

E-learning applications in training for repatriated workers in Vietnamese urban regions in the post-covid19 context

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CHRONICLE

Article history:

Received: March 6, 2022

Received in revised format: July 30, 2022

Accepted: September 23, 2022

Available online: September 23 2022

Keywords:

E-learning system

Information Technology

Training

Workers

Urban

ABSTRACT

This study was designed to analyze the factors influencing the utilization of an E-Learning system in training repatriated workers in Vietnam's urban regions in the new context. According to research findings, professional qualifications and education have a significant influence on the income and employment of repatriated workers in urban regions. E-Learning systems are employed as an effective channel to transfer information and skills to workers in urban areas to fulfill the improvement of professional certifications and professional abilities of workers. The analysis results also show that several factors have a significant impact on the usage of the E-Learning online training system for employees in Vietnam's urban regions, including the factor representing the ease of use of the *E-learning system*, Easy access to E-Learning system scale has the highest influence score with coefficient 0.932, the factor *Learners feel useful*, the scale of saving time getting to the study location has an influence coefficient of 0.965, and the element reflecting the *joy of learning*, the scale of getting more highly rated experiences have the greatest influence with a coefficient of 0.942. Data for the study were obtained from 188 repatriated laborers in urban regions of Vietnam. The multivariate regression analysis method and factor analysis were utilized to analyze the data in the study with the help of SPSS 20.0 software.

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1. Introduction

The Covid 19 epidemic that broke out in countries has had a detrimental influence on people's lives, earnings, and jobs. According to ILO figures (2020), 1.25 billion people, or 38% of the global workforce, are predicted to be employed in industries experiencing a severe drop in production, and a high risk of layoffs, including retail trade, accommodation services, food services, and manufacturing. ILO statistical results (2020) on the impact of the Covid 19 pandemic on workers' employment:

Table 1
Workers in high-risk groups, unofficial status, and social security

	The proportion of working in high-risk fields (%)	Rate of informal employment in non-agriculture (%)	Social security coverage rate (%)
World	37.5	50.5	45.2
Africa	26.4	71.9	17.8
Americas	43.2	36.1	67.6
Arab countries	33.2	63.9	36.1
Asia Pacific	37.9	59.2	38.9
Europe and Central Asia	42.1	20.9	84.1

Source: ILO (2020). Covid-19 and the world of work

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ISSN 2561-8156 (Online) - ISSN 2561-8148 (Print)

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doi: 10.5267/ijds.2022.9.011

In Viet Nam, according to ILO (2020) and GSO (2021) statistics, approximately 98% of workers in the tourism and service sectors quit their jobs; 78% of workers in the transportation, leather & footwear, and textile industries have their jobs reduced, laid off, or stopped; and 98% of aviation workers are temporarily laid off. Millions of employees, particularly low-income and irregular unskilled labor, have been adversely impacted. For February 2020 only, the number of unemployed people in Vietnam who applied for unemployment insurance was about 47.1 thousand. The unemployment rate was at 2.73%, the highest in the last ten years, while labor market participation rates decreased further in rural regions and the female workforce. By the end of June 2020, Vietnam had 30.8 million persons aged 15 and up who had been negatively impacted by the COVID-19 epidemic, including job loss, reduced working hours, and income loss, etc.

Among the target groups affected by the outbreak of the Covid-19 pandemic, according to GSO figures (2020), in 2020, Vietnam has more than 1.2 million jobless people, with the urban region accounting for 52.9%; hence, when the labor market experiences an “event”, urban employees are more significantly affected than rural workers. The bulk of laborers working in Vietnam's urban regions are migrants from other provinces. According to GSO (2020), there are around 66,000 jobless migrants out of the total number of migrant employees. Migrant unemployment (9.82%) is approximately 4.4 times greater than the average unemployment rate of employees aged 15 and over (2.25%). As a result, migrant laborers in Vietnam's urban regions confront significant challenges when objective changes occur, such as the breakout of the COVID-19 epidemic. One of the factors examined while researching why migrant workers in Vietnam's urban regions frequently face larger risks in the case of an incident is that their technical and professional level is insufficient. According to GSO data (2020), approximately 76% of workers do not have technical qualifications (GSO, 2020), and these workers frequently focus on working in factories, enterprises, and industrial parks, and have no professional skills, therefore, they often focus on jobs that require low skills. Furthermore, once the COVID-19 outbreak was progressively brought under control, the Vietnamese government established orientations and policies to help workers, particularly those returning to urban areas following COVID-19, one of which is to encourage training for these people. When the digital transformation in Vietnam is taking place quite strongly, the E-learning online training tool will become a helpful tool to enable support employees to quickly access the job and learn to develop, meeting the requirements of the new environment.

2. Research overview

E-learning is progressively becoming a training trend in other nations, and it is also becoming a trend in Vietnam. There are 23 terms used to refer to the use of computers for learning purposes, according to Aparicio and Bacao (2013), including online learning, virtual learning, distance education, learning management system, etc. When it comes to defining e-learning, there are three different approaches: (1) the learner's point of view, (2) the teacher's point of view, and (3) the educational viewpoint. From the learner's perspective, E-learning is web-based learning that employs communication, collaboration, knowledge transfer, and web-based training to give value to individuals and businesses. Because it is dependent on interactive multimedia, it is possible to construct a high-quality learning environment by utilizing a range of materials and information processing. Thus, e-learning has the potential to establish a dynamic environment in which learners may be stimulated through self-directed learning. Meanwhile, Rodrigues et al (2019) argue that e-learning is a web-based system based on innovative digital technology and other documents of educational materials, with the primary goal of providing students with a personalized learning environment that is learner-centered, open, interesting, and interactive, thereby supporting and enhancing the learning process. E-learning is viewed as a teaching assistance technology by teachers, as it employs computers and web technologies to send teaching resources to sites outside of the classroom. Because an online support system replaces the teacher, there are no time or location constraints in the E-learning process. E-learning is the use of electronic media and equipment to improve the quality of education and training. The use of information and communication technology to assist and enhance the educational process is referred to as e-learning. Educational techniques are used to describe the function of e-learning for both students and teachers (Wani, 2013; Kujala, 2017). Meanwhile, the development of the E-Learning system has steadily played a significant role in Vietnam. Anh and Tu (2021) discovered that, with the advancement of information technology in all sectors, E-learning is the best option, benefiting both students and teachers. The study evaluated survey data from 494 students using the SPSS program. The findings indicate that the following aspects have a significant impact on learner satisfaction: course content, students, lecturers, and technology engineering. The research findings aid policy creation for E-learning development and provide a few ideas for better online teaching following the University's features. According to Minh and Anh's research (2020), a new training technique called E-Learning was created as a result of the rapid advancement of technology, particularly the Internet, and it has helped to meet students' desires for bettering their knowledge. However, in Vietnam, E-Learning still has a relatively tiny market share in the education sector, particularly at the undergraduate and graduate levels. According to the findings of the study, Attitude toward E-Learning and Teachers' perception of the usefulness of E-Learning are the elements that have the most influence on the intention to engage in E-Learning instruction. Furthermore, the study emphasizes the significance of perceived usefulness in enhancing Vietnamese lecturers' attitudes toward E-Learning. Duc et al (2017) suggested a strategy for the development of E-learning in higher education in Vietnam between 2021 and 2030; finalizing legal documentation and e-learning quality assurance method; higher education e-learning model and how to create and manage online models, combine, MOOC apps, and social networks; In each step of the plan, e-learning development solutions for Vietnamese higher education institutions in terms of strategy, organizational structure, laws, training, and infrastructure etc.

According to Nghia, Tuan, and Phuc (2021), E-learning is a modern educational approach based on technology that can provide workers in the tourism sector with a flexible way of learning and allow them to determine their own learning pace in response to the industry's high work intensity and ongoing training requirements. The study investigated the factors influencing employees' behavioral intention to utilize e-learning programs in the tourism sector from the perspective of the technology acceptance model (TAM). The study used the PLS-SEM structural modeling approach to conduct a survey of 712 employees in the tourist sector in the Central Coast area to evaluate the factors influencing employees' behavioral intention to utilize e-learning, including (1) feeling satisfied and (2) e-learning attitude. The research findings are utilized to suggest management implications for tourism personnel training institutions and tourist firms connected to the establishment of e-learning programs for tourism employees in the future. Online training can assist create capacity in the tourism industry. Haven and Botterill (2003) investigated the current and future use of virtual learning environments in the hospitality, leisure, sports, and tourist sectors.

3. Research Methods

3.1. Data collection methods

The research data comes from a survey of returning workers in Vietnam's urban areas - these are the employees who are directly affected by the Covid 19 epidemic. The survey sample size of the study is based on Nguyen's point of view (2014), hence the minimum observation size to perform statistical operations is 100 observations.

Survey locations: The poll was conducted in the two major cities in Vietnam, which have a high number of migrant workers from villages and are also the two cities most hit by the Covid 19 epidemic. Hanoi's capital and Ho Chi Minh City are specifically mentioned.

The Survey sample size: The survey was performed using a survey questionnaire, which is broken into two sections: First, employees' judgments of the impact of education and credentials on their own earnings- This information will assist the study team in understanding the perspectives of workers who have experienced the tough era of the pandemic on the role and relevance of education and professional knowledge. Second, utilizing the E-learning system, examine workers' perspectives of the elements influencing learning in order to increase professional credentials. The study team created 300 questionnaires for both cities, yielding 188 observations. These observations were put into Excel software and utilized as a database for analysis. According to Nguyen (2014), the study group's survey sample size is enough for statistical operations.

3.2. Data Analysis Methods

To achieve the research objectives, multivariate regression analysis and factor analysis were used by the research team in this study.

*) For quantification of the relationship between factors to the income of returning workers in urban areas of Vietnam. The variables employed in the study were as follows:

Dependent variable (Y): Worker's income. This is a variable that measures the actual income of employees by year. This scale is inherited from the study of Le, Dao and Doan (2021); GSO (2022); Tran and Vu (2014).

Independent variable: The study used scales to measure the impact of education and skill on employee earnings. Employee gender (X1), education level (X2), investment charges for learning to upgrade professional qualifications (X3), and employee living expenses (X4) are among the scales utilized (X4). These scales are based on the research of Le et al (2021), and Tran (2013), Cu et al (2020).

*) The scales utilized for the research of factors influencing the adoption of E-Learning online training for learning and improving workers' professional expertise:

Factors that show the ease of use of an E-learning system: This factor is expressed through the following scales: Easy access to the system (T1); easy to understand e-learning program (T2); easy to learn to operate (T3); easy to learn (T4). This scale is inherited from the study of Sun et al (2008); Mohammadi (2015); Lee, Yoon and Lee (2009).

Factor: Learners find it useful: Expressed through the following scales: Time-saving (T5); improve learning performance (T6); flexible access (T7); interactive support (T8); flexible time (T9). This scale is inherited from Mohammadi (2015).

Factors expressing enjoyment when learning include the following scales: Having more experience (T10), having fun (T11), and receiving information easily (T12). This scale is inherited from Lee et al (2009).

SPSS 20.0 software was supported for this study.

4. Research findings

To define the extent of influence and appraisal of workers returning to urban areas post Covid-19 with the role of education and professional qualifications. The research quantified the relationship between factors using survey data; the particular results are as follows:

Table 2

The results of testing the suitability of the research model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.858 ^a	.737	.731	51.195	1.905

a. Predictors: (Constant), X1, X2, X3, X4

b. Dependent Variable: Y

ANOVA^a

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1341639.883	4	335409.971	127.973	.000 ^b
	Residual	479630.989	183	2620.934		
	Total	1821270.872	187			

a. Dependent Variable: Y

b. Predictors: (Constant), X1, X2, X3, X4

Source: The author's data processing results with the help of SPSS 20.0 software

The research results show that the research model is suitable with the coefficient Sig = 0.000; Adjusted R-Square coefficient = 0.731 indicates that the independent variable explains about 73.1% for the dependent variable. The regression parameters of the study are as follows:

Table 3

The results of the regression estimate

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	78.085	16.971			4.601	.000
	X1	9.897	7.763	.049		1.275	.204
	X2	-1.856	1.251	-.057		-1.484	.139
	X3	11.569	1.188	.423		9.740	.000
	X4	.724	.056	.566		13.012	.000

Dependent Variable: Y

Source: The author's data processing results with the help of SPSS 20.0 software

According to research findings, education and professional qualifications both have a significant impact on the employee's own income during the breakout of the Covid 19 pandemic, after progressively stabilizing life. When the pandemic breaks out, it is the unskilled and unskilled employees, who lose their jobs, reduce their first working hours at enterprises/employers, and their income plummets, sometimes to nothing. This has a detrimental influence on worker earnings. According to GSO figures (2020), around 76% of migrant workers have not obtained vocational training, which means that when a bad situation happens, it will produce a crisis and harm employees. The educational variable's coefficient Standardized Coefficients = -0.057 demonstrates. Meanwhile, the application of the E-learning system to teach in educational institutions has created conditions for employees to participate in learning to improve their qualifications. From the employee's perspective, improving their education has helped them have new job opportunities; study here includes courses on improving skills, skills, and professional expertise. The Standardized Coefficients of this variable are 0.423, indicating the position and importance that employees place on learning to enhance abilities. The position and importance of the E-Learning system in learning to increase professional skills for workers in urban areas have been demonstrated through employee assessments. The study employs data to examine the elements influencing the utilization of an E-Learning system for employee professional training; the particular analysis results are as follows:

First, the research team performed the conformity test of the research model:

Table 4

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.609
Bartlett's Test of Sphericity	Approx. Chi-Square	748.189
	Df	66
	Sig.	.000

Source: The author's data processing results with the help of SPSS 20.0 software

The KMO and Bartlett's test results show that the data is suitable for performing factor analysis and the research model is appropriate. The result of the factor rotation matrix table is as follows:

Table 5
Rotated Component Matrix^a

	Component		
	1	2	3
T1	.932		
T2	.884		
T3	.840		
T4	.793		
T5		.965	
T6		.900	
T7		.885	
T8		.462	
T9		.314	
T10			.942
T11			.901
T12			.782

Source: The author's data processing results with the help of SPSS 20.0 software

The findings indicate that three sets of criteria influence the usage of E-Learning systems in knowledge transfer and skills for migrant workers in Vietnam's urban regions in post-Covid 19.

Factors showing the ease of use of an E-learning system: In which the scale of efficiently accessing the E-learning system has the most considerable influence with the coefficient of 0.932, then the e-learning program scales are easy to understand, respectively (effect coefficient 0.884); learners can quickly learn to operate (factor 0.84) and easy to learn (effect coefficient 0.793).

Factor Learners find useful: The specific time-saving scale has the largest impact, influence coefficient of 0.965, followed by measures of enhancing learning performance (effect coefficient 0.900); flexible access (impact factor 0.885) support for interactive and flexible time.

Factors that show enjoyment when learning: The scale with enhanced experience is assessed to have the highest influence with a coefficient of 0.942, followed by the scale with the enjoyment factor of 0.901 and the simplicity of information reception with an influence score of 0.782.

5. Conclusion

According to research findings, worker training is vital in contributing to the stability of employees' life, particularly after the Covid-19 epidemic. Employees themselves believe that professional certifications and skills play an essential part in their employment. However, because workers are the economic breadwinners of their families, learning and working would be more appropriate possibilities for this research object. The utilization of an E-Learning system in worker training, particularly for migratory workers in urban areas, is critical. The following recommendations are made to increase the efficacy of employing E-Learning systems in training:

First, it is vital to impose time constraints and enable simple access for workers to online training systems of training institutions, so providing ideal conditions for employees to study anytime, anywhere, thereby contributing to the improvement of the professional abilities of employees.

Second, training institutions must establish training programs in line with the actual demands of employees while also meeting societal needs, therefore supporting workers in skills, knowledge, and capabilities according to the features and requirements of each profession.

Third, state management agencies should have policies and processes to assist training institutions as well as employees in terms of technology, and facilities for E-learning training programs. Transferring technology and constructing a reliable and strong information technology system to assist users is an unavoidable need that state management units must execute in order to support employees.

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