DIGITAL TRANSFORMATION IN TRAINING IN UNIVERSITIES OF VIETNAM – A NECESSARY ADAPTATION SOLUTION DURING AND AFTER COVID-19 PANDEMIC

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Abstract

The industrial revolution 4.0 poses many opportunities and challenges for mankind. In order to turn challenges into opportunities and turn weaknesses into strengths, individuals and organizations should apply the achievements of the 4.0 industrial revolution to reach this transformation, especially in the context of the Covid-19 pandemic which is posing many problems that are difficult to be solved in the traditional way. One of the ways to help us achieve that is the process of digital transformation. Digital transformation in education and training at universities is becoming necessary and urgent. This is also the main content of the article that aims to clarify the status of change in universities in Vietnam; thereby to propose some solutions for the coming time.

Key words: Digital transformation, education and training, universities, Vietnam

Introduction

The rapid development of science and technology, especially in the field of information technology (IT) and the Internet, has changed people's methods and ways of working and learning that have existed for a long time or have become traditional, has gradually shifted them to a number of non-traditional ones. This transformation is more obvious and has been encouraged more strongly since the start of the Covid-19 epidemic at the end of 2019. The spread of the Covid-19 epidemic has caused people to have no disease prevention measures more effective than implementing social distancing. This measure has been applied in many places and countries around the world such as in France, Italy, Australia, the US and China with the strictest and longest lock-down from January 23, 2020 to April 8, 220 in Wuhan city of Hubei province.

In Vietnam, following Directive No. 16/CT-TTg on the implementation of urgent measures to prevent and control the COVID-19 epidemic, Vietnam implemented social distancing for 15 consecutive days from 00:00 on April 1, 2020 nationwide. After that, the measure continued to be implemented in all localities according to the specific situation of the epidemic, especially with the emergence of a new virus strain from the UK and India, which made the epidemic situation become more difficult. It has been so complicated that it has spread to many localities today such as Bac Ninh, Bac Giang, Thai Binh, Da Nang, Ha Nam, Yen Bai, in which the infection of ncov in major hospitals of Hanoi must be mentioned. In fact, currently 9 hospitals are being infected while in 2020 the only affected one was Bach Mai Hospital.

In order to adapt to the actual situation of the epidemic, which tends to last for at least 2 more years as recommended by the World Health Organization (WHO) (Minh Phương, 2020), the Vietnamese government, including the Ministry of Education and Training, and universities have implemented many appropriate measures to prevent the learning and teaching of schools at all levels from being interrupted. From that reality, together with the strong development of the 4th industrial revolution and the process of digital transformation spreading to many industries and fields, including the education and training industry, it is necessary to be a pioneer in order to both adapt to the new circumstances and to maintain the academic habits of students, ensuring no interruptions, therefore the universities have implemented online learning. This is the first step for the process of digital transformation in training of universities in Vietnam. This method was not officially recognized in Vietnam's public universities before. This change is a breakthrough in the thinking of managers at the macro level in the face of the ongoing Covid-19 pandemic.

1. The content of digital transformation of universities in Vietnam

1.1. Legal background

In the past few years, people have been talking more and more about 'digital transformation', especially in the economic, business and service sectors. As for education, it was not until after the Covid-19 pandemic broke out on a global scale that halted all socio-economic activities and prevented students from going to school that digital transformation really became the main topic. The subject is widely discussed and officially recognized by the government.

According to Official Dispatch 1061/BGDĐT-GDTrH dated March 25, 2020 of the Ministry of Education and Training on Guidelines for teaching via the Internet and on television for general education institutions and continuing education institutions during the study period, students were allowed to stay from schools because of Covid-19 in the 2019-2020 school year.

According to Circular No. 20/2020/TT-BGDĐT, dated July 27, 2020 of the Ministry of Education and Training on Regulations on working regimes of lecturers of higher education institutions, online teaching is considered standard hours like direct classroom instruction for higher education institutions.

Decision No. 749/QD-TTg of the Prime Minister dated June 3, 2020 Approving the "National Digital Transformation Program to 2025, with a vision to 2030" has considered education one of the eight areas subject to digital transformation to develop a support platform for distance learning and teaching, to thoroughly apply digital technology in management, teaching and learning; document and textbook digitization, to build a platform for sharing teaching and learning resources in both face-to-face and online forms, and to develop technologies for education towards personalized training.

1.2. Technical foundation for digital transformation

Digital transformation in training is not just about enhancing the application of information technology (IT) in training. If the application of IT in education mainly refers to separate programs and software, digital transformation requires all these individual things to be compatible and interconnected, integrated and 'accessible' on the same platform. This platform enables teaching, management, learning, testing, assessment, examination, student management and teaching activities, as well as the entire interaction between learners and teachers, and among teachers of universities to take place. A stable Internet connection is a must-have for this platform to work. Therefore, digital transformation in training requires synchronous investment from software, documents, textbooks, machines, Internet platforms with broadband, especially digital human resources, which are very important, contributing greatly to the growth of the economy, success of digital transformation in training (including digital skills of managers, lecturers and students). In fact, digital transformation in education and training is the transformation of teaching, learning, administration and management of education and training based on digital technology towards a high-quality, low-cost education system easily accessible to everyone.

1.3. Digital resources for teaching, learning and exams

Advances in IT and the penetration of the Internet have led to open education initiatives with the emergence of courses on MOOCs online platforms such as Coursera, Udemy and edX, on open learning materials with the birth of adaptive learning and assessment apps such as Acellus, IXL and Mathletics, and open science with freely shared online scientific research databases (Open Access databases) (Do Thi Hong Quyen, 2021). Without this open facility, the implementation of online teaching and distance training faces many difficulties for learners. To a certain extent, online teaching is purely like traditional teaching because learners do not have the conditions to listen to and review the lectures they need if that they are absent from classes for some reason. Therefore, the development of open learning materials and digital resources has an important role in contributing to changing the thinking, teaching methods, testing and assessment. In fact, some universities such as the People's Security Academy are making big investment in deploying digital platforms, digital learning materials, and digital resources to accelerate the digital transformation process in training to adapt to the new nature of the world. Particularly, the trend of distance learning and online training is gradually attracting learners. For example, Hanoi Open University has pioneered in building open learning materials and digital resources with the Topica program that teaches online and has an open data warehouse for learners. In addition, the Ministry of Education and Training has a repository of E-Learning lessons to build an open educational resource for teaching and learning inside and outside school, lifelong learning, and learning anytime, anywhere.

1.4. Digital human resources in digital transformation

The industrial revolution 4.0 is strongly promoting digital transformation in all fields with the pillars being the Internet and digital technology. Digital transformation has fundamentally changed methods from traditional to new. That is the digital method. Therefore, there needs to be a change in the labor structure in which digital human resources must be focused on development. The characteristics of digital human resources can be seen in the following aspects:

+ Being capable of mastering digital technology devices in the interactive process of economic activities.

+ Being able to adapt in the fastest time to the working environment and new scientific and technological advances.

+ Having a disciplined and ethical manner at work.

+ Being able to have breakthrough thinking at work, also known as creativity. This is considered a sufficient condition and a typical criterion of digital human resources (Nguyen Hai Hoang, 2020).

This digital human resource becomes the mainstay in the digital transformation process. If digital human resources have not kept up with the digital transformation process, this will be a difficult bottleneck to be solved. Digital transformation in training requires digital human resources, in which awareness and self-discipline in self-study and self-research play an extremely important role.

2. Evaluation of some difficulties in digital transformation in training of some universities in Vietnam

Firstly, in terms of the infrastructure, the Internet connection has a great influence on teaching. Due to the weak transmission line, in some places students have difficulty accessing the Internet. This is even more difficult for highland students because the physical conditions are still not enough for them to focus on their study. Roads, the Internet, electricity and water are just a few of the many basic necessities of the highlanders. In order to maintain online learning, Lau Mi Xa, a third-year student at the Vietnam National Academy of Public Administration, overcame all difficulties and deprivations by setting up an online learning shack that the villagers asked: "*Do you build a shack to do buying or raise chickens*?" (Thuy Nga, 2020).

According to a survey of nearly 4,000 students of Nha Trang University in 2020, nearly 80% of the respondents said that while they were learning online, the network was weak, often being 'thrown' from the zoom system or not hearing clearly or not hearing the lecturers saying anything (Dang Chung, 2020).

Particularly, the domestic technological capacity is still not high, and the core technologies of digital transformation have not been mastered. We are still lagging behind, and Vietnam is still mainly applying digital transformation technologies already developed in the world (Luu Quy, 2020).

Secondly, universities are short of high-tech human resources, although Vietnam currently has 236 universities, of which 149 are providing training in information technology, annually providing more than 50,000 information technology engineers. This is not to mention that there are also 412 vocational training schools in information technology at college and intermediate levels, annually providing about 12,000 human resources for the industry. However, in 2020, Vietnam would lack 400,000 information technology personnel, and it was expected that in 2021 this number would fall to about 500,000 people (Nguyen Minh,

2021). This would be a big barrier in the digital transformation process of universities in particular and of Vietnam in general. In addition, the teaching staff is not very proficient in information technology knowledge and skills, in which the skills of using IT in online teaching are still not enough in synchronization among lecturers.

Thirdly, in terms of teaching and learning facilities, this is a problem that makes it more difficult for students. Because when studying online, students with laptops can study comfortably. However, not all students can afford a laptop. On the contrary, if using smart phones, learning is more difficult in controlling, interacting with teachers, friends as well as absorbing lectures.

According to Dr. Nguyen Trung Nhan, Head of the Training Department of the Industrial University of Ho Chi Minh City, every time an online learning is organized for a large number of students, there will always be some cases that students do not have access to the Internet, computers or smartphones, and in disadvantaged areas without internet connection, they even experience weak phone signal, and are unable to attend the lessons (Tue Nguyen, 2021).

Fourthly, in terms of teaching methods, the presentation is limited, especially the interaction between lecturers and students. 14-18% of students think that lecturers have not adjusted their teaching methods to suit the online form, only put lectures on the system and have not had much interaction with learners (Hai Anh, 2020). For some subjects that need group discussion, presentations or further illustrations through visual aids, it is very difficult to do.

In addition, this survey also showed that 64% of students thought that teachers assigned a lot of homework with all subjects having a test and a weekly harvest, lecturers required reading a lot of materials, the program had not been reduced, so the learning content was quite heavy (Hai Anh, 2020).

Fifthly, online learning is not effective compared to traditional teaching methods. Up to 85% of students think that online learning is less effective than traditional learning (in-class learning). In addition, there is another reason leading to this situation, that is the consciousness of some students is not good. Specifically, 36% of the surveyed students said they had encountered those who disrupted the classroom (Hai Anh, 2020).

Sixthly, learning materials and self-study are difficult to be promoted for online learning on platforms such as ZOOM Cloud Meetings, Microsoft Teams, google.meet, Trans... In fact, the teachers still play the main, central role of learning. In other words, students still enter the classrooms according to the scheduled timetable as if they were studying directly in class. More importantly, this time students are at home, not going to school, so the sense of self-study and self-discipline cannot be as effective as when studying at school.

3. Some recommendations for digital transformation in education and training

Firstly, building and designing a repository of digital data and open learning materials is an urgent and necessary task to realize digital transformation in education and training for universities. This is a long process, supplemented and updated in stages to diversify and enrich the application platforms to help managers, lecturers and students have easy access anytime, anywhere at their convenience. In fact, the number of universities with digital data warehouses and open learning materials is small; instead, we just arrived at online teaching and put a few lectures in the form of PowerPoint or PDF files about the subject without many rich types of lessons in e-learning format. The diversification of lectures helps students study

and teach themselves outside online learning time such as sending lectures in audio, video, word, PowerPoint format. This online database is the basis for schools to expand their training methods nationally and internationally. It is even possible to build this online repository of materials in a few popular languages such as English, Chinese ...

Secondly, management in universities should be digitized right from the time students enroll until they graduate and many years after students graduate with the most complete information on student profiles including: transcripts, diplomas, etc. This digitization reduces document storage for universities. Particularly, with the hot and humid climate of Vietnam, storage is difficult, expensive and not convenient for searching when needed.

Thirdly, a digital library should be built with links between universities and research institutes at home and abroad, serving as a basis for staff, lecturers and students to access many domestic and international sources of documents. to serve the search and update of information for scientific research. Especially for research-oriented universities such as National Economics University, this document digitization is even more important.

Fourthly, investment should be put in building own online teaching platform or using long-term copyrights for existing platforms; thereby helping the teaching work be active. At the same time, universities should strengthen control of teaching and learning to ensure good and timely performance of schedules, and ensure quality close to classroom implementation as before. Online teaching in Vietnam has just become popular, so the awareness and responsibility of some students is not good, leading to some disruptive incidents during teaching, affecting the teaching and general study of the whole class.

Fifthly, digital transformation in education and training should be accompanied by the process of developing digital human resources. This digital human resource not only serves the digital transformation process in education and training, but also trains digital human resources in the future when the Government has a policy of building a digital economy, digital government and digitization of many areas of the economy. According to a vision to 2030, there will be 8 fields to be digitized including: health, education, finance - banking, agriculture, transportation and logistics, energy, natural resources and environment, and industrial production.

Thus, digital transformation in education and training at universities is not only a single but also systematic work from the central government, from the Ministry of Education and Training to universities. This is an urgent and necessary task during the period of the 4th industrial revolution as well as during the Covid-19 pandemic. Digital transformation is also a way to transform working methods, management methods and transform the development model of the country in general, the education and training sector, and universities in particular. This transformation is vital in the competition to reduce costs, increase efficiency, and add value in the context of globalization, international integration, and digital technology becoming an extension to help universities reach out to the world. At the same time, digital transformation also brings equal opportunities to access education for all learners from remote areas to disadvantaged areas, from the rich to the poor so as to leave no one behind. This is an important goal that digital transformation needs to achieve. This is also a big goal that the Party and Government of Vietnam are striving for until 2030 with the goal of digital economy and digital government./.

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