

# Digital Transformation In State Governance In Vietnam

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## Abstract

Digital technology is developing and being applied in the governance activities of various types of organizations, reflecting a shift in mindset and operating methods through digital technology. For state organizations, in the face of the explosive development of digital technology, the methods of state governance have changed to adapt, shifting from a physical environment to a digital environment, building a digital government to better serve the people. This places demands on the digital capabilities of the entities involved in state governance, including civil servants and citizens. Therefore, developing digital civil servants and digital citizens is a necessary solution to achieve the goal of digital transformation in state governance. This study develops a theoretical framework on digital transformation by analyzing the impact of developing digital civil servants and digital citizens on the goal of digital transformation in state governance. Based on the established theoretical framework, the author surveyed the opinions of 330 local government leaders at the commune level to draw empirical conclusions about the digital capabilities of civil servants and citizens and their impact on digital transformation goals in local government administration. From these research conclusions, the author discusses policy solutions aimed at developing digital human resources in Vietnam now and in the future.

**Keywords:** State governance; Digital transformation; Digital civil servants; Digital citizens; Vietnam.

## 1. Introduction

Vietnam is a country that adapts quickly to technology, and in its development strategy, the digital technology sector is expected to contribute approximately 15% of GDP in 2024 and reach 20% by 2030 (CPV, 2024). In implementing the strategy for the development of science, technology, and innovation until 2030, a key task and solution identified is digital transformation and modernization of governance (MST, 2025).

The Fourth Industrial Revolution (Industry 4.0) first emerged in 2016, but has since developed rapidly and had a widespread impact on countries around the world. Consequently, digital

technology has experienced explosive growth, and the trend of digital transformation in the management of various types of organizations has emerged. To adapt to the development of Industry 4.0, Vietnam has proactively researched, developed, and implemented a national digital transformation program with the goal of developing a digital government to better serve its citizens (PM, 2020).

The national digital transformation program has affirmed a shift in mindset and methods of state governance aimed at building a modern, professional, and efficient administration. This necessitates the development of digital capabilities for all stakeholders involved in state governance, including civil servants and citizens. Therefore, developing the digital capabilities of civil servants and citizens is essential, requiring appropriate solutions to proactively secure digital human resources in order to successfully achieve the national digital transformation goals.

## 2. Literature review

Digital transformation is an inevitable development trend in the context of the 4.0 revolution, playing a crucial role in improving the effectiveness of state governance, the competitiveness of businesses, and the quality of life for citizens. The current prevailing view of digital transformation affirms it as a comprehensive and holistic change in the way individuals and organizations live, work, and produce, based on digital technologies. Many recent studies emphasize that digital transformation in state governance means developing a digital government to better serve citizens, developing a digital economy to make people wealthier, and developing a digital society to make people happier. This is not just about digitizing data, but about changing mindsets, business models, and culture to create new value, increase operational efficiency, and enhance customer experience.

Tuyen, H.T.M. (2023) explains the significance of digital transformation in state governance as reflected in the organizational structure, management, operation, and provision of public services; helping to save time and costs for both government agencies and citizens, and forming a digital government and digital society model. Giang, P.T. (2024) affirms that digital transformation in state governance has become an inevitable trend in countries around the world; it is the gradual transformation from a traditional state governance system to a network governance model, including an institutional system arranged and connected vertically and horizontally to diversify resources; the government will apply digital technologies to support the provision of public services to citizens and businesses in a more open and transparent manner; and through digital transformation, the state will have an open data system, on the basis of which it will create conditions for citizens to monitor the activities of the state.

According to Huong, D.T.T. (2025), digital transformation is not simply data digitization, but also a comprehensive change in operating models, production organization methods, management and service provision, based on digital technology; improving the effectiveness of state governance, the competitiveness of businesses and the quality of life of citizens. This view has also been affirmed by some previous studies, according to which digital transformation in state governance is the transformation of the government's operating model

based on digital technology and digital data to create new value, increase operational efficiency and improve the experience of citizens (Hung, D.V., 2022).

These studies explain and analyze the characteristics, roles, and significance of digital transformation in state governance in considerable detail. The scale "Digital transformation in state governance" (DSG) is constructed to imply key contents, including: The government establishes a digital operating model and conducts state administration tasks in a digital environment (DSG1); A digital culture in public service is formed and gradually developed, and the activities of civil servants in the digital environment are carried out more transparently, accurately, and professionally (DSG2); A digital society is formed and gradually developed, and citizens can easily participate online in local policy processes and public service provision (DSG3).

To achieve the goal of digital transformation in state governance, the digital workforce – the subjects participating in state governance processes in the digital environment (civil servants, citizens) – plays a direct and decisive role. When civil servants and citizens possess digital competence (digital knowledge and skills that meet the basic requirements of digital transactions), the public service activities of civil servants and the interaction between civil servants and citizens will be carried out smoothly in the digital environment; saving time and costs for citizens, and improving the work efficiency of civil servants. Therefore, developing the digital workforce to meet the goal of digital transformation in state governance means developing the digital competence of civil servants and citizens to form digital civil servants and digital citizens. In other words, developing digital civil servants and digital citizens is a necessary solution to achieve the goal of digital transformation in state governance, as explained below.

- Firstly, developing digital civil servants is an objective requirement because the digital capacity of civil servants is a necessary condition for them to perform their duties in the digital environment, promoting digital transformation in state governance. According to Chen, L. et al. (2024), it plays a decisive role in achieving the goal of digital transformation. Previously, Luca, T. et al. (2021) and Tuyen, H.T.M. (2023) also affirmed that civil servants who are trained and updated with basic digital knowledge and skills help to form working capacity (advisory capacity, task execution capacity), the ability to transact in the digital environment, and become digital civil servants – subjects implementing digital transformation in state governance to develop a digital government and better serve the people. The scale "Developing digital civil servants" (DCS) is interpreted with the following main contents: Civil servants are trained and updated with basic digital knowledge and skills to meet the standards of digital human resources for achieving digital transformation goals in state administration (DCS1); Civil servants use digital knowledge and skills proficiently to perform professional work and carry out official duties (advising, implementing work) in the digital environment (DCS2); Civil servants use digital knowledge and skills proficiently to interact with and guide citizens to effectively participate in state administration at the local level (DCS3).

- Secondly, developing digital citizenship is a necessary requirement for people to adapt to the digital society and actively and proactively participate in local state governance in the digital

environment. MIC (2021) analyzes the necessary digital competencies of citizens, manifested in their ability to access digital information sources; their ability to communicate in the digital environment; their ability to buy and sell goods online, etc. Nga, Q. (2023) explains that citizens need to be educated and disseminated with digital knowledge and skills to become digital citizens, aiming to achieve the national digital transformation goal; then, they become active subjects of transactions in the digital environment, active subjects of state governance processes and social activities. The scale "Developing digital citizens" (DCZ) is interpreted with the following main contents: Citizens are disseminated and updated with basic digital knowledge and skills to develop digital competence and become subjects of digital social activities (DCZ1); Citizens understand digital information and data and are able to request the resolution of administrative documents at the local level in the digital environment (DCZ2); Citizens understand digital information and data and are able to conduct transactions and participate in policy processes at the local level in the digital environment (DCZ3).

When civil servants and citizens possess digital knowledge and skills and are proficient in digital transactions, a digital society will be formed. State governance in a digital environment will be facilitated by digitized big data; interaction between government agencies and citizens will be carried out more frequently and easily through online means, saving resources while ensuring effectiveness. The goal of digital transformation in state governance will be achieved, affirming its significance and proving it to be an inevitable development trend. Based on this, this empirical study in Vietnam hypothesizes: Developing digital civil servants (H1) and developing digital citizens (H2) are fundamental requirements that directly influence Digital transformation in state governance.

Through a comprehensive review, the author developed a theoretical framework for digital transformation in state governance. The theoretical model consists of two independent scales/variables: "Developing digital civil servants" (DCS) and "Developing digital citizens" (DCZ), and one dependent scale/variable: "Digital transformation in state governance" (DSG). The scales comprise nine observed variables, designed as nine survey questions and measured using a 5-point Likert scale: 1 - Strongly disagree; 2 - Disagree; 3 - Neutral; 4 - Agree; 5 - Strongly agree (Table 1, Figure 1).

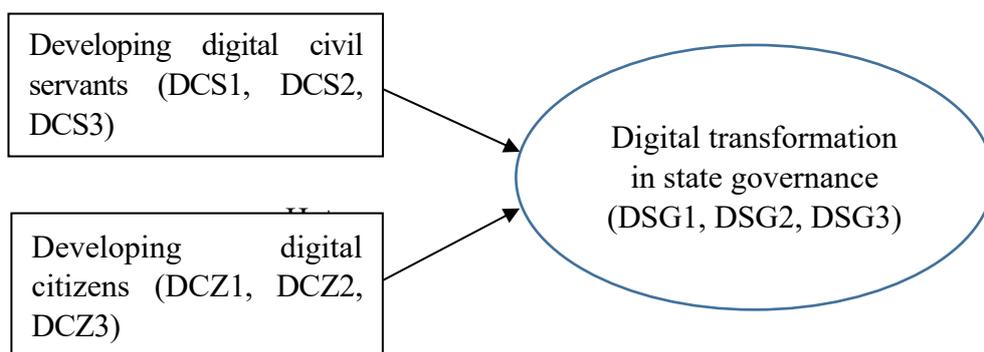
**Table 1.** Theoretical framework

No	Scales	Encode	Rating levels				
			1	2	3	4	5
<b>I</b>	<b>Developing digital civil servants</b>	<b>DCS</b>					
1	Civil servants are trained and updated with basic digital knowledge and skills to meet the standards of digital human resources for achieving digital transformation goals in state administration	DCS1					
2	Civil servants use digital knowledge and skills proficiently to perform professional work and carry	DCS2					

No	Scales	Encode	Rating levels				
			1	2	3	4	5
	out official duties (advising, implementing work) in the digital environment						
3	Civil servants use digital knowledge and skills proficiently to interact with and guide citizens to effectively participate in state administration at the local level	DCS3					
<b>II</b>	<b>Developing digital citizens</b>	<b>DCZ</b>					
4	Citizens are disseminated and updated with basic digital knowledge and skills to develop digital competence and become subjects of digital social activities	DCZ1					
5	Citizens understand digital information and data and are able to request the resolution of administrative documents at the local level in the digital environment	DCZ2					
6	Citizens understand digital information and data and are able to conduct transactions and participate in policy processes at the local level in the digital environment	DCZ3					
<b>III</b>	<b>Digital transformation in state governance</b>	<b>DSG</b>					
7	The government establishes a digital operating model and conducts state administration tasks in a digital environment	DSG1					
8	A digital culture in public service is formed and gradually developed, and the activities of civil servants in the digital environment are carried out more transparently, accurately, and professionally	DSG2					
9	A digital society is formed and gradually developed, and citizens can easily participate online in local policy processes and public service provision	DSG3					

Source: Compiled by the author through the review

**Research model**



**Figure 1. Research model**

**3. Research methods**

To achieve the objective of empirically analyzing and evaluating digital transformation, the development of digital civil servants, and the development of digital citizens in Vietnam, the author uses a combination of qualitative and quantitative research methods.

- Qualitative research methods were used in the process of collecting and analyzing secondary documents to build the theoretical framework. The theoretical model was constructed consisting of two independent scales/variables: “Developing digital civil servants” (DCS), “Developing digital citizens” (DCZ), and one dependent scale/variable: “Digital transformation in state governance” (DSG) [Figure 1].

- Quantitative research methods are used in the process of collecting and analyzing primary data using survey tools to test theoretical models and research hypotheses.

In this study, the authors used exploratory factor analysis and regression analysis to test the theoretical model and research hypotheses. The minimum sample size required for exploratory factor analysis and regression analysis for the 3-scale, 9-observed variable model in this study is:  $N = 9 * 5 = 45$  (Hair, J.F. et al., 2009).

In fact, the author surveyed the opinions of 330 local government leaders at the commune level in 3 provinces, including Lang Son province (Northern Vietnam), Quang Ngai province (Central Vietnam), and Vinh Long province (Southern Vietnam). The survey was conducted based on preliminary interviews and the consent of the respondents; 330 out of 330 responses were valid, achieving a 100% response rate.

**4. Research results and discussion**

Based on the survey results obtained with a sample size of  $N = 330$  responses from local government leaders at the commune level, the author tested the reliability of the scales and observed variables in the research model to serve as a basis for conducting further analyses. According to Hair, J.F. et al. (2009), scales and observed variables have reliability when they meet the standard conditions: Cronbach’s  $\alpha > 0.6$ ; Corrected Item-Total Correlation  $> 0.3$ . Table 2 shows that the reliability test results for all 3 scales and 9 observed variables show reliability when meeting the above standard conditions.

**Table 2.** Statistical results and testing results of the scale

Scales	Observed variables	N	Min	Max	Mean	Std. Deviation	Cronbach’ Alpha	Corrected Item-Total Correlation

1. Developing digital civil servants (DCS)	DCS1	330	1	5	4.14	.710	.713	DCS1 = .633
	DCS2	330	1	5	4.12	.696		DCS2 = .596
	DCS3	330	1	5	4.08	.702		DCS3 = .604
2. Developing digital citizens (DCZ)	DCZ1	330	1	5	4.05	.687	.682	DCZ1 = .529
	DCZ2	330	1	5	3.99	.673		DCZ2 = .484
	DCZ3	330	1	5	4.02	.668		DCZ3 = .510
3. Digital transformation in state governance (DSG)	DSG1	330	1	5	4.09	.695	.693	DSG1 = .671
	DSG2	330	1	5	4.12	.701		DSG2 = .598
	DSG3	330	1	5	4.07	.687		DSG3 = .512
Valid N (listwise)		330						

Source: Author's survey results

Survey data (Table 2) shows that observations of the scales “Developing digital civil servants” (DCS), “Developing digital citizens” (DCZ), and “Digital transformation in state governance” (DSG) are all rated at a mean  $\geq 3.99$ , which is statistically significant according to the Likert scale (1-5). This contributes to confirming that digital transformation in state governance in Vietnam is being carried out synchronously by localities; local governments are establishing digital operating models and conducting state governance tasks in the digital environment, forming and developing a digital culture and a digital society. Civil servants and citizens are updated with basic digital knowledge and skills to meet the standards of digital human resources to achieve the goal of digital transformation: Civil servants have digital competence and are proficient in their professional work, performing public duties in the digital environment; citizens have digital competence and are able to conduct transactions, request the resolution of administrative documents, and participate in local policy processes in the digital environment.

However, there is a discrepancy in the observed values of the scales, with the "Developing digital citizens" (DCZ) scale having the lowest average observed values: Mean (DCZ1) = 4.05, Mean (DCZ2) = 3.99, Mean (DCZ3) = 4.02. This indicates that although citizens have been provided with basic digital knowledge and skills to develop digital capabilities and become active participants in digital social activities, many still lack proficiency in conducting transactions, handling administrative procedures, and participating in local policy processes in the digital environment. This is a current reality that requires timely and appropriate solutions to promote the development of digital capabilities for citizens in order to achieve the goal of digital transformation and the development of a digital society. This is because the goal of digital transformation in state administration is to serve the people and address their needs quickly and accurately. And when both civil servants and the public are digitally proficient, then state governance processes at the local level can be implemented smoothly.

With the test results meeting the standards, all three scales and nine observed variables in the model were used for further analysis. The author conducted exploratory factor analysis with

Varimax rotation to preliminarily assess the unidimensionality, convergent validity, and discriminant validity of the scales and to test the fit of the theoretical model.

**Table 3.** Total Variance Explained

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Adequacy Measure of Sampling	.735
Bartlett's Test of Sphericity	Approx. Chi-Square 3372.325
	df 36
	Sig. .000

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.421	38.014	38.014	3.421	38.014	38.014	3.113	34.583	34.583
2	3.039	33.772	71.786	3.039	33.772	71.786	2.902	32.242	66.826
3	1.106	12.284	84.070	1.106	12.284	84.070	1.552	17.244	84.070
4	.512	5.686	89.756						
5	.487	5.412	95.168						
6	.163	1.813	96.981						
7	.137	1.525	98.506						
8	.094	1.049	99.555						
9	.040	.445	100.000						

Extraction Method: Principal Component Analysis.

Source: Author's survey results

**Table 4.** Rotated Component Matrix

Rotated Component Matrix <sup>a</sup>				
Scales	Observed variables	Component		
		1	2	3

1. Developing digital civil servants (DCS)	DCS1	.863		
	DCS2	.866		
	DCS3	.815		
2. Developing digital citizens (DCZ)	DCZ1		.837	
	DCZ2		.854	
	DCZ3		.796	
3. Digital transformation in state governance (DSG)	DSG1			.841
	DSG2			.838
	DSG3			.851
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 4 iterations.				

Source: Author's survey results

Survey data shows:  $KMO = 0.735 > 0.5$ , confirming that exploratory factor analysis is appropriate for the dataset; Bartlett's test has an observed significance level  $Sig. = 0.000 < 0.05$ , indicating that the observed variables are linearly correlated with the representative factor; Total Variance Explained with Cumulative % =  $84.070\% > 50\%$ , showing that 84.070% of the variation in the representative factors is explained by the observed variables (Table 3). All observed variables have Factor Loading  $> 0.5$  (Table 4), indicating that the observed variables are statistically significant.

Initial Eigenvalues stop at 3 factors with Eigenvalues  $> 1$  (Table 3), indicating that the observed variables were extracted into 3 factors corresponding to the 3 original factors. Thus, the original research model is preserved and is scientifically appropriate; confirming the suitability of the theoretical research model on digital government, digital competence of civil servants, and digital competence of citizens, with 3 scales and 9 observed variables as constructed.

Based on the exploratory factor analysis results above, all three scales and nine observed variables have good reliability and statistical significance. Further multivariate regression analysis will be conducted to examine the relationships between the scales in the research model: two independent scales/variables "Developing digital civil servants" (DCS), "Developing digital citizens" (DCZ), and one dependent scale/variable "Digital transformation in state governance" (DSG).

**Table 5.** Multivariate regression results

#### Coefficients<sup>a</sup>

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.	VIF
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		B	Std. Error	Beta			
1	(Constant)	1.051	.225		11.145	.000	
	1. Developing digital civil servants (DCS)	.524	.362	.498	10.623	.000	1.843
	2. Developing digital citizens (DCZ)	.411	.318	.387	9.357	.000	1.779
a. Dependent Variable: Digital transformation in state governance (DSG)							
$R^2 = 0.725$ ; Durbin-Watson = 2.102							

Source: Author's survey results

Table 5 data shows:

+  $R^2 = 0.725$  confirms that the "Developing digital civil servants" (DCS) and "Developing digital citizens" (DCZ) scales explain 72.5% of the variation in the "Digital transformation in state governance" (DSG) scale; VIF = 1.843 and VIF = 1.779 ( $1 < VIF < 2$ ) indicate that the regression model does not exhibit multicollinearity; Durbin-Watson = 2.102 ( $1 < d < 3$ ) indicates that the regression model does not exhibit autocorrelation, confirming that the "Developing digital civil servants" (DCS) and "Developing digital citizens" (DCZ) scales are independent and influence each other on the "Digital transformation in state governance" (DSG) scale, thus confirming the suitability of the theoretical research model to the survey dataset.

+ The regression coefficients of the two independent variables "Developing digital civil servants" (DCS) and "Developing digital citizens" (DCZ) are both statistically significant (Sig. = 0.000, Sig. < 0.05) and positive: B(DCS) = 0.524 and B(DCZ) = 0.411, confirming a positive correlation between the two independent variables "Developing digital civil servants" (DCS), "Developing digital citizens" (DCZ) and the dependent variable "Digital transformation in state governance" (DSG); hypotheses H1 and H2 are accepted; and the initial research model's suitability is further confirmed.

Based on the general regression model  $Y = B_0 + B_1 * X_1 + B_2 * X_2 + \dots + B_i * X_i + e$  (Hair, J.F. et al., 2009), the multivariate regression model of this study is determined as:  $DSG = 1.051 + 0.524 * DCS + 0.411 * DCZ$ ; the correlation levels of the independent and dependent variables in decreasing order are: "Developing digital civil servants" (DCS), "Developing digital citizens" (DCZ).

Based on the statistical results in Table 2 and the regression analysis results in Table 5, the empirical research conclusion on digital transformation, digital civil servant development, and digital citizen development in Vietnam is affirmed as follows:

- Firstly, digital transformation in state governance in Vietnam is being carried out synchronously by localities; local governments are establishing digital operating models and conducting state governance tasks in a digital environment, forming and developing a digital culture and a digital society. Civil servants and citizens are updated with basic digital

knowledge and skills to meet the standards of a digital workforce to achieve the goals of digital transformation.

- Secondly, although citizens have been provided with and updated on basic digital knowledge and skills to develop digital competence and become active participants in digital social activities, many still lack proficiency in conducting transactions, requesting administrative document processing, and participating in local policy processes in the digital environment.

The limited digital capacity of the people is a reality that is currently occurring and requires timely and appropriate solutions to promote the development of digital capacity for the people in order to achieve the goal of digital transformation and the development of a digital society. Because the goal of digital transformation in state governance is to serve the people, to solve the people's needs quickly and accurately; and when both civil servants and people are proficient in digital skills, the state governance processes at the local level will be carried out smoothly. From the results of this empirical research, the author proposes solutions to develop the digital capacity of the people towards the goal of digital transformation in state governance in Vietnam: (1) Localities should promote the benefits of digital transformation, guide people to install and use digital applications with personal smart devices; (2) Localities should establish and effectively use community digital technology teams to directly guide people on digital knowledge and skills; (3) Local authorities strengthen guidance for people to resolve administrative procedures through online public services; cultivate and develop communication, cooperation and proficient use of digital tools.

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## REFERENCES

1. Chen, L. & Kimura, F. (2024). "Introduction: Digital Government in ASEAN Digital Transformation" in Chen, L. & Kimura, F. (eds.). Empowering Online Public Service in Asia: The Digital Frontier. Jakarta: ERIA, pp.1-17.
2. CPV - Communist Party of Vietnam (2024). Resolution No. 57-NQ/TW dated December 22, 2024 of the Politburo on breakthroughs in the development of science, technology, innovation and national digital transformation.
3. Giang, P.T. (2024). "The Challenges of Digital Transformation for Modern State Governance". Journal of State Management, address <https://www.quanlynhanuoc.vn/2024/07/30/thach-thuc-cua-chuyen-doi-so-voi-quan-tri-nha-nuoc-hien-dai>, July 30, 2024.
4. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. (2009). Multivariate Data Analysis, 7th Edition. Prentice Hall.
5. Huong, D.T.T. (2025). "Promoting Digital Transformation in Vietnam: Current Situation, Challenges, and Development Directions". Digital Transformation section - Ministry of

Justice, address <https://dx.moj.gov.vn/day-manh-chuyen-doi-so-o-viet-nam-thuc-trang-thach-thuc-va-dinh-huong-phan-trien-928.htm>, May 20, 2025.

6. Hung, D.V. (2022). “Digital Competency Framework for Students: Handbook to develop Digital Competency for students”. Book Digital Competency. Hanoi National University Press.
7. Luca, T.; Marijn, J.; Michele, B.; Giuliano, N. (2021). “Digital government transformation: A structural equation modelling analysis of driving and impeding factors”. International Journal of Information Management.
8. MIC - Ministry of Information and Communications (2021). Digital transformation handbook. Information and Communications Publisher.
9. MST - Ministry of Science and Technology (2025). “Strategy for the Development of Science, Technology and Innovation until 2030”, address <https://mst.gov.vn/chien-strateg-phan-trien-khoa-hoc-cong-nghe-va-doi-moi-sang-tao-den-nam-2030-197250704143420941.htm>, July 4, 2025.
10. Nga, Q. (2023). “Digital capacity of citizens: An important foundation for promoting economic growth”. Vietnam Economic New - Ministry of Industry and Trade, address <https://congthuong.vn/nang-luc-so-cua-cong-dan-nen-tang-quan-trong-thuc-day-tang-truong- Kinh-te-272290.html>, September 14, 2023.
11. PM - Prime Minister of Vietnam (2020). Decision No.749/QĐ-TTg dated June 3, 2020 approving the National Digital Transformation Program to 2025, with a vision to 2030.
12. Tuyen, H.T.M. (2023). “State management innovation in Vietnam: An urgent requirement from digital transformation”. YMER, Vol.22, Issue 12, pp.2075-2082, <https://ymerdigital.com/archives/?cpage=9&issId=%202212>