A BIBLIOMETRIC STUDY OF THE CULTURAL MODELS IN INTERNATIONAL BUSINESS RESEARCH

UM ESTUDO BIBLIOMÉTRICO DOS MODELOS CULTURAIS NA PESQUISA EM NEGÓCIOS INTERNACIONAIS

ABSTRACT

Culture and the influence of national cultures and cultural differences have been widely studied in International Business (IB) research especially over the past three decades. To better understand what culture actually means and its implications on firms’ international operations, several cultural models and taxonomies have been put forward. In this paper we review the main cultural models in the extant IB research – Hofstede’s (1980), Hall’s (1976) and Trompenaars’ (1993) – and Kogut and Singh’s (1988) concept of cultural distance. In a bibliometric study of over 3,600 articles published in seven top ranked journals for IB research, we examine citations and co-citations to assess the relative use of the cultural models and the ties binding authors and theories studied. This study offers a wealth of information on the current state of IB-related research using culture that may be used to better understand the intellectual structure of the sub-field of cultural issues in IB studies but also to identify gaps for future inquiry. The results help setting a profile of the network of knowledge and permit us to conclude that Hofstede’s (1980) taxonomy on cultural characteristics is the most cited cultural taxonomy and holds ties to many of the core streams of IB-related research. In fact, despite the well-known criticisms, there is an increasing use of Hofstede’s dimensions.

Key words: Cultural models, Hofstede, Trompenaars, Hall, review, bibliometric study.

RESUMO

A cultura e a influência das culturas nacionais e das diferenças culturais têm sido amplamente estudadas em Negócios Internacionais (NI), particularmente ao longo das últimas três décadas. Para compreender melhor o que cultura realmente significa e quais as implicações nas operações internacionais das empresas, vários modelos e taxonomias têm sido apresentados. Neste artigo revemos três principais modelos culturais na pesquisa em NI – Hofstede (1980), Hall (1976) e Trompenaars (1993) – e o conceito de distância cultural de Kogut e Singh (1988). Num estudo bibliométrico de mais de 3.600 artigos publicados em sete periódicos altamente conceituados para pesquisa em NI, examinamos citações e co-citações para aferir o uso relativo dos modelos culturais e os laços interligando autores e teorias. Este estudo oferece uma colectânea de informações sobre o estado atual da pesquisa em NI que se debruça sobre cultura, que podem ser usadas para melhor compreender a estrutura intelectual do tópico de assuntos culturais em estudos de NI, mas também para identificar lacunas para futura investigação. Os resultados ajudam a traçar o perfil da rede de conhecimento e permitem-nos concluir que a taxonomia das características culturais de Hofstede (1980) é a taxonomia cultural mais citada e está interli-
INTRODUCTION

Culture has long been capturing scholars’ attention. Over the last decades, management scholars have delved into cultural and cross-cultural issues especially in the international business (IB) field. The impact of culture in the IB literature is recurrently focused upon, namely in seeking to understand and explain the impact of national and regional culture, and cultural differences, in management decisions (e.g., Nes et al., 2007; Ralston et al., 2008) and, more widely, on a variety of IB-related decisions such as the choice of location and foreign entry modes deployed. The manner in which firms respond to cultural differences may help explain why firms differ and why there are performance differences across firms (Hawawini et al., 2003; Sirmon et al., 2007).

Understanding the influence of culture on IB operations, but more broadly on business practices and managerial decision making, requires explaining differences across cultures. Culture influences managers’ ethical behaviors and may lead to inter-cultural business conflicts (French et al., 2001). International negotiations’ success depends on managers’ ability to adapt to cultural differences at the organizational and the national level (Graham et al., 1994). Firms’ organizational structures are also influenced by culture since it legitimates both the organization’s existence and the way it functions (Lachman et al., 1994). Some cultural traits were found to have a strong effect on organizational commitment since the sources of organizational commitment are culturally conditioned (Gelade et al., 2008). Culture also influences marketing-related research (see Steenkamp, 2001), and, for example, cultural traits were posited to influence the evaluation of advertising campaigns and trust in advertising brands (Chang, 2006). Culture further seems to influence the international strategic options when operating abroad (Guisinger, 2001) and has a strong impact on the entry mode choice in foreign markets (Kogut and Singh, 1988; Tihanyi et al., 2005). For example, firms seem to prefer joint ventures or acquisitions over greenfield investments when entering culturally distant countries. Entrepreneurial activity is influenced by national culture and, for instance, the rate of innovation was noted to be higher in countries with higher levels of uncertainty acceptance and individualism (Shane, 1993).

In this paper we identified the main cultural models, or taxonomies, in the extant IB literature. We selected Hall’s (1976), Hofstede’s (1980) and Trompenaars’ (1993) models for further analysis because these are seminal works on culture, with a longer track record and are well known by IB scholars. Hall (1976) pioneered developing a taxonomy establishing high and low context cultures, which takes into account the importance of the context in decoding communication and more broadly a set of aspects related to the interaction among individuals. Hofstede’s (1980) pioneered in presenting a quantified taxonomy of cultural dimensions in a large sample of countries and regions. Hofstede’s initial four cultural dimensions: individualism–collectivism, uncertainty avoidance, power distance and masculinity–femininity, were later extended to include a fifth dimension: the confucian dynamism (Hofstede and Bond, 1988). Trompenaars (1993) offered an alternative cultural taxonomy to Hofstede’s, comprising seven cultural dimensions to characterize a culture and distinguish one country from another that now has a track record of almost two decades. Focusing on older models, with extensive track records, we are able to better assess differences in the use and impact of the models and circumvent biases that including more recent models could entail. We then use bibliometric techniques to conduct citation and co-citation analyses of the articles published in seven top ranked IB journals (following DuBois and Reeb’s (2000) ranking): Journal of International Business Studies (JIBS), Management International Review (MIR), Journal of World Business (JWB), International Marketing Review (IMR), International Business Review (IBR), Journal of International Marketing (JIM) and International Journal of Research in Marketing (IJRM). A sample of 3,639 published articles supports citation and co-citation analyses.

We focus on the cultural models to better understand the intellectual structure of the extant IB research, by unveiling the linkages between the cultural models and the issues researched. Revealing the network of knowledge, or the intellectual structure, of culture-related research in IB studies, we contribute to draw a baseline for tracking the evolution of research on cultural issues but also to identify existing gaps that future research may pursue. This bibliometric study may thus be especially useful for newcomers to the field and to doctoral students unfamiliar with the literature that may gain a fast grasp on the stock of accumulated knowledge. While we conclude that Hofstede’s (1980) taxonomy on cultural dimensions is by far the most employed, and its use has been increasing, the criticisms to Hofstede’s dimensions are well-known and open avenues for novel conceptualizations of culture. We also observe the intellectual ties to many of the core research issues that characterize IB as a discipline, namely providing the contextual milieu.
The article proceeds as follows. First, we review the cultural models considered in this study. Second, we present the bibliometric method used, procedures and the sample. We follow with the key results on citation and co-citation analyses. The fourth section comprises a broad discussion and some suggestions for future inquiry.

CULTURE AND CULTURAL MODELS

Albeit there is no unanimous definition of culture, we may find a set of common components of what culture entails in the literature, ranging from a ‘subjective perception’ (Triandis, 1972), a ‘subconscious mechanism’ (Hall, 1983), to an ‘acquired behavior’ (Kroeber and Kluckhohn, 1952), or ‘learned attitudes’ (Spencer-Oatey, 2000). Hofstede (1980, p. 25), for instance, defines culture as “[t]he collective programming of the mind which distinguishes the members of one human group from another, ... the interactive aggregate of common characteristics that influence a human group’s response to its environment”. Gould and Grein (2009, p. 238) stated that “[c]ulture consists of explicit and implicit patterns of historically derived and selected ideas and their embodiment in institutions, practices and artifacts; cultural patterns may, on one hand, be considered as products of action, and on the other as conditioning elements of further action”.

Regardless of the specific definition, cultural differences have a substantial impact in a plethora of issues. Understanding firms’ IB operations warrants a profound comprehension that firms are not in isolation and that they rather act and react in a physical, technological, economic, social and cultural space (Scott, 2002) to which they must adapt. In fact, culture is a common element in several frameworks and taxonomies, including more recent approaches based on institutional environment arguments. For instance, Ghemawat (2001) identified the CAGE framework, composed of Culture, Administration, Geography and Economy. Guisinger (2001) identified the ECLIPTER, comprising eight environmental dimensions: Econography, Culture, Legal system, Income level, Political risk, Tax regime, Exchange rate, and Restrictions. Culture is thus a core context for IB research (Ferreira et al., 2009). For researchers, understanding culture is crucial. As Krathwohl (1985, p. 74) put it “[w]ould this relationship replicate with people or other cultures, in other countries of the world?” Or, in other words, do the constructs and theories hold when subjected to cultural tests?

The central role of culture in IB studies has warranted the effort of many scholars. Ferreira et al. (2009) noted how much of the research published in top IB journals takes culture as the main contextual factor. Some scholars have delved into finding what culture means and what the major components of culture itself are. Three main such studies are Hofstede’s (1980) four cultural dimensions, Trompenaars’ (1993) seven elements of culture and Hall’s (1976) high and low context cultures, which are the main focus of this paper. Albeit the past decade has seen the emergence of GLOBE Project, its origin may be traced to the work of House et al. (2004), which is a fairly short time span of about eight years to permit meaningful examination. We examine the three models in greater detail.

EDWARD HALL’S HIGH AND LOW CONTEXT CULTURE

Edward Hall put forward the concepts of ‘high’ and ‘low context’ cultures. In Hall’s (1976) model, context is every situational surrounding including, but not limited to, the physical environment, the participants’ roles, power relationships, status’ differences and non-verbal communication. In high context cultures one has to consider the context of the message (e.g., non-verbal language, personal background) to decode the message. Hall (1976, p. 30) puts it as follows: “in cultures in which people are deeply involved with each other... in which information is widely shared – what we will term high-context cultures – simple messages with deep meaning flow freely”. Conversely, in low context cultures, the cultural surrounding is not as crucial since communication is more explicit and less dependent on non-verbal communication and signals (Samovar et al., 2009).

TROMPENAARS’ SEVEN DIMENSIONS OF CULTURE

Trompenaars (1993) advanced a cultural model composed of seven dimensions, arranged in a continuum. The dimensions concern time, relation with others, with nature, with rules and with affections. One dimension is the continuum ‘Universalism vs. Particularism’, focusing on the relation of people of a group with rules and laws. Another dimension is ‘Individualism vs. Communitarianism’ which focuses on the relation of people with others. To describe the way people deal with and display their emotions Trompennars defined the continuum ‘Affective vs. Neutral cultures’. To understand how people see their own lives Trompennars proposed to distinguish between ‘Specific vs. Diffuse cultures’. ‘Achievement vs. Ascription’ represents the way society deals with accomplishment. A culture’s ‘Time perception’ describes both the orientation of a society towards the past, the present or the future and the way people structure their time and schedules. ‘Relation to nature’ deals with the relation between people’s lives and their attitude towards environment, following the approach by Kluckhohn and Strodtbeck (1961).

HOFSTEDE’S CULTURAL DIMENSIONS

In 1980, Geert Hofstede published his book Culture’s consequences. International differences in work-related values, presenting the results of his empirical study where he identified four basic cultural dimensions which, according to the Hofstede, are able to explain half the variance in the countries’ scores on cultural values. The quantification of each of the four dimensions in an index allows for a straightforward comparison between countries. Hofstede’s work was path-breaking not only in presenting the role of culture on the different attitudes
and values found across national cultures (Hofstede, 1980, 2001), but, perhaps most importantly, on presenting a set of cultural dimensions empirically quantified that permitted its use in future research. Hofstede’s cultural model is widely used today, both for academia and professionals, possibly due to its simplicity to use and the comparability that a quantitative measure of culture allows.

The four dimensions of culture identified by Hofstede were: individualism–collectivism, uncertainty avoidance, power distance and masculinity–femininity. These are described below. Power distance is conceptualized as the degree to which individuals in a culture accept unequal distribution of power. Power distance reflects aspects such as the expectations of subordinates and managers regarding the manner in which decisions are taken, opinions are expressed, disagreements are manifested and the style of leadership adopted in organizations (Hofstede, 1980, 2001). Another dimension is uncertainty avoidance, defined as the tolerance of members of the group to unstructured, ambiguous situations and whether the members of the group accept or try to avoid such situations (Hofstede, 1980). Another dimension identified by Hofstede was individualism–collectivism, defined as the extent to which individuals in a national cultural setting “prefer to act as individuals rather than as members of groups” (Hofstede, 1994, p. 6). Individualism reflects one’s preference for acting as an individual rather than as a member of groups. Finally, the dimension masculinity–femininity was conceptualized as the degree to which traditionally ‘masculine’ values (e.g., performance, competition, success and assertiveness) prevail over stereotypically ‘feminine’ values (e.g., solidarity, care for the weak, cooperation, quality of life, personal relationships and friendship) (see Hofstede, 1994, 2001). In later work, Hofstede and Bond (1988) included a fifth cultural dimension, termed Confucian dynamism (a.k.a. long term orientation), which relates to the culture’s time horizon, and the importance ascribed to the future or the past. Cultures with long term orientation tend to value more aspect such as persistence, parsimony and the individuals’ sense of shame, whereas short term oriented cultures value aspects related to personal stability and reciprocation of favors and gifts.

**BIBLIOMETRIC STUDY**

**METHOD**

To review the use of cultural models in IB research published in top ranked journals we conducted a bibliometric study on top ranked journals for IB research. Bibliometric analyses have been performed with multiple purposes. Some studies have scrutinized the extant research to identify the evolution of the intellectual structure of a particular field (Ramos-Rodriguez and Ruiz-Navarro, 2004; Rehn and Kronman, 2006), the impact of a theory (Martins et al., 2010), the influence of a scholar in a field of study (Ferreira, 2011), the most cited authors in a discipline (Chandy and Williams, 1994), the research productivity of scholars and universities (Morrison and Inkpen, 1991; Kumar and Kundu, 2004), the journals relative quality (DuBois and Reeb, 2000) and the stature of a single journal (Phene and Guisinger, 1998), patterns of research and school rankings (Chan et al., 2006), among others.

Bibliometric analyses are especially useful to make sense of the extraordinary amount of publications taking place, especially when the reach of the traditional literature reviews falls short of producing a reliable view of the state of the art, or stock of knowledge in a field (Börner et al., 2003). To create a picture of the current intellectual structure we may use different approaches, such as co-citations or co-occurrences in the text (Rokaya et al., 2008; Hofer et al., 2010) since there is no undisputed standard for conducting a bibliometric study (Hofer et al., 2010). Hence, our approach in this bibliometric study follows the procedures described by Ramos-Rodriguez and Ruiz-Navarro (2004). Ramos-Rodriguez and Ruiz-Navarro (2004) examined the extant research published in the Strategic Management Journal to ascertain the intellectual structure of the strategic management field. We enlarge on this approach by extending the analysis to seven top ranked journals and narrowing its scope to the analysis of only culture, and specifically cultural models to better observe how pervasive culture has been in IB research and the intellectual ties to the core IB theories and objects of study.

Citation analysis is the assessment of the frequency and patterns of citations used in academic research. When a scholar deems a given work is important for his own research, he cites it (Ramos-Rodriguez and Ruiz-Navarro, 2004). Therefore, we may infer that the more a work is cited the more important and influential it is in a particular field of study (Tahai and Meyer, 1999). However, it is worth understanding whether some references are ever cited together, thus revealing some conceptual, or intellectual, ties. Co-citation analysis involves analyzing the combined use of references in a group of academic articles to identify connections among works (Rehn and Kronman, 2006; Rokaya et al., 2008; Hofer et al., 2010), thus revealing the intellectual structure of the group of articles examined.

**PROCEDURE AND SAMPLE**

To select the articles on our sample we followed DuBois and Reeb’s (2000) ranking of IB journals. We used the Journal of International Business Studies (JIBS), Management International Review (MIR), Journal of World Business (JWB), International Business Review (IBR), International Marketing Review (IMR), and two other journals whose disciplinary focus is more on international marketing: Journal of International Marketing (JIM), International Journal of Research in Marketing (IJRM). These journals were available on ISI Web of Knowledge for download.

We searched the entire archive of the seven journals using ISI Web of Knowledge and retrieved 3,639 articles for
additional analyses (see Table 1). We did not select particular articles from each journal; instead, we retrieved the information of every article published in these journals available in ISI Web of Knowledge. Some journals did not have their entire track record of publications available. For example, MIR was only available for the period 1966 to 1990 and from 2008 to 2010. That is, there was an 18 years gap in the archive of MIR available on ISI Web of Knowledge. Conversely, it was possible to examine JIBS since 1976, JIM since 1995, and so forth (see Table 1). JIBS and MIR contribute with most articles to our sample: 1,176 and 891 respectively.

We retrieved all the relevant information from the 3,639 articles, including the journal name, title of the paper, authors, volume, issue, year, abstract and the references included in each article. The references were checked for typos and errors and corrected when needed. For instance, several books may have multiple editions and in these instances we considered only the first edition. The corrected data was treated using software Bibexcel1, which permits us to organize the data and conduct citation and co-citation matrixes. The co-citation networks were drawn using the social networks software Ucinet.

The procedure further involved a two-step analysis (Ramos-Rodriguez and Ruiz-Navarro, 2004). First we conducted a citation analysis to compute the citations of all the bibliographic references used in the articles retrieved. Citation analysis generates a ranking of the most cited authors and works. Arguably, the most cited works are also the most influential in IB research (Tahai and Meyer, 1999). The second step involved a co-citation analysis based on the 20 most cited works identified in the previous step. Co-citation analysis forms all possible pairs of the most cited works and counts how many articles cite both documents jointly, arranged in a 20x20 square matrix. This matrix is used to draw the co-citation maps. The same two-step process was followed for each of the seven journals.

RESULTS

CITATION ANALYSIS

The data retrieved allowed us to assess the relative use of each cultural model in each journal, over the period identified. Table 2 presents a ranking of references to the three cultural models considered in this study – Hall’s (1976), Hofstede’s (1980) and Trompenaars’ (1993). It might not come as a surprise that in the journals examined in this study, Hofstede’s cultural taxonomy was consistently found in the top 10 most cited works in those journals. In fact, we found that Hofstede’s (1980) work on culture is the most cited reference in three journals: JIBS, JWB and IMR – that is, it is the most cited work in IB research published in these journals. By contrast, Hall’s (1976) high and low context culture distinction was the least cited of the three models – and it failed to appear in the top 20 most cited in any of the seven journals. Finally, Trompenaars’ (1993) seven cultural dimensions was more cited in the articles published in the JWB but it had relatively few citations in the remaining journals. Nonetheless, these results are evidence of some differences in the content of the papers published in these journals, but after reading the mission and the editorial policies we cannot attribute to editorial guidelines a reasonable explanation.

To better understand whether there were significant shifts in the relative use of the cultural models we endeavored in a longitudinal analysis. In fact, looking at citation data

<table>
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<tr>
<th>Journal</th>
<th>Period available in ISI</th>
<th>Sample</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td>Journal of International Business Studies</td>
<td>1976 - 2011</td>
<td>1,176</td>
<td>32.3</td>
</tr>
<tr>
<td>Journal of World Business</td>
<td>1997 - 2011</td>
<td>394</td>
<td>10.8</td>
</tr>
<tr>
<td>International Marketing Review</td>
<td>1999 - 2010</td>
<td>315</td>
<td>8.7</td>
</tr>
<tr>
<td>Journal of International Marketing</td>
<td>1995 - 2011</td>
<td>319</td>
<td>8.8</td>
</tr>
<tr>
<td>International Journal of Research in Marketing</td>
<td>1997 - 2010</td>
<td>313</td>
<td>8.6</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>3,639</td>
<td>100</td>
</tr>
</tbody>
</table>

Note: articles published in the period comprising the sample. % of total sample.
Source: Data collected from ISI Web of Knowledge. Computations by the authors.

1 Freely available for download at http://www.umu.se/inforsk/Bibexcel.
pertaining to a period, or in aggregate manner, may render a biased perspective. For instance, a given work may be very cited in a period in response to an external event but it may be overlooked afterwards. Moreover, possible fluctuations may signal theoretical, empirical or methodological changes in the discipline. To conduct a longitudinal analysis, and given that some journals had a small number of articles in our sample, we conducted this analysis jointly for all articles in the sample. We divided the sample in four periods of nine years, starting with the year the first work was published: 1976-1984, 1985-1993, 1994-2002 and 2003-2011. Table 3 presents the data and two main results become obvious. First, we observe an increase in the number of citations to all models which may be partially explained by the increasing number of articles published in the journals in our sample (Ferreira et al., 2013). Nonetheless, even with more articles published this is evidence that culture still maintains its relevance in providing the context for IB research. Second, Hofstede (1980) is overwhelmingly the most cited cultural model in every period. Indeed, during the more recent period (2003-2011), and despite all the well-known criticisms, citations to Hofstede's (1980) work have widened the gap relative to the alternatives and is being increasingly more cited by scholars, more than doubling the number of citations between 1994-2002 and 2003-2011.

Table 2 – Ranking of references of the cultural models.

<table>
<thead>
<tr>
<th>Journal</th>
<th>Hall</th>
<th>Hofstede</th>
<th>Trompenaars</th>
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<tr>
<td>Journal of International Business Studies</td>
<td>897&lt;sup&gt;th&lt;/sup&gt; (6)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; (213)</td>
<td>94&lt;sup&gt;th&lt;/sup&gt; (27)</td>
</tr>
<tr>
<td>Management International Review</td>
<td>704&lt;sup&gt;th&lt;/sup&gt; (2)</td>
<td>5&lt;sup&gt;th&lt;/sup&gt; (28)</td>
<td>704&lt;sup&gt;th&lt;/sup&gt; (2)</td>
</tr>
<tr>
<td>Journal of World Business</td>
<td>228&lt;sup&gt;th&lt;/sup&gt; (6)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; (76)</td>
<td>11&lt;sup&gt;th&lt;/sup&gt; (18)</td>
</tr>
<tr>
<td>International Marketing Review</td>
<td>23&lt;sup&gt;rd&lt;/sup&gt; (17)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt; (62)</td>
<td>61&lt;sup&gt;st&lt;/sup&gt; (10)</td>
</tr>
<tr>
<td>International Business Review</td>
<td>245&lt;sup&gt;th&lt;/sup&gt; (5)</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; (52)</td>
<td>91&lt;sup&gt;st&lt;/sup&gt; (9)</td>
</tr>
<tr>
<td>Journal of International Marketing</td>
<td>111&lt;sup&gt;th&lt;/sup&gt; (8)</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt; (59)</td>
<td>181&lt;sup&gt;st&lt;/sup&gt; (7)</td>
</tr>
<tr>
<td>International Journal of Research in Marketing</td>
<td>- (0)</td>
<td>8&lt;sup&gt;th&lt;/sup&gt; (21)</td>
<td>430&lt;sup&gt;th&lt;/sup&gt; (3)</td>
</tr>
</tbody>
</table>

Note: In parentheses, the number of articles citing the work.
Source: Data collected using ISI Web of Knowledge, computations by the authors.

Table 3 – Longitudinal analysis.

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<tbody>
<tr>
<td>Hofstede (1980)</td>
<td>5</td>
<td>33</td>
<td>150</td>
<td>323</td>
</tr>
<tr>
<td>Trompenaars (1993)</td>
<td>-</td>
<td>0</td>
<td>19</td>
<td>57</td>
</tr>
<tr>
<td>Hall (1976)</td>
<td>0</td>
<td>2</td>
<td>8</td>
<td>34</td>
</tr>
<tr>
<td>TOTAL</td>
<td>5</td>
<td>35</td>
<td>177</td>
<td>414</td>
</tr>
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</table>

Source: Data collected from ISI Web of Knowledge.

**CO-CITATION ANALYSIS**

We conducted a co-citation analysis to understand which works were cited together in each journal (Figures 1 to 4). Presumably two works are co-cited due to their similarity or proximity as to the subject delved into, theory or concept. These analyses comprise only the 20 most cited works plus the three models scrutinized – Hofstede, Hall and Trompenaars – when they were not in the top 20. Analyzing the combined use of references permits uncovering the relation between the works and the strength of the ties intellectually connecting the works. Conducting a co-citation analysis is interesting to assess the patterns of co-citations and the relative importance within the discipline. Reading co-citations results is straightforward: the more often two references are used together, arguably the more closely related they are and the more significant for the body of research they are. It is further worth noting that in the figures, the thicker the line connecting the works, the more often they are co-cited in the extant research published in that journal. That is, the networks illustrations of the pattern of co-citations reveal the strength of the ties binding works.

Figure 1 depicts the co-citation map for JIBS. We may thus assess the use of the cultural models jointly with other streams of research in articles, as shown by the co-citation patterns. For instance, in JIBS, there is a strong co-citation linkage between Hofstede’s (1980) work and Dunning’s (1993)
OLI framework, and also with the concept of cultural distance (Kogut and Singh, 1988). These strong ties are not surprising given that the cultural distance index is based on the cultural dimensions of Hofstede. Moreover, the tie to the internationalization process of firms (Johanson and Vahlne, 1977) may be reflecting the core of the Uppsala argument that internationalization is a gradual process whereby firms first select countries that are proximate (in terms of psychic distance).
and only incrementally they evolve to distant countries using higher commitment entry modes. This explains the strength of the co-citation tie of Kogut and Singh (1988) and Johanson and Vahlne (1977). Hofstede's (1980) is also used together with a variety of subjects pertaining to the multinationals and subsidiaries (Buckley and Casson, 1976; Bartlett and Ghoshal, 1989) and generally with conducting international business operations (Caves, 1971; Rugman, 1981) and potential hazards or liabilities of foreignness (Hymer, 1976). Trompenaars (1993) is seldom cited together with Hofstede (1980) and is never cited together with Hall (1976).

Figure 2 shows the co-citation network for MIR. The core ties among authors comprise the works by Hofstede (1980), Kogut and Singh (1988) and Johanson and Vahlne (1977) which are co-cited very often. This may be evidence of scholars' concern with culture and specifically cultural differences when studying internationalization processes and strategies. As noted previously, Johanson and Vahlne's work is strongly associated to the internationalization process of the firm. Hofstede (1980) and Trompenaars's (1993) study is co-cited only on a few occasions, and Hall (1976) is co-cited only with Kogut and Singh (1988). The ties from Hofstede's (1980) extend to issues of multinational and subsidiaries (Bartlett and Ghoshal, 1989), the costs and hazards of doing business abroad (Hymer, 1976; Rugman, 1981), a behavioral approach to the firm (Cyert and March, 1963) and the international business environment approach (Farmer and Richman, 1965).

The co-citation network of the research published in IBR (Figure 3) reveals a rather central position of Hofstede's (1980) and Kogut and Singh's (1988) works with frequent co-citations to a variety of issues but a more peripheral positioning of both Trompenaars' (1993) and Hall's (1976) works. To a large extent, the co-citation network of IBR and the ties binding works resemble those found for JIBS and MIR. This does not come as a surprise given that these three journals are specifically dedicated to publishing IB research. Hence, the articles published in these outlets tend to focus on a broader scope of issues pertaining to the internationalization of firms, multinational enterprises and on conducting foreign operations, even if through diverse theoretical lenses, as shown by the works encapsulated in Figure 3.

The co-citation network for IJMR (Figure 4) reveals that culture – or perhaps these cultural models examined – is not a core concern for scholars who publish in IJRM. Hofstede's (1980)
and Trompenaars’ (1993) works are placed on the outer layer of the network, representing their relative marginal standing in focus and Hall (1976) is not cited at all. Trompenaars’ (1993) work is co-cited with Steenkamp and colleagues (1999) and Hofstede (1980). Hofstede’s (1980) work is co-cited with works on several subjects such as cultural antecedents of behaviors (Steenkamp et al., 1999), diffusion of new products (Bass, 1969), market orientation (Narver and Slater, 1990), methodological issues (Fornell and Larcker, 1981), and so forth. Albeit relevant in international marketing research, culture has a relatively marginal standing on the discipline, as assessed here.

The co-citation analyses (depicted in Figures 1-4) delve into the joint use of cultural models as well as the combined citation with other highly cited works in each of the top journals. A number of conclusions may be drawn. For instance, Hofstede (1980) is often co-cited with Johanson and Vahlne (1977), a seminal work on the internationalization of firms as a gradual incremental process, usually referred to as the Uppsala School’s model. In the evolutionary internationalization process, culture is an important factor that increases the perceived distance between two countries (Johanson and Vahlne, 1977), rendering that the farther the distance the later firms will seek to enter that market. In IMR, Hofstede (1980) is highly co-cited with Hall (1976), which may be explained by authors using two contrasting perspectives or perhaps it might be an artifact of the authors building up the importance of what constitutes culture and different perspectives on it. Trompenaars (1993), on the other hand, is co-cited either with Hofstede (1980) and Hall (1976) but is rarely co-cited with other articles. This is an especially interesting finding since it seems to point out to the use of Trompenaars work mostly in a conceptual manner as authors present different approaches to the cultural issues. Another frequent co-citation is Hofstede (1980) and Kogut and Singh (1988). The cultural distance index (Kogut and Singh, 1988) was built on the four cultural dimensions (Hofstede, 1980) which we believe help partially explaining this pattern of strong tie that emerges from frequent co-citations. Moreover, Kogut and Singh (1988) are frequently co-cited with Johanson and Vahlne (1977), probably to ascertain or to demonstrate the effect of culture on the foreign markets entry mode. In IBR, Kogut and Singh (1988) are also frequently co-cited with Shenkar (2001), an article that critically reviews and challenges the assumptions of the culture distance construct.

**DISCUSSION**

In this paper we sought to review the use of the main cultural models, or cultural taxonomies, in extant IB research and to identify the broad areas in which they are used. Our bibliometric study resorted to the analysis of over 3,600 articles published in seven top ranked IB journals and entailed the analysis of citations and co-citations. The analyses permit us to identify the intellectual links connecting works and research.
topics, but partly understand the extent to which, and how, the cultural models are used.

This study complements extant research on cultural and cross-cultural issues by presenting a comprehensive perspective on the role of culture in the extant IB research efforts. Hofstede’s (1980) model prevalence and almost ubiquity in culture-related research may not come as a surprise to IB scholars and experts in cultural research. This was deemed the “so what effect” and White and McCain (1998, p. 329) argued: “We thus have an answer for the person who looks at our graphics and says, ‘I know all that already’. If indeed is the case, then we have made technical progress, since we can now reproduce much of the disciplinary expert’s view on behalf of someone who does not know as much, and we can do it without benefit of the expert”. We discuss our results and we present the most relevant criticism of Hofstede’s (1980), Trompenaars’ (1993) and Hall’s (1976) cultural models as a motivation to debate novel conceptualizations of culture.

We should point out the value of unveiling the networks binding authors and theories or concepts that are made visible in the co-citation networks, permitting newcomers to the discipline, junior faculty and doctoral students to gain an initial insight on accumulated knowledge and the existing interplays among theories, concepts and works. Moreover, albeit the field of cross-cultural management has evolved substantially over the past decades, namely adding novel manners to assess cultures (such as Schwartz, 1994; House et al., 2004) and cultural differences, our results show the prevalence of Hofstede’s cultural taxonomy in the field of IB.

Thus, we call for a larger effort in integrating cultural insights and novel concepts of culture and possible dimensions that bear an impact on how firms conduct their international operations, from market selection to the entry mode choices, organization issues across borders, from the manner in which firms are organized, to the human resource management practices, and so forth. While these models have not been free from criticisms, they were utilized to encompass the cultural variations across countries thus providing us with a comparable starting point for IB research, focusing on a specific environmental dimension: culture.

Given that culture is one of the key elements that provide the context for international business research (Boycigiller and Adler, 1997; Guisinger, 2001; Ghemawat, 2001; Ferreira et al., 2009), it is important to understand how the main cultural models are used in the extant research. The cultural models are used to explain the prevalent traits in the national culture of a country and often are used in setting boundary conditions for differences across countries in a variety of issues, ranging from the entry modes (Brotherson and Brotherson, 2000) to the selection of location for foreign production (Hutzschenreuter et al., 2011), to explain the differences in managerial decisions and behaviors (French et al., 2001; Gelade et al., 2008), and consumers’ behaviors (Chang, 2006), among many others.

The results show a prevalence of Hofstede’s (1980) model over the other works considered in the study. In all the journals Hofstede’s is the most cited model and occasionally is the most used reference by the authors. The use of Hofstede’s model is prominent in explaining differences in management practices. For instance, power distance seems to impact the leadership style (Kirkman et al., 2009) and the information flow in the organization (Wang and Nayir, 2009). Uncertainty avoidance has been shown to influence the adoption of specific information systems (Hwang, 2005), and business ownership (Wennekers et al., 2007). The dimension individualism-collectivism has been deemed to drive the teams’ performance (Gundlach et al., 2006), the extent of workgroup cooperation (Koch and Koch, 2007) and decision making processes (Zhang et al., 2007). Masculinity-femininity has been shown to impact advertising decisions (Chang, 2006), management of partnerships, such as international joint ventures and strategic alliances (Hofstede, 2010) and organizational commitment (Gelade et al., 2008). The long (or short) term orientation influences, for instance, strategy shaping decisions (Buck et al., 2010), and ethical behaviors (Nevins et al., 2007), just to point out a few examples.

The heavy emphasis on Hofstede’s (1980) model may lead to a less rich understanding of the cultural phenomena and even flawed conclusions. The same reality analyzed through the lenses of different models might yield different results (Venaik and Brewer, 2010). Hence, an excessive usage of Hofstede (1980) may also bias the research as the five cultural dimensions advanced are arguably overly simplistic (Kirkman et al., 2006). The inclusion of a somewhat more qualitative analysis or the complimentary usage of two or more models could arguably allow a better understanding of how specific cultural features impact firms (Venaik and Brewer, 2010). In fact, it might be worth considering alternative cultural taxonomies and consider additional cultural dimensions, perhaps such as those included in House et al. (2004). GLOBE Project comprises nine dimensions that were quantitatively measured: (1) Uncertainty avoidance, (2) Power distance, (3) Collectivism I: Societal emphasis on collectivism, (4) Collectivism II: Family collectivistic practices, (5) Gender egalitarianism, (6) Assertiveness, (7) Future orientation, (8) Performance orientation, and (9) Humane orientation. Moreover, GLOBE assesses both actual societal practices (“As is”) and values (“Should be”) (Venaik and Brewer, 2010). Notwithstanding, reviews by Taras et al. (2009) and Taras and Steel (2009) noted that virtually all later models of culture have included Hofstede’s cultural dimensions. Yet another alternative to Hofstede may be found in Schwartz’s (1994) seven dimensions – Conservation, Hierarchy, Intellectual autonomy, Affective autonomy, Competency, Harmony and Egalitarian compromise – but according to Steenkamp (2001) these dimensions also have a major overlap with Hofstede’s taxonomy.

Our data shows that scholars often go beyond the idiosyncratic cultural traits to examine how cultures differ. To depict the differences between countries and to ascertain their
impact, the past two decades have seen the emergence of the concept of cultural distance, conceptualized by Luostarinen (1980) as "the sum of factors creating, on the one hand, a need for knowledge, and on the other hand, barriers to knowledge flow and hence for other flows between the home and the target countries". However, it is the work by Kogut and Singh (1988) that has captured more citations, because they advance a manner to quantify those differences using Hofstede's (1980) cultural dimensions. Thus, cultural differences across countries have been the focus of IB research in explaining an array of firms' actions such as foreign investment location (Loree and Guisinger, 1995; Hutzschenreuter et al., 2011), entry mode choice (Kogut and Singh, 1988; Brouthers and Brouthers, 2000), international diversification (Tihanyi et al., 2005), subsidiary performance (Shenkar, 2001; Tihanyi et al., 2005) and affiliates' performance (Shenkar, 2001; Hutzschenreuter et al., 2011).

The three cultural models are complementary in characterizing national culture. Some of Hofstede's (1980) four dimensions find some similarities in Trompenaars' (1993) seven dimensions, for example, Hofstede's 'Individualism-collectivism' finds a parallel in the 'Individualism vs. Communitarianism' and 'Universalism vs. Particularism' dimensions of Trompenaars model. Nonetheless, other dimensions are novel, which makes it impossible to convert one model to another. It is noteworthy that these differences go beyond mere semantics. For instance, whereas Hofstede analyzes the different variables of national culture, Trompenaars deals with the process of culture creation (Hampden-Turner and Trompenaars, 1997). Also, Hall's (1976) high and low context cultures are different from the other models, namely in that Hall's work did not advance an internationally comparable measurement and analyzes one single variable (context) in a binary output. The differences and complementarities among models might render useful the use of the different taxonomies to encapsulate diverse facets of culture.

It is thus worth noting that the co-citation analyses point to a frequent use of more than one cultural model simultaneously. Our study fails to fully clarify these instances where we find simultaneous citations to different cultural taxonomies, however, it seems reasonable to advance two explanations. First, scholars recognize the complexities involved when dealing with culture and hence find the need to support their arguments with multiple works to cover more broadly the nuances of a complex international business environment. Second, since the cultural models are not undisputed and often complement each other, it is reasonable to suggest that scholars co-cite different models in an attempt to argue the choice of using one model instead of another (Ferreira, 2011), for instance by reviewing characteristics of two (or more) models (Newman and Nollen, 1996). A third alternative explanation, albeit less likely, is that scholars may pool cultural traits from different models and use them in their research. Nonetheless, we ought to consider that some studies are conceptual and deal with the conceptualization of culture and in these instances it seems reasonable the use of multiple taxonomies in building their arguments (Hofstede, 1996). Future research may examine these instances to disentangle the simultaneous use of multiple cultural taxonomies and observe the novel knowledge generated.

All three cultural models have been subjected to critique. High and low context cultures (Hall, 1976) are pointed at for not being submitted to peer review and for being insufficiently confirmed by empirical works (Cardon, 2008). Hofstede's four dimensions were considered overly simplistic, ignorant of the cultural differences within a country, and for having a limited sample (Kirkman et al., 2006). Trompenaars' (1993) seven dimension model was criticized for not being supported by Hofstede's database and therefore not valid (Hofstede, 1996). Nonetheless, using a model greatly facilitates scholars' task of understanding the role of culture and of individual cultural traits or differences in managerial decision-making.

LIMITATIONS AND FUTURE RESEARCH PROSPECTS

This paper has some limitations. Some are limitations related to the bibliometric method employed. A bibliometric study does not provide straightforward evidence of the context in which a citation is used (Ramos-Rodrigues and Ruiz-Navarro, 2004). An author may cite another work to build on existing knowledge, to complement or to criticize it. On the other hand, the co-citation analysis only deals with pairs of articles and not with the entire pool of references included in each paper. Ideally, it could be interesting to analyze the entire reference list of each article to draw dynamic networks of works and theories – that is, of the ties binding authors and theories. Future research may endeavor in in-depth content analysis of the papers to understand the specific manner in which citations are made to better capture how the cultural models are used.

Other limitation emerges from the sample chosen. In this paper we used seven highly reputed journals that publish IB research, but there are many other outlets that a larger sample study could include. Albeit we used a large dataset, comprising over 3,600 articles, we acknowledge that our sample is not exhaustive of all research published. Future studies may overcome these limitations including additional journals, eventually even assessing whether there are disciplinary differences on how the cultural models are used. Moreover, by looking at the top journals we may be ignoring different perspectives not published in the mainstream journals (Inkpen, 2001). It is arguable whether the top journals focus on the more critical and innovative aspects in a field (Davis and Papanek, 1984).

The focus on these three cultural models is also a limitation because there are other cultural models that may be used in IB research. For instance, Schwartz (1994) and the GLOBE Project. We did not include these models for two core reasons. Schwartz (1994) is very seldom used by IB scholars, possibly due to a significant overlap with Hofstede's (1980)
model (Steenkamp, 2001). The GLOBE Project was not included because it has a rather small track record of citations due to its recent publication. The original paper by House et al. (2004) was published in 2004 and the short time span between the publication and the end of the period covered is far shorter than the other models. However, future studies may include other models and taxonomies, among which the GLOBE Project, and seek to understand how they have been used differently in the extant research.

CONCLUSION

Culture has been the international business environment dimension that most attention has captured in the extant IB research (Kirkman et al., 2006; Ferreira et al., 2009), particularly after 1980. Ferreira et al. (2009) suggested that Hofstede’s quantifiable, understood, available, applicable for inter-country comparisons, largely replicable, and generally accepted cultural taxonomy, fostered its inclusion in IB research as the dependent, independent or moderating variable, driving to the upsurge of culture-related research. It may be the ability to measure cultural characteristics that is, at least partly, facilitating the inclusion of culture in IB studies. This may be at the core of Hofstede’s advantage over alternative models.

This bibliometric study, relying on citation and co-citation analyses of the articles published in seven top ranked IB journals, reveals the prevalence of Hofstede’s (1980) model in culture-related research. Hofstede (1980) is the most cited of the three cultural models, followed by Trompenaars (1993) and Hall (1976). A large number of citations is revealing of the influence of his work. Moreover, the longitudinal analysis show that Hofstede’s (1980) work is the most cited in every period and that it accumulates an increasing number of citations. A growing number of citations reveals that not only is the culture-related research also increasing but also that Hofstede’s work is still the preferred one by scholars in spite of the emergence of alternative conceptualizations of what culture entails.

The relevance of culture and of the existing cultural models in the IB literature is undeniable. Hofstede’s (1980) model is among the most cited references by IB scholars and it has been considered “a watershed conceptual foundation for many subsequent cross-national research endeavors” (Fernandez et al., 1997, p. 43-44). However, this is a topic far from pacified. New models are being put forward (House et al., 2004) following the claim for research that delves deeper into each cultural concept (Boyacigiller and Adler, 1997). Moreover, different approaches emerge, such as the emphasis on measures of cultural distance. While it is likely that culture will continue to play an important role in IB research for the coming years, there is still much to understand in relation to both what culture comprises and how to measure those features and on how it impacts a large array of individuals’ and firms’ decisions.

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