LatIA. 2024; 2:99
doi: 10.62486/latia202499
ISSN: 3046-403X

ORIGINAL

Social responsibility of small and medium enterprises in Vietnam through digital transformation and application of artificial intelligence

Responsabilidad social de las pequeñas y medianas empresas en Vietnam a través de la transformación digital y la aplicación de la inteligencia artificial

Duong Ngoc Anh[1], Phan Minh Duc[2]

[1]Academy of Journalism and Communication, Faculty of Political Economics. Hanoi, Vietnam.
[2]Academy of Journalism and Communication, Department of International Cooperation. Hanoi, Vietnam.

Cite as: Anh DN, Duc PM. Social responsibility of small and medium enterprises in Vietnam through digital transformation and application of artificial intelligence. LatIA. 2024; 2:99. https://doi.org/10.62486/latia202499

Submitted: 12-02-2024 **Revised:** 10-05-2024 **Accepted:** 03-08-2024 **Published:** 04-08-2024

Editor: Prof. Dr. Javier González Argote

Corresponding author: Phan Minh Duc

ABSTRACT

The study on the social responsibility of small and medium enterprises (SMEs) in Vietnam through digital transformation and the application of artificial intelligence explored key aspects such as challenges faced during digital transformation, the importance of SMEs in the Vietnamese economy, and the significance of corporate social responsibility (CSR). It emphasized the need for SMEs to adapt to remain competitive and contribute more significantly to the state budget. The research highlighted the landscape of SMEs in Vietnam from 2017 to 2021, focusing on their classification, numbers, and characteristics, noting a steady increase in the number of SMEs each year. The document discussed the limited adoption of advanced technologies like artificial intelligence among Vietnamese SMEs and the need for increased support and resources for effective digital transformation, especially adopting AI technology. Additionally, it touched upon the social responsibility aspects of SMEs in the context of digital transformation, addressing opportunities and challenges related to environmental impact, labor productivity, financial transparency, and animal welfare. Through a qualitative analysis approach, the study aimed to provide insights into the evolving landscape of SMEs in Vietnam and their integration of digital technologies to enhance social responsibility practices.

Keywords: Small and Medium Enterprises (SMEs); Digital Transformation (DX); Corporate Social Responsibility (CSR); Artificial Intelligence (AI); Vietnamese Economy; Technology Adoption.

RESUMEN

El estudio sobre la responsabilidad social de las pequeñas y medianas empresas (PYMES) en Vietnam a través de la transformación digital y la aplicación de la inteligencia artificial exploró aspectos clave como los desafíos enfrentados durante la transformación digital, la importancia de las PYMES en la economía vietnamita y la importancia de las empresas. responsabilidad social (RSE). Destacó la necesidad de que las PYME se adapten para seguir siendo competitivas y contribuir de manera más significativa al presupuesto estatal. La investigación destacó el panorama de las pymes en Vietnam de 2017 a 2021, centrándose en su clasificación, número y características, y observó un aumento constante en el número de pymes cada año. El documento analiza la adopción limitada de tecnologías avanzadas como la inteligencia artificial entre las pymes vietnamitas y la necesidad de mayor apoyo y recursos para una transformación digital efectiva, especialmente la adopción de tecnología de inteligencia artificial. Además, abordó los aspectos de responsabilidad social de las pymes en el contexto de la transformación digital, abordando oportunidades y desafíos relacionados con el impacto ambiental, la productividad laboral, la transparencia financiera y el

© 2024; Los autores. Este es un artículo en acceso abierto, distribuido bajo los términos de una licencia Creative Commons (https://creativecommons.org/licenses/by/4.0) que permite el uso, distribución y reproducción en cualquier medio siempre que la obra original sea correctamente citada

bienestar animal. A través de un enfoque de análisis cualitativo, el estudio tuvo como objetivo proporcionar información sobre el panorama cambiante de las PYME en Vietnam y su integración de tecnologías digitales para mejorar las prácticas de responsabilidad social.

Palabras clave: Pequeñas y Medianas Empresas (PYME); Transformación Digital (TD); Responsabilidad Social Corporativa (RSE); Inteligencia Artificial (IA); Economía Vietnamita; Adopción de Tecnología.

INTRODUCTION

During the digital transformation process, businesses need to synchronously transform 3 main groups of work: (1) fundamentally change the digital infrastructure, (2) digitize the management system traditional, and (3) digitize production materials to bring about leaps in the organization's production capacity. Besides the benefits that DX brings, the process also creates consequences that those businesses need to face such as short-term budget deficits when investing in comprehensive transformations of their digital infrastructure, and model of businesses, arranging jobs for redundant workers when digitizing and changing the old management system, energy consumption, and emissions during the operation of the new production system. Besides, humans become smarter as they learn, and so do machines, which can become smarter through "machine learning" mode. This turns inanimate machines into "robots" that think and learn like humans, making their actions increasingly human-like and containing more emotional elements.

For digital businesses, especially for the DX taking place within them, the application of AI platforms is very potential. In particular, for the corporate governance process, AI has the potential to bring optimal system efficiency and automatic solutions for the process of planning, implementing and monitoring the progress of strategy implementation. AI platforms also help the system imitate the human decision-making process based on analyzing a much larger data warehouse than what humans can do on their own.

On the other hand, corporate governance is a process that involves the use of many different groups of management tools. Those micro-level tools are commonly used by businesses, but most of them are based on "trial and error" from an empirical perspective. Thus, the proactiveness and predictability of the impact of management policies is not really high because we lack the analysis of huge and mixed data from customers, the public and the community to make informed decisions and the most scientific management decisions.

According to the results of the 2017 Economic Census announced by the General Statistics Office of Vietnam in 2018, the number of SMEs accounts for more than 97 % but the contribution to the state budget is only approximately 20 %. This shows that the number is large but the practical contributions of this type of business in Vietnam are still limited. To improve competitiveness and optimize profits through improving management processes and production and business methods, SMEs must think about digital transformation. At that time, the issues raised regarding the social responsibility of these digitally transformed businesses need to be fully and methodically understood to help businesses adapt better in the competitive market.

Literature review

Vietnam SMEs

Accounting for a large number of the enterprises, Vietnam SMEs mostly operate in the trading and servicing sectors (around 68,3 %) while the second and third places are for industrial, constructional ones and agricultural, forestry or marine businesses respectively (MPI, 2017). 73 % of them are located in the Hong River Delta and Cuu Long River Delta, allocated to big cities of Ha Noi, Hai Phong, Da Nang, Binh Duong, Dong Nai and Ho Chi Minh city. The very small proportion of them, apart from about 20 % in the other provinces/cities, is in the Highland region of the country (approximately 2,6 %). In fact, Vietnam SMEs are now running their businesses on the bases of intensive use of labor, low working capability, and old-fashioned technologies, which hold them back in the competitive market economy while competent FDI enterprises have been coming in consecutively.

To accelerate them in their growing process, the government of Vietnam has got a considerable framework of institutions, which are responsible for every angle of the company development. The community of SMEs in Viet Nam have been receiving numerous assisting schemes, ranging from national level to provincial one, or from state-owned assisting bodies to non-governmental and non-profit organizations and associations. In the heart of those, the direction is thought to foster the growth of technology-immense production companies, just like in the Decision numbered 592/QD-TTg in May 2012 for the period of 2012-2015 or in the Decision numbered 2457/QD-TTg in October 2010 for the 2020 vision. In these Decisions, we may figure out that the number of technology-adopting companies are not so high that we did expect to have only around 3,000 enterprises in technological fields by 2016, or at least 200 enterprises in providing high-tech products and services by 2020 (a very small portion in comparison to the contemporary total number of SMEs in Viet Nam). This suggests that the technology adoption of Vietnam SMEs is not high for the processes of production, selling and after-sales

services.

According to Vietnamese White book on SMEs in 2014, the growth priorities of SMEs in Viet Nam have been identified as per different industries. First, the industrial companies are encouraged to operate in both heavy industries and the supporting industries. Moreover, the policy also aims at promoting the number of investors in the agricultural fields of business, especially in the rural areas, with a plethora of financial aids and tax exemptions (MPI, 2014). This is contrary to the geographical distribution of enterprises while there have not been few business interests in the major production activities of Viet Nam, agriculture. In addition, the start-ups on green agriculture, communication technology, intellectual properties and e-commerce shall be highly supported by the government. One undeniable thing that should be inferred from these modes of businesses is that the customers are increasingly the center of every decision-making process in a harsh world of competition while Vietnam economy turns to be more open to the global integration. Therefore, the adoption of advanced technology in customer service needs to be carefully considered for a long-run growing vision of every company.

Corporate Social Responsibility

CSR is a concept that was exploited a lot by scholars in the early years of the 2000s. Therefore, the concept of CSR is understood very diversely from many different perspectives by many research groups around the world. Dahlsrud (2008) came to a conclusion about the aspects of CSR after studying more than 30 popular views in the world. Accordingly, CSR involves a business's responsibility regarding the environment, society, economy, relationships with stakeholders and the voluntary aspects of the actions and decisions that the business makes. This is the aspect that often creates academic debates about whether businesses operate for profit or for the welfare of society. Supporters of the profit perspective believe that businesses best perform social responsibility when they can create growth in profits from production and business activities. Those who support the welfare perspective believe that businesses cannot separate themselves from society but must be an inseparable part of that society, so they cannot keep getting rich when the surrounding society is in trouble (Samuel O. Idowu, Céline Louche, 2011).

Stéphanie Looser (2020) believes that there is a difference in the way CSR models are applied in large business organizations, medium and large enterprises (with a standardized CSR model, a systematic approach), while small ones are with a less standardized CSR model, unsystematic approach. Accordingly, many studies also show that large, tightly structured systems have more problems in implementing social responsibility than small organizations with less standardized but more flexible CSR models in establishing good relationships to create strong motivation for that process. However, no matter from which perspective it is approached, the content of CSR cannot be separated from the 5 content groups mentioned above. To get a better look at those groups, we can specifically approach 11 main topics: climate change, efficiency in energy use, efficiency in material use, water security, responsible supply chains, human rights, tax responsibility, chemical use, workplace health, corruption and bribery, animal welfare.

To sum up, CSR is a term to refer to the process of expressing a business's responsibility to many stakeholders on many issues in different fields that businesses face during their operations, production. Therein, businesses must aim for profit growth but in a responsible way. That responsibility must be approached methodically, systematically, measurably in a truly transparent manner.

Digital Transformation in SMEs

In general, SMEs are always the backbone of any economic system in the world. In particular, during epidemics like Covid-19, this type of business is often vulnerable in national economies because the resources to survive are very limited. Therefore, digital transformation solutions help businesses become more streamlined, respond quickly and automatically to external challenges, and help save costs in using resources for the production and business processes through improving labor productivity of the enterprises. DX is the key to opening opportunities for SMEs to not only survive but also develop more sustainably in a volatile, complex and unpredictable context.

The first important point in SMEs' digital transformation is the ability to create new business models (Vivek Kale, 2020). That ability can even be created with the digital transformation of the current business model, but it is not necessary that the business model must be completely innovated. Accordingly, Vivek Kale (2020) also mentioned that the process of business model innovation in an enterprise is a multi-dimensional relationship of supply values, relationships with customers/business partners, and distribution channels. distribution, key resources and activities, cost and revenue structure of the enterprise. At that time, the digital space will fundamentally change the way business processes are expressed, bringing new and different digital experiences to both customers and partners.

Next, the upgrade of the enterprise's technological infrastructure is the second most important thing in DX at SMEs. According to Intel co-founder Gordon E. Moore (1965), the number of transistors per 6,45 cm^2 will likely double every 24 months (Reimund Neugebauer, 2019). This statement creates Moore's Law that we know today in the technology world about the extremely difficult to predict exponential development of the global

technology and information world. Therefore, upgrading technology infrastructure for digital transformation must face fundamental relationships between integration and coordination, availability and scalability, performance and reliability, access and security safety. We can all easily recognize that as technology changes extremely rapidly, the system's ability to meet the above pairs of needs becomes less feasible than ever. At that time, SMEs always need to follow the strategic upgrade of the system in three aspects to avoid waste in the investment process. That is upgrading and replacing hardware, updating and creating new software, collecting and analyzing big data about customers and partners to be able to change their digital experiences through innovation of technology.

Third, SMEs can achieve improvements in production and business processes through the application of digital, automated and intelligent programs. For example, an online transaction process of SMEs can be improved with the following 4 levels: (1) The enterprise's website simply provides information about products and services in the form of a static website; (2) Website allows receiving feedback and personalizing information about products and services for customers, interacting in real time with customers; (3) The website does not stop at interaction and information exchange but allows customers to order and pay online for the item; (4) Websites provide more complex customizations to serve the individual needs of each customer through the application of artificial intelligence and big data analysis (Stephen M. Mutula, 2009). Thus, the more extensive the application of new digital technologies is, it will give the system the ability to perfect service processes and to meet customer/partner needs better, and sometimes even to surprise the experiential journey of individuals and organizations when they have access to a smart and humane technology system.

To approach the DX at the content steps instead of the final goal as presented, SMEs can refer to Volker Lang's (2021) model of eight stages in the DX process. Then, in the final step in the cycle, businesses can leverage the power of feedback from customers, competitors, service providers, distributors, and other business partners to return to perfecting their DX process over time.

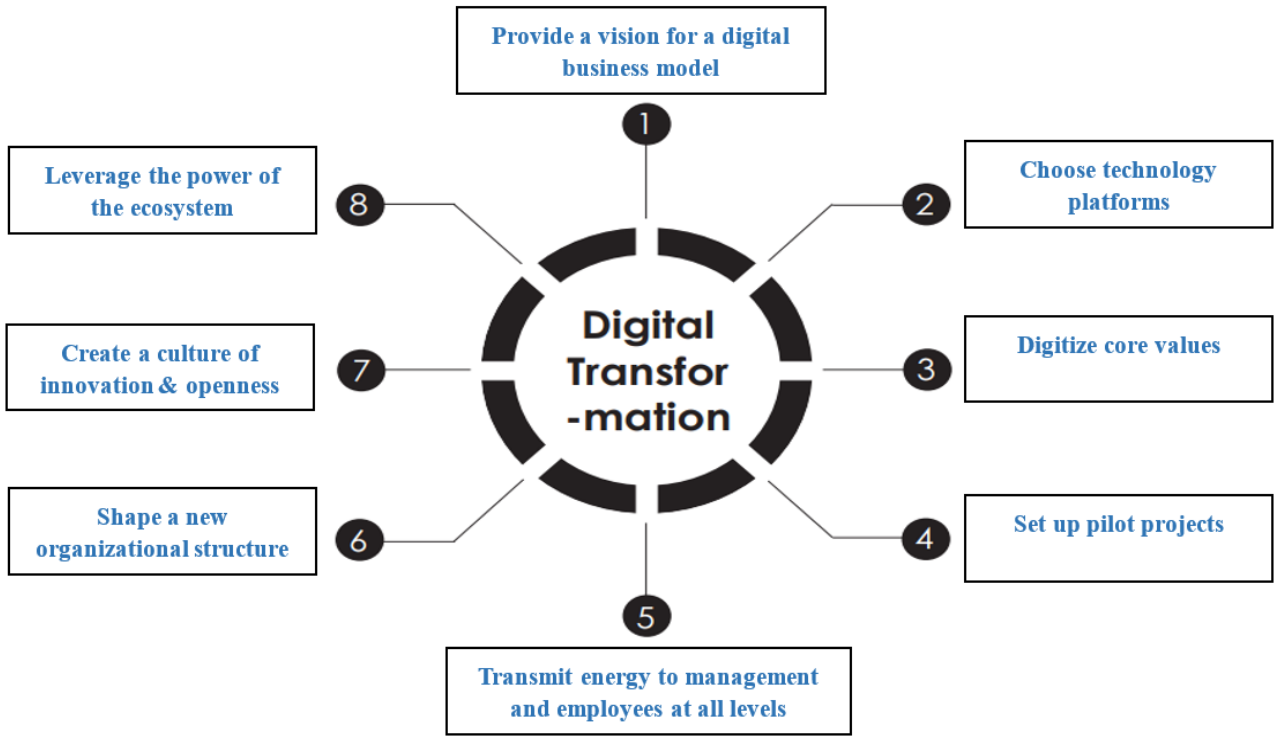

Figure 1. Aspects of the DX in enterprises
Source: (Volker Lang, 2021)

Here, CSR is where businesses demonstrate their transparency in measuring and limiting the negative impacts of the DX process on stakeholders over many generations. For example, providing a vision of a digital business model can also influence internal factors such as workers and managers to become familiar with the digital space through preparing knowledge, new skills and working habits, and even external factors such as customers and partners when they have to use new applications to connect with sales and service points of the business when spaces are increasingly changing, while the system is increasingly limited. In particular, workers or even managers may be fired or pressured into quitting their jobs because they cannot keep up with new

requirements. Customers and partners can become dependent on the digital space, lack real interaction, and suffer health effects when using digital devices for a long time, etc. If we use Crowther's (2004) model to explain the content of CSR in Volker Lang's (2021) DX model, we can have a better view on all activities (temporarily divided into self-directed activities and related activities) in the DX process of an enterprise. It is necessary to pay attention to the negative impact on voluntary groups related to the enterprise's activities such as shareholders, employees, managers, customers or business partners, as well as negative impacts on involuntary groups associated with the business such as individuals, communities, the environment or future generations. That group of activities ranges from (1) to (4) with strategic approaches to the digital business environment such as new models, new technologies, new core values and new projects. The group of activities has objects ranging from (5) to (8) when the business wishes to transmit transformational energy to management and employees, reorganize the organization, create a new culture in the business and take advantage of "Leverage the power of service/product ecosystem or business partners". Across all of those DX tasks, the specific job of the business is to review the positive and negative impacts on stakeholders.

It must be affirmed that research on CSR in the DX process of enterprises is a new research idea of the author group that has not been mentioned by many previously published research documents. Therefore, this information can only be filtered and synthesized from the detailed content of relevant case studies. Michael S. Tomczyk (2021) has worked on the domino effect of supply chain disruption to businesses and economic sectors, stating that the application of DX in research and development helps pharmaceutical firms such as Moderna, Pfizer, BioNTech, Johnson & Johnson gradually enable the world to overcome a medical disaster by applying protein, RNA and DNA technology, to create vaccines, thereby creating human values for the community, contributing to the healing of possible break in the common supply chain. Or, even during the Covid-19 epidemic, we also see the role of digital applications that can help measure temperature remotely, managing people from entering and leaving, while wearing masks in work and inspection environments.

Besides DX in the medical industry in the context of a pandemic, DX in businesses also demonstrates their responsibility towards disadvantaged groups in society as in the study of Hanyoung Lee and Deawoo Park (2021). According to this research, AI, machine learning technology (ML), voice recognition technology, character recognition technology, action recognition technology, and big data technology are integrated in the system. Devices for people who are deaf, blind or disabled have created opportunities to conveniently communicate with everyday life, helping them integrate with the world confidently. In addition, when mentioning the hyper-connectivity of modern communication technologies since 2017, the author group, including Marek Kowalkiewicz, Niz Safrudin, and Bert Schulze, has shown a transformation in the application of communication technologies. This technology is not only good for workers and organizations but also good for the community in sharing information, data, knowledge, interests, habits and creating community strength through digital cohesion between people. The OECD report (2018) related to DX in developed countries like Sweden also shows that there are certain concerns related to job loss, loss of regular income or increased inequality in the income of workers in many countries. During the past decade, as advances in AI and robotics technology (robotics) are presented, they gradually change the working environment of businesses.

Artificial Intelligence

According to John McCarthy (1927 – 2011), who is considered the father of AI, types of AI can be divided into 12 main branches: (1) Logical AI, (2) Search AI, (3) Pattern recognition AI, (4) Representative AI, (5) Inference AI, (6) Reasoning AI, (7) Experiential AI, (8) Planning AI, (9) Epistemological AI, (10) Ontological AI, (11) Discovery AI, and (12) Generic Programming AI (Mark Skilton, Felix Hovsepian, 2018). Each of those forms of AI will perform a separate branch of functions that an AI system can perform for an organization. For example, with ontologically oriented AI, the system will always try to find out what type of object each object is and what basic characteristics it possesses in order to be able to perceive the essence of the objects and system symbol.

The newer perspective of AI expert Eric Horvitz (formerly chief technology officer at Microsoft) shows us a different perspective on AI from 4 perspectives of the system: (1) cognitive AI, (2) learning AI episode, (3) natural language processing AI, and (4) reasoning AI. Here, we see that AI is encapsulated in key directions such as perceiving the surrounding world through continuous learning by naturally understanding language and having the ability to reason to draw conclusions. Those same orientations contribute to the most complete definition of an AI system. However, we also need to note that the classification of functions is only relative, meaning that AI systems can actually perform many of the functions just mentioned above.

Besides, Alain Cardon's view is that the AI system is composed of component subsystems such as the preconscious subsystem, the cognitive subsystem (conscious), and the emotional processing subsystem (emotional processing). Those subsystems carry out the unconscious, precognitive and cognitive stages as well as emotions towards the surrounding world. They are connected by elements of the organizational layer to create the physical feedback of the system (corporeality) in impact back to objective reality (Alain Cardon, 2018).

AI can be simply understood as the application of machines in building a treasure trove of useful knowledge for human activities. When modern machines have large-scale data resources, these machines act in the same way that humans do in socio-economic processes with AI to collect, analyze, and store data and use them (Stephen M. Omohundro, 2019). AI is associated with the process of machine learning, although it is not the same concept (Jack Caravelli, Nigel Jones, 2019). ML can be considered an input activity for AI to simulate the human learning process in machines, and AI will take advantage of the results obtained from ML to put that knowledge into effective applications for users of a specific purpose such as medical treatment, sales, virtual assistant or even a lawyer in court (Thomas Ramge, 2018). To have useful information for AI, the ML process will be conducted in one of the methods such as supervised learning, unsupervised learning or reinforced learning. In particular, supervised learning is when the system operator creates a repetitive training process so that the machine can understand and remember the rules, while unsupervised learning is when the machine learns from the surrounding environment by observation rather than a repetitive process to identify, while reinforced learning is the most advanced way of learning when the machine learns by interacting with the surrounding environment without any significant guidance from humans (Gözdegül Baser et al., 2019).

In general, in this study, types of AI application systems need to be considered from an application perspective rather than a technology perspective. Therefore, the three most important functional groups of AI will be to conduct operational processes automatically, by understanding the internal nature of things through data analysis, and having an intimate relationship with the system users (Thomas H.Davenport, Rajeev Ronanki, 2019).

The DX process of global businesses takes place in order from low to high. The first step is digital connectivity, which includes platforms such as IoT, cloud computing and storage, automatic identification and sensors, and blockchain technology. The next step is automation, which includes robotics, mobile devices, unmanned devices and additive manufacturing (3D printing). Next is advanced data analysis. The final step involves applying artificial intelligence to turn the system into an emotional intelligence, not inferior to humans.

In fact, cloud computing and online data storage are being used by 59 %, sensor devices and automatic identification reach 42 %; meanwhile, network and warehouse optimization technologies are used by 40 %, exceeding the 39 % of automation robot technology (which belongs to step 2). Next is data analysis technology that helps forecast with 18 %, but technologies that are expected to be at the forefront of digital transformation steps such as IoT, mobile technology or 3D printing are all behind, and respectively are used by 26 %, 25 % and 21 % of the businesses. The actual adoption rates of autonomous vehicles and artificial intelligence are low.

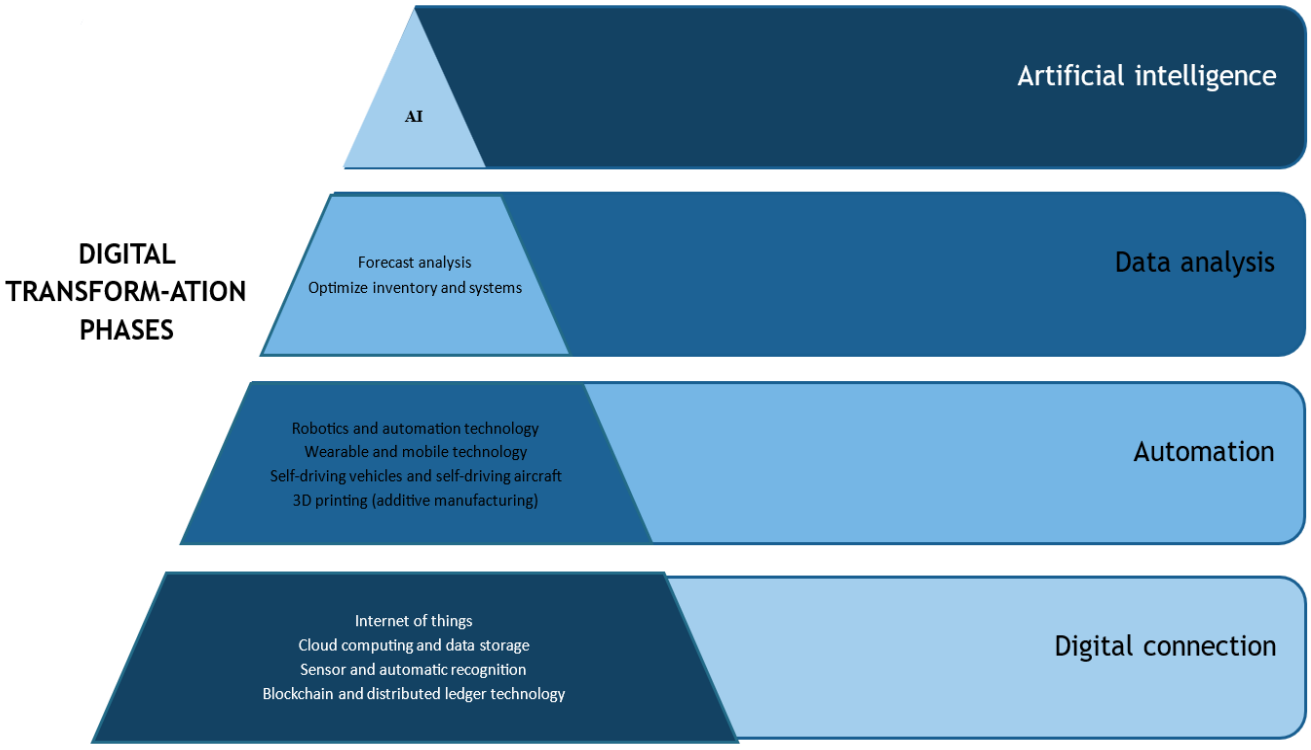

Figure 2. Typical technology on the digital transformation ladder
Source: MHI (2019)

METHOD

The research was conducted following a qualitative analysis orientation. In particular, data are collected based on a combination of observation methods and methods of collecting and analyzing documents (Robert K. Yin, 2016), related to the DX of the community of SMEs in Vietnam. The observation and data collection process will be conducted for the period from 2017 to 2021 based on an important policy milestone from Directive 16 (2017) of the Prime Minister on strengthening communication capacity, approaching the Industrial Revolution 4.0 nationwide. Observation will be conducted to help evaluate a DX associated with CSR at SMEs. In addition, the data will be enriched from the process of collecting and analyzing published documents, reports, and research related to the current state of digital transformation as well as activities demonstrating social responsibility of the businesses in SME group. According to John W. Creswell and Cheryl N. Poth (2018), the appropriate approach for research in this way is narrative description and case study analysis of one or more cases of many businesses in the group.

RESULTS AND DISCUSSION

Vietnamese small and medium enterprises in the period 2017 – 2021

According to Decree 39/2018/ND-CP, detailing a number of articles of the Government's Law on Support for Small and Medium Enterprises in 2018, these enterprises include micro enterprises, small enterprises and medium enterprises (MSMEs) (Article 6). The classification is separated into two groups of fields: agriculture - forestry - fisheries - industry - construction (group 1), and trade - services (group 2) due to the characteristics of the number of employees, charter capital as well as annual revenue. In terms of capital, businesses are classified as SMEs when their total capital does not exceed 100 billion VND; or when the total revenue of the year does not exceed 200 billion VND (for group 1) and does not exceed 300 billion VND (for group 2). In addition, SMEs must simultaneously meet the human resource conditions when the average number of employees participating in social insurance per year is no more than 200 people (for group 1) and no more than 100 people (for group 2). Table 1 shows data on the number of SMEs in Vietnam in the period 2017 – 2021. In particular, the number of enterprises of this type increases steadily every year even during periods when the economy faces many difficulties such as the Covid-19 pandemic (2020-2021), at the same time, the ratio of SMEs to the total number of enterprises over these years were at 97,1 % - 97,4 %. If this rate is maintained until 2025, with a vision to 2030 as in Decision No. 1362/QD-TTg of the Prime Minister in 2019, Vietnam will have at least about 1,460 million SMEs/1,5 million enterprises in 2025 and 1,95 million SMEs/2 million enterprises in 2030.

For SMEs in the country, another thing worth noting is that the proportion of enterprises at the micro level always accounts for the largest portion, followed by small and medium-sized enterprises. Furthermore, based on Report No. 3683/BKHDT-PTDN of the Ministry of Planning and Investment in 2021 on comments on the draft Report on enterprise development situation in 2020 and the first 5 months of 2021, another fact may have been identified that the majority of SMEs in Vietnam are in the group of private enterprises (non-state, minus more than 33,000 FDI enterprises). Thus, SMEs are largely characterized by small business scale and limited domestic capital, and operate under the management of private ownership, so accessing the market as well as accessing resources is difficult. The capacity for development is likely to be quite limited compared to state-owned enterprises (491 enterprises) and foreign direct investment enterprises. That may lead to limitations in production and business activities such as outdated production materials, low labor productivity, limited qualifications and skills of workers, or poor management skills. Such corporate governance methods are considered less professional than large enterprises and foreign counterparts.

Table 1. Number of Vietnamese enterprises in the period 2017 – 2021

	Big businesses	SMEs		Total	Ratio of SMEs/ Total number of enterprises	Total Enterprises
		Medium enterprises	Small/micro enterprises			
Year 2017	16,201	20,084	524,128	544,212	97,10 %	560,413
Year 2018	17,008	21,306	572,323	593,629	97,21 %	610,637
Year 2019	17,367	22,788	628,350	651,138	97,40 %	668,505
Year 2020	22,978	28,314	760,246	788,560	97,16 %	811,538
Year 2021	24,234	29,506	822,237	851,743	97,23 %	875,977

Note: Data are compiled from the General Statistics Office (GSO), Vietnam Business White Paper 2017/2020/2021, and National Information Portal on business registration, related reports of the Ministry of Planning and Investment.
Annual figures are calculated only excluding enterprises that have officially completed dissolution procedures. The calculation method is for specific research, so there may be slight differences in numbers with other calculation methods.

Digital transformation, application of AI technology with SMEs in Vietnam

Research between Microsoft and ASME (Singapore Association of Small and Medium Enterprises) with SMEs in this country shows that the top technology choices that businesses intend to apply are data analytics technology, artificial intelligence/machine learning, e-commerce platforms and business process applications (survey of over 1,000 SMEs in 2018). This application is carried out with 5 main drivers: optimizing operations, empowering employees more, creating a deep connection with customers, digitally transforming products/services and promoting customer satisfaction and internationalization of businesses (survey of over 400 SMEs in 2020).

Regarding the situation in Vietnam, the Report of the Vietnam E-Commerce Association (VECOM) shows that SMEs mainly use accounting and finance management software (85 % - 89 %, 2017 - 2020), followed by human resource management software (53 % - 59 %), and software such as SCM, CRM or ERP only reached 13 % - 31 % in this 5-year period (survey of over 3,945 businesses in 2020, over 4,693 businesses in 2021) (Vecom, 2020 & 2021). This reality shows that the application of information technology to improve the efficiency of business processes of Vietnamese SMEs is still quite limited and inconsistent, causing the DX process in businesses to progress slowly. Digital platforms have not become a habit or a working culture for SMEs, especially with relationships outside the business such as with customers, partners and members of the supply chain. Even the use of email at work as the most common level in technology application in SMEs shows remarkable numbers at only 43 % - 49 % (over 50 % of labor), 34 % - 36 % (from 10 % - 50 % of labor), and 17 % - 19 % (under 10 % of labor). This situation of Vietnamese SMEs is also mentioned by the OECD in its Policy Report for SMEs and startups in Vietnam in 2021. OECD (2021) believes that innovation and creativity, especially economical innovation (spending) little for R&D), among SMEs in Vietnam is at a high level in the ASEAN region, the use of websites for formal online presence is at an average level, while the use of ERP, CRM or SCM system software is still very humble.

Thus, even though we have not mentioned new business models or the modern level of technological infrastructure, there is a lack of application of technologies to automate production and business processes in SMEs. Thus, we need to change a lot in implementing DX process in the country. The motivations of SMEs in Singapore or in the region are also common goals that businesses in other countries are aiming for, so DX is definitely a potential and existing need for Vietnamese SMEs.

Regarding the ability and resources to implement DX, medium, small and micro enterprises possess modest production and business capital compared to large enterprises in Vietnam. Early 2020 data from the Ministry of Planning and Investment shows that the production and business capital of large enterprises is 28,8 million billion VND (66,5 %) although the number of large enterprises only accounts for about 2,000,000 (8 %) (MPI, 2021). Meanwhile, the capital source in medium enterprises only accounts for 3,2 million billion (7,4 %), in small businesses it is 5,4 million billion (12,5 %) and in micro enterprises it is 5,9 quadrillion (13,6 %).

Thus, with a total of 14,5 million billion (33,5 %), SMEs with a large number of 651,138 enterprises will have not much abundant capital for production and business. We can calculate the average for two groups including medium enterprises and small/micro enterprises to see these numbers specifically. At that time, each medium-sized enterprise (calculated over 22,788) will have about 140,4 billion VND for production and business, 40 % more than the theoretical level of 100 billion VND. Each small business (calculated over 179,319) will have about 30,11 billion VND for its production and business activities, at a level 50 % higher than for small businesses in group 1 (20 billion VND) and at a level average for small businesses in the field of group 2 (50 billion VND). Each micro-enterprise (calculated over 449,031) will have about 13,13 billion VND, 4 times higher than the theoretical highest level (3 billion VND). In general, the level of 13,13 - 140,4 billion VND of capital for production and business of enterprises in the SMEs group shows us that resources are quite high compared to the legal level, but businesses cannot just use numbers. That capital is not only for the DX process but also for many other core activities.

Furthermore, compared to about VND 1,658,31 billion in capital for production and business (an average of over 17,367) that large enterprises had in 2019, we can clearly understand that the ability to invest in infrastructure Technology in SMEs is only at a minimal level. In fact, a full-module ERP system and accompanying services like SAP S/4HANA of SAP Vietnam can be distributed for a few million USD, and the investment efficiency may have to wait up to 1 year, or even 2 years after adopting it in production and business. This is also the reason for economical spending on DX among SMEs.

The period 2017 - 2019 shows that large enterprises have very significant after-tax profits to contribute to the state budget at a much higher rate than SMEs. In particular, small and micro enterprises are the groups with the highest loss rate in production and business activities (from 30 % - 60 %). Thus, Vietnamese SMEs are facing a “difficult” situation when they have little budget for DX and witness a high rate of business losses, making the decision to invest in technology systems costly, and risky. Therefore, investing in DX to improve production and business management capacity and minimize the possibility of losses for SMEs requires additional help from the Government’s support policies and donor projects from major organizations in the world. In the

period September 2018 - September 2023, the most prominent support package is the Digital Transformation Business Support Program for the period 2021 - 2025 of the Ministry of Planning and Investment in coordination with USAID's LinkSME Project with 24,9 million USD budget to increase productivity as well as improve the production and business environment for Vietnamese SMEs through DX.

On the policy side, we also have Law No. 04/2017/QH14 on supporting small and medium-sized enterprises promulgated by the National Assembly of the Socialist Republic of Vietnam in June 2017, effective from January 1, 2018. and many other sub-law documents detailing the implementation of Law No. 04/2017/QH14, such as Decree No. 38/2018/ND-CP and Decree No. 39/2018/ND-CP. All of these policies also aim to support SMEs to create creative startups, innovate business models, and improve capacity to participate in industry clusters and new value chains through many solutions, and DX-related legislation.

If we rely on Step 2 in Figure 1, we can see that the DX of Vietnamese SMEs in the period 2017 - 2021 also has certain achievements based on data on applied digital platforms. The cloud computing application platforms of Misa, Kiot Viet, Haravan, Nhah, Sapo or Base.vn all have hundreds of thousands of customers, most of whom are SMEs. In addition, the selling space of small and micro businesses is also expanded with connections to affiliate marketing platforms such as Lazada, Shopee, Tiki, Sendo, Voso, Postmart or even Amazon and Ebay. Thereby, connecting with customers through electronic messaging applications, website platforms, and applications on iOS and Android operating systems has gradually become familiar. In particular, the opportunity to find customers through digital spaces comes to SMEs with affordable electronic marketing campaigns on social media platforms and search engines such as Facebook, Youtube, Instagram, Tiktok or Google and a large number of SMEs also seize these opportunities.

In addition, the formation of e-Government also requires businesses to innovate in digital connectivity such as using digital signatures, electronic invoices, tax declaration software, and social insurance software. From that reality, many SMEs have used accounting, finance, human resources and sales software from reputable suppliers in the market early after their establishment. Even though these are just component modules within a large system, expensive to invest in to complete, we cannot deny that the DX in the recent period has created new businesses. SMEs with new production and business methods have been found in many areas of the economy.

Issues raised regarding the social responsibility of SMEs, application of digital technology and AI

The expectations of the DX as well as the reality of that process have also shown that SMEs in Vietnam are starting to have improved production and business environments aimed at enhancing competitiveness and better interaction with the G2B transaction platforms that the Government has created for level 3 and 4 of public services, helping them connect with partners more quickly and conveniently through integrated platforms that form contracts, establish electronic currency, and facilitate first-time ordering and automatic re-ordering through the system, providing better payment options for customers through online connection with financial institutions with a secured system. However, DX does not necessarily only bring good things to stakeholders but can also create concerns about the implementation of CSR by SMEs. Within the framework of this research, the authors will review these raised issues according to the important concerns of CSR:

First, DX applied in production and manufacturing industries, especially agriculture, will help SMEs adapt to climate change through smart monitoring systems and environmental sensors. to get the best production efficiency. However, through these automatically operated and intelligent systems, people also know the amount of waste and emissions they release into the environment and can adjust and minimize negative impacts from the process. This is a content that not only stops at climate change but is also closely related to other content in CSR such as energy efficiency, material use efficiency, water security, responsible supply chain, and the use of chemicals in the enterprise's business operations.

Second, DX in SMEs partly changes people's labor productivity, helping to increase their income, but another part DX raises the issue of changing the way of thinking, skills, and beliefs - values - behavior (corporate culture), even creating new business models requires disruption of the old organizational structure, causing many workers to lose their jobs. Furthermore, when technology is applied closely in work, people's free space and privacy can be violated, raising human rights issues related to preferences, needs, and interests. personal aspirations and journeys.

Third, DX creates opportunities to apply technology to tax declaration as well as establish transparency in spending and use of financial resources of SMEs. Declaring revenue, income and transactions in real time, saving digital traces that cannot be changed will help SMEs fulfill their duties and obligations to society, and at the same time cannot be used financially for bribery, leading to corruption and abuse of power by management agencies. However, when management agencies and legal corridors have not kept up with the speed of DX, many businesses can also hide in the digital space to avoid taxes, evade taxes or even launder money and perform illegal transactions. Transactions using virtual currencies cause damage to society when not strictly managed.

Fourth, DX can help reduce the burden of work that SMEs employees have to perform manually or can contribute to monitoring and taking care of workers' health, but in return it also reduces working time, manipulating information technology systems more, and also creating certain effects on human health. Digital space is also very important for SMEs, but physical space with opportunities for human-to-human interaction, opportunities to carry out team building activities or regenerate human labor is extremely necessary. That balance will contribute to health in the workplace.

Fifth, animals can be raised for economic purposes or for ornamental purposes. In this sense, the animals can also be wild species that are not kept in captivity. However, whether accidentally or intentionally, the process of DX in production and business affects living space, health conditions and the way animals and animal products are exploited. All of these things need to be considered because we have certainly heard of dairy farms where the water the cows drink is measured to meet standards, and the grass the cows eat is grown by high-tech irrigation systems. In the modern world, industrial food is even mixed with precise ingredients from intelligent robots, while the living space is mixed with music from an automatic chamber music system. And, certainly we have also heard stories of wild animals losing their natural habitats and many species being threatened with extinction because of human exploitation activities. That activity becomes even stronger with outstanding productivity when the DX takes place. Thus, DX in SMEs not only cares about the welfare of human society, we also have to care about the affected animals for more sustainable development.

CONCLUSIONS

This study does not attempt to provide solutions to the huge problems facing the DX in Vietnamese SMEs today. Instead, the study points to the social responsibility concerns, in which the businesses must demonstrate when implementing a profound DX. Just one issue in the group of 5 major issues pointed out can become a truly meaningful research topic in the context of the DX in the current economy. In terms of scale, SMEs are small and medium-sized. In reality, the number of these enterprises is not small. If we forget the social responsibility that small and medium-sized businesses demonstrate, we are also forgetting the power of diffusion when even small meaningful things are done by a large community, as an island of "players" in the market.

REFERENCES

1. Alain Cardon. Beyond Artificial Intelligence: From Human Consciousness to Artificial Consciousness. London: ISTE Ltd and John Wiley & Sons, Inc.; 2018.

2. Crowther D. The importance of Corporate Social Responsibility. In: Social Responsibility World. Ansted University Press; January 2004.

3. Dahlsrud A. How corporate social responsibility is defined: An analysis of 37 definitions. Corporate Social Responsibility and Environmental Management. 2008;1-13.

4. Gözdegül Baser et al. Smart Tourism Destination in Smart Cities Paradigm: A Model for Antalya. In: Al-Turjman F, editor. Artificial Intelligence in IoT. Cham: Springer Nature Switzerland AG; 2019. p. 73.

5. Idowu SO, Louche C. Theory and Practice of Corporate Social Responsibility. Verlag, Berlin, Heidelberg: Springer; 2011.

6. Jack Caravelli, Nigel Jones. Cyber Security: Threats and Responses for Government and Business. Santa Barbara: ABC-CLIO, LLC; 2019.

7. John W. Creswell, Cheryl N. Poth. Qualitative Inquiry & Research Design: Choosing Among Five Approaches. California: SAGE Publications, Inc.; 2018.

8. Kale V. Digital Transformation of Enterprise Architecture. Florida: CRC Press; 2020.

9. Kowalkiewicz M, Safrudin N, Schulze B. The business consequences of a digitally transformed economy. In: Oswald G, Kleinemeier M, editors. Shaping the digital enterprise: Trends and use cases in digital innovation and transformation. Switzerland: Springer; 2017. p. 29-67.

10. Lang V. Digital Fluency: Understanding the Basics of Artificial Intelligence, Blockchain Technology, Quantum Computing, and Their Applications for Digital Transformation. New York: Springer Science; 2021.

11. Lee H, Park D. AI TTS Smartphone App for Communication of Speech Impaired People. In: Kim JL, ed. Data Science and Digital Transformation in the Fourth Industrial Revolution. Seoul, Korea: Springer Nature

Switzerland AG; 2021. pp. 219-229.

12. Looser S. Overview: Formal Management Systems, Intrinsic CSR, and the Role of Culture in Management. In: Walter Wehrmeyer SL, editor. Intrinsic CSR and Competition: Doing well amongst European SMEs. Cham, Switzerland: Springer Nature; 2020. pp. 7-16.

13. MHI. The 2019 MHI Annual Industry Report - Elevating Supply Chain Digital Consciousness. Chicago: MHI and Deloitte Consulting; 2019.

14. MPI. White paper: Enterprises in Vietnam 2017. Hanoi: Ministry of Planning and Investment, Agency for Enterprise Development; 2017.

15. MPI. White paper: Small and Medium Enterprises in Viet Nam 2014. Hanoi: Agency for Enterprise Development, Ministry of Planning and Investment; 2014.

16. MPI. Sách trắng: Doanh nghiệp Việt Nam năm 2021. Hà Nội: Statistical Publishing House; 2021.

17. Mutula SM. Digital Economies: SMEs and E-Readiness. Hershey: Business Science Reference (IGI Global); 2009.

18. Neugebauer R. Digital Transformation. Berlin: Springer-Verlag GmbH Germany; 2019.

19. OECD. OECD Reviews of Digital Transformation: Going Digital in Sweden. Paris: OECD Publishing; 2018.

20. OECD. OECD Studies on SMEs and Entrepreneurship: SME and Entrepreneurship Policy in Viet Nam. Paris: OECD; 2021.

21. Robert K. Yin. Qualitative Research from Start to Finish. New York: The Guilford Press; 2016.

22. Stephen M. Omohundro. The Basic AI Drives. In: Yampolskiy RV, editor. Artificial Intelligence Safety and Security. Boca Raton: Taylor & Francis Group, LLC; 2019. p. 54.

23. Thomas H. Davenport, Rajeev Ronanki. Artificial Intelligence for the Real World. In: HBR, HBR's 10 must reads on AI, analytics, and the new machine age. Boston: Harvard Business Publishing Corporation; 2019. p. 2.

24. Thomas Ramge. Who's Afraid of AI?: Fear and Promise in the Age of Thinking Machines. New York: The Experiment, LLC; 2018.

25. Tomczyk MS. Domino Effect: How Pandemic Chain Reactions Disrupted Companies and Industries. In: Kuah RD, Adrian TH, eds. Digital Transformation in a Post-COVID World: Sustainable Innovation, Disruption, and Change. Boca Raton, Florida: CRC Press; 2021. pp. 33-47.

26. Vecom. Báo cáo Chỉ số Thương mại điện tử 2020. Hà Nội: Hiệp hội Thương mại điện tử Việt Nam; 2020.

27. Vecom. Báo cáo Chỉ số Thương mại điện tử Việt Nam 2021: Tăng trưởng vững chắc. Hà Nội: Hiệp hội Thương mại điện tử Việt Nam; 2021.

FINANCING

The authors did not receive financing for the development of this research. They finance it themselves.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Phan Minh Duc, Duong Ngoc Anh.
Data curation: Phan Minh Duc.
Formal analysis: Duong Ngoc Anh.
Research: Phan Minh Duc, Duong Ngoc Anh.
Methodology: Phan Minh Duc, Duong Ngoc Anh.

Project management: Duong Ngoc Anh, Phan Minh Duc.
Resources: Duong Ngoc Anh.
Software: Phan Minh Duc.
Supervision: Duong Ngoc Anh.
Validation: Phan Minh Duc.
Display: Phan Minh Duc.
Drafting - original draft: Duong Ngoc Anh.
Writing - proofreading and editing: Phan Minh Duc.

https://doi.org/10.62486/latia202499 ISSN: 3046-403X