Migration Letters

Volume: 21, No: 2, pp. 190-205

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)
www.migrationletters.com

Impact of Organizational Culture on the Financial Performance of Listed Companies in Vietnam - A Case Study of the Logistics and Transportation - Warehouse Sector

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Abstract

The study utilizes data collected from annual reports to investigate factors influencing the financial performance of businesses in the transportation and warehouse sector during the period from 2019 to 2021, specifically focusing on organizational culture factors. To achieve the research objectives, various estimation methods were employed, including Ordinary Least Squares (OLS), Fixed Effects Model (FEM), and Random Effects Model (REM) regression models. Through relevant tests, the study determined that the FEM model was most suitable. Subsequently, the model's shortcomings were addressed, and adjustments were made using Feasible Generalized Least Squares (FGLS) method. Based on the estimation results, the author identified statistically significant characteristics, including the market culture and hierarchical culture, which positively influence the financial performance of companies as measured by the Return on Assets (ROA) ratio.

Keywords: *organizational culture, financial performance logistics and transportation - warehouse, return on Assets, stock exchange.*

1. INTRODUCTION

The development of the global economy and international economic integration has generated numerous opportunities and challenges. In light of this reality, businesses are fiercely competing to survive and sustain growth in the market (Hryhorak & Trushkina, 2020). The Logistics industry can be considered one of the most dynamically competitive sectors (Grofelnik, 2020; Chienwattanasook, 2019). As a natural consequence of globalization, the boundaries between localities and nations seem to blur, creating conditions conducive to the robust development of logistics activities (CzerniaChowiCz, 2016). In Vietnam, the logistics industry is relatively new, with predominantly small and medium-sized enterprises primarily engaged in transportation, domestic freight, warehouse leasing, port and airport operations, and cargo management, rather than offering a comprehensive range of logistics services (Vương Thị Bích Ngà, 2021).

According to Decision 27/2018/QĐ-TTg, in our country's economic sector, the transportation and warehouse sector is considered equivalent to the logistics system in developed countries. In the current competitive landscape, Vietnamese transportation companies must enhance their competitive capabilities to strengthen their position domestically. Researchers worldwide have identified various ways to improve a

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company's competitive capabilities. Barney's (1986) study highlighted organizational culture as a crucial strategic variable influencing a company's competitive advantage. Similarly, Vi Tiến Cường (2012) believes that a company's competitive advantage is not solely determined by its capital and modern technology but is shaped by the organization, which is a collective of individuals (Hryhorak & Trushkina, 2020; CzerniaChowiCz, 2016).

Culture can be seen as a vital foundation upon which businesses can seek and select individuals predicted to align with the company's culture and meet other standard conditions for mutual development (CzerniaChowiCz, 2016; Grofelnik, 2020; Chienwattanasook, 2019). Therefore, to ensure effective operations and sustainable development, the starting point for businesses must be built on a cultural foundation. To better understand the influence of culture on the financial performance of companies and contribute to enriching the literature in this field, this study evaluates the organizational culture based on values disclosed in the annual reports of listed companies in the Vietnamese stock market, specifically within the transportation and warehouse industry. The expected results of the research aim to support relevant stakeholders, including company managers, in gaining a deeper understanding of the impact of culture on company development.

2. THEORETICAL BACKGROUND AND RESEARCH MODEL

The characteristics of organizational culture first appeared prominently in the works of representatives of the behavioral management school in the early 1940s and developed into a particularly focused theme in the 1980s (Mullakhmetov et al., 2018). The early 1980s is considered a period of explosion, driving the initiation of research in the field of organizational/company culture, which was widely recognized as a powerful management tool. This was largely attributed to the success of the Japanese economy, which some authors (Ouchi, 1982; Pascal & Athos, 1981) associated with the country's culture. The momentum displayed by the Japanese economy in the late 1980s convinced the world that technology and structure were not the sole factors in economic development. Casson (2006) asserts that an effective culture contains strong ethical content. Ethics can address issues that formal procedures cannot. Many authors also concur with the view that the success of an economy depends on the quality of its culture (Casson, 2006; Giannakopoulou et al., 2016).

Organizational culture is a complex phenomenon that shapes the daily life of an organization, with various competing definitions (Barney, 1986). Organizational culture is seen as the amalgamation of values, beliefs, relationships, and rules within an organization, serving as the foundation for the behaviors and activities of individuals within the organization and representing the identity and assets of each enterprise. It helps members perceive the meaning of events and activities within the organization (Schein, 2010; Lund, 2003). According to Cameron & Quinn (2006), culture reflects common ideologies that people hold. It conveys a sense of identity to employees, provides implicit guidance and sometimes explicit directives on how to harmonize within the organization, and enhances the stability of the social system they experience.

Glisson (2015) expresses the view that organizational culture is best manifested by standards of behavior and expectations characteristic of the work environment. These standards and expectations guide how employees approach their work, define priorities, and shape how tasks are accomplished in a specific work environment. These definitions of organizational culture fundamentally provide a solid foundation, although Grennan & Li (2022) argue that expanding the definition is worthwhile.

Organizational culture can be understood as a reflective model of beliefs and symbols that can evolve without time constraints to bind the organization together (Kreitner & Kinicki, 2005). According to Rorong & Lasdi (2020) and Smircich (1983), the importance of organizational culture lies in its role as a crucial factor that management can use to steer their company, influencing how members of the organization think, perceive, and behave. It includes core values, and culture can be used to encourage all employees to align with the organization's goals (Deal & Kennedy, 1983) and impact the outcomes of new product development projects (Belassi et al., 2007). Azhar (2003) expresses the opinion that organizational culture can be one of the most essential means to improve organizational activities. Organizational culture supports the process of creating meaning, allowing employees to understand the organization's events, communicate more effectively, and achieve higher levels of cooperation by sharing common mental models (McShane & Glinow, 2005).

Organizational culture can be analyzed from various perspectives, leading to different models and theories, but fundamentally, they share similarities (Yiing & Ahmad, 2009). The Competing Values Framework (CVF) is a model for analyzing organizational culture based on the prominent values of an organization. Developed in the early 1980s as a result of studies on effective organizational characteristics (Quinn & Rohrbaugh, 1983), the model categorizes values along two axes: flexibility-stability and internal focus-external focus. Each of the four quadrants characterizes a type of organizational culture: Clan Culture (oriented towards internal processes), Market Culture (oriented towards rational goal-setting), Adhocracy Culture (oriented towards open systems), and Hierarchy Culture (oriented towards internal processes) (Cameron & Quinn, 2006; Jones et al., 2005). In the CVF, each type of organizational culture is based on contrasting values, as follows:

Clan Culture: This culture emphasizes collaboration, viewing the organization as a large family. Leaders act as advisors and, at the same time, play the role of family heads, supporting and caring for members, emphasizing participation, and regularly seeking input from members (Cameron & Quinn, 1999).

The goal of this culture is to develop collaborative processes and achieve cohesion through employee loyalty and traditional factors. Companies with this culture focus on their employees, attempt to develop human capabilities, value teamwork, and strengthen organizational culture by building consensus. These efforts are expected to result in employee morale, satisfaction, and commitment.

Adhocracy Culture: This culture is characterized by a dynamic, entrepreneurial, innovative work environment where people can develop new ideas and are encouraged to take risks (Cameron, 2004; Cameron & Quinn, 2006). In this type of organization, leadership tends to have a long-term, broad outlook, often setting goals that include innovative product expansions, radical process breakthroughs, and innovations in distribution and logistics to reshape the entire industry and develop new technologies.

Hierarchy Culture: Formal locations, structured procedures, and a smooth-operating organization are considered the main features of a control-oriented culture (Cameron, 2004). Companies based on this cultural type are supported by an organizational structure driven by control mechanisms, emphasizing the consolidation and standardization of rules. A prominent belief in hierarchical cultures is that employees will respond to the organization's expectations when their roles are clearly defined.

Market Culture: The characteristics of a market-oriented company include a highly valued competitive spirit, not only between the company and its competitors but also between internal units, groups, and even individuals within the company (Cameron, 2004). Leadership is strict, demanding, and has clearly defined goals. These companies prioritize customers and shareholders, evaluating success based on indicators such as market share, revenue, meeting budget goals, and profit growth.

Organizational effectiveness is primarily associated with the term "effectiveness," more specifically, it is considered an aspect of efficiency (Hamann & Schiemann, 2021). According to AlShehhi et al (2021), researchers nowadays interchangeably use the terms organizational effectiveness and organizational performance. Effectiveness reflects the extent to which goals are achieved in areas such as workforce, capital, marketing strategy, and the financial aspects of the organization (Marcoulides & Heck, 1993). Measuring the operational effectiveness of an organization is discussed in numerous studies and is described as an essential process in both business enterprises and public organizations (Prokop et al, 2018). AlShehhi et al (2021) suggest that organizations should be aware of efficiency indicators for measurement, management, and comparison. There are various types of efficiency indicators for different measurement methods. Several objective and subjective measures have been used in the literature to assess the financial performance of organizations.

Reviewing the culture-effectiveness relationship, Abu-Jarad et al (2010) note that the most common measures of organizational financial performance are financial profitability and growth. In a study investigating the relationship between culture and the financial performance of non-governmental organizations, Joe Duke & Edet (2012) used the number of customers served, access to funding sources, and the cost per service provided as representatives of efficiency.

In the study by Fekete & Böcskei (2011), the Balanced Scorecard by Kaplan & Norton (2004) was employed to comprehensively assess the entire spectrum of company operations. Accordingly, the financial performance of the organization was evaluated on four dimensions: (1) Financial aspect, (2) Customer aspect, (3) Operational process aspect, and (4) Learning and development aspect.

Kotter & Heskett (1992) observed that organizational culture significantly impacts the long-term economic performance of a company. Similarly, Kalyar et al (2013) argue that managers should carefully investigate organizational culture and ensure that it maintains good relationships with stakeholders. Kim et al's (2004) study reported that found culture impacts a variety of processes within an organization and its effectiveness. The power of cultural values was found to be correlated with the financial performance of companies in certain cases. Likewise, Oparanma (2010) asserts that organizational culture stimulates or generates many other activities that contribute to the success of a company.

Thus, it can be inferred that companies with outstanding financial performance are often characterized by a strong set of core management values that determine how they conduct business. These core values (in dealing with employees, customers, suppliers, and others) will promote innovation and flexibility within the company and, when linked to control factors, are believed to lead to sustained superior financial performance (Akpa et al, 2021). This study uses the Competing Values Framework (CVF) model by Cameron & Quinn to measure organizational culture in the following aspects: clan, adhocracy, market, and hierarchy.

From a resource-based perspective, organizational culture can be a source of sustainable competitive advantage not only because it is valuable and rare but also because competitors find it challenging to imitate due to its intricate and latent characteristics (Coyne, 1986). Furthermore, literature suggests that different types of organizational cultures have varying impacts on organizational performance. Duncan & Moriarty (1998) point out that cross-functional management is facilitated by more flexible cultures such as a family culture, allowing the removal of barriers between departments and stakeholders, fostering integration within the organization. This integration is based on team spirit, humanity, sharing, trust, and consideration of members' opinions. According to Hung et al (2022), these factors significantly help limit behaviors harmful to the organization's interests and impede task completion.

Reed et al (2016) also advocate for creating a work environment where listening to employees is valued equally with listening to customers. Listening can provide a competitive advantage by attracting employees' commitment to the organization's strategies and market-oriented behaviors, similar to how listening to customers can enhance customer loyalty and organizational outcomes. Therefore, a culture oriented toward collaboration is a more consistent predictor of business operational effectiveness (Hogan & Coote, 2014). There is also evidence indicating that family culture and, in general, all collaborative and team-oriented cultures have a positive impact on organizational performance (Petty, 1995). In alignment with these perspectives, the first hypothesis is presented as follows:

H1: Family culture positively influences organizational performance.

According to Fekete &Böcskei (2011), an innovative culture, based on adaptability to the environment, has the potential to positively impact organizational performance. Indeed, companies oriented towards innovation always seek to gain a competitive advantage by introducing new products, services, or processes (Cameron & Quinn, 2006). The fundamental premise in an innovative culture is that change is beneficial for generating or mobilizing resources. According to Naor et al (2014), a company focusing on innovation and developing processes to review the environment for new technology, as well as applying and implementing them, helps increase the company's ability to produce products faster and at lower costs, thereby enhancing overall performance and operational results. Moreover, Tseng (2010) found experimental evidence supporting the claim that an innovative culture facilitates companies in transitioning knowledge more easily than their competitive counterparts, leading to improved financial performance. Based on these findings, the study proposes the hypothesis:

H2: Innovative culture positively influences organizational performance.

Continuing to share a similar perspective that emphasizes the external environment is the market culture. Han et al (1998) argue that organizations with a market culture focus on adapting their business activities to the external environment to create favorable conditions for organizational innovation and improve operational outcomes. In other words, a market culture encourages the integration of information from the external environment to establish and disseminate clear and coherent goals for achieving financial efficiency (Hartnell et al, 2011). In a study, Kotrba et al (2012) also found that a market culture helps improve the financial performance of organizations, especially when the measure of efficiency is market outcomes. Therefore, the next hypothesis is:

H3: Market culture positively influences organizational performance.

Task performance refers to the extent to which employees can efficiently and effectively carry out organizational activities within the time, effort, and other resources allocated by the organization's production schedule. The hierarchy culture focuses on control, tight management, stability, efficiency, and predictability, thus being a crucial determinant of task performance (Hung et al, 2022). However, extensive literature on this subject provides evidence of its negative impact on financial performance. According to Wallach (1983), organizations with a strong hierarchy culture are often characterized by difficulties in communicating information between management levels, isolating information at higher levels, and being less flexible and rigid, thereby discouraging the promotion of efficiency. Based on the experimental research findings of Fekete & Böcskei (2011), all characteristics of the hierarchy culture (such as regulations, standardization, and control of peer behavior, specialization, scope of authority, and respect for official positions, etc.) have a negative impact on financial performance and other operational outcomes. Han (2012) also draws similar conclusions. Considering all of the above, the hypothesis proposed is:

H4: Hierarchy culture has a negative impact on organizational performance.

Research Model

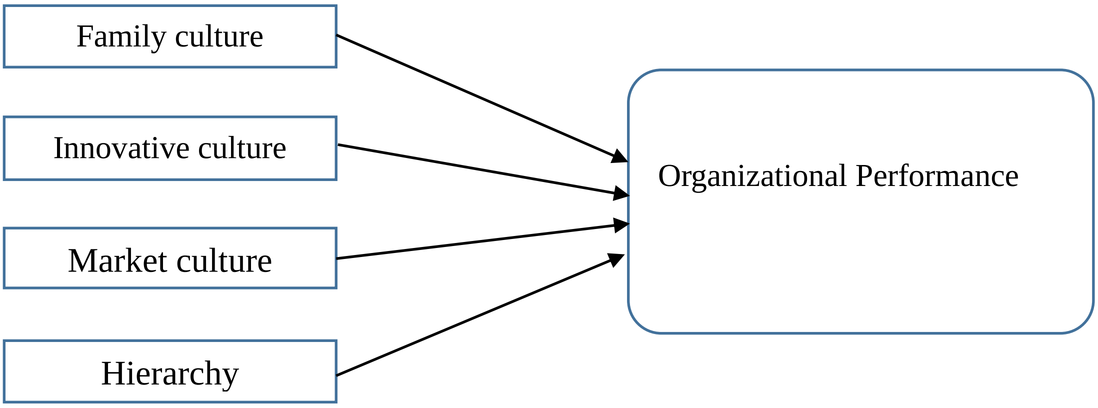

Figure 1. Influence Model of Culture on Financial Performance

Source: Adapted from Fekete & Böcskei (2011)

The reason is that this model is widely used by researchers to assess organizational cultural characteristics. Although some argue that measuring organizational culture with only three or four dimensions may not be sufficient, the CVF does not attempt to explore the complete picture of organizational culture. Instead, it focuses on examining value dimensions related to effectiveness (Yu & Wu, 2009). Moreover, there are various methods that can be used to identify cultural factors based on this model, such as:

The Organizational Culture Assessment Instrument (OCAI) developed by Cameron & Quinn (1999), which consists of 16 items arranged in a questionnaire, divided into 4 sections (corresponding to the 4 dimensions used) with 4 descriptions in each section. The four descriptions align with the definition of each type among the four cultural types in the model developed by Cameron & Quinn (1999): clan, adhocracy, market, and hierarchy. Respondents are asked to allocate points, totaling 100 points, across the 4 sections, depending on the fit of the descriptions to their organization.

Using calculated variables based on financial data (as done in studies by ElKelish & Hassan, 2014; Shwairef et al, 2021). For example, market-oriented culture is associated with achieving goals, outperforming competitors, increasing market share, and obtaining high profits, so financial indicators such as market share, ROI, etc., may be selected as representative variables for this dimension.

Conducting content analysis of organizational documents based on characteristics that capture aspects of culture (synonyms, representative terms, expressions, etc.) (applied by Fiordelisi & Ricci, 2014).

3. RESEARCH METHODOLOGY

According to Fiordelisi & Ricci (2014), prominent characteristics of any organization are reflected in its textual documents, such as the Chairman/CEO's speeches at the Annual General Meeting, Annual Reports, etc. Among these, the Annual Report is a document designed to rationalize the company's activities—especially financial activities—for relevant parties who want to know about the company's status. The content of annual reports is always reviewed and approved by accountants, legal staff, experts, and most importantly, top-level leaders. Thus, the annual report is both a product and an expression of the organizational culture within that company (Martin et al, 1988). In the context of Vietnam, annual reports are publicly posted on the Vietstock electronic information portal at https://finance.vietstock.vn/- a widely used website specializing in financial and securities-related information - or on the websites of individual companies.

This study utilizes information gathered from the annual reports (from 2019 to 2021) of the companies in the Logistics and Transportation – Warehousing sector listed on the Vietnam stock market. Therefore, the total number of observations obtained will be 87 - meeting the minimum sample size requirement for multivariate regression analysis, which is the number of independent variables plus 50 (Harris, 1985). Huff (1990) argued that language reflects mental processes as well as different perceptions and realities of individuals. Content analysis relies on this main assumption, defined as any technique for making inferences by objectively and systematically identifying specific characteristics of messages (Stone et al, 1966).

Content analysis of organizational documents such as annual reports is described as having significant potential in researching organizational values (Martin & Siehl, 1983; Kabanoff & Daly, 2002; Fiordelisi & Ricci, 2014). Based on the frequency of occurrence of specific words or themes in a text, researchers attempt to draw inferences about the message sender, message recipients, or its expected consequences, thus gaining a deeper understanding of the values they care about most and least.

To quantitatively measure the four dimensions of corporate culture by Cameron & Quinn (2006), this study will also employ content analysis. The underlying idea for this approach is based on the assumption that the words and expressions used by members of an organization represent the outcomes of the organizational culture they develop over time (Levinson, 2003).

Data Analysis Methods: (1) Descriptive Statistics: Statistics is a system of methods for synthesizing, analyzing, and predicting information collected. Descriptive statistics involve techniques related to data collection, summarization, presentation, and computation of various features to reflect a general overview of the research object. Commonly used variables include: Mean, Standard Deviation, Minimum Value, and Maximum Value. (2) Regression Analysis: This method is used to measure the extent of influence of independent variables on dependent variables. The study conducts a multiple linear regression model as follows:

$$HQTC_{ij} = \beta_0 + \beta_1 Cl_{ij} + \beta_2 Adh_{ij} + \beta_3 Mar_{ij} - \beta_4 Hie_{ij} + e_{ij}$$

The data used in this study is presented with a Panel Data structure, which combines time-series and cross-sectional data. With this data structure, three independent approaches can be employed: Pooled Ordinary Least Square (Pooled OLS), Fixed-effects Model (FEM), Random-effects Model (REM). Additionally, the Feasible Generalized Least Squares (FGLS) model can be applied to address model flaws in case of regression assumptions violation.

Pooled OLS Model: This model combines all observations, disregarding time factors and differences between cross-sectional units. In other words, it assumes all coefficients do not change between different objects and do not change over time.

$$Y_{ij} = \beta_0 + \beta_1 X_{1ij} + \ldots + \beta_K X_{Kij} + u_{ij}$$

Fixed-effects Model (FEM): This is a type of least squares regression model similar to OLS but more general and feasible asymptotically over time, helping to aggregate attributes through time-fixed constants.

$$Y_{ij} = \beta_{0i} + \beta_1 X_{1ij} + \ldots + \beta_K X_{Kij} + u_{ij}$$

Random-effects Model (REM): This regression model is similar to FEM but is more appropriate when there exist omitted variables with constant values different between cross-sectional units and variables with values that change over time but are the same for all cross-sectional units.

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

The Feasible Generalized Least Squares (FGLS) model is employed in situations where the variance-covariance matrix of the error term in the regression equation does not include all zeros outside the diagonal. This matrix may also lack identical elements along the diagonal, indicating the presence of autocorrelation and varying variances. In essence, this addresses the issues of endogeneity and changing variances that may exist in the Fixed-effects Model (FEM) and Random-effects Model (REM). When the outcomes of FEM and REM models exhibit the phenomenon of autocorrelation and varying variances, the FGLS regression model is utilized. This is because the FGLS model successfully mitigates the drawbacks associated with both FEM and REM models (Anh et al., 2020). However, the selection of either the REM or FEM model is crucial for the FGLS model to be appropriate for the analyzed data. This is determined through the Hausman test, which identifies violations of regression assumptions. Subsequently, the FGLS model is fine-tuned to effectively address these violations, ensuring that the regression assumptions of the FEM or REM models are unbiased and yield more accurate impact coefficients.

In summary, the FGLS model emerges as a robust method, offering a refined solution to the challenges posed by autocorrelation and varying variances, thereby enhancing the accuracy of impact coefficients in regression analyses.

4. RESULT & DISCUSSION

Looking at the data table, we observe a continuous increase in the total mentions of organizational culture aspects in the annual reports of selected companies from 2019 to 2021. This upward trend is attributed to all four aspects consistently having more mentions in the following years compared to the preceding ones. Only the aspect of hierarchical culture experienced a slight decrease in 2020, although it was not significant. This indicates a growing emphasis by companies on integrating their organizational culture features into their publications, specifically in this context, the annual reports.

Table 1. Organizational Culture in Annual Reports Over the Years

Unit: Times

Type of culture	2019		2020		2021	
	Number	%	Number	%	Number	%
Family	287	18,13	299	18,78	354	18,72
Innovation	67	4,23	69	4,33	85	4,49
Market	734	46,37	738	46,36	823	43,52
Hierarchy	495	31,27	486	30,53	629	33,26
Total	1.583	100,00	1.592	100,00	1.891	100,00

Source: Data analysis results (2023)

In terms of structure, we can observe that the structure of the four types of cultures does not show much variation over the years, reflecting to some extent the cultural characteristics of businesses in the transportation and warehouse industry. Among these, the market culture stands out the most, consistently accounting for the highest proportion over the three years (always above 40%). Although this proportion tends to decrease, indicating that companies are gradually allocating more attention to developing other types of cultures, the market culture still plays a dominant role in the company's directions. Meanwhile, the hierarchical culture exhibits the most noticeable increase in structure compared to the other culture types. This suggests that companies are reinforcing control measures and standardization to maintain the stability of their business operations to overcome challenges from external environments, especially the crisis caused by Covid-19. For the remaining two culture types that emphasize flexibility, innovative culture and family culture, they account for a relatively small proportion and show no significant changes over the three years. This indicates that the emphasis companies previously placed on the market culture has shifted towards the hierarchical culture, while family culture and innovative culture have not received much investment from companies in the transportation and warehouse industry during this period. Although most companies understand that employee capabilities are a crucial competitive advantage, training activities have not yet yielded high efficiency and have been disrupted due to the pandemic. Alongside this, the application of innovations has only reached the level of daily work, for instance, employees are encouraged to learn from those who perform well to improve their work. Companies themselves have not established long-term innovation strategies.

Table 2. Descriptive Statistics of Variables in the Model

Variables	Mean		Min	Max
ROA (%)	5,678	6,447	-19,45	31,22
Family (times)	10,805	4,592	1	25
Innovation (times)	2,540	1,634	0	7
Market (times)	26,379	11,138	8	61
Hierarchy (times)	18,506	9,323	5	50

Source: Data analysis results (2023)

For the dependent variable ROA, the average ROA ratio of companies over the years is approximately 5.68%. This ratio reflects the efficiency of using assets to generate profits for these companies. With a positive average ROA value, it can be said that the majority of companies have performed well in investing and utilizing their assets to generate profits over the three business years. However, some companies faced challenges in this operation. One notable example is TJC, which incurred losses in 2019, leading to a significantly negative ROA (approximately -19.45%). The reason behind this is difficulties in accessing its main business resources and addressing legal issues, significantly impacting the company's business operations. In contrast, in 2019, SGN effectively utilized its assets, contributing to very high profitability, reflected in an ROA ratio of approximately 31.22% – the highest among the sampled companies throughout the period from 2019 to 2021.

Regarding organizational culture variables, as mentioned earlier, most companies predominantly reflect market culture characteristics more than the other three culture types, with the highest average mentions in each annual report. The explanation for this is that companies in the sample are all profit-oriented organizations, so focusing on issues such as competition, setting growth targets, and establishing a market position is understandable. Next, the characteristics of hierarchical culture also receive considerable attention, followed by family culture. The external environment is constantly changing, requiring companies to be flexible to adapt and develop. However, building a strong internal environment also needs attention. Clear task assignment and applying standards in operational processes can at least create a sense of security for employees. Additionally, investing in human resource development training activities can help companies maintain business operations despite market changes. Finally, with the least frequent appearance in annual reports (on average about 2 times/report), is innovative culture. It can be said that presenting initiatives to create new trends for the Logistics industry is not the top priority for Vietnamese enterprises. Some companies are considered to lack appropriate resources for implementing new initiatives, especially financial resources. The failure of many companies to provide a suitable reward system to encourage innovation is also a significant factor. Regardless, compared to the historical development of the Logistics industry worldwide, the Vietnamese Logistics system still needs to address many issues to develop it into a strong and sustainable economic sector.

Multivariate regression with panel data is used to analyze the relationship between cultural characteristics and the financial performance of the selected companies. This study implements three regression models: Ordinary Least Squares (OLS), Fixed Effects Model (FEM), and Random Effects Model (REM). To select the most appropriate model for the existing data, the study will use additional relevant tests.

Table 3. Regression Estimation Results using OLS, FEM, and REM

Variables	(OLS)		(FEM)		(REM)	
	β	p_value	β	p_value	β	p_value
Family	-0,491***	0,010	-0,611	0,122	-0,496**	0,017
Innovation	-0,725	0,161	-0,944	0,211	-0,841	0,122
Market	0,099	0,273	0,609***	0,002	0,167*	0,096
Hierarchy	0,136	0,133	-0,049	0,783	0,097	0,328
(Const)	7,697***	0,000	-0,491	0,901	6,978***	0,001
Prob > F	0,0290		0,0348		0,0590	
F-test			p_value = 0,0141			
Hausman			p_value = 0,0373			

Source: Data analysis results (2023)

The table of results indicates that the p-value of the F-test is less than 0.05 (Prob > F = 0.029), demonstrating that the Fixed Effects Model (FEM) is more suitable for the data in this study compared to the Ordinary Least Squares (OLS) model. The Wald test produces similar results. Additionally, only the variable "Cl" holds statistical significance, as the p-values of the other independent variables are sequentially greater than 0.05. However, the Breusch-Pagan test suggests that the OLS model is more appropriate than the Random Effects Model (REM) (the results of these tests are presented in the appendix). Consequently, estimations using both FEM and REM will be conducted. Regression results will examine the impact of organizational cultural characteristics on the efficiency of companies (measured by ROA) using the FEM and REM methods.

Before commenting on the regression coefficients and intercepts of the model, the Hausman test will be performed to check which of the two models mentioned above is more appropriate for the panel data in this research. With the hypotheses as follows: H0: There is no systematic difference in coefficients between the two models (REM is suitable). H1: There is a systematic difference in coefficients between the two models (FEM is suitable). At a significance level of 5%, the null hypothesis (H0) is rejected, indicating that the model suitable for this study is the Fixed Effects Model (FEM). Next, the author will conduct tests for the flaws commonly encountered by the model, namely heteroscedasticity and serial correlation. If no flaws are present, the estimation results of the FEM model presented above are appropriate; otherwise, it is necessary to use the Feasible Generalized Least Squares (FGLS) adjustment method to address the flaws and re-estimate the model.

The results of testing the regression assumptions show that the current FEM model violates both assumptions of heteroscedasticity and linear time correlation between observations. Therefore, it is necessary to apply FGLS to correct the FEM model and obtain the most appropriate estimated model.

Table 4. FGLS Regression Results

Name	Variables	β	p_value
Family	Cl	-0,329 ***	0,001
Innovation	Adh	-0,374 **	0,112
Market	Mar	0,134	0,011
Hierarchy	Hie	0,099 **	0,031
(Const)		4,427 ***	0,000

Prob > F = 0,0039

Note: *: significance level 10%; **: significance level 5%; ***: significance level 1%

Source: Data analysis results (2023)

After applying the Feasible Generalized Least Squares (FGLS) method to address the violations related to heteroscedasticity and autocorrelation encountered by the Fixed Effects Model (FEM), it can be concluded that the FGLS estimation model is the most appropriate to explain the results for the dependent variable ROA based on the data in this study.

The data table shows that out of the total of 4 independent variables included in the initial analysis model, three variables have an impact on the efficiency of companies through ROA. Among them, two variables, Mar (market culture) and Hie (hierarchical culture), have a positive effect on ROA, while Cl (family culture) has a negative effect. The remaining variable, Adh (innovative culture), when examined at the 5% significance level (p-value < 0.05), does not ensure statistical significance in explaining the influence on the dependent variable. The final estimation results identify three organizational culture factors, namely Cl, Mar, and Hie, which have an impact on the efficiency of operations measured by the ROA index, specifically:

Family Culture Factor (Cl): In this study, the family culture factor has a counteractive impact on ROA, meaning that the more attention a company pays to satisfying its employees, the more it reduces financial performance. This result contradicts the author's expectations as well as the findings of some previous studies. One plausible explanation for this surprising discovery is that a friendly work environment may allow employees to act to achieve personal goals that are not aligned with the organization's goals (Xenikou & Simosi, 2006). In many cases, employees view the company's work environment as a place to accumulate experience for themselves. Once they have acquired the necessary skills, they may leave to pursue other goals. Additionally, placing excessive emphasis on internal consensus can lead to prolonged discussions, slowing down the decision-making process and making it difficult to keep up with changes in the external environment.

However, Allen & Meyer (1990) argued that when an employee is committed to an organization, they will be determined to stay regardless of whether the organization is currently in a favorable situation or not. This clearly indicates that employees choose to commit to organizations with shared values. When employees understand the goals of the organization and work towards those goals, the organization's chances of success are enhanced. Therefore, for the context of this study, it would be more appropriate to interpret the results in the opposite direction. This means that companies that invest less in their workforce often have higher business efficiency. Companies that only meet the minimum legal requirements (health insurance, social insurance, etc.) and pay little attention to activities that improve the morale of workers can reduce operating costs, thereby increasing short-term profits. As mentioned earlier, the average frequency of statements related to family culture orientation in the annual reports of companies in the sample is relatively low. An explanation for this may be that during the COVID pandemic, companies had to cut unnecessary expenses to maintain business operations and only ensured the basic rights of employees as required by law.

Innovation Culture Factor (Adh): This factor was expected to be the strongest support in enhancing organizational financial performance. However, the model results show no significant impact of the innovation culture on business financial performance, similar to the findings of the study by Yesil & Kaya (2013). This can be explained by the fact that the logistics industry system in Vietnam is not yet well-developed, and transport companies are striving to improve themselves and keep up with global trends. Compared to leading international conglomerates currently operating in the Vietnamese market, generating innovative ideas that create fundamental differences is a significant challenge. Furthermore, certain structural characteristics (industry structure, production processes, marketing, working conditions, etc.) of the transportation and warehouse sector are also reasons leading to difficulties in applying new ideas. Hence, references to innovations and changes in the annual reports of companies are very limited.

Market Culture Factor (Mar): Similar to Adh, this factor is widely recognized in literature for its positive relationship with organizational financial performance (Ogbonna & Harris, 2000; Fekete & Bocskei, 2011; Naranjo-Valencia et al., 2016). Organizations with a market culture pursue profit and growth through fierce competition to acquire new customers and actively attack the market share of competitive rivals (Hartnell et al., 2011). The research results confirm alignment with previous findings, thereby supporting the hypothesis "H3: Market culture positively influences organizational financial performance." With 95% confidence, under conditions where other factors remain constant, for each one-unit increase in the market-oriented organizational culture index - Mar, it leads to an increase of 0.134 units in ROA. It can be said that the emphasis on developing a market-oriented organizational culture has enabled companies to simultaneously explore new opportunities and leverage their existing knowledge base to meet market demands, thereby promoting positive business results in both the short and long term.

We observe that the average mention frequency of statements capturing aspects of the market culture (Mar) is the highest among the four organizational culture aspects. This indicates that transport companies, as key business entities contributing to the economy, naturally prioritize maintaining close relationships with customers. They also show significant concern in understanding the dynamics of the external business environment, especially during the COVID-19 pandemic, which has led to unpredictable fluctuations across all aspects of life. However, in the author's research context, although the correlation between Mar and ROA is statistically significant, it does not clearly demonstrate the nature of the relationship between these two variables.

Hierarchy Culture Factor (Hie): The results show a positive correlation between this factor and ROA, with a significance level of 5%. This implies that one of the keys to success for companies in the sample is the development and maintenance of core values, with specific methods to grasp and address issues, as well as maintaining a clear system of coordination and integration in internal activities. However, this result contradicts the research hypothesis and the viewpoints of previous researchers. Nevertheless, an organization dominated by many rules and procedures does not always stifle its development. According to Peng et al. (2008), focusing on internal stability, uniformity, and the development of habits to create rules and procedures for control can benefit a company during crises or uncertainties. This is particularly relevant to the chosen period in this study, where the impacts of Covid-19 make each day present challenges that are difficult to grasp from the external environment. Joseph & Kibera (2019) also agree that an outward-oriented culture is a better predictor of effectiveness but needs to be supported by the internal integration of the company through hierarchical culture. They consider hierarchical culture as a crucial cultural foundation for establishing ideal internal conditions that support market culture and innovation to manage the organization's adaptation to the external environment. This suggests a shift in mindset, an attempt to reconcile, and an effort to leverage the advantages of each cultural aspect to achieve sustainable development in the future.

5. CONCLUSION AND IMPLICATION

Through the results of statistical analysis and regression on data compiled from the annual reports of listed companies in the transport and warehouse industry, it is evident that organizational culture significantly influences the financial performance of these companies. Furthermore, companies tend to emphasize characteristics of the market culture (such as customer focus, consolidating market position, surpassing revenue and profit targets, etc.) in most of their activities. However, in the administrative world, an effective organization may need to perform well in all four cultural aspects, and trade-offs between these aspects may occur at any given time. Therefore, managers need to understand the prevalent type of culture within their organization because organizational culture is a vital driving force for efficiency in all organizational activities.

Experimenting with standards, addressing internal tensions, and managing trade-offs arising from organizational competitive goals are valuable activities in seeking to promote a specific and suitable organizational culture. Managers can leverage valuable insights from these activities to bring success to the organization by creating a work environment that encourages business thinking, continuous learning, customer focus, application of high standards and values, and fostering loyalty. In other words, integrating characteristics from all four cultural aspects is crucial, and it is essential to avoid exploiting the limitations of formalization processes to lay the groundwork for future adjustments, enabling organizations to implement self-adjusting policies to meet demands in changing conditions.

While companies also show investment in upgrading internal processes, establishing regulations, and ensuring the legal rights of employees, to unleash and build a truly effective organizational culture, organizations need to pay even more attention to measuring and analyzing the advantages of various organizational cultures. This allows them to apply the insights gained from different organizational cultures to their own organization.

References

Abu-Jarad, I. Y. et al (2010). A review paper on organizational culture and organizational performance. International journal of business and social science, 1(3).

Allen, N.J. and Meyer, J.P. (1990) The Measurement and Antecedents of Affective, Continuance, and Normative Commitment to the Organization. Journal of Occupational Psychology, 63, 1-18.

Akpa, V. et al (2021). Organizational culture and organizational performance: A review of literature. International Journal of Advances in Engineering and Management, 3(1), 361-372.

AlShehhi, N. et al (2021). The effect of organizational culture on the performance of UAE organizations. Cogent Business & Management, 8(1), 1980934.

Azhar, K (2003). Business Policy and Strategic Management, Tata McGraw-Hill, NewDelhi.

Barney, J. B. (1986). Organizational culture: Can it be a source of sustained competitive advantage? Academy of Management Review, 11(3), 656–665.

Belassi, W. et al (2007). New product development projects: The effects of organizational culture. Project Management Journal, 38(4), 12-24.

Cameron, K. (2004). A Process for Changing Organizational Culture; The Handbook of Organizational Development, To be published in Michael Driver (Ed.).

Cameron, K. & R. E. Quinn. (1999). Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework, Addison-Wesley, New York.

Cameron, K. & R. E. Quinn. (2006). Diagnosing and Changing Organizational Culture: Based on the Competing Values Framework, China Renmin University Press, Beijing.

Casson, M. (2006). Culture and economic performance. Handbook of the Economics of Art and Culture, 1, 359-397.

Chienwattanasook, K., & Jermsittiparsert, K. (2019). Impact of entrepreneur education on entrepreneurial self-employment: a study from Thailand. Polish Journal of Management Studies, 19.

Coyne, K. P. (1986). Sustainable competitive advantage—What it is, what it isn't. Business horizons, 29(1), 54-61.

Czerniachowicz, B. (2016). Zasoby niematerialne i kapitał intelektualny a wartość przedsiębiorstwa. Finanse, Rynki Finansowe, Ubezpieczenia, (82 (2)), 373-382.

Deal, T. E., & Kennedy, A. A. (1983). Culture: A new look through old lenses. The journal of applied behavioral science, 19(4), 498-505.

Duncan, T., & Moriarty, S. E. (1998). A communication-based marketing model for managing relationships. Journal of marketing, 62(2), 1-13.

Fiordelisi, F., & Ricci, O. (2014). Corporate culture and CEO turnover. Journal of Corporate Finance, 28, 66–82.

Giannakopoulou, E. N. et al (2016). Corporate governance in shipping: An overview. Maritime Policy & Management, 43(1), 19-38.

Glisson, C. (2015). The role of organizational culture and climate in innovation and effectiveness. Human service organizations: management, leadership & governance, 39(4), 245-250.

Grennan, J., & Li, K. (2022). Corporate Culture: A Review and Directions for Future Research. Available at SSRN.

Grofelnik, H. (2020). Assessment of acceptable tourism beach carrying capacity in both normal and COVID-19 pandemic conditions–Case study of the Town of Mali Lošinj. Hrvatski geografski glasnik, 82(2), 131-152.Hamann, P. M., & Schiemann, F. (2021). Organizational performance as a set of four dimensions: An empirical analysis. Journal of Business Research, 127, 45–65.

Harris, R. J. (1985). A primer of multivariate statistics, Academic Press, New York.

Hartnell, C. A. et al (2011). Organizational culture and organizational effectiveness: a meta-analytic investigation of the competing values framework's theoretical suppositions. Journal of applied psychology, 96(4), 677.

Hogan, S. J., & Coote, L. V. (2014). Organizational culture, innovation, and performance: A test of Schein's model. Journal of business research, 67(8), 1609-1621.

Huff, A. S. (Ed.). (1990). Mapping strategic thought, Wiley.

Hung, Y. C. et al (2022). Impact of Organizational Culture on Individual Work Performance with National Culture of Cross-Strait Enterprises as a Moderator. Sustainability, 14(11), 6897.

Hryhorak, M. Y., & Trushkina, N. V. (2020). Development of the logistics system of the economic region "Polissya" in the context of the green economy: ecological problems and perspectives. Intellectualization of logistics and Supply Chain Management, (4), 27-40.

Jones, Renae & Jimmieson, Nerina & Griffiths, Andrew. (2005). The Impact of Organizational Culture and Reshaping Capabilities on Change Implementation Success: The Mediating Role of Readiness for Change. Journal of Management Studies, 42, 361-386.

Joe Duke, I. I., & Edet, G. H. (2012). Organizational culture as a determinant of non-governmental organization performance: Primer evidence from Nigeria.

Joseph, O. O., & Kibera, F. (2019). Organizational culture and performance: Evidence from microfinance institutions in Kenya. SAGE open, 9(1), 2158244019835934.

Kabanoff, B., & Daly, J. (2002). Espoused values of organisations. Australian Journal of Management, 27(1_suppl), 89-104.

Kalyar, M. N. et al (2013). Factors affecting corporate social responsibility: an empirical study. Systems Research and Behavioral Science, 30(4), 495-505.

Kim, S. et al (2004). Corporate culture and organizational performance. Journal of Managerial Psychology, 19(4), 340 – 359.

Kotrba, L. M. et al (2012). Do consistent corporate cultures have better business performance? Exploring the interaction effects. Human Relations, 65(2), 241–262.

Kotter, J.P. & Heskett, J.L. (1992). Corporate Culture and Performance, The Free Press, New York.

Kreitner, R, & A. Kinicki. (2005), Organizational Behaviour, Fifth Edition, Mc Graw Hill, Jakarta.

Levinson, S. C. (2003). Language and mind: Let’s get the issues straight. Language in mind: Advances in the study of language and thought, 25, 46.

Lund, D. B. (2003). Organizational culture and job satisfaction. Journal of business & industrial marketing.

Marcoulides, G.A. and Heck, R.H (1993). Organizational Culture and Performance: Proposing and testing a model. Organization Science, 4 (2), 209-25.

Martin, J. et al (1988). Externally espoused values and the legitimation of financial performance. Graduate School of Business, Stanford University.

Martin, J & Siehl, C (1983). Organizational Culture and Counterculture: An Uneasy Symbiosis. Organizational Dynamics, 12(2), 52-64.

McShane, S. L. & Von Glinow M. A. (2005). Organizational Behaviour, 3rd Edition, McGraw Hill/Irwin, Boston.

Mullakhmetov, K. S. et al (2018). Corporate culture in management systems.

Naor, M. et al (2014). The culture-effectiveness link in a manufacturing context: a resource-based perspective. Journal of World Business, 49(3), 321-331.

Naranjo-Valencia, J. C. et al (2016). Studying the links between organizational culture, innovation, and performance in Spanish companies. Revista Latinoamericana de Psicología, 48(1), 30-41.

Ogbonna, E., & Harris, L. C. (2000). Leadership style, organizational culture and performance: empirical evidence from UK companies. International Journal of Human Resource Management, 11(4), 766-788.

Oparanma, A. O. (2010). The organizational culture and corporate performance in Nigeria. International Journal of African Studies, 3(2), 34-40.

Ouchi, W. (1982). Theory Z and the schools. School Administrator, 39, 12-19.

Pascal, R.T., & Athos, A.G. (1981). The art of Japanese management, Simon & Schuster, New York.

Petty, R. E. (1995). Attitude change. Advanced social psychology, 195-256.

Prokop, V. et al (2018). Propellants of University-Industry Government synergy: comparative study of Czech and Slovak manufacturing industries. Ekonomický časopis, 66(10), 987–1001.

Quinn, R. E. & J. Rohrbaugh. (1983). A Spatial Model of Effectiveness Criteria: Towards a Competing Values Approach to Organizational Analysis. Management Science, 29(3), 363-377.

Reed, K. et al (2016). Listening in and out: Listening to customers and employees to strengthen an integrated market-oriented system. Journal of Business Research, 69(9), 3591–3599.

Rorong, N.N., & Lasdi, L. (2020). The Effect of Organizational Culture and Good Corporate Governance Mechanism on Human Resource Disclosure.

Schein, E. H. (1990). Organizational culture (Vol. 45, No. 2, p. 109). American Psychological Association.

Schein, E. H. (2010). Organizational culture and leadership (Vol. 2). John Wiley & Sons.

Shwairef, A. M. et al (2021). Organizational Culture, Governance Structure and Sustainability Disclosure Quality: Evidence from Indonesia, Malaysia, Singapore, and Thailand. Accounting Analysis Journal, 10(2), 108-115.

Smircich, L. (1983). Concepts of culture and organizational analysis. Administrative science quarterly, 339-358.

Stone, P. J. et al (1966). The general inquirer: A computer approach to content analysis.

Tseng, S. M. (2010). The correlation between organizational culture and knowledge conversion on corporate performance. Journal of knowledge management.

Wallach, E. J. (1983). Individuals and organizations: The cultural match. Training & Development Journal, 37(2), 28–36.

Yesil, S. & Kaya, A. (2013). The effect of organizational culture on firm financial performance: Evidence from a developing country. Procedia-Social and Behavioral Sciences, 81, 428-437.

Yu, T. & Wu, N. (2009). A review of study on the competing values framework. International journal of business and management, 4(7), 37-42.