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IMPROVING TRAINING QUALITY OF VIETNAM PRIVATE UNIVERSITIES: A CASE OF LAC HONG UNIVERSITY IN THE CONTEXT THE INTERNATIONAL INTEGRATION

Do Thi Lan Dai

Lac Hong University

ABSTRACT: The objective of the study is to analyze the key factors affecting the training quality of Lac Hong University in order to meet the context of international integration in Vietnam. Based research results, the researcher has the managerial implications for improving the training quality of Lac Hong University (LHU) in Dong Nai province. This is one of the most important roles to develop LHU and enhance the measurement scale as well as the theoretical model illustrated to the relationship between the key factors and the training quality. The official quantitative studied with a sample of 500 students studying at LHU. The data collected from June 2016 to May 2018 and random sampling technique. The Data analyzed Cronbach's Alpha and the exploratory factor analysis (EFA) which used for multilinear regression. The tested results have the key factors affecting the training quality of Lac Hong University with significance level 0.01 based on 475 samples and 25 samples lacked information.

KEYWORDS: Student, Training, Quality, Private University, LHU.

INTRODUCTION

In recent years, Vietnam government has adopted many policies and measures to improve the quality of training to meet the practical needs of society. Science and technology advancements as well as pressures of globalization and international economic integration make the need for improved training all the more essential. For these reasons, research into the quality of education and training is a crucial first step towards improving economic and social development. Moreover, Vietnam is still at a low level of economic development and consequently the quality of its human resources is relatively limited. LHU stated goal of improving the quality of lecturer and student training to promote the country's economic development is therefore especially relevant. For this reason, it is important reason for LHU to understand the level of quality of its training and human resource development so that it can continue to improve the level of training and the quality of its academic offerings.

What is the quality of training? There are many viewpoints and many different interpretations of quality and constitute educational quality. However, according to the author, the definition most broadly understood is as follows: quality of education is the demand or demand satisfaction of users with different purposes. With respect to training, quality means that graduates will not only have obtained proficiency in the disciplines taught, (including both theoretical and practical knowledge and skills) but also be able to apply them effectively in their chosen field of expertise. With the practical requirements of a manager in mind, the author had chosen: "*Improving training quality of Vietnam Private Universities: a case of Lac Hong University in the context the international integration*" as a paper. This paper helps LHU managers who apply the research results for improving policy on the management of the LHU in the future.

LITERATURE REVIEW

The concept of training quality

The concept of quality has evolved from "excellence" to "value", to "conformance to specification" and to "meeting and exceeding customer expectations". The first two definitions of quality are quite similar in that they both have common views on assessing and measuring the quality of both products or services, whereas the third is more appropriate for assessing only the quality of products. Issues related to the measurement the quality of training were the subject of a large number of investigations by practitioners and academics over past 25 years due to its intangible and complex nature [1]. The training quality of educational institutions had been the focus of increased attention during the last few years due the level of competition among the educational institutions and the increasing demand for excellence in education. Due to the relatively abstract nature of services as compared to products, measurement of service quality and its characteristics are difficult and present a complicated task for the academics and practitioners [2].

However, Training quality studies have been published frequently in service marketing literature and measurement of training quality and the development of an instrument for measuring has been an ongoing topic of discussion. Training quality related to service quality was also explored as to what extent a service is adequate to meet the customer's needs and wants [3].

Summary, the quality of the training depends on many factors such as the quality of the staff (including management staff, lecturers and service staff), quality of enrollment, material facilities, policy mechanism and the impact of market mechanism... If a university is built in the direction of standardization, a standard staff will ensure that the school has achieved the goal, the task of training to create content and training programs suitable to the socio-economic development, to compile high-quality textbooks and reference books and actively renovate teaching methods. Besides, good staff will also contribute to the effective use of facilities, equipment and teaching materials. Therefore, it is possible to confirm that the key determinant of the quality of training is human resources (lecturers and students) [4].

Related factors affecting the training quality

Lecturer quality

The training quality of the contingent of lecturers of universities and colleges has been paid attention to by many countries all over the world. This is considered as the human resource that "lay the foundation" for building, to foster and develop high quality of lectures to meet the international integration process. Besides, the quality of the contingent of lecturers of private universities affecting the training quality in Vietnam over the past years, the higher education system in Vietnam has been constantly improved in all aspects [5]. In particular, the quality of teaching staff of private universities is constantly improving in terms of professional qualifications, professional skills, pedagogical skills, informatics and professional ethics. The author put this factor into the research model. The hypothesis is following:

H1: The lecturer quality has a positive influence on the training quality

Facility Quality

Facility quality is the infrastructure that affects the quality of training. Facilities are not only a spacious Universities but an important part of the facilities for teaching and learning. Library and equipment are the specialized facilities of the university, the importance is the quality of books, equipment, chemicals and machinery for teaching and learning. If libraries and equipment are poor, do not talk about innovative teaching methods. This is the weak point of the newly established university. Lack of lecturers can be invited but the material for teaching is not a short time did [6]. The university has the interlinking of library equipment between universities, the interlinking of provincial libraries, libraries of departments. Each faculty member is responsible for at least one small library of their subject and the university must make the most of this resource to help the library and the student resource center [7]. For books, Wi-Fi, there seems to be a solution, and specialized equipment for practice, experiment is difficult to overcome. Therefore, the author put this factor into the research model. The hypothesis is following:

H2: The facility quality has a positive influence on the training quality

Training program

In fact, private universities copying an international program is easy, but it can be a big deal if there are not enough people to deploy. The design of standardized programs and content accessible to educational programs of advanced is very an important work. This affecting the training quality in its own right, an issue that is not easy to do without active integration into international education. But once the program is available, the team has the ability, the ability to reach that reality. That is the foundation of quality [8].

When there are good lecturers, learning materials, learning aids are good conditions to ensure quality, then the role of the manager will be the key to success. Moreover, good managers will deal well with this essential and important pedagogy. Therefore, the quality problem requires the manager to have the ability to demonstrate management responsibility in the current period. Therefore, the author put this factor into the research model. The hypothesis is following:

H3: The training program has a positive influence on the training quality

Science research and technology transfer

Scientific research activities and technology transfer are always paid attention to by private universities in Vietnam. Along with teaching activities, scientific research activities are considered one of the two most important tasks of the lecturers [9]. This affecting the training quality. Over the past years, Private universities have step by step set up specific mechanisms for scientific research and technology transfer to innovate teaching methods, combine theory with practice and meet the demand for human resource competition [10]. Besides, scientific research works of lecturers and technology transfer are increasingly in depth, product requirements generated from the research must be of practical value, meeting the essential needs of the economy. Therefore, this factor into the research model. The hypothesis is following:

H4: The science research and technology transfer have a positive influence on the training quality

<u>Published by European Centre for Research Training and Development UK (www.eajournals.org)</u> The briefly demonstrates proposed model used in this study, following:

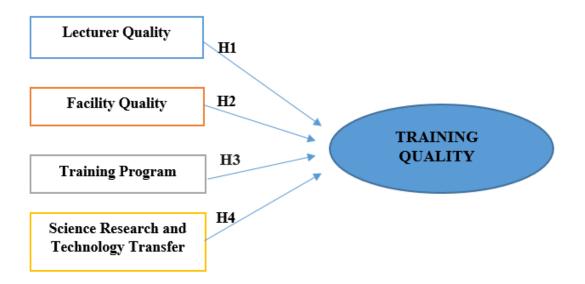


Figure 1. Research model for factors affecting the training quality

(Source: The researcher' model based literature reviews and related studies)

Figure 1 showed that there were 4 hypotheses. 4 hypotheses were mentioned above.

Code	Lecturer Quality (LQ)
LQ1	Lecturer applying practical experience in lectures for teaching students at LHU
LQ2	Lecturer's enthusiasm, cheerfulness and politeness when communicating with students at LHU
LQ3	Scale of liveliness and attractiveness of lecturer's teaching methodology at LHU
LQ4	Lecturer always help students to solve the problem of studying majors and others
Code	Facility Quality (FQ)
FQ1	Scale of equipment meeting the needs of learning and teaching at LHU
FQ2	Students' satisfaction with the motto "You will be satisfied with the learning environment and research at LHU"
FQ3	Scale of ensuring seating requirements, books, Internet for learning at LHU
FQ4	You are completely satisfied about the quality of facility for training and learnings
FQ5	Students' belief in the motto "Information on the website was always promptly and quickly updated at LHU"

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Code	Training Program (TP)
TP1	Students' belief in the motto "The LHU was always interested in
	changing the training program for enterprise demand"
TP2	Students' belief in the motto "The LHU was always interested in research
	and transfer technology to enterprises"
TP3	Scale of complying with the training programs as announced at LHU
TP4	The training programs updated each year at LHU

Code	Science Research and Technology Transfer (ST)
ST1	Science research applied for teaching at LHU
ST2	Science research results helps students improve the knowledge and skills
ST3	Technology transfer is suitable for the needs of firms at LHU
ST4	Technology Transfer helps firms improve the effectiveness of business at
Code	Training Quality (TRQ)
TRQ1	Lecturer Quality affecting the training quality at LHU
TRQ2	Facility Quality affecting the training quality at LHU
TRQ3	Training Program affecting the training quality at LHU
TRQ4	Training Program affecting the training quality at LHU

(Source: The researcher's collecting from literature reviews and related studies)

Table 1 showed that there are 04 components in in this study. 4 components include: Lecturer Quality (LQ), Facility Quality (FQ), Training Program (TP) and Science Research and Technology Transfer (ST).

METHODS OF RESEARCH

In this study, the researchers applied both qualitative and quantitative methods that are in practice the service quality of traditional markets into the research process. Besides, the researchers discuss the stepping of the research process and the different considerations which apply in different phases [11]. The research process for factors affecting the service quality of traditional markets conducted in many steps following figure 2.

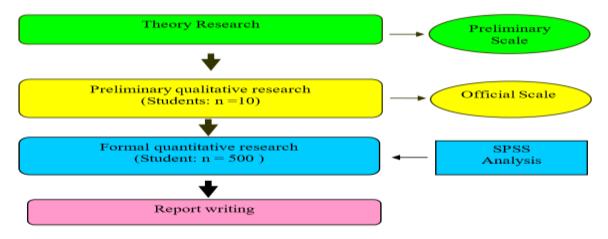


Figure 2. Research process for factors affecting the training quality

Figure 2 showed that this study conducted in many steps following:

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Step 1: The researcher is to find the research problem and literature reviews.

Step 2: The researcher is to find search the related studies and give the informal questionnaire. Studentss' responses measured through an adapted questionnaire on a 5-point Likert scale (Conventions: 1: Completely disagree, 2: Disagree, 3: Normal; 4: Agree; 5: completely agree).

Step 3: Quality research: the researcher applied the expert methodology and based on more than 30 experts' consultation and based group discussions that are to improve the scale and design of the questionnaire.

Step 4: The researcher edits the scale and the researcher forms the questionnaire.

Step 5: The researcher has formal quantitative research. The researcher has the analysis of the Cronbach Alpha. Any observational variables with a total correlation coefficient greater than 0.3 and Cronbach's Alpha coefficient greater than 0.6 would ensure reliability of the scale.

Step 6: The researcher has the analysis of EFA [12].

The researcher has to test scale reliability with Cronbach's alpha coefficient and exploratory factor analyses (EFA) were performed. The criteria required in the EFA include: (1) Eigenvalue ≥ 1 ; (2) total variance explained $\geq 50\%$; (3) KMO ≥ 0.5 ; (4) Significance (Sig.) coefficient of the KMO test ≤ 0.05 ; (5) factor loadings of all observed variables are ≥ 0.5 ; and (6) weight difference between the loadings of two factors > 0.3.

Step 7: The researchers have to test model. The researchers have the managerial implications **[13]**.

RESEARCH RESULTS

The scale reliability tests for factors

Table 2. The scale reliability tests for factors affecting the training quality

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted
LQ1	9.5453	7.877	.859	.931
LQ2	9.6084	7.585	.891	.920
LQ3	9.7200	7.556	.816	.945
LQ4	9.6526	7.345	.909	.914
Cronbach's Alpha for Lecturer Quality (LQ)				0.945
FQ1	10.5768	6.468	.724	.826
FQ2	11.2611	6.337	.772	.814
FQ3	10.5958	6.689	.587	.863
FQ4	11.3432	7.032	.632	.849
FQ5	11.3137	6.541	.725	.826
	Cronbach's Alpha for Facility Quality (FQ)			
TP1	10.3747	6.117	.825	.858
TP2	10.2800	6.067	.797	.868

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TP3	10.3895	6.272	.731	.892
TP4	10.4253	6.253	.773	.877
	Cronbach's Alpha	for Training Prog	gram (TP)	0.902
ST1	7.2484	3.111	.698	.843
ST2	7.1789	2.772	.770	.814
ST3	7.2168	3.217	.636	.866
ST4	7.1747	2.853	.791	.805
Cron	0.870			
	0.070			
TRQ1	9.1895	7.416	.870	.904
TRQ2	9.1895	7.618	.807	.924
TRQ3	9.1347	7.914	.791	.929
TRQ4	9.1368	7.317	.904	.892
	Cronbach's Alpha	0.933		

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(Source: The researcher's processing SPSS 20.0)

Table 2 showed that all of variables surveyed Corrected Item-Total Correlation greater than 0.3 and Cronbach's Alpha if Item deleted greater than 0.6 and Cronbach's Alpha is very reliability. Such observations make it eligible for the survey variables after testing scale. This showed that data was suitable and reliability for researching.

Table 3. KMO and Bartlett's test for factors of affecting the training quality

Code	Component						
	1	2	3	4			
LQ4	.965						
LQ2	.944						
LQ3	.908						
LQ1	.900						
FQ2		.869					
FQ5		.833					
FQ1		.826					
FQ4		.771					
FQ3		.736					
TP3			.919				
TP2			.911				
TP1			.850				
TP4			.799				
ST4				.928			
ST2				.867			
ST1				.824			
ST3				.750			

Kaiser-Meyer-Olkin Measure of Sampling Adequacy: 0.829, Sig. = 0.000 Extraction Sums of Squared Loadings; Cumulative % = 75.113

(Source: The researcher's processing SPSS 20.0)

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Table 3 showed that KMO is an index used to examine the appropriateness of factor analysis. KMO value significantly larger factor analysis is appropriate. KMO coefficient is 0.829 and the level of significance (Sig) is 0.000. There were 4 components include: Lecturer Quality (LQ), Facility Quality (FQ), Training Program (TP) and Science Research and Technology Transfer (ST).

KMO and Bartlett's test for factors of affecting the training quality

Table 4. KMO and Bartlett's test for factors of affecting the training quality

Kaiser-Meyer-Olkin Me Adequacy.	.845	
	Approx. Chi-Square	1680.028
Bartlett's Test of Sphericity	df	6
sphericity	Sig.	.000

Component Matrix ^a					
Code	Componen				
	t				
	1				
TRQ4	.950				
TRQ1	.930				
TRQ2	.890				
TRQ3	.880				

(Source: The researcher's processing SPSS 20.0)

Table 4 showed that KMO is an index used to examine the appropriateness of factor analysis. KMO value significantly larger factor analysis is appropriate. KMO coefficient is 0.845 and the level of significance (Sig) is 0.000. There were 1 components. It is Training Quality (TRQ).

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Colline Statis	
	В	Std. Error	Beta			Tol.	VIF
(Constant)	.124	.238		.520	.603		
LQ	.291	.042	.292	7.002	.000	.849	1.177
FQ	.153	.055	.107	2.764	.006	.988	1.012
ТР	.266	.052	.239	5.119	.000	.677	1.476
ST	.273	.073	.170	3.727	.000	.710	1.409

Table 5. Coefficients from the regression model

a. Dependent Variable: TRQ

(Source: The researcher's processing SPSS 20.0)

Table 5 showed that column "Sig." < 0.01 with significance level 0.01. 4 components include: Lecturer Quality (LQ), Facility Quality (FQ), Training Program (TP) and Science Research and Technology Transfer (ST) affecting the training quality with significance level 0.01.

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Model	В	Bootstrap ^a					
		Bias	Std.	Sig.	95% Confidence		
			Error	(2-tailed)	Inte	rval	
					Lower	Upper	
(Constant)	.124	.003	.246	.608	350	.640	
LQ	.291	.000	.041	.000	.210	.372	
FQ	.153	.001	.062	.013	.030	.276	
TP	.266	001	.063	.000	.144	.390	
ST	.273	001	.072	.001	.131	.412	

 Table 6. Bootstrap for Coefficients based on 3000 bootstrap samples

a. Unless otherwise noted, bootstrap results are based on 3000 bootstrap samples

(Source: The researcher's processing SPSS 20.0)

Table 6 showed that the bias of bootstrap for coefficients is 0.00. This showed that the research results are applied for managerial implications.

CONCLUSIONS AND MANAGERIAL IMPLICATIONS

Conclusions

In recent years, LHU has achieved many achievements such as fast-growing scale, diversified types of training, providing the society with a professional and skilled labor force not only Dong Nai province but also other provinces in Vietnam. LHU is to step by step meet the resources of the country. However, LHU is facing great challenges such as low quality of training, facing to meet the high needs of the society in the context the international integration... This is not an exception.

In this article, the author proposes some managerial implications with the expectation of gradually improving the quality of training at LHU. Besides, the impact of each factor following: the strongest influence is the Lecturer Quality ($\beta = 0.292$), followed by the Training Program ($\beta = 0.239$) and Science Research and Technology Transfer ($\beta = 0.170$) and finally Facility Quality ($\beta = 0.107$).

Managerial implications

Managerial implications for improving the lecturer quality

The quality of training depends first on the quality of the lecturer. The lecturer is the communicator of knowledge, attaching theory to reality, giving fire to students keen to learn and love the profession. The brand of the university is associated with the prestige and reputation of the teaching staffs. LHU needs to improve the quality of teaching in the period of international integration and strong development of information technology, each lecturer must improve his/her own professional knowledge and other skills such as English, information technology.... Besides, LHU should continue to strengthen the dialogue and inquiry between lecturers and students in teaching to stimulate the research thinking, exploration and self-learning ability of students. At present, the LHU has organized the internal network to each classroom, student room. Therefore, each lecturer and faculty should thoroughly exploit the

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internal network to enhance the exchange, dialogue, professional answers between lecturers and students more quickly. Each lecturer must himself study and actively improve the academic level, especially the professional level. This related to the teaching field in order to improve his theoretical thinking and practical thinking. In addition, the sense of responsibility and the role of the lecturer will help lecturers to be creative, active and confident in teaching and strengthening relationships with enterprises and related practitioners who are an urgent need to gather knowledge and practical materials for teaching.

Managerial implications for improving the training program

LHU continues improving the training program based on the needs of development of Vietnam. The training program helps students train the ability of thinking, adaptability, training personality to form human beings, under any circumstances also to meet the context the international integration. That is reflected in the curriculum of each discipline. Faculty members need to approach the trends of the time, to reform the curriculum fundamentally and comprehensively in accordance with international standards; focus on the practicality of the content of the program and the capacity of students. Finally, LHU maximizes the individual ability of each student, better meet the needs of learners and high demand human resources of society.

The training program of LHU in the field of trade and IT needs to update professional knowledge more quickly in line with trends of the industry 4.0. LHU needs to focus on building lecturers, research staff, attracting good cadres, domestic and foreign experts in cooperation with the LHU.

Managerial implications for improving the science research and technology transfer

Scientific research and technology transfer are also a form of self-training, a mandatory task for university lecturers. The results of scientific research will bring learners new, useful and practical knowledge through research activities. Scientific research helps the lecturer better understand the field of research, link theory with practice, more confident on the podium and passionate, more passionate in each lecture. Besides, the knowledge, skills and teaching methods are equally important and the knowledge transfer from the lecturer to the learner is most effective. With the "learner-centered" teaching method, in addition to the in-depth knowledge. LHU needs to support each lecturer who needs to invest in his lectures to high quality. Instead of the traditional teaching methods such as interpretation or inductive, the prerequisites of teaching, the lecturer of reading games, passive learning reduces the ability of thinking. LHU should be creativity of learners, lecturers need to use teaching methods. Lively teaching through pictures, diagrams, forms to create interest and easy to understand for students. Besides, the impact of the industrial 4.0 revolution, the training and scientific research of LHU will reform and have competition requirements. In the face of the tendency of automated machines to replace people, LHU' students must be equipped with the knowledge and skills appropriate to meet the requirements of the new situation. For 4.0 education management, smart tools need to be developed including: university management tools and student care based on smart cards, artificial intelligence software, localization of learning materials and promote international links. Finally, scientific research is a subjective factor that plays a decisive role in teaching method innovation through scientific research. Each lecturer must have the knowledge and awareness of the requirements of teaching and the requirements of improving the quality of training. Moreover, scientific and technological products must fully

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reflect the supply-demand relationship, thereby serving as a basis for strategic planning and policy at LHU.

Managerial implications for improving the facility quality

LHU continues strengthening material facilities, techniques and training environment. LHU needs to meet the requirements of the new training method, the LHU space itself must be changed and designed in a convenient way for lecturers and students who can conduct teaching, learning, scientific research. LHU needs to continue many interesting lessons, the preparation of lecturers must be more elaborate and time consuming. Thus, the strengthening of facilities and modern equipment are to serve the training of training. Besides, LHU must go along with the sense of responsibility of the lecturer and high self-awareness of students.

LHU continues to renovate the management mechanism of training, scientific research, increase investment in material facilities. Besides, LHU should continue to strengthen links with enterprises and international universities to build laboratories in the form of public-private partnerships; education model 4.0 keeps pace with modern technology trends in the economy 4.0

In the process of preparing human resources are suitable for the 4.0 revolution, LHU education and training quality is the key in connection with the industrial 4.0 revolution. There, virtual reality technology will allow lecturers from all continents to interact with each other as if they were sitting in the same place. The LHU should continue to improve the legal corridor to create a favorable environment for human resource development, to encourage the development of a high-quality human resources. It is necessary to continue reinforcing the foundational elements, innovating the thinking about educational development in the overall development strategy of the LHU. The goal is to train high-quality laborers to meet the development requirements of the Dong Nai province and other provinces. In particular, LHU should be the transition from isolation, spontaneous generation to quality and the link between training and employment. LHU improves from training to passive learners to creative initiative in the industry 4.0.

REFERENCES

- Aguinis, Herman and Kraiger, K., "Benefits of Training and Development for Individuals, Teams, Organizations and Society," Annual Review of Psychology, vol. 60, no. 4, pp. 51-74, 2009.
- [2] Parasuraman, Valarie A. Zeithaml and Leonard L. Berr, "A Conceptual Model of Service Quality and Its Implications for Future Research," Journal of Marketing, vol. 49, pp. 41-50, 1985.
- [3] Rama, M. Janaki. and Vaishnavi. R., "Measuring Training Effectiveness: A Study in a Leading Retailing Industry in A Metropolitan City," International Journal of Multidisciplinary Management Studies, vol. 2, no. 4, pp. 16-25, 2012.
- [4] Beigi, Mina and Shirmohammadi, Melika, "Effects of an Emotional Intelligence Training Programme on Service Quality of Bank Branches," Managing Service Quality, vol. 21, no. 5, pp. 552-567, 2011.
- [5] Chen, T.Y., Chang P.L. and Yeh, C.W., "A Study of Career Needs, Career Development Programs, Job Satisfaction and the Turnover Intensity of R & D Personnel," Career Development International, vol. 9, no. 4, pp. 424-437, 2004.

Published by European Centre for Research Training and Development UK (www.eajournals.org)

- [6] Zeithaml, V.A., Bitner, M.J., Services Marketing: Intergrating Customer Focus Across the Firm, New York: New York: McGraw-Hill, 2000.
- [7] Fischer, R., "Cross-Cultural Training Effects on Cultural Essentialism Beliefs and Cultural Intelligence," International Journal of Intercultural Relations, vol. 35, no. 6, pp. 767-775, 2011.
- [8] Jayawarna, D., Macpherson, A. and Wilson, A., "Training Commitment And Performance In Manufacturing SMEs: Incidence, Intensity and Approaches," Journal of Small Business and Enterprise Development, vol. 14, no. 2, pp. 321-338, 2007.
- [9] Nguyen Thi Mai Trang, "Quality of service, satisfaction and loyalty of supermarket customers in HCMC," Journal of Science and Technology Development, vol. 9, pp. 57-70, 2007.
- [10] Tai, Wei-Tao, "Effects of Training Framing, General Self-Efficacy and Training Motivation on Trainees' Training Effectiveness," Personnel Review, vol. 35, no. 1, pp. 51-65, 2006.
- [11] Hoang Trong and Chu Nguyen Mong Ngoc, Analysis of research data with SPSS, HCMC: Hong Duc Publishing House, 2008.
- [12] Nguyen Dinh Tho and Nguyen Thi Mai Trang, Marketing science research -Application of linear SEM model in Ho Chi Minh City, HCMC: National University Publishing House, 2008.
- [13] Hair, J.F., Jr.; Black, W.C.; Babin, B.J.; Anderson, R.E, Multivariate Data Analysis, US: Pearson: Hoboken, NJ, USA, ISBN 978-1-292-02190-4, 2014.