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Impact of External Cultural Values on the Financial Performance of Listed Companies on the Ho Chi Minh Stock Exchange (Hose) Vietnam

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Abstract

The research findings contribute to studies on external commitment values in particular, and the overall impact of organizational culture on financial performance. This provides Vietnamese businesses listed on the HOSE stock exchange and all businesses in Vietnam with additional insights into the relationship between corporate culture and financial performance. After collecting and analyzing data from 108 observations, the research results indicate that five external commitment values affect the financial performance of companies listed on the HOSE. These include four positively impacting values: Quality-Innovation, Product, Social Responsibility, and Financial, and one negatively impacting value: Economic.

Keywords: *organizational culture, financial performance, external commitment values, stock exchange.*

1. Introduction

In the era of globalization, countries worldwide are gradually changing and adapting to innovations to maintain their positions and develop internationally. In response to the essential requirements of the economy and alignment with the global economic restructuring trend, Vietnam has identified economic restructuring linked to sustainable growth as a key focus of socio-economic development. Each enterprise contributes to this sustainable development, yet each enterprise carries its unique cultural identity with core values and missions, creating differences among them. Corporate culture goes beyond mere communication culture, encompassing core values, rules, management styles, business methods, and behaviors of all members. Therefore, the role of corporate culture in adapting to changes in the external environment is crucial. Specifically, corporate culture positively influences financial performance (Hailin Zhao et al., 2018), significantly impacting employee performance and productivity in a dynamic environment, affecting customer satisfaction (Kabir et al., 2020; Elsayed et al., 2016), and the long-term oriented cultural aspect has the most significant influence on the CSR practices and prosperity of a business (Wioleta et al., 2019). The cultural values and behaviors transmitted by each organization serve as cohesive elements binding all

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members to ensure organizational cohesion and development, becoming a mechanism affirming collective goals, ensuring a developmental environment for individuals within the organization, attracting external talents, and retaining them. As with the cultural values communicated within the organization, studies have demonstrated that organizations with committed values operate more effectively than those without (Donker et al., 2008). Therefore, enterprises need to legitimize external commitment values to affirm their values and protect the organization in a fiercely competitive environment. The question arises of how to assess the impact of corporate culture on financial performance in some companies listed on the HOSE stock exchange in Vietnam, including companies in various sectors such as Construction and Real Estate, Manufacturing, Technology and Information, and Retail.

2. Theoretical Framework and Research Model

According to Edgar H. Schein, an honorary professor of management science at MIT who has made significant contributions to the field of business management, corporate culture is defined as a model of fundamental assumptions that has operated well enough to be considered valid when solving the organization's problems. According to Schein (2004), corporate culture is a set of values, norms, and basic beliefs accumulated through the business's interaction with the external environment and integration within the internal environment. These values and norms are established over time and transmitted to new members as a proper way to approach, think, and direct problem-solving efforts (Đỗ Tiến Long, 2015).

According to Noe (2013), today's corporate culture is considered a part of the social capital that determines the sustainable development of the business. Corporate culture establishes a system of values that people in the business share, accept, uphold, and behave according to those values. Therefore, corporate culture contributes to creating differences between businesses and is considered a source of competitive advantage (Đỗ Tiến Long, 2015).

According to Hofstede et al. (1990), the term "organizational culture" entered the academic research field in the United States in 1979. Until now, the concept of organizational culture has become a debated notion in both theory and practice. It continues to reflect various developmental trends in academia as new concepts to understand this domain continually evolve. Despite different perspectives, researchers are converging on common ground. While most researchers agree that organizational culture includes the processes and structured nature of a business, shared values, beliefs, and perceptions, their views on each of these components vary significantly. Some authors emphasize the value aspect of organizational culture, while others highlight its structured nature. Many researchers fall between these two viewpoints (Nguyễn Thị Hồng Thắm, 2014).

Discussing corporate culture is synonymous with referring to a singular entity with standards, values, beliefs, and behaviors demonstrated through its interconnected members working together (Eldrige & Crombie, 1974). Corporate culture is the mindset and daily actions of members, which they must learn and adhere to some extent to be accepted in the company. In this sense, culture encompasses a range of behaviors, production methods, skills and knowledge, beliefs about discipline, management customs, goals of involved parties, business methods, compensation philosophies, diverse job perspectives, conventions, and taboos. Corporate culture also serves as a form of fundamental assumptions that have proven effective and are considered valid, thus transmitted to new members to adopt (Schein, 1984).

According to Kotter (2011), businesses that establish a strong culture operate very differently

from those with a weak culture. Corporate culture clearly reflects an effective work management philosophy. In every situation and assigned task, members aim for efficiency and job quality. This cultural aspect is formed and developed right from the establishment of the company. The management philosophy spreads from the highest leadership down to the managerial team, who are both experienced and act as pillars, leading and guiding subsequent members. Therefore, all members are developed and work towards work efficiency (Đỗ Tiến Long, 2015).

The role of corporate culture in the efficiency of business operations According to Noe (2013), corporate culture today is seen as part of social capital that determines the sustainable development of a business. Thus, corporate culture contributes to creating differences between businesses and is considered a source of competitive advantage (Đỗ Tiến Long, 2015). Culture has provided a shared commitment for a common goal and the values of the company; it also helps resolve daily conflicts within the business. Corporate culture plays a part in reducing internal conflicts, fostering unity for increased productivity and financial performance within the organization. It creates stability, making management easier and more convenient, contributing to the sustainable development and prosperity of the organization.

The Martin Model of Externally Espoused Values

There are numerous research models on corporate culture, such as Schein's three-tier model of corporate culture, Hofstede et al.'s (1990) multi-dimensional cultural model, Trompenaars' (1996) cultural research work, Quinn and Cameron's (1983) model, Denison's (1984) model, and various other global research models. However, most of these models focus on exploring and discovering the management characteristics within the business, as well as external factors influencing the business, without acknowledging that externally espoused values of the business are also a subject worthy of study.

The research paper titled "Externally Espoused Values and the Legitimation of Financial Performance," conducted by Martin and colleagues in 1988, presented a specific relationship between organizational culture and values endorsed in the annual reports of a broad spectrum of large U.S. companies. Through investigation and experimentation, the authors provided definitions for each value, with a default case or special case added as examples to further clarify how values are encoded, and the keywords were provided and used whenever necessary.

According to Martin (1988), the factors related to Quality and Innovation are grouped together because companies emphasizing this factor tend to focus most on the "New Ways to Be the Best" approach. Being a special case of the product category, this group consistently emphasizes the improvement of existing products, the development of new products, and continually strives to enhance the quality of its products, thereby achieving success through this innovation and improvement (Martin et al., 1988; Ahmed et al., 2016). Martin's research results also indicate a positive impact of Quality-Innovation on the financial performance of the company, specifically with a financial performance index of 0.18. Therefore, this factor will have a positive impact when analyzing its influence on business operations.

Furthermore, according to Martin, the economic factor has a negative impact on the financial performance of the company. To explain this, the author provided an example: In 1950, the Federal Reserve's policies regarding money and credit supply from oil caused the basic interest rate to skyrocket in April to a record level of 20%. Housing started responding by moving in the opposite direction, reaching its lowest point in May when it should have approached the highest level seasonally. Other forms of construction also felt the pressure of high interest

rates, and for many builders, the best construction months were lost. Simply put, the increase in interest rates makes the amount of debt that borrowers have to repay higher, making them more hesitant to borrow money to buy or build a house, leading to a downturn in the construction industry in the United States at that time (Martin et al., 1988). Additionally, businesses with strong cultures are less likely to accept the benefits, the positive things brought by contrasting cultures, so they may lag behind other organizations with weaker cultures but are more accepting of external benefits (Sorensen, 2002). Therefore, the economic factor is suggested to have a negative impact on financial performance.

The customer factor is also a crucial element when measuring the success of a business, and it is evident that this factor has a positive impact on the company's success. Research results at the real estate company Okamura Sanyo indicate that Customer Care (encompassing everything necessary for a business to satisfy the needs and expectations of customers; in other words, customer care is serving customers as they desire) has a positive impact on employee engagement, thereby positively influencing the job performance of employees (Elsayed et al., 2016). Customer care is related to customer satisfaction (Kabir et al., 2020; Aydin & Ceylan, 2009). It measures the products and services provided by a company that meet or exceed customer expectations and positively affects employee commitment, thereby positively impacting their job performance (Alamri et al., 2021; Sương, 2022). Another study at the Joint Stock Commercial Bank for Foreign Trade of Vietnam shows that customer-centricity is an important factor constituting the corporate culture (Ong Quốc Cường, 2016). Martin's results also demonstrate that companies emphasizing the customer factor have a positive financial performance index (Martin et al., 1988). When customers, the service users of a business, are cared for and attended to as expected, they will naturally return to continue supporting the business, along with recommending it to others, contributing significantly to the company's success (Dean, 2005; Al-Dmour et al., 2019). The customer factor is suggested to have a positive impact on financial performance.

Companies that emphasize the human factor, or humanism, in Martin's study yielded negative financial performance indices. Martin explains that companies in this group adopt riskier strategies, such as takeovers and mergers, which threaten employee jobs (Kim et al., 2018). Organizational representatives may attempt to legitimize these activities by claiming that any stress caused to employees by a risk strategy will be compensated for by the company's concern for the physical and mental health of employees. However, the risk of job loss for employees still exists with these strategies, making organizations that are more likely to threaten employee employment often endorse strong individualistic human values compared to other companies (Martin et al., 1988; Kim et al., 2018; Alamri et al., 2021). Another study also resulted in the rejection of the hypothesis: values emphasizing personality traits (traits that members develop through their work, including ambition, perseverance, and confidence) are positively related to company performance. The author argues that values promoted are primarily for public image, so the internal dynamics within the company may differ (Luinstra, 2019). Therefore, the human factor is expected to have a negative impact on financial performance.

Regarding products, it is not difficult to understand the prediction that this factor has a positive impact on the company's operational results, as quality-innovation and customer factors have a positive impact on results, and these are specific cases of products (Ahmed et al., 2016). If a company consistently cares for the quality of its products, coupled with improving customer care effectiveness, it will undoubtedly make customers remember the company and its products, thereby contributing to the success of the business, attracting new customers, and

retaining existing ones (Elsayed et al., 2016). Martin's research results also show that companies focusing on this factor have positive financial values (Martin et al., 1988). Therefore, the product factor is expected to have a positive impact on financial performance.

Social responsibility is also an important measurement factor when considering external commitment values of a company. This factor indicates the company's concern for the surrounding environment and the extent of its commitment to external ethical values (Donker, 2008). Previous research results show a strong correlation between the social responsibility of an organization, employee commitment, social responsibility, organizational effectiveness, and employee commitment to organizational performance. All three relationships are positive, indicating that organizations can enhance employee organizational commitment by participating in social activities, such as identifying and meeting community needs, working for a better environment, addressing employee welfare, producing quality products for customers, adhering to government rules and regulations, and working in a legal environment (Donker, 2008). All these activities significantly and positively impact employee commitment to the organization and improve organizational performance (Imran et al., 2010; Alamri et al., 2021). Experimental results show a statistically significant positive correlation between social responsibility, social responsibility aspects, and financial efficiency (Ho Thi Van Anh, 2018). This result also aligns with Martin's research findings that companies emphasizing social responsibility have positive financial performance (Martin et al., 1988), demonstrating the positive impact of the social responsibility factor on financial performance.

Finally, the financial factor includes all sales, monetary figures, and profits mentioned. In his study, Martin found that companies emphasizing this factor had negative financial performance indices (Martin et al., 1988). Similarly, a study on external commitment values showed that the hypothesis of "Values that emphasize capabilities (Financial strength and growth as well as the value of money and efficiency are examples of values endorsed, emphasizing capabilities) is positively related to the company's financial performance" was rejected. This result supports the idea that committed values are used for external purposes rather than internal influence. Therefore, behaviors influenced by various committed values do not translate into differences in financial performance based on the financial measures used in this study. This could be seen as support for the idea that committed values are used to manage public image (Luinstra, 2019). Thus, it can be said that businesses always try to maintain an attractive image for customers, and especially during difficult times, businesses tend to soften their weaknesses through financial factors. For this reason, the financial factor is expected to have a negative impact on financial performance.

Thus, based on the theoretical framework of external values and the research findings of Martin and colleagues, along with other studies in the same field, the research model on the impact of external commitment values on financial performance is presented as follows: With 7 external commitment values including Quality-Innovation, Economy, Customer, People, Product, Social Responsibility, and Financial, the Number of years in business is an important factor positively influencing financial performance (Ahmed et al., 2016). Long-established small and medium-sized enterprises (SMEs) may accumulate significant capital to fund their business operations and new investment projects. Additionally, these well-established businesses often possess extensive experience, have built credibility, and maintain broad social relationships with other businesses or commercial banks, making it easier to access capital and relevant information related to their business activities, resulting in higher financial performance. Some studies suggest that long-operating businesses tend to have better financial and financial

performance due to their accumulated experience (Coad et al., 2013; Osunsan et al., 2015). However, studies by Loderer et al. (2011), Ouimet & Zarutkskie (2014) express the perspective on the negative impact of the aging process of businesses on their operations, leading to poorer indicators such as ROA and ROE. Long-operating businesses often face challenges in adopting modern production and business technologies, resulting in lower competitive advantages compared to younger enterprises. Therefore, the variable "Number of years in business" is used as a control variable in the model of external commitment values' impact on financial performance. The proposed research model is presented as follows:

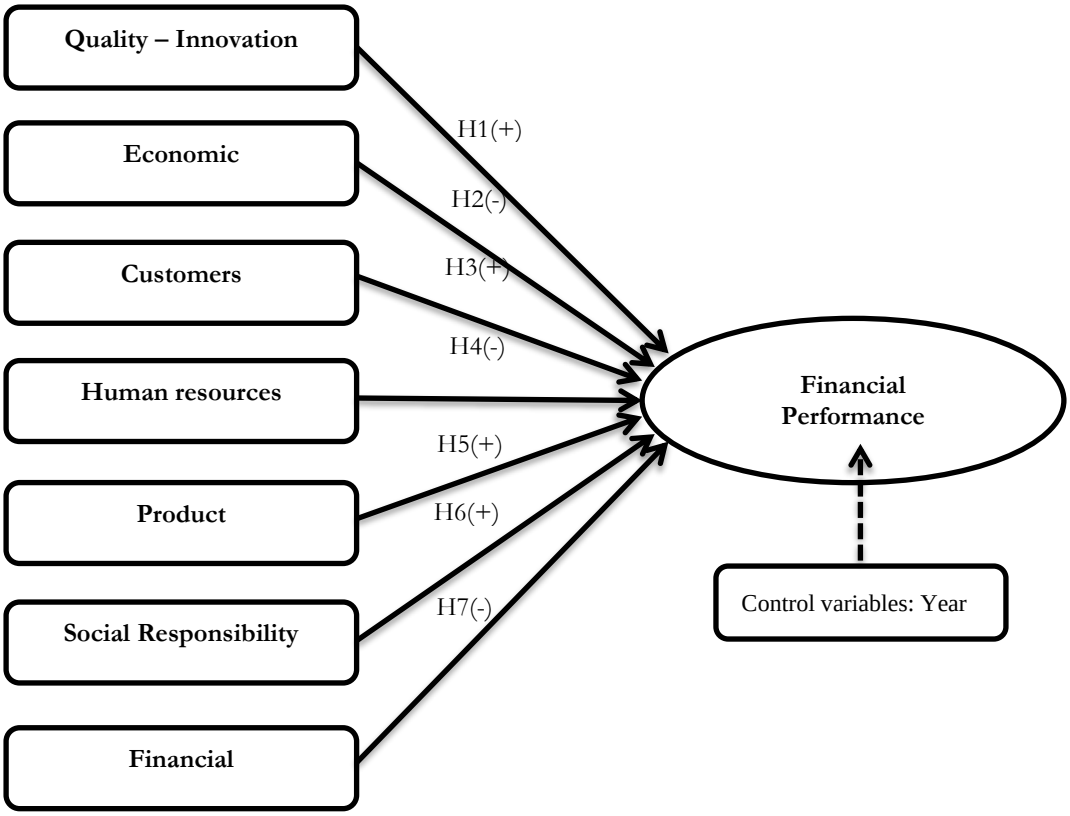

Figure 1 Proposed Research Model.
Source: Compiled from the Research by Joanne Martin.

The model includes the following hypotheses

H_1: *Quality and Innovation factors have a positive impact on financial performance.*

H_2: *Economic factor has a negative impact on financial performance.*

H_3: *Customer factor has a positive impact on financial performance.*

H_4: *Human factor (or Humanism) has a negative impact on financial performance.*

H_5: *Product factor (or pride in products and services) has a positive impact on financial* performance.

H_6: *Social Responsibility factor has a positive impact on financial performance.*

H_7: *Financial factor has a negative impact on financial performance.*

Thus, the model is formulated as a linear regression equation as follows:

$$ROAij = \beta0 + \beta1CLDMij - \beta2KTij + \beta3KHij - \beta4CNij + \beta5SPij + \beta6TNXHij - \beta7TCij + eij$$

In which:

ROAij (dependent variable) is the ROA ratio (After-tax profit/Total assets) of company i at time j.

β0: Intercept coefficient

β1, β2… β5: Regression coefficients, representing the relationship between independent variables and the dependent variable in the model.

e: Random error

NAMHĐ: Control variable

According to Joanne Martin (1988), the model provides certain advantages as follows: (1) Firstly, gathering data based on annual reports allows researchers to collect quantitative data from a large number of organizations. Quantitative data from large samples help establish systematic comparisons, employ statistical techniques, and develop theories in a more generalizable manner. (2) Secondly, this model facilitates the orderly division of research by addressing the question "who shares what" (a question almost always central to studies on culture), capturing multiple meanings and explanations of inconsistencies in different cultural manifestations. (3) Thirdly, for cultural researchers striving to build general theories, data obtained from quantitative content analysis and subgrouping can be used to outline similarities and differences between cultural contexts, thereby aiding in the process of theory formation to be more straightforward and coherent.

3. Research Methodology

The study collected secondary data on cultural values and financial performance, synthesized from various sources such as electronic portals, stock exchange platforms (Vietstock, CafeF, etc.), economic websites, the Ministry of Information and Communications, and relevant scientific journals, specialized publications, Government decrees, and legal regulations on accounting. These sources were compared and cross-referenced to obtain the most recent and accurate data, and business information was extracted from the official websites of the companies.

To conduct the analysis and encode the externally committed values of companies in annual reports to examine how the cultural model is manifested, the study employed a content analysis method with the following sequential procedure:

Step 1: Utilize the company's annual reports as the data source. Divide the annual report into four parts for encoding: chairman's letter, text, numbers/images, and footnotes/headings. Each value within the four parts of the annual report is assigned a specific color convention: Quality-Innovation: Purple; Economic: Light Green; Customer: Blue; Human: Bright Red; Social Responsibility: Orange; Product: Green; Financial: Yellow.

Step 2: The encoding method varies for each section, and programmers did not find difficulty in determining the boundaries of these analysis units. For all parts of the annual report except the numerical figures, the dominant value was identified by counting the lines (even words if necessary) dedicated to each value within the seven values and selecting the value with the highest count. Coders determined which value among the seven values predominated in each analysis unit. A dominant value was encoded for each paragraph of text, each image, and each footnote.

Step 3: Once each value has been encoded, the data is transformed from qualitative to quantitative. Quantitative analyses are then conducted, and research hypotheses are tested based on the encoded values.

The study conducted regression analysis using data collected on cultural values and financial performance (ROA). Specifically, regression analysis was employed to measure the degree of influence of independent variables on dependent variables using the following regression equation:

$HQHDKD_{ij}$ (ROA_{ij}) = $\beta_0 + \beta_1 CLDM_{ij} - \beta_2 KT_{ij} + \beta_3 KH_{ij} - \beta_4 CN_{ij} + \beta_5 SP_{ij} + \beta_6 TNXH_{ij} - \beta_7 TC_{ij} + e_{ij}$

To select a reliable regression model for the sample, the Hausman test was used to choose the optimal result among three different models: Pooled Ordinary Least Squares (Pooled OLS), Fixed-effects Model (FEM), and Random-effects Model (REM). Where:

- Pooled OLS Model: This is an uncontrolled model for the specific characteristics of each business in the study.
  $Y_{ij} = \beta_0 + \beta_1 X_{1ij} + ... + \beta_K X_{Kij} + u_{ij}$
  In which:
  Y_{ij}: Dependent variable for observation i in period j

X_{1ij},..., X_{Kij}: Independent variables for observation i in period j

The raw estimates are Ordinary Least Squares (OLS) estimates on the dataset obtained from the subjects over time. Hence, it considers all coefficients to be constant across different subjects and unchanged over time (Gujarati, 2004).

Fixed-effects Model (FEM): Developed from the Pooled OLS model when additional control is imposed for specific characteristics that vary between businesses, and there is a correlation between the residuals of the model and the independent variables.

$Y_{ij} = \beta_{0i} + \beta_1 X_{1ij} + ... + \beta_K X_{Kij} + u_{ij}$
In which:

β0i: Intercept coefficient for observation i.

Fixed effects, in this context, mean that although the intercept coefficient may differ between businesses due to their unique characteristics (β0i), the intercept coefficient for each business remains constant over time, meaning it is time-invariant (Gujarati, 2011).

Random-effects Model (REM): Developed from the Pooled OLS model when additional control is imposed for specific characteristics that vary between businesses, but there is no correlation between the residuals of the model and the independent variables. The basic idea originates from the model:

$Y_{ij} = \beta_{0i} + \beta_1 X_{1ij} + ... + \beta_K X_{Kij} + u_{ij}$
According to Gujarati (2011), in fixed-effects models, we assume that the individual-specific coefficient β0i is constant for each entity, meaning it does not change over time. In random-effects models (REM), we assume that β0i is a random variable with an average value of β0, and the intercept coefficient is described as follows:
$\beta_{0i} = \beta_0 + \varepsilon_i$ với i = 1, 2, …, N

Finally, the REM model is formulated as:

$Y_{ij} = \beta_0 + \beta_1 X_{1ij} + ... + \beta_K X_{Kit} + u_{ij} + \varepsilon_i$

In which:

ε_i : Cross-sectional error component.

u_{ij} : Combined spatial and time-series error component.

Generalized Least Squares Model (GLS): This model, also known as Generalized Least Squares regression, is used in situations where the variance-covariance matrix of the regression errors does not have all zeros off-diagonal and/or has nonidentical diagonal elements, indicating problems of heteroscedasticity and autocorrelation. Therefore, when the FEM and REM models exhibit issues of autocorrelation and varying variances, the GLS regression model (generalized form of difference equations) is employed because it addresses the shortcomings of the two aforementioned models.

4. Results and Discussion

According to Table 1, the average value of the independent variable "Human" is the highest, exceeding 21.06; followed by the independent variable "Product" with a value of 20.48. The smallest average value is 11.04, belonging to the independent variable "Economic," and simultaneously, the smallest value also corresponds to the independent variable "Economic."

Table 1. Summary of Descriptive Statistics for Companies in the Sample Period 2019-2021.

Variables	Mean	Standard Deviation	Min	Max
ROA	6,99	6,78	-2,95	33,94
CLDM	12,46	5,33	5	32
KT	11,04	5,62	2	26
KH	11,70	4,59	4	33
CN	21,06	10,02	6	59
SP	20,48	12,17	5	72
TNXH	11,83	5,41	3	30
TC	18,04	13,09	5	73
NAMHĐ	27,16	12,87	8	61

Source: Data analysis results from Stata software, 2023.

The highest value is associated with the independent variable "Financial," with a value of 73, and this value is significantly higher than the independent variable "Product" by 1 unit and much higher than the other variables.

In their reports, companies emphasize how they care about their employees and highlight human resources as the most critical resource. Companies consistently emphasize providing ongoing training for employees, updating relevant knowledge, improving, and upgrading human resource management systems to maximize human resource utilization. Therefore, the "Human" variable consistently holds high value across all companies.

Similarly, annual reports often present various financial indicators, ranging from common metrics like revenue, expenses, and profits to other indicators such as assets, capital, cash flow, or performance metrics like ROA, ROE, etc. These financial indicators are frequently mentioned to instill confidence in customers, attract investor funding, and provide external stakeholders with information that the company is performing well and is trustworthy. Hence, the "Financial" variable holds substantial value, being the highest among all the factors.

Apart from "Economic," the "Social Responsibility" variable is seldom mentioned, with values ranging from 3 to 30 and an average value of 18.04. It appears that companies do not emphasize

their social responsibilities much in their annual reports, despite these reports primarily being used to manage their external image. Additionally, customer-related aspects are also mentioned sparingly, indicating a relatively low concern for this factor among the companies in the sample. This could impact customer trust when reading the annual reports.

The research examines the correlation between variables in the model to determine the linear relationship between independent and dependent variables. Furthermore, analyzing correlation coefficients is foundational for detecting multicollinearity phenomena in the research model. The results of testing the correlation between variables in the model are presented in Table 2 below.

Table 2: Correlation Coefficient Matrix.

	CLDM	**KT**	**KH**	**CN**	**SP**	**TNXH**	**TC**	**NAMHĐ**	**ROA**
CLDM	1,00								
KT	0,44	1,00							
KH	0,27	0,26	1,00						
CN	0,44	0,22	0,19	1,00					
SP	0,30	0,01	0,16	0,46	1,00				
TNXH	0,04	0,31	0,01	0,15	0,14	1,00			
TC	0,28	0,09	0,46	0,40	0,17	-0,18	1,00		
NAMHĐ	-0,07	-0,04	0,17	0,17	0,12	0,05	0,21	1,00	
ROA	0,13	0,01	0,12	0,25	0,50	0,24	0,25	0,42	1,00

Source: Data analysis results from Stata software, 2023.

From the table of data analyzed using Stata, it can be observed that three independent variables, namely Human, Product, and Financial, exhibit a high correlation with the dependent variable ROA. The variables Product and Human, as well as the variables Financial and Customer, show the highest correlation at 0.46. The variables Human and Quality-Innovation, Economic and Quality-Innovation also demonstrate a significant correlation at 0.44. However, these values are still lower than 0.85, indicating no signs of multicollinearity phenomenon (Nguyen Dinh Tho, 2011).

Following the correlation analysis, the study proceeds to model selection tests. Initially, Ordinary Least Squares (OLS) regression analysis is performed, and the results are presented in Table 3 below:

Table 3. OLS Regression Model Results.

Source	**Total Sum of Squares**		**df**	**Mean Squares**	**Observations= 108**	
					F(8, 99)=10,46	
Model	2254,96		8	281,87	Sig =0,0000	
Residuals	2666,69		99	26,93	R^2 =0,4582	
Total	4921,66		107	45,99	Adjusted R^2 =0,4144	
					Residual Error =5,19	
ROA	Coefficient	Standard Deviation	T-value	Sig	Confidence Interval	
CLDM	0,06	0,12	0,54	0,593	-0,17	0,30
KT	-0,02	0,11	-0,27	0,789	-0,24	0,18
KH	-0,15	0,12	-1,23	0,223	-0,41	0,09
CN	-0,10	0,06	-1,60	0,113	-0,23	0,02
SP	0,25	0,04	5,23	0,000	0,15	0,35
TNXH	0,29	0,10	2,86	0,005	0,09	0,50
TC	0,12	0,04	2,57	0,012	0,02	0,22
NAMHĐ	0,18	0,04	4,45	0,000	0,10	0,26
Const	-5,46	2,14	-2,55	0,012	-9,72	-1,21

Source: Data analysis results from Stata software, 2023.

From the results in Table 3, the Ordinary Least Squares (OLS) regression model indicates an F-value of 10.46, and the model's significance level is 0.0000, demonstrating statistical

significance. The R-squared value is 0.4582; however, it is important to note that as more independent variables are added to the model, the R-squared value tends to increase. Introducing additional variables may lead to the model's susceptibility to functional misspecification or other flaws. Therefore, it is advisable to use the adjusted R-squared value. In this instance, the adjusted R-squared is 41.44%. It is evident that the traditional Ordinary Least Squares (OLS) regression method is not suitable and exposes several drawbacks in practical regression analysis.

To address this issue, assuming that each entity has distinct characteristics that may influence the explanatory variable, the Fixed Effects Model (FEM) analyzes the correlation between the residual of each entity with the explanatory variables. This allows for controlling and separating the impact of unique characteristics (unchanged over time) from the explanatory variables to estimate the true effects (Net Effect) of the explanatory variables on the dependent variable. Meanwhile, the Random Effects Model (REM) relies on the assumption that the differences between entities are contained in the random error term and are uncorrelated with the explanatory variables. Instead of assuming β0i is fixed, the model assumes β0i is a random variable with an average value of β0. In this case, the intercept value is $\beta 0i = \beta 0 + \varepsilon i$, where εi is the random error with a mean of 0 and a variance of σ2 (Bentler & Bonett, 1980). Subsequently, in panel data, regression can be run using either the Fixed Effects Model (FEM) or the Random Effects Model (REM).

Table 4. Results of the Fixed Effects Model (FEM).

Fixed-effects regression (within)				**Observations = 108**		
Within = 0,0936				Min = 3		
Between = 0,1317				Mean = 3,0		
Overall = 0,1047				Max = 3		
Accuracy (u_i, xb) = -0,8740				F(8,64) = 0,83		
				Probability > F = 0,5828		
ROA	Coefficient	Standard Deviation	T-value	Sig	Confidence Interval	
CLDM	-0,12	0,17	-0,73	0,470	-0,47	0,21
KT	-0,19	0,13	-1,42	0,160	-0,46	0,07
KH	-0,07	0,13	-0,57	0,571	-0,34	0,19
CN	0,08	0,11	0,67	0,503	-0,15	0,31
SP	0,07	0,12	0,63	0,533	-0,17	0,33
TNXH	0,18	0,12	1,48	0,144	-0,06	0,44
TC	0,05	0,11	0,45	0,651	-0,17	0,27
NAMHĐ	-0,67	0,41	-1,64	0,106	-1,50	0,14
Const	23,47	11,68	2,01	0,049	0,137	46,81
F test u_i=0: F(35, 64) =5,76				Probability > F = 0,0000		

Source: Data analysis results from Stata software, 2023.

Firstly, let's examine the bottom row of the results table. This bottom row represents the F test, with the null hypothesis H0: The suitable model is the OLS model. With a significance level of 0.0000 < 0.05, we reject the null hypothesis H_0 and conclude that the Fixed Effects Model (FEM) is more appropriate than OLS for the current research data. However, the F test (upper right) with the null hypothesis H_0: Simultaneous significance of independent variables is 0 has a p-value of Probability > F = 0.5828 > 0.05. Thus, we accept H_0 and conclude that the model is not statistically significant. Additionally, the significance levels of each dependent

variable (P > |t|) are all greater than 0.05, indicating that the independent variables Quality-Innovation, Economic, Customer, Human, Product, Social Responsibility, and Financial are not statistically significant when examining their impact on the dependent variable - ROA.

Table 5. Results of the Random Effects Model (REM).

Random Effects GLS Regression Effects			Observations = 108			
Within = 0,0191			Min = 3			
Between = 0,5068			Mean = 3,0			
Overall = 0,4292			Max = 3			
Accuracy (u_i, x) = 0 (assumed)			Regression coefficient (8) = 29,66			
			Probability > chi2 = 0,0002			
ROA	**Coefficient**	**Standard Deviation**	**T-value**	**Sig**	**Confidence**	**Interval**
CLDM	-0,01	0,12	-0,14	0,892	-0,26	0,22
KT	-0,12	0,10	-1,17	0,241	-0,33	0,08
KH	-0,01	0,11	-0,15	0,884	-0,24	0,21
CN	0,01	0,07	0,14	0,888	-0,13	0,15
SP	0,18	0,06	2,88	0,004	0,05	0,30
TNXH	0,22	0,10	2,20	0,028	0,02	0,42
TC	0,08	0,06	1,37	0,170	-0,03	0,20
NAMHĐ	0,15	0,06	2,44	0,015	0,03	0,28
Const	-3,62	2,99	-1,21	0,226	-9,49	2,24

Source: Data Analysis Results from Stata Software, 2023.

Examining the results of the Random Effects Model (REM), the F test has a probability value > chi2 = 0.0002, indicating statistical significance. The overall R2 is 0.4292, demonstrating that over 42% of the dependent variable can be explained by the independent variables, which is higher than the FEM model above. However, only the significance levels (P > t) of the Product and Social Responsibility variables are less than 0.05, indicating statistical significance when examining their impact on the dependent variable, while the others are not statistically significant.

Before commenting on the regression coefficients and intercepts of the model, we need to choose between the Fixed Effects Model (FEM) and REM to determine which model is more suitable for the tabular data in the research. The results of the Hausman test for choosing between the two models are presented as follows:

Null hypothesis H_0: The systematic difference in coefficients

chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 14,84

Probability > chi2 = 0.0624

With the hypothesis H_0: The differences in coefficients are not systematic, or in other words, the REM model is more suitable. The result shows a significance level Prob>chi2 = 0.0624 > 0.05. Therefore, we accept the null hypothesis H_0 and conclude that the REM model will be more suitable for the research.

After selecting the REM model, we will test the variation of error variance in the REM model. The results of the Breusch-Pagan Lagrange multiplier test for the random effect are presented as follows:

Test for the Breusch and Pagan Lagrange Multiplier Variance Test:

Var(u) = 0 chibar2(01) = 30.75

Probability > chibar2 = 0.0000

The test result with a significance level Prob>chibar2 = 0.0000 < 0.05 allows us to reject the null hypothesis H_0 and conclude that the model experiences heteroscedasticity.

Next, we perform the test for autocorrelation in the REM model: Wooldridge's test for autocorrelation in panel data

H_0: No first-order autocorrelation F(1, 35) = 3.216 Probability > F = 0.0815

With the hypothesis H_0: No autocorrelation, the significance level larger than 0.05 implies that we accept H_0 and conclude that the model does not exhibit autocorrelation.

Through the regression results of the REM model and the model tests, it can be observed that the model suffers from heteroscedasticity, does not exhibit autocorrelation, and the statistical significance is not assured. Therefore, we will use the Generalized Least Squares (GLS) regression to address the shortcomings of the REM model.

Table 6. Results of the GLS regression.

ROA	Coefficient	Standard Deviation	Z-Value	Sig	Confidence Interval	
CLDM	0,19	0,07	2,72	0,007	0,05	0,33
KT	-0,11	0,05	-1,99	0,047	-0,23	-0,00
KH	-0,06	0,06	-1,08	0,279	-0,19	0,05
CN	-0,01	0,04	-0,09	0,928	-0,08	0,07
SP	0,21	0,02	7,39	0,000	0,15	0,26
TNXH	0,29	0,06	4,61	0,000	0,17	0,42
TC	0,10	0,02	3,98	0,000	0,05	0,15
NAMHĐ	0,15	0,02	6,20	0,000	0,10	0,19
Const	-7,48	1,07	-6,95	0,000	-9,59	-5,37

Source: Data analysis results from Stata software, 2023.

Overall regression analysis reveals that the total number of observations is 108. Subsequently, the Wald test with the hypothesis H_0: Simultaneous independence of all independent variables shows a Wald test statistic chi2(8) = 355.51 with a significance level Prob > chi2 = 0.0000, indicating the rejection of the null hypothesis H0 and signifying statistical significance for the model.

The first column represents the variables, with ROA as the dependent variable, the others as independent variables, NAMHĐ as the control variable, and the bottom row as the intercept β0.

Next is the coefficient column, indicating the change in the dependent variable with changes in the independent variable. Preliminary observations suggest that the Corporate Social Responsibility variable has the most significant positive effect with a coefficient above 0.29, followed by the Product variable with a coefficient around 0.21. In the opposite direction (negative impact), the Economic variable has the most substantial negative effect with a coefficient of -0.11, followed by the Customer variable with a coefficient of -0.06.

The third column is the standard deviation column, showing the variation of the sample mean. Here, the variable Quality – Innovation has the largest standard error with a value of over 0.07, while the variables Finance and Product have the smallest standard errors, with values close to 0.02.

The next two columns are the z-score and significance level (P>z) for each independent variable. If the significance level of a variable is greater than 0.05, we conclude that the independent variable is not statistically significant; conversely, if the significance level is less than 0.05, the independent variable is statistically significant when analyzing its impact on the dependent variable. Here, two variables, Customer and Human, are not statistically significant as their P>z values are greater than 0.05, while the other five variables, including Quality – Innovation, Economic, Product, Social Responsibility, and Finance, are statistically significant.

The hypothesis test results show that two hypotheses are rejected, specifically H3 and H4, as the independent variables Customer and Human have significance levels greater than 0.05, specifically 0.279 and 0.928, so these variables are excluded from the model examining their impact on the dependent variable ROA (Business Efficiency). Hypothesis H_7 is accepted, even though the Finance variable has a positive impact on financial performance contrary to the model's expectation that Finance will have a negative impact on financial performance. However, the Finance variable has a significance level of 0.000, which is less than 0.05 (< 0.05), making it statistically significant. The remaining hypotheses are accepted as all variables are statistically significant with P-values less than 0.05, and the coefficients align with the expectations of the hypotheses. Consequently, the final regression equation regarding the external commitment values influencing Business Efficiency (ROA) is as follows:

$$HQHDKD_{ij}\ (ROA_{ij}) = -7{,}483 + 0{,}193CLDM_{ij} - 0{,}117KT_{ij} + 0{,}213SP_{ij} + 0{,}299TNXH_{ij} + 0{,}105TC_{ij} + e_{ij}$$

In summary, the research results on the external commitment values of corporate culture influencing the financial performance (ROA) in some companies listed on the HOSE stock exchange in Vietnam have yielded a model comprising 5 independent variables: Quality – Innovation (CLDM), Economic Environment (KT), Product (SP), Social Responsibility (TNXH), and Finance (TC). Accordingly:

(1) The Social Responsibility variable has the strongest positive impact, with a coefficient of 0.299. This implies that, under unchanged conditions, a one-unit increase in the Social Responsibility variable results in a 0.299-unit increase in financial performance (ROA). This aligns with findings from prior analyses of financial efficiency in U.S. companies influenced by corporate culture, emphasizing the positive financial impact of Social Responsibility factors (Martin et al., 1988). Previous studies also indicated a positive correlation between organizational Social Responsibility and employee commitment, organizational Social Responsibility and organizational performance, and employee commitment and organizational performance (Imran et al., 2010; Alamri et al., 2021);

(2) The second positive influencing variable is the Product variable, with each one-unit increase leading to a 0.213-unit increase in financial performance (ROA). Earlier research similarly revealed that product innovation, development of new products, and continuous improvement of product quality contribute to success (Martin et al., 1988). The investment of science and technology in business operations enhances profitability, highlighting the crucial role of technological investment in production activities, aiding managers in seizing new development opportunities, bridging the gap between nations, and accelerating economic regional and global integration, transforming the production landscape (Quan Minh Nhựt, 2018). The selected companies focus on improving financial performance by offering high-quality products at competitive prices, developing a variety of products, applying technology in business operations, providing international-quality products and services, expanding comprehensively,

and realizing global aspirations by introducing Industrial and Technological products to the global arena, continually researching the market, and diversifying products (Elsayed et al., 2016). In conclusion, emphasis on the Product factor, which involves a focus on quality and continuous innovation and improvement of existing products, stimulates business development, elevating the company's position in the market (Al-Dmour et al., 2019);

(3) The third positive influencing variable is Quality – Innovation, with each one-unit increase resulting in a 0.193-unit increase in financial performance (ROA). The positive impact of Quality and Innovation on financial performance (ROA) aligns with the initial expectations of the research model;

(4) The only variable in the model with a contrary impact is the Economic variable, with a coefficient of -0.117. This implies that a one-unit increase in Economic variable results in a 0.117-unit decrease in financial performance (ROA). This aligns with the theoretical model's expectation based on Martin's model (1988), where the Economic variable has a negative impact (-0.16). Therefore, companies emphasizing Economic factors may experience negative financial performance. Additionally, studies have demonstrated that organizations with a strong culture may face difficulties recognizing the need for change, as they have more experience handling situations, making it challenging for them to identify issues that have changed beyond environments that can be addressed by old methods (Sorensen, 2002);

(5) The only variable in the model with a regression coefficient contrary to the model's initial theoretical expectations is the Finance variable. For every one-unit increase in Finance, financial performance (ROA) increases by 0.105 units. This contradicts the expected hypothesis based on Martin's model (1988), where companies emphasizing financial factors may have negative financial efficiency. However, most companies in the selected sample are well-capitalized enterprises with stable financial resources, ranking at the forefront of their respective industries. Thus, with the study's data, the result indicates that Finance has a positive impact on the financial performance of the listed companies on HOSE.

5. Conclusion

The research results contribute to the understanding of the impact of external commitment values, particularly corporate culture in general, on the financial performance of Vietnamese enterprises, especially those listed on the HOSE stock exchange. The study provides these businesses and the wider business community in Vietnam with valuable insights into the relationship between corporate culture and financial performance.

After collecting and analyzing the research data, it was observed that five external commitment values influence the financial performance of companies listed on the HOSE stock exchange. These values consist of four positively impacting values: Quality-Innovation, Product, Social Responsibility, and Finance, and one negatively impacting value: Economic. These findings align with previous research outcomes, such as the influence of company commitment values on financial performance (Luinstra, 2019), the relationship between external commitment values and the legitimacy of financial operations (Martin et al., 1988).

Despite statistical significance, the Human value surprisingly exhibits a positive impact on financial performance, contrary to the theoretical model's expectation of a negative impact. Both Customer and Human values were excluded from the measurement model, as they did not achieve statistical significance in the sample.

Therefore, for businesses aiming for increasing success, it is essential to conduct research and measure the cultural values that positively impact financial performance. Subsequently, these values can be leveraged and applied to specific activities within all relationships, including those between the organization and its employees, and the organization and external customers. Through this, businesses can identify cultural values that negatively impact financial performance and consider mitigating their prevalence in the corporate culture. If businesses can effectively execute these measures, they can enhance financial performance, build a strong reputation in the market, expand production, and achieve overall success.

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