

Digital Transformation in Higher Education In Vietnam - Challenges and Solutions

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ABSTRACT

Digital transformation in Vietnam is gradually becoming popular and affecting many areas of social life, including higher education. Digital transformation in higher education creates many opportunities but also not a few challenges. Taking advantage of opportunities, solving challenges, digital transformation in higher education will both improve the quality of education and training and demonstrate the pioneering role in the digital transformation process of the education sector as well as the national digital transformation process.

Keywords : Digital Transformation, Higher Education, Challenges, Solutions, Vietnam.

1. Digital Transformation - The Inevitable Path to Development in Vietnam

Digital transformation in Vietnam has been implemented step by step over many years and has been particularly vibrant in recent years. Using the Google search tool, in 0.47 seconds, it gives 967,000,000 results related to digital transformation issues. This shows that digital transformation is receiving a lot of attention from society. So what is digital transformation?

Digital transformation (DT) is the use of data and digital technology to change the overall and comprehensive way of life, work, and production methods of individuals, organizations [2]. Meanwhile, according to Assoc. Prof. Dr. Vu Hai Quan, DT is a change in the operation of an organization to improve the quality of products, services by exploiting the application of technology and data. More generally,

DT is the process of transitioning from a traditional operating model of an organization to a digital model by applying new technologies such as Big Data, Internet of Things (IoT), Artificial Intelligence (AI), Blockchain to change management methods, operations, change processes, ways of working and change organizational culture.

Digital transformation is not synonymous with digitization, or in other words, digitization is the first stage of digital transformation. Digitization means converting data and documents into digital format. Digital transformation is the use of converted data for comprehensive and thorough analysis, leading to changes in models and ways of operation, ways of working of individuals, organizations, thereby creating new values.

Because it brings many benefits, digital transformation has and is having a profound and

widespread impact on all sectors and fields of economy - society. According to Microsoft's research, in 2019, the impact that digital transformation brought to the GDP of countries in the Asia-Pacific region was about 25%. Meanwhile, McKensey's research shows that by 2025, the level of impact of digital transformation on US GDP is about 25%, with Brazil it is 35%, while in European countries it is about 36%.

Due to its increasing importance, many countries are focusing on implementing digital transformation strategies to both develop the economy and enhance competitiveness, thereby enhancing the country's position. Currently, Europe is considered as the region with the fastest digital transformation speed, followed by America and countries in Asia. For developed countries, digital transformation helps them continue to maintain influence in the world, while for developing countries, digital transformation is an opportunity to narrow the gap with rich countries.

For Vietnam, digital transformation is an inevitable path for national development towards a rich people, strong country, democracy, fairness and civilization. Therefore, Party and State leaders all require ministries, branches and localities to be determined to implement national digital transformation tasks to create breakthroughs from directive viewpoints to actions especially must allocate resources reasonably and effectively.

2. Digital Transformation in Higher Education in Vietnam - The Leading Flag in Education and Training Transformation

2.1. On the policy of digital transformation in higher education

Along with science and technology education and training are considered top national policies. Therefore education and training in general higher education in particular must be the leading flag in implementing digital transformation. The XIII Party Congress put forward the principle: "Implementing drastic digital transformation building a digital economy society". In the National Digital

Transformation Program until 2025 orientation towards 2030 approved by Prime Minister Decision No. 749/QĐ-TTg dated June 3 2020 identified education and training as one of 8 priority areas for deployment implementation.

To concretize policies on digital transformation Ministry of Education and Training presides over building Project "Strengthening application information technology and digital transformation education training period 2021-2025". At local level leaders at all levels are also determinedly directing implementation of digital transformation across all sectors. For example, in Ha Tinh Province, on February 18, 2022, the Provincial People's Committee issued Decision No. 424/QĐ-UBND approving the Project "Digital Transformation in Ha Tinh Province" for the period 2021-2025". The decision assigns specific responsibilities to each unit to implement digital transformation and prioritizes some areas for digital transformation, including education. Meanwhile, educational institutions, especially higher education institutions, have organized many seminars and workshops on digital transformation in general and digital transformation in education and higher education in particular with topics such as: "Technology for future education", "Digital transformation in education for sustainable development"...

2.2. Content of digital transformation in higher education

The content of digital transformation in higher education is the process of applying modern technology to teaching, scientific research, and management. Digital transformation in higher education will create many changes in models, ways of organizing and teaching methods, thereby improving training quality, serving the development of higher education institutions in particular and the education sector in general.

In teaching work, DT is not only digitizing lectures or applying software to build lectures but also a complete transformation of teaching methods, classroom

management techniques, interaction with learners to digital space, exploiting information technology to organize successful teaching. In addition, all data about the learning process of learners are also monitored and stored by technology instead of through the usual record book system.

In scientific research activities, DT not only helps scientists more conveniently carry out new research but will gradually form data centers, connection platforms to form a network of domestic and international scientists to solve big problems together, thereby promoting cooperation and sharing research results. In addition, digital transformation in scientific research activities also creates a link between higher education institutions and businesses to be able to receive research orders and be funded for implementation.

In management work, DT creates large interconnected database systems, deploys online public services, applies digital technologies to manage, operate, forecast, support decision-making quickly and accurately. At the same time, DT pulls changes in management mechanisms changes existing organizational structures rebuilds business processes changes relationships information processing processes decision-making and problem-solving from traditional environment to digital environment especially changing the way resources are managed in higher education institutions.

2.3. Challenges posed for digital transformation in higher education

Firstly, the awareness and readiness to implement digital transformation tasks in higher education of managers teachers learners. To successfully transform digitally in higher education requires thinking and management capabilities of leaders in the field of education as well as leaders of higher education institutions must change must be sensitive to adapt to rapid changes in the digital age. They need to find ways to grasp trends on digital space exploit effective technology to achieve the purposes needed in management. They also need to have understanding

and digital thinking to be able to master technology and understand the limits of technology.

For faculty members, during the process of digital transformation not all have the capacity and confidence in using digital tools to support teaching scientific research work. Meanwhile although learners are exposed to many modern technologies but using them for the right purpose and effectively throughout their study on a digital environment still has many issues such as studying while reading news or relying too much on available technology to solve problems without being proactive creative. Therefore, digital transformation in higher education can only achieve sustainable effectiveness when both learners and teachers are well trained in the proficient use of technical means in teaching and learning and the self-consciousness, awareness of self-study of learners.

In addition, if education used to be a mass experience, it is now an individualized experience. Therefore, educational methods and materials need to be more flexible, allowing changes to adapt to the learning style and knowledge absorption rate of each student, rather than forcing students to change to comply with the teacher's classroom teaching method as before. The role of the "traditional" teacher needs to change, from a knowledge transmitter to an organizer, guiding students to acquire knowledge. Therefore, improving professional capacity, foreign language level, innovating teaching methods to attract the participation of learners, while combining with technical support tools of information technology in lectures will also be a big challenge for teachers.

Secondly, in the process of digital transformation, rapidly changing technology makes the knowledge of specialized training majors become outdated, requiring higher education institutions to have a fundamental change strategy in training industries, program content and training methods. In addition, in the digital environment, when geographical distance is narrowed down, competition between higher education institutions will become more intense in scientific research issues, especially enrollment issues.

With just one click, any student can easily access prestigious universities at home and abroad. This requires higher education institutions to take advantage of the opportunities created by the digital transformation process to build a strong brand in digital education.

Third, the human resources to carry out the digital transformation process are lacking, the technological infrastructure is still limited, and the investment cost is high. Digital transformation in higher education requires a large number of human resources with in-depth training in digital technologies such as artificial intelligence (AI); data science, big data (Big Data); cloud computing (Cloud Computing); Internet of Things (IoT); virtual reality/augmented reality (VR/AR); blockchain; 3D printing... but currently the number of human resources meeting this requirement is not many. Even in large higher education institutions, not to mention local educational institutions, there are still no codes to train new majors.

The technological infrastructure for digital transformation in higher education includes both hardware and software infrastructure. Hardware infrastructure is the amount of smart equipment, bandwidth, and storage capacity. Software infrastructure includes data centers (student data, lecturer data, learning materials data, and scientific research data), the level of mastery of technology (AI, IoT, Bigdata, information security).

However, not only in local higher education institutions but also in big cities, during the digital transformation process, the platforms supporting professional and academic activities such as: digital libraries, learning management systems... are still scattered, not yet interoperable throughout the system, have not fully exploited the advances of technology to serve education, have not really supported the management work, and have not met the increasingly high demands of learners.

In addition, the investment capital for technical infrastructure to serve the digital transformation

process is very large. This will be one of the biggest challenges for higher education institutions, especially local higher education institutions.

3. Solutions to challenges in digital transformation in higher education in Vietnam

First, disseminate, propagate, raise awareness and responsibility, clear about the ideology and determination to jointly implement digital transformation in higher education to each lecturer, manager and student; build a digital culture in education.

Second, perfect the synchronous network infrastructure, practical information technology equipment to serve teaching - learning, scientific research, management; mobilize social resources to participate in implementing digital transformation in higher education; enhance the linkage, cooperation between higher education institutions in using common digital platforms to reduce investment costs for digital technology infrastructure.

Third, promote the development of digital learning materials (serving teaching - learning, testing, evaluation, reference, scientific research) in all disciplines, subjects associated with content appraisal, connection, sharing of learning materials between schools; form a repository of digital learning materials, open learning materials for common use, link with international ones, meet the needs of self-study, lifelong learning; continue to innovate teaching and learning methods based on the application of digital technology, encourage and support the application of new educational training models based on digital platforms.

Fourth, deploy a social network of education with unified control and orientation, create a digital environment for connection and sharing between education management agencies, schools, families, teachers and students; develop open online courses, form an open learning network. Fifth, train and foster a team of managers and teachers with knowledge and skills in information technology and necessary information security to work in a digital environment

to meet the requirements of digital transformation in higher education.

CONCLUSION

Digital transformation is an inevitable trend that cannot be reversed, and higher education plays a pivotal role in the digital transformation of the entire education sector, thereby supporting general education and local education. Therefore, only with the correct perception and drastic action of each individual especially the decisiveness of the head in higher education institutions can the process of digital transformation achieve the set goals National Digital Transformation Program by 2025 with a vision to 2030 and related projects on digital transformation in education by the Ministry of Education and Training.

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