



Received: 25-03-2024  
Accepted: 05-05-2024

## International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

### Factors Affecting the Financial Performance of Steel Manufacturing Enterprises in the Period of Digital Transformation

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#### Abstract

Financial performance is efficiency related to the owner's ability to profit from capital. It is the concern of the owners of any organization and its growth over time as the ultimate goal of investors. This article studies the factors affecting financial performance, especially in the digital transformation period. Based on research data taken from 267 steel manufacturing enterprises in the period 2020 -

2023. The author used regression and testing using SPSS26 software. Research results show that there are 5 factors affecting financial performance: (1) size, (2) Asset structure, (3) Capital structure, (4) Growth, (5) Asset turnover ratio. This is the basis for the authors to propose solutions to improve the financial performance of steel manufacturing enterprises during the digital transformation period.

**Keywords:** Financial Performance, Digital Transformation, Steel Manufacturing Enterprises

#### 1. Introduction

In the current context of strong international economic integration, competition between domestic and foreign businesses is becoming more fierce than ever, especially in the digital transformation period. Digital transformation is about transforming the way business entities operate to create value. The steel production and business industry is one of the key industries in Vietnam. Fluctuations in the world market, the domestic steel industry continues to face challenges due to the stagnation of steel-using manufacturing industries such as construction industry, infrastructure... and competitive pressure from increasing sources of steel. Domestic supply and some neighboring countries. Rising input costs, low sales volume, large inventory, plus pressure from loan interest rates and rising exchange rate differences... are big challenges for Vietnam's steel industry. Therefore, in the context of businesses implementing digital transformation, identifying factors affecting financial performance is an urgent need for businesses, especially steel manufacturing businesses.

#### 2. Theoretical Background and Literature Review

##### 2.1 Literature review

The author team Onaolapo and Kajola (2010)<sup>[5]</sup> conducted a study on "Factors affecting business performance and corporate financial performance" of 30 non-financial companies listed on the Nigerian stock exchange since 2001. to 2007. Research results show that: Debt and fixed asset ratios have a negative impact on ROA and ROE; Asset turnover, company size, growth rate, year of establishment have a positive impact on ROA and ROE. Specific business factors in the alcohol, food and beverage, tobacco, and construction industries have a strong impact on ROE.

Doan Ngoc Phi Anh (2010) researched "Factors affecting financial structure and financial performance: Path analysis approach" with data collected from financial reports of 428 businesses listed on two stock exchanges in Ho Chi Minh City and Hanoi from 2007 - 2009. Research results have shown: Business efficiency, business risk, asset structure are related is inversely proportional to financial structure while enterprise size is positively related to financial structure. The research results also show that both business performance and financial structure have the same impact on ROE.

Sara Kanwal and Muhamad Nadeem (2013) studied the financial performance (ROE) of 22 construction industry enterprises in Pakistan during the period from 2007-2011. Research results show that there are 4 factors that affect ROE: Scale, capital structure, asset structure and inflation. In which, the factors of enterprise scale, capital structure and asset structure have a positive relationship with ROE.

Authors Truong Dong Loc and Tran Van Tam (2013) said that: The return on equity ratio of food companies in the Mekong

Delta region is influenced by three factors, which are: Capital structure, total asset turnover and proportion of export revenue. All three factors are positively correlated with companies' return on equity.

Authors Quan Minh Nhut and Ly Thi Phuong Thao (2014) research shows that the variables of treasury stock ratio, business operating time, sales and management expense ratio have a positive impact on ROE. The variables loan/total debt ratio and fixed assets ratio have a negative impact on ROE.

From the overview of international and domestic authors on factors affecting financial performance, the article identifies 5 research hypotheses with 5 influencing factors: (1) size, (2) Asset structure, (3) Capital structure, (4) Growth, (5) Asset turnover ratio.

## 2.2 Theoretical background

### Financial performance

Financial performance is efficiency related to the profitability of equity capital. According to textbooks compiled in Vietnam, the authors use the indicator Return on Equity (ROE) to measure corporate financial performance.

When considered from the perspective of owners, the ultimate goal of these people is to be effective in using their capital - equity. Thus, financial efficiency is ultimately the effectiveness of preserving and developing equity capital. When financial efficiency is high, that is, the profit generated from the use of equity capital is high, making it easy for investors to accept leaving most of the profit for

investment, and thus the business has good conditions. to add additional means of business. In addition, high financial efficiency will ensure safety for businesses in the financial environment, because for lenders, profits are like a covenant, a guarantee against changes in economic conditions. Joint. Therefore, financial efficiency is the main goal of managers, especially in cases where they are both owners and have investment capital.

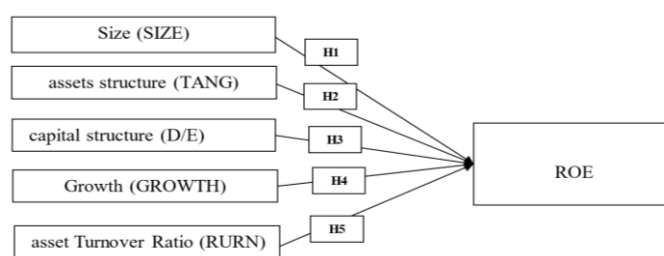
Financial efficiency research aims to evaluate the growth of assets for the business compared to the total capital that the business actually has, which is the profitability of equity.

There are many indicators to measure corporate financial performance. In most textbooks compiled in Vietnam, the authors use the indicator Return on Equity (ROE) to measure corporate financial performance. Furthermore, in the review of research literature, most domestic and foreign authors have used the indicator Return on equity (ROE) as an indicator to measure corporate financial efficiency and is a measure of corporate financial performance. Dependent variable in those experimental studies. ((Onaolapo and Kajola (2010) <sup>[5]</sup>, Sara Kanwal and Muhamad Nadeem (2013), Ly Thi Phuong Thao (2014)). With the above arguments, the author chooses Return on Equity (ROE) to measure financial efficiency in your research.

## 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:

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

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

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

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

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

### Qualitative research methods

The author uses a combination of qualitative research methods and quantitative research methods. Qualitative methods are used for the purpose of discussing the indicators used to measure the influence of financial performance factors. To evaluate the level of influence, the author uses a 5-level Likert scale to answer the statements in the questionnaire.

### Quantitative research methods

#### Collect data

According to Hair *et al* (1998), the smallest sample size

must be 50, preferably 100 and the ratio of observations/measured variables is 5/1, so the author distributed 280 survey questionnaires to listed steel enterprises. The results were 267 valid surveys.

#### 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 267 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

### Descriptive statistical results

After conducting 280 surveys, the author received 267 valid votes. The author conducted data processing and data analysis. The initial descriptive results are obtained:

**Table 1:** Describe general information of the research sample

		Frequency	Rate (%)
Gender	Male	156	58.43%
	Female	111	41.57%
Age	under 40 years old	67	25.09%
	From 41 to 59 years old	121	45.32%
	Up 60 years old	79	29.59%
Degree of academia	Graduated from high school	0	0.00%
	University	92	34.46%
	Master's degree/PhD	175	65.54%

Source: Author's calculations

*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	.773
TANG	.719
D/E	.705
GROWTH	.763
TURN	.721
ROE	.778

Source: Author's calculations

*EFA exploratory factor analysis*

The results of testing the data with KMO = 0.804 (> 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 72.03% (> 50%) and the Eigenvalue coefficient = 1.142 (> 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 Matrix

KMO	.804
Sig.	0
Eigenvalue	1.142
Cumulative %	72.03

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 3 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 5 factors are significant (sig < 0.05) and the model is as follows:

**Table 4:** Coefficients<sup>a</sup>

Model	Beta coefficient is not standardized		Standardized Beta Coefficient	t	Sig.
	B	Std. Error	Beta		
Blocking coefficient	2.706	.972		9.065	.000
SIZE	.524	.163	.302	4.678	.000
TANG	.597	.180	.393	5.952	.000
D/E	.562	.281	.371	5.562	.000
GROWTH	.782	.420	.482	6.091	.000
TURN	.562	.285	.362	4.942	.001

a. Dependent Variable: ROE

Source: Author's calculations

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

$$ROE = 2.706 + 0.524*SIZE + 0.597*TANG + 0.562*D/E + 0.782*GROWTH + 0.562*TURN.$$

Regression analysis and the standardized regression equation show that 5 factors are positively correlated with ROE component GROWTH has the biggest B = 0.782 among them, whereas componen SIZE has the lowest coefficient B = 0.524.

**5. Conclusion**

Thus, Return on Equity (ROE) is influenced by factors: (1) size, (2) Asset structure, (3) Capital structure, (4) Growth, (5) Asset turnover ratio. All factors have the same impact on the financial performance of the business. From the research

results, the article proposes some solutions to enhance financial performance:

(1) *Expanding business scale:* There are 3 basic forms to mobilize capital within the company:

- Loans: Internal loans, mortgage loans, unsecured loans.
- Sell assets, liquidate assets.
- Issuing additional stocks and bonds as a strategic shareholder.

In addition, businesses can mobilize from outside the business such as issuing stocks, bonds, calling for capital investment, etc.

(2) *Building a reasonable capital structure:* Capital structures are considered reasonable when they are consistent with the characteristics of production and business activities and achieve the goal of minimizing the cost of capital. Accordingly, businesses need to determine the minimum capital needs necessary to meet production

and business activities, to ensure that the business process of the business is conducted regularly, continuously, without interruption. paragraph.

**(3) Improve asset use efficiency**

Improve the capacity to use machinery and production equipment by applying new technical measures, improving technological processes, organizing production according to production lines and specialization, and improving the quality of raw materials – material.

**(4) Increase asset turnover**

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