity tests the hypothesis that your correlation matrix is an identity matrix, which would indicate that your variables are unrelated and therefore unsuitable for structure detection. The significance level less than 0.05 in the Bartlett's test indicate that a factor analysis may be useful with the research data.

Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) is a multivariate statistical procedure that is used to test how well the measured variables represent the number of constructs. In confirmatory factor analysis, researchers can specify the number of factors required in the data and which measured variable is related to which latent variable. Confirmatory factor analysis (CFA) is a tool that is used to confirm or reject the measurement theory. CFA is implemented on the measurement model to exclude variables with low factor loading. CFA can be performed for each sub - model prior to testing for a whole model.

Structural equation modeling (SEM)

In order to find out the impact level of factors that affect the capability of engineering technologist, hypothesis testing and SEM modeling were used with the more advantageous than traditional methods (such as multivariate regression) due to the measurement error. The SEM model was an extension of the general linear model (GLM) that allowed the researcher to test a

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set of regression equations at the same time. The SEM was used to indicate the relationships between latent variables. Specifically, in this study, the author used the SEM model to test: the factors affecting to capability of engineering technologist and the factors constitutes to capability of engineering technologist.

One-Way ANOVA

One-Way ANOVA ("analysis of variance") compares the means of independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different at significance of 5%.

DATA USED

A combination of questionnaires and interviews was used in acquiring information from the respondents. It also sought other needed information from books, published and unpublished local and foreign studies and from the internet.

Firstly, the researcher consulted her own professor about the study that the researcher wanted to conduct. Several titles had been proposed and the one approved was “Level of Competencies and Preparedness for ASEAN Integration of Engineering Technologist in Vietnamese Companies: Basis for Enhancement Training Program”. After the proposal was approved, the researcher looked for the materials needed in the study. Through interview and related findings, the researcher is able to gain ideas and develop the questionnaire used in the study. Having all the materials and other information gathered, the researcher started working on the first three chapters of own study, which are the: Introduction; Literature reviews and Theoretical and conceptual Framework; and Research Methodology. In the actual conduct of the research, the researcher is followed the following procedures: Primarily, questionnaire designed as the main data gathering instrument of this research. The researcher sought the advice and guidance from own professor and some experts in the process of designing and developing the questionnaire to ensure the validity and reliability of the data gathering instrument. The researcher asked permission from the Board of the two companies to get the necessary data including its database that contains the records of volunteers who register in the system. Current records examined to identify relevant concerns as well as the population size. The researcher also conducted unstructured interviews during the actual distribution and collection of questionnaire.

In this study, data was collected in the North of Vietnam with many companies related to different fields as the author mentioned in section 3.1 For automobile industry, the survey was carried out at two companies in the North of Vietnam: Vietnam Automobile Technology Joint Stock Company and VINFAST Production and Trading Company Limited for understanding the competencies and preparedness. The population composed of workforce doing in their jobs in

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different companies with various fields, include Engineering Technologist and managers who are working in these companies. The author sent 400 questionnaires by email and through direct meetings with these companies. The researcher set 5% allowance for sampling error; the sample size is 350 respondents and sampled using the Simple random sampling technique.

Sample respondents include 350 personnel who are working at different companies with various fields, in which: 51 respondents are managers and 258 respondents are Engineering Technologists, and 41 respondents are employees. Their responses evaluated the strengths and weaknesses of existing Engineering Technologist, as well as encountered problems (difficulties) and the necessary solutions to improve quality of human resources and a Training Program for Engineering Technologist could be proposed tso these companies, especially for automobile industry.

RESULTS AND DISCUSSION

Professional knowledge

Table 1 describes that all the managers and employees have found that the Professional knowledge of Engineering Technologist for the Vietnam Automobile Technology Joint Stock Company and VINFAST is Average (WM= 3.35). The Engineering gave their highest mean rating to item 1.7 which relates to the Have ability to perform detailed tasks while gave the lowest mean rating to item 1.3 which concerns with Has necessary job skills and knowledge (WM= 2.51 – Poor). On the other hand, the manager gave the highest mean rating WM = 3.97 - Good to item 1.6 which describes that the Capability of monitoring issues in performance process. Moreover, they gave the lowest mean rating WM= 2.72 also relate to item 1.3 which involves necessary job skills and knowledge.

Though the respondents' groups have different mean responses for some of the items, they agreed both and gave a fair rating for majority of the items. In general, the existing capability of Engineering Technologist with regards to Technical competencies and Professional knowledge was rated average by two groups of respondents.

Foreign language proficiency

Table 2 below reveals that Engineer gave their highest mean scores to item 3 (2.73 marks), All respondents was assessed Engineering Technologist' English proficiency at the poor level. It means more than half of Engineering Technologist does not meet English language requirements on their work. Limited English proficiency and lack of soft skills prevent Vietnamese Engineering Technologist from interviews. Besides, important skills have not been fully equipped for Engineering Technologist.

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Table 1: Assess the Professional knowledge of Engineering Technologist of competency as perceived by the respondents

Factors (Variables)	Engineering		Manager		Weighted mean	
Professional knowledge	Mean	Qualitative Interpret.	Mean	Qualitative Interpret.	Mean	Qualitative Interpret.
Professional knowledge to ensure the performance job	3.36	Fair	3.44	Good	3.38	Fair
Use knowledge effectively	3.43	Good	3.59	Good	3.47	Good
Has necessary job skills and knowledge	2.51	Poor	2.72	Fair	2.56	Fair
Has ability to judge the work within the function of unit	3.12	Good	3.61	Good	3.23	Fair
Ability to solve the technical problem within the function of unit	3.20	Fair	3.02	Fair	3.16	Fair
Capability of monitoring issues in performance process	3.52	Good	3.97	Good	3.62	Good
Have ability to perform detailed tasks	3.78	Good	3.57	Good	3.73	Good
Ability to work within formation, data	3.06	Fair	3.15	Fair	3.08	Fair
Average Weighted Mean	3.25	Fair	3.38	Fair	3.28	Fair

To move labor, to integrate, it must be foreign language but foreign language is also a limitation of Vietnamese labor, many initiatives, but when the capacity is not communicable, not shared, creative, bright They also "sleep quietly", not put into practical life and production and business. Experts said that when joining the free trade agreements, ASEAN economic community, Vietnam will have many advantages. The first is that we have a much larger labor market space. In particular, with the establishment of the AEC, the labor market in the active sector is more

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active, facilitating the creation of jobs for each member country. In this block, the three countries with more than 70% labor force are Indonesia (40%), Philippines (16%) and Vietnam (15%). According to the International Labor Organization (ILO), when entering the ASEAN market, the number of jobs by 2025 may increase to 14.5%. This means that Vietnam has more than 53 million workers and 14.5 million more workers will find jobs from now until 2025. In the short term, there are eight occupations in ASEAN. Freedom of movement through equivalent recognition agreements, include accountants, architects, dentists, doctors, engineers, nurses, transportation and tourism workers. Be more active to bring both business and workers the opportunity to grow. International integration helps Vietnam have the opportunity to attract investment, contributing to creating new jobs in the country for workers. At the same time, laborers are free to move, creating more employment opportunities for workers, especially skilled workers, foreign languages. If the scale is 10, the quality of human resources in Vietnam is only 3.79 points, ranking 11th Asian countries in the ranking of the World Bank. In addition, due to low starting point, structure The main factor is still agriculture, so the labor force participation rate in the formal labor market is still low. Only 40% of the employees are in employment contracts, 60% are freelance workers, not in formal employment relationships. The quality and structure of labor are still inadequate compared to the requirements of development and integration

Table 2: Assess the Personal effectiveness competencies; Foreign language proficiency of Engineering Technologist of competency as perceived by the respondents

Personal effectiveness competencies and Foreign language proficiency	Engineering		Manager		Weighted mean	
	Mean	Qualitative	Mean	Qualitative	Mean	Qualitative
Ability to use foreign languages in work	2.31	Poor	2.00	Poor	2.40	Poor
The Engineering Technologist have the skills	2.49	Poor	2.41	Poor	2.43	Poor

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to draft the text in a foreign language						
Ability to use information technology	2.73	Average	2.23	Poor	2.51	Poor
GRAND MEAN	2.51	Poor	2.21	Poor	2.45	Poor

Work Management

Table 3 exhibits the perception of managers and Engineering about the work management. This presents that the Engineering gave their highest mean rating to item 4.5 which relates to the Contribute solutions to performance good job, while they gave the at rated average to all other item in the remaining , demonstrate that the ability to manage the work of Engineers in the companies Viet Nam is limited. On the other hand, the managers gave the highest mean rating to item 4.4, 4.5 and 4.7 which describes the "All assigned work is completed on time", "All assigned tasks have been completed effectively", " Contribute solutions to performance good job", corresponding.

Table 3: Mean Distribution for Respondents' Perception in terms of Work Management

Work Management	Engineering		Manager		Weighted mean	
	Mean	Qualitative	Mean	Mean	Qualitative	Mean
Always define your current capacity and actively learn to improve knowledge	3.41	Good	3.18	Fair	3.36	Fair
To carry out the work to manage according to plan	2.88	Fair	3.27	Fair	2.97	Fair
All assigned work is completed on time	3.61	Good	3.18	Fair	3.51	Good
Ability to work as a team and work	2.80	Fair	3.64	Good	2.99	Good

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independently						
Contribute solutions to performance good job	3.97	Good	3.45	Good	3.85	Good
Always creation in the job	2.79	Fair	3.09	Fair	2.86	Fair
Assign tasks for myself and colleagues are very scientific	2.65	Fair	3.55	Good	2.86	Fair
Always take the initiative in assigned tasks with clear plan	2.90	Fair	2.91	Fair	2.90	Fair
Ability to adaptability and flexibility in the work	3.02	Fair	3.27	Fair	3.08	Fair
The rating in performance evaluation showed excellent work performance	2.99	Fair	3.00	Fair	2.99	Fair
Average Weighted Mean	3.10	Fair	3.25	Fair	3.14	Fair

On the other hand, the managers gave the highest mean rating at WM = to item 4.3;4.4, 4.5 which describes the ability to work as a team and work, Contribute solutions to performance good job and Assign tasks for myself and colleagues are very scientific. The all manager gave their evaluate about work manager of engineers practice are average

Though the two respondents groups have different mean responses for some of the items, they agreed both and gave a "Fair" rating for majority of the items. In general, the existing Job Management with regards to capability of Engineering Technologist was rated "Fair" by all of the respondents.

Labor environment in Vietnam

Table 4 is composed of four items. The item with the highest mean score is W4:"The working environment creates opportunities for employees to develop and innovate" with the score of 4.16, the managers gave their mean rating at WM = 4.30 - "Excellent" and engineering gave their rating at WM = 4.12 - "Good".

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Table 4: Mean Distribution for the Working environment

Working Environment	Engineering		Manager		Weighted mean	
	Mean	Qualitative	Mean	Mean	Qualitative	Mean
W1.Demand for high quality engineering technology workers is increasing	3.58	Good	3.16	Average	3.48	Good
W2.Requirement of recruiting technology engineers is becoming more strict when ASEAN integration	3.45	Good	3.49	Good	3.46	Good
W3.The competition with the technology engineers of ASEAN countries is increasingly fierce	3.55	Good	3.45	Good	3.53	Good
W4.The working environment creates opportunities for employees to develop and innovate	4.12	Good	4.30	Excellent	4.16	Good
GRAND MEAN	**3.68**	**Good**	**3.60**	**Good**	3.66	**Good**

The item with the lowest mean score is W2:"Requirement of recruiting technology engineers is becoming stricter when ASEAN integration" with the score of 3.46, the managers gave their mean rating at WM = 3.49 - "Average" and engineering gave their rating at WM = 3.45 – “Good".

The item with the second highest mean score is W3 "The competition with the technology engineers of ASEAN countries is increasingly fierce" with the score of 3.53. The managers gave their mean rating at WM = 3.45 – “Good" and engineering gave their rating at WM = 3.55 -

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"Good".

The item with the third highest mean score is W1: "Demand for high quality engineering technology workers is increasing" with the score of 3.48. The managers gave their mean rating at WM = 3.16 - "Average" and engineering gave their rating at WM = 3.58 - "Good".

Though all of the managers and staff have different mean responses for some of the questions, all of them agreed, and gave a good rating for 4/4 questions.

Policy of company

Table 5 is composed of four items. The item with the highest mean score is P4:"The company has policies to support advanced training for technology engineers" with the score of 3.62, the managers gave their mean rating at WM = 3.71 - "Good" and engineering gave their rating at WM = 3.30 - "Average".

The item with the lowest mean score is P2:"The income of the technology engineer compared to other labor is higher" with the score of 3.39, the managers gave their mean rating at WM = 3.45 - "Good" and engineering gave their rating at WM = 3.19 – "Average".

The item with the second highest mean score is P3 "There are many advancement opportunities for high technology engineers" with the score of 3.61. The managers gave their mean rating at WM = 3.65 – "Good" and engineering gave their rating at WM = 3.47 - "Good".

The item with the third highest mean score is P1: "Remuneration paid to technology engineers is always in accordance with the capacity of the work" with the score of 3.60. The managers gave their mean rating at WM = 3.58 - "Average" and engineering gave their rating at WM = 3.66 - "Good".

Though all of the managers and staff have different mean responses for some of the questions, all of them agreed, and gave a good rating for 4/4 questions.

Conditions to research and invention

Table 6 is composed of four items. The item with the highest mean score is C2:"There are big funds for investment in patent research activities" with the score of 3.24, the managers gave their mean rating at WM = 3.35 - "Average" and engineering gave their rating at WM = 3.21 - "Average".

The item with the lowest mean score is C4:"The facilities to research and invention are full" with the score of 2.39, the managers gave their mean rating at WM = 2.44 - "Poor" and engineering gave their rating at WM = 2.37 - "Poor".

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Table 5: Mean Distribution for The treatment Policy of company

Treatment Policy	Engineering		Manager		Weighted mean	
	Mean	Qualitative	Mean	Mean	Qualitative	Mean
P1.Remuneration paid to technology engineers is always in accordance with the capacity of the work	3.66	Good	3.58	Good	3.60	Good
P2.The income of the technology engineer compared to other labor is higher	3.19	Average	3.45	Good	3.39	Average
P3.There are many advancement opportunities for high technology engineers	3.47	Good	3.65	Good	3.61	Good
P4.The company has policies to support advanced training for technology engineers	3.30	Average	3.71	Good	3.62	Good
GRAND MEAN	**3.41**	**Good**	**3.60**	**Good**	3.55	**Good**

The item with the second highest mean score is C3 "Patents are paid high by the business" with the score of 2.89 the managers gave their mean rating at WM = 2.45 - "Poor" and engineering gave their rating at WM = 3.02 - "Average".

The item with the third highest mean score is C1: "The policies for research and invention are very good" with the score of 2.81. The managers gave their mean rating at WM = 1.78 - "Poor" and engineering gave their rating at WM = 3.12 - "Average".

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Though all of the managers and staff have different mean responses for some of the questions, all of them agreed, and gave an average rating for 4/4 questions.

Table 6: Mean Distribution for the Conditions to research and invention

Conditions to research and invention	Engineering		Manager		Weighted mean	
	Mean	Qualitative	Mean	Qualitative	Mean	Qualitative
The policies for research and invention are very good	3.12	Good	1.78	Poor	2.81	Average
There are big funds for investment in patent research activities	3.21	Average	3.35	Average	3.24	Average
Patents are paid high by the business	3.02	Average	2.45	Poor	2.89	Average
The facilities to research and invention are full	2.37	Poor	2.44	Poor	2.39	Poor
GRAND MEAN	**2.93**	**Average**	**3.08**	**Average**	**2.96**	**Average**

Difference of respondents' work experience on the Capability of Engineering Technologist

The Test of Homogeneity of Variances results for the Sig. value of the Capability of Engineering Technologist is 0.312 > 0.05 (Table 7) and ANOVA analysis of the lecturers' the Capability of Engineering Technologist by work experience showed the sig value is 0.00 < 0.05 (Table 8). Therefore, at 95% confidence, there is a difference in the Capability of Engineering Technologist

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among work experience groups. Later on, to determine the specific differences, the research conducted Post Hoc test, the test results shown in Table 4.25. With a 5% significance level, work experience groups of over 10 year had a higher the Capability of Engineering Technologist than the other groups. Specifically, groups of over 10 years were higher 0.193 than those of 5- under 10 and were 0.492 than those of 1 - under 5 years. Groups of 5- under 10 were higher 0.299 than the Capability of Engineering Technologist than Groups of 1 - under 5 years.

Table 7: Difference of capability of engineering by work experience

Levene Statistic	df1	df2	Sig.
4.468	2	347	**.312**

(Source: Processing data of the Author))

Table 8: ANOVA testing bywork experience

	Sum of Squares	df	Mean Square	F	**Sig.**
Between Groups	10.707	2	5.353	32.833	**.000**
Within Groups	56.576	347	.163		
Total	67.283	349			

(Source: Processing data of the author)

CONCLUSION

ASEAN integration and internalization may help the developing countries in Asia to effectively exploit the scientific and technological achievements of the world, attract foreign resources and technology. Moreover, it may raise and develop the level of science and technology of these countries for economic development. Therefore, most of the countries in Asia want to integrate the ASEAN organization including Viet Nam. In this study, we aim to evaluate the competencies and preparation of Vietnamese companies for Asian integration. In general, the present study has provided useful data to have a comprehensive picture of the capacities of engineering technologists in the ASEAN integration process. It is expected that the findings of the study would contribute to the understanding of capacities of Vietnamese technology engineers. While more research needs to be conducted in this area, it is hoped that the suggestions and recommendations for improvement made in this study would make a modest contribution to the area of engineering technologist professional development.

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