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Digital Transformation - Challenges and Development Opportunities for Vietnamese Businesses in the Fourth Industrial Revolution

Thi Lan Anh Do

University of Labour and Social Affairs, Hanoi, Vietnam

Corresponding Author: **Thi Lan Anh Do**

Abstract

In the past few years, along with the Fourth Industrial Revolution (Industry 4.0), digital transformation has been the most mentioned keyword. To succeed in the 4.0 Industrial Revolution and to avoid falling behind, countries must carry out digital transformation, especially digital

transformation for businesses. The article introduces the concept, importance, basis and solutions to promote development opportunities for Vietnamese businesses in the fourth industrial revolution.

Keywords: Digital Transformation, Industrial Revolution, Business

1. What is digital transformation?

Since its appearance until now, there have been many definitions of digital transformation as follows:

According to Gartner - the world's leading information technology research and consulting company, the definition of digital transformation is as follows: "Digital transformation is the use of digital technologies to change business models, create new opportunities, revenue and value.

And Microsoft said: "Digital transformation is about rethinking how organizations bring together people, data and processes to create new value."

In Vietnam, digital transformation in businesses is understood as the process of changing from a traditional model to a digital business by applying new technology such as artificial intelligence (AI), big data (Big Data), Internet of Things (IoT), cloud computing (Cloud Computing)... change operating methods, leadership, work processes, and corporate culture.

Digital transformation, properly understood, will be the impact on people to change their thinking about working and operating the machine, thereby finding ways to apply it to each specific activity of the business. Not only does it have an impact on the way of working and corporate governance, but it also has an impact on the culture and working environment of the business.

Digital transformation for businesses is the strategic change process of a business. Therefore, it is not simply enough to use one method or one model to be successful, but requires a planned implementation process with clear goals.

2. Why is digital transformation needed?

Economic necessity: We are living in the 21st century, with the development of the 4.0 Industrial Revolution and the complicated developments of the Covid-19 epidemic. It is easy to see the impact of technology on every aspect of human life. Along with that, the impact of the epidemic has impacted the traditional business model. We have gone through a period when businesses operated with a pen and notebook, gradually using computers, the Internet and digital transformation is also a similar transition process. This is the development process that will become inevitable for a business in the transformation of the whole world.

Improve business efficiency: Thanks to digital transformation in businesses, leaders can be completely proactive in monitoring reports, evaluating business operations, and employee performance at any time. Thanks to the automatic tracking and reporting system. Thanks to that, all information and data about work are presented clearly, transparently, accurately and quickly. These data help leaders a lot in the decision-making process and planning management strategies.

Improve work productivity: Every business wants to optimize the productivity of its staff. Digital transformation in businesses helps improve and enhance employee productivity by reducing manual, time-consuming work. Thanks to that, the business's personnel can focus more on their expertise and increase work efficiency.

Improve product and service quality: Digital transformation helps businesses operate anytime, anywhere. Previously, it would have been difficult for employees to work from home or handle issues that arose after hours because there were no documents or machinery on site. So now, we can work at home with just a computer or phone, so business personnel can work anytime, anywhere.

Increasing labor productivity gives businesses more time to improve customer service. Increased productivity shortens the time customers have to wait to receive a product or service. Therefore, applying digital transformation to increase productivity also helps businesses improve services more clearly.

Increase revenue: The result of minimizing operating costs, automating processes... will be increased revenue for businesses. Not to mention, when a business's services become more flexible and convenient for customers, it will attract more customers to know and use them.

3. Current status of digital transformation of businesses in Vietnam

Digital transformation today is no longer an idea or a vision for the future. This is a must to adapt to the 4.0 digital age. On May 18, 2016, the Prime Minister approved the Project to support the national innovation and startup ecosystem until 2025; On June 3, 2020, the Prime Minister signed Decision No. 749/QĐ-TTg approving the National Digital Transformation Program to 2025, with a vision to 2030, striving for Vietnam to become a digital country., in which digital transformation for businesses plays an extremely important role. Accordingly, Vietnamese businesses need to create their own development momentum, with the core being the digitalization of businesses in all aspects.

Up to now, digital transformation has become a familiar concept for many businesses. Especially in the context of the Covid-19 pandemic, digital transformation is a need, a survival solution to maintain and develop.

According to Microsoft research conducted in the Asia-Pacific region, before and after the Covid-19 pandemic broke out, 74% of business leaders said that innovation is mandatory and plays an important role in their business. Business resilience. Up to 98% of pioneering businesses in the innovation process believe that innovation is the key to quickly meeting market challenges and opportunities; 56% of CEOs of large businesses affirm that digital transformation helps increase revenue. Overall, companies that successfully conduct digital transformation are 23% more profitable than companies that operate in a traditional model.

For large-scale businesses and diverse customers, digital transformation is expressed through many factors. Many businesses have built a unified customer management system through mobile applications. Thereby, helping customers integrate and manage information when using many different services such as paying household bills, electricity bills, shopping or resort services.

However, Vietnamese businesses in general, especially small and medium-sized enterprises, are still not properly aware of the role of digital transformation in the 4.0 Industrial Revolution, specifically, according to the Vietnam Confederation of Commerce and Industry (VCCI), Currently, Vietnam's small and medium-sized enterprises account for about 97% of the total number of businesses. The level of science, technology and innovation is still low,

with 80% to 90% of machinery used in Vietnamese businesses being imported. Nearly 80% of exports are old technologies from the 1980s - 1990s. Therefore, innovation is a matter of survival for these businesses.

In April 2020, Cisco published the report "Digital development index of small and medium enterprises in the Asia-Pacific region", conducted on 1,340 businesses in the region in general and 50 businesses in the region. Vietnam in particular. In Vietnam, small and medium-sized enterprises are facing barriers in the digital transformation process such as lack of digital skills and human resources (17%), lack of a strong enough information technology platform to enable digital transformation (16.7%), lack of digital thinking or digital culture challenges in businesses (15.7 %).

However, the report also shows that Vietnamese small and medium-sized enterprises are initially investing in Cloud Computing technology (18%), network security (12.7%), software and hardware upgrades. for digital conversion (10.7%).

In Vietnam, there is a clear difference between the reality of digital transformation as well as the expectations about the effectiveness of digital transformation between large-scale enterprises and small and medium-sized enterprises. Among them, large-scale businesses are converting quickly and have more confidence in digital transformation.

Currently, in Vietnam, digital transformation has taken place in almost all types of businesses and at many different levels. The digital transformation process has begun to take place, especially in industries such as finance, transportation, tourism... The Government and authorities at all levels are making efforts to build e-Government towards digital Government. More than 30 cities plan to build Smart Cities with new technology platforms...

The Banking industry has researched and implemented an initial digital transformation strategy with IoT applications that allow customers to access and use banking services and connect with other digital ecosystems on the Internet platform (services). VPBank's Timo digital bank, TPBank's Live Bank, BIDV's E-Zone...), or provide banking services through applications installed right on mobile phones (Mobile Banking...). In the "Big 4" group of Vietnam's largest banks, the digital transformation process is also taking place strongly, such as the Joint Stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank) launching the digital banking application VCB Digibank, which is New service, outstanding with uniformity of experience, ease of operation, integration of many superior security solutions. Vietnam Bank for Agriculture and Rural Development (Agribank) also pioneered the installation of multi-function ATMs (CDM) in the card market, from there, Agribank expanded to modern digital banking services, such as Autobank automatic banking, online customer identification application (eKYC), cardless withdrawal transactions... Gradually replace ineffective transaction offices.

For the telecommunications sector, at the Ho Chi Minh City Economic Forum 2022 held on April 15, 2022 in Ho Chi Minh City with the theme "Digital economy: Driving force for growth and development of the City Ho Chi Minh in the future", with the digital transformation ecosystem of the Government sector, Vietnam Posts and Telecommunications Group (VNPT) brings the IOC Smart Operating Center solution and receives special attention thanks to The ability

to intelligently monitor and operate the province/city. VNPT believes that this is a basic factor to successfully build a smart city with smart infrastructure and a generation of smart digital citizens. To date, VNPT IOC has been present in more than 30 major provinces/cities and is an indispensable "digital brain" for any digital government. Besides, VNPT also launched the 4.0 technology application ecosystem: vnFace; eKYC; SmartBot; vnSocial... These are the most advanced AI and Big Data applications in identification, electronic identification, virtual assistants, multi-channel social networks, with the purpose of helping businesses quickly control, adjust and deploy proactive and professional digital business projects following the world digital transformation trend.

Military Industry and Telecommunications Group (Viettel) is a typical enterprise for digital transformation of telecommunications enterprises in Vietnam. The Group has promoted digital transformation in management in all fields: Information technology and digital services, high-tech industrial production, logistics...

Viettel is the unit that provides the technology platform for the National Covid-19 Vaccination Management System, effectively supporting the nationwide large-scale vaccination campaign. Viettel's telemedicine consultation and support platform (Telehealth) helps connect more than 1,500 medical facilities, allowing medical examination and treatment in epidemic conditions.

The Ministry of Health initially formed a centralized medical data warehouse and stored data from the information system managed by the Ministry and built a data science laboratory, exploiting the data warehouse, aiming at training. Human resources in data science in the health sector. This is considered a solution to the problem of effectively exploiting digital health data, because successfully building and effectively exploiting digital health data is the most important premise that determines the success of digital transformation. Health. In 2022, the Ministry of Health will also promote the implementation of electronic health books towards universal coverage. Each person has their own electronic health book to proactively manage. When going for a medical examination, this electronic health book is considered a medical record for doctors and medical facilities to use to support diagnosis, examination and treatment...

In the field of education, Viettel's K12Online online learning and exam management system is a tool for the Education sector to maintain online teaching, learning, testing and assessment. During the epidemic, teachers and students at more than 32,000 educational establishments organized nearly 4,000 online meetings, 600 conferences, more than 240,000 virtual classrooms, and built more than 400,000 digital learning materials.

Vietnam Dairy Products Joint Stock Company Vinamilk has digitally transformed starting with its corporate culture model. The business has applied the agile model to software development to bring products to customers quickly. Digital transformation is carried out in most activities such as: Administration, finance, human resources, international business and supply chain.

The rapid development of foreign ride-hailing services such as Grab or Uber is also a lever to help form domestic ride-hailing service providers such as be or FastGo, which are businesses with a large scale. Completely new operating model depends entirely on technology platform.

For very large-scale businesses with a diverse customer base like VinGroup, they have built a unified customer management system like VinID, helping customers integrate and manage information when transacting with VinGroup in Vietnam. Many different services such as paying household bills, electricity bills, shopping or resort services.

According to the 2021 Southeast Asia Digital Economy Report, it is forecast that by 2025, Vietnam's digital economy will reach 50 billion USD. This further confirms that digital transformation is becoming an important resource to promote the country's socio-economic development. Thereby, opening up many opportunities and growth prospects for Vietnam in the near future.

4. Solutions for developing small and medium-sized enterprises in the 4.0 Industrial Revolution

Currently, in Vietnam, small and medium-sized enterprises still account for about 97% of the number of businesses but are the group that has the most difficulty in digital transformation. Although there is awareness about the necessity of digital transformation, however, due to limited production capacity and low level of automation, small and medium-sized enterprises find it difficult to apply digital transformation. Therefore, there need to be some solutions for businesses to develop in IR 4.0:

Applying technologies of the 4.0 Industrial Revolution

Digital transformation is the application of technology to all business activities, carried out in an era of technology explosion on the basis of a powerful Internet system, which therefore requires a very high level of knowledge. Technical as well as human resources. Meanwhile, Vietnam is still behind the world in terms of technology, we have not yet mastered the core technologies of digital transformation and basic platform systems. Therefore, digital transformation in Vietnam currently still basically uses available technologies in the world.

For businesses to successfully carry out digital transformation, they need to have appropriate information technology infrastructure (both hardware and software). Therefore, owning appropriate information technology infrastructure plays a very important role in meeting the increasingly strong needs of Vietnamese businesses in the short term, as well as in the long term. Some conversion trends that can be considered are as follows:

Cloud Computing

Cloud Computing features maintenance, storage, management, processing, analysis and data security by exploiting Internet-based servers. Thanks to this technology, businesses can easily test and develop websites and applications; analyze and operate Big Data; Store Website data via Cloud Server; easily share data through platforms such as Google Drive, Dropbox, Shutterstock... Thereby helping businesses streamline processes, optimize costs and improve customer experience.

In addition, this technology helps adjust to business requirements, paying only for the services needed. Therefore, it will help businesses save costs in their digital transformation process.

Iodine

In today's era, IoT is no longer a strange concept. It essentially refers to a network of physical objects integrated

with sensors, software, and other technologies with the goal of connecting and exchanging data with devices and systems over the Internet. IoT is considered one of the digital transformation technologies used by many Vietnamese businesses in their business digital transformation process. This technology provides detailed, transparent visibility into a business's goods and operations. Businesses that integrate IoT can more closely manage their business operations. Meanwhile, the data, insights and specific analytics provided by IoT technology enable businesses to achieve key digital transformation goals such as operational efficiency, increased flexibility and customer service. Better customer service.

Robot Application

Robotics is also one of the major digital transformation technologies in 2021. According to the survey, 1/4 of businesses use smart robots in their operations. This ratio is estimated to increase to 1/3 in the next two years, showing a bright future for this technology.

The use of Robots has developed over time, many Vietnamese businesses have applied Robots in many fields such as logistics, engineering, medicine... Digital transformation with Robots will basically help businesses reduce costs., improve the quality of the working environment; Ensuring product uniformity and quality, minimizing errors during the production process. From there, it helps businesses increase flexibility and enhance brand reputation in the market.

Virtual reality (VR) technology

VR technology creates a computer-generated virtual world. This technology helps users enter the virtual environment and become a part of it. It gives users a virtual visual experience with the ability to interact through other senses such as hearing, smell and touch.

This technology has now been applied by Vietnamese businesses in the fields of medicine, tourism, real estate, engineering... With the tourism industry, this technology overcomes common difficulties such as lack of can't arrange time, prepare a lot of luggage or worry about the quality of accommodation. With just a few technological devices, customers can quickly travel to tourist destinations around the world. In particular, when the epidemic occurs, this technology also helps tourism businesses revive and find new development paths.

Human resources solutions

Digital transformation requires high-quality human resources to be able to master new technology to serve the implementation of digital transformation, and that is also something that small and medium-sized enterprises encounter difficulties. On a national level, each year Vietnam lacks about 90,000 human resources to develop the digital economy and digital society while domestic information technology training programs still cannot meet the demand. People are the most valuable resource of a business. Human resource development strategy must be a part of the long-term development strategy of the enterprise. First of all, there needs to be a solution to improve the quality of the enterprise's existing human resources, especially key staff and experts through training activities, updating knowledge, and equipping them. necessary skills; Proficient in professional and technical capacity; know

foreign languages, first of all English; Proficient in information technology, computers... to improve labor productivity; attach importance to recruitment, have strategies to supplement high-quality human resources for the business.

Investment capital solutions

Investing in digital transformation is investing in change, from awareness, strategy, human resources, infrastructure to key technology solutions, so this is a process that requires large investment capital. However, it will require large investments in finance and human resources, while being uncertain about effectiveness and facing the risk of failure, thereby creating a major barrier for Vietnamese businesses.

Solutions from business awareness

Digital transformation at each business will greatly impact the business strategy and form of operation of the business, so it will be a big change for the entire business, which puts pressure on managers. Leaders in these businesses.

A survey shows that 85% of people holding important decision-making roles in businesses said they only have 2 years to master digital transformation. Therefore, reality forces leaders to gain timely awareness and take early action for digital transformation at their businesses.

Solutions to enhance cooperation with enterprises with foreign direct investment (FDI)

Successful experiences of world businesses show that the research and development department in a business is very important, no matter what field it operates in, from consumption to production. Businesses all emphasize research and development tasks to come up with new discoveries, products and improvements that best serve market needs.

Therefore, strengthening links and cooperation with FDI enterprises, as well as businesses in developed countries around the world, is a favorable condition to help grasp new standards and techniques and continue to Access to new knowledge and technology for Vietnamese businesses. This is also considered the most effective shortcut solution. However, to achieve maximum efficiency when receiving new knowledge and technology, domestic businesses need to prepare well in terms of human resources to best absorb the results of global technological advances.

5. Conclusion

With the innovative spirit of businesses today, comprehensive digitalization is an indispensable solution for businesses, especially with the Government's digital transformation policy in recent years, businesses need to be prepared mentally and financially, creating a solid foundation for the digital transformation process in the future. Leaders and managers need to improve their expertise in digital transformation to make the right change and investment decisions for their businesses.

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