

Exploring the Role of National Culture on Knowledge Practices: A Comparison between Spain and the UK

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In the context of a competitive knowledge-based economy, the knowledge provided by a firm's founders is one of the most important measures of success. This paper aims to identify the role of national culture on a founder's knowledge practices in a modern organisation. Using data collected from 258 Small to Medium sized Enterprises (SME_S) in the Spanish and UK telecommunication industries (130 from Spain and 128 from the UK), we propose three knowledge management practices to be analysed; namely transfer, transformation and open-mindedness. This paper provides evidence that while Spanish SME_S are more positively associated with higher levels of transfer and transformation of knowledge, UK SME_S are more positively associated with higher levels of open-mindedness. Hence, this study serves as an important contribution to the small amount of literature currently available in this field by examining different practices that can be explained by the cultural characteristics of both countries.

Keywords: national culture, knowledge management, founders, open-mindedness, Spain, UK.

En el contexto actual de la economía del conocimiento, el conocimiento que proporciona el fundador de la empresa es uno de los factores más importantes de éxito para las organizaciones. Este trabajo pretende identificar el papel que juega la cultura nacional en las prácticas de conocimiento de los fundadores en las pequeñas y medianas empresas (PYME_S). Para cumplir con este objetivo se han empleado los datos pertenecientes a 258 PYME_S de España y del Reino Unido del sector de las telecomunicaciones (130 empresas españolas y 128 empresas británicas) y se han seleccionado tres prácticas de gestión de conocimiento denominadas transferencia, transformación y mentalidad abierta. Este artículo sugiere que mientras las PYME_S españolas están más positivamente asociadas con transferencia y transformación de conocimiento, las PYME_S británicas presentan valores más altos de mentalidad abierta. Por tanto, este trabajo contribuye a la literatura examinando estas diferencias en materia de gestión de conocimiento que pueden ser explicadas bajo la perspectiva de las diferencias culturales que existen entre ambos países.

Palabras clave: cultura nacional, gestión del conocimiento, fundadores, mentalidad abierta, España, Gran Bretaña.

National culture (NC) represents the rules and practices that determine the environment within which people communicate. This cultural background shapes how people communicate and interact and has a major impact on knowledge creation, sharing and use (De Long & Fahey, 2000). In this way, the same information or knowledge can have a vastly different value to different people, or even to the same person when exposed to different cultures. National culture is actually defined by Hofstede (1991) as “the collective programming of the mind, which distinguishes the member of one category of people from another”.

It has also been recognised that the founder is the most important success factor in Small Medium Enterprises (SME_S) as he or she is the key decision maker and the key influence on its future course of action (Jayaraman, Khorana, Neiling, & Covin, 2000). Many scholars have proposed that managerial success in SME_S depends on the use, capture and innovativeness of the founder’s knowledge of the SME. Hence, effective knowledge management (KM) practices are essential in these organisations (see Tiemessen, Lane, Crossan, & Inkpen, 1997; Davenport & Prussak, 1998). The objective of this paper is to explore the influence of national culture on the implementation on knowledge management practices in SME_S.

Although the considerations above lead us to expect the development of different KMP_S in response to founders’ external interactions with the national culture and the use of knowledge in different settings, few, if any, studies of SME_S have considered the relationship between national culture and practices concerning knowledge management. We think that this is an important idea, as previous studies in the area of knowledge creation have focused on nationality differences in large world-class organisations rather than in small firms (Chaminade & Johanson, 2003). Therefore, this paper’s contribution is to offer an empirically tested model to explain the enhancement of three basic KM practices (KMP_S) that we have termed transfer, transformation and open-mindedness and how it relates to what we have termed the company’s nationality. In doing so, the paper considers relevant literature on this topic and derives appropriate hypotheses from it in sections 2 and 3, respectively. The methodology used in this research is presented in section 4. Findings are expounded and discussed in sections 5 and 6. Finally, we explain the limitations and future lines of research derived from this research.

Conceptual framework

Founders have been credited as valuable sources of information when an organisation starts up (Hannan, Burton, & Baron, 1996) and as directors of human resource and strategy patterns in the company (Baron, Hannan, & Burton, 2001), they have a stock of knowledge, comprising the background habits, patterns and ways of doing and interpreting things that have accrued over time (Reuber &

Fischer, 1999). It is often assumed that a founder’s previous experience will lead to the development of relevant skills or expertise, which will lead in turn to more knowledgeable actions and decisions in the organisation and to better company performance (Shen & Cannella, 2002; Zhang & Rajagopalan, 2004; Huson, Malatesta, & Parrino, 2004). This stock of knowledge from founders is called ‘congenital knowledge’ by Huber (1991), who emphasises that an organisation’s congenital knowledge is only that knowledge inherited prior to its birth. However, this approach provides an essentially static view of learning impelled by founders and ignores that the competitive environment obliges founders to maintain close relationships with organisational members over a long period of time (Nelson, 2003). In this study we have considered that founders continue to learn, and in addition to what organisations know at their birth, an organisation’s congenital knowledge is augmented through the ‘KM practices’ that are developed between their internal agents (i.e. management and employees) and their founders (Reuber & Fischer, 1999).

Knowledge management practices

In an attempt to make knowledge, ‘KM’ and its different practices (e.g. interaction and integration processes), are frequently cited as antecedents for the dynamic alignment of goals and priorities between a multiplicity of actors (Tiemessen et al., 1997). As Davenport and Prussak (1998) point out, ‘KM’ focuses on processes and mechanisms for locating and sharing knowledge possessed by an organisation or its agents (e.g. founders, managers, employees and stakeholders). However, there is a problem with these arguments in that the knowledge provided by founders becomes embedded in the organisation over time and begins to influence and guide the actions and learning of organisational members. Argyris and Schön (1978) call them ‘theories in use’, and they are often difficult to change precisely because they operate unconsciously. The potential negative impacts of theories in use (in terms of biases in recall, belief systems and blind spots) on decision-making have been discussed by several authors (e.g. Morrison & Brantner, 1992). Thus, the founder’s prior experience can slow down learning in a new context because strategic decisions can stem more from personality and emotional relationships than competitive demands (Miller, Steier, & Breton-Miller, 2003).

These considerations lead us to argue that for a given organisation, even though some current theories were useful in the past (and, therefore valuable), they may not carry the same value now or in the future. In this way, they reflect aspects of the organisation’s prior history which are no longer relevant (Bent, Van Der Paauwe, & Williams, 1999). In such situations, the atmosphere most likely to induce self-renewal and essentially correct this state of affairs is one that promotes openness to new ideas and the critical evaluation of signals that run against established beliefs

and values (Sinkula, Baker, & Noordewier, 1997). It is through 'open-mindedness' that members of an organisation will identify outdated systems (e.g. procedures, structural and cultural artifacts), and in this context, individuals will be able to recall inappropriate values, behaviors, attitudes, habits and things individuals take for granted (Huber, 1991). Such reconsideration may lead to new interpretations of existing knowledge or the forgetting of old habits (Nonaka, 1994) by individuals.

The considerations above lead us to argue that in the extant research literature no overarching consistency can be observed with respect to either the sub-processes that constitute KM or their nomenclature. It is also clear that KMP_S encourage individuals to share not only their knowledge but also whether their particular approach to innovation is applicable or not. Cegarra and Wensley (2009), for instance, based on their reading of Bogenrieder, 2002, Gruber and Müller, 2002; and Barringer, Jones, and Neubaum, 2005 among others, describe three activities that relate to acquiring access, updating and re-using knowledge from founders. It seems reasonable to infer that Cegarra and Wensley intended to imply that these activities occur in temporal sequence. Bearing in mind these considerations, we have considered three different types of KMP_S which clearly relate to Cegarra and Wensley's three activities:

1. The 'transfer of knowledge' comprises the transmission of knowledge from founders, who form part of the organisation, to the individuals that interact with them. In doing so, the set of elements that contribute to having interaction between certain individuals and founders should be considered (e.g. formal and informal meetings).

2. The transformation of knowledge is the ability to retain the transferred knowledge within the organisation throughout the passage of time. In this aim, it is necessary for members that participated in previous meetings to transform their individual knowledge into social knowledge. Thereafter, it will be easier for other members of the organisation to use this new knowledge in their own work.

3. Open-mindedness engenders a willingness to question current thinking and practice, to be receptive to emerging possibilities, to share ideas and to consider differing perspectives. While familiar approaches to problems and their solutions may have proven successful in the past, open-minded contexts are more likely to question long-held practices and beliefs (Sinkula et al., 1997) and encourage the sharing of strategic information among decision-makers (Day, 1994).

National culture

National culture has been defined in literature as "a fuzzy, difficult-to-define construct" (Triandis et al., 1986). Culture is also described as the beliefs, values, norms, mores, myths and structural elements for a given organisation, tribe or society (Nath, 1988; Watson, Teck, & Raman, 1994).

As Webster (1988) affirms, the national culture is the sum of all ways of living built up by a group of human beings and transmitted from one generation to another. Therefore, national culture grows and remains stable over relatively long periods of time (Schein, 1990). National culture is expected to affect all individuals as it provides people with their basic assumptions and values, which affect how they see and understand the world (Hoecking, 1995). Hence, national culture also comprises the rules that guide the behavior of the individuals (Yip, 1992).

The best-known academic research in literature relating to national culture is the one by Hofstede (1980). According to his theory, cultural values impact individual values, and individuals' behaviors depend on the cultural values to which they are exposed (Hofstede, 1980). In his initial seminal work, Hofstede (1980) proposed four cultural dimensions regarding relationships with authority, the conception of self and ways of dealing with conflicts. Hofstede (1991) contends that power distance, individualism versus collectivism, masculinity versus femininity and uncertainty avoidance have particular relevance for issues in organisational design and behavior. Later, Hofstede included a fifth cultural dimension to his original research into IBM, namely long-term versus short-term orientation, (Hofstede, 2000). The Hofstede taxonomy has been empirically validated in literature (Ronen & Shenkar 1985) and used extensively in research relating to cross-cultural management (Chow, Yutaka, & Shields, 1994; Salter & Niswander, 1995; Zarzeski, 1996).

Another recent approach to the study of national culture is the one made by House et al. (1999), in their GLOBE survey. They separate aspects of culture into areas that are common for all cultures and factors that are culture-specific. This approach also aims to explain similarities and differences in organisational practices and leadership behaviors in organisations from different countries. They consider nine "cultural dimensions": performance orientation, uncertainty avoidance, humane orientation, institutional collectivism, in-group collectivism, assertiveness, gender egalitarianism, future orientation and power distance.

Although Hofstede's (1980) work is not without its critics (e.g. Javidan, House, Dorfman, Hanges, & De Luque, 2006), his study continues to provide a basic framework for research in the field of cross-cultural management. The relevance of Hofstede's work is reinforced by the number of subsequent studies that have used the dimensional approach of his research (Watson et al., 1994, Mejías, Shepherd, Vogel, & Lazaneo, 1997; Krombholz, Galliers, Coulianos, & Maiden, 2000). However, Hofstede's culture research continues to significantly influence the field and the suggestion is that "there are no indications that the cultural diversity mapped by Hofstede is in the process of disappearing".

Literature on business management highlights the effect of national culture on business practices. In this work, national culture is considered to have substantial influence

on organisational decision making (Raman & Watson, 1994) and on what is translated into action (De Long & Fahey, 2000). Regarding this, national culture has also been found to have an influence in the determination of capital structure (Sekely & Collins, 1988), accounting control systems (Snodgrass & Grant, 1986), strategic issues (Schneider & De Meyer, 1991) and implementation and use of information technologies (Kambayashi & Scarbrough, 2001).

We would also draw attention to the fact that academics recognise the importance of national culture to influence what is perceived as useful and important as valid knowledge within an organisation. De Long and Fahey (2000), for instance, suggest that culture shapes what a group defines as relevant knowledge, and this will directly affect which knowledge a unit focuses on. The authors argue that these cultural ground rules shape how people interact and have a major impact on knowledge creation, sharing and use (De Long & Fahey, 2000). Considering this, we suggest that national culture can potentially enhance the effectiveness and efficiency of KMP_S as national culture determines the environment (e.g. rules and practices) within which people communicate. Regarding this, De Long and Fahey suggest a number of cultural characteristics that affect the creation of knowledge. They hold that culture, among other things:

- Shapes assumptions about which knowledge is important;
- Mediates the relationships between individual and organisational levels of knowledge;
- Creates a context for social interaction and shapes the creation and adoption of new knowledge.

These considerations lead us to argue that different national cultures might influence the experience and interest in KMP_S among firms. Hence, national culture is also expected to affect the three knowledge processes explained above (i.e. transfer, transformation and open-mindedness).

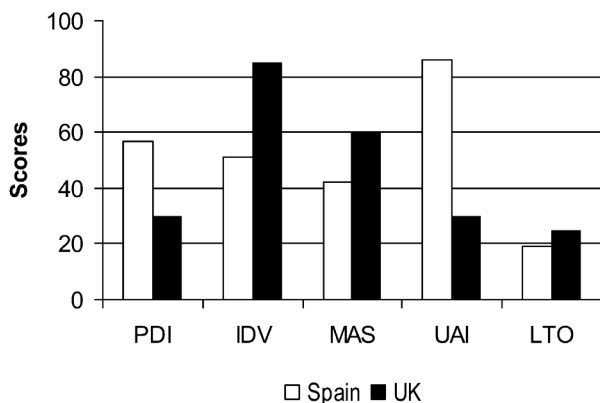


Figure 1. Comparison of Spain culture with UK culture.
 Note: (PDI) Power Distance; (IDV) Individualism, (MAS) Masculinity; (UAI) Uncertainty Avoidance, (LTO) Long term orientation. Source: Hofstede (2004).

In order to analyse the effect of national culture on the KMPs, it is necessary to select at least two countries to make the management comparison. Much of the existing cross-cultural research considers two countries to make comparisons relating to the influence of culture. As shown in Figure 1, this research has chosen two culturally distant countries (i.e. Spain and UK).

The telecommunication sectors of these countries were chosen for two main reasons. On the one hand, both industries are very similar in legal, economic and regulatory contexts. In both countries, almost all public telecommunication infrastructures were traditionally controlled indirectly by the established political regime and its administrative authorities, which acted as monopolists. In the late 1990s, both telecommunications sectors underwent major structural transformations. Furthermore, for the period between 2000 and 2005, the telecommunications industry has been an important sector in both countries. In Spain, this market represents 18 percent of the total European telecommunications market and nearly 4.7 percent of the Spanish GDP. The Spanish Telecommunications industry had an increase of 8.2% in 2004 when compared to 2003, with operational revenues of 37189 million euros (OECD, 2005). Furthermore, the UK's telecommunications industry represents 4.1% of UK GDP and the turnover in the industry grew by 6% (to £50.8bn) in 2003 employing around 164000 people in the UK both directly and indirectly (MBD, 2007).

On the other hand, despite the similarities, there are significant differences with regard to power distance, uncertainty avoidance, individualism and masculinity and long term orientation. As shown in Figure 1, the Spanish and UK cultures score differently in all of the five cultural dimensions. In addition, the recent GLOBE survey also classifies these countries in two different clusters (i.e. Anglo and Latin Europe). Thus, Spain and the UK are suitable for a cross-cultural comparison research. In practical terms, all these different scores obtained by both societies in terms of the cultural dimensions described by Hofstede (1980) could imply that the KMP_S of the companies are also different because of the influence of the national culture of its founders and employees. As Waddock (2001) points out, national culture is embedded integrally in the day-to-day operating practices that companies develop to relate to their important stakeholders. This study extends the work of Hofstede on cultural dimensions and the role of the company's nationality effects on KMP_S. Based on the existing literature, the following hypotheses were advanced:

H1: SMEs in nations featured for being low power distance country, individualist country, masculine society, weak uncertainty avoidance are more positively associated with higher levels of open-mindedness than SMEs in nations featured for being large power distance country, collective country, feminine society, strong uncertainty avoidance.

H2: SMEs in nations featured for being large powder distance country, collective country, feminine society; strong uncertainty avoidance with higher levels of knowledge transfer than SMEs in nations featured for being low powder distance country, individualist country, masculine society; weak uncertainty avoidance are more positively associated.

H3: SMEs in nations featured for being large powder distance country, collective country, feminine society; strong uncertainty avoidance with higher levels of knowledge transformation than SMEs in nations featured for being low powder distance country, individualist country, masculine society; weak uncertainty avoidance are more positively associated.

Method

Participants

Due to the absence of a census of SME's that comprise the Spanish and UK Telecommunications industries, a preliminary effort was made to identify those companies that could be the target of our data collection. We used a list of 1374 SMEs (665 from Spain and 709 from the UK) provided by the SABI database (Sistema de Análisis de Balances Ibéricos) and the Financial Analysis Made Easy Database (FAME) as an initial sampling frame. All companies were classified according to the European Union classification as SMEs¹.

The data were gathered in two phases, the first of which lasted over a month, from early May to June 2004. In this period, Spanish companies were contacted and 130 surveys were carried out. The second phase lasted for about two months, from early July to August 2007. In this period, UK companies were contacted and 128 surveys were carried out. A comparison between companies who had answered and companies who had not answered yielded no significant differences relevant to turnover, total assets and the number of employees, which suggests that non-response bias is not a problem (Armstrong & Overton, 1977).

The information was collected by sending letters and e-mails to the manager or general director of the SMEs. By contrasting each hypothesis, only those surveys that had answered all the relevant questions were considered. The total number of surveys that were completed was 258 (130 from Spain and 128 from the UK), which gives a response rate of 5.32% of the total. According to Hair, Anderson, Tatham and Black (1998), the size of the sample is considered sufficient, since it is greater than ten times the number of predictors from the indicators on the most complex formative construct or antecedent construct leading to an endogenous construct.

Questionnaire

The survey questionnaire comprised 18 items ($6 \times 3 = 18$ measuring transfer, transformation and open-mindedness). It was initially validated by a series of interviews with managers who comprised a pilot sample of 3 leading Spanish telecommunications businesses and 3 leading UK telecommunications businesses. As a result of this pre-testing, we identified that founders came from similar social groups in Spanish and UK telecommunications businesses: *former employees of large state-owned companies; former top and middle managers seeking profits in the telecommunication industry and self-employed graduates*. We also made some minor modifications to our questionnaire based on the suggestions received. Specific issues relating to the development of the questionnaire and its related constructs are elaborated below.

The initial measures relating to the existence of open-mindedness (OM) consisted of 6 items adapted from a scale designed by Baker and Sinkula (1999) to measure the construct of open-mindedness. These items described the way management faced up to change, introducing it actively into the company through projects, collaborating with members of the organisation and recognising the value of new information or taking risks. The items had 7-point scales ranging from 1 (high disagreement) to 7 (high agreement).

The initial measures relating to the existence of transfer (TR) and transformation (TT) of knowledge between organisational member and founders scales consisted of 12 items ($6 \times 2 = 12$ measuring the two factors) adapted from a scale designed by Cegarra (2005) to measure the constructs of transfer and transformation of knowledge. Consistent with Cegarra (2005), items that addressed the transfer of knowledge were interwoven with issues related to the encouragement of selected individuals in the organisation to share information with founders. Knowledge transformation focuses on the generation of new insights, taking actions that are experimental in nature and developing the competencies for doing one's job. The items had 7-point scales ranging from 1 (high disagreement) to 7 (high agreement).

In order to show a reference point about the presence of different national contexts (NCs), we considered whether (0), the company was registered in Spain or (1), the company was registered in the UK.

Procedure

The items in the proposed constructs were evaluated with exploratory techniques to assess the reliability and dimensionality of the measures. In the initial stage, each

¹ According to the European Commission (2003:36), SMEs comprise fewer than 250 employees, with an annual turnover not exceeding €50 million euros and an annual balance sheet total not exceeding €43 million euros.

construct was assessed using the item-to-total correlation, Cronbach's alpha, and exploratory factor analysis. The decision to retain items was based on recommendations proposed by Hair et al. (1998) with regard to statistical criteria (loadings and regression weights). As a result of the exploratory analysis, several items were dropped. Thereby, the psychometric properties of the measures improved the original proposal. In order to get a more robust evaluation of the quality of the measures, a confirmatory analysis was achieved using the correlation matrix as input via the LISREL 8.50 (Jöreskog & Sörbom, 2001) maximum likelihood method.

Table 1 summarises the results of the confirmatory factor analysis. The fit statistics for the resulting 9 items were: $\chi^2_{(24)} = 70.10$; goodness-of-fit Index [GFI] = .90; comparative fit index [CFI] = .94; incremental-fit Index [IFI] = .94; root mean square error of approximation [RMSEA] = .07. The fit index of RMSEA is below .08, and indices of GFI, CFI and IFI are above the common standard of .90 (Hair et al., 1998). The reliability of the measures is calculated using Bagozzi and Yi's (1998) composite reliability index and with Fornell and Larcker's (1981) average variance extracted index. For all the measures, both indices are higher than the evaluation criteria of .7 for the composite reliability and .5 for the average variance extracted (Bagozzi & Yi, 1988). Based on these results, we conclude that the reliability and the convergent validity of our measurements are assured.

Discriminant validity was assessed by calculating the shared variance between pairs of constructs and verifying that it was lower than the average variances extracted for

the individual construct (Fornell & Larcker, 1981). The shared variances between pairs of all possible scale combination indicated that the variances extracted were higher than the associated shared variances in all cases. In the interest of thoroughly discriminant validity, an additional test was examined, supporting this assumption since the confidence interval (± 2 standard errors) around the correlation estimated between any two latent indicators never includes 1.0 (Anderson & Gerbing, 1988). The constructs correlation matrix, shared variances, means and standard deviations are showed in Table 2.

Results

The first step was to determine differences depending on whether or not the company was in Spain or in the UK. The system repeated ANOVA measures were used to prove the explanatory power of only one factor or independent variable, not metrics. In our case, we used $NC = 0$ the company was in Spain and $NC = 1$, the company was in the UK on a set of dependent variable metrics, (OM, TR and TT). Mauchly's test of sphericity analyses the null hypothesis that the error covariance matrix of the orthonormalized-transformed dependent variable is proportional to an identity matrix. As Mauchly's test of sphericity is significant $\chi^2 = 26.021$ at a level of $p < .01$, we can assert that the dependent variables are related. The Box's M test of equality of covariance matrices is significant with an $F(6) = 24.876$, $p < .001$. Therefore we

Table 1
Construct summary, confirmatory factor analysis and scale reliability

Construct	Standardized loading	T-value	Reliability (SCR ^a , AVE ^b)
Open-mindedness			
X ₁ : Management initiates projects and introduces innovations	.71	11.93	SCR = .79
X ₂ : Managers recognize the value of new information, assimilate it and apply it	.79	13.53	AVE = .56
X ₃ : Management accepts change and actively introduces it the business	.74	12.51	
Transfer of knowledge			
X ₄ : Small groups meet with founders at least one a year to listen to their views	.90	18.69	SCR = .90
X ₅ : Management meet with founders at least one a year to review the likely effects of changes in the business environment (e.g. legislation)	.91	18.97	AVE = .77
X ₆ : Activities (e.g. dinners, lunches, away-days) are organized for founders, managers and other employees.	.74	16.49	
Transformation of knowledge			
X ₇ : Managers interact directly with employees to learn how best to serve founders	.93	19.82	SCR = .95
X ₈ : Founders initiate projects and introduce innovations	.97	21.61	AVE = .87
X ₉ : Founders collaborate with employees and solve problems with them	.91	19.06	

Note. The fit statistics for the 9 measurement constructs were:

$\chi^2_{(24)} = 70.10$; GFI = .90; CFI = .94; IFI = .94; RMSEA = .07;

^aScale Composite Reliability (SCR) of $p_c = (\sum \lambda_i)^2 \text{var}(\xi) / [(\sum \lambda_i)^2 \text{var}(\xi) + \sum \theta_{ii}]$ (Bagozzi and Yi, 1998).

^bAverage variance extracted (AVE) of $p_c = (\sum \lambda_i^2 \text{var}(\xi)) / [\sum \lambda_i^2 \text{var}(\xi) + \sum \theta_{ii}]$ (Fornell and Larcker, 1981).

Table 2
Construct correlation matrix

	Mean	Standard deviation	Correlation matrix		
			OC	TR	TT
1. Open-mindedness (OC)	5.06	1.46	.74	.23	.10
2. Transfer of knowledge (TR)	3.83	1.96	.31 ^a	.87	.40
3. Transformation of knowledge (TT)	4.83	2.05	.11 ^c	.70 ^a	.78
4. Country (0 = Spain; 1 = UK)	.48	.50	.18 ^a	-.33 ^a	-.65 ^a

Note. The fit statistics for the 9 measurement constructs were:

$\chi^2_{(24)} = 70.10$; GFI = .90; CFI = .94; IFI = .94; RMSEA = .07;

^aScale Composite Reliability (SCR) of $p_c = (\sum \lambda_i)^2 \text{var}(\xi) / [(\sum \lambda_i)^2 \text{var}(\xi) + \sum \theta_{ii}]$ (Bagozzi and Yi, 1998).

^bAverage variance extracted (AVE) of $p_c = (\sum \lambda_i^2 \text{var}(\xi)) / [(\sum \lambda_i^2 \text{var}(\xi) + \sum \theta_{ii})]$ (Fornell and Larcker, 1981).

Table 3
ANOVA nationality factor (individual variables)

Variable	Nacionality (NC)	η	δ	<i>N</i>	<i>F</i>	Partial Eta Squared	Observed Power
Open-mindedness	Spain	4.81	1.72	139	34.339 ^a	.115	1.0
	UK	5.35	1.06	128			
	Total	5.06	1.46	267			
Transfer of knowledge	Spain	4.46	1.72	139	196.286 ^a	.426	1.00
	UK	3.14	1.97	128			
	Total	3.83	1.96	267			
Transformation of knowledge	Spain	6.11	1.02	139	9.39 ^a	.034	.86
	UK	3.44	1.98	128			
	Total	4.83	2.05	267			
Wilks' Lambda (.537)					113.67 ^a	.46	1.00
Tests of within-subjects effects				<i>KSP_S</i>	85.11 ^a	.24	1.00
Tests of within-subjects effects				<i>NC* KSP_S</i>	124.15 ^a	.31	1.00
Test of between-subjects effects				<i>NC</i>	51.94 ^a	.16	1.00
Box's M = 151.116					<i>F</i> = 24.876 ^a		
Mauchly's Test = .906					$\chi^2_{(2)} = 26.021^a$		

Note. ^a $p < .01$; η = Mean; δ = Standard deviation

support that the observed covariance matrix of the dependent variables is not equal across groups.

As shown in Table 3, the multivariate contrast indicates that Wilks' Lambda is .537 with a significant level of $p < .01$. Furthermore, the partial Eta squared is .46 and the observed power is 1.00. As a consequence, *NC* has an explicative power on dependent variables (OM, TR and TT). Tests of effects within subjects show an $F(2) = 85.11$, $p < .01$. Therefore, we can assert that there are differences among the means of the three *KSP_S*. The effect size for each independent variable was (.24) with an estimated power of (1). The interaction *NC* KSP_S* shows an $F(2) = 124.15$, $p < .01$. Therefore, there are also differences among the means of the *NC* KSP_S* interaction. In this case, the effect size for each independent variable was (.31) with an

estimated power of (1). A test of effects between subjects shows an $F(1) = 51.94$, $p < .01$. Therefore, we can assert that there are some differences depending on whether or not the company was in Spain or in the UK. The partial Eta squared is .16 and the observed power is (1).

If we analyse the univariate tests, it can be observed that there are meaningful differences between three dependent variables. Table 3 shows that Spain-*NC* with an $F(1) = 196.286$, $p < .01$, had a significant effect on TR and that Spain-*NC* with an $F(1) = 9.39$, $p < .01$, had a significant effect on TT. Consequently, we can assert that Spain-*NC* is more positively associated with higher levels of transfer and transformation of knowledge. Table 3, again, shows that UK-*NC* had a positive influence on OM: it was significant with an $F(1) = 34.339$, $p < .01$. This analysis provides full support

for H₃, thus suggesting that open-mindedness can be positively influenced by UK national culture.

Discussion

The purpose of this article is to demonstrate the importance of the cultural perspective on many issues related to knowledge management and to explore the ways in which organisational culture shapes knowledge creation, sharing and use. In this paper, we have obtained empirical support that three KMP_S (transfer, transformation and open-mindedness) are affected by the *NC* of the respective countries. Although SMEs in Spanish and UK telecommunication industries exist and thrive in the same general business environment, which is determined by political and economic structures, they seem to have chosen different mechanisms to sustain their development. Our findings show that while Spanish companies are associated with higher levels of transfer and transformation of knowledge, UK SMEs are associated with higher levels of open-mindedness.

A possible explanation for the differences between KMP_S could be that cultural factors shape people's perception of opportunities, attitudes toward the environment and actual behavior of the founders in a multifaceted and elusive way (see Jayaraman et al., 2000; Haveman & Khaire, 2004). Factors such as power distance, uncertainty avoidance, individualism, masculinity and long-term orientation are implicit or explicit views and values shared to a considerable extent by members of a nation. This is facilitated by both the external adaptation of the nation (e.g., how the nation should relate to other nations) and the internal integration of the nation (e.g. how members of the nation should relate to and work with others). All these factors are transmitted not only through the formal structure and systems but also through informal processes and communication networks (e.g. rituals and routines, stories and myths, physical symbols, etc). Based on the ideas above, the differences between SMEs in Spain and the UK in capturing and using relevant knowledge may be influenced by the presence of different cultural factors.

Regarding the test of hypothesis H1, the results support the position that an open organisational context is greater in the UK than in Spain. These differences may be related to the different scores for power distance, uncertain avoidance and long-term orientation indexes plotted in Figure 1. While the UK is characterised by a small power distance, which means that equality, decentralisation and democracy are appreciated values whereas submission, centralisation and hierarchy have less appeal (Hofstede, 1980; 1991), in Spain, with a high degree of power distance and uncertain avoidance, *NC* extrapolates the future from the past. Under this framework, UK companies seem to thrive on chaos understood as, for example, fast and discontinuous change,

unstructured and muddy situations, action on insufficient information, few or no rules, unknown risks and basic uncertainty (Pors, Dixon, & Robson, 2004). Therefore, a weak uncertainty avoidance combined with the low power distance would encourage pro-innovative culture and attitudes reinforcing open and widely spread communication to live comfortably with and within changing environments and organisations (Hofstede, 1985). As Mamman and Saffu (1998) affirmed, the UK having higher levels of long-term *NC* orientation than Spain creates the expectation that British managers would be more open to the environment and ready for adjusting to new circumstances due to the consideration of new and innovative ideas. However, managers with lower levels of long-term orientation (Spain) have the risk of taking short-term decisions, adopting a myopic view and refusing novel ideas in management (Mamman & Saffu, 1998).

With regard to the test of hypotheses H2 and H3, the results support the position that transfer and transformation practices are greater in Spain than in the UK. This confirms the position adopted by De Long and Fahey (2000) when they argue that *NC* does impact on the interaction among the individuals of organisations affecting the relationships among its members. A possible explanation for the different performance of the countries may relate to the different scores for individualism and masculinity indexes plotted in Figure 1. As Chandler, Shama and Wolf (1983) point out, individuals from individualistic cultures, compared to those from collectivistic cultures, have personality traits that reflect a greater sense of an internal locus of control. The results for the individualism-collectivism index plotted in Figure 1, showed the UK as the most individualist society. However, in feminine societies (Spain) more emphasis is given to the environment, the working conditions and co-operation with other workers, while in more masculine countries (UK) there is a stronger focus on measurable results and image. As Kay (1993) highlights, founder relationships with organisational members can be characterised as 'relational', in that they are essentially long term and based on trust. This in turn reinforces communication channels between founders and subordinates (i.e. transfer and transformation practices).

Another explanation for the differences between KMP_S could be that the two sectors are affected by the advantages and disadvantages from when the liberation of telecommunications took place (in Spain 15 years later). In the UK telecommunications sector, deregulation in 1982 was followed by rapid changes in terms of governmental regulatory reforms. There would appear to be a greater degree of revolutionised strategic thinking throughout the telecommunications industry (Beesley & Laidlaw, 1989). However, the liberalisation process in the Spanish telecommunication sector began in 1997 with the approval of a raft of parliamentary laws (i.e. laws 12/97 and 20/97) and the creation of the Committee for the Telecommunications Market (Cabeza-García & Gómez-Ansón, 2007). Based on

these arguments, we could consider that findings obtained might be influenced by the differences between generations of management (we could consider that British SMEs are in the second generation of management and Spanish in the first generation). The generation gap can produce significant differences in founders' backgrounds due to changes in society. Spanish SMEs (supposed to be in first generation as liberation of the sector started later) adopt a 'conservative perspective' due to the greater exposure to founder-managers, though which the knowledge provided by the founder(s) is relevant and through the open-mindedness context it is essentially adapted from earlier generations to later generations and, to some extent, embedded in the organisation explicitly and implicitly. However, in the UK, the new generations of entrepreneurs are more opportunity-oriented and willing to outsource, a culture beyond founder-managers can possibly attract new business and further activate a greater open-mindedness culture among its organisational members.

The results also highlight a new, interesting direction, as they suggest that the management of knowledge without reference to the surrounding societal values may be ineffective, and perhaps dysfunctional in some countries. As Hallinger and Kantamara, (2001) state, there are inherent limitations of applying knowledge gained in one cultural context to another. In this regard, however, many authors have reflected upon how *NC* affects management systems (Hofstede, 1991); management control systems (Harrison, 1993); accounting systems (Gray, 1995) and organisational culture (Harrison, Chow, Wu, & Harrel, 1999), knowledge management theories have been developed and validated only in Western countries. Consequently, the further advancement of knowledge management as an academic discipline requires that the validity of its theories and models be examined in other cultural settings as well to identify their degree of generalisability and to uncover boundary conditions. Studying the role of *NC* in *KMP_S* can teach us the many ways in which KM theories are a reflection of the culture in which they were developed. In this regard, we hope this paper opens interesting avenues for further research in SME and knowledge management theories.

Conclusions

Using data collected from 258 companies, this work has established a comparison between Spanish and UK SMEs. This paper provides evidence that national culture plays an important role in the implementation of *KMP_S* in SMEs. Based on the discussion above, national culture can shape the founders' mentality and preferences in the use of *KMP_S*. Therefore, the different scores among the three *KMP_S* represented in this study suggest that there is no guarantee that KM theories developed within the cultural context of one particular country can be applied in another with good effect. We think that these are important findings

as they can help to create awareness of the relevance of different cultural settings when discussing the management of knowledge. These findings also have important implications for general knowledge management theories, as they suggest that human resource managers may be trapped in a sub-optimal stable equilibrium, insofar as they may be underestimating the power of national rules and procedures to capture the relevant knowledge of its founder(s). For example, well-known approaches of knowledge management such as communities of practice, common language, lateral communication, commitment, motivation and mutual adjustment, to name just a few, may not apply to power distance and masculinity cultures without modifications. This corroborates the finding of McCourt and Ramgatty-Wong (2003), that moving from the Anglophone Commonwealth world of the UK to the Francophone world increases the intellectual distance from managerial practices.

Although this study has provided relevant and interesting insights into the understanding of the impacts of national cultures on *KMP_S* in two different countries, it is important to recognise the limitations associated with this study. Firstly, we used cross-sectional data. Consequently, the time sequence of the relationships between national culture and *KSP_S* cannot be determined unambiguously. The results, therefore, might not be interpreted as proof of a causal relationship, but rather as a lending support for a prior causal scheme. The development of a time-series database and testing of the *KMP_S* relationship with national culture in a longitudinal framework would provide more insight into probable causation. Second, in this study we have only considered whether or not the companies were in Spain or the UK. Therefore, future research should examine how different dimensions of national culture can create or obtrude *KMP_S*. Is it possible to provide a cultural tool that facilitates rather than obtrudes the creation of *KMP_S*? Finally, the sample used for this analysis was drawn only from Spain and the UK, and the generalisability of the results remains to be tested. Therefore, future research can expand the present study by attempting a countrywide survey.

References

- Anderson, J. C., & Gerbing, D. W. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, 25, 186-192.
- Argyris, C., & Schön, D. A. (1978). *Organizational Learning: A Theory of Action Perspective*. San Francisco, CA: Jossey-Bass.
- Armstrong, J. S., & Overton, T. S. (1977). Estimating Nonresponse Bias in Mail Surveys. *Journal of Marketing Research*, 14, 396-402. doi:10.2307/3150783
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16, 74-94. doi:10.1007/BF02723327

- Baker, W. E., & Sinkula, J. M. (1999). The synergistic effect of market orientation and learning orientation on organizational performance. *Journal of the Academy of Marketing Science*, 27, 411-427. doi:10.1177/0092070399274002
- Baron, J. N., Hannan M. T., & Burton, M. D. (2001). Labor pains: Change in organizational models and employee turnover in young, high-tech firms. *American Journal of Sociology*, 106, 960-1012. doi:10.1086/320296
- Barringer, B. R., Jones, F. F., & Neubaum, D. O. (2005). A quantitative content analysis of the characteristics of rapid-growth firms and their founders. *Journal of Business Venturing*, 20, 663-687. doi:10.1016/j.jbusvent.2004.03.004
- Beesley, M. E., & Laidlaw, B. (1989). *The future of telecommunications; An assessment of the role of competition in UK policy*. London, UK: Institute of Economic Affairs.
- Bent, J., Van Der Paauwe, J., & Williams, A. R. (1999). Organizational learning: an exploration of organizational memory and its role in organizational change processes. *Journal of Organizational Change Management*, 12, 377-404. doi:10.1108/09534819910289084
- Bogenrieder, I. (2002). Social Architecture as a Prerequisite for Organizational Learning. *Management Learning*, 33, 197-216. doi:10.1177/1350507602332003
- Cabeza-García, L., & Gómez-Ansón, S. (2007). The Spanish privatisation process: Implications on the performance of divested firms. *International Review of Financial Analysis*, 16, 390-409. doi:10.1016/j.irfa.2006.09.007
- Cegarra, J. G. (2005). An empirical investigation of organizational learning through strategic alliances between SMEs. *Journal of Strategic Marketing*, 13, 3-16. doi:10.1080/0965254042000328686
- Cegarra, J. G., & Wensley, A. (2009). Congenital learning in the Spanish telecommunication industry. *Journal of Business Venturing*, 24, 533-543. doi:10.1016/j.jbusvent.2008.05.009
- Chaminade, C., & Johanson, U. (2003). Can guidelines for Intellectual Capital management and reporting be considered without addressing cultural differences? *Journal of Intellectual Capital*, 4, 528-542. doi:10.1108/14691930310504545
- Chandler, T. A., Shama, D. D., & Wolf, F. M. (1983). Gender differences in achievement and affiliation attributions. *Journal of Cross-Cultural Psychology*, 14, 241-256. doi:10.1177/0022002183014002007
- Chow, C., Yutaka, K., & Shields, M. D. (1994). National culture and the preference for management controls: an exploratory study of the firm-labor market interface. *Accounting, Organizations and Society*, 19, 381-400. doi:10.1016/0361-3682(94)90003-5
- Davenport, T., & Prussak, L. (1998). *Working knowledge: how organizations manage what they know*. Boston, MA: Harvard Business School Press.
- Day, G. S. (1994). Continuous learning about markets. *California Management Review*, 36, 9-31. doi:10.1108/eb054381
- De Long, D., & Fahey, L. (2000). Diagnosing cultural barriers to knowledge management. *Academy of Management Executive*, 14, 113-127. doi:10.5465/AME.2000.3979820
- European Commission (2003) *SME definition: Commission Recommendation of 06 May 2003*. (Report L 124/39, pp. 36). Luxembourg: Office for Official Publications of the European Communities. Retrieved from http://europa.eu.int/comm/enterprise/enterprise_policy/sme_definition/index_en.htm
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39-50. doi:10.2307/3151312
- Gray, S. J. (1995). Cultural perspectives on the measurement of corporate success. *European Management Journal*, 13, 269-275. doi:10.1016/0263-2373(95)00017-F
- Gruber, M., & Müller, C. (2002). Passing the torch: Competitive advantage, core capabilities and entrepreneur succession. *Journal for Management and Development*, 1, 36-43.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate Data Analysis*, (5th ed). Englewood Cliffs, NJ: Prentice-Hall.
- Hallinger, P., & Kantamara, P. (2001). Learning to lead global changes in local cultures. *Journal of Educational Administration*, 39, 197-220. doi:10.1108/09578230110392857
- Hannan, M. T., Burton, M. D., & Baron, J. N. (1996). Inertia and change in the early years: employment relations in young, high technology firms. *Industrial and Corporate Change*, 5, 503-536.
- Harrison, G. L. (1993). Reliance on accounting performance measures in superior evaluative style? – The influence of national culture. *Accounting, Organizations and Society*, 18, 319-339. doi:10.1016/0361-3682(93)90019-3
- Harrison, G. L., Chow, C., Wu, A., & Harrel, S. (1999). A cross-cultural investigation of managers' project evaluation decisions. *Behavioral Research in Accounting*, 11, 143-160.
- Haveman, H. A., & Khaire, M. V. (2004). Survival beyond succession? The contingent impact of founder succession on organizational failure. *Journal of Business Venturing*, 19, 437-463. doi:10.1016/S0883-9026(03)00039-9
- Hoecking, L. (1995). *Managing cultural differences: strategies for competitive advantage*. Wokingham, UK: The Economist Intelligence Unit/Addison-Wesley Publishing.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. London, UK: Sage.
- Hofstede, G. (1985). The interaction between national and organizational value systems. *Journal of Management Studies*, 22, 347-357. doi:10.1111/j.1467-6486.1985.tb00001.x
- Hofstede, G. (1991). *Cultures and organizations: Software of the mind*. London, UK: McGraw-Hill.
- Hofstede, G. (2000). *Cultural consequences: Comparing values, behaviors and organizations across nations*. London, UK: SAGE Publications.
- House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A., Dorfman, P., Javidan, M., & Dickson, M. (1999). Culture influences on leadership and organizations: project GLOBE. *Advances in Global Leadership*, 1, 171-233.
- Huber, G. (1991). Organisational learning: The contributing processes and the literatures. *Organizational Sciences*, 2, 88-115. doi:10.1287/orsc.2.1.88

- Huson, M. R., Malatesta, P. H., & Parrino, R. (2004). Managerial succession and firm performance. *Journal of Financial Economics*, 74, 237-275. doi:10.1016/j.jfineco.2003.08.002
- Javidan, M., House, R. J., Dorfman, P. W., Hanges, P. J., & De Luque, M. (2006). Conceptualizing and measuring cultures and their consequences: a comparative review of GLOBE's and Hofstede's approaches. *Journal of International Business Studies*, 37, 897-914. doi:10.1057/palgrave.jibs.8400234
- Jayaraman, N., Khorana, A., Neiling, E., & Covin, J. (2000). CEO founder status and firm financial performance. *Strategic Management Journal*, 21, 1215-1224. doi:10.1002/1097-0266(200012)21:12<1215::AID-SMJ146>3.0.CO;2-0
- Jöreskog, K., & Sörbom, D. (2001). *LISREL 8.50*. Chicago, IL: Scientific Software.
- Kambayashi, N., & Scarbrough, H. (2001). Cultural influences on IT use amongst factory managers: a UK-Japanese comparison. *Journal of Information Technology*, 16, 221-236. doi:10.1080/02683960110100409
- Kay, J. (1993). *Foundations of corporate success*, Oxford: Oxford University Press.
- Krombholz, M., Galliers, J., Coulianos, N., & Maiden, N. A. (2000). Implementing enterprise resource planning packages in different corporate and national cultures. *Journal of Information Technology*, 15, 267-279. doi:10.1080/02683960010008962
- Mamman, A., & Saffu, K. (1998). Short-termism, control, quick-fix bottom line. *Journal of Managerial Psychology*, 13, 291-308. doi:10.1108/02683949810219864
- MBD, (2007). *UK telecommunications equipment market development*. (pp. 1-65) Manchester, UK: Market and Business Development.
- McCourt, W., & Ramguttty-Wong, A. (2003). Limits to Strategic HRM: The case of the Mauritian civil service. *International Journal of Human Resource Management*, 14, 1-19. doi:10.1080/0958519032000057790
- Mejias, R. J., Shepherd, M. M., Vogel, D. R., & Lazaneo, L. (1997). Consensus and perceived satisfaction levels: a cross-cultural comparison of GSS and non GSS outcomes within and between the United States and Mexico. *Journal of Management Information Systems*, 13, 137-161.
- Miller, D., Steier, L., & Breton-Miller, L. (2003). Lost in time: Intergenerational succession, change and failure in family business. *Journal of Business Venturing*, 18, 513-531. doi:10.1016/S0883-9026(03)00058-2
- Morrison, R. F., Brantner, T. M. (1992). What enhances or inhibits learning a new job? A basic career issue. *Journal of Applied Psychology*, 77, 926-940. doi:10.1037/0021-9010.77.6.926
- Nath, R. (1988). Regional culture, entrepreneurship, and high technology development in India. In J. W. Weiss (Ed.), *Regional cultures, management behavior, and entrepreneurship* (pp. 119-140). New York, NY: Quorum.
- Nelson, T. (2003). The persistence of founder influence: Management, ownership, and performance effects at initial public offering. *Strategic Management Journal*, 24, 707-725. doi:10.1002/smj.328
- Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5, 14-37.
- OECD, (2005). *OECD Economic surveys of Spain*. Madrid, Spain: Mundi-Prensa Libros, S.A.
- Pors, N. O., Dixon, P., Robson, H. (2004). The employment of quality measures in libraries: cultural differences, institutional imperatives and managerial profiles. *Performance Measurement and Metrics*, 5, 20-27. doi:10.1108/14678040410530359
- Raman, K. S., & Watson, R. T. (1994). National culture, IS, and organizational implications. In P. C. Deans & K. R. Karwan (Eds.), *Global information systems and technology: focus on the organization and its functional areas* (pp. 493-513). Harrisburg, PA: Idea Group.
- Reuber, A. R., & Fischer, E. (1999). Understanding the consequences of founder's experience. *Journal of Small Business Management*, 37, 30-45.
- Ronen, S., & Shenkar, O. I. (1985). Clustering countries on attitudinal dimensions: a review and synthesis. *Academy of Management Review*, 10, 435-454. doi:10.2307/258126
- Salter, S., & Niswander, F. (1995). Cultural influence on the development of accounting systems internationally: a test of Gray's 1988 theory. *Journal of International Business Studies*, 26, 379-397. doi:10.1057/palgrave.jibs.8490179
- Schein, E. (1990). Organizational culture. *American Psychologist*, 45, 109-119. doi:10.1037/0003-066X.45.2.109
- Schneider, S., & De Meyer, A. (1991). Interpreting and responding to strategic issues: the impact of national culture. *Strategic Management Journal*, 12, 307-320. doi:10.1002/smj.4250120406
- Sekely, W., & Collins, M. (1988). Cultural influences on international capital structure. *Journal of International Business Studies*, 19, 87-100. doi:10.1057/palgrave.jibs.8490376
- Shen, W., & Cannella, A. A., (2002). Revisiting the performance consequences of CEO succession: The impacts of successor type, post succession senior executive turnover, and departing CEO tenure. *Academy of Management Journal*, 45, 717-733.
- Sinkula, J. M., Baker, W. E., & Noordewier, T. (1997). A framework for market-based organizational learning: Linking values, knowledge and behavior. *Journal of the Academy of Marketing Science*, 25, 305-318. doi:10.1177/0092070397254003
- Snodgrass, C. R., & Grant, J. H. (1986). Cultural influences on strategic planning and control systems. *Advances in Strategic Management*, 4, 205-228.
- Tiemessen, L., Lane, H. W., Crossan, M., & Inkpen, A. C. (1997). Knowledge management in international joint ventures. In P. W. Beamish & J. P. Killing (Eds.), *Cooperative strategies. North American perspectives* (pp.370-399), San Francisco, CA: The New Lexington Press.
- Triandis, H. C., Bontempo, R., Bond, M., Leung, K., Brenes, A., Georgas, J., ... Demontmollin, H. T. (1986). The measurement of the ethic aspects of individualism and collectivism across cultures. *Australian Journal of Psychology*, 38, 257-267.
- Waddock, S. (2001). Corporate citizenship enacted as operating practice. *International Journal of Value-Based Management*, 14, 237-246.

- Watson, R. T., Teck, H., Raman, K. (1994). Culture: a fourth dimension of group support systems. *Communications of the ACM*, 37, 44-55. doi:10.1145/194313.194320
- Webster, F. E. (1988). Rediscovering the marketing concept. *Business Horizons*, 31, 29-39.
- Yip, G. S. (1992). *Total global strategy: Managing for worldwide competitive advantage*. Englewood Cliffs, NJ: Prentice Hall.
- Zarzeski, M. (1996). Spontaneous harmonization effect of culture and market forces on accounting disclosure practices. *Accounting Horizons*, 10, 18-37.
- Zhang, Y., & Rajagopalan, N. (2004). When the known devil is better than an unknown god: An empirical study of the antecedents and consequences of relay CEO successions. *Academy of Management Journal*, 47, 483-500.

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