

# DIGITAL TRANSFORMATION BARRIERS FOR SMALL AND MEDIUM ENTERPRISES IN VIETNAM TODAY

## AUTHORSHIP

Nguyen Thanh Hai 

Thuongmai University, Hanoi, Vietnam.

**ORCID:** <https://orcid.org/0000-0001-6315-4128>

**E-mail:** [nguyenthanhhai@tmu.edu.vn](mailto:nguyenthanhhai@tmu.edu.vn)

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## INTRODUCTION

Digital transformation is taking place strongly along with the rapid development of technology, which has created great changes for businesses of all different types and fields. In the current context, digital transformation has become a mandatory fact for businesses to participate in to be able to develop and survive. More and more businesses are participating in digital transformation and achieving remarkable achievements.

As a developing country with quick and flexible access to technology, Vietnamese businesses have many opportunities to catch up with the world's digital transformation trend. In particular, Vietnamese SMEs are increasingly raising awareness and applying digital technologies to activities such as internal management, production, purchasing, logistics, marketing, sales and payment, etc. The current outbreak of the Covid-19 epidemic, leading to the limitation of contact and the implementation of social distancing measures, has forced businesses in general and SMEs in particular to apply more digital transformation in production, business and operation activities.

However, reality shows that there is a clear difference between the effectiveness of digital transformation between the group of large-scale enterprises and the group of SMEs in Vietnam today (THUY, 2021). According to the Law on Supporting Small and Medium Enterprises in 2017, "small and medium enterprises include micro enterprises, small enterprises and medium enterprises, with an average number of employees participating in social insurance not exceeding 200 people per year. and meet one of the following two criteria: a) Total capital must not exceed 100 billion VND; b) Total revenue of the preceding year is not more than 300 billion VND" (Article 4, Clause 1). Basically, limitations on investment capital, information technology infrastructure, human resources ... create barriers and challenges for SMEs in the digital transformation process, thereby reducing the efficiency of the process. this (NGHIA, 2021).

Stemming from the above issues, the author chooses the topic of: "Digital transformation barriers for small and medium-sized enterprises in Vietnam today". The article aims to study the current status of barriers to the digital transformation process of SMEs in Vietnam, thereby proposing solutions for successful digital transformation and some recommendations to business associations. industry and state agencies in supporting SMEs in digital transformation.

## RESOURCE THEORY PERSPECTIVE FOR SME'S DIGITAL TRANSFORMATION

According to Verhoef et al. (2021), digital transformation in businesses always requires resources, structures, growth strategies, indicators and goals corresponding to each specific stage. Digital transformation is a combination of complementary resources because it is a social engineering process. The OECD (2017) asserts that, in order to successfully apply information and communication technology in SMEs, it is essential to make optimal use of additional knowledge-based assets, such as organization and human resources. set. These assets allow SMEs to reduce their overreliance on any one technology or platform. Failure to focus on investing in the human factor may slow down the application and diffusion of technology in these businesses.

In another aspect, Rogers (2016) believes that digital transformation is not fundamentally about focusing on technology, but on strategy. Verhoef et al (2021) agree with this view and further assert that digital transformation is multidisciplinary in nature because this process involves changes in strategy, organization, information technology, and supply chain. supply and marketing. Stemming from this multidisciplinary perspective, the study of digital

transformation according to the Resource-based view (RBV) (JAY, 1991; GRANT, 1991) will provide a multi-dimensional view of the process. digital transformation of SMEs. According to this theory, a firm obtains a competitive advantage through a combination of valuable, scarce, inimitable and irreplaceable resources and capabilities. Based on the theory of resources, we develop research hypotheses related to the relationship of three main resources in SMEs, namely: IT barriers, human barriers, and strategic barriers.

## DEVELOPING RESEARCH HYPOTHESES ON BARRIERS TO SME DIGITAL TRANSFORMATION INFORMATION TECHNOLOGY (IT) BARRIERS

IT includes technological devices with computing capabilities that support an organization's decision-making and information processing. IT is growing rapidly with many new achievements such as social media and collaboration technology; mobile technology; data and analytics; and cloud services. These achievements enable SMEs to communicate, collaborate, and compute to facilitate the development of digital platforms and digital infrastructure (NAMBISAN, 2017). These platforms and infrastructures include applications and media assets that are central to developing innovative products and services, and delivering new value propositions (BOUNCKEN et al., 2019). ). As such, IT allows SMEs to optimize business processes to create value for customers and businesses, which is considered a key goal of digital transformation in these businesses.

However, the application of IT by SMEs in the digital transformation process faces certain barriers stemming from the limitations in size, finance, technical resources, etc. of these enterprises. OECD, (2017). Even so, the development of software services allows SMEs to access technology at a cost-effective price, while providing flexibility in the transition between technologies on demand, thereby avoiding sunk costs and being limited by an IT provider (OECD, 2017). This gives SMEs an unprecedented opportunity to develop high-quality IT infrastructure that accelerates digital transformation.

On the basis of the above arguments, the paper proposes the first research hypothesis:

Hypothesis 1: IT infrastructure has a positive impact on digital transformation in SMEs.

### Human barrier

Regarding the human barriers to digital transformation of SMEs, it mainly refers to issues related to the knowledge and skills of human resources in these enterprises. Nguyen et al. (2015) argue that one of the biggest barriers to digital transformation in SMEs is the lack of human resources with the knowledge and skills to meet the requirements of the digital transformation process. Basically, digital transformation significantly increases the complexity and abstraction of the problems to be solved, thereby requiring digital skills in the human resources in these enterprises.

Specifically, human resources in these enterprises need to have skills in developing, applying and integrating new and existing IT systems, as well as skills in business, finance, project management, engineering Contract negotiation and data integration skills. In addition to the skill requirements, the human resources in SMEs also need to be fully equipped with technical, mechatronics and IT knowledge. This enables the ability to use digital technology effectively, which can be seen as a prerequisite for accelerating digital transformation in SMEs. In addition, another human-related barrier that SMEs are facing in digital transformation is limited knowledge and senior management skills. Digital transformation projects in these enterprises often fail due to a lack of senior management teams with the necessary knowledge and skills (ELLER et al., 2020).

Thus, the level of human resources is an important factor to promote and ensure the success of the digital transformation process in SMEs. In addition to issues related to knowledge and skills, some researchers believe that the level of human resources for digital transformation in SMEs also includes the ability to share knowledge between different departments. in the enterprise as well as the level of employee participation in implementing digital transformation (NGUYEN et al., 2015). Tackling human barriers while taking full advantage of flexibility will enable SME digital transformation to become easier and ensure solid success.

On the basis of the above arguments, the paper proposes the second research hypothesis:

Hypothesis 2: Human resource qualifications have a positive impact on digital transformation in SMEs.

### Strategic barrier

Digital transformation of SME business processes and organizational structure requires a clear and coherent digital strategy (KANE et al., 2015). Basically, for SMEs, digital strategy is not only related to operations, purchasing and marketing, but also associated with restructuring the business model (BOUNCKEN et al., 2019). Digital business strategy involves transforming products and services combined with digital technology based on a business-centric perspective. This strategy includes value creation, value capture mechanism, value proposition, digital technology, organizational change as well as external and internal SME dynamics.

The basic content of the digital business strategy in SMEs includes a key issue such as: fundamental transformation of business processes or business models (e.g. development of new business lines); improve customer experience and engagement; improve business innovation; improve business decision making... To build a digital business strategy, SMEs need to ensure four main aspects, which are: (1) using digital technology, (2) transforming manufacturing mechanism values, (3) organizational change, and (4) financial planning (GIOIA et al., 2013). Failure to develop a digital business strategy will lead to inaccurate decisions and cause waste of resources in businesses.

A participatory and shared digital business strategy among organizational members can facilitate digital transformation in SMEs. However, building a digital strategy is not a simple process that is full of difficulties and challenges for SMEs. It is important for owners and managers to consider conflict in their strategic priorities (GIOIA et al., 2013). Unmet expectations and behaviors that are inconsistent with the business's digital transformation goals can lead to conflicts among employees and create barriers to implementing digital business strategies (BOUNCKEN et al., 2019).

On the basis of the above arguments, the paper proposes the third research hypothesis:

Hypothesis 3: Digital business strategy has a positive impact on digital transformation in SMEs. Relation between digital transformation and business results of SMEs The OECD (2017) argues that digital transformation brings many benefits to SMEs, allowing them to expand their markets, access financial resources more widely, and enhance cooperation and learning. In addition, digital transformation also helps SMEs to have easier access to advanced technology, develop powerful products, and build a team of highly qualified personnel. According to Verhoef et al (2021), thanks to digital transformation, SMEs can apply digital technology to optimize existing business processes through improving the efficiency of coordination between processes or create additional value for customers based on improving user experience.

Bley et al. (2016) assert that building and implementing digital business processes increases efficiency and reduces costs for SMEs. These scholars also point out that supplier- and customer-focused digital transformation contributes to enhancing businesses' core competencies and adoption of e-procurement systems, thereby having a positive impact. to business results (ELLER et al., 2020).

On the basis of the above arguments, the paper proposes the fourth research hypothesis:

Hypothesis 4: Digital transformation has a positive impact on business results of SMEs.

### METHODOLOGY

To test the research hypotheses, the author conducts research and analyzes documents including books, newspapers, magazines, reports, domestic and foreign studies related to digital transformation barriers. for SMEs in Vietnam today. Some of the research focus issues are: the theoretical perspective of resources for SME's digital transformation, IT barriers, human barriers, strategic barriers, the relationship between digital transformation and business results of SMEs... The data is carefully collected and classified into specific contents

to serve the research process. From there, the author builds a theoretical basis with the following research scale:

**Table 1.** Research scale set

No	Variables	Sign	Authors
1	IT infrastructure of SMEs □ IT facilities (machines, networks) □ Mobile technology Databases and tools for collection and analysis Application of cloud computing technology, AI	CNTT CNTT1 CNTT2 CNTT3 CNTT4	Ross & Blumenstein (2015); Bouncken et al (2019); Eller et al (2020)
2	Qualifications of human resources of SMEs □ Digital knowledge of human resources □ Digital skills of human resources □ Ability to share and collaborate by digital technology Employee involvement in digital transformation	NNL NNL1 NNL2 NNL3 NNL4	Verhoef et al (2021); Nguyen et al (2015); Eller et al (2020)
3	SME business strategy □ The relevance of business quality to the market □ Feasibility of CLKD in digital context □ Degree of digitization compared to the quality of competitors Flexibility of CLKD in the digital context	CLKD CLKD1 CLKD2 CLKD3 CLKD4	Kane et al (2015); Bouncken et al (2019)
4	Situation of digital transformation of SMEs □ Level of digital business innovation □ Degree of digitization of internal processes □ Degree of digitization of transactions, interactions, experiences with customers and partners Level of business decision making from data and digital analytics	CDS CDS1 CDS2 CDS3 CDS4	Bouncken et al (2019); Bley et al (2016); Eller et al (2020)
5	Business results of SMEs □ Financial results Market results (market share) Strategic results (objectives)	KQKD KQKD1 KQKD2 KQKD3	Eller et al (2020) ; Bley et al (2016)

Source: Search data.

To reinforce the research data, the author conducts an investigation survey on digital transformation barriers for SMEs in Vietnam today. After developing the questionnaire, the author sent the questionnaire to SMEs mainly in Hanoi and Ho Chi Minh to collect data. Due to the complicated situation of the Covid-19 epidemic, the questionnaire was sent mainly via email to businesses. The total number of questionnaires sent was 250, the number of questionnaires received was 237, of which 9 responses were invalid. Thus, the number of valid responses for the study is 228. The sample of the study is detailed in the table below.

**Table 2.** Survey sample

Criteria	No	Ratio	Criteria	No	Ratio
Year established	228	100%	Labor size	228	100%
< 3 yrs	15	6,58%	< 10 people	6	2,63%
3 - 5 yrs	99	43,42%	10-49 people	22	9,65%
6 - 10 yrs	79	34,65%	50-99 people	84	36,84%
11 - 20 yrs	24	10,53%	100-149 people	97	42,54%
> 20 yrs	11	4,82%	150-199 people	19	8,33%
Fields	228	100%	Revenue size	228	100%
Agri-Forestry-Fishery	33	14,47%	< 10 b	8	3,51%
Construction	49	21,49%	10 - < 50 b	28	12,28%
Commerce - service	77	33,77%	50 - <100 b	44	19,30%
Industrial	59	25,88%	100 - < 200 b	84	36,84%
Others	10	4,39%	200 - < 300 b	64	28,07%

Source: Survey survey results

The majority of SMEs participating in the survey have operated for 3 to 5 years, accounting for 43.42%. Enterprises mainly operate in the fields of trade - services (33.77%) and industry (25.88%). In terms of labor size, up to 42.54% of enterprises participating in the survey have employees ranging from 100-149 people. In terms of revenue scale, the majority of enterprises have revenue from 100 to less than 200 billion, accounting for 36.84%. In this study, the author uses the SEM (structural equation modeling) method of network modeling on AMOS 24 software to evaluate the relationship of the resource variables of SMEs,

including: IT infrastructure, human resources resources, and business strategies to digital transformation in these enterprises. At the same time, on the basis of analyzing the SEM model, the study also clarifies the impact of digital transformation on the business results of SMEs today. It is one of the most complex and versatile techniques used to analyze complex relationships in causal modeling and is widely used in research fields.

## RESULTS

The results of the SEM model analysis are as shown in the table and figure below. The obtained conformity indexes (CMIN/DF = 1.452; IFI = 0.979; TLI rho2 = 0.975; CFI = 0.979; RMSEA = 0.045; PCLOSE = 0.744) all gave standard values, allowing to confirm that the SEM model was successful. confidence level.

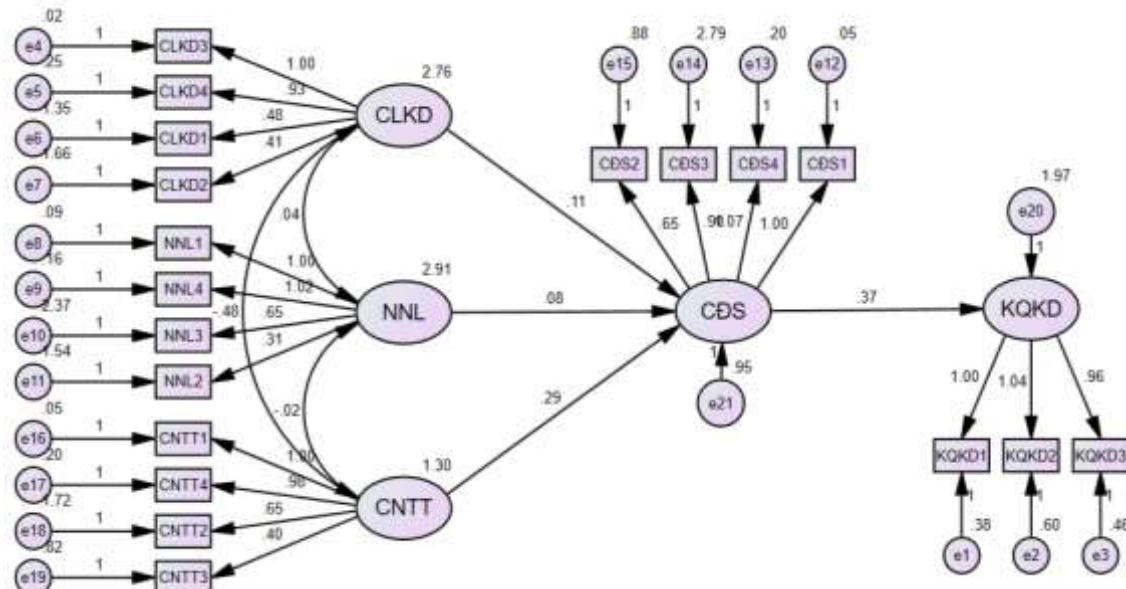
Table 3. SEM model results

			Estimate	S.E.	C.R.	P
CDS	<---	CLKD	0,111	0,041	2,682	0,007**
CDS	<---	NNL	0,080	0,039	2,033	0,042*
CDS	<---	CNTT	0,291	0,062	4,729	0,000***
KQKD	<---	CDS	0,369	0,095	3,865	0,000***
CLKD	<-->	NNL	0,038	0,191	0,202	0,840
NNL	<-->	CNTT	-0,016	0,132	-0,118	0,906
CLKD	<-->	CNTT	-0,477	0,132	-3,609	0,000***
Chi-square = 210,537 Degrees of freedom = 145 Probability level = 0,000			CMIN/DF = 1,452; IFI = 0,979; TLI = 0,975; CFI = 0,979; RMSEA = 0,045; PCLOSE = 0,744			

\*statistics meanings  $p < .05$ ; \*\*statistics meanings  $p < .01$ ; \*\*\*statistics meanings  $p < .001$ .

Source: Amos 24

Figure 1. SEM model results



Source: 24 . Amos Processing

According to the SEM model results, at the 95% confidence level, IT infrastructure (IT variable) has a positive impact on the digital transformation (CST variable) of SMEs with the coefficients of Estimate = 0.291 and Sig. = 0.000. Thus, hypothesis H1 is confirmed. This result corroborates the role of IT infrastructure in the digital transformation of SMEs. For SMEs to successfully implement digital transformation, appropriate IT infrastructure is required. Currently, investment in IT infrastructure has contributed to strongly promoting the digital transformation process of SMEs in Vietnam. Businesses tend to invest heavily in improving online payment technology, big data analytics, artificial intelligence, and machine learning.



This technology is especially useful for SMEs in the retail sector with a large customer base. In addition, SMEs are also investing in automation and blockchain, to reduce labor-intensive operations such as in manufacturing, warehousing, and transportation.

However, according to Cisco's 2019 report, SMEs in Vietnam are facing the barrier of lack of a strong enough IT platform to enable digital transformation, accounting for 16.7%. Vietnamese SMEs are still behind the world in terms of technology and have not yet mastered the core technologies of digital transformation and basic foundation systems. Therefore, digital transformation at these enterprises is still using technologies available in the world.

Regarding the level of human resources (variable human resources) of SMEs, the SEM results show that, at the 95% confidence level, this variable positively affects the degree of transformation (the variable variable) of SMEs with the Estimate = 0.080 and Sig. = 0.042. Thus, hypothesis H2 is confirmed correctly, The results confirm the importance of human resource quality, especially in IT, in the current digital transformation context. Vietnamese SMEs are increasingly aware of the key role of human resources in digital transformation operations. Therefore, in recent years, businesses have actively cultivated necessary skills for their human resources, especially technology mastery skills, creative capacity and the ability to quickly adapt to the environment. constantly changing technology field; change mindset and culture to join together and be determined towards the goal of digital transformation. As a result, the digital transformation process at SMEs has made significant progress.

However, according to a report by Cisco in 2019, in Vietnam, SMEs are facing a barrier of lack of digital skills and human resources (17%) in the digital transformation process. This is also reflected in the Vietnam E-commerce Index Report 2020. Specifically, the percentage of Vietnamese enterprises that have difficulty recruiting skilled workers in e-commerce and information technology in Vietnam. relatively high level, only about 30% of enterprises can meet this demand for human resources. On average, each year Vietnam lacks about 90,000 human resources to develop the digital economy and digital society because the domestic information technology training programs have not yet met the demand. Therefore, in the coming time, businesses need to be more proactive in improving human resources to promote the success of the digital transformation process.

Regarding the impact of business strategy (variable quality), data from the analysis of SEM models show that this variable positively affects the degree of transformation (collateral variable) of SMEs, at the 95% confidence level, with the system. Estimate = 0.111 and Sig. = 0.007. Thus, hypothesis H3 is confirmed. This result shows that the digital transformation process in SMEs is bound by business strategy. A remarkable result is the existence of a negative relationship between two variables of business quality and IT, showing that the better the IT infrastructure, the lower the role of business quality in SMEs and vice versa. Currently, Vietnamese SMEs are gradually changing from traditional business strategies to digital business strategies, focusing on applying modern technologies and new business processes to create new products and services or improve Improve existing products and services, bring them to market faster, at lower costs, and in more innovative ways. In addition, in some enterprises, IT has effectively implemented a few activities related to the business strategy of enterprises such as supporting planning, monitoring implementation and evaluating strategy...

However, the current business strategy is also one of the major barriers to the digital transformation of Vietnamese SMEs. Because the development and implementation of this strategy in SMEs is greatly influenced by the perception of managers. In many SMEs today, the implementation of a business strategy with a budget for digital transformation is still short-term. This has somewhat reduced the positive impact of business strategies on the digital transformation process of businesses.

Regarding the role of digital transformation (convertible variable) in SMEs, the results show a positive impact of this variable on business results (business results variable) of SMEs, at the 95% confidence level, with the Estimate = 0.369 and Sig. = 0.000. Thus, hypothesis H4 is confirmed. This result corroborates the important and urgent role of digital transformation in

the production and business activities of SMEs in the context of Industry 4.0 and the current epidemic crisis.

With the advantage of small scale and few employees, Vietnamese SMEs have more favorable conditions than large enterprises with cumbersome apparatus in applying digital transformation to change their operating and production systems. In the enterprise. In addition, the application of digital transformation has contributed to optimizing operations, increasing efficiency, reducing costs, increasing competitiveness, improving governance and business models; increase experience, connect customer relationships... As a result, digital transformation has been positively impacting the business results of Vietnamese SMEs in three main aspects, which are financial results, market results. market (market share), and strategic outcomes (objectives).

According to the report "Digital Development Index of SMEs in Asia - Pacific" by Cisco, in 2020, up to 72% of SMEs in Vietnam are looking to digital transformation to bring new products and services. to the market. This is considered a significant increase compared to 2019 (32%). Also according to this report, the digital transformation of SMEs in Vietnam is predicted to contribute between \$24-30 billion in gross domestic product (GDP) in 2024 and contribute to economic recovery. post-Covid-19 pandemic.

## DISCUSSION

On the basis of research results, the study proposes a number of solutions and recommendations to SMEs, business associations and state agencies, specifically as follows:

- Proposing solutions for SMEs for successful digital transformation

For successful digital transformation, SMEs need to actively invest resources in developing high-quality IT infrastructure to promote the digital transformation process. Businesses also need to strengthen their digital mindset and build a digital transformation schedule. Connecting digital technologies in the transformation process is essential. In addition, human resources play an important role in the digital transformation process, so SMEs need to have a plan to attract, train and retain talents, especially employees with skills and knowledge in digital transformation. change number. In addition, businesses also need to actively train digital skills, provide financial resources for human resource development. SMEs can consider changing the operating model of their business through the combination of human resources and digital resources. This is the premise that allows businesses to implement digital transformation more easily and effectively.

In addition, SMEs need to focus on building and implementing digital business strategies to ensure successful digital transformation. The change from a traditional business strategy to a digital business strategy requires the participation of the entire staff in the enterprise, focusing on some important contents of the digital business strategy such as: basic business processes, business model transformation; enhance customer experience and engagement; ... Another key solution is that businesses need to have a plan to implement digital transformation clearly, in each specific stage in order to have the right investment in each stage, with a specific assessment as follows. each stage to ensure the success of digital transformation.

- Proposals to business associations:

To promote the success of digital transformation in SMEs in Vietnam today, the role of business associations is very important. In the coming time, associations need to have a plan to support and promote digital transformation in SMEs in each specific period, in terms of IT infrastructure, human resources... Especially, business associations Businesses need to actively create an ecosystem of services and products with long-term sustainable value, connecting SMEs in the digital transformation process. This will create opportunities for Vietnamese SMEs to have a connection during the digital transformation process to create synergy, support businesses to develop and grow, and overcome difficulties and barriers of number conversion.

- Proposing recommendations to state agencies on supporting SMEs in digital transformation:

To ensure the success of digital transformation in SMEs, the support of state agencies is important. The government needs to closely accompany the digital transformation process of SMEs through specific supporting mechanisms and policies to meet the practical requirements of digital transformation of SMEs. In addition, the Government should promote simplification and reduction of business conditions, create a favorable and equal business environment for all economic sectors, and support the development of SMEs; at the same time creating favorable conditions in terms of capital, technology, etc., so that these enterprises can be bolder when entering the digital transformation process. In the context of the Covid-19 epidemic, the Government needs to deploy credit packages to support SMEs to overcome difficulties, thereby promoting these businesses to participate strongly in digital transformation. In addition, relevant ministries and sectors should actively coordinate with domestic and foreign agencies to implement projects to support businesses in digital transformation to contribute to promoting the process of digital transformation in SMEs. This should focus on raising awareness about digital transformation; improve the quality of resources for digital transformation...

## CONCLUSION

The article studies theoretical and practical issues related to digital transformation barriers for SMEs in Vietnam today. The author approaches from the perspective of resource theory to study the digital transformation of SMEs, and at the same time clarifies the digital transformation barriers of this group of businesses. On that basis, the author develops research hypotheses about the relationship between enterprise resources and digital transformation of SMEs as well as the relationship between digital transformation and business results of these enterprises.

Due to the impact of the Covid-19 epidemic, survey surveys were conducted mainly via email (email) and phone for SMEs in Vietnam, to collect data for research. Then, the SEM network model is used to analyze the collected data to clarify the above relationships. Research results show that three main resources (IT infrastructure, people and business strategy) have a positive impact on the digital transformation of SMEs; However, these factors are also barriers to enterprises' digital transformation. In addition, the role of digital transformation is also confirmed, having a positive impact on business results of SMEs.

From there, the article proposes a number of solutions to SMEs, business associations and state agencies to ensure successful digital transformation. In particular, SMEs need to actively invest resources in developing high-quality IT infrastructure to promote the digital transformation process. At the same time, SMEs need to have a plan to attract, train and retain talents, especially employees with skills and knowledge in digital transformation. The focus on building and implementing a digital business strategy also needs attention. In addition, the support of business associations and state agencies is important in promoting and facilitating the digital transformation of SMEs today.

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## Digital transformation barriers for small and medium enterprises in Vietnam today

Barreiras de transformação digital para pequenas e médias empresas no Vietnã hoje

Barreras de transformación digital para las pequeñas y medianas empresas en Vietnam hoy

### Resumo

Este artigo estuda hoje as barreiras de transformação digital para pequenas e médias empresas (MEEs) no Vietnã. Para realizar o estudo, realizamos um levantamento sobre pequenas e médias empresas no Vietnã e, em seguida, utilizamos o modelo SEM para analisar os dados coletados. Nossos resultados de pesquisa mostram que três recursos principais (incluindo TI, recursos humanos e estratégia de negócios) têm impacto positivo na transformação digital das MEEs; no entanto, esses fatores são as barreiras para a transformação digital desses empreendimentos. Além disso, a transformação digital tem impacto positivo nos resultados de negócios das MEEs. A partir daí, o artigo propõe algumas recomendações para pequenas e médias empresas, associações empresariais e agências estatais para o sucesso da transformação digital.

**Palavras-chave:** Transformação digital. Barreiras. Pequenas e médias empresas (SMEs). Tecnologia da informação. Vietnam.

### Abstract

This article studies the digital transformation barriers for small and medium enterprises (SMEs) in Vietnam today. To carry out the study, we conduct a survey on small and medium-sized enterprises in Vietnam, then use the SEM model to analyze the collected data. Our research results show that three main resources (including IT, human resources and business strategy) have a positive impact on the digital transformation of SMEs; however, these factors are the barriers to the digital transformation of these enterprises. In addition, digital transformation has a positive impact on the business results of SMEs. From there, the article proposes some recommendations to small and medium enterprises, business associations and state agencies for the success of the digital transformation.

**Keywords:** Digital transformation. Barriers. Small and medium enterprises (SMEs). Information technology. Vietnam.

### Resumen

Este artículo estudia las barreras de transformación digital para las pequeñas y medianas empresas (PYME) en Vietnam hoy en día. Para llevar a cabo el estudio, realizamos una encuesta sobre pequeñas y medianas empresas en Vietnam, luego utiliza el modelo SEM para analizar los datos recopilados. Los resultados de nuestra investigación muestran que tres recursos principales (incluyendo TI, recursos humanos y estrategia empresarial) tienen un impacto positivo en la transformación digital de las pymes; sin embargo, estos factores son las barreras para la transformación digital de estas empresas. Además, la transformación digital tiene un impacto positivo en los resultados de negocio de las pymes. A partir de ahí, el artículo propone algunas recomendaciones a pequeñas y medianas empresas, asociaciones empresariales y agencias estatales para el éxito de la transformación digital.

**Palabras-clave:** Transformación digital. Barreras. Pequeñas y medianas empresas (SEMES). Tecnología de la información. Vietnam.