CROSS-CULTURAL RESEARCH – ASSESSMENT OF CULTURAL INTELLIGENCE

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ABSTRACT

This study explores cultural intelligence assessment research methodologies. Conducting research in a cross-cultural context can be challenging in terms of assuring accuracy, meaningfulness, and generalizability of the conclusions reached. Given the inherent complexity and variety of culture, this study treats a multi-step process of cross cultural research with a focus on cultural intelligence (CQ). The focus is to provide guidance on a research method that respond to the need for a more thorough yet simple methodology for research related to the Assessment of CQ. The measurement and application of the development of cross cultural knowledge and CQ is increasingly important to firms conducting business worldwide. Global business leaders and expatriates trend toward having high levels of CQ.

The assessment of CQ should entail a strong alignment between the methodology and prevailing literature. This topic should provoke interesting debate and activity in the area of cross-cultural research. CQ assessment will be addressed alongside the multi-step research methodology for this field. The research methodology entails identification of the research objective, level of analysis, data collection methods, and data analysis techniques via the usage of a multifaceted analysis cube and bearing in mind etic-emic perspectives.

Each step is offered as part of a framework that incorporates theories from several areas interconnecting what is known about differences in CQ levels and associated organizational behaviors across cultures and whether cultural differences play dominantly influential role. The objective is to simplify, and perhaps compartmentalize, the analysis of differences among cultures to provide enhanced training to expatriates, sales and marketing groups and research and development teams. This work sets out to review the usage of a multifaceted analysis cube as an approach toward cultural intelligence analysis – with intent of usefulness in business (and perhaps political) environments.

Keywords: *cultural intelligence, cross-cultural research methods, cross-cultural effectiveness, survey methods, research methods*

INTRODUCTION

This study explores cultural intelligence assessment research methodologies. Conducting research in a cross-cultural context can be challenging in terms of assuring accuracy, meaningfulness, and generalizability of the conclusions reached. Given the inherent complexity and variety of culture, this study treats a multi-step process of cross cultural research with a focus on cultural intelligence (CQ). The focus is to provide guidance on a research method that respond to the need for a more thorough yet simple methodology for research related to the assessment of CQ. The measurement and application of the development of cross cultural knowledge and CQ is

increasingly important to firms conducting business worldwide. (Ang, 2015, 2006) Global business leaders and expatriates trend toward having high levels of CQ. The assessment of CQ should entail a strong alignment between the methodology and prevailing literature. This topic should provoke interesting debate and activity in the area of cross-cultural research.

CQ assessment will be addressed alongside the multi-step research methodology for this field. The research methodology entails identification of the research objective, level of analysis, data collection methods, and data analysis techniques. Each step is offered as part of a framework that incorporates theories from several areas interconnecting what is known about differences in CQ levels and associated organizational behaviors across cultures and whether cultural differences play dominantly influential role. The objective is to simplify, and perhaps compartmentalize, the analysis of differences among cultures to provide enhanced training to expatriates, sales and marketing groups and research and development teams. This work sets out to review the usage of a multifaceted analysis cube and bearing in mind etic-emic perspectives – with the intent of usefulness in business (and perhaps political) environments. Cross-cultural research conducted by academics should increasingly attempt to address, among other themes, improvement in the analysis and performance of cross-cultural activity (e.g. assessment of CQ) in the global business environment – including expatriates' cognition and behaviors.

The concept of Cultural Intelligence (CQ) – that is the ability to function in different cultures, involves being skilled and flexible about understanding a culture, learning increasingly more about it, and shaping one's thinking to be more sympathetic to the culture and one's behavior to be more fine-tuned and appropriate when interacting with others from the culture (Ang, Van Dyne, & Koh, 2006). The global environment today has placed a great demand on leadership that is able to function in varying global environments. Crucial are the traits or skills that one learns during international work assignments in building the able intellectual capital and global skills. Globally integrated organizations require certain professional development models-such as expatriate assignments-in order to build culturally intelligent talent (Takeuchi, Tesluk, Yun & Lepak, 2005; Arman, 2013).

LITERATURE REVIEW

Foreign assignment work experience is key in an expatriate's development (Sambharya, 1996). This experience is a robust source of learning for the individual and organization. The wise and proactive organization can enjoy competitive advantage from their expatriates' experience (Spreitzer, McCall & Mahoney, 1997). Some individuals function better in foreign environments than others thus becoming increasingly coveted by organizations as they increasingly expand globally. The ability of an individual to "function effectively in situations characterized by cultural diversity" is the fundamental to CQ and a key element of a multinational organization's team (Ang & Van Dyne, 2015; Triandis, 2006). Flexibility and interactive ability in cultures other than one's own are characteristics of CQ (Thomas & Inkson, 2005; Whitaker, 2017).

As corporations continue to establish operations across national borders, there is a need for cross-cultural research and CQ in order to appropriately address the inherent risk when doing business in varying environments. (Earley, 2003; Chao et al., 2017) There is a need to understand the differences in management practices and organizational behaviors that exist across cultures and whether or not such differences can be solely attributable to cultural differences (Sekaran, 1983). Researchers should therefore assess the validity of existing theory, develop new theories in these cross-cultural contexts (Roth & Kostova, 2003; Bogilovi, 2016), conduct research at multiple

levels of analysis to study complex cultural phenomena (Kostova, 1999; Ott et al., 2016), assure construct equivalence (McArthur, 2007), and assure equivalence of measures (Robert, Lee, & Chan, 2006). Cross-cultural theories should be tested universally (Ember & Ember, 2000) to the extent possible.

Cross-cultural research entails numerous challenges when comparing cultural values, beliefs, and behaviors between or among entities. The use of etic-emic approaches poses such a challenge. A common practice in cross-cultural studies is to take an existing theory used in one country and extend the theory to another country without considering whether the theory is relevant or applicable in the new context (Douglas & Craig, 2005); thus suggesting that social phenomena is culture and context-free, i.e., universal or "etic" (Hantrais, 1999). The culture-bound or "emic" approach sustains the view that cross-cultural research findings can only be properly understood within the context in which they occur and that such findings are not amenable to generalization (Hantrais, 1999). It considers culture in terms of the associated internal aspects instead of in an external to that culture context. The emic perspective, then, would heighten the importance of CQ among expatriates while casting a gloomy shadow for scholars and practitioners who wish to discover global managerial phenomenon.

However, Ember and Ember (2000) argue that to discover explanations that are true worldwide, and to derive practical applications that work worldwide, theories need to be tested as cross-culturally as possible and the only way to find what is true for all humans is to look at a representative sample of them, which requires universal testing. A universal survey might take the form of big data collection from social media sources or via usage of tools such as Google Analytics. This would yield a blend of primary and secondary data retrieved for predictive and behavior analytics purposes. To the authors' knowledge – there are no recent studies that have contained testing in more cross cultural, representative, or universal samples.

A challenge that must be faced when considering the level of analysis in cross-cultural research is ecological fallacy or aggregation. Hofstede, Bond, & Luk's (1993) research was originally conducted at the organizational level (n=20) and subsequently re-analyzed at the individual level. In spite of a small sample size, their findings suggest that organizational level dimensions were different from those found at the individual level.

In another study Ward et al. (2011) examined the basic elements (Behavioral, Motivational, Cognitive and Meta-cognitive) of CQ as "predictors of cross-cultural adaptation problems in a longitudinal study of international students (n=104) in New Zealand and tests the hypothesis that Motivational CQ predicts better psychological and sociocultural outcomes over time" (Ward et al., 2011). The measurements taken were CQ questions pre-term and then adaptation assessments a few months into the program. The aggregation of the individual data into an organizational conclusion created a fallacy that cannot be generalized to other cultural contexts. This paper attempts to address the challenge that a cross-cultural researcher must face when selecting the appropriate level of analysis.

Another challenge to address entails equivalence in cross-cultural research. "The heterogeneity of the samples commonly examined in cross-cultural organizational research raises legitimate concerns about measurement equivalence" (Robert, Lee, & Chan, 2006, p.66). Consider translational and metric equivalence. Translation equivalence might include items in a questionnaire measuring the same thing in different populations (e.g. the measurement instruments mean the same thing to people in different countries after translation). (Mullen, 1995). Metric equivalence exists when scores obtained across countries have the same meaning and interpretation (Bensaou, Coyne, & Venkataraman, 1999). If measurement equivalence is not

established, cross-cultural empirical research results will lead to weak interpretations (Bensaou, Coyle, & Venkataraman, 1999; Chao 2017).

METHOD – LEVEL OF ANALYSIS

In this paper we focus on the cube multi-level analysis of culture. This approach also arguably gives the researcher more flexibility in terms of specific area of focus if desired to ensure that the research findings can be properly understood within the cultural context. This can also aid in determining the extent to which cross-cultural research might be generalized across cultures. The authors suggest a flexible model that identifies a multi-level analytical approach to level of analysis in cross-cultural research with a focus on CQ. This analysis should also inform the preparation of a cross-cultural research survey. We have additionally explored and identified past trends in the use of data collection instruments; thus, answering the call by Schaffer and Riordan (2003) to develop efficient cross-cultural research surveys. These surveys can be used to glean data that informs, among other things, level of CQ.

Level of Analysis

We propose that researchers must evaluate a minimum of two levels when conducting cross-cultural research in order to address the fallacy challenge and provide more thorough complex conclusions in the cross-cultural context. Leung′s (1989) comparison of individual vs. cultural level of analysis concluded that cross-cultural research could only be done by ecological level aggregation. Smith (2008) suggests a parallel approach of looking at individual and cultural level concepts for each level of analysis. Staw, Sandelands, and Dutton (1981) identified characteristics important for measure at each level (individual, group, and organization). Dansearau, Yammarino, and Kohles (1999) discuss the concern over the impact of time on the level of analysis. They emphasize the fact that individuals, countries, and organizations can change over time (Ward, 2012) – specifically that homogeneous groups can become heterogeneous groups and vice versa.

While there are many perspectives and approaches to level of analysis, we prescribe that a minimum of two levels should be identified for the research. As such we offer a multidimensional, multilevel model that can be utilized by the cross-cultural researcher to quickly determine and select the two levels of analysis for their research.

Kostova (1999) highlights the importance of using a multilevel approach, emphasizing the individual, country, and organizational levels of focus for this research. The nature of the research objective in the extant International Management (IM) literature reveals that typically one of the three levels of analysis, but rarely two or more, are considered. The country level analysis trends at 50% while the other areas are analyzed as follows: individual level (23%), organizational level (18%) and multiple levels (8%). The authors opine that all three (country, individual and organizational) are critical levels of analysis and that at least two of these should be selected and planned for in data collection and data analysis research steps. Given that some have begun to argue "that country is often a poor proxy for culture", (Taras et al., 2016), the above convention trend of using only country as a basis should perhaps be revisited. It can be useful, nonetheless, to use country coupled with one of the other levels (e.g. individual or organizational) or perhaps forgo the use of the nation as a basis for cross-cultural or CQ research. It should be noted that research conducted using multiple levels of analysis is still relatively rare.

There is a perceivable need to conduct research using multiple levels of analysis. Lueng's (1989) research discusses the biases that result from translating research results from the individual level to the country level of analysis. Hofstede, Bond, and Luk (1993) also discuss the use of multiple levels of analysis and how researchers are creating fallacies translating results from one level of analysis to another. These studies lend theoretical support to our notion that it is important to plan, collect data, analyze, and make conclusions based on data from a minimum of two levels of analysis. This leads to the question of how to practice multi-level research.

Model Development: Multilevel, Multidimensional Level of Analysis

Selecting which combination of level of analysis is complex; thus, we introduce a multilevel multidimensional methodological approach to selecting the level of analysis. The model provided gives a 3x3x2 combination of individual, locality, and organizational elements for level of analysis selection (see Figure 1).

Figure 1: Three Dimensional Level of Analysis Cube
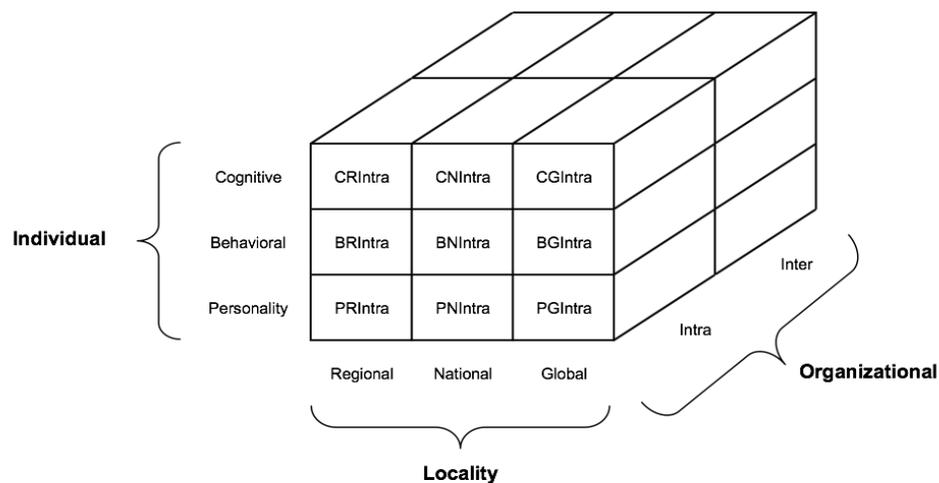
The selection for the individual level elements are cognitive, behavioral, and personality. The basis of these items is the 4-factor CQ scale developed by Ang, Van Dyne and Koh (2006). The 4 factors are called CQ knowledge, CQ behavior, CQ strategy and CQ motivation. (2006) In the analysis cube, cognitive is based on 'CQ-Knowledge' which is one's understanding of differences among cultures. "It reflects general knowledge structures and mental maps about cultures [and includes] familiarity with economic and legal systems, norms for social interaction, religious beliefs, aesthetic values, and language in different cultures." (2006). Behavioral stems from 'CQ behavior' which is one's adaptive knowledge and capability regarding verbal and nonverbal cultural nuances and idiosyncrasies (2006). The personality item in the analysis cube

is specifically associated with CQ strategy and motivation which entail how an individual makes sense of different cultures, plans for interactions, and has an interest in other cultures. There already exists a 20-question (4-factor) cultural intelligence scale that can be used or adapted for use in order to collect data on this individual level. An example of this is to what degree one knows the "cultural values and religious beliefs of other cultures" (2006). A more customized survey can, of course, be developed as well per researcher objective.

The selections for locality are regional, national, and global, with global being operationalized as any cross-cultural study with more than 10 countries. Each of these elements suggests where and how the cross-cultural research will be focused. The organizational selection should be based on whether or not the comparison will occur within divisions (intra) or between (inter) organizations across cultures. Research is typically done at the country level and aggregates the data collected at the individual or organizational level. We suggest that the data collection should occur at both levels (assuming only 2 levels are chosen and that one of those levels be locality). Data collection at the locality level will tend to be secondary sources. The analysis should occur simultaneously at both levels, and the conclusions should be made based on understanding of the interrelationship of the results from both phenomena. The cube model serves to help the cross-cultural researcher to select preferred levels according to research needs. As an example of what to choose from the cube for a point of departure, a researcher may select the individual level (cognitive and personality), the regional level (perhaps opining that by nation may not be sufficient), then by inter-firm level (this could be within the same industry or not). Purposes for such a study could be in relation to success or failure rate of expatriates and processes used for expat selection and training. Following the selection of at least two levels of analysis is the development of the data collection methodology.

DATA COLLECTION METHODS

Survey usage is a prominent method used to gather data. The development of a cross-cultural research survey entails methodological issues in achieving efficient cross-cultural research surveys. (Schaffer & Riordan, 2003)

An issue inherent to cross-cultural research is linguistic or semantic equivalence in the survey instruments (Mullen, 1995; Douglas & Craig, 2005). Back-translation is considered a best practice to achieve some level of semantic equivalence. (Schaffer & Riordan, 2003) Back-translation is the translation of a survey instrument is from the original language to the target language then translated back to the original language.

Mallinckrodt et al. (2004) conducted a study on the utility of back-translation to verify semantic equivalence. Their purpose was to promote multicultural comparative research. Although "back-translation always involves subjective evaluations", the researchers discovered some evidence that back translation had an influence on the study results although they additionally developed "dual-language, split-half [an enhanced/aided version of back-translation]" quantitative methods of verification to supplement back-translation judgments. (Mallinckrodt,2004)

The need to measure equivalence (e.g., construct, measurement, and translational) is often stressed in the literature (Leung, 1989; Peng, et al., 1991; McArthur, 2007). Nonetheless, this step, for example with respect to measurement invariance, has not been consistently performed. Researchers have either overlooked the importance of measurement invariance entirely or have left out descriptions of how they assessed measurement invariance (Priem, et al., 1998; Anakwe, Igbaria, & Anandarajan, 2000).

Invariant measures cannot be assumed to be equivalent to make valid cross-cultural comparisons. Conclusions based on measures that are not invariant may be misleading or wrong (Murray, et. al., 2007; Schlägel, 2016). While we are encouraged by the number of authors that included a discussion of measurement invariance in their research (Murray, et al., 2007; Song et al., 2008), we join the many authors who have called for the use of invariant measures in a cross-cultural context and urge future researchers to assess measurement invariance, clearly identifying the procedures by which they assured it in their writings.

Researchers have used the work of Hofstede (1980) to base their measurement instruments because the cultural dimensions identified in his work have become an accepted norm to measure culture. The strength of using Hofstede's cultural dimensions is that many other research studies have been conducted and a researcher can compare his/her results with previous work in related fields. The downside is that Hofstede's work used the etic approach, which may not be an invariant measure because constructs measured may not apply to all cultures.   Several recent studies lend more support to this point. Littrell et al. (2012) explored leader behavior differences between and within national cultures in China – revealing intra-country regional cultural differences are relatively neglected. Their results indicate that "culture areas" exist in China, which are different from one another.
Dickson et al. (2012) study the differing interpretations of leadership across cultures pointing the "conflict in the literature between the quest for universals and the identification of cultural contingencies in leadership theory."

Items used for cross-cultural analysis should be written in a manner that is answerable and understood by persons in each culture being studied to ensure construct and measurement equivalence (Brislin, 1980). The strength of this argument is based on the reason that if the people from the culture you are trying to analyze do not understand or do not relate to the questions being asked then the data gathered with the instrument is not valid. The items used in research instruments should also consider the emic or etic approach. An emic analysis documents "valid principles that describe behavior in any one culture by using constructs that the people themselves conceive as meaningful and important" (Brislin, 1980). An etic analysis makes "generalizations across cultures that take into account all human behavior…theory building" (Brislin, 1980). Researchers have primarily used an etic approach whereby survey instrument constructs are assumed to be transferable from one culture to any other by simply translating a previously validated survey instrument in one cultural context into the language of the target country. The predominant measurement instrument of choice in cross-cultural studies in this sample was the survey, accounting for over 80% of the studies reviewed, followed by interviews, secondary data or a combination thereof.

Data Analysis Techniques Employed in Cross-Cultural Research

Associated with the complexities of cross-cultural research, England and Harpaz (1983) suggested that multivariate techniques offered a better understanding of cultural differences. Ember and Ember (2000) added that a principle way to compare rival theories objectively is to test them simultaneously via multivariate statistical analysis. Assessing the trends in cross-national management research, Peng et al. (1991) found approximately 40% of the articles they reviewed used multivariate techniques and researchers continue to rely on these techniques when carrying out cross-cultural research (Figure 2).

Figure 2: Cross Cultural Research - Statistical Analysis Results
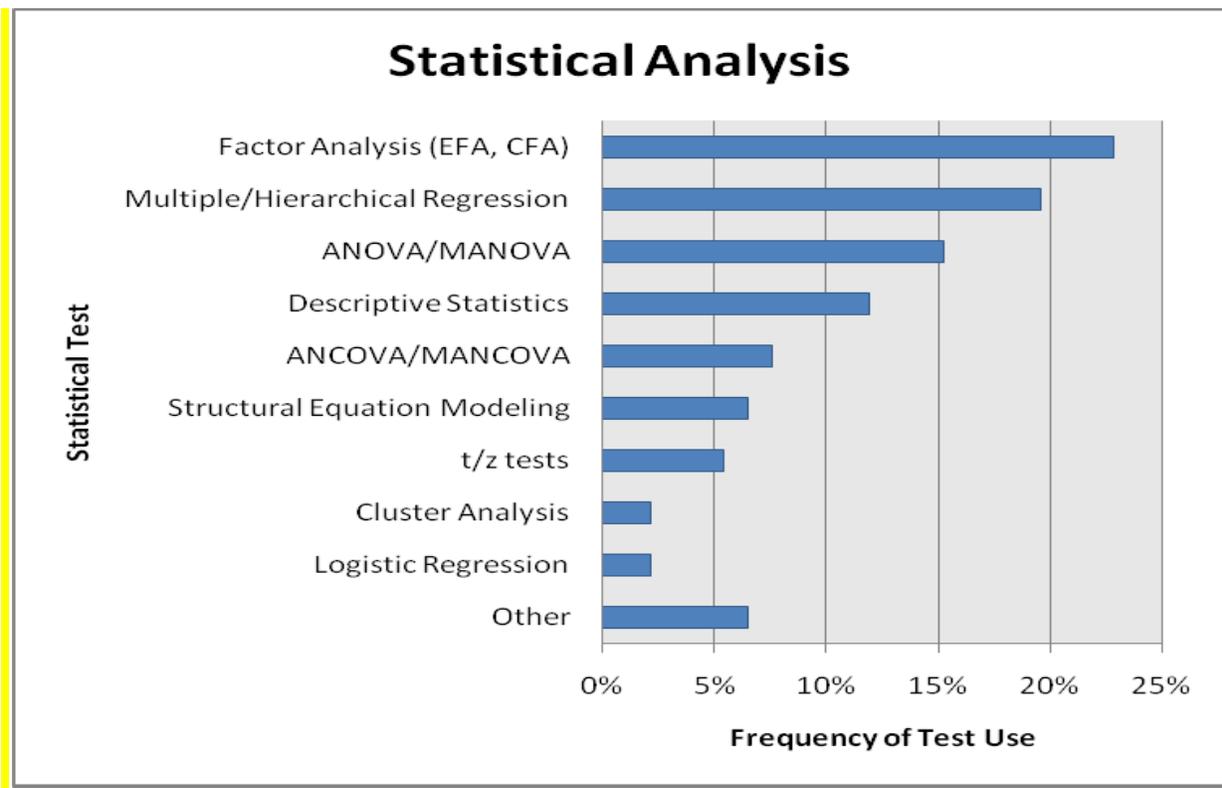
Factor analysis, whether exploratory or confirmatory, was the dominant multivariate technique employed by researchers, accounting for 23% of the test use frequency. The primary use of factor analysis was twofold: a) development of new scales (Begley & Tan, 2001), then used in conjunction with multiple regression analysis or structural equation modeling to test hypotheses related to those scales, and b) assessment of construct equivalence and measurement invariance (Murray et al., 2007; Song et al., 2008). Multiple regression (hierarchical) analysis and ANOVA/MANOVA were the dominant data analysis techniques employed to test hypotheses framed in a cross-cultural context, each accounting for 20 % and 15 % of use, respectively.

Choosing Among Data Analysis Techniques

Numerous data analysis techniques are applicable in a cross-cultural context, just as they would be in a mono-cultural context. Hair et al., (1998) suggest that the research objective, the type of relationship being studied, and the properties of the data should dictate which type of statistical technique to use. Moreover, the metric and non-metric properties of the dependent and independent variables in any given research context may preclude the use of certain data analysis techniques.

Interestingly, full structural equation modeling, which incorporates both factor analysis and path analysis, accounted for only 7% of the studies in our review. The underutilization of this technique is surprising, given structural equation modeling's large potential in a cross-cultural research context (Singh, 1995). Though caution is recommended when applying structural equation modeling due to model fit interpretations, structural equation modeling's flexibility, ability to incorporate latent constructs, and ability to simultaneously examine a series of dependence relationships are all important assets for cross-cultural research (Van de Vijver & Leung, 1997). The prescription of structural equation modeling in the context of our framework is relevant, due to the nature of the dual level of analysis selection. Structural equation modeling is the only technique that allows for the simultaneous analysis of the relationships between the two or more levels of analysis. Thus, we encourage cross-cultural researchers to capitalize on these assets and incorporate structural equation modeling in future cultural intelligence and related cross-cultural studies.

CONCLUSION

An implication for multinationals increasingly utilizing expatriates is that CQ can be developed and enhanced via training and exposure to a multinational context (Ng et al., 2009). Fundamental to higher CQ levels is one's ability to adjust thinking, perspectives, and the willingness to learn more about other cultures in a practical and useful manner (Earley, Ang & Tan, 2006; Shaffer & Harrison, 1998). Such individuals have keener ability to discern and act on cultural differences – which manifests in communication behaviors (verbal and non-verbal) as well (Chen et al., 2010).

Levels of CQ understanding and generalizability across cultures can be measured with a cross-cultural test (Ember & Ember, 2000). Inherent to cross-cultural research are difficulties and absolute facts resulting from scientific research in the social sciences can be elusive (Pedhazur & Schmelkin, 1991). This work reviews the usage of a multifaceted analysis cube as an approach toward cultural intelligence analysis – with intent of usefulness in business (and perhaps political) environments. Based on our review, the use of this analysis cube allows for greater flexibility and precision (if desired) in cross-cultural research. This study hopes to contribute to an enhanced study of cross-cultural and cultural intelligence topics. Further research should have as its focus the cross-cultural validation of the scale aligned with the dynamic needs of global firms in their cross-border endeavors.

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