

# Online Training - Digital Transformation Trend In Higher Education Institutions In Vietnam

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## Abstract

*In the trend of economic integration and the profound impact of the Fourth Industrial Revolution, digital transformation is an inevitable trend in all areas of social life. In recent years, the demand for digital transformation has increased and generated many tangible effects in various fields, including significant benefits in higher education institutions. Therefore, digital transformation is an imperative trend for educational institutions to enhance the quality and effectiveness of training and provide benefits to those in need of it.*

**Keywords:** *online training, e-learning, digital transformation, higher education, Vietnamese universities.*

## 1. Introduction

The development of the Fourth Industrial Revolution has allowed online education to become a new method of education with many outstanding features. In Vietnam, the application of information technology and communication in education has been a recurring theme, most recently mentioned in the "National Digital Transformation Program by 2025, orientation towards 2030". Higher education institutions, as organizations providing education, training, and knowledge development for learners, have been undergoing transformations to change teaching and learning methods, actively participating in technological innovation during the era of digital transformation as an inevitable trend. *With the superior features currently being applied, online training is predicted to revolutionize the application of science and technology in education.* This is an inevitable trend throughout the entire education system in general and in higher education in particular.

## 2. Theoretical basis

### Digital transformation

Digital transformation is the use of digital technology, in addition to improvements and support from traditional methods, to encourage and promote innovative changes (Kaputa et al., 2022). According to Vital (2019), digital transformation is a process of improving an object through significant changes in its attributes, based on the integration of information, electronic devices, communication technology, and online connectivity. The process of digital transformation requires an organized, well-planned approach, with the participation of all relevant parties, both within and outside the organization, often referred to as a digital transformation strategy, to quickly and creatively maximize the potential and impact of new technologies (Bones, 2016).

Overall, digital transformation involves using technology to comprehensively change various socio-economic sectors in life through big data systems, artificial intelligence, and automation, thereby increasing market access. In higher education, the evolution of digital technology opens up a new era for development, both as an opportunity and a challenge for faculty to adapt to the digital technology platforms by changing teaching, management, and evaluation methods.

### Online training

Research on online training (e-learning) has received much attention from researchers around the world. Some definitions of e-learning include:

- E-learning is the process of learning or training prepared, delivered, or managed using various tools of information technology and information varying at local or global levels (Means et al., 2009).

- E-learning is the distribution of learning content using modern electronic technologies such as computers, satellite networks, Internet, Intranet,..., in which learning content can be obtained from websites, CDs, video tapes, audio,... through a computer or television. Teachers and learners can communicate with each other through online channels such as e-mail, online discussions (chat), forums, video conferences,... (Atkins, 2016).

Online training is a method of teaching and learning based on information technology application. E-learning facilitates knowledge transmission and interaction between educators and learners within a virtual space. It promotes interaction and collaboration in learning, places the learner at the center, and aims to personalize learning. The conditions for organizing an online class include:

- (1) Smart devices with Internet connection such as computers or phones
- (2) Stable network connection
- (3) Curriculum and lecture content prepared appropriately for online teaching.

Since its inception until now, along with technological developments, e-learning has gone through three stages of development:

*Phase 1, e-learning 1.0:* the e-learning systems mainly provide learners with learning resources in the form of static web pages and does not have many tools to support learners in the learning process.

*Phase 2, e-learning 2.0:* e-learning systems provide learners with a system of learning content in the forms of text, video, and a group discussion channel in plain text form.

*Phase 3, e-learning 3.0-4.0:* e-learning begins to provide learners with flexible learning content based on their interaction behavior within the system, and e-learning systems also provide learners with many supporting tools such as chat, video, and online resources [4, pp. 123-130].

Regulations on e-learning in Vietnamese higher education include: the distance education regulations issued in 2017 acknowledge distance education via the internet with some regulations on conditions as well as the methods of training, testing, and evaluation. By 2021, online training has been expanded to other forms of education such as regular university education (Regulations on university-level education according to Circular No. 08/2021/TT-BGDĐT dated March 18, 2021) and master's degree (Regulations on enrollment and training for master's degree according to Circular No. 23/2021/TT-BGDĐT dated August 30, 2021). According to these regulations, higher education institutions apply online teaching methods for regular education, work-study, transfer, second degree, and master's degree programs.

### **Online training trends in the era of digital transformation**

E-learning first appeared in the United States, creating convenient learning opportunities that allow learners to interact easily through the internet platform. In the late 1990s, the US government began to support and facilitate electronic teaching and learning. By 2000, nearly 47% of universities and colleges in the United States had implemented various forms of distance learning models, offering over 54,000 online courses. The number of participants in online learning increased by 33% annually from 1999 to 2004. By the end of 2004, 90% of US universities and colleges had adopted e-learning models.

According to The Economist, global online university enrollment has increased sharply over the years, surging from 36 million in 2015 to 60 million in 2016 and about 70 million in 2017. This number continues to increase. Between 2020 and 2022, the impact of the COVID-19 pandemic has contributed to shifting the market share of various forms of education globally. The outbreak caused 1.5 billion students around the world and 63 million educational institutions to shift from traditional training methods to online courses (Valverde-Berrococo, Arroyo, Videla, & Morales-Cevallos, 2020). Regarding the pandemic impacts along with broader digital transformation trend, the whole world, including Vietnam, has to adopt a new form of learning, which is online learning.

According to statistics from The Economist, the number of students enrolled in online universities worldwide has significantly increased over the years: from 36 million in 2015 to 60 million in 2016, and around 70 million in 2017. This number continues to rise. During the period of 2020 to 2022, the impact of the COVID-19 pandemic contributed to shifting the market share of educational forms globally. The outbreak caused 1.5 billion students worldwide and 63 million educational institutions to switch from traditional teaching methods to online courses (Valverde-Berrococo, Arroyo, Videla, & Morales-Cevallos, 2020). The pandemic's impact, coupled with the trend of digital transformation, has led to the adoption of new learning methods, including online learning, in the world and specifically in Vietnam.

The online education model in Vietnam is evaluated to show promising prospects and continual development. In early 2007, Vietnam began to acquaint itself with online education. HOCMAI was one of the pioneers in adopting this new form. In the initial stages of entering Vietnam, online training was confined to certain domains, notably the provision of foreign language lectures or exam review and preparation courses. However,

with the development and positive influence of technological revolutions in the world, Vietnam has witnessed a steady increase in participation in online courses and programs over the years.

The Vietnamese government has shown particular interest in the field of education in general and higher education in particular. With the global trend of digital transformation and online education, policies for the development of higher education applying information technology must be mentioned: the project "Building a learning society for the period 2012-2020"; Resolution No. 29-NQ/TW of the 11th Central Executive Committee on Fundamental and Comprehensive Innovation in Education and Training; the education development strategy for the period 2011-2020 which identifies the need to diversify learning methods to meet labor needs and provide lifelong learning opportunities.

Digital transformation in education facilitates comprehensive and ample education without the need for face-to-face interaction, direct communication, or changes in delivery methods. Changes in methodologies lead to changes in teaching and training strategies, methods, and techniques, which focus on learners, placing them at the center of the digital transformation in education. Recently, the Ministry of Education and Training has issued various documents that establish a legal framework to promote the application of information technology and digital transformation in higher education, such as Circular No. 12/2016/TT-BGDĐT on distance learning, Circular No. 08/2021/TT-BGDĐT on university training regulations, Circular No. 42/2021/TT-BGDĐT on the database of educational institutions, and Decision No. 4740/QĐ-BGDĐT dated December 6, 2022, issuing the university education infrastructure index....

Since 2022, the Ministry of Education and Training has constructed and implemented a database system on higher education, which consolidates data from all universities, colleges, and academies nationwide, including data groups on personnel, students, training programs, fields of study, facilities, finances, assets.... The database on higher education will be interconnected with national databases (such as the national population database, national insurance database). The data in the higher education database is utilized to serve state management, reporting, and analyzing tasks on higher education, and is uniformly used throughout the sector, ensuring comprehensive consistency with the public database systems of universities and colleges. (*Education Magazine, 2022*)

### 3. Opportunities and Challenges in Implementing Online Education at Vietnamese Universities

#### *Opportunities*

Online education offers numerous outstanding features that traditional learning methods do not possess, such as learners not being limited by space and time; an engaging lecture system with clear and vivid multimedia content; direct interaction between learners and instructors through online classes; learners being able to adjust their learning process and methods to best suit their individual time and conditions.

✓ *The technological infrastructure is incredibly robustly developed.*

In Vietnam, with over 72 million Internet users, accounting for 73% of the population (*Digital Vietnam Overview Report 2022 - Original report by "We are social"*), it ranks as the 12th country globally in terms of high Internet user numbers. Vietnam is among the top 10 markets for rapidly developing online education globally, with an annual compound growth rate of 44.3% (Ken Research, 2022). The market has reached a growth rate of about 20.2% during the period of 2019-2023. At the Higher Education Conference organized by the Ministry of Education and Training on 24/8/2021, the goal was stated as "Higher education not only digitizes and adapts itself but also plays a crucial role in the digital transformation of the entire education sector, supporting both secondary and local education."

The universities in Vietnam that have early adopted online education include Hanoi Open University (2009), as well as Ho Chi Minh City Open University and National Economics University.

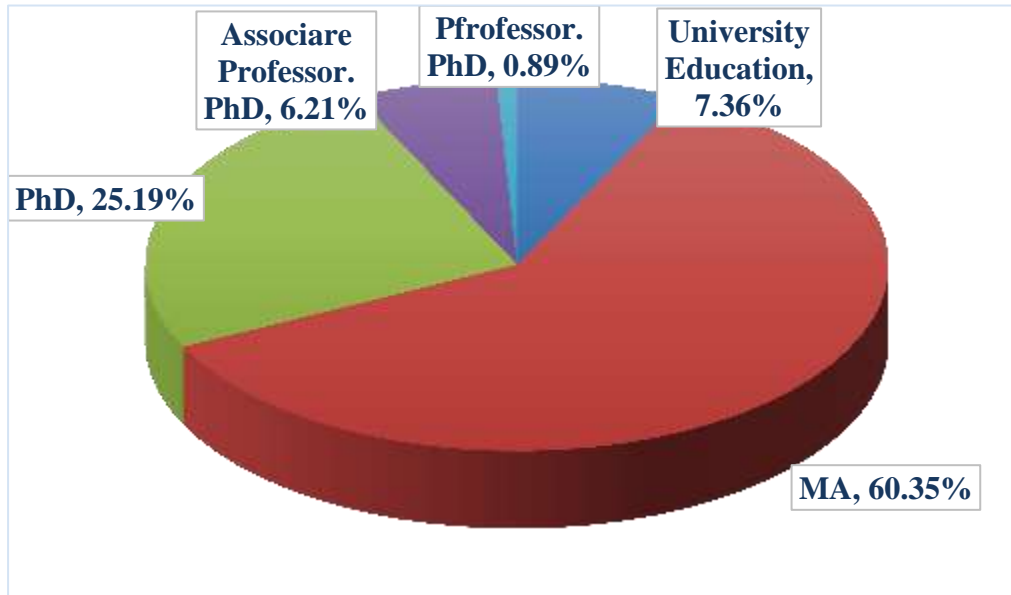
According to the Ministry of Education and Training, in response to the highly complex developments of the Covid-19 pandemic, in 2021, the Ministry also issued numerous documents related to online education during the pandemic period. Among them, most universities have implemented electronic library systems, while some have deployed e-learning systems, interconnected, and shared educational materials with other universities to enhance training and research capabilities.

✓ *The training activities at educational institutions continue to increase in both quantity and quality*

Teaching activities at universities today basically meet the demands of the labor market. The total number of full-time lecturers nationwide, as of December 31, 2021, was over 85,000 (Ministry of Education and Training, 2021). Among them, the proportion of lecturers with doctoral degrees is significant (25.19%), continuously increasing compared to previous years. The predomination of teaching staff with qualifications and young age is

an advantageous condition for effectively implementing online education. The enrollment rate of student increases steadily each year, creating favorable conditions for educational institutions to implement online education, thereby enhancing the quality of education and keeping pace with the current digital transformation trends.

**Image 2: Composition of Full-Time University Lecturers as of December 31, 2021.**



(Source: Ministry of Education and Training, 2022)

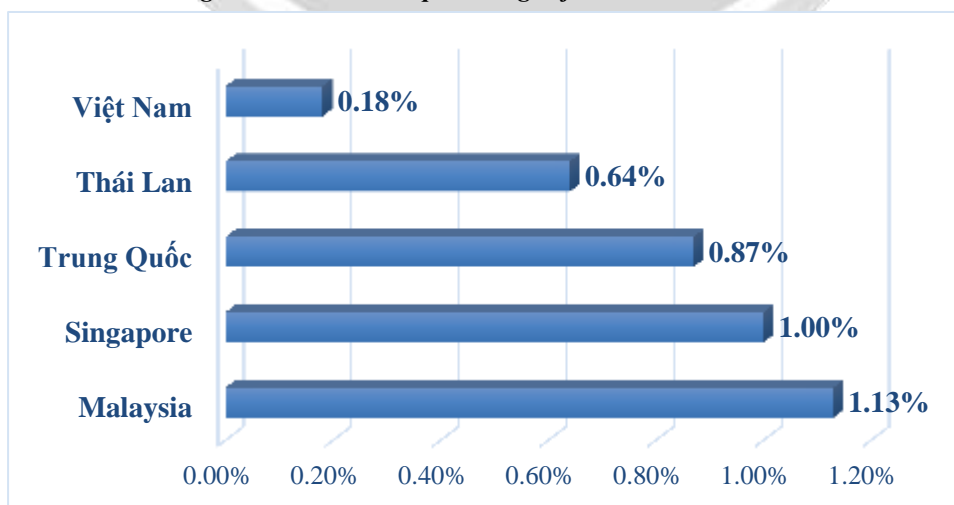
The country has 185 higher education and college institutions recognized to meet quality standards in the 1<sup>st</sup> cycle; 14 higher education institutions are recognized to meet quality standards in the 2<sup>nd</sup> cycle. In May 2022, 172 institutions were recognized to meet quality standards in the 1<sup>st</sup> cycle, and 5 institutions were recognized to meet quality standards in the 2<sup>nd</sup> cycle. In particular, 7 higher education institutions were recognized to meet quality standards according to international standards (Quality Management Department - Ministry of Education and Training, 9/2022).

**Challenges**

Online education at higher education institutions in Vietnam has provided many benefits for learners, making teaching and learning much more convenient and "smart." However, online education still faces many obstacles related to human resources, infrastructure, teaching methods....

- ✓ Investment in higher education is not yet considered a priority.

**Figure 3: Investment in higher education as a percentage of GDP in Southeast Asia in 2022.**



(Source: Ministry of Education and Training, 2022)

From the perspective of higher education institutions, there has not been the establishment and long-term implementation of a digital transformation strategy aimed at delivering value to learners from educators and the training system. This depends on the vision and action perspective of the leadership of educational institutions, not just viewing digital transformation as short-term digital initiatives, such as deploying application software, but rather identifying and communicating it as a long-term strategy of the institution. The difficulties in investing in online training costs, including software, training expenses, operation... are also significant expenses and may entail risks. These risks come from platform providers, science and technology, and the specific nature of educational institutions.

Regarding infrastructure investment, according to a survey by the Ministry of Education and Training in 2022 of 135 higher education institutions: the average proportion of expenditure on infrastructure of these institutions accounts for approximately 5% of the total annual expenditure, while the expenditure per student at these higher education institutions is already very low. With insufficient infrastructure along with this 5% ratio, it will be difficult to meet the requirements of maintaining and improving the quality of education, especially for institutions in the fields of medicine, science, technology, and engineering.

✓ *Limited resources for implementing online training*

It is clear that there are difficulties in resources from operational teams, faculty members to the awareness of learners. Designing e-learning lectures and changing teaching methods, classroom management skills, and interaction skills with learners all require instructors to have research and good adaptive skills. The objective reality is that despite the application of online training, many faculty members at higher education institutions today still have limitations in using technology software: recording, audio recording, video recording of lectures, creating sound effects.... Therefore, instructors need to enhance their professional competence, language skills, and teaching methods to maximize learner engagement. Instructors need to integrate teaching with technical support tools of information technology. This is a challenge for many faculty teams today and also raises issues for educational institutions in issuing management policies and encouraging incentives to create motivation for instructors to actively innovate and apply modern teaching methods.

To implement online training, all study materials, documents, lectures, and learner data need to be digitized and incorporated into the management process. Currently, educational institutions lack technology resources in implementing training through digital transformation.

#### **4. Recommendations**

The principle of implementing solutions is formed based on achieving specific objectives in the e-learning development strategy, with the involvement of both the State and stakeholders to ensure the highest effectiveness of the solutions.

Firstly, the State needs to have policies supporting the necessary infrastructure for online training institutions. The State needs to amend and supplement relevant legal regulations to create conditions to promote online training activities. In addition, educational institutions need to orient their e-learning development strategies and establish regulations to support online training. Specifically, these regulations relate to the conditions for organizing online teaching, quality assurance, and assessment of online teaching and learning outcomes. Educational institutions need to focus on investing in infrastructure and utility software.

Secondly, enhance the quality of human resources by focusing on training activities, forming high-quality human resources for the future. Human resource training should focus on maximizing the potential and intelligence of learners, emphasizing skills and attitudes after training. Train and enhance teaching capacity and teaching methods for faculty to leverage the advantages of online training. Plan to recruit faculty based on needs and surveys of the current number, structure, and faculty capacity. Periodically evaluate instructors, conduct surveys, and collect student feedback on online teaching faculty. Create conditions for instructors to actively perform their teaching roles in the online environment, actively innovating to create learning motivation for students.

Thirdly, information technology infrastructure and facilities must be synchronously invested in, ensuring the most effective and continuous management of online teaching and learning. This process requires the participation of various resources and the implementation of social online training.

#### **5. Conclusion**

Online training in the context of digital transformation plays an important role in achieving social goals, including educational goals. Apply online training in Vietnamese higher education institutions based on updated methods, new technologies, and factors related to enhancing skills and qualities of human resources. Digital

transformation opens up opportunities for effective and convenient learning and teaching, following the trend of the times.

The article presents online training in the context of digital transformation at Vietnamese higher education institutions. This is a top priority issue in education with many educational institutions pioneering in integrating technology into teaching and learning, developing and implementing programs, and designing lectures. Higher education institutions need to develop an effective digital transformation roadmap to enhance the quality and effectiveness of education and training.

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