**Cross-Cultural Methodologies: An Assessment in Four Key Steps**

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Conducting research in the cross-cultural context brings forth many challenges that must be addressed to ensure that any decision made regarding culture is accurate, meaningful, and generalizable to other cultures.  This paper addresses these challenges by evaluating four steps in the identification process of cross-cultural research.  These steps are identification of the research objective, level of analysis, data collection methods, and data analysis techniques.  Options for making decisions about cross-cultural methodology is suggested from a review of sixty cross-cultural articles based on these four identification steps.  A prescribed selection for each step is offered such that the cross-cultural research conducted addresses the challenges and provides an empirically based solution.

**Cross-Cultural Methodologies: An Assessment in Four Key Steps**

So long as corporations continue to establish operations across national borders, it is imperative that researchers not only assess the validity of existing theories, but also develop new theories in these cross-cultural contexts (Roth & Kostova, 2003). Toward these efforts, it is essential for researchers to assure construct and measurement equivalence (McArthur, 2007; Robert, Lee, & Chan, 2006) and to consider conducting research at multiple levels of analysis to study these complex organizational phenomena (Kostova, 1999). These cross-cultural theories then need to be tested universally (Ember & Ember, 2000). Researchers are encouraged to acquaint themselves with the idiosyncrasies of conducting research in a cross-cultural context before deciding to exert effort in such endeavors. Cross-cultural scholars face numerous challenges when comparing cultural values, beliefs, and behaviors between two or more countries and these challenges influence the decisions undertaken by cross-cultural researchers.

One question to answer at the onset of a study is the use of etic-emic approaches to cross-cultural research. A common tactic 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). Proponents of a culture-bound or "emic" approach uphold 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). A second challenge that must be faced is ecological fallacy or aggregation, which occurs when inferences about individuals are drawn based upon aggregate level data (Robinson, 1950; Kramer, 1983).

Aggregation may lead to inconsistent findings, as demonstrated by Hofstede, Bond, & Luk's (1993) research conducted at the organizational level and later re-analyzed at the individual level. Their findings suggested that dimensions or factors identified at the organizational level were different from those found at the individual level. If measurement equivalence is not established, cross-national empirical research results will lead to weak interpretations (Bensaou, Coyle, & Venkataraman, 1999). Finally, the challenge of identifying the constructs that will be measured in the cross cultural context suggests the need for a basic understanding of the type of measures to be undertaken across cultures and how these measures can be manipulated statistically to uncover the similarities and differences that exist between countries. Deciding upon the construct of measure will directly impact the data analysis techniques available to the researcher.

The conflicting etic-emic approaches, the challenges of selecting the appropriate measures, as well as the challenges of establishing the many forms of equivalence when conducting cross-cultural research give rise to the importance of decision-making with regard to cross-cultural methodologies. Toward the identification of a framework for cross-cultural research, Schaffer & Riordan (2003) identified a three-stage cross-cultural framework consisting of: 1) research question development, 2) research context alignment, and 3) research instrument validation. They suggested four best-practices for the development of the cross-cultural research question. Specifically, they: 1) identified a combined emic and etic approach, 2) suggested culture should be incorporated into the theoretical framework, 3) proposed the use of other delimiters besides country to operationalize culture, and 4) recommended measurement of Hofstede's cultural value dimensions directly in the specific research context. Similarly, they emphasized the equivalence of samples and administration

of surveys as best practices for research context alignment. Finally, they underscored semantic equivalence, as well as scaling and conceptual equivalence as best practices for research instrument validation. These issues of equivalence in the cross-cultural context must be addressed to ensure clarity in the conclusions made between cultures.

While Schaffer & Riordan (2003) have developed a framework for cross-cultural methodology, our framework provides prescription for deciding the most appropriate research objective, level of analysis, data collection method, and data analysis techniques in cross-cultural research. We believe these prescriptions have a cumulative impact on how effective a study will be in addressing the primary cross-cultural context of the research question. Our research attempts to answer the following question. What is the most appropriate choice at each step of the identification process (research objective, level of analysis, data collection method, and data analysis technique) to ensure the conclusions resulting from cross-cultural research are generalizable across many cultures?

In this study we offer a six-step framework (see Figure 1). We propose that this framework has two distinct elements for conducting cross-cultural research: 1) research identification and 2) research execution. However, we assess only the four identification steps of the cross-cultural methodological framework in this study. In order to understand some of the trends in cross-cultural research relative to these four steps we analyze sixty articles to provide us with a baseline. Second, we discuss the importance of understanding the research objective. Our emphasis here is to highlight the importance of the research objective rather than the research question as proposed in Schaffer & Riordan's (2003) framework. Third, we identify the important findings involving the level of analysis in cross-

cultural research. Here, our objective is to develop a model that identifies a multi-level analytical approach to level of analysis in cross-cultural research.

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┌─────────────────┐
│ Identify Research│  ┐
│   Objective      │  │
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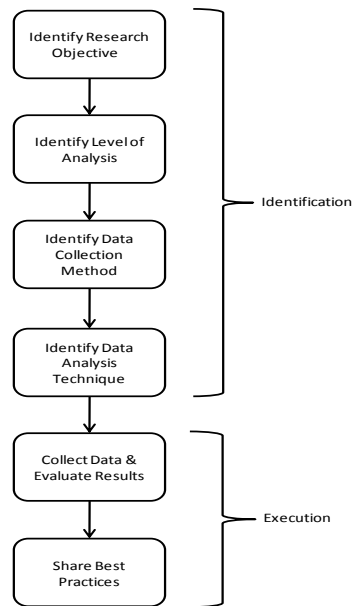
Figure 1: Cross-Cultural Methodology Framework

Fourth, we review the extant literature on data collection methods to identify the important methodological issues related to the development of a cross-cultural research survey. Our objective here is to identify past trends in the use of data collection instruments; thus, answering the call by Schaffer & Riordan (2003) to develop efficient cross-cultural research surveys. Fifth, we identify the dominant data analysis methods that have evolved in cross-cultural research. Finally, we provide recommendations for cross-cultural research approaches for each of the four key identification steps in our framework.

**METHOD**

We selected sixty articles to get an understanding of the basic trends that are currently occurring in cross-cultural research. We initially used the listing of 200 articles from Schaffer & Riordan (2003) as a source selecting articles for cross-cultural analysis in this research.

However, in order to ensure the selection of articles beyond the period of study for the paper by Schaffer & Riordan (2003), the sixty articles used in this research for analysis were randomly selected from a listing based on a search of Business Source Complete and JSTOR using the keywords: cross-cultural analysis and cross-cultural. Selected articles represented the time period from 1980–2008. We settled on the definition of cross-cultural research as those studies involving a minimum of two cultures to be compared. We excluded those articles that only evaluated one culture and generalized to others.

**RESEARCH OBJECTIVE**

While Schaffer & Riordan (2003) stress the importance of identifying the research question, our framework identifies the identification of the research objective. Focusing on the research objective addresses the overarching goal relative to the cross-cultural research. How the researcher aims to accomplish that objective is specified in the research question. The framework proposed offers a cumulative approach toward the identification of what should be done at each step to ensure credible cross-cultural research. van de Vijver & Leung's (1997) taxonomy of cross-cultural studies is the basis of the first step in our framework (see Table 1).

The identification of the research objective consists of identifying whether the research will focus on the testing of a hypothesis or exploration of new theories and contexts between cultures. It is the consideration of the contextual factors (whether they exist or not) that creates the four types of cross-cultural studies. The first type of cross-cultural study has the objective of testing a hypothesis with no consideration of contextual factors. The second type of objective identified is hypothesis testing, but this objective does consider contextual factors. An example of such research would be one in which a particular variable is

6

|  | Testing a Hypothesis | Exploration of New Theories |
| --- | --- | --- |
| No Context | Generalizability | Psychological Differences |
| Context | Theory-Driven | External Validation |

Table 1: Cross-Cultural Research Taxonomy; Source: van de Vijver & Leung, 1997

identified for comparison between cultures. The cultural variation in this case is used to test or validate a cultural theory. The third type of study, called psychological differences, is an exploratory study that has no consideration of contextual factors and does not seek to test hypotheses. The fourth study, external validation, focuses on the factors that cause cross-cultural differences.

In their discussion of the types of cross-cultural studies, van de Vijver & Leung (1997) continue to offer that each of these four types can have a level and/or structure orientation. The level orientation addresses the size of the difference between cultures, while the structure orientation addresses the similarities and differences between the relationships of the variables under study. This taxonomy from van de Vijver & Leung (1997) is the first step in our identification process. We propose that the research objective should take precedence in cross-cultural research. While the taxonomy from van de Vijver & Leung's (1997) is an adequate approach, we prescribe that the cross-cultural researcher selects only those objectives with context. Greater generalization leads to conclusions that are more cross-cultural and hence, more universal. Once the objective has been selected, the researcher can proceed to the second step of our framework, i.e., deciding upon the level of analysis.

**LEVEL OF ANALYSIS**

Our model proposes that one must evaluate a minimum of two levels in cross-cultural research. In order to address the fallacy challenge and provide more thorough complex conclusions in the cross-cultural context, one level is insufficient. Lueng´s (1989)

comparison of individual vs. cultural level of analysis concluded that cross cultural research could only be done by aggregating at the ecological level. Hofstede, Bond, & Luk (1993) conclude that one has to select the correct level of analysis based on what is being compared. Comparing values can occur at the individual level (Leung, 1989) or using a parallel approach compared at the individual and cultural level (Smith, 2008). A meta-analysis by Taras & Steel (2006) found that while individual and cultural levels should be considered, each should be considered separately. The relevance of time with regard to level of analysis is addressed by Dansearau, Yammarino, & Kobles (1999).  If groups change from homogeneous to heterogeneous over time, then one would expect the level of analysis to change over time as well. While there are many perspectives and approaches to level of analysis, we prescribe that a minimum of two levels should be identified for cross-cultural research. As such we offer a multidimensional, multilevel model that can be utilized to determine and select the two levels of analysis.

Kostova (1999) highlights the importance of conducting cross-cultural research using a multilevel approach, emphasizing the individual, country, and organizational levels of focus for cross-cultural research. We agree with Kostova (1999) that not only do all three levels need to be considered and addressed, but that at least two of the three levels should be selected and planned for in the data collection and data analysis steps. The nature of cross-cultural research of course dictates that one of the two levels should be culture. A review of the literature shows that research conducted using multiple levels of analysis is still rare.

Figure 2 shows the percentages of the sixty research articles categorized by level of analysis type.  Country-level analysis is represented by 50% of the sixty articles analyzed in this study; while analysis at the individual level, organizational level, and multiple levels are

represented by 23%, 18%, and 8%, respectively. Based on this sampling, there is a tremendous opportunity to conduct research using multiple levels of analysis. An increase primarily in the number of country, individual, and organizational level articles is evident
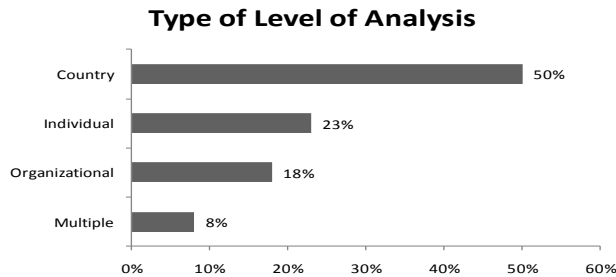
**Type of Level of Analysis**



Figure 2: Types of Level of Analysis for 60 Articles Studied

when evaluating the percentage of level of analysis over time (Figure 3); and while there was a change in multiple levels, it was insignificant.

Biases result when translating research results from the individual level to the culture level of analysis. Concern with use of multiple levels of analysis tends to create fallacies from one level to another (Hofsted, Bond, & Luk, 1993). A methodology for addressing cross-cultural research at multiple levels emphasizes that it is important not to evaluate a single level, but to plan, collect data, analyze, and make conclusions based on data from a minimum of two levels of analysis.
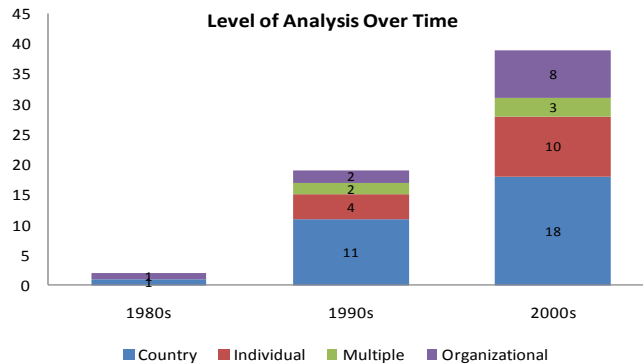


Figure 3: Types of Level of Analysis Over Time

Making a decision about which combination of level of analysis to utilize for the research methodology is complex and difficult. We offer a multilevel multidimensional methodological approach to selecting which level of analysis may be most appropriate in a given cross-cultural study. The model provided gives a 3x3x2 combination of individual, local (referred to as locality), and organizational elements utilized for selection of a proper level of analysis (see Figure 4). In our model country, culture, and locality are used interchangeably.
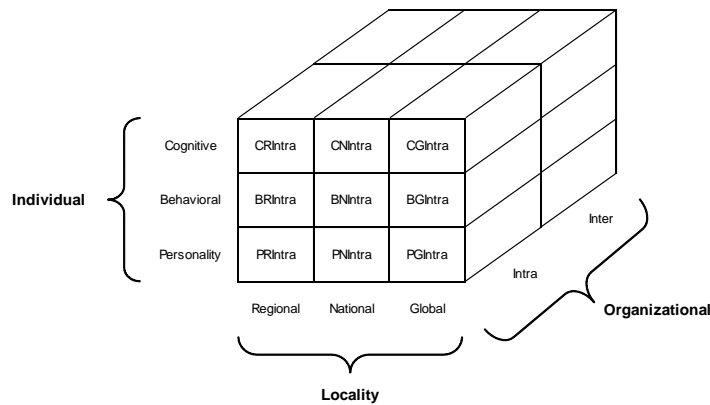


Figure 4: Three Dimensional Level of Analysis Cube

The selection for the individual level elements are cognitive, behavioral, and personality. 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. For example, most research at the country level will involve some measure at the individual level that is the construct of analysis. However, typically research done at the country level aggregates the data collected at the individual level. This research suggests that data collection should occur at two levels, the data analysis should occur concurrently at both levels, and the conclusions should be made based on understanding of the interrelationship of the results

from both phenomena. Once the two levels of analysis have been selected the next step in the identification process is to develop the data collection methodology.

## DATA COLLECTION METHODS

We reviewed the extant literature for the data gathering methods used in the selected articles. The focus of this section is survey methodology because among the articles reviewed, the survey was the prominent method used to gather data. We also identified important methodological issues related to the development of a cross-cultural research survey. Our objective here was to identify past trends in the development and use of survey instruments from the 1980s to the 2000s; thus, answering the call by Schaffer & Riordan (2003) to develop efficient cross-cultural research surveys.

One of the primary issues facing cross-cultural research involves linguistic or semantic equivalence (Mullen, 1995; Douglas & Craig, 2005). Schaffer & Riordan (2003) recommend the use of back-translation as a best practice to establishing semantic equivalence. Back-translation procedure is when the survey instrument is translated by one translator from the original language to the target language then another translator translates from the target language to the original language; then the survey is reviewed to ensure the concepts and meanings of the words have not changed. Each of the studies reviewed in our sample followed this best practice approach.

The need to assess equivalence (e.g., construct, measurement, and translational) has been frequently stressed in the literature (Leung, 1989; Peng, et al., 1991; Mullen, 1995; Bensaou, et al., 1999; Douglas & Craig, 2005; McArthur, 2007). Yet this step, particularly with respect to measurement invariance, has not been consistently performed in cross-cultural studies. Researchers have either glossed over the importance of measurement

invariance entirely or they have omitted detailed 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. While we are encouraged by the number of authors that included a discussion of measurement invariance in their research (Bensaou et al., 1999; Aulakh & Teegen, 2000; McArthur, 2007; Murray, et .al, 2007; Keh & Sun, 2008; 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 measurement invariance in their writings because many researchers do not test to determine if their studies measures are invariant.

Cross-cultural studies measuring instruments have frequently used the work of Hofstede (1980) to develop data gathering instruments because the four (and subsequent fifth) cultural dimensions identified in Hofstede's (1980) work have become the accepted norm for measuring culture. The strength of using Hofstede's (1980) 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 (1980) work used the etic approach which may not be an invariant measure because constructs measured may not apply to all cultures. Also Hofstede's (1980) dimensions are based on cultural means of IBM workers which does not give the researcher an idea of how robust the instrument might be against the four threats of validity, sample differences in translation, response context, culture, and organization, identified by Robert, Lee, and Chan (2006).

van de Vijver & Leung (1997) pointed out that equivalence and bias are two concepts that are essential for cross-cultural comparisons. They described equivalence as having three

levels which in lowest to highest order are construct (structural) equivalence measuring the same concept across cultures, measurement equivalence where scales have the same measurement unit but are of different origin, and scalar (full score) equivalence where interval or ratio scales across cultures are the same. The three types of bias to account for in cross-cultural research include: 1) construct bias where the concept is not the same across cultures, 2) method bias where samples are incomparable or instruments are different or interviewer affects data gathered, and 3) item bias resulting from poor translations or ambiguous wording or use of words that may have several meanings (van de Vijver & Leung, 1997). The researcher should make sure that the constructs being measured are equivalent and not biased.

IRT is a technique for understanding the psychometric properties of latent construct measures and the individuals completing those measures. Ryan et al. (2000) suggest that "although CFA methodologies allow for item level examination, the added response level information from an IRT analysis is helpful" (p. 536). However we disagree with Ryan et al. (2000) because recent studies have started using more robust techniques such as Structural Equation Modeling (SEM) allowing for the tie-in with culture, research objective, and the level of analysis. Robert et al. (2006) recommend using SEM over IRT because SEM is more appropriate for multifactor Likert-type scales.

Items used for cross-cultural analysis should be written in a manner that is answerable and understood by persons in each culture being studied (Brislin, 1980) to ensure construct and measurement equivalence. If the researcher wants to identify new constructs within cultures then the emic analysis approach should be used when creating survey items. If the goal of the researcher is to compare cultures and make generalizations then the survey items

should use etic analysis for theory building. We argue for the emic analysis approach for cross-cultural research because the emic approach is more valid by definition for each culture when the research objective and level of analysis has been identified.

In order to create effective summated rating scales a researcher should follow the five steps from Spector (1992): 1) Define the Construct, 2) Design the Scale, 3) Conduct a Pilot Test, 4) Administer the instrument and item analysis, and 5) Validate and Norm the summated rating scale. A good scale will be one that is both reliable, i.e. the scale consistently measures an attitude, idea or construct, and valid, i.e. the intended construct is being measured. In the context of cross-cultural analysis, several situations may affect the survey's reliability and validity. Survey reliability and validity may be strengthened if researchers use some of the Brislins' (1980) suggestions for better content analysis. These include: 1) sampling, 2) coding, 3) reliability, and 4) validity.

A review of 60 cross-cultural studies has shown that researchers typically select a previously validated survey instrument and then translate that instrument into the language of the local country. Translations of surveys from U.S. western English to the local foreign language adopts the etic approach whereby the survey instrument constructs are assumed to be transferable from the U.S. to any other culture (Ryan, Chan, Ployhart, & Slade, 1999).
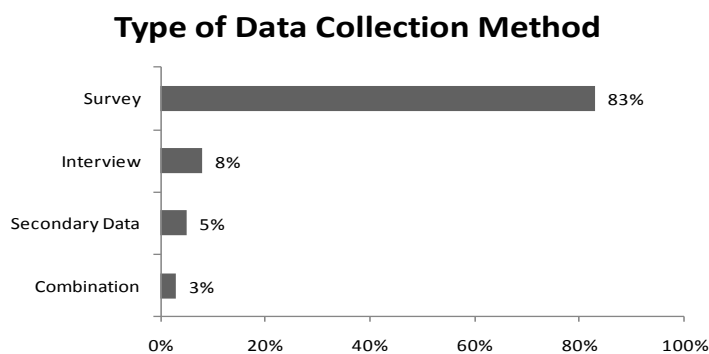


Figure 5: Type of Data Collection Method for 60 Articles Studied

The actual data instrument used in the 60 articles is summarized in Figure 5. Eighty-three percent of the sample used survey as the data gathering method.

The emic approach emphasizes the development of survey instruments within the local culture to ensure that the cultural constructs measured are accurately represented in the instrument. We argue that the researcher should use the emic approach for the survey instrument if the research goal is exploratory and use the etic approach for the survey instrument if the research is testing a hypothesis. In our study, most of the articles sampled used the etic approach. Recommendations from the literature (Schaffer & Riordan, 2003) include the use of Covariance analysis in combination with IRT for cross-cultural studies. Ryan et al. (1999) showed that even when countries speak the same language the constructs being measured by multinational corporation (MNC) survey items may not necessarily mean the same thing. Future cross-cultural survey writers should consider using translators from the local countries to confirm the meaning is correct in the local variation of the language.

**DATA ANALYSIS TECHNIQUES**

Alluding to complexities of cross-cultural research, England & Harpaz (1983) suggested that multivariate techniques offered a better understanding of cultural differences. Ember and Ember (2000) added that the only way to compare rival theories objectively is to test them simultaneously by using 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. Approximately 71% of the articles reviewed in our study also used multivariate techniques. Figure 6 summarizes the percentage of each technique used in our analysis.
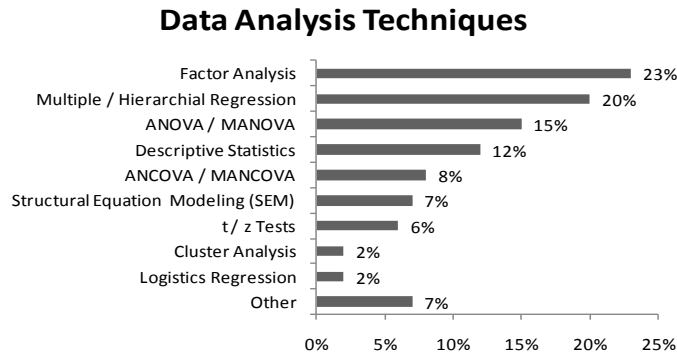
**Data Analysis Techniques**



Figure 6: Type of Data Analysis Technique for 60 Articles Studied

Factor analysis was the dominant multivariate technique employed by researchers, accounting for 23% of the test use frequency. The primary use of factor analysis was twofold: 1) 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 2) 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.

Numerous data analysis techniques are applicable in a cross-cultural context, just as they would be in a mono-cultural context. We support Hair et al, (1998) suggestions that the research objective (hypothesis testing or theory exploration), the type of relationship being studied (dependence or interdependence) and the properties of the data (i.e. metric or nonmetric) should dictate which type of statistical technique to use in a cross-cultural study. Moreover, the metric and nonmetric properties of the dependent and independent variables in any given research context may preclude the use of certain data analysis techniques (Hair et al., 1998). For example, if the measurement scale of the dependent variable being studied

were nonmetric, then multiple linear regression and MANOVA would be inappropriate tests to use because these tests require the measurement scale of the dependent variable to be metric. However, multiple discriminant analysis, linear probability models, and canonical correlation analysis with dummy variables all utilize dependent variables with nonmetric measurement scales. Thus, they would be appropriate statistical tests in this context if the dependence relationship being studied included one dependent variable in a single relationship (e.g. multiple discriminant analysis or linear probability models) or several dependent variables in a single relationship (e.g. canonical correlation analysis with dummy variables).

Interestingly, full structural equation modeling, which incorporates both factor analysis and path analysis, accounted for only 7% of the studies in our analysis. The underutilization of this technique is surprising, given structural equation modeling's large potential in a cross-cultural research context (Singh, 1995b). 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 two or more levels of analysis. Thus, we encourage cross-cultural researchers to capitalize on these assets and incorporate structural equation modeling in future cross-cultural studies.

## DISCUSSION

The amount of understanding and generalizability across cultures can only be estimated with a cross-cultural test (Ember & Ember, 2000). Cross-cultural research is not without its difficulties and there are no absolute facts resulting from scientific research in the social sciences (Pedhazur & Schmelkin, 1991). However, a cross-cultural result is more likely to be generalizable across cultures than less comparative results (Ember and Ember, 2000).

We conclude that in order to conduct effective cross-cultural research, the following steps should be followed: 1) determine the research objective, 2) select from our three dimensional level of analysis cube that combination of two levels that supports the research question, 3) subsequently select a data collection strategy that involves concurrent measurement of two levels at a minimum, and 4) select a statistical technique dictated primarily by all of the researchers' prior selections. The purely emic approach that is recommended in this paper serves as a framework for ensuring the generalizability of the research beyond the cultures under study, and addresses the challenges faced by the researcher at each step.

## REFERENCES & COMPLETE TABLE 2
Available from the corresponding author

## Table 2: 60 Articles Analyzed for the Research Study (example)

| Article | Research Objective | Level of Analysis | Data Collection Method | Data Analyis Technique | Research Results | CC Contribution | No. of Countries |
|---|---|---|---|---|---|---|---|
| Hofstede, G. 1983 The Cultural Relativity of Organizational Practices and Theories JIBS Vol. 14, No. 2, Special Issue on Cross-Cultural Management. (Autumn, 1983), pp. 75-89. | Management theories can't be applied directly to each cultural environment as there are key differences in leadership, organization, & motivation. These differences are important to management because of political, sociological, and psychological reasons | Collected data on IBM Employees' attitudes and values, by means of standardized paper-and-pencil survey. N=116.000 surveys, 40 countries. Used factor analysis and theoretical reasoning | items in the survey that dealt with employee values rather than attitudes showed remarkable and very stable differences between countries. Values are answers to questions of whether people prefer one type of boss over another, or their choice of factors t | factor analysis showed that 50%of the variance in answers between countries on value questions were explained by 3 factors, corresponding to the dimensions 1+ 2, 3, & 4. Theoretical reasoning was used to split first factor into 2 dimensions. Each dimensi | Four Dimensions of National Culture:1 Individualism versus Collectivism 2 Large or Small Power Distance 3 Strong or Weak Uncertainty Avoidance 4 Masculinity versus Femininity. The convergence of management will never come. What we can bring about is an un | The concept of culture throughout the paper is set on national culture and excludes all cultural differences within a nation/country. But, culture, here, is being based on individuals' values (desires, not perceptions) as a whole and does not include att | 40 |
| Kanungo, R.N. & Wright, R.W. (1983). A cross cultural comparative study of managerial job attitudes. JIBS, 14, 115-129 | 4 country (Canada, France, Japn, UK) study of whether managerial job expectations are being met and if performance is influenced by rewards (intrinsic and extrinsic) | Country | 158 managerial personnel attending management courses at universities in the different countries. Questionnaire (job satisfaction and perceptions) and Ranking of 15 job factors based on perceived importance, 7 point score on satisfaction or dissatisfact | Chi Square and ANCOVA | The type of job outcomes differ significantly across cultures. French and British (more emphasis on individual achievement and autonomous goals) have the most difference. | Approach and methodology used provide a model for future cross cultural research. Different job factors are important across cultures, managers of MNCs should adjust accordingly | 4 |
| Morris, T. & Pavett, C.M. (1992). Management style and productivity in two cultures | Use of Likert's System 4 Management Theory to compare management styles of US and Mexican managers | Intra-organizational and Cultural | Survey of 2 Plants owned by US multinational (43 US managers and 37 Mexican managers) corporations, produced identical products (all equipment, material, etc was identical in two locations) | t-Test and Profile Analysis | Mexican managers use a more authorative style than US managers | Elements of culture should be considered when determining appropriate management style to locate in plants in other cultures | 2 |
| Rosenzweig, P.M. & Nohria, N. (1994). Influences on Human Resource Management practices in MNCs | Examine HR practices of affiliates in the US of foreign based MNCs from Canada, Japan, France, Germany, Netherlands, Sweden, Switzerland, Britian | Country (subsidiary / parent) | Questionnaire sen to 249 US affiliates - 1055 questionnaires | ANOVA | HR practices closely follow those of the local practice. The degree of similarity results from how the firm started, presence of expatriates, dependence on local inputs, and extent of communication from the parent | US firm as the subsidiary as opposed to research where the US firm is the parent | 4 |
| Sperber, A., R.F. Develllis, B. Boehlecke Cross-Cultural Translation Methodology and Validation JCC psychology, 25(4) p501-524 | Describe a process of language translation and validation from American English to Hebrew. | Individual level (N=156 students with 93 retesting) | Hebrew experts translated instrument from pretested and validated English to Hebrew then items were analyzed for comparability/interpretability in the original English vs the back translated English. Then test/retest reliability was performed before givin | The instrument was tested for comparability and interpretability. Survey was analyzed for reliability then retested. The survey was then administered to the medical students in the US and Israel. | The study showed that with the use of a detailed process of translation back translation comparability/interpretability measures and then administration | Presented a detailed process on how to effectively translate an instrument that has been validated in english to another language in this case Hebrew. | 2 |