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FACTORS INFLUENCING THE LEADERSHIP COMPETENCY OF DIRECTORS OF PRIVATE HEALTHCARE FACILITIES IN VIETNAM'S NORTH CENTRAL REGION

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Abstract

This study investigates the factors influencing the leadership competency of directors of private healthcare facilities in Vietnam's North Central region during 2020–2025. Data were collected from a survey of 530 respondents across five provinces in the region and complemented with in-depth interviews with 15 experts. The dataset was analyzed using partial least squares structural equation modeling (PLS-SEM) (Hair et al., 2019). The results indicate that directors' leadership competency is most strongly affected by leader-related factors, followed by the external organizational environment, whereas the internal organizational environment plays a supportive role. Among the competency dimensions, digital competency contributes the most, reflecting the accelerating trend of digital transformation in healthcare management. Based on these findings, the paper proposes several recommendations to strengthen leadership competency and support the sustainable development of the non-public healthcare system in the North Central region.

Keywords: *leadership competency; influencing factors; directors of private healthcare facilities; PLS-SEM*

1. Introduction

In recent years, alongside reforms in Vietnam's healthcare system and the promotion of socialization policies under the Party and State's guidelines, the private healthcare sector has grown rapidly in the number of facilities, scale of operations, and service coverage (Government of Vietnam, 1997; Government of Vietnam, 2004). The Law on Medical Examination and Treatment (2023) and its implementing documents have further strengthened the legal framework for the professional and sustainable development of non-public healthcare with greater social responsibility (National Assembly of Vietnam, 2023). In this context, private healthcare facilities not only

complement the public system but have become an important component of the national healthcare system. The North Central region is a socio-economic area with strategic importance for healthcare development. It covers a large territory, has a substantial population, and exhibits considerable inter-provincial differences in development conditions. Following administrative reorganization, by 2025 the region comprises five provinces: Thanh Hoa, Nghe An, Ha Tinh, Quang Tri, and Thua Thien Hue. The period 2020–2025 witnessed a rapid increase in private healthcare facilities in the region, with significant growth in the number of hospitals and clinics, beds, and human resources, and with growth rates in several provinces exceeding the national average (General Statistics Office of Vietnam, 2025).

In practice, differences in the development of private healthcare across provinces are not only driven by socio-economic conditions or market size, but are closely associated with leadership and management capability at the facility level. Under intensified competition and rising pressure for digital transformation, the role of directors of private healthcare facilities has become particularly critical (Bass, 1985; Burns, 1978). Directors are expected to go beyond administrative and professional management to provide strategic leadership, mobilize resources, manage finance, control service quality, and lead innovation.

However, many private healthcare facilities have been established and managed by physicians with strong clinical expertise but limited exposure to modern management knowledge and skills (Lê, 2016; Trần, 2012). This can result in weaknesses in strategic planning, resource management, and adaptability to changes in policy and market environments. Therefore, examining leadership competency and its influencing factors among directors of private healthcare facilities in the North Central region has both theoretical and practical significance.

2. Theoretical Background and Research Model

2.1. Leadership competency and competency frameworks

In management science, leadership competency refers to the set of knowledge, skills, abilities, and other characteristics required to perform leadership roles effectively. Following the KSAOs approach, leadership competency comprises multiple components across cognitive, behavioral, emotional, and motivational domains (Bloom, 1956).

In healthcare, leadership is multidimensional and complex, involving the ability to develop strategic vision, coordinate stakeholders, and manage highly complex professional systems (Bass, 1985; Burns, 1978). Both transformational and transactional leadership perspectives emphasize the importance of values, vision, and personal influence in organizational contexts (Bass, 1985; Burns, 1978; Hollander, 1978).

In Vietnam, the Ministry of Health issued basic leadership and management competency standards for hospital directors (Decision No. 866/QD-BYT, 2017), including four competency clusters: basic leadership and management; policy implementation; resource management; and professional management (Ministry of Health, 2017). However, given the rapid technological change and competition in the private healthcare sector, competency assessment frameworks need to be adapted, particularly by strengthening digital competency.

Recent work suggests that, in the era of digital transformation, digital competency and innovation-oriented thinking are essential to optimize governance and improve operational effectiveness (United Nations Development Programme, 2008, 2009).

2.2. Developing the research model

Theoretically, directors' leadership competency is influenced simultaneously by internal factors (e.g., education, experience, and personal qualities) and external factors (e.g., policy context, socio-economic environment, and organizational culture) (Fiedler, 1967). Evidence also suggests that effective leadership enhances organizational commitment and service quality (Bass, 1985; Burns, 1978). Fiedler's (1967) contingency theory and Hollander's (1978) interactional approach emphasize the interplay among leader characteristics, organizational conditions, and situational contexts (Fiedler, 1967; Hollander, 1978). This view is further supported by later work on leadership development and effectiveness (Hughes et al., 2009; Zheltoukhova & Suckley, 2014).

In Vietnam, studies by Trần Thị Vân Hoa and colleagues (2011), Trần Kiều Trang

(2012), and Lê Thị Phương Thảo (2016) suggest that directors' leadership competency is shaped by three main groups of factors: leader-related factors; organizational and staff-related factors; and macro-environmental factors (Lê, 2016; Trần, 2012; Trần et al., 2011). Building on these theoretical perspectives and the context of private healthcare facilities in the North Central region, this study proposes three groups of influencing factors: (1) director-related factors; (2) internal organizational factors (organizational characteristics and subordinates); and (3) external macro-environmental factors (Fiedler, 1967; Hollander, 1978; Hughes et al., 2009; Zheltoukhova & Suckley, 2014). Based on the proposed model, the study tests three hypotheses:

H1: Director-related factors influence the leadership competency of directors of private healthcare facilities in the North Central region.

H2: Internal organizational factors (organizational characteristics and subordinates) influence the leadership competency of directors of private healthcare facilities in the North Central region.

H3: External macro-environmental factors influence the leadership competency of directors of private healthcare facilities in the North Central region.

In addition, the leadership competency framework comprises four dimensions: leadership knowledge, leadership skills, leadership traits, and digital competency.

3. Methodology

3.1. Data collection

The study combines primary and secondary data to ensure the comprehensiveness and reliability of findings. Primary data were collected through a questionnaire survey and in-depth interviews. The questionnaire was developed based on UNDP competency assessment guidelines (United Nations Development Programme, 2008, 2009). Two instruments were used: one to identify leadership competency requirements and another to assess current leadership competency. The questionnaire included (i) demographic information and (ii) measurement items for leadership competency dimensions and influencing factors on a five-point Likert scale.

The survey sample size was determined based on common quantitative research principles and PLS-SEM requirements (Hair et al., 2019). Given the model complexity with multiple latent and observed variables, the study targeted 530 respondents to ensure stability and generalizability (Hair et al., 2019). Respondents included directors, deputy directors/middle managers, professional staff, and representatives of healthcare management agencies across the five provinces, enabling a multidimensional (360-degree) assessment.

In addition, 15 experts (including lecturers in management and healthcare and experienced directors of private healthcare facilities) participated in in-depth interviews to complement the quantitative results. Secondary data were collected through desk research, including legal documents related to private healthcare development (Government of Vietnam, 1997; Government of Vietnam, 2004; National Assembly of Vietnam, 2023) and official statistics for 2020–2025 (General Statistics Office of Vietnam, 2025).

3.2. Data analysis

Data were analyzed using PLS-SEM, suitable for complex models, non-normal data, and medium-to-large samples (Hair et al., 2019). The analysis included assessment of the measurement model and testing of the structural model. Reliability and convergent validity were evaluated using outer loadings, Cronbach's alpha, composite reliability, and AVE; discriminant validity was assessed using HTMT (Henseler et al., 2015). The structural model was evaluated using R^2, Q^2, VIF, and effect sizes (f^2). Hypotheses were tested using bootstrapping to determine statistical significance (Hair et al., 2019).

4. Results

Sample characteristics

The study obtained 496 valid questionnaires from private healthcare facilities across the five provinces. The sample is representative by locality, position, education level, and gender, allowing a multidimensional assessment. Directors and deputy directors/middle managers account for more than 50% of the sample. Nearly 90% of respondents hold university or postgraduate degrees, indicating a relatively strong educational foundation.

Table 1. *Sample characteristics*

Criteria	Category	Count (n)	Percentage (%)
Province	Thanh Hoa	94	18.9
	Nghe An	99	20.0
	Ha Tinh	79	15.9
	Quang Tri (after merger)	149	30.1
	Thua Thien Hue	75	15.1
Position	Director (private healthcare facility)	141	28.4
	Deputy director / middle manager	119	24.0
	Professional staff	192	38.7
	Experts / regulatory agencies	44	8.9
Education level	Postgraduate	197	39.7
	University	240	48.4
	College/Other	59	12.0
Gender	Male	306	61.7
	Female	190	38.3
Total		496	100

Source: Authors' data analysis

Measurement model assessment

The measurement model was assessed using outer loadings, reliability, convergent validity, and discriminant validity. The initial estimation showed that two indicators (NLS1 and PC1) did not reach the 0.70 loading threshold and were removed. After refinement, all remaining indicators had loadings above 0.70 (0.798–0.915), indicating good representation of the latent constructs.

Cronbach's alpha ranged from 0.807 to 0.928 and composite reliability from 0.887 to 0.946, indicating high internal consistency. AVE values ranged from 0.687 to 0.820, confirming strong convergent validity.

Table 2. *Reliability and convergent validity*

Construct	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	AVE
BTGD	0.848	0.848	0.898	0.687
KN	0.874	0.876	0.914	0.726
KT	0.905	0.907	0.930	0.726
MTBN	0.890	0.895	0.924	0.752
MTBT	0.928	0.933	0.946	0.778
NL	0.890	0.892	0.932	0.820
NLS	0.807	0.810	0.887	0.723
PC	0.859	0.862	0.914	0.780

Source: Authors' data analysis

Discriminant validity was evaluated using HTMT. All HTMT values are below 0.85, indicating adequate discriminant validity among constructs (Henseler et al., 2015).

Table 3. *Discriminant validity (HTMT)*

	BTGD	KN	KT	MTBN	MTBT	NL	NLS	PC
BTGD								
KN	0.545							
KT	0.574	0.492						
MTBN	0.464	0.340	0.342					
MTBT	0.468	0.408	0.479	0.426				
NL	0.735	0.729	0.740	0.496	0.630			
NLS	0.450	0.390	0.563	0.562	0.636	0.772		
PC	0.579	0.453	0.495	0.342	0.477	0.729	0.547	

Source: Authors' data analysis

Structural model assessment

VIF values range from 1.647 to 4.407, indicating no serious multicollinearity among predictors and supporting the stability of estimated relationships.

Table 4. *VIF values*

Biến quan sát	VIF	Biến quan sát	VIF	Biến quan sát	VIF
BTGD1	1.953	KT1	2.375	NL1	2.658
BTGD2	2.017	KT2	3.645	NL2	2.778
BTGD3	2.122	KT3	3.274	NL3	2.426
BTGD4	1.647	KT4	2.499	NLS2	2.203
KN1	2.149	KT5	2.254	NLS3	1.886
KN2	2.550	MTBT1	4.407	NLS4	1.560
KN3	2.108	MTBT2	3.212	PC2	2.533
KN4	1.946	MTBT3	3.831	PC3	1.862
MTBN1	2.855	MTBT4	2.839	PC4	2.433
MTBN2	2.656	MTBT5	3.596		
MTBN3	2.092				

Source: Authors' data analysis

Predictive power

The adjusted R^2 for leadership competency (NL) is 0.652, meaning the model explains 65.2% of the variance in leadership competency. Adjusted R^2 values for competency components are 0.531 (KN), 0.545 (KT), 0.596 (NLS), and 0.535 (PC), indicating good explanatory power.

The Q^2 value for NL is 0.529 (> 0.50), suggesting strong predictive relevance. Q^2 values for KN, KT, NLS, and PC range from 0.253 to 0.309, indicating moderate predictive relevance.

Table 5. *R^2 and Q^2 results*

Construct	R-square	Adjusted R-square	Q²_predict	RMSE	MAE
KN	0.532	0.531	0.253	0.867	0.696
KT	0.546	0.545	0.305	0.838	0.660
NL	0.654	0.652	0.529	0.688	0.507
NLS	0.596	0.596	0.309	0.835	0.641
PC	0.536	0.535	0.292	0.845	0.650

Source: Authors' data analysis

Effect sizes (f^2)

Effect size results indicate a large effect of director-related factors on leadership competency (BTGD → NL, f^2 = 0.559), a medium effect of the external environment (MTBT → NL, f^2 = 0.238), and a small effect of the internal environment (MTBN → NL, f^2 = 0.024).

Table 6. *Effect sizes (f^2)*

Relationship	f^2	Effect magnitude
BTGD -> NL	0.559	Large
MTBN -> NL	0.024	Small
MTBT -> NL	0.238	Medium

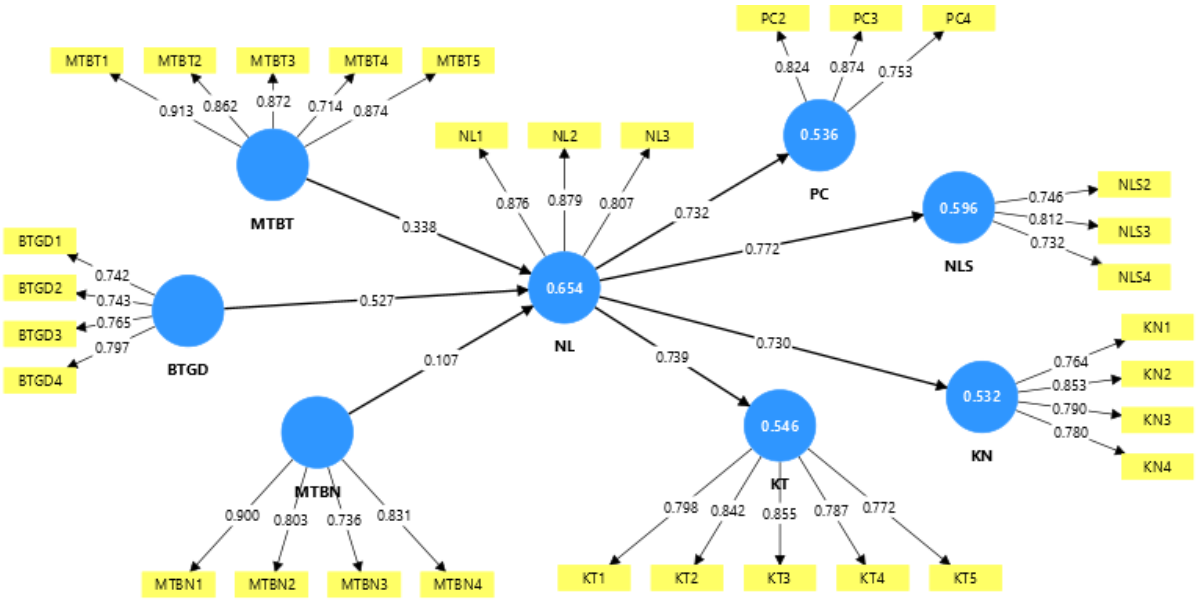
Source: Authors' data analysis

Table 7. *Hypothesis testing results*

Hypothesis	Relationship	Original sample (O)	Sample mean (M)	Std. deviation	t-statistic	p-value	Conclusion
H1	BTGD -> NL	0.527	0.529	0.051	10.391	0.000	Supported
H2	MTBN -> NL	0.107	0.109	0.049	2.198	0.028	Supported
H3	MTBT -> NL	0.338	0.335	0.055	6.147	0.000	Supported

Source: Authors' data analysis

Figure 1. *PLS-SEM structural model results*



Source: Authors' data analysis

Hypothesis testing

Bootstrapping results show that all three hypotheses are supported at the 5% significance level. Director-related factors have the strongest effect (β = 0.527; p < 0.001), followed by the external environment (β = 0.338; p < 0.001), while the internal environment has a smaller but significant effect (β = 0.107; p = 0.028).

Components of leadership competency

All four competency components are strongly and significantly related to overall leadership competency ($p < 0.001$). Digital competency has the strongest association ($\beta = 0.772$), followed by leadership skills ($\beta = 0.739$), leadership traits ($\beta = 0.732$), and leadership knowledge ($\beta = 0.730$).

Table 9. *Relationships between overall leadership competency and its components*

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
NL -> KN	0.730	0.730	0.039	18.847	0.000
NL -> KT	0.739	0.739	0.037	20.127	0.000
NL -> NLS	0.772	0.772	0.037	20.974	0.000
NL -> PC	0.732	0.733	0.039	18.947	0.000

Source: Authors' data analysis

5. Discussion

The findings indicate that leadership competency among directors of private healthcare facilities in the North Central region is shaped by personal (director-related) factors, external environmental conditions, and internal organizational conditions, with director-related factors playing the dominant role.

In provinces with stronger private healthcare development (e.g., Thanh Hoa and Nghe An), leadership tends to be person-centered: directors' strategic vision, decision-making, and resource mobilization capability directly influence investment scale, service orientation, and competitiveness. The 2023 law increases governance requirements, making adaptive leadership even more critical.

In provinces where private healthcare is less developed (e.g., Ha Tinh and Quang Tri), the external environment – access to capital, land, and local policy support – plays a particularly important role, especially amid rising investment costs and tightening facility standards.

In Thua Thien Hue, where high-quality healthcare human resources and central-level hospitals create professional pressure, digital transformation and quality management become decisive. This explains why digital competency emerges as the most influential component of leadership competency.

Policy implications include shifting toward system-based leadership (standardized processes, delegation, succession planning) in fast-growing provinces; strengthening local policy support and leadership development programs in constrained provinces; and prioritizing quality management and digital transformation in provinces with strong professional ecosystems.

Conclusion

The findings indicate that the leadership competency of directors of private healthcare facilities in Vietnam's North Central region is shaped by three groups of factors: (1) leader-related factors, (2) internal organizational factors and staff-related conditions, and (3) external macro-environmental factors. Among these, leader-related factors exert the strongest influence, followed by the external environment, while the internal environment has a smaller but still statistically significant effect. Analysis of the competency structure further shows that digital competency has the strongest association with overall leadership competency, highlighting the growing importance of digital transformation in healthcare governance and operations. Based on these results, the study recommends designing context-specific leadership development programs tailored to provincial conditions, with priority given to strengthening digital competency, strategic planning, financial management, and quality management. In parallel, improving the policy and business environment – through clearer regulations, better access to resources, and stronger support mechanisms – will be essential to enhance directors' leadership capacity and promote

the sustainable development of the private healthcare sector in the North Central region.

At the regional level, tailored leadership development programs for directors of private healthcare facilities are needed, incorporating updated legal requirements and healthcare digital transformation agendas. Overall, leadership competency is multidimensional and increasingly depends on digital competency in the current phase of healthcare transformation.

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