



(RESEARCH ARTICLE)



## Intention to use digital transformation of human resource employees in Hanoi

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### Abstract

Digital transformation is at the heart of the fourth industrial revolution, which leads to fundamental and far-reaching changes in business operations. In an environment where all fields and industries are undergoing digital transformation, are human resources employees willing to accept and implement digitalization in their daily work, and what factors influence their intention to use digitalization in their work? The article studies 130 human resources staff at businesses in the Hanoi area. Research results confirm that perceived usefulness, perceived ease of use, and perceived self-efficacy about digital transformation have a positive influence on human resources employees' intentions to use digital transformation at work. For human resources staff to be comfortable in the process of using technology in a digital transformation environment, human resources employees need to be guided and trained on how to apply new applications and new technology in the field of human resources.

**Keywords:** Digital transformation; Human resources; Influencing factors; Intention to use

### 1. Introduction

Digital transformation is a challenge in almost every industry in both breadth and depth, leading to changes in entire production, management, and governance systems (Schwab, 2016). With the diverse emergence of digital technology, digital platforms, and digital infrastructure structures, there have been groundbreaking changes in businesses (new business models, products, new services, new customer experiences, etc.), and each business itself may need to change and innovate to succeed in the digital context (Schwab, 2016).

Human resources staff are also factors directly affected in the digital transformation process. Digital transformation will bring new opportunities and challenges to human resources staff. Human resources staff play a very important role in implementing digital transformation in businesses. Employees who are aware of the benefits of digital transformation, have a positive attitude and adapt well to digitalization at work will create favorable conditions for businesses to implement the digital transformation process successfully. For HR staff to overcome the fear of losing their jobs and increase employee acceptance when businesses implement system-wide digital transformation, HR staff must be introduced to advanced technology applications and know how to apply new technology properly and safely. Human resources staff need detailed and methodical instructions on how to use new technology through short-term training classes. Thereby, employees will have the necessary skills to digitalize their work and no longer feel threatened by the digital transformation process. Within the framework of this article, the authors want to clarify whether human resources staff are ready to accept and implement enterprise digitalization in daily work, and what factors influence human resources employees' intention to use digitalization in their work.

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## 2. Literature review

Digital transformation is defined as “the most profound and rapid transformation of operations, processes, capabilities and business models to take advantage of changes in digital technologies and their impact” in a prioritized and strategic way” (Hamidi et al., 2018). The enablers of digital transformation are cloud computing, mobile computing, fog computing, big data, data science, business analytics, social computing, the Internet of Things, systems virtual reality, etc. At the heart of digital transformation are changes within and between organizations and their transformations at different levels including governance, strategy, people, leadership, culture and technology (Heilig et al., 2017). Digital transformation is making it easier for businesses to collaborate and share data between customers, manufacturers, suppliers and other parties in the supply chain. Digital transformation improves productivity and competitiveness, enables the transition to a digital economy, and provides opportunities to achieve economic growth. Digital transformation changes business operations at many different levels and changes the entire production, management, and governance systems. New products, new services, new models, etc. are factors that help businesses increase their competitive advantage in the market.

There is a lot of research literature on digital transformation in the business sector. However, there is little research on human resources employees' intention to use digital transformation in their work and the level of influence or threat of digital technology on human resources employees. The HR officer's job is to manage individuals, often referred to as people management, which includes a series of activities aimed at effectively supervising and enhancing the productivity of said individuals. The aforementioned factors include recruitment, selection, training and development, performance appraisal, compensation, incentives, employee policies and labor relations management (Az-zaakiyyah et al., 2022). For human resources staff, it is required to establish a work environment that promotes the advancement and improvement of personnel, while encouraging their participation, satisfaction and efficiency. Within the framework of digital transformation, the field of human resource management includes understanding and implementing digital technologies in the field of human resource management practices. Implementing technology-based human capital management systems, HR analytics, e-learning, digital collaboration platforms, and communication tools has facilitated increased efficiency and effectiveness HRM. Effective human resource management is critical in establishing competitive advantage, enhancing organizational productivity and achieving strategic goals by maximizing the utilization of available human resources (Diawati et al., 2023).

Technology Acceptance Model (TAM) has been widely used in previous studies to predict employees' acceptance of digital transformation. A common denominator in most surveys is TAM and the key variables that make up it, which are ease of use, perceived usefulness, and self-perceived efficacy (perception of new technology's ability to use resources efficiently). According to Currie (1996), a synthesis of many studies related to the digitalization of business work notes the need to train employees how to use new technology. Employees may be willing to accept change, but find it difficult to change because they lack the knowledge or skills needed to implement the change. It is essential to have appropriate training programs for employees that, in addition to practical knowledge, also help them gradually assimilate and adapt to new data sources. Researchers use usefulness to determine the extent to which new technology is used to help users complete tasks. Suhaimi (2018) argues that perceived ease of use and usability significantly influence the use of digital technology during the digital transformation process. The main factors that influence the ability to use digital technology are computer efficiency, computer accessibility, and perception of external control over the use of digital technology.

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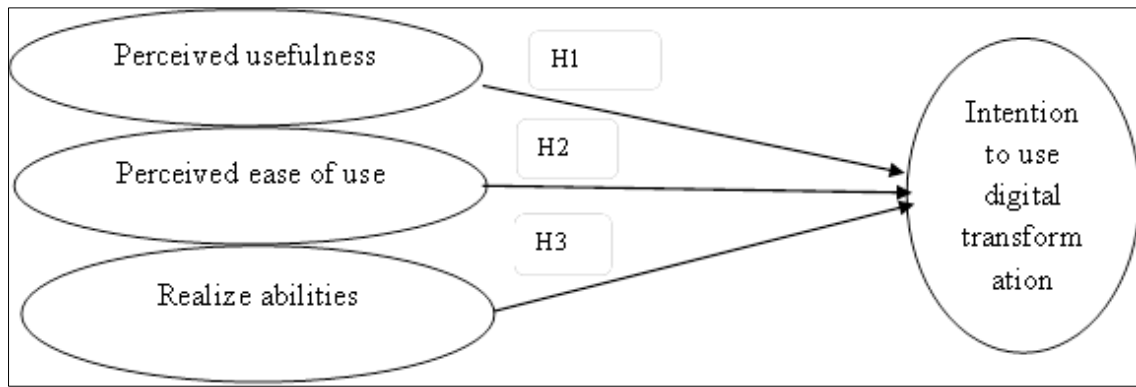
## 3. Research method

### 3.1. Research models

From the analysis of the above theoretical basis, the proposed research model evaluates the factors affecting the use of digital transformation by human resources staff in businesses as follows:

Inherited from previous theoretical studies, the proposed hypotheses are:

- Hypothesis 1: Perceived usefulness has a positive impact on human resources employees' intention to use digital transformation.
- Hypothesis 2: Perceived ease of use positively impacts human resources employees' intention to use digital transformation.
- Hypothesis 3: Perception of self-efficacy positively impacts human resources employees' intention to use digital transformation.



**Figure 1** Proposed research model

### 3.2. Implementation process

- Step 1: Based on the theoretical model, we built a questionnaire on Google Forms and sent it to human resources staff working in businesses in Hanoi via email using the convenient sampling method to friends, relatives, partners, etc. The questionnaire applies a 5-level Likert scale: 1- Strongly disagree; 2 - Disagree, 3 - Neutral, 4 - Agree, 5- Strongly agree.
- Step 2: Data collected 150 votes. After coding and cleaning the data, 125 valid votes were obtained to perform analysis.
- Step 3: Analyze data on SPSS 22 software using the following tools: (1) Test the reliability of the scale using Cronbach's Alpha; (2) EFA exploratory factor analysis; (3) Correlation analysis; (4) Regression analysis.

### 3.3. Research scale

**Table 1** Table describing the scale of variables

No	Scale	Code	Source
1	Perceived usefulness	PU	Davis (1993) Suhaimi (2018) Fotis (2021)
	Using digital transformation improves my work	PU1	
	Using digital transformation makes my work faster	PU2	
	Using digital transformation simplifies my work	PU3	
	Using digital transformation improves my work efficiency	PU4	
2	Perceived ease of use	PE	Davis (1993) Suhaimi (2018) Fotis (2021)
	I easily learned how to run digital applications and digital enterprise systems	PE1	
	Digital applications and digital businesses are transparent and easy to understand	PE2	
	I can easily recall my work practices using digital applications and digital businesses	PE3	
3	Realize abilities	RA	Venkatesh (2008) Suhaimi (2018) Fotis (2021)
	I can do my job in a digitally transformed environment if there is an integrated base to support it	RA1	
	I can do my job in a digital transformation environment if I have a first-time mentor	RA2	
	I can do my job in a digitally transformed environment if I already use similar applications	RA3	
4	Intention to use	IU	Legris (2003) Suhaimi (2018) Fotis (2021)
	If I have access to digital applications or digital enterprise systems, I will use them	IU1	
	In the future, I plan to use digital applications or digital enterprise systems	IU2	

## 4. Results

### 4.1. Evaluate the reliability of the scale

The results of assessing the reliability of the scale using Cronbach's Alpha coefficient and composite variable correlation coefficient are presented in Table 2 as follows:

**Table 2** Testing the scale using Cronbach's Alpha reliability coefficient

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Cronbach's Alpha = 0.743				
PU1	11.84	2.506	0.542	0.677
PU2	11.84	2.571	0.424	0.745
PU3	11.80	2.323	0.600	0.642
PU4	11.75	2.414	0.578	0.657
Cronbach's Alpha =0.800				
PE1	6.90	0.749	0.697	0.670
PE2	6.91	0.839	0.562	0.811
PE3	6.86	0.753	0.679	0.690
Cronbach's Alpha =0.728				
RA1	7.10	0.610	0.760	0.469
RA2	7.16	0.781	0.463	0.742
RA3	7.11	0.794	0.455	0.750
Cronbach's Alpha =0.747				
IU1	3.69	0.233	0.596	0.0
IU2	3.66	0.225	0.596	0.0

(Source: Author team)

After officially testing the reliability of the independent and dependent variable scales, the results showed that 12 observed variables met the requirements. Cronbach's Alpha coefficients all reach a level greater than 0.6 and the total correlation coefficient of observed variables all meets the test requirement of greater than 0.3.

### 4.2. Exploratory factor analysis (EFA)

#### 4.2.1. EFA analysis for independent variable

The test results for 10 observed variables have KMO coefficient = 0.572, satisfying the condition ( $0.5 < 0.572 < 1$ ), Sig value =  $0.000 < 0.05$ , so EFA analysis is appropriate for the collected data, the variables are correlated with each other and qualify for EFA analysis.

The results of EFA analysis with the standard value Eigenvalues  $> 1$ , there are 3 factors extracted with a total variance extracted of 65,988% ( $> 50\%$ ). All factor loading coefficients  $> 0.5$ . The variables all satisfy convergent and discriminant validity, so the scales have high value for evaluating the corresponding variables. The results of the rotated matrix show that the 10 observed variables are divided into 3 factors, which are perceived usefulness, perceived ease of use and perceived self-efficacy.

**Table 3** Independent variable EFA analysis table

KMO and Bartlett's Test									
Trị số KMO (Kaiser-Meyer-Olkin of Sampling Adequacy)								0.572	
Kiểm định Bartlett (Bartlett's Test of Sphericity)		Approx. Chi-Square						468.020	
		Df						45	
		Sig.						0.000	
Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Tổng cộng	Total	% of Variance	Cumulative %	Phần trăm của phương sai	Total
1	2.833	28.327	28.327	2.833	28.327	28.327	2.411	24.108	24.108
2	2.007	20.071	48.398	2.007	20.071	48.398	2.209	22.090	46.198
3	1.759	17.590	65.988	1.759	17.590	65.988	1.979	19.790	65.988
4	.921	9.208	75.196						
5	.825	8.248	83.444						
6	.520	5.200	88.644						
7	.447	4.474	93.118						
8	.284	2.838	95.956						
9	.229	2.295	98.251						
10	.175	1.749	100.000						

**Table 4** Rotated Component Matrix<sup>a</sup>

Rotated Component Matrix <sup>a</sup>			
	Factors		
	1	2	3
PU1	0.750		
PU2	0.599		
PU3	0.838		
PU4	0.757		
PE1		0.858	
PE2		0.785	
PE3		0.862	
RA1			0.895
RA2			0.697
RA3			0.799

(Source: Author team)

#### 4.2.2. EFA analysis for dependent variable

The test result has KMO coefficient = 0.560, satisfying the condition, Sig value = 0.000 < 0.05. Therefore, factor analysis is suitable for the collected data, the variables are correlated with each other and are eligible for EFA analysis. The results of factor analysis with the standard value Eigenvalues > 1 have 1 factor extracted with a total variance extracted of 79.793% (> 50%). The factor loading coefficients of all factors are greater than 0.5, all variables satisfy convergent and discriminant validity.

**Table 5** Dependent variable EFA analysis table

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.560
Bartlett's Test of Sphericity	Approx. Chi-Square	53.724
	df	1
	Sig.	0.000

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.596	79.793	79.793	1.596	79.793	79.793
2	.404	20.207	100.000			

**Table 6** Rotated Component Matrix<sup>a</sup>

Rotated Component Matrix <sup>a</sup>	
	Component
	1
IU1	0.893
IU2	0.893

(Source: Author team)

### 4.3. Regression analysis

#### 4.3.1. Correlation analysis

The condition for regression analysis is that the independent variables must be correlated with the dependent variable. If Sig.<0.05 then the variables are correlated with each other and vice versa. The results of the Pearson correlation test between the independent variables and the dependent variable are shown in Table 7. The results of the Pearson correlation test between the 3 independent variables PU, PE, RA, and the dependent variable IU are all less than 0.05. Thus, there is a linear relationship between these independent variables and the dependent variable IU.

**Table 7** Correlations

		IU	PU	PE	RA
IU	Pearson Correlation	1	0.270**	0.278**	0.187*
	Sig. (2-tailed)		0.002	0.002	0.037
	N	125	125	125	125
PU	Pearson Correlation	0.270**	1	-0.122	-0.174
	Sig. (2-tailed)	0.002		0.176	0.052
	N	125	125	125	125
PE	Pearson Correlation	0.278**	-0.122	1	0.102
	Sig. (2-tailed)	0.002	0.176		0.260
	N	125	125	125	125
RA	Pearson Correlation	0.187*	-0.174	0.102	1
	Sig. (2-tailed)	0.037	0.052	0.260	
	N	125	125	125	125

(Source: Author team)

**4.3.2. Regression analysis**

The adjusted coefficient of determination R square = 0.216 shows that the independent variables explain 21.6% of the variation in the dependent variable.

Table 8 results also provide the Durbin–Watson value to evaluate the phenomenon of first-order serial autocorrelation. DW value = 1.788, within the range of 1.5 to 2.5, so the result does not violate the assumption of first-order serial autocorrelation. The ANOVA table gives the F test results to evaluate the appropriateness of the regression model. The F-test sig value is 0.000 < 0.05, so the regression model is appropriate. The Coefficients table shows that the VIF coefficient is < 2, so there is no multicollinearity phenomenon. Thus, it can be concluded that the model fits the actual data.

The relationship between the dependent variable and the independent variable is expressed in the form of a regression equation as follows:

$$IU = 0.344 PU + 0.298 PE + 0.216 RA$$

**Table 8** Regression results analysis table

<b>Model Summary<sup>b</sup></b>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.465 <sup>a</sup>	0.216	0.196	0.38292	1.788

**Table 9** ANOVA<sup>a</sup>

<b>ANOVA<sup>a</sup></b>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.886	3	1.629	11.107	.000 <sup>b</sup>
	Residual	17.742	121	0.147		
	Total	22.628	124			

**Table 10** Coefficients<sup>a</sup>

Coefficients <sup>a</sup>								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.659	.535		1.232	.220		
	PU	.293	.070	.344	4.181	.000	.959	1.043
	PE	.302	.083	.298	3.662	.000	.978	1.022
	RA	.231	.088	.216	2.635	.010	.963	1.038

(Source: Author team)

## 5. Conclusion

This article aims to understand human resources employees' intention to use digital transformation in their work. In fact, in recent years, businesses in Hanoi have implemented digital transformation, in an effort to cut operating costs and apply a flexible digital transformation model. Human resources staff themselves have also been changing the way they work in a digital transformation environment. In this study, the results of Pearson correlation test and statistical regression analysis accepted 3 hypotheses.

Perception of the usefulness of digital transformation has a positive influence on human resources employees' intention to use digital transformation: Perceived usefulness refers to the degree to which a person believes that using a particular system will enhance his or her work performance. Based on the magnitude of the standardized regression coefficient Beta, this result supports the view that human resources employees are willing to use digital transformation when they perceive digital transformation as a useful tool at work. Among the three research factors, perceived usefulness is the factor that has the greatest impact on HR staff's intention to use digital transformation with Beta = 0.344.

Perceived ease of use of digital transformation has a positive influence on human resources employees' intention to use digital transformation: There have been many studies around the world proving the positive influence of perceived ease of use on usage decisions. This result once again confirms the technology acceptance model (Davis 1986) and the research of Suhaimi (2018). Standardized regression coefficient Beta = 0.298, showing that the perceived ease of use factor has the least impact on human resources employees' intention to use digital transformation.

Perceived self-efficacy in using digital transformation has a positive influence on human resources employees' intention to use digital transformation: Employees' ability to use digital transformation has a positive influence with Beta = 0.216. If the customer's employees themselves have the ability to use technology well, it is a factor that positively affects the intention to use digital transformation in their work. This result is similar to the results of Fotis (2021) in research on Greek businesses.

The survey results confirmed that perceived usefulness, perceived ease of use and perceived self-efficacy about digital transformation have a positive influence on human resources employees' intention to use digital transformation. In order for human resources staff to be comfortable in the process of using technology in a digital transformation environment, there is an important need to train how to use new technology through training programs. Human resources staff need guidance and training on how to apply new technologies used in the business. In fact, online training programs are still being implemented in the corporate sector to create a smooth transition in the digital age. However, in a digital transformation environment, cybersecurity risks are a significant challenge that human resources staff are concerned about and can affect their intention to use digital technology in their work. When the cognitive ability, coping ability and risk assessment ability of human resources staff are low, it will lead to cyber attacks that affect the reputation of the business.

## Compliance with ethical standards

### *Disclosure of conflict of interest*

No conflict of interest to be disclosed.



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