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Factors Affecting the Financial Performance of Listed Construction Companies in Vietnam during the Digital Transformation Era

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Abstract

In the context of rapid digital transformation in the construction industry, listed construction companies in Vietnam are facing increasing competitive pressure, fluctuations in material costs, greater requirements for financial transparency, and stricter demands on project progress. Financial performance has therefore become a critical indicator reflecting a firm's health and its ability to create value for shareholders. This study identifies and measures the factors influencing the financial performance of 112 listed construction companies during the period 2023–2025. Using a regression model and statistical testing through SPSS26, the findings reveal five key determinants that significantly affect ROE, including: (1) firm size, (2) asset structure, (3) capital structure, (4) growth rate, and (5) asset turnover. The study provides managerial implications to support construction enterprises in optimizing financial performance amid the ongoing digital transformation.

1. Introduction

The construction sector plays a vital role in the national economy, contributing significantly to GDP and serving as the backbone of infrastructure development. However, in the context of a stagnant real estate market, fluctuating input costs, stricter regulations on public investment management, delays in project payments, and increasing competitive pressure, the financial performance of construction enterprises has been adversely affected.

At the same time, digital transformation is driving substantial changes in managerial practices, cost estimation, project monitoring, progress control, and financial transparency. Construction enterprises are therefore required to restructure their strategies to sustain and enhance financial performance.

Given these challenges, identifying the determinants influencing the financial performance of listed construction companies in the digital transformation era is essential for supporting strategic decision-making by both managers and investors. The content and methodological approach of this study are grounded in the theoretical foundations and analytical frameworks established in previous corporate finance research.

2. Theoretical Background and Literature Review

2.1 Literature review

A substantial body of domestic and international research has examined corporate financial performance from various perspectives, with most studies emphasizing the critical role of internal factors such as firm size, asset structure, capital structure, growth rate, and asset utilization efficiency. Onaolapo and Kajola (2010) [6], in their study of 30 non-financial listed firms in Nigeria during the period 2001–2007, found that debt ratio and the proportion of fixed assets negatively affect both ROA and ROE, whereas asset turnover, firm size, growth rate, and firm age exert positive effects. Their findings further highlight that industry-specific characteristics significantly influence ROE, particularly in asset-intensive sectors such as construction.

In Vietnam, Doan Ngoc Phi Anh (2010) [2], adopting a path analysis approach, reported that business performance, business risk, and asset structure are negatively associated with financial structure, while firm size shows a positive relationship. Notably, the study concluded that both operational efficiency and financial structure positively impact ROE—a finding that aligns with the characteristics of construction enterprises, which typically operate with high financial leverage and a substantial

proportion of long-term assets.

In the construction sector, the study by Sara Kanwal and Muhamad Nadeem (2013) on 22 construction firms in Pakistan during 2007–2011 demonstrated that firm size, capital structure, asset structure, and inflation have significant effects on ROE, with the first three factors exhibiting positive relationships. This provides further evidence that firms in capital- and asset-intensive industries, such as construction, are strongly influenced by their investment decisions and financing structures.

Domestic studies, including those by Truong Dong Loc and Tran Van Tam (2013) as well as Quan Minh Nhut and Ly Thi Phuong Thao (2014), also reinforce the importance of capital structure, asset turnover, and firm age in explaining variations in ROE. Additional factors such as selling and administrative expense ratios, treasury stock ratios, and the extent of debt usage have likewise been shown to significantly affect financial performance.

Synthesizing insights from prior international and Vietnamese studies on determinants of financial performance, the present research identifies five key factors and formulates corresponding hypotheses: (1) firm size, (2) asset structure, (3) capital structure, (4) growth rate, and (5) asset turnover.

2.2 Theoretical Background on Financial Performance

Financial performance reflects the profitability of shareholders' equity and serves as a central indicator for assessing a firm's ability to create value. From the perspective of investors and owners, financial performance demonstrates the extent to which equity capital is preserved and expanded, while also reflecting the effectiveness of managerial decisions in utilizing capital to generate returns. When financial performance is high, firms not only enhance shareholder value but also strengthen the confidence of stakeholders, thereby facilitating capital mobilization, investment expansion, and competitive positioning in the market.

In the construction sector—an industry characterized by high capital intensity, long project cycles, significant liquidity risks, and a substantial proportion of fixed assets—financial performance becomes an even more critical measure for evaluating firms' capabilities in cost management, progress control, and cash flow administration. The unique nature of the industry implies that financial performance depends not only on net profitability but is also strongly influenced by factors such as capital structure, asset turnover, the proportion of work-in-progress costs, and fluctuations in the construction market.

In corporate finance research, various indicators are used to measure financial performance; however, Return on Equity (ROE) is widely regarded as the most comprehensive measure of equity efficiency. ROE captures the amount of profit generated per unit of shareholders' equity and thus aligns closely with the owner-oriented approach to evaluating financial effectiveness. Both Vietnamese corporate finance textbooks and numerous international and domestic studies (e.g., Onaolapo & Kajola, 2010 [6]; Sara Kanwal & Nadeem, 2013; Ly Thi Phuong Thao, 2014) employ ROE as the dependent variable representing financial performance. This is particularly relevant for construction enterprises, where the efficiency with which equity capital is utilized is closely tied to project execution

capabilities, competitiveness in bidding, and attractiveness to investors on the stock market.

Based on these theoretical and empirical grounds, this study adopts ROE as the indicator for measuring the financial performance of listed construction companies, with the objective of assessing equity profitability and identifying its determinants in the context of a volatile construction market and an accelerating digital transformation process.

3. Research methods
Research model and hypothesis
From the research overview, the research team proposed the following research model:
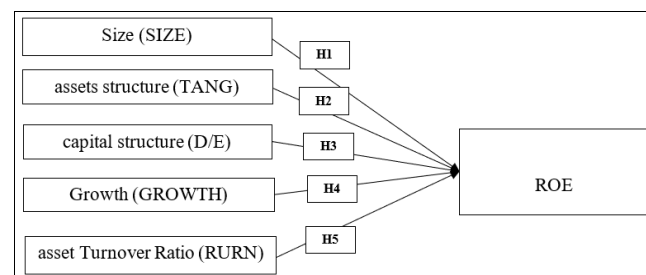
Research model with 5 research hypotheses:

Numerous international and domestic studies have indicated that larger firms tend to possess advantages in financial capacity, access to credit, bargaining power with suppliers, and brand strength (Onaolapo & Kajola, 2010 [6]; Sara Kanwal & Nadeem, 2013). In the construction industry, greater firm size further enables enterprises to participate in large-scale projects, enhance their probability of winning bids, and reduce average costs through economies of scale.

H1: Factors belonging to the SIZE have a positive impact on the ROE.

The proportion of fixed assets reflects the level of investment in machinery, equipment, and technology—factors that are particularly critical in the construction industry. Prior studies indicate that asset structure is positively associated with ROE in asset-intensive sectors, as efficient utilization of machinery enhances construction capacity and reduces production costs (Kanwal & Nadeem, 2013; Doan Ngoc Phi Anh, 2010 [2]). In the context of digital transformation, the proportion of fixed assets is also linked to the degree of modernization in construction equipment, including the adoption of BIM, IoT, and site-monitoring technologies, all of which contribute to improved financial performance.

H2: Factors belonging to the TANG have a positive impact on the ROE.

Financial leverage is a prominent characteristic of construction enterprises due to their substantial capital requirements and long capital recovery cycles. Numerous empirical studies have demonstrated that capital structure has a significant impact on financial performance (Onaolapo & Kajola, 2010 [6]; Quan Minh Nhut & Ly Thi Phuong Thao, 2014). When the cost of debt is lower than the return on assets, firms can increase ROE through the leverage effect. Moreover, debt financing enables construction companies to expand project scale, acquire equipment, and participate in multiple large projects simultaneously. However, the use of leverage also entails considerable risks, particularly when market conditions become volatile.

H3: Factors belonging to the D/E have a positive impact on the ROE

Revenue growth reflects a firm's ability to expand its market reach, enhance competitiveness, and improve contract management efficiency. Previous studies have shown that higher growth rates exert a positive influence on financial performance by enabling firms to scale their operations, strengthen cash flows, and optimize costs (Onaolapo & Kajola, 2010 [6]; Truong Dong Loc & Tran Van Tam, 2013). In the construction sector, revenue growth also signals diversification in the project portfolio and strengthens the firm's credibility in the bidding process, thereby improving the return on shareholders' equity.

H4: Factors belonging to the GROWTH have a positive impact on the ROE

Asset turnover measures how efficiently a firm utilizes its assets to generate revenue. In the construction industry—where assets are often tied up in work-in-progress, construction equipment, and receivables—asset turnover becomes a critical indicator of financial performance. Prior studies have shown that asset turnover positively influences ROE by enhancing the efficiency of asset utilization and reducing capital costs (Onaolapo & Kajola, 2010 [6]; Truong Dong Loc & Tran Van Tam, 2013). Higher asset turnover enables construction firms to shorten project duration, reduce capital tied up in ongoing projects, and increase profitability.

H5: Factors belonging to TURN have a positive impact on the ROE

Qualitative research methods

The author employs a combination of qualitative and quantitative research methods. The qualitative approach is used to discuss and refine the indicators applied to measure the extent to which various factors influence financial performance. To assess these influences, a five-point Likert scale is utilized for respondents to rate the statements included in the survey instrument.

Quantitative research methods
Data manipulation

The following step involves analyzing survey data in order to weed out survey forms that aren't acceptable since the responses are inconsistent or leave blanks. There were 112 survey questionnaires that were included in the data analysis. The primary analytical approaches for the questionnaires used in the study include descriptive statistics, scale testing, EFA testing and regression analysis. The surveys are input and processed using SPSS26 software. Lastly, there is the paper presentation and the presenting of study findings.

4. Results
Cronbach's Alpha test

All Cronbach's alpha coefficients of the variables were ≥ 0.6, thus meeting the requirements to be included in factor analysis. At the same time, the total correlation coefficients of the observed variables all meet the requirement of ≥ 0.3, ensuring that the given scales can be trusted in a statistically significant way.

Table 2: Reliability Statistics

Evaluation criteria	Cronbach's Alpha
Size	.768
Tang	.782
D/E	.812
Growth	.826
Turn	.789
ROE	.786

Source: Author's calculations

EFA exploratory factor analysis

The results of testing the data with KMO = 0.852 (> 0.5), Sig of Bartlett's Test is 0.000, smaller than 0.05, showing that these observations are correlated with each other and completely consistent with factor analysis. Factor loading factor of the observed variables are all > 0.5, the total variance extracted is 74.01% (> 50%) and the Eigenvalue coefficient = 1.162 (> 1). These tests were warranted for exploratory factor analysis.

Thus, all the scales selected for the variables in the model meet the requirements.

Table 3: Rotated Component Matrixa

KMO	.852
Sig.	0
Eigenvalue	1.162
Cumulative %	74.01

Source: Author's calculations

Results of regression analysis

The results of the regression analysis of the model of factors affecting the intention to use T with 5 independent variables are as follows: Model fit test value sig. = 0.000 (< 0.05 shows that the variables in the model can explain the change in the dependent variable. From the above analysis, all 9 factors are significant (sig < 0.05) and the model is as follows:

Table 4: Coefficientsa

Model	Beta coefficient is not standardized		Standardized Beta Coefficient	t	Sig.
	β	Std. Error	Beta		
Blocking coefficient	2.423	.892		9.065	.000
SIZE	.624	.161	.327	4.678	.000
TANG	.597	.165	.396	5.852	.000
D/E	.862	.281	.382	5.462	.000
GROWTH	.782	.420	.408	6.701	.000
TURN	.562	.285	.401	4.242	.001
a. Dependent Variable: ROE					

Source: Author's calculations

The linear regression model shows the impact of factors affecting the ROE:

ROE = 0.327*SIZE + 0.396*TANG + 0.382* D/E + 0.408*GROWTH + 0.401* TURN.

Regression analysis and the standardized regression equation show that 5 factors are positively correlated with ROE component GROWTH has the biggest β = 0.408

among them, whereas componen SIZE has the lowest coefficient β = 0.327.

5. Conclusion
The research findings indicate that the return on equity (ROE) of listed construction companies is positively influenced by five primary groups of factors: *(1) firm size, (2) asset structure, (3) capital structure, (4) revenue growth, and (5) asset turnover*. Based on these results, several managerial implications are proposed to enhance financial performance:

(1) Expanding firm size
For listed construction companies—where operations typically require substantial capital, long construction periods, and exposure to payment risks—expanding firm size is a critical condition for strengthening competitiveness and improving ROE. Firms should proactively diversify their capital mobilization channels, including: (i) internal financing through inter-company loans, unsecured loans, or secured loans; (ii) restructuring resources by liquidating underperforming assets; and (iii) issuing shares or bonds to strategic investors. Furthermore, accessing external capital markets through public offerings or attracting equity contributions from institutional investors is an important solution for meeting the large-scale capital demands of major construction projects.

(2) Establishing an optimal capital structure
An optimal capital structure in construction firms must balance financial safety with the objective of minimizing the cost of capital. Given the industry's high proportion of long-term assets and significant work-in-progress expenses, firms must accurately determine the minimum capital requirements needed to ensure uninterrupted construction activities, thereby avoiding delays caused by insufficient working capital. Adjusting the debt-to-equity ratio appropriately enables firms to leverage financial benefits safely, enhancing ROE without increasing financial risk.

(3) Improving asset utilization efficiency
In the construction industry, asset utilization efficiency directly reflects project management capability and construction organization effectiveness. Firms should focus on optimizing key asset categories such as machinery, construction equipment, and production-related fixed assets. This can be achieved by adopting technological and engineering advancements, upgrading construction technologies, organizing production in a streamlined manner, standardizing operational processes, and improving the quality of input materials. Effective asset management helps firms reduce depreciation costs, shorten construction time, and increase profit margins.

(4) Enhancing asset turnover
Low asset turnover in listed construction companies often stems from lengthy construction durations, high levels of receivables, and a large proportion of work-in-progress costs. Therefore, firms need to strengthen project cash-flow management, accelerate acceptance and handover procedures, expedite receivables collection, and tightly control work-in-progress expenses. As asset turnover improves, the speed at which assets are converted into revenue increases, thereby positively contributing to ROE.

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