

The Influence of Leader's Personality Traits on the Intention and Process of Digital Transformation at Small and Medium-Sized Enterprises in Hanoi

Truong Duc Thao, Hoang Kim Thuy, Luong Ngoc Minh

Dai Nam University

Dai Nam University

Hanoi University

Date of Submission: 15-12-2024

Date of Acceptance: 25-12-2024

ABSTRACT

The study examines the influence of a leader's personality traits with two variables, "Self-perception as a traditional person" and "Self-perception as a modern person" on the intention and process of digital transformation at small and medium-sized enterprises in Hanoi, Vietnam. Next, the study conducted a survey of 456 small and medium-sized business leaders in Hanoi, from March to June 2023. The results indicate that the intention to pursue digital transformation is a decisive factor in determining whether the transformation process is vigorous or weak. SMEs led by individuals with a modern personalities tend to demonstrate a strong intention for digital transformation, positively influencing the overall process. Conversely, enterprises with leaders who have a traditional inclination encounter obstacles that hinder both their intention and the digital transformation process.

Keywords: Digital transformation, digital transformation intention, Business' digital transformation, Hanoi SMEs.

I. INTRODUCTION

Digital transformation is a comprehensive process that encompasses both digitization and digital application at a higher level to create new ways of working. Under this understanding, digital transformation occurs at three levels: digitization, digital application, digital operations and digital transformation. Research on digital transformation often focuses on the digital transformation organization strategies, as seen in studies by Hess, Benlian, Matt, and Wiesbock (2016); Matt, Hess, and Benlian (2015); and Zinder and Yunatova

(2016), or explores the process of digital transformation and the influencing factors, as discussed by Gamache, Abdul-Nour, and Baril (2019) and Eller, Alford, Kallmunzer, and Peters (2020). However, for enterprises, particularly small and medium-sized enterprises, to successfully implement digital transformation, they must first begin with the intention to pursue digital transformation (Ajzen, 1991; Dung, Trung, Thao, & Hoang, 2023). Furthermore, the decision-making role of leaders in small and medium-sized enterprises (SMEs) is a crucial factor, as the heads of these enterprises typically make decisions that affect all aspects of the organization. However, this decision-making process is significantly influenced by their personality traits (Mai, Kwon, Lantz, & Loeb, 2003; Mai, Smith, & Cao, 2009).

Therefore, in this study, we focus on examining how the personality traits of leaders influence the intentions and processes of digital transformation in small and medium-sized enterprises in Hanoi, Vietnam.

II. THEORETICAL FRAMEWORK AND RESEARCH METHODOLOGY

2.1 Theoretical Framework

2.1.1 Intention for Digital Transformation in Enterprises

Digital transformation involves the use of technology to fundamentally improve the performance or reach of an enterprise (Stolterman & Fors, 2004). It is not merely about digitizing resources; rather, the values created by the enterprise must be based on digital assets (McDonald & Rowsell, 2012). Digital transformation encompasses changes that digital

technology can bring to business models, leading to modifications in products, organizational structures, or the automation of business processes (Hess et al., 2016). Therefore, digital transformation in enterprises is not simply a matter of digitizing data, operational processes, or organizational information. More importantly, it requires the application of technology to analyze digitized data, thereby altering the value-creating methods for the enterprise.

The intention to perform a behavior refers to the degree to which an individual is willing to exert effort and plan to engage in that behavior. Generally, a higher intention corresponds to a greater likelihood of actual behavior (Ajzen, 1991). Thus, in this study, the concept of intention for digital transformation is understood as the extent to which an organization is prepared to make an effort and is committed to pursuing digital transformation within the organization.

2.1.2 The Process of Digital Transformation in Enterprises

The process of digital transformation in enterprises consists of three stages. Stage 1 is Strategic Orientation. In this stage, businesses need to leverage technological solutions to enhance customer experience and achieve their objectives. Enterprises typically utilize available or easily accessible resources at reasonable costs that align with their capabilities for implementation. Stage 2 is known as Digital Transformation of the Business Model. During this phase, companies focus on applying digital technology on a broader scale, ensuring connectivity between various functions. This stage often emphasizes changes in governance models to optimize operational efficiency. Stage 3 is Transformation of Management Capabilities. This is the stage of complete digital transformation, concentrating on the integration and synchronization of business management systems. Information is shared seamlessly across departments in real-time. Enhancing management capabilities through digital transformation enables enterprises to manage and execute activities more efficiently and effectively (Li, Su, Zhang, & Mao, 2018).

Therefore, the process of digital transformation in enterprises is typically divided into three levels: information digitization, organizational digitization, and digital transformation.

+ **Information digitization** is the stage of transitioning from traditional (analog) methods to digital platforms, creating digital representations of entities (that is, generating data characteristic of

these entities). For example, transitioning from television advertising to online advertising. However, merely converting information into digital form is insufficient to qualify as digital transformation. The critical factor is that the digital information must be processed by systems and machinery, enabling it to function and be utilized effectively. This process opens up new spaces for businesses, new business models, and the potential for technological advancements and innovations waiting to be harnessed (Joseph, 2018).

+ **Organizational digitization** refers to the use of digital data to streamline workflows. This level aims to innovate the business model of the enterprise to adapt to the presence of digital environments, meaning it transforms operational methods by utilizing digital technology and data to create greater value for the organization (Brennen & Kreiss, 2016). The digitization stage serves as a foundational step for successful digital transformation. During this phase, all physical documents are converted into electronic data, stored in network environments or cloud computing platforms, allowing for easy searching and retrieval. This transition enables enterprises to save storage space, reduce printing costs, and minimize the risk of document loss.

+ **Digital transformation** involves the application of data and processes within new business models (Nambisan, Lyytinen, Majchrzak, & Song, 2017).

2.1.3 Leader's personality traits

Personality traits are described through the self-perceptions of the leaders - those who make decisions in small and medium-sized enterprises. Self-perception significantly influences a leader's decision-making, as it is a primary factor determining human behavior (Arnould, Price, & Zinkhan, 2004). In Vietnamese individuals, both modern and traditional self-perceptions can coexist simultaneously, impacting their behavior (Mai et al., 2003). Typically, those who perceive themselves as modern tend to be younger and possess higher education levels. Conversely, individuals who identify with a traditional self-perception are often less inclined to embrace new ideas, tend to be less open to change, and usually are older with lower educational attainment (Mai et al., 2009).

2.2 Research model

Based on the comprehensive overview of the research context and theoretical foundations presented above, we summarize the research model for this study as follows:

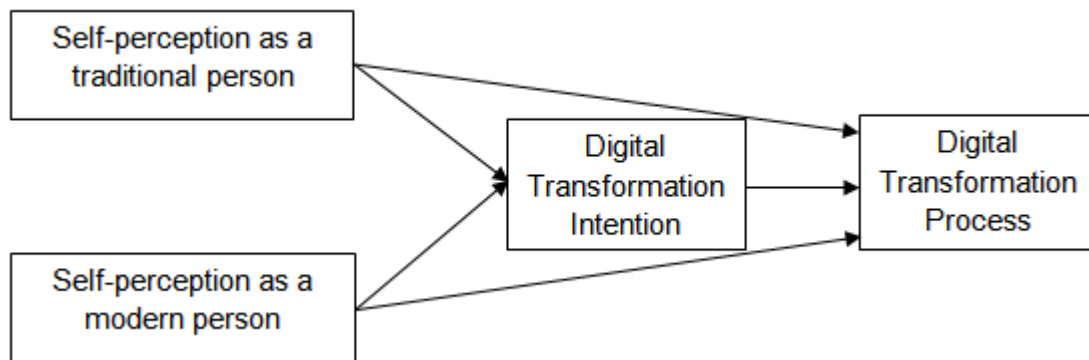


Figure 1. Research model

Source: Suggested by researchers

2.3 Research methodology

In this study, we employed the sampling formula from Hair, Tatham, and Black (1998). We distributed 500 survey questionnaires to small and medium-sized enterprises (SMEs) in Hanoi and received 485 responses, of which 456 were valid (satisfying the criterion of $>360 = 10 \times$ the number of items asked), while 29 responses were invalid due to incomplete information.

The descriptive statistics of the sample structure indicate that the predominant sector is commerce and services, with 171 enterprises, accounting for 37.5%. This is followed by 161 enterprises in the industrial sector, representing 35.3%, and finally, 124 enterprises in the agricultural sector, making up 27.2%. This distribution is understandable, as Hanoi is the economic and political center of the country, resulting in a significantly higher number of enterprises operating in commerce and services compared to the other two sectors. Therefore, this sample structure is deemed appropriate.

The results of the Exploratory Factor Analysis (EFA) using the Principal Axis Factoring method with Promax rotation and stopping criteria

based on the eigenvalue of the matrix equal to 1 were employed for factor analysis. The reliability testing of the research scales met the necessary requirements, ensuring that the measurements used in the study are appropriate. The factor analysis results confirmed the model with 570 degrees of freedom, Chi-square = 1492.673 ($p = 0.000$); $cmin/df = 2.619$; CFI = 0.921; GFI = 0.852; TLI = 0.913; and RMSEA = 0.060. The standardized weights of the observed variables were all greater than 0.5, and the unstandardized weights were statistically significant, affirming the convergent validity of the scales. Additionally, the correlation coefficients among the concepts were all less than one, indicating that the concepts achieved discriminant validity. The measurement model fits well with the research dataset, with no correlations between the measurement errors, thus achieving unidimensionality.

III. RESULTS

The results of the model estimation using Structural Equation Modeling (SEM) are as follows:

Table 1. Results of Standardized Parameter Estimates in the Theoretical Model

Hypotheses	Relationships Between Concepts	Standardized Estimates	Unstandardized Estimates	Standard Deviation	Value (t)	Value (p)
R2 of the Intention of Digital Transformation = 0.312						
DInt <--- TS		-0.298	-0.279	0.065	6.94	0.000
DInt <--- MS		0.392	0.381	0.066	7.11	0.000
R2 of the Process of Digital Transformation = 0.363						
Dproc <--- Dint		0.455	0.438	0.058	6.814	0.000
Dproc <--- TS		-0.282	-0.263	0.061	6.043	0.000
Dproc <--- MS		0.371	0.362	0.057	7.012	0.000

(Source: The model estimation results)

The model estimation results indicate that 31.2% of the variance in the intention for digital transformation among small and medium-sized enterprises (SMEs) in Hanoi is explained by the personality traits of the leaders – decision makers ($R^2 = 0.312$). As predicted, enterprises led by individuals who perceive themselves as modern positively and significantly influence the intention for digital transformation ($\beta = 0.392$, $p = 0.000$). Conversely, enterprises with traditional leaders tend to exhibit more caution and perfectionism, negatively impacting the intention for digital transformation ($\beta = -0.298$, $p = 0.000$). Additionally, this research reveals that the intention for digital transformation has a strong and positive effect on the actual digital transformation process within SMEs in Hanoi ($\beta = 0.455$, $p = 0.000$). Specifically, 36.3% of the digital transformation process in these enterprises is influenced by intention and the personality traits of the decision-makers. Leaders who perceive themselves as modern positively impact the digital transformation process ($\beta = 0.371$, $p = 0.000$), while those who see themselves as traditional negatively affect this process ($\beta = -0.282$, $p = 0.000$).

IV. CONCLUSION

Through surveying data from 456 small and medium-sized enterprises (SMEs) in Hanoi, Vietnam, regarding the personality traits of leaders in relation to their intention for digital transformation and the actual transformation process, we conducted a model estimation using Structural Equation Modeling (SEM). The results indicate that (1) the intention for digital transformation has the most significant positive impact on the transformation process of enterprises; (2) If leaders in SMEs in Hanoi perceive themselves as modern, this positively affects both their intention for digital transformation and the actual transformation process. Conversely, if they view themselves as traditional, this has a negative impact on both the intention and the process of digital transformation. These findings are highly relevant for SMEs in Vietnam specifically and for developing countries in general, especially in the context of the robust digital transformation occurring globally, where many enterprises are small and medium-sized.

REFERENCES

- [1]. Ajzen, I. (1991). The theory of planned behaviour. *Organizational behaviour and human decision processes*, 50(2), 179-211.
- [2]. Arnould, E. J., Price, L., & Zinkhan, G. M. (2004). *Consumers*. New York: McGraw-Hill/ Irwin.
- [3]. Brennen, J. S., & Kreiss, D. (2016). Digitalization. In: *Wiley Online Library*.
- [4]. Dung, P. X., Trung, V. T., Thao, T. D., & Hoang, C. C. (2023). Intention to apply rehabilitation exercises to patients in healthcare facilities in Vietnam. *International Journal of ADVANCED AND APPLIED SCIENCES*, 6(10), 80-88.
- [5]. Gamache, S., Abdul-Nour, G., & Baril, C. (2019). Development of a Digital Performance Assessment Model for Quebec Manufacturing SMEs. *Procedia Manufacturing*, 38, 1085–1094.
- [6]. Hair, J. F. A., Tatham, R. E., & Black, R. L. (1998). *Multivariate Data*. 5th ed. 1998: Upper Saddle River Prentice - Hall. In.
- [7]. Hess, T., Benlian, A., Matt, C., & Wiesbock, F. (2016). Options for formulating a digital transformation strategy. *Management Information Systems Quarterly Executive*, 15, 123–139.
- [8]. Joseph, R. P. (2018). Digital Transformation, Business Model Innovation and Efficiency in Content Industries: A Review. *The International Technology Management Review* 7(1):59, 7(1), 59 - 70.
- [9]. Li, L., Su, F., Zhang, W., & Mao, J. (2018). Digital transformation by SME entrepreneurs: A capability perspective. *Information Systems Journal*, 28(6), 1129-1157.
- [10]. Mai, N. T. T., Kwon, J., Lantz, G., & Loeb, S. G. (2003). An Exploratory Investigation into Impulse Buying Behavior in a Transitional Economy: A Study of Urban Consumers in Vietnam. *Journal of International Marketing*, 11(2), 23.
- [11]. Mai, N. T. T., Smith, K., & Cao, J. R. (2009). Measurement of Modern and Traditional Self-Concepts in Asian Transitional Economies. *Journal of Asia-Pacific Business*, 10, 20.
- [12]. Matt, C., Hess, T., & Benlian, A. (2015). Digital transformation strategies. *Business & Information Systems Engineering*, 57, 339–343.
- [13]. McDonald, M., & Rowsell, J. A. (2012). *The Digital Edge: Exploiting Information & Technology for Business Advantage*,

- Gartner incorporated, Stamford, Connecticut, USA. In.
- [14]. Nambisan, S., Lyytinen, K., Majchrzak, A., & Song, M. (2017). Digital Innovation Management: Reinventing innovation management research in a digital world. *MIS Quarterly*, 41(1), 223-238.
- [15]. R. Eller, Alford, P., Kallmunzer, A., & Peters, M. (2020). Antecedents, consequences, and challenges of small and medium-sized enterprise digitalization. *Journal of Business Research*, 112, 119–127.
- [16]. Stolterman, E., & Fors, A. (2004). Information technology and the good life. *Information Systems Research*, 687–692. doi:https://doi.org/10.1007/1-4020-8095-6_45.
- [17]. Zinder, E., & Yunatova, I. (2016). Synergy for digital transformation: person's multiple roles and subject domains integration', *International Conference Digital Transformation and Global Society*. Paper presented at the International Conference Digital Transformation and Global Society.