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BUSINESS SATISFACTION ASSESSMENT MODEL FOR INDUSTRY TRAINING QUALITY IN MANAGEMENT INFORMATION SYSTEMS MAJOR

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Improving the quality of training to meet the increasing needs of society is an important task to create a competitive position of universities in the world, including Vietnam. The success of a higher education institution more or less follows market rules, including the assessment of employee satisfaction. The research article assesses the quality of training from the perspective of employers in the MIS major to help educational institutions and enterprises better understand each other in satisfying the needs of both parties. The author uses a combination of quantitative and qualitative research methods in the analysis of the discovery factor and multi-variable regression analysis to clarify the research problem. Survey results at 122 enterprises showed that professional skills, cognitive skills, foreign language skills, decision-making leadership skills and social skills are factors affecting business satisfaction. The article proposed solutions to innovate programs, training methods, strengthen links between universities and businesses to improve the quality of training, meet the increasing requirements of employers.

Keywords: quality of training, management information system, professional skills, social skills.

JEL Classifications: C53, I25, O15

1. Ask questions

The productivity of employees is an important factor that creates strength for businesses today. The full and comprehensive study of human resource quality is an important task that determines the existence, success and competitive position of Vietnamese enterprises. Employer satisfaction with the quality of training is one of the criteria directly used to assess the quality of human resources. Vietnam Works' 2019 annual report shows that human resources in Vietnam are more abundant than in other countries in the region and the world in the two fields of economy and information technology. In contrast, the labor of the management information system (MIS) major consists of people who can combine economics, business administration and informatics are in short supply. The training is tend-

ing to be one-way, which has the consequence of wasting human resources while businesses still do not recruit suitable workers. The main interest of the business is usually concentrated in the "output", which is specifically the capacity, the level of graduates. This is expressed through the level of student response to the job requirements. In higher education, if the assessment is based solely on the output but does not take into account the needs of the labor market will not be comprehensive because not students with good academic results will meet the requirements of the employer. Thus, the way of evaluating the output of schools does not fully coincide with the wishes of the business. In building and improving the trust of enterprises in human resources in the MIS major, the satisfaction factor is put first. When recruiting personnel and satisfied

with the professional qualifications, behavior, communication ability as well as the way of working of employees, the satisfaction level of the business will be improved. The article analyzes and evaluates the quality of training in the MIS major to what extent meets the requirements of enterprises and proposes solutions to improve the quality of training to meet the needs of employers, contributing to economic and social development.

2. Overview of research, theoretical basis and research methodology

2.1. Overview of the research situation

According to the Criteria of The Australian Professional Association (World Bank, 2012), 11 requirements and skills that employers desire in workers are the results of learning and skills: leadership, computing, writing, basic information technology, time management, communication in an enterprise environment, relationships with other individuals, teamwork, problem solving, understanding the operation process of the business, analysis and research.

The U.S. Department of Labor, along with the Training and Development Association, has released a set of 13 basic skills in workers' jobs, including skills: leadership, learning and self-study, listening, presentation, problem solving, creative thinking, self-management, and self-esteem, set goals, motivate work, develop individuals and careers, communicate, behave and create relationships, work as teammates, negotiate, organize work effectively.

In Japan, businesses have issued a set of evaluation criteria consisting of only 6 skills: enthusiasm in work, cooperation, creativity, professional knowledge, personality, practical knowledge. In addition, 2 requirements are made: the ranking of assessment of academic performance and the reputation of the training school.

In Singapore, the Department of Labor Development has established a skills system with 10 skill groups: computing, using information and communication technology, problem solving and decision-making, creativity and risk, communication and relationship management, lifelong learning, global open thinking, self-management, work organization, occupational safety and health hygiene.

In Vietnam, several studies have been conducted:

- Survey by the Ministry of Labor, Invalids and Social Affairs in collaboration with the Asian Development Bank on the labor market in Vietnam (Sai Cong Hong, 2016). The survey subjects are college-educated recruits working in businesses in Hanoi and surrounding areas. There are 8 main criteria given for the survey, which are skills: specific expertise related to work, practice related to technology used in the unit, theoretical knowledge of the technology used in the unit, writing/speaking, foreign languages and communication, on time, have individual initiatives and people working in good teams, have work experience.

- Survey at the National Economic University 2005 on the assessment of enterprises (798 enterprises) for university-educated workers trained from 3 schools: economics, engineering and the remaining schools. There are 9 criteria given for evaluation: basic knowledge of expertise and abilities: decision-making, adaptation, independent work, teamwork, use of foreign languages, computer use, communication, labor techniques (Nguyen Van Nam, 2005).

- The World Bank's survey on the extent of the lack of skills of students compared to the requirements of employers in 7 countries in East Asia, including Vietnam. There are nine criteria to be evaluated: creative thinking and skills: information technology, English language use, leadership, communication, problem solving, work attitude, engineering and computing (WorldBank,2012). The project also surveyed the skills of Vietnamese human resources (and some other countries) from the perspective of employers with the name of skills geared towards employment and productivity. The World Bank also offers a skill set of workers in modern society that includes three skill groups: cognition, engineering, society and behavior.

These studies go towards academic research with the goal of finding a general model of the influence of factors on the quality of training in general at universities without aiming for specific applications for a particular training specialty. The lack of information about the subjects enrolled in these specific programs creates difficulties for managers in recruiting and designing appropriate training activities.

2.2. Theoretical basis for enterprise satisfaction with the quality of training in management information systems major

The MIS major in the world has been around for a long time and in Vietnam has also appeared since the 1970s with the specialized name "Processing Economic Information". In 2004, the Ministry of Education and Training issued a framework for the MIS of university levels. Up to now, many universities have trained tens of thousands of university-level officials in management for the country, including many with master's and doctoral degrees. The total volume of the training program is more than 120 academic and graduate credits. The training program is usually carried out over 4 years including 8 semesters, including 7 semesters of knowledge accumulation at the school and 1 semester of graduate internship. For the MIS training program is allocated into 2 parts: general education knowledge, English and defense physical education; professional education knowledge including industry-based knowledge, industry knowledge (including compulsory and elective) and complementary knowledge. The school needs to ensure a stable information technology infrastructure (computers, servers, networking systems) for practical activities, discussing or building system development projects for those of industry knowledge and complementary knowledge. At the end of the course, students are recognized to graduate when they meet the criteria prescribed by the Minister of Education and Training on the promulgation of regulations on formal university and college training under the credit system and specific conditions of the university.

The overall goal of the industry is to create a team of Bachelor of Economics in the MIS major with all necessary professional knowledge in informatics, economics and management and meet the social demand for high-quality resources in the era of industrialization and modernization of the country. The specific objective is to train a team of managers capable of evaluating and evaluating applied information technology projects in the field of economics and management; understanding and applying professional knowledge to solve specific problems in business management and administration; having high expertise capable of planning, building

and developing the MIS; having professional qualities and ethics.

The training programs of the MIS major of universities are built so that gradutors of the MIS major ensure that they meet the standards of general education knowledge as prescribed by the Ministry of Education and Training, have sufficient knowledge of the economy, management and business administration, ensuring basic knowledge, up-to-date and development of management, mastering in-depth knowledge and practice of information system management. In addition, students need to gain soft skills such as project management, skills in choosing the construction and management of computer networks, websites of enterprises, skills in organizing planning, analysis and design information systems, teamwork skills, foreign language skills, presentation and project report writing skills.

In economics and commerce, satisfaction is an overall psychological state that reflects the evaluation of the customer's relationship with service. Satisfaction is the level of a person's state and feeling derived from comparing the results obtained through the process of consuming the product with the expectations set (Sue Erickson, 2011). In the same view as the above authors, the World Bank (2012) said that satisfaction is the evaluation of workers who meet the needs and expectations of the business. Satisfaction is the level of assessment of the knowledge, skills and qualities of graduates compared to the requirements of agencies or businesses (Nguyen Hoang Lan, 2015). Thus, in the MIS major, employer satisfaction is expressed by the assessment of professional knowledge, skills (including hard skills, soft skills) and qualities (such as adaptability or flexibility) of employees compared to the requirements of the business.

According to Alvarez et al. (2004), quality assessment from the point of view of the employer must provide the criteria for a full assessment of both fitness, intellect and moral and lifestyle qualities. UNESCO has concretized the criteria for evaluating the quality of training into groups: ethics, specialized knowledge, information processing capacity, problem solving, computer skills, communication ability and health.

According to Nguyen Hoang Lan et al. (2015), the quality in higher education is the quality of output (student learning outcomes, faculty satisfaction, employment situation of students after graduation). This is expressed in the competence, qualifications and knowledge of students. Employer satisfaction is measured by how well the graduates meet the job requirements compared to the expectations set by the user.

From a traditional point of view, the quality of training from an employer's perspective is often judged through the competence that students need to be able to take on the job. Competence can be assessed through three criteria: knowledge, skills and attitude. According to the new concept, it is not necessary to clearly distinguish knowledge, skills and

identify and are often judged emotionally or by personal understanding.

2.3. Research model and research hypothesis

The development of a research model is based on the reference to international experience in assessing the quality of training and the level of job satisfaction of graduates. In addition, the author collects and analyzes relevant information from other sources such as opinions at workshops on training according to social needs, on cooperation between universities and businesses plus the results of group discussions, interviews of experts working at enterprises that employ employees in the MIS major. The research model proposed to have amendments and additions to several criteria to suit the business environment in our country in the current time.

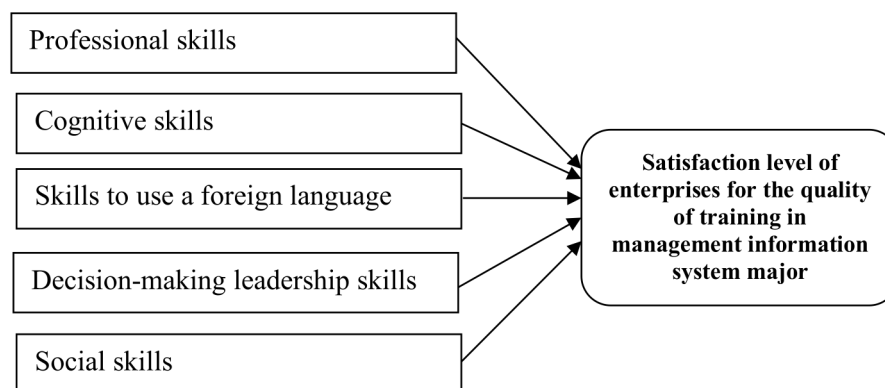


Figure1: Business satisfaction model for the quality of training in MIS major

attitudes but can only use the same term as "skill". Moulton, Lowe (2005) and the World Bank (2012) concept of skills consist of the following four criteria:

- Cognitive skills: usually related to school subjects and are assessed through standardized tests.
- General skills: the ability to solve problems, the ability to communicate, work in teams. These are considered skills that can be transferred between professions, can be tested, evaluated, but not always possible.
- Technical skills: directly related to a person's expertise and are usually measured through a standard assessment tool or employer's assessment tool.
- Work-related attitudes: such as motivation, desire, and personality of these skills are difficult to

In addition to the 5 factors affecting the satisfaction of enterprises for employees in the MIS major, the author proposes demographic factors such as gender, time of university graduation in the research model. The scale evaluates the soft skills of employees in the following 5 factors:

- *Qualification*: reflects competencies including theoretical, practical knowledge and skills related to the expertise of a given profession. These are "hard" skills, including: specialized knowledge, the ability to apply specialized knowledge to practice (or practical skills), information technology skills, foreign language proficiency.
- Cognitive skills reflect the ability to solve problems instinctively compared to the use of knowledge

to solve that problem, including research capacity, creativity, logical thinking, eagerness to learn and self-learning skills.

- *Foreign language skills*: reflecting the ability to use foreign languages in the working process such as listening, reading comprehension, writing discussion reports and working skills with foreign projects.

- *Decision-making leadership skills*: organizational and executive capacity, decision-making skills, analytical, critical, time management skills, understanding of the corporate environment.

- *Social skills*: reflecting social relationships, life skills, personality traits. These are mainly "soft" skills, including discipline at work and skills: communication and behavior, teamwork, presentation, negotiation, self-control, ability to withstand work pressure, the ability to adapt to changes, participation in the general activities of the business.

The new point of the proposed model compared to previous studies is the addition of 2 variables of working skills with foreign projects and presentation skills studied on the new data set of the MIS major. The employment position of employees in the MIS major is related to foreign projects or software of foreign origin. According to interview results, employers often ask employees who are willing to work on foreign projects as well as presentation skills to convince the listener of the projects or jobs they do.

2.4. Research Methodology

On the basis of the reasoning of enterprise satisfaction with the quality of the training program and theoretical model, the scale is designed through the following two steps:

Step 1: Record preliminary study. Conduct a survey of 10 businesses based on several prepared criteria and combine interviews with 6 HR heads, one director to explore the issues surrounding the research topic.

Step 2: Make an official study. On the basis of the revised scale after the interview and the trial survey, the survey on the factors affecting the satisfaction of the business for the quality of the training program was completed including questions including information: about the business, about the personnel of the MIS major is recruited. The criteria

reflect the skills required by employees and information related to business satisfaction.

The author sent survey slips to 135 businesses by email or by direct paper printing, then conducted a clean-up by examining questionnaires, removing error tables or inappropriate replies. The results obtained 122 valid votes used for processing and analysis, satisfying sample conditions. Next, the author uses SPSS software to perform data analysis including frequency tables, descriptive statistics, Cronbach alpha audit, EFA affirmative factor analysis, multiple linear regression analysis. The scope of the paper's research is limited to the data sample after being selected including Vietnamese enterprises that employ workers in the MIS major. The time period of data collection within the scope of the study in 2020. The fake evil chooses the non-random method, namely the "snowball throwing" method because this method is suitable for the medium sample frame, without asking for a list of individuals in the population.

3. Analysis results

3.1. Sample overview analysis

The survey results showed that out of 122 businesses asked about their satisfaction with employees who are bachelors of the MIS major, the proportion of personnel they use in this industry averages 18% of the total staff of the business, of which the ratio of men to women is 54%. According to the position of the respondent: senior management staff has 25 people; Mid-level managers have 76 people and working-level managers have 22. The subjects of workers from universities with MIS major such as: Thuongmai University, Hanoi university of science and technology, Academy of Finance, National Economics University, Banking Academy, University of Technology - National University of Hanoi, University of Banking - HCM City, Open University of Ho Chi Minh City, Lotus University, Ho Chi Minh University of Technology, University of Finance - Marketing, University of Economics University of Da Nang.

Statistics show that graduates of MIS major participate in job positions in other disciplines such as accounting, customs, taxation, banking, insurance account for the largest number (26 job positions, equivalent to 21.31%). This was fol-

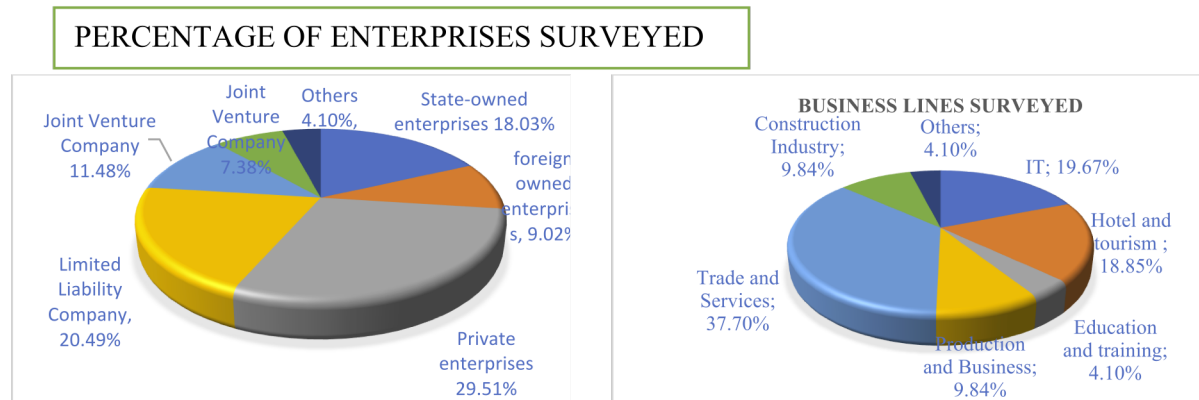


Figure 2: Sample overview analysis results

lowed by the programming position (18th accounted for 14.75%). Then there's the system design analysis and software manual. In addition, they also take on the positions: consulting, planning, building and implementing information system projects, ERP projects (enterprise resource planning), participating in e-commerce projects at the solution provider; operation, exploitation, management and development of information technology projects, data analysis and exploitation, forecast statistics in the field of finance, accounting and banking; test and ensure software quality or participate in information technology (IT) departments in the business.

MIS graduates are employed in large-majority enterprises after graduating from university for 2 to 5 years, accounting for up to (70.59%). New employers with a university graduation period of more than 5 years accounted for a small percentage of 12.16% indicating that employees in the MIS major had a job jump rate after 5 years of about 24.24%.

3.2. Statistical analysis

Statistics of the survey results of 5 groups of factors showed that managers evaluated: professional skills, cognitive skills, skills to use foreign languages, decision-making leadership and social skills of employees only stopped at a decent average, the average value of the observed variables fluctuates correspondingly of 4.40; 3.72; 3.68; 3.57; 3.98 (Table 2). In particular, the most highly appreciated criteria among the respective factor groups are

skills: applying knowledge to practice, logical thinking, working with foreign projects, understanding the corporate environment, teamwork. The management department of the enterprise assesses the suitability of graduates of MIS with the personnel needs of the average enterprise = $3.82 > 3$. Thus, all the average values are greater than 3, so the question: "What factors affecting the satisfaction of enterprises for human resources are graduates of MIS major?" was answered. The hypothesis " $H_1 (i=1..5): \text{The average factor} \geq 3$ " is accepted. All 5 factors affect the satisfaction of managers for employees of the MIS major.

Although the percentage of employees is higher than female, the managers' assessments show that the professional levels of men and women do not differ much. For the skills: design analysis, project management, software marketing, female employees are more appreciated than men. In areas such as network management, programming and development of information technology projects, men are more appreciated than women. As for competence: the ability to use tools, available software, the ability to combine information knowledge with other specialties, the ability to process, analyze and synthesize data, men and women are evaluated equally by managers. 34% of enterprises prioritizing the recruitment of graduates of MIS are male; 7.5% preferred for women and 58.5% rated equally.

In terms of the group of factors that lead decision-making, both men and women are satisfied by the manager. When interviewing in-depth, managers

said that employees in the MIS major need to improve their organizational and executive capacity as well as train their decision-making abilities.

The level of satisfaction of the business in the professional qualifications of the graduate of MIS recruited after 3 periods of university graduation shows that there is no huge difference in the skills of the person hired immediately after graduating from university or up to 5 years of experience, especially for professional skills that are considered specific to IT such as design analysis, system development or programming. With design analysis skills, people who have just graduated from college receive an average satisfaction = 3.24, while those who have graduated after 5 years receive higher satisfaction = 3.59. Foreign language proficiency and skills such as: using tools, available software, combining computer knowledge with other major, research ability, ability to process, analyze and synthesize data, understanding of the field of economics, management, previous university graduates also receive higher management satisfaction than those who Graduated later. Two to five-year graduates accounted for the largest number but received the lowest satisfaction, lower than those who had just graduated.

3.3. Scale inspection by Cronbach Alpha and EFA

Table 1: Bartlett and KMO test results

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.784
Bartlett's Test of Sphericity	Approx. Chi-Square	206,526
	df	122
	Itself.	0.000

Bartlett and KMO Audit: Results presented in Table 1 show that $KMO = 0.784 > 0.70$ at the EFA allowed level. Bartlett's test result was 206,526 with observed variables in the overall correlation with sig meaning. = $0.000 < 0.05$. This proves that the data used to analyze the factor is entirely appropriate.

The results of the Cronbach Alpha analysis in Table 2 indicate that all five factors, respectively, are reliable because the Cronbach Alpha coefficients are greater than 0.6 and the correlation coefficients between variables - the total is between 0.72 and

0.89. The factors are statistically significant and achieve the necessary, qualified and used reliability factor and are used in linear regression analysis.

The results of the EFA discovery factor analysis with the rotating matrix (2 times) showed that all 5 factors influenced the level of employer satisfaction (Table 2). The final result was reduced to 24 observed variables compiled into five groups of factors. In particular, the social skills group after EFA analysis consists of 8 criteria (added 2 criteria are presentation skills and adapting skills to changes). The indicators reflect the quality of the groups and of the overall are almost unchanged, or vary little, from before the EFA analysis. Cognitive skills were underestimated compared to the two groups of professional and social skills. In each group, it is possible to choose the criteria evaluated by the business with the lowest quality, respectively: skills to update new knowledge, creative research capacity, listening skills, decision-making skills, self-control skills.

Total margin of error = 56.436% ($>50\%$) means that the five factors are 56.436% likely to explain the variation of observed variables (Table 3). The fifth factor withdrawal stop at the Eigenvalue stop was 1.583 satisfactory, the drawn scales were accepted.

3.4. Multiple linear regression analysis and hypothesis verification

All 5 independent variables in the research model (CM, NT, NN, LD, XH) and dependent variables (HL) were included in the relationship review. The magnification coefficient of each factor with a value of less than 5 and Tolerance > 0.0001 (Table 4) demonstrates that the regression model does not violate multilinear phenomena, that is, independent variables are closely correlated with each other. Independent variables have an effect on satisfaction, all model elements are significant and are favorably correlated with satisfaction because regression coefficients B are > 0 .

Next, multiple regression analysis is performed with 5 independent variables including CM, NT,

Table 2: Summary of EFA and Cronbach Alpha results

Factor	Average	Standard deviation	Variable correlation coefficient - sum	EFA Weighting
<i>CM. Professional skills $\alpha = 0.89$</i>				
CM1. Specialized knowledge	4.45	0.90	8.83	0.94
CM2. The ability to apply knowledge to reality	4.66	0.79	0.89	0.76
CM3. The ability to update new knowledge	4.13	0.91	0.76	0.83
CM4. Information technology skills	4.36	1.01	0.79	0.88
<i>NT. Cognitive skills $\alpha = 0.83$</i>				
NT1. Creative research capacity	3.49	0.68	0.71	0.84
NT2. Logical thinking skills	3.96	0.75	0.78	0.91
NT3. Critical analysis skills	3.64	0.93	0.73	0.87
NT4. Eagerness to learn and the ability to learn on their own	3.77	1.31	0.77	0.89
<i>NN. Foreign language skills $\alpha = 0.72$</i>				
NN1. Listening skills	3.71	1.04	0.79	0.78
NN2. Reading comprehension skills	3.54	0.90	0.82	0.89
NN3. Reporting and document writing skills	3.72	0.94	0.77	0.83
NN4. Skills to work with foreign projects	3.75	1.00	0.75	0.81
<i>LD. Decision-making leadership skills $\alpha = 0.79$</i>				
LD1. The capacity to organize and run the work	3.58	1.01	0.76	0.83
LD2. Decision-making skills	3.25	0.90	0.71	0.76
LD3. Time management skills	3.64	1.04	0.77	0.79
LD4. Understanding the corporate environment	3.82	1.07	0.79	0.88
<i>XH. Social skills $\alpha = 0.71$</i>				
Teamwork skills	4.49	0.87	0.89	0.87
Communication and behavior skills	4.35	0.94	0.86	0.84
Presentation skills	4.13	1.23	0.78	0.82
Negotiating skills	4.19	0.97	0.81	0.89
Self-control skills	3.17	0.70	0.72	0.76
Skills under pressure at work	3.89	1.02	0.78	0.81
Adapting skills to changes	3.68	1.16	0.75	0.85
Discipline at work	3.95	0.63	0.77	0.88

NN, LD, XH and 1 dependent variable is HL. The results of the regression analysis showed that the corrective R² factor = 0.836 means that the newly constructed linear regression model in line with the

dataset is 83.6%, showing that the model can explain 83.6% of the variation in the influence of 5 factors on business satisfaction. The model explains the linear relationship of independent variables: pro-

Table 3: Eigenvalues value table and Extraction Sums

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.821	16.012	16.052	3.643	16.012	16.052	2.885	12.342	13.342
2	3.362	14.241	28.845	3.261	13.814	28.845	2.682	10.954	25.018
3	2.756	10.968	40.843	2.756	10.968	40.843	2.592	10.591	38.322
4	1.898	8.271	48.645	1.898	8.271	48.645	2.489	9.762	48.548
5	1.583	6.865	57.312	1.583	6.966	57.312	2.019	9.134	56.436
6	.844	3.815	68.501						
7	.806	3.262	69.262						
8	.656	3.103	76.523						

Extraction Method: Principal Component Analysis.

Table 4: Multi-variable regression results

Model		Standardized coefficient		t	Itself.	Linear statistics	
		B	Std. Error			B	Std. Error
1	Constant)	-.396	.125	-3.961	.000		
	CM	.415	.037	10.324	.000	.295	3.418
	NT	.253	.036	6.901	.000	.336	2.947
	NN	.162	.029	4.435	.000	.268	3.512
	LD	.065	.028	2.156	.022	.313	2.433
	XH	.275	.039	2.795	.010	.712	1.435
	R = .916 ^a	R ² = .852		R ² correction = .836		Sig. = .000 (ANOVA)	

professional skills, cognitive skills, foreign language skills, decision-making leadership and social skills and relatively high model relevance.

The results of the ANOVA inspection show that the test value $F = 129,336$ has a $\text{sig.} = 0.000 < 0.05$, so the newly constructed regression model is consis-

tent with the overall study and can be used. All factors have a $\text{sig.} < 0.05$ meaning that independent variables CM, NT, NN, LD, XH all have an impact on HL dependent variables. At this time, the regression model (standardized regression) is explained in five variables as follows:

Hypothesis (Hi)	Content
H1:	Professional qualifications have an impact on business satisfaction
H2:	Cognitive skills have an impact on business satisfaction
H3:	Skills to use foreign languages have an impact on business satisfaction
H4:	Decision-making leadership skills have an impact on business satisfaction
H5:	Social skills have an impact on business satisfaction.

$$HL = 0.407*CM + 0.251*NT + 0.157*NN + 0.061*LD + 0.261*XH$$

The theories are compiled as follows:

The results of the standard regression value (Table 4) tell us the importance of each independent variable for dependent variables. Beta values are positive, indicating that all factors have a favorable effect on business satisfaction. The greater the absolute value, the greater the impact on business satisfaction. The most influential factors on business satisfaction in order are professional skills, social skills, cognitive skills, foreign language skills and decision-making leadership. Thus, the H_i ($i=1..5$) hypotheses about the influence of the five factors in the proposed model are accepted.

3.5. Review of research results

According to statistics of the Ministry of Information and Communications, out of 236 universities across the country, there are 149 universities with training of IT, MIS, electronics and telecommunications (accounting for 63.14% of universities), of which the actual enrollment of these schools reaches about 82% (IT and communication white paper, 2019). In terms of human resource training, the management human resource training system continues to be maintained stably. Vietnam's IT human resources reached 973,692 people, of which the hardware and electronics industries accounted for 73.7%, the software sector (13.1%), management of information technology accounted for only 7.9% and other sectors (5.2%). Summarizing the research results and reflecting from the reality of graduates and employers (Nguyen Hoang Lan, 2015), (Sai Song Hong, 2016) showed that when asked to assess the usefulness of knowledge and skills in the training program for the current job, nearly half of graduates (47.3%) said it was "helpful" and 10.1 percent rated it as "very helpful." Meanwhile, 42.6% said that the curriculum is not suitable, the knowledge and skills that students receive are "not useful" to their work. The class time of students in MIS major is 1.5 to 2 times higher than that of students in developed countries, while the time for self-study, group discussion and internship is very little. The content of many subjects and training programs is outdated, not on par with universities in the world. These courses and programs are designed not to be based on the clear

expectations of knowledge, skills, and attitudes that students must acquire upon completion of the subject or upon graduation from the curriculum. As a result, many students lack career skills such as teamwork, communicating and creating reports in English, project management, problem-solving abilities, having positive initiatives, lifelong learning capacity. The training program is generally lacking in system, lacks flexibility and flexibility, has not facilitated the communication and transformation between training disciplines.

According to the results of the regression model, the professional qualification factor, social skills are the group of factors that have the most positive impact and the biggest impact on the satisfaction of enterprises in the quality of training in the MIS major, specifically when satisfaction of professional qualifications, Social skills increased by 1 point in the context of constant other factors, the average increase in business satisfaction was 0.407;0.261 points (on the Likert scale), and the correlation coefficient of this factor with general satisfaction was quite large (76.2% and 71.5% demonstrated the relationship between professional skills and social skills). Business satisfaction is pretty tight. This shows that the MIS training program has focused on personal skills, not just book knowledge in the lecture hall.

The results of the business satisfaction assessment of 3.63 (<4) showed that in general the quality of training has not really satisfied the business. Between factors there is no large difference in satisfaction. The lowest scoring factor was leadership and decision-making skills (3.57), with the highest score being qualification (4.40). The quality of training in MIS in Vietnamese universities today currently does not meet the requirements of enterprises and employers. Most of the low-quality skills are in the cognitive skills and decision-making leadership skills, which are skills that students have been better equipped with during their studies. Many of the contents in the training program are outdated, the unreasonable allocation between theory and practice, not paying enough attention to the training of working skills, does not meet the actual requirements. Some training programs, although reasonably designed (including those according to advanced universities in the world), are not fully implemented or significantly

effective due to difficulties in teaching staff, facilities and financial resources.

4. Solutions to improve the quality of human resources in the management information system major

In order to improve the quality of training to meet the needs of employers, synchronous solutions are needed that concern not only schools but also regulators, businesses and employees themselves. First of all, the university needs to strongly innovate the program, content and training methods in a practical and modern way, closely linked to the requirements of businesses. Boldly cut out outdated content and reduce the theoretical part of the theory that is economic, less practical for the future career activities of students. At the same time, the training program should spend time on practice and practice to help learners form and develop professional skills, especially the ability to apply the knowledge learned to solve real problems.

Due to the labor characteristics of the MIS major closely associated with the information technology in the enterprise, so the training schools need to build a career training program for students as early as the 3rd year, creating an alumni network and a network of senior teaching assistants (people of the business) with knowledge and knowledge of the professional career field to support student support during the internship. Students will have the opportunity to rub and express in the working environment at the business. Teaching assistants will assign tasks and supervise students throughout the internship. In addition, there is a cooperation between the university and the employer. The investor actively takes the opinions of businesses when developing training programs and determines output standards, invites experienced experts, managers to teach, guide students to intern, graduate, to help students gain knowledge, professional skills are practical, directly applied to businesses. Based on the experience of universities around the world, MIS training programs need to:

- Adjust the IT training program in the direction of application, open, interconnection of core and elective modules. The core courses aim to provide basic knowledge and skills in IT. The electives are intensive training directions for applied IT. The study included the training content of prestigious vocation-

al certificates in the world (e.g. Microsoft, Oracle, Cisco certificates) into the practical training content to meet the output standards upon graduation.

- Strengthening IT application in training, applying online training methods, combined training and practical training at enterprises. Implementing a shared online training system, building shared resources (especially shared electronic learning warehouses).

- Study the recognition of some of the modules that learners accumulate from IT certificate training courses equivalent to some subjects and credits in the higher education program through the process of assessment and recognition of credit of training institutions. Encourage training institutions to recognize each other's credits.

- The actual training time at the enterprise must ensure at least 30% of the total training time and be specified in the training program. The training institution is responsible for inspecting, supervising and meeting the requirements for ensuring the quality of internships and practices at partner enterprises.

For its part, businesses also need to be more active and proactive in recruitment activities, creating favorable conditions for students to visit, practice and learn the reality of the business, and allow final year students to participate in some stages in the production line. in finding internships and helping students practice practical skills, a skill that is currently considered the weakest.

For the soft skills group closely associated with the MIS major such as foreign language skills, communication, research, skills to adapt to the changes that are lacking in workers, the school needs to set up a soft skills training center and stipulate that soft skills certificate are one of the mandatory certificates as graduation conditions when leaving. The school aims to develop and improve soft skills for students. The longer-term and more sustainable solution is to change the thinking and methods of teaching more scientific, advanced and dynamic universities.

5. Conclusions

The results of the study have shown the factors affecting the satisfaction of enterprises for the quality of training in the MIS major according to the declining importance: professional skills, social skills, cognitive skills, foreign language skills and decision-

making leadership skills. Therefore, solutions, development policies and human resource training should also be prioritized in this important order.

The research results help universities with MIS major have more information to evaluate their training quality fully and objectively, understand more specifically and clearly than the requirements of enterprises employing workers. The article also proposes solutions to improve the quality of training, contributing to balancing the labor market in general and the labor market of the management sector in particular in Vietnam. ♦

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Summary

Nghiên cứu này khám phá và tích hợp các rủi ro cảm nhận (rủi ro tài chính, rủi ro bảo mật, rủi ro xã hội và rủi ro thời gian) của ngân hàng trực tuyến cùng với các biến số trong mô hình chấp nhận công nghệ (TAM) gốc để đề xuất một mô hình nghiên cứu giải thích ý định sử dụng ngân hàng trực tuyến của khách hàng cá nhân tại 03 tỉnh gồm: Ninh Thuận, Nha Trang và Phú Yên. Nghiên cứu sử dụng phương pháp mô hình phương trình cấu trúc dựa trên kỹ thuật phân tích bình phương tối thiểu bán phần (PLS-SEM) trên mẫu quan sát gồm 320 khách hàng cá nhân. Kết quả nghiên cứu chỉ ra rằng sáu trong bảy giả thuyết được ủng hộ bởi dữ liệu. Cụ thể, cảm nhận hữu ích ($\beta = 0,49$), thái độ ($\beta = 0,40$), cảm nhận dễ sử dụng ($\beta = 0,21$), rủi ro thời gian ($\beta = -0,28$), rủi ro bảo mật ($\beta = -0,14$) và rủi ro tài chính ($\beta = -0,13$). Kết quả nghiên cứu này sẽ kỳ vọng cung cấp thêm các thông tin giá trị hữu ích, trên cơ sở đó đề xuất các hàm ý quản trị nhằm thúc đẩy ý định sử dụng ngân hàng trực tuyến của khách hàng.

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