

Organizational culture and performance of foreign companies listed on NYSE

Cultura organizacional e desempenho nas empresas estrangeiras listadas na NYSE

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Abstract

Supported by the Resource-Based View theoretical approach, we evaluated the organizational culture as a sustainable and strategic resource for foreign firms listed on the New York Stock Exchange. We performed a text analysis of SEC 20-F forms from 141 firms issued from 2009 up to 2014, classifying key words according to four types of organizational culture (collaborate, create, competition, control). The evidences support that the 'competitive' and 'creative' organizational cultures were the most and less representative types, respectively. 'Collaborative' and 'control' cultures presented a positive and negative effect, respectively, on corporate financial performance. Finally, the effects of the organizational culture type were influenced by the country of origin and by legal system operating in the firm's home country. Our results support that organizational culture is an important strategic component for financial performance which deserves more attention from managers, investors and academics.

Resumo

Fundamentado nos preceitos da teoria da visão baseada em recursos, o estudo investiga a cultura organizacional como recurso estratégico sustentável para o desempenho das empresas estrangeiras listadas na New York Stock Exchange. Analisou-se a cultura organizacional de 141 empresas pela análise textual dos relatórios 20-F apresentados por elas à US Securities and Exchange Commission, entre 2009 e 2014, classificando os radicais de palavras em quatro tipologias culturais. Os resultados mostram a predominância de uma cultura organizacional mais competitiva, enquanto a cultura organizacional criativa tem menor representatividade. Os resultados revelam ainda que a cultura colaborativa e de controle influenciam, respectivamente, de forma positiva e negativa o desempenho financeiro. Estes efeitos são distintos entre a origem das empresas e entre o tipo do sistema legal dos países de origem das empresas. Considerando que a cultura organizacional pode ser considerada um ativo estratégico capaz de afetar o desempenho financeiro da empresa, sugere-se que gestores, investidores e acadêmicos, fiquem atentos à cultura organizacional como um componente da estratégia dos negócios.

Practical implications

The type of organizational culture developed in an organization is related to its financial performance. Foreign open capital companies listed on Nyse, specifically European ones are benefited by a collaborative culture. Executives and analysts may start considering the development of cultural-corporate capital as a factor of value creation.

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1 INTRODUCTION

Among the several perspectives investigated in the area of organizational culture is the investigation of the relationship between organizational culture and performance as an adaptive and integrative relationship between the company and the environment. In this study, organizational culture is in line with Schein's concept of organizational (or corporate) culture (1984, p.17), in which it is defined as "a set of premises that a group has learned to accept as a result of solving problems of external adaptation and internal integration".

Despite some interest in studying the effects of culture on corporate performance, there is still little clarity about this connection (O'Reilly III, Caldwell, Chatman & Doerr, 2014). Gregory, Harris, Armenakis and Shook (2009) point out that few studies provide detailed information on this relationship. However, more recent research begins to explore this relation more deeply (Acar & Acar, 2014, Fekete & Böcskei, 2011, Han, 2012, Ogbonna & Harris, 2000, Tseng, 2010, Yesil & Kaya, 2013).

Researchers and managers explore different perspectives for the relationship between organizational culture and business performance (Duke II & Edet, 2012), but we highlighted that strong organizational cultures lead to better performance. There is also the reverse association, where high performance leads to the creation of a strong organizational culture; and a third line according to which an adaptive culture is considered essential for good performance because it helps the organization to obtain responses to changes in the environment in which it operates.

Studies also shows that organizational culture is regarded as a strategic asset capable of generating sustainable competitive advantage (Flamholtz & Randle, 2012) and, as a strategic resource, may be the essence of successful business models (Barney, 1986). Examples of strategic intangible resources are corporate cultures of companies such as Starbucks, Southwest Airlines, Wal-Mart and Google (Flamholtz & Randle, 2012).

According to the Resource Based View (RBV), culture only provides sustainable competitive advantage if it is valuable, rare, and imperfectly imitable (Barney, 1986). Companies with organizational cultures showing these attributes offer products and services preferred by current and potential customers because of their brands and ability to attract, motivate and retain human capital. They also present continuing development of innovative products and services; and competitive business models (Flamholtz & Randle, 2012). Barney (1986) argues that the presence of these attributes – valuable, rare and inimitable – should have positive effect on profits.

Studies have already empirically revealed the effect of organizational culture on corporate performance (Deal & Kennedy, 1982; O'Reilly III *et al.*, 2014), suggesting that it is capable of producing positive effects on profits, profitability and share prices. Other evidence indicates that organizational culture – as measured by culture types – affects the performance of the company in different ways (Acar & Acar, 2014, Fekete & Böcskei, 2011, Han, 2012, Ogbonna & Harris, 2000, Tseng 2010, Yesil & Kaya, 2013). The latter studies adopt the Competing Values Framework (CVF) classification by Cameron, Quinn, Degraff and Thakor (2006), which divides organizational culture into four types labeled as follows: Collaborate, Create, Compete and Control.

Studies also point to a relationship between organizational culture and organization effectiveness, but empirical results remain unclear (O'Reilly III *et al.*, 2014). Organizational effectiveness is represented by employee satisfaction and commitment, product and service innovation, market share, profitability, product quality, and productivity and efficiency (Cameron & Quinn, 1999, Cameron *et al.*, 2006, Fekete & Böcskei, 2011, Han, 2012). Different culture types would generate different results in terms of organizational effectiveness, which, in turn, would have a distinct effect on financial performance, assessed by profitability and value creation measures, for example.

Thus, in this article we aim at analyzing the effect of organizational culture taken as a sustainable strategic resource on financial performance of foreign companies listed on New York Stock Exchange (NYSE). We consider that institutional factors such as 'the humanly designed constraints that structure political, economic, and social interaction' (North, 1991, p.97) may diverge between environments. We also investigate the relationship between culture and performance from the different regional contexts – continent of origin and legal system – of the host countries of the companies.

We selected 141 foreign companies listed on NYSE from 34 countries and used the 20-F reports filed by these companies with the US Securities and Exchange Commission (SEC) between 2009 and 2014 as a source for content analysis to capture the company's organizational culture. Also, we followed procedures proposed by Fiordelisi and Ricci (2014) to identify the management discourse in these reports.

Then we applied multiple regression analysis with panel data and generalized least squares analysis and regression with instrumental variables to minimize endogeneity problems of regressors. Compared to previous studies using the CVF model, the sample innovates by comparing publicly traded companies from different countries of origin, which negotiate stocks on NYSE, which allow comparing their narratives in the same report and in the same language.

It is then possible to compare how organizational culture relates to countries of origin and legal systems in these countries. Findings reveal that according to RBV, the Collaborate and Control types affect in a positive and negative way, respectively, firm performance, according to what is established by RBV. The results of the sensitivity analysis – by continent of origin and by legal system – suggest that the types of organizational culture differently affect the performance of organizations. In European companies, Collaborate positively affects performance, while Create and Compete types negatively affect performance.

When analyzed by legal system, civil law countries, which present positivist and rigid rules and norms, are associated with Collaborate and Create organizational cultures affecting the performance of companies. On the other hand, in companies based in countries with common law systems, flexible and dynamic rules and norms, Create organizational culture reduces the performance of companies. And, where the country of origin operates with a mixed legal system, Create and Control types affect the financial performance of companies.

We highlight that the literature on the subject has concentrated on analyzes of specific markets and sectors, and used metrics with an interpretative approach. The innovative character of this study is, therefore, to offer a systemic view of organizational culture and business financial performance in different contexts and from an empirical approach, which is not usually applied in studies on organizational culture (Fiordelisi & Ricci, 2014). So we hope to contribute with an analysis of the culture-performance relationship of companies that, although presenting distinct institutional factors, participate in a highly competitive market such as NYSE. We also justify our study in that we believe it contributes to the complex task of measuring organizational culture, identified here as a strategic resource that generates competitive advantage, according to the precepts of RBV.

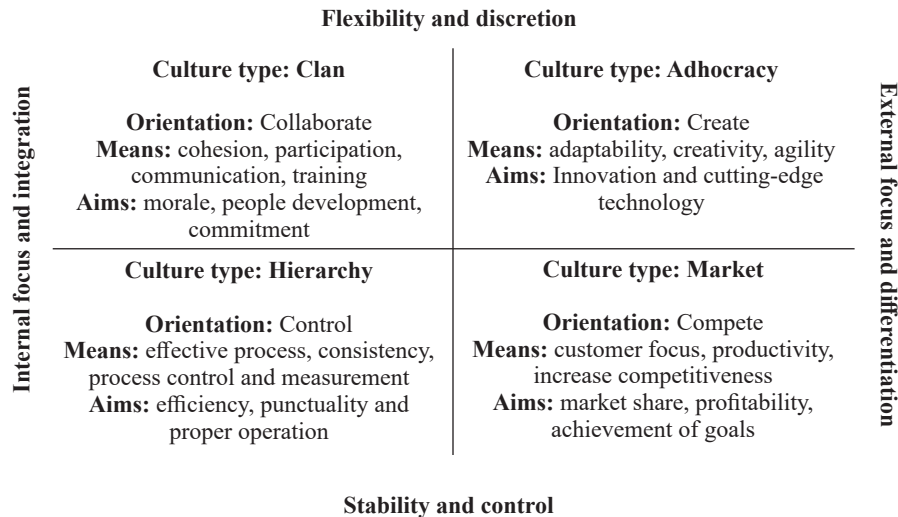
2 LITERATURE REVIEW AND HYPOTHESES

In Schein's view (1984), organizational culture encompasses a set of assumptions considered valid for a group, which can be taught to new members of this group, who begin to adopt them as the correct way of perceiving and feeling toward issues of environment adaptation and internal integration. Considering that the issues of internal adaptation and integration to the environment are fundamental for a good business performance, several studies have investigated the relationship between organizational culture and business performance.

Organizational culture comprises a set of elements – represented by values, approaches and assumptions – that characterize companies, so that each cultural profile can distinctly influence the success of the company, taking into account the needs of the external environment and its strategic orientation (Cameron & Quinn, 1999, Cameron *et al.*, 2006). Cameron *et al.* (2006) classify organizational culture in dimensions and types, under the name of Competing Values Framework (CVF) showed in Figure 1.

Culture types originate from conflicts among corporate cultural values (Cameron *et al.*, 2006). Therefore the combination cultural dimensions from the point of view of focus (either internal or external) and structure (either organic or mechanical), results in four profiles, which characterize the different corporate cultures, known as Clan (Collaborate), Adhocracy (Create), Hierarchical (Control) and Market (Compete).

Different culture types imply different results in terms of organizational effectiveness, and have distinct effects on performance (Acar & Acar, 2014, Ahmed & Shafiq, 2014, Fekete & Böcskei, 2011, Tseng, 2010, Yesil & Kaya, 2013). Some authors present arguments that emphasize the concept of organizational culture as a strategic asset that can affect performance, generating sustainable competitive advantage (Barney, 1986; Flamholtz & Randle, 2012). As already mentioned, several arguments are presented to explain the relationship between culture and corporate performance (Duke II & Edet, 2012).

Figure 1. Competing Values Framework

Source: Adapted from Cameron *et al.* (2006)..

According to the first approach strong organizational cultures always lead to better levels of performance. The second is based on the concept of contingency, for under certain conditions a culture type is more appropriate, thus contributing to business efficiency. The third proposes that an adaptive organizational culture would lead to good performance, as it would help the organization to respond to changes in the environment. The fourth approach suggests a reverse association between organizational culture and performance, in which high performance develops strong organizational culture. And the most recent approach proposes that organizational culture is a sustainable strategic resource (Flamholtz & Randle, 2012) and a source of competitive advantage the very essence of a business model (Barney, 1986).

In this latter view, considering RBV, organizational culture has a positive effect on profits because it is hard to imitate and scarce (Barney, 1986) and sustainable for at least a period of more than two years (Flamholtz & Randle, 2012). Organizational culture, represented by multiple elements such as employee satisfaction and commitment, product and service innovation, market share, profitability, product quality and productivity, affect company performance (Cameron & Quinn 1999, Cameron *et al.*, 2006, Fekete & Böcskei, 2011, Han, 2012). Thus, for each culture type there would be specific results, due to organizational effectiveness.

The culture-performance literature has also found limitations and inconclusive results. Hartnell, Ou and Kinicki (2011) analyzed 31 studies that investigated the culture-performance relationship and concluded that there are few studies relating culture and financial performance, the samples are small and results are substantially divergent. These findings confirm the survey results presented in Chart 1. We also highlight that the instruments used to identify organizational culture in surveys are essentially based on primary data (Ahmed & Shafiq, 2014, Lee & Yu, 2004, Santos, 1998), and follow different theoretical bases (Fiordelisi & Ricci, 2014). Such differences indicate the complexity of research in organizational culture.

The present study adopts the CVF as model of analysis, as well as other studies presented in Chart 1. We propose that each culture type – Collaborate, Create, Compete and Control – has Specific elements that distinctly affect organizational effectiveness which, in turn, influence performance, based on the premise that according to RBV organizational culture is a sustainable strategic resource.

Companies exhibiting culture type Collaborate recognize the participation of employees and encourage teamwork, in addition to the predominance of characteristics such as trust and solidarity (Acar & Acar, 2014). Among the four types, Collaborate is closer to the general concept of culture, because it is by individuals that values, beliefs and norms are disseminated within the company (Schein, 1984). Almost all previous studies in Chart 1 show that Collaborate positively influences the performance, regardless of the sector, country or legal system in which the company is inserted, indicating that this type is the most representative in relation to the other types (Han, 2012). Thus:

H_{1a}: The culture type Collaborate positively affects the financial performance of foreign companies listed on NYSE.

Author(s)	Sample and [performance]	Statistical tools	Identified association	Competing Value Framework
Ogbonna and Harris (2000)	322 publicly-traded companies from the United Kingdom [Profitability]	Regression moderated by organizational leadership	(+) Compete; (+) Create (others non-significant)	Yes
Tseng (2010)	131 publicly-traded companies from Thailand [finance, market, process]	Correlation, as compared to knowledge conversion	(+) Create (others not significant)	Yes
Han (2012)	99 South Korean hotels [return over investment]	Regression mediated by strategic orientation	(+) Collaborate; (+) Create; (-) Control; (Compete not significant)	Yes
Yesil and Kaya (2013)	54 companies of Turkey registered in the Chamber of Commerce of Gaziantep [return over assets]	Regression controlled by industry, size and age	No culture type significant	Yes
Acar and Acar (2014)	99 public and private hospitals from Turkey [financial and service performance]	Regression mediated by size and age	(+) Collaborate; (+) Create; (+) Control; (+) Compete	Yes
Santos (1998)	13 publicly-traded textile companies from Brazil [liquidity, debt, return over net assets]	Cluster analysis (Strong and weak cultures), comparison of means and correlations	Culture is associated to performance. Companies presenting strong cultures show better performance.	No
Lee and Yu (2004)	10 companies from Singapore – hospitals, manufacturing and insurance companies [varied metrics]	Correlation between culture and performance	Culture impacts different measures of development. Cultural strength enhances performance.	No
Duke II and Edet (2012)	99 NGOs from Nigeria [customers served, cost per service provided]	Regression without mediating variables.	Culture positively affects all measures of performance.	No
Kotrba, Gillespie, Schmidt, Smerek, Ritchie and Denison (2012)	98 publicly-traded companies along the world [market-to-book, return over assets sales increasing]	Interactive regression of culture and performance	Consistent (+), adaptable (+) and involvement (-)	No
Ahmed and Shafiq (2014)	15 telecom franchises from Baualpur [financial, consumer and production performance]	Regression without mediating variables.	Culture affects all the perspectives of performance	No
O'Reilly III <i>et al.</i> (2014)	32 technology publicly-traded companies from USA and Ireland [revenue growth, Tobin's Q ratio, reputation]	Regression among CEO personality, culture and performance, mediated by subsectors and size	Culture (+) adaptability, (+) integrity, (+) detailed, (+) results-oriented. Others (collaboration, consumer) not significant	No
Santos <i>et al.</i> (2014)	368 Brazilian medium and large companies operating in Brazil and abroad [financial, market, processes and capacities, learning]	Structural equations among culture, organizational structure, people management and performance	Culture is the most explanatory component of performance.	No

Chart 1. Culture and performance
Source: Research data

Likewise, culture type Create positively affects performance, but for different reasons. Organizations presenting culture type Create are focuses on the external environment, better translating knowledge into performance (Tseng, 2010). The focus on innovation makes it possible to increase the company's capabilities for fast and efficient new product development (Naor, Jones, Bernardes, Goldstein & Schroeder, 2014). Considering the adaptability to the external environment, companies depicting culture type Create have potential to positively affect their results (Kim, Lee & Yu, 2004).

The organizational culture type Create has presented positive relationship with performance, except for the work of Yesil and Kaya (2013). This evidence reveals that, regardless of the level of market competitiveness, companies with a strong type Create present high levels of performance. Therefore we propose that:

H_{1b}: The culture type Create positively affects the financial performance of foreign companies listed on NYSE.

The culture type Compete has values and is concerned with establishing and achieving clear goals and rewards, thus motivating people and meeting stakeholders' expectations effectively (Hartnell *et al.*, 2011). Such a market-oriented culture has been considered as a key element of superior performance, although some studies have found no empirical evidence of this association (Han, 2012; Yesil & Kaya, 2013). However, Fekete and Böcskei (2011) emphasize that this culture type focuses on the search for effectiveness, efficiency and competitiveness, which, in turn, helps to improve results. High levels of competitiveness are expected from companies present in developed markets such as those listed on NYSE, which could be triggered by the presence of the type Compete. Therefore we propose that:

H_{1c}: The culture type Compete positively affects the financial performance of foreign companies listed on NYSE.

In a typical culture type Control, the predominant belief is that employees meet expectations when their roles are clearly defined (Hartnell *et al.*, 2011). Such culture is mainly centered on the reduced autonomy of people, the absence of purposes, and objectives little outlined (Cameron & Quinn, 1999).

Control type effects have resulted in a diversity of empirical evidence, indicating that effectiveness presented by companies can affect performance positively or negatively, depending on characteristics such as their industry. For example, Control culture seems to improve hospitals performance levels (Acar & Acar, 2014). However, in more dynamic sectors such the hotel industry, performance is enhanced when Control type is less present, and reduced when it is dominant (Han, 2012). This culture type favors control, stability and predictability to promote efficiency and, consequently, improve performance (Hartnell *et al.*, 2011). However, it also tends to reduce performance, mainly because of the rigidity of the decision-making process (Han, 2012; Ogbonna & Harris, 2000).

Finally, previous studies show that Control is not superior to other culture types (Tseng, 2010), because Control type companies are less efficient due to excessive formalization (Ogbonna & Harris, 2000) and greater focus on internal aspects of the organization (Ogbonna & Harris, 2000; Tseng 2010). Therefore we propose that:

H_{1d}: The culture type Control positively affects the financial performance of foreign companies listed on NYSE.

3 METHODOLOGICAL PROCEDURES

The sample is composed of 520 foreign companies listed on NYSE (with headquarters outside the US) on 7/31/2015. For the final sample we excluded: 201 companies that had not published their respective annual Form 20-F reports; 45 financial institutions to isolate the effects of their operational characteristics from the rest of the sample; 31 companies whose fiscal year differs from the calendar year; and 102 companies that failed to publish the Form 20-F in at least one of the years analyzed. The final sample was then composed of 141 companies (the list of companies can be found in the supplementary material).

Although the Form 20-F is mandatory disclosure for foreign companies, some of them were not found in the EDGAR database. The absence of such reports may lead to limited analysis of the data. Table 1 depicts the distribution of the sample by industry or branch of economic activity, by continent of origin and by legal/judicial system of the country where the company is based.

We analyzed 846 Form 20-F reports available on the U.S. Securities and Exchange Commission (SEC) website from 2009 to 2014. The 20-F report is mandatory for foreign companies holding shares traded on the US stock exchange. The regulator's goal is to make the information disclosed by these companies comparable with those of US companies.

Form 20-F covers key operational activities, market risks, internal controls, code of ethics and conduct, corporate governance, financial statements and auditing. It must be disclosed in English, within 180 days after the end of the fiscal year. The requirement for the preparation and disclosure of the 20-F report is contained in sections 12 (b) and (g), 13 and 15 (d) of the Securities and Exchange Act of 1934. The SEC provides a template of the 20-F report and its preparation. It also includes the rules applicable to foreign companies, period for filing the report and registration statements, rules and general regulations

With the aim of estimating each culture type according to the CVF we submitted each of the 846 reports to a text analysis so as to construct the organizational culture variable. The analysis of the text allowed us to examine, in a systematic and objective way, the specific characteristics of the texts (Stone, Dunphy, Smith & Ogilvie, 1966). The technique is based on the assumption that the words and expressions used by members of a company, identified from their vocabulary, represent the culture nurtured by the company over time (Levinson, 2003). For Fiordelisi and Ricci (2014), text analysis is fundamental to identify the semantic content of institutional documents made available to the public.

Since the 20-F report is the main communication channel between the foreign companies listed on NYSE and their stakeholders, it is assumed that it is written in a way that represents the message that the company really wants to convey to the market, and disclose to a certain extent, values, beliefs and organizational policies. Such manifestations would translate the organizational culture. The Form 20-F reports are also relevant for containing information additional to those required under generally accepted accounting principles (Biddle, Seow & Siegel, 1995), assisting investors in obtaining broader information for decision-making.

To characterize the culture types, we followed the technique suggested by Fiordelisi and Ricci (2014); we grouped synonyms for each type, based on the identification of word radicals related to each type. The set of radicals for a culture type is called bag of words, comprising 140 radicals, thus distributed as following: 34 for Collaborate culture type, 30 for Create culture, 41 for Compete culture and 35 for Control culture (Fiordelisi & Ricci, 2014).

Table 1. Sample distribution by culture type, continent of origin and legal/judicial system

PANEL A – Distribution by Sector								
Industry/Branch of economic activity	Companies	Observations	(%)	Financial performance	Collaborate culture	Create culture	Compete culture	Control culture
Food and beverage	17	102	12.06	2.24	25.52	15.05	40.98	18.45
Construction and mining	9	54	6.38	4.86	26.50	14.90	37.55	21.05
Equipment and industrial services	29	174	20.57	3.03	27.00	13.63	40.23	19.15
Medicine and biotechnology	5	30	3.55	9.00	24.10	14.20	43.40	18.30
Media e telecommunications	21	126	14.89	7.15	25.23	13.73	43.30	17.73
Oil and gas products	18	108	12.77	2.73	25.85	15.00	39.20	19.95
Health products and services	4	24	2.84	7.34	27.70	12.30	42.80	17.20
Chemicals	3	18	2.13	4.21	27.00	13.40	39.50	20.10
Information technology	11	66	7.80	7.17	24.85	14.00	44.00	17.15
Public utility	13	78	9.22	2.49	25.27	14.73	41.13	18.87
Travelling and leisure	7	42	4.96	4.05	27.70	12.80	40.50	19.00
Others	4	24	2.84	0.10	26.63	14.37	39.13	19.87
PANEL B – Distribution by Continent of Origin								
Continent of origin	Companies	Observations	(%)	Financial performance	Collaborate culture	Create culture	Compete culture	Control culture
Africa	2	12	1.42	0.96	25.28	16.54	34.80	23.38
Latin America	38	228	26.95	4.89	25.12	14.42	40.62	19.84
Central America and Caribbean	6	36	4.26	2.80	24.81	14.14	40.94	20.11
Asia	42	252	29.79	4.05	26.00	13.71	42.01	18.28
Europe	53	318	37.59	4.41	25.47	14.41	40.91	19.20
PANEL C – Sample distribution by Legal/Judicial System								
Legal/Judicial System	Companies	Observations	(%)	Financial performance	Collaborate culture	Create culture	Compete culture	Control culture
Common Law	17	102	12.06	5.53	26.05	13.77	40.79	19.39
Civil Law	80	480	56.74	4.28	25.13	14.53	40.80	19.54
Mixed Law	44	264	31.20	3.91	25.96	13.84	41.68	18.52
Total	141	846	100.00	4.10	25.65	14.38	41.10	18.87

Source: Research data.

Note: Table 1 presents average values of financial performance and culture types by continent of origin, and legal system.

Each set of radicals has the purpose of representing aspects related to corporate culture types (Fiordelisi & Ricci, 2014). For example, Collaborate culture includes radicals expressing teamwork (collab, cooperat, help, team) and interpersonal relationships (partner, people, human). Control culture includes radicals expressing hierarchy and decentralization (hier, decentr) and also control and coordination (control, coordin, mentor, monit). Compete and Create cultures include radicals signaling respectively strategy (aggress, attack, compet, driv) and risk and innovation (creat, experim, new, risk).

Variable	Proxy	Operationalization	Data source
Size	Asset	Natural Logarithm of Total Assets	
Indebtedness	Total debt	Quotient between the total debt and the company's total assets	Form 20-F
Effect of financial crisis in organization	Profitability	Dummy for companies with decreasing ROA in three consecutive years	
Country's financial crisis	Gross Domestic Product	Growth rate ($GDP_{it} - GDP_{it-1}$)/ GDP_{it-1}	World Bank Group
Regional localization	West and East	Dummy for companies from western and eastern countries	-
Legal System	Common, Civil e Mixed Law	Dummy for companies located in countries with common system law, civil law or mixed law	Juriglobe (2015)
Economic Development	Advanced and emergent economy	Dummy for companies located in countries with advanced or emerging economies	International Monetary Fund – IMF (2014)

Chart 2. Control Variables of the study
Source: Authors

For each company, the four types of organizational culture were calculated based on the number of occurrences of the radicals in each Form 20-F. The culture type represented the ratio between the total of radicals found for each type and the total of radicals found in the analyzed report. Thus, assuming that 500 word radicals for all types were identified in a single document, 120 of which were identified with the Collaborate type, it can be concluded that the company's Collaborate culture stands for 24% (120/500). We repeated the procedure for the remaining types, that is, we examined the data from the four culture types adopted in the study.

We used Return on Assets (ROA) for performance evaluation, measured by the ratio between net profit and total assets (average of the period), used by Ahmed and Shafiq (2014), Fekete and Böcskei (2011), Han (2012), Tseng (2010) and Yesil and Kaya (2013).

Chart 2 presents the control variables used in the regression analysis. The regional location was suggested by Deshpandé and Farley (2004), who found empirical evidence that organizational culture varies according to each country's economic situation (rich and poor), global region (East or West) and state of economic development (emerging or developed). According to the Juriglobe website legal/judicial systems can be represented in three ways: common law, which is the legal structure based on laws; civil law, which is based on jurisprudence and customs; and mixed law, which represents countries in which there is a combination of common law and civil law systems. We obtained the country gross domestic product (GDP) from the World Bank website. In addition, we included sector and year dummy variables to control the relationship between culture and corporate performance. Industries were identified based on information from the Securities and Exchange Commission.

Table 2, Panel A, presents the mean and the t test for comparing performance and culture types from the control variables, while in Panel B we present the correlation matrix.

Table 2. Performance and cultural types from control variables

PANEL A – Comparison of means								
Characteristics		Obs.	(%)	Performance	Collaborate	Create	Compete	Control
Regional localization	East	282	33.3	0.863**	0.259**	0.138***	0.418***	0.184***
	West	564	66.7	0.129	0.252	0.144	0.406	0.196
Legal System	<i>Common Law</i>	102	12.1	0.210***	0.261***	0.138***	0.407***	0.194***
	<i>Civil Law</i>	480	56.7	0.115	0.251	0.145	0.408	0.195
	<i>Mixed Law</i>	264	31.2	0.077	0.260	0.138	0.417	0.185
Economic development	Emergent	438	51.8	0.086***	0.255	0.141	0.409	0.193*
	Advanced	408	48.2	0.145	0.254	0.143	0.412	0.191
Effects of financial crisis	No	597	48.2	0.146***	0.256*	0.143	0.410	0.191*
	Yes	249	29.4	0.041	0.252	0.141	0.413	0.194

PANEL B – Correlation matrix (Continuous variables)									
Variable	Mean	Performance	Collaborate	Create	Compete	Control	Size	Indebtedness	Country's financial crisis
Performance	0.115	1.00							
Collaborate	0.255	0.08**	1.00						
Create	0.142	-0.07*	-0.39***	1.00					
Compete	0.411	0.02	-0.45***	-0.40***	1.00				
Control	0.192	-0.08**	-0.27***	0.18***	-0.53***	1.00			
Size	9184	0.01	0.00	0.17***	-0.11***	0.01	1.00		
Indebtedness	0.552	0.14***	-0.10***	0.07**	0.01	0.04	0.18***	1.00	
Country Financial Crisis	0.052	-0.08**	0.12***	-0.14***	-0.01	0.00	0.00	-0.11***	1.00

Source: Research data.

Note: *, ** and *** represent the following levels of significance 10%, 5% and 1%, respectively

A representative part of the companies is located in Western (66.7%) that adopt civil law legal system (56.7%). Although companies have shares traded in well-developed capital markets, most of them are based in emerging economies (51.8%).

Foreign companies listed on NYSE on average have 11.5% profitability. Most part of the companies (41.1%) present culture type Compete, followed by Collaborate, Control and Create types. Fiordelisi and Ricci (2014) found similar evidence in companies based in the USA. The proportion of these types suggests that even companies not headquartered in the USA, but trading their assets on NYSE, have a predominance of Compete type, either because they carry the characteristics of the market in which they operate or because they acquire such characteristic in the North American market (Selnes, Jaworski & Kohli, 1996).

Latin American and European companies present higher levels of Compete culture type, with an average of 40.9%, while Asian companies present higher level of Collaborate culture, with an average of 26.0% (Table 1). Companies located in the West, from countries such as Argentina, Brazil, England, France and Spain present greater percentages of Create and Control culture types.

We applied Regression analysis, using ordinary least squares method and panel data, adopting econometric models to deal with the association between culture types and performance. In equation 1, we used independent variables related to culture types.

$$Performance_{i,t} = \beta_0 + \beta_1 Culture_{i,t} + \sum_{i=2}^9 \beta_i Control_{i,t} + \sum_{i=10}^{21} \beta_i Industry_{i,t} + \sum_{i=22}^{27} \beta_i Period_{i,t} + \varepsilon_{i,t} \quad (1)$$

In the equation above, Performance accounts for company performance, represented by ROA; Culture is represented by the culture types Creative, Competitive and Control; control variables are represented by size, indebtedness, effect of financial crisis, country's financial crisis, regional localization, legal system (common law and civil law), economic development and sector; i and t indicate company and time, respectively; β is intercept; and ξ stands for stochastic error term of panel regression.

Breusch-Pagan, Shapiro-Wilk and Variance Inflation Factor (VIF) tests were applied to verify heteroscedasticity, normality and multicollinearity. To identify the panel approach, the Breusch-Pagan LM (Lagrange multiplier) tests and the Hausman test were performed. These tests were carried out using Data Analysis and Statistical Software (Stata).

To analyze the sensitivity of results, we carried out an analysis of the effect of culture type's effect on the performance of companies considering the institutional factor continent and legal/judicial system, in order to broadly control other regional characteristics. Due to a sample limitation, it is not possible to analyze the relationship between performance and culture type in the other study variables.

4 ANALYSIS AND DISCUSSION OF RESULTS

4.1 Culture types and corporate performance

Based on Table 3, we can observe that all models were significant, with an average explanatory power of 22.2%. However, results indicate that only the Collaborate and Control culture types affect the performance of companies.

Previous studies have shown that Collaborate culture type is positively related to performance (Fekete & Böcskei, 2011; Han, 2012; Acar & Acar, 2014), thus confirming the findings of this research. This result seems to indicate that the sample companies value employee participation and encourage teamwork (Quinn & Spreitzer, 1999). Therefore, we presume that Collaborate culture, through these attributes, is capable of affecting performance, confirming H_{1a} .

Table 3. Influence of culture types on company performance

Variables	(1a)	(1b)	(1c)	(1d)	(1e)
Collaborate culture	1.201** (0.014)	0.975** (0.021)			
Create culture	0.283 (0.615)		-0.457 (0.258)		
Compete culture	0.254 (0.602)			-0.389 (0.303)	
Control culture	Omitted (a)				-0.737** (0,033)
Size					
	-0.019* (0.069)	-0.019* (0.076)	-0.019* (0.085)	-0.019* (0.083)	-0.017** (0.019)
Indebtedness	0.170 (0.211)	0.170 (0.214)	0.165 (0.226)	0.160 (0.243)	-0.017** (0.018)
Effect of financial crisis	-0.105*** (0.000)	-0.105*** (0.000)	-0.107*** (0.000)	-0.106*** (0.000)	-0.102*** (0.000)
Country's financial crisis	-0.226** (0.032)	-0.231** (0.026)	-0.209** (0.039)	-0.205** (0.044)	-0.157 (0.143)
Regional localization	-0.039 (0.484)	-0.045 (0.428)	-0.047 (0.298)	-0.607 (0.306)	-0.030 (0.780)
Common Law	0.128 (0.192)	0.130 (0.189)	0.135 (0.161)	0.148 (0.139)	0.122 (0.280)
Civil Law	0.072 (0.306)	0.075 (0.296)	0.073 (0.298)	0.082 (0.272)	0.061 (0.562)
Economic development	0.045* (0.080)	0.047* (0.071)	0.047* (0.076)	0.047* (0.083)	0.043** (0.028)
Intercept	-0.531 (0.122)	-0.332** (0.021)	0.010 (0.925)	0.097 (0.602)	0.024 (0.801)
Period					
Industry	Yes	Yes	Yes	Yes	Yes
N (Obs)	Yes	Yes	Yes	Yes	Yes
Wald-Chi2	141 (843)	141 (843)	141 (843)	141 (843)	141 (843)
R2 Overall	118.36***	112.58***	108.02***	92.98***	101.10***
Test Breusch-Pagan Test	15.39%	15.33%	14.75%	14.17%	14.65%
Shapiro-Wilk Test	178.54***	183.70***	170.78***	172.45***	164.29***
Average VIF	11.31***	11.30***	11.27***	11.30***	11.34
VIF médio	5.44	5.50	5.48	5.51	5.49

Source: Research data.

Note: All models were estimated under random effects. Estimated coefficients and standard errors robust to heteroscedasticity (in parentheses) *, ** and ***: significance at the level of 10%, 5% and 1%, respectively. (a) Variable omitted because of the nature of its measurement, by multicollinearity.

Compete and create culture types have no effect on corporate performance, thus refuting the hypotheses H_{1b} and H_{1c} . For Compete culture, results refute evidence from the literature (Acar & Acar, 2014, Fekete & Böcskei, 2011, Han, 2012, Tseng, 2010), although some research has found no effect of Compete culture on performance (Han, Ogbonna & Harris, 2000, Yesil & Kaya, 2013), in line with the findings of this study. For Create culture, the study of Yesil and Kaya (2013) also corroborates the results found.

4.2 Sensitivity Analysis

We complementarily performed the generalized least squares analysis, in order to correct correlation errors with the independent variables and the indifference among variances of the errors in the culture variables, as shown in Table 4. In addition, we applied regression with instrumental variables to minimize endogeneity problems of the regressors.

Table 4. Influence of culture types on performance

Models	Culture types				
	Generalized least squares		Regression with instrumental variables		
	Coefficient	Wald-Chi ²	Coefficient	F-test	R ²
Collaborate → Performance	0.851***	155.45***	0.852***	7.14***	15.5
Create → Performance	-0.936**	150.36***	-0.936**	6.92***	15.1
Compete → Performance	-0.053	143.87***	-0.053	6.80***	14.5
Control → Performance	-0.737*	147.98***	-0.737**	7.30***	14.9

Source: Research data.

Note: Estimated coefficients and standard errors robust to heteroscedasticity. *, ** and ***: significance at the level of 10%, 5% and 1%, respectively.

Results in Table 4 are close to those estimated in Table 3, except for the Create culture type. Collaborate and Control cultures exert positive and negative influence on company performance. However, the Create culture type presents negative effect on performance. Subsequently, we verified the effect of the culture types on performance on the Latin American, Asian and European continents (Table 5).

Table 5. Influence of culture types on companies' performance, by continent

PANEL A – Latin America (228 observations)					
Models	Coefficient	F-test	R ² (%)	AverageVIF	
Collaborate → Performance	0.830	3.26***	11.67	2.66	
Create → Performance	0.247	2.43***	10.66	2.70	
Compete → Performance	-0.600	3.53***	11.53	2.64	
Control → Performance	-0.031	2.43***	10.59	2.65	
PANEL B – Asia (252 Observations)					
Models	Coefficient	F-test	R ² (%)	AverageVIF	
Collaborate → Performance	0.491	3.93***	30.37	2.66	
Create → Performance	-0.931	3.19***	30.60	2.64	
Compete → Performance	0.475	4.20***	30.35	2.72	
Control → Performance	-0.952	3.51***	30.54	2.64	
PANEL C – Europe (318 Observations)					
Models	Coefficient	F-test	R ² (%)	AverageVIF	
Collaborate → Performance	1.167***	7.33***	20.94	2.07	
Create → Performance	-1.628**	6.88***	2.56	2.18	
Compete → Performance	0.037	6.58***	19.56	2.39	
Control → Performance	-1.423**	7.70***	20.42	2.25	

Source: Research data.

Note: Regression with panel data in the pool structure. Estimated coefficients and standard errors robust to heteroscedasticity. *, ** and *** represent a level of significance at the level of 10%, 5% and 1%, respectively.

Table 5 indicates that organizational culture seems to positively affect performance only in European companies, specifically in Collaborate type. However, performance is reduced for Create and Control culture types. Tests also revealed that the effects of culture are different in each continent. Of all the continents analyzed, companies from the European market presented more convergence with RBV precepts.

Results corroborate the findings of Ogbonna and Harris (2000), in which control type negatively affects corporate performance in the United Kingdom. In addition, authors found that Compete culture type affects company performance. Acar and Acar (2014) also found that Turkish companies are positively affected by the Compete culture. Nevertheless, relatively to the Asian continent, studies of Tseng (2010) and Han (2012) found positive relationship between Collaborate culture and performance, diverging from the results of this study. Finally, we carried out the analysis of culture types and the performance from the legal/judicial system of the host country of the companies, which is depicted on Table 6.

Table 6. Influence of culture types on corporate performance, by legal/judicial system

PANEL A – Common Law (102 Observations)					
Models	Coefficient	F-test	R² (%)	AverageVIF	
Collaborate → Performance	0.340	6.07***	39.60	3.31	
Create → Performance	-4.253***	6.55***	42.90	3.39	
Compete → Performance	0.019	6.09***	39.50	3.46	
Control → Performance	1.826	6.27***	40.40	2.07	
PANEL B – Civil Law (480 Observations)					
Models	Coefficient	F-test	R² (%)	AverageVIF	
Collaborate → Performance	0.905**	5.01***	11.87	3.19	
Create → Performance	0.244	4.63***	10.73	3.14	
Compete → Performance	-0.434	4.71***	11.02	3.17	
Control → Performance	-0.922***	4.94***	11.35	3.14	
PANEL C – Mixed Law (264 Observations)					
Models	Coefficient	F-test	R² (%)	AverageVIF	
Collaborate → Performance	0.385	4.03***	29.30	2.44	
Create → Performance	-1.237**	3.28***	30.00	2.41	
Compete → Performance	0.784*	3.97***	29.79	2.49	
Control → Performance	-1.056	3.64***	39.72	2.43	

Source: Research data.

Note: Estimated coefficients and standard errors robust to heteroscedasticity. *, ** and *** represent level of significance at the level of 10%, 5% and 1%, respectively.

In countries whose legal system is common law, only the Create culture type seems to affect performance, but in a negative way, which is contrary to the expectation that knowledge generates innovation and is subsequently converted into performance (Fekete & Böcskei, 2011; Ogbonna & Harris, 2000).

In civil law countries, company performance is positively affected by Collaborate culture and negatively affected by Control culture. Civil law countries have an authoritative and codified structure, quite similar to the Control culture structure, in which members of the organization adhere perfectly to the authority emanating from well-established roles and rules imposed by the company (Acar & Acar, 2014). Therefore, the company's performance is expected to be influenced by a strong Control culture.

In mixed-system countries, Create culture negatively affects performance, while Compete culture has a positive impact. When the legal systems of countries are unified, the common and civil law structures exhibit a quite different behavior. These evidences show that indeed the set of organizational and, mainly, institutional factors are capable of causing distinctions on corporate culture.

5 CONCLUSIONS

Under the precepts of RBV, this study investigated the relationship between organizational culture as a strategic resource and the performance of foreign companies listed on NYSE. We analyzed a total of 846 Form 20-F reports issued by 141 companies listed on NYSE between 2009 and 2014. We observed that the Compete type of organizational culture is the most predominant in company reports, followed by the Collaborate type, which reveals the importance that the sample companies attribute to their permanence in the competitive environment and how they value the intellectual capital of their employees.

As highlighted by the Resource-Based View, organizational culture - considered a sustainable strategic resource - can really affect business performance, considering the Collaborate and Control culture types. When analyzed in different continents and from different legal/judicial systems, the culture type shows different behaviors regarding the firm's performance, suggesting the specificity of each market and country, which is probably due to the national culture.

Corporate culture, developed by companies are already considered as a component of sustainable competitive advantage in the literature (Barney, 1986, Flamholtz & Randle, 2012), but when it is disregarded in some studies, it is automatically assumed that organizational culture is incapable of transforming, constructing and distinguishing the business environment, thus contradicting the results found in this study and in previous ones on the effect of culture types.

Part of this is probably due to the recent development of this literature, and to problems of definition or delineation in the measurement of organizational culture and its impacts, which generates inconsistent conclusions about its relationship to business performance (Kim *et al.*, 2004). Nevertheless, we suggest the deepening of this research and greater exploration of the relationship between corporate culture and performance (Yesil & Kaya, 2013). We highlight that the culture proxy used in this study is limited by the empirical-positivist approach adopted, making it necessary to expand and connect with studies of types of organizational culture in the interpretative literature.

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ORGANIZATIONAL CULTURE AND PERFORMANCE OF FOREIGN COMPANIES LISTED ON NYSE

APPENDIX

Country	Company
South Africa	AngloGold Ashanti Limited Gold Fields Limited
Germany	Fresenius Medical Care AG & Co. KGaA SAP SE
Argentina	Empresa Distribuidora y Comercializadora Norte S.A. (Edenor) Pampa Energia S.A. Petrobras Argentina S.A. Telecom Argentina S.A. YPF Sociedad Anónima
Bahamas	Teekay Corporation Teekay LNG Partners L.P. Teekay Offshore Partners L.P. Teekay Tankers Ltd.
Belgium	Anheuser-Busch InBev NV Delhaize Group
Bermuda	Textainer Group Holdings Limited
Brazil	Braskem S.A. BRF - Brasil Foods S.A (formerly Perdigão S.A.) Companhia Brasileira de Distribuição Companhia de Saneamento Básico do Estado de São Paulo-Sabesp Companhia Energetica de Minas Gerais-Cemig Cosan Ltd. CPFL Energia S.A. (CPFL) Embraer S.A. Fibria Celulose S.A. Gafisa S.A. Gerdau S.A. GOL Linhas Aéreas Inteligentes S.A. (GOL) Oi S.A. Petróleo Brasileiro S.A.-PETROBRAS Telefonica Brasil AS TIM Participações S.A. Ultrapar Participações S.A. VALE S.A.

Chile	Embotelladora Andina, S.A. Empresa Nacional de Electricidad, S.A. (Chile) Enersis, S.A. LAN Airlines S.A. Viña Concha y Toro, S.A.
China	Acorn International, Inc. Aluminum Corporation of China Limited (Chalco) China Digital TV Holding Co., Ltd. China Eastern Airlines Corporation Limited China Mobile Limited (China Mobile) China Nepstar Chain Drugstore Ltd. China Petroleum and Chemical Corporation (Sinopec) China Southern Airlines Company Limited China Telecom Corporation Limited China Unicom CNOOC Limited Concord Medical Services Holding Ltd. Guangshen Railway Company Limited Huaneng Power International, Inc. Mindray Medical International Limited PetroChina Company Limited ReneSola Ltd Semiconductor Manufacturing International Corporation (SMIC) Sinopec Shanghai Petrochemical Company Limited Trina Solar Limited (Trina) WuXi PharmaTech (Cayman) Inc. Yanzhou Coal Mining Company Limited Yingli Green Energy Holding Company Limited
Colombia	Ecopetrol S.A.
Koreia	Korea Electric Power Corporation KT Corporation LG Display Co., Ltd. POSCO SK Telecom Co., Ltd.
Spain	Telefónica S.A.
Philippines	Philippine Long Distance Telephone Company
Finland	Nokia Corporation
France	CGG Sanofi S.A. TOTAL S.A.

Greece	Aegean Marine Petroleum Network Danaos Corporation Diana Shipping Inc. Safe Bulkers, Inc. Tsakos Energy Navigation Limited (TEN)
Holland	AerCap Holdings N.V. Koninklijke Philips Electronics N.V. Reed Elsevier NV Unilever N.V.
Hong Kong, China	MFC Industrial Ltd. Nam Tai Electronics, Inc. (Namtai)
Ireland	CRH plc (CRH) Fly Leasing Ltd.
Israel	Blue Square-Israel Ltd. Cellcom Israel, Ltd. Ellomay Capital Ltd. Teva Pharmaceutical Industries Limited
Italy	ENI S.p.A. Luxottica Group, S.p.A. Natuzzi, S.p.A. Telecom Italia S.p.A.
Japan	Canon Inc.
Luxemburg	Arcelor Mittal Tenaris S.A. Ternium S.A.
Mexico	América Móvil, S.A.B. de C.V. CEMEX S.A.B. de C.V. (CEMEX) Coca-Cola FEMSA, S.A.B. de C.V. Empresas ICA, S.A. de C.V. Gruma S.A. de C.V. Grupo Aeroportuario del Pacífico, S.A.B. de C.V. (GAP) Grupo Televisa, S.A. Industrias Bachoco, S.A.B. de C.V. (Bachoco)
Monaco	Navios Maritime Holdings Inc. Navios Maritime Partners L.P. Scorpio Tankers Inc.
Norway	DHT Holdings Inc. Frontline Ltd. Nordic American Tanker Shipping Ltd. SeaDrill Ltd. Ship Finance International Limited Statoil ASA
Panama	Copa Holdings, S.A.
Peru	Compañía de Minas Buenaventura S.A.

United Kingdom	BP p.l.c. GlaxoSmithKline plc Global Ship Lease, Inc. InterContinental Hotels Group plc Pearson Plc Reed Elsevier PLC Rio Tinto Plc Royal Dutch Shell plc Smith & Nephew plc Unilever PLC
Russia	Mechel OAO Mobile TeleSystems OJSC
Singapore	China Yuchai International Limited
Switzerland	ABB Ltd Novartis AG STMicroelectronics N.V. Syngenta AG
Taiwan	Advanced Semiconductor Engineering, Inc. (ASE) AU Optronics Corp. Chunghwa Telecom Co., Ltd. (CHT) Taiwan Semiconductor Manufacturing Company Ltd. (TSMC) United Microelectronics Corporation (UMC)
Turkey	Turkcell Iletisim Hizmetleri A.S.