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JW PRESS

MARTIN, TENNESSEE

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AN EXAMINATION OF THE ACCOUNTING PROFESSION'S INFLUENCE OVER ITS MEMBERS DURING THE TRANSITION TO IFRS

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ABSTRACT

As the accounting profession in the United States prepares for the potential transition to IFRS, an opportunity exists to observe how a profession exerts control over its members during a time of change. The purpose of this exploratory study was to examine how attitudes toward IFRS transition differ based on CPAs' professional characteristics.

Drawing on agency theory as modified by the sociology of professions, every member of the Louisiana Society of CPAs was invited to participate in a survey; 436 members responded. Data were analyzed to determine if attitudes toward IFRS differed among subgroups of the profession.

Significant differences existed in one or more attitude variables based on education level, prior IFRS training and experience, size of employer, and years of experience. Limitations of the study included participant self-selection and designation of the sampling frame as members of the Louisiana Society of CPAs.

Findings of differences in attitudes toward adopting IFRS among the subgroups of the profession lend support to the literature on agency theory as modified by the sociology of professions by providing additional evidence of the control a profession exerts over its members. Individual professionals' experiences, contacts, and exposures within the profession do affect attitudes toward change. The study helps to close a gap in the literature by adding information on individual level characteristics of CPAs who are more likely to have positive attitudes toward IFRS adoption.

INTRODUCTION

In August 2008, the United States (U.S.) Securities and Exchange Commission (SEC) approved for public comment a proposed timeline, titled *Roadmap for the Potential use of Financial Statements Prepared in Accordance with International Financial Reporting Standards by U.S. Issuers* (SEC, 2008). The authors of the timeline called for the decision on whether to require International Financial Reporting Standards (IFRS) for U.S. issuers to be made in 2011 (SEC, 2008). According to the timeline revised by the SEC in February 2010 and in still in place when data for this study were collected in May 2010, if the decision in 2011 had been to begin requiring IFRS, a staged transition would begin in 2015 (Defelice & Lamoreaux, 2010; SEC, 2008).

The decision on requiring IFRS for U.S. issuers has been delayed. In January 2012, Mary Schapiro, chairperson of the SEC, announced that the SEC would reach a decision about IFRS during 2012 (Hamilton, 2012). As of September 2012, that decision had still not been made. How-

ever, in the months following the release of the timeline when the data for this study were gathered, it was widely believed that the U.S. would adopt IFRS (Dzinkowski, 2008; PricewaterhouseCoopers, 2007; Smith, 2008). Several U.S. companies started preparation for conversion to IFRS expecting savings from following global standards (PricewaterhouseCoopers, 2007).

Although what form the IFRS conversion will take is unknown, consensus exists that IFRS is coming to the United States whether through continued convergence, endorsement, or adoption (Dzinkowski, 2008; PricewaterhouseCoopers, 2007; Smith, 2008). In 2008, the American Institute of Certified Public Accountants (AICPA) Council amended Rule 203 of the Code of Professional Conduct to recognize the International Accounting Standards Board as an international accounting standard setter. Rule 203 allows privately held companies to use IFRS if they choose to do so (AICPA, 2008). The uniform CPA exam is being modified to include IFRS related questions (AICPA, 2008).

As the accounting profession in the United States prepares for a transition to IFRS, an opportunity exists to observe how a profession exerts control over its members during a time of change. The interaction between professionals and their professions has been studied in the past (Almer et al., 2005; Covalleski et al., 1998; Fogarty, 2000; Loughry & Elms, 2006; Sharma, 1997), but the specific combination of the accounting profession and changing standards offers an opportunity to bring a new perspective to the literature. In the environment of a pending IFRS transition in the United States, applying agency theory, as modified by the sociology of professions literature, to the accounting profession leads to predictions regarding attitudes toward IFRS. An individual CPA's attitudes toward IFRS will be influenced by interactions with professional peers. Members of sub-groups within the profession will share similar attitudes toward IFRS.

The purpose of the exploratory study was to examine how Certified Public Accountants' (CPAs) attitudes toward IFRS differ based on professional characteristics. Based on the review of existing literature, professional characteristics were selected to represent an individual CPAs' interactions within a subgroup of the profession. Attitudes toward IFRS and professional characteristics were measured using a researcher-developed survey. Participants indicated their level of agreement with attitudinal statements related to IFRS adoption. The professional characteristics measured included education level, employment sector, frequency of interaction with professional peers, prior IFRS training and experience, size of employer, and years of experience.

EXISTING LITERATURE AND HYPOTHESES DEVELOPMENT

The decision to adopt IFRS can be made either at the firm level or at the country level (Hope et al., 2006). These decisions are made by groups of individuals. Researchers have examined the characteristics common to IFRS adopters at the country (Chand & Patel, 2008; Hope et al., 2006), firm (El-Gazzar et al., 1999; Guerreiro et al., 2008; Rahman et al., 2002; Tarca, 2009) and individual level. The focus of this study was on individuals.

Early in the development of the movement toward international standards, Barniv and Fetyko (1997) surveyed 75 U.S. partners with 3 of the Big 6 accounting firms who had substantial experience with international accounting issues, 19 international partners in foreign offices of a fourth Big 6 firm, and 142 chief financial officers (CFOs). All respondents had an overall positive attitude toward harmonization. International CPAs were much more positive toward the idea of harmonization than both U.S. CPAs and CFOs. However, U.S. CPAs were somewhat

more positive than CFOs were. All three respondent groups were more likely to base their choices on benefit to user than on costs when considering the most appropriate accounting standards. Even with potential increases in cost, major CPA firms and multinational firms tend to support harmonization (Barniv & Fetyko, 1997).

More recently, Joshi et al. (2008) reported on the reaction of the accounting profession in Bahrain to IFRS adoption. A *t*-test was used to determine whether mean responses to the survey items differed between nationals and expatriates, between low and high experience respondents, and between auditors and non-auditors. There were significant differences between groups on some questions. Results indicated that respondents see the responsibility of enhancing IFRS understanding among accountants as a joint responsibility of firms, the International Financial Reporting Committee, and a country's national regulators (Joshi et al., 2008).

The Joshi et al. study reveals a gap in the literature relevant to the characteristics of IFRS adopters. Previous research has examined firm and country level characteristics but few studies have been conducted to study the characteristics of the individuals who collectively make firm (El-Gazzar et al., 1999; Guerreiro et al., 2008; Rahman et al., 2002; Tarca, 2009) and country (Chand & Patel, 2008; Hope et al., 2006) level decisions. The present study contributes to the closure of this gap by examining the characteristics and attitudes towards IFRS adoption of CPAs in the United States. Accordingly, the research question is

RQ: How do CPAs' reported attitudes about the change to IFRS differ based on CPAs' professional characteristics?

The Profession's Control

To identify professional characteristics for hypotheses development, literature on agency theory, as modified by the sociology of professions, was reviewed. Although professionals typically control their own work, the profession's social structure exerts influence and control. In fact, the literature presents the profession of which one is a member as a very powerful force (Almer et al., 2005; Covalleski et al., 1998; Fogarty, 2000). Although the profession may not directly supervise the work of the individual, a professional's work is done within the larger context of a community of peers. This community provides oversight, which may include professional standards, a code of ethics, licensure, continuing professional education (CPE) requirements, and disciplinary actions (Almer et al., 2005). Forms of governance found to affect professionals include education, socialization, and intrinsic motivation (Loughry & Elms, 2006).

Sharma (1997) identified four broad restraints on the potential self-serving behaviors of professionals that are unique to professions: (a) self-control, (b) community control, (c) bureaucratic control, and (d) client control. Self-control is a professional's pride in work and a desire to serve the public. Community control refers to the influence a community of knowledgeable peers exercises over a professional. Bureaucratic control refers to the fact that many professionals work in large firms and must answer to professional peers and superiors in the organizational hierarchy. Client control refers to measures employed by lay principals to restrain opportunism by professionals. Professionals are influenced and their behavior is controlled or moderated by the expectations of professional peers whether by informal socialization mechanisms or more formal bureaucratic structures (Sharma, 1997).

Public accountants provide services where one act of incompetence can cause extensive damage to a client (Fama & Jensen, 1998). Therefore, certification and reputation are important to clients. Even in large professional service organizations, services are rendered in individual cases by one or a few professionals allowing the responsibility for variation in the quality of service to be easily traced to individual agents. Often, the performance of agents is well known to clients. The market for services imposes unlimited liability on the human capital of professional agents. The professionals have an incentive to purchase monitoring and consulting to help limit losses to the value of their human capital (Fama & Jensen, 1998). In relation to the current study, this predicts that CPAs who are near the end of their careers will be less likely to invest in something new or to have positive attitudes toward change than those at the beginning of their careers will be, because the threat of loss of human capital due to a damaged reputation is not as dire as it would be to those who plan to remain in the profession longer. Those CPAs with more years of experience are likely to be closer to exiting the profession than those with fewer years of experience. Therefore, it is hypothesized that attitudes toward the change to IFRS will differ based on years of experience.

- H1.** Reported attitudes differ based on years of experience.

Loughry and Elms (2006) examined agency theory in the context of the medical profession. The study examined whether professional organizations using contract professionals differed from those using member professionals in terms of performance monitoring, decision ratification, and incentive compensation. It was hypothesized that professional organizations would use stronger governance mechanisms with contract professionals than with member professionals. However, the results largely did not support the hypotheses. Loughry and Elms interpreted this

lack of support as evidence that governance in the professions is different from that found in other non-professional occupations. The forms of governance believed to be at work are education, socialization, and intrinsic motivation of physicians to act appropriately.

Professional agency relationships are more complex than other agency relationships because in addition to the agreement between the professional and the employer, there is an agency relationship between the professional and the client. Accounting firms are an example of when these two relationships can lead to conflicts for the agent. Accounting firms need to practice thoroughness and integrity in order to maintain a positive reputation, but clients sometimes pressure accountants to be less thorough in their audits and to minimize disclosures that may be negatively received by investors (Loughry and Elms, 2006).

Almer et al. (2005) examined the behavior of auditors in the context of their employment by public accounting firms using agency theory as modified by the literature on the sociology of professions to accommodate professionals. The employment contract represents an equal exchange of services for compensation. Either party is able to exit the contract due to a perceived imbalance. Almer et al. (2005) described a formula framework for describing the service-compensation trade-off. Of interest to the current study is the inclusion of opportunities for professional development as an element of value received by employees that is implicit in the employment contract.

Based on the findings of Loughry and Elms (2006) and Almer et al. (2005) that education, socialization, and professional development influence professionals' behaviors, hypotheses 2 through 5 were developed with education level representing education, frequency of interaction with professional peers representing socialization, and prior IFRS training and experience representing IFRS specific professional development.

- H2.** Reported attitudes differ based on education level.
- H3.** Reported attitudes differ based on frequency of interaction with professional peers.
- H4.** Reported attitudes differ based on prior IFRS training.
- H5.** Reported attitudes differ based on prior IFRS experience.

To develop the remaining hypotheses, research focused on CPE needs of particular groups of accountants was examined because CPE is a mechanism a profession uses to control its members. Finlay-Parker (1996) identified the CPE needs of Certified Management Accountants (CMAs) in higher education. Some differences in the

degree of importance for different topics were noted for the demographic variables years in the profession and job responsibilities. This finding further supported hypotheses 1 and 5, related to years of experience and prior IFRS experience, and led to the development of hypothesis 6, since job responsibilities vary greatly across employment sectors within the accounting field.

- H6.** Reported attitudes differ based on employment sector.

Hope (1994) studied the modes of learning of CPAs using Houle's three modes of learning (inquiry, instruction, and reinforcement) as a basis for identification. The identified modes of learning were compared with selected demographic variables using a survey of Kansas CPAs. CPAs exhibit three primary modes of learning: professional inquiry, reinforcement, and professionally affiliated inquiry (Hope, 1994). Demographic variables related to the preferred mode of inquiry included size of the firm and extent of formal education (Hope, 1994). These findings further supported hypothesis 2, relating to education level, and led to the development of hypothesis 7.

- H7.** Reported attitudes differ based on size of employer.

METHOD

An on-line survey was used to collect data. The population included all CPAs in Louisiana. The sampling frame included members of the Louisiana Society of CPAs (LCPA). Approximately 10,000 CPAs exist in Louisiana (R. Bush, personal communication, October 2, 2009). Based on the estimated population size, 370 completed surveys were needed to generalize results to the population at a 95% confidence level (Raosoft, Inc., 2004). Surveys were sent to the entire membership of the LCPA with the objective of obtaining completed surveys from 370 or more members.

Materials/Instruments

Before administration, the survey was reviewed by a panel of experts consisting of six Louisiana State University at Alexandria business faculty members and 19 CPAs serving on the Continuing Professional Education committee of the LCPA. The reviewers, all experts in business, research, or accounting, evaluated the survey for clarity and content validity. Suggestions were considered and incorporated into final instrument revisions.

To ensure reliability, a pilot study was conducted. A convenience sample of CPAs was invited to complete the survey. Results were examined to determine whether electronic access worked as expected. The survey consisted of ques-

tions related to professional characteristics and attitudes. Cronbach's alpha was used to examine the reliability of the questions related to attitude.

Operational Definition of Variables

The objective of the study was to examine how attitudes toward IFRS differ based on CPAs' professional characteristics. Based on the objective, the study involved examining two constructs: CPA attitudes toward IFRS and CPAs' professional characteristics.

The construct, CPAs' attitudes toward IFRS, was defined as CPAs' opinions of whether the United States (a) should and will adopt IFRS, (b) whether IFRS implementation will improve financial reporting and comparability, and (c) to what extent IFRS implementation will affect their work. Respondents were asked to rate statements about IFRS adoption on a Likert-type scale, with responses ranging from *strongly disagree* to *strongly agree*. The scale was treated as an ordinal measurement because the data were not normally distributed.

The construct, professional characteristics of CPAs, was defined as factors that represent membership within a subgroup of the accounting profession. The factors were respondents' education level, employment sector, frequency of interaction with professional peers, prior IFRS training and experience, size of employer, and years of experience (Hope 1994; Yoon 2004). To measure the variables, the survey included questions about respondents' professional characteristics. Data gathered from survey items were treated as a nominal level of measurement. The variables included in the construct were defined as follows.

Education level refers to the highest level of formal education completed. Currently, Louisiana requires a baccalaureate degree and 150 semester credit hours for initial licensure. Prior to 1997, only a baccalaureate degree was required (State Board of Certified Public Accountants of Louisiana, 2007). Therefore, the applicable education levels were bachelor's degree, bachelor's degree with at least 150 hours, master's degree, and doctorate degree.

The employment sector is the major field of accounting in which the CPA works. Previous research by Meyer (2007) was used to identify the categories. The categories are public accounting, industry, education, government, and other (Meyer, 2007).

Interaction with professional peers was defined as exchanges in which professional peers have the opportunity to share information about current developments, make suggestions based on their own experiences, and listen to new ideas (Dubin, 1990). For the current study, the levels

of frequency were set as at least weekly, monthly, quarterly, yearly, or less than yearly.

Prior IFRS training and experience is the degree to which a CPA has previously worked on projects completed in accordance with IFRS.

Size of employer was defined as the size of the organization in which the respondent works based on the number of accounting professionals in the organization.

Years of experience was defined as the number of years the respondent has practiced as a CPA. The categories were based on a previous study of CPAs in Louisiana (Meyer, 2007).

Data Collection

An e-mail notice was sent through the LCPA's e-mail system. The e-mail including the link to the on-line survey was sent to each member. One week after initial notification, an e-mail reminder was sent followed by a second reminder notice after one additional week had passed. Data were collected in May 2010.

Study Limitations

The self-selection of survey respondents is a limitation of the study. Survey results were reviewed to determine whether a wide range of demographic variables and specializations were represented among respondents.

Another limitation was the designation of the sampling frame as members of the LCPA. The decision to limit the sample to members of the LCPA was made due to the accessibility of the population. Generalizability of results to CPAs in other states may be limited. However, previous studies (Hope, 1994; Meyer, 2007) used CPAs in a single state as representative of all CPAs in the United States. Therefore, findings of the study have value beyond Louisiana.

PILOT STUDY RESULTS

To ensure the on-line survey administration process would function properly and to measure the reliability of the survey, a pilot study was conducted. A convenience sample of five CPAs completed the survey. The results were examined to determine whether the on-line survey process worked as expected. No difficulties with the on-line process were reported. Items related to attitude toward IFRS were analyzed for internal consistency using Cronbach's alpha. Internal consistency was indicated by a reliability coefficient of .788 (Gliem & Gliem, 2003).

RESULTS

Four hundred forty-one individuals participated in the current study. Of those participants, five did not answer any questions related to attitudes toward IFRS adoption and were deleted from the analyses. Some participants skipped some survey questions. The responses with some skipped questions were retained in the data set, leaving 436 responses. Table 1 shows descriptive statistics for the participants' professional characteristics. A wide range of demographic variables and specializations was present among respondents.

The research question was *how do CPAs' reported attitudes about the change to IFRS differ based on CPAs' professional characteristics?* An examination of the skewness and kurtosis of the four dependent variables showed that no values exceeded 1 in absolute value, but all four Shapiro-Wilkes tests of normality were statistically significant ($p < .001$) indicating statistically significant non-normality. Therefore, chi-square tests of independence were performed between each of the seven professional characteristics and the four dependent variables for the research question.

The first hypothesis was CPAs' reported attitudes differ based on years of experience. Crosstabulations of CPAs' attitudes and years of experience are shown in Table 2. There were no differences in terms of the belief that the United States would adopt IFRS; there were significant differences on the other three attitude variables. Statistically significant differences supported the hypothesis: CPAs' reported attitudes do differ based on years of experience.

Participants with more than 20 years of experience were much more likely to strongly disagree that the United States should adopt IFRS compared to the other four groups, indicating that more experienced accountants had a more negative attitude toward adopting IFRS. Similarly, participants with the most experience were more likely to strongly disagree that adopting IFRS would improve financial reporting and comparability compared to those with less experience, again indicating that they held more negative attitudes toward IFRS. Finally, participants with more experience were most likely to think that adopting IFRS would not affect their work.

The second hypothesis was CPAs' reported attitudes differ based on education level. Table 3 shows crosstabulations involving educational level. Differences based on educational level were not statistically significant for whether the United States should adopt IFRS, whether the United States will adopt IFRS, or whether adopting IFRS would improve financial reporting and comparability.

TABLE 1
PARTICIPANT PERSONAL CHARACTERISTICS
(N = 436)

| | <i>n</i> | Valid % |
|--|----------|---------|
| Accounting area (whether as employee, partner, or other) | | |
| Public accounting | 241 | 55.5 |
| Industry | 137 | 31.6 |
| Government | 16 | 3.7 |
| Education | 18 | 4.1 |
| Other | 22 | 5.1 |
| Missing | 2 | |
| Years of experience in the accounting field | | |
| 0-5 | 23 | 5.3 |
| >5-10 | 34 | 7.9 |
| >10-15 | 46 | 10.6 |
| >15-20 | 77 | 17.8 |
| 20+ | 253 | 58.4 |
| Missing | 3 | |
| Highest level of formal education | | |
| Bachelor's degree | 195 | 44.8 |
| Bachelor's degree with at least 150 credit hours | 118 | 27.1 |
| Master's degree | 106 | 24.4 |
| Doctorate degree (e.g., PhD, DBA, JD) | 16 | 3.7 |
| Missing | 1 | |
| Prior training in IFRS | | |
| No IFRS training | 295 | 68.0 |
| 8 or fewer hours of IFRS training | 109 | 25.1 |
| Between 8 and 40 hours of IFRS training | 26 | 6.0 |
| More than 40 hours of IFRS training | 4 | .9 |
| Missing | 2 | |
| Prior experience with IFRS | | |
| Never worked on a project involving IFRS | 388 | 89.4 |
| Some projects involving IFRS, but the majority based on U. S. GAAP | 42 | 9.7 |
| Majority based on IFRS | 4 | .9 |
| Missing | 2 | |
| Size of the organization (number of accounting professionals) | | |
| 1-5 | 222 | 51.5 |
| 6-20 | 111 | 25.8 |
| 21-50 | 36 | 8.4 |
| 51-100 | 22 | 5.1 |
| 100 or more | 40 | 9.3 |
| Missing | 5 | |
| Frequency of interactions with professional peers (e.g., consult, collaborate, attend training, receive feedback) | | |
| Daily | 135 | 31.0 |
| Weekly | 101 | 23.2 |
| Monthly | 105 | 24.1 |
| Quarterly | 68 | 15.6 |
| Yearly | 19 | 4.4 |
| Less than yearly | 7 | 1.6 |
| Missing | 1 | |

However, the difference was statistically significant for the extent to which adopting IFRS would affect their work. Therefore, the hypothesis was supported for attitudes about whether IFRS will affect CPAs' work. The statistically significant difference among education levels supported the hypothesis: CPAs' reported attitudes differ based on education level. Results in Table 3 show respondents with a bachelor's degree and those with a doctorate degree were less likely to think adopting IFRS would affect a majority of their work than those with a bachelor's degree with 150 credit hours or those with a master's degree.

The third hypothesis was CPAs' reported attitudes differ based on frequency of interaction with professional peers. The analysis of differences based on the frequency of interactions with peers is shown in Table 4. None of the chi-square tests was statistically significant, indicating that CPAs with differing levels of peer contact did not differ in terms of their attitudes toward IFRS adoption. The hypothesis was not supported for any of the attitude variables.

The fourth hypothesis was CPAs' reported attitudes differ based on prior IFRS training. Table 5 contains the analysis of differences in CPA attitudes based on the level of IFRS training. There was no difference in attitudes toward whether the United States should adopt IFRS. There were differences on the other three attitudinal variables. The hypothesis was supported for whether the United States will adopt IFRS, whether implementing IFRS would improve financial reporting and comparability, and the extent to which CPAs' work would change with implementing IFRS.

Those with more than eight hours of IFRS training were more likely to strongly agree the United States would adopt IFRS, but were also more likely to strongly disagree with the statement. Thus, those with more IFRS training had stronger opinions in both directions regarding whether the United States would adopt IFRS than those with less IFRS training did.

A similar trend was observed for the statement regarding whether implementing IFRS would improve financial reporting and comparability, with only 14.3% of those with more than eight hours of training having no opinion on the statement, compared to 43.6% of those with no training and 29.9% of those with 8 or fewer hours of training. The more training an accountant has, the stronger their opinions regarding the effects of implementing IFRS appear to be. In terms of the extent to which CPAs' work would change with implementing IFRS, those with no training were more likely to think adopting IFRS would not affect their work than those with 8 or fewer hours of

TABLE 2
CROSSTABULATIONS OF YEARS OF EXPERIENCE AND CPA ATTITUDES
(ALL FIGURES ARE PERCENTAGES)

| | 0 to 5 | 6 to 10 | 11 to 15 | 16 to 20 | More than 20 |
|--|--------|---------|----------|----------|--------------|
| The United States should adopt IFRS, $\chi^2(16, N = 431) = 32.00, p = .010$ | | | | | |
| Strongly disagree | 4.3 | 2.9 | 6.5 | 7.8 | 17.9 |
| Disagree | 4.3 | 8.8 | 23.9 | 14.3 | 14.3 |
| No opinion | 47.8 | 50.0 | 50.0 | 49.4 | 39.4 |
| Agree | 21.7 | 32.4 | 15.2 | 18.2 | 22.7 |
| Strongly agree | 21.7 | 5.9 | 4.3 | 10.4 | 5.6 |
| The United States will adopt IFRS, $\chi^2(16, N = 430) = 12.65, p = .698$ | | | | | |
| Strongly disagree | 0.0 | 0.0 | 0.0 | 1.3 | 4.4 |
| Disagree | 8.7 | 11.8 | 8.7 | 5.2 | 12.4 |
| No opinion | 39.1 | 35.3 | 32.6 | 32.5 | 29.2 |
| Agree | 43.5 | 50.0 | 54.3 | 51.9 | 47.2 |
| Strongly agree | 8.7 | 2.9 | 4.3 | 9.1 | 6.8 |
| The adoption of IFRS will improve financial reporting and comparability, $\chi^2(16, N = 424) = 26.29, p = .050$ | | | | | |
| Strongly disagree | 8.7 | 2.9 | 4.3 | 6.5 | 14.3 |
| Disagree | 4.3 | 5.9 | 23.9 | 18.2 | 18.0 |
| No opinion | 34.8 | 50.0 | 41.3 | 41.6 | 34.8 |
| Agree | 34.8 | 35.3 | 26.1 | 23.4 | 28.3 |
| Strongly agree | 17.4 | 5.9 | 4.3 | 10.4 | 4.5 |
| The adoption of IFRS will affect work, $\chi^2(8, N = 431) = 21.36, p = .006$ | | | | | |
| Impact the majority | 21.7 | 20.6 | 26.7 | 7.8 | 9.5 |
| Impact the minority | 39.1 | 47.1 | 44.4 | 53.2 | 41.3 |
| Will not impact | 39.1 | 32.4 | 28.9 | 39.0 | 49.2 |

TABLE 3
CROSSTABULATIONS OF EDUCATIONAL LEVEL AND CPA ATTITUDES
(ALL FIGURES ARE PERCENTAGES)

| | Bachelor's degree | Bachelor's with 150 hours | Master's degree | Doctorate |
|--|-------------------|---------------------------|-----------------|-----------|
| The United States should adopt IFRS, $\chi^2(12, N = 433) = 13.78, p = .315$ | | | | |
| Strongly disagree | 12.4 | 13.6 | 14.2 | 12.5 |
| Disagree | 17.6 | 9.3 | 15.1 | 6.3 |
| No opinion | 42.5 | 50.8 | 34.9 | 62.5 |
| Agree | 22.3 | 17.8 | 26.4 | 12.5 |
| Strongly agree | 5.2 | 8.5 | 9.4 | 6.3 |
| The United States will adopt IFRS, $\chi^2(12, N = 432) = 11.60, p = .479$ | | | | |
| Strongly disagree | 2.6 | 4.2 | 1.9 | 0.0 |
| Disagree | 11.9 | 5.9 | 13.3 | 6.3 |
| No opinion | 33.2 | 32.2 | 26.7 | 25.0 |
| Agree | 48.2 | 50.0 | 47.6 | 62.5 |
| Strongly agree | 4.1 | 7.6 | 10.5 | 6.3 |
| The adoption of IFRS will improve financial reporting and comparability, $\chi^2(12, N = 426) = 15.17, p = .232$ | | | | |
| Strongly disagree | 7.9 | 13.7 | 12.6 | 6.3 |
| Disagree | 18.9 | 14.5 | 16.5 | 18.8 |
| No opinion | 43.2 | 38.5 | 28.2 | 37.5 |
| Agree | 26.8 | 24.8 | 33.0 | 31.3 |
| Strongly agree | 3.2 | 8.5 | 9.7 | 6.3 |
| The adoption of IFRS will affect work, $\chi^2(6, N = 433) = 16.78, p = .010$ | | | | |
| Impact the majority | 6.7 | 19.5 | 18.1 | 6.3 |
| Impact the minority | 50.0 | 37.3 | 38.1 | 56.3 |
| Will not impact | 43.3 | 43.2 | 43.8 | 37.5 |

TABLE 4
CROSSTABULATIONS OF FREQUENCY OF INTERACTIONS WITH PEERS AND CPA ATTITUDES
(ALL FIGURES ARE PERCENTAGES)

| | Daily | Weekly | Monthly | Quarterly | Yearly | < Yearly |
|--|-------|--------|---------|-----------|--------|----------|
| The United States should adopt IFRS, $\chi^2(20, N = 433) = 18.16, p = .577$ | | | | | | |
| Strongly disagree | 10.4 | 14.9 | 15.4 | 13.2 | 11.1 | 14.3 |
| Disagree | 12.6 | 9.9 | 13.5 | 23.5 | 22.2 | 14.3 |
| No opinion | 42.2 | 45.5 | 46.2 | 38.2 | 38.9 | 71.4 |
| Agree | 28.1 | 19.8 | 20.2 | 16.2 | 22.2 | 0.0 |
| Strongly agree | 6.7 | 9.9 | 4.8 | 8.8 | 5.6 | 0.0 |
| The United States will adopt IFRS, $\chi^2(20, N = 432) = 22.35, p = .322$ | | | | | | |
| Strongly disagree | 2.2 | 4.0 | 1.9 | 2.9 | 5.6 | 0.0 |
| Disagree | 17.0 | 6.0 | 9.6 | 4.4 | 16.7 | 0.0 |
| No opinion | 27.4 | 32.0 | 31.7 | 32.4 | 33.3 | 57.1 |
| Agree | 49.6 | 47.0 | 50.0 | 54.4 | 33.3 | 42.9 |
| Strongly agree | 3.7 | 11.0 | 6.7 | 5.9 | 11.1 | 0.0 |
| The adoption of IFRS will improve financial reporting and comparability, $\chi^2(20, N = 425) = 12.98, p = .878$ | | | | | | |
| Strongly disagree | 6.7 | 11.3 | 13.9 | 13.4 | 5.6 | 14.3 |
| Disagree | 18.5 | 16.5 | 14.9 | 17.9 | 22.2 | 14.3 |
| No opinion | 34.8 | 42.3 | 38.6 | 37.3 | 33.3 | 57.1 |
| Agree | 34.1 | 21.6 | 28.7 | 25.4 | 27.8 | 14.3 |
| Strongly agree | 5.9 | 8.2 | 4.0 | 6.0 | 11.1 | 0.0 |
| The adoption of IFRS will affect work, $\chi^2(10, N = 433) = 12.82, p = .234$ | | | | | | |
| Impact the majority | 16.4 | 7.0 | 12.4 | 13.2 | 21.1 | 14.3 |
| Impact the minority | 49.3 | 45.0 | 44.8 | 36.8 | 26.3 | 28.6 |
| Will not impact | 34.3 | 48.0 | 42.9 | 50.0 | 52.6 | 57.1 |

TABLE 5
CROSSTABULATIONS OF LEVEL OF IFRS TRAINING AND CPA ATTITUDES
(ALL FIGURES ARE PERCENTAGES)

| | No IFRS training | 8 or fewer hours | More than 8 hours |
|---|------------------|------------------|-------------------|
| The United States should adopt IFRS, $\chi^2(8, N = 432) = 12.07, p = .148$ | | | |
| Strongly disagree | 13.3 | 10.1 | 16.7 |
| Disagree | 13.3 | 18.3 | 10.0 |
| No opinion | 48.1 | 36.7 | 30.0 |
| Agree | 19.5 | 24.8 | 33.3 |
| Strongly agree | 5.8 | 10.1 | 10.0 |
| The United States will adopt IFRS, $\chi^2(8, N = 431) = 19.75, p = .011$ | | | |
| Strongly disagree | 2.1 | 2.8 | 6.7 |
| Disagree | 8.9 | 12.8 | 16.7 |
| No opinion | 36.3 | 22.9 | 10.0 |
| Agree | 47.3 | 54.1 | 50.0 |
| Strongly agree | 5.5 | 7.3 | 16.7 |
| The adoption of IFRS will improve financial reporting and comparability, $\chi^2(8, N = 424) = 20.89, p = .007$ | | | |
| Strongly disagree | 9.3 | 11.2 | 14.3 |
| Disagree | 16.6 | 19.6 | 14.3 |
| No opinion | 43.6 | 29.9 | 14.3 |
| Agree | 26.3 | 29.9 | 39.3 |
| Strongly agree | 4.2 | 9.3 | 17.9 |
| The adoption of IFRS will affect work, $\chi^2(4, N = 432) = 11.43, p = .022$ | | | |
| Impact the majority | 10.5 | 16.5 | 24.1 |
| Impact the minority | 42.2 | 51.4 | 37.9 |
| Will not impact | 47.3 | 32.1 | 37.9 |

training or those with more than eight hours of training were.

The fifth hypothesis was CPAs' reported attitudes differ based on CPAs' prior IFRS experience. Crosstabulations of attitudes toward IFRS and level of experience with IFRS are shown in Table 6. Statistically significant differences were found on perceptions of whether adopting IFRS would improve financial reporting and comparability and whether adopting IFRS would affect CPAs' work.

The finding of statistically significant differences on whether adopting IFRS would improve financial reporting and comparability and whether adopting IFRS would affect CPAs' work supports the hypothesis: CPAs' reported attitudes differ based on prior IFRS experience. Specifically, participants who had worked on projects involving IFRS were more likely to strongly agree or agree that IFRS would improve reporting and comparability than those who had never worked on an IFRS project. Those who had previously worked on IFRS projects were more likely to think a majority of their work would be affected than those with no prior IFRS experience.

The sixth hypothesis was CPAs' reported attitudes differ based on employment sector. Table 7 shows the analysis of employment sector and CPA attitudes. There were no statistically significant differences for any of the four attitude variables. Thus, the hypothesis was not supported for any of the four attitude variables. The accounting area in which the participants worked did not affect their attitudes toward IFRS adoption.

The seventh hypothesis was CPAs' reported attitudes differ based on size of employer. Table 8 shows crosstabulations of organization size and CPAs' attitudes toward IFRS. While there were no differences in terms of the belief that the United States will adopt IFRS, there were differences on the other three attitude variables. The finding of statistically significant differences supported the hypothesis indicating CPAs' reported attitudes differ based on size of employer.

For the belief about whether the United States should adopt IFRS, participants from larger organizations were less likely to strongly disagree with the statement compared to the other four groups. Participants from larger organizations were also less likely to strongly disagree that adopting IFRS would improve financial reporting and accountability than participants in the other four groups were. Correspondingly, participants at larger organizations were more likely than others were to strongly agree with the statement. Participants from organizations with 1 to 5 employees were much more likely to think adopting IFRS would not affect their work than those from larger organizations.

| TABLE 6 CROSSTABULATIONS OF LEVEL OF IFRS EXPERIENCE AND CPA ATTITUDES (ALL FIGURES ARE PERCENTAGES) | | |
|---|------------------------------|--|
| | Never worked on IFRS Project | Some or majority of projects were IFRS |
| The United States should adopt IFRS, $\chi^2(4, N = 432) = 7.05, p = .133$ | | |
| Strongly disagree | 13.2 | 10.9 |
| Disagree | 14.8 | 10.9 |
| No opinion | 44.8 | 34.8 |
| Agree | 19.9 | 37.0 |
| Strongly agree | 7.3 | 6.5 |
| The United States will adopt IFRS, $\chi^2(4, N = 431) = 8.18, p = .085$ | | |
| Strongly disagree | 2.6 | 2.2 |
| Disagree | 9.6 | 17.4 |
| No opinion | 33.0 | 15.2 |
| Agree | 48.6 | 54.3 |
| Strongly agree | 6.2 | 10.9 |
| The adoption of IFRS will improve financial reporting and comparability, $\chi^2(4, N = 424) = 26.50, p < .001$ | | |
| Strongly disagree | 10.8 | 6.8 |
| Disagree | 17.9 | 11.4 |
| No opinion | 40.8 | 13.6 |
| Agree | 25.3 | 52.3 |
| Strongly agree | 5.3 | 15.9 |
| The adoption of IFRS will affect work, $\chi^2(2, N = 432) = 6.03, p = .049$ | | |
| Impact the majority | 11.6 | 24.4 |
| Impact the minority | 45.0 | 35.6 |
| Will not impact | 43.4 | 40.0 |

Evaluation of Findings

The finding that attitudes toward IFRS adoption differ based on CPAs' professional characteristics lends additional evidence to the theory that professions influence their members' attitudes toward change. Those with more than eight hours of prior IFRS training were more likely than others were to have stronger opinions in both directions regarding whether the United States would adopt IFRS and whether adoption would improve financial reporting and comparability. The findings seem to indicate that participation in CPE on developing topics can encourage professionals to be more engaged in current debates of the profession, thereby contributing to the CPE goals of modernization, preparation for change, and refreshing knowledge (Houle, 1980).

TABLE 7
CROSSTABULATIONS OF EMPLOYMENT SECTOR AND CPA ATTITUDES
(ALL FIGURES ARE PERCENTAGES)

| | Public Accounting | Industry | Government | Education | Other |
|--|-------------------|----------|------------|-----------|-------|
| The United States should adopt IFRS, $\chi^2(16, N = 432) = 21.91, p = .146$ | | | | | |
| Strongly disagree | 17.6 | 8.8 | 0.0 | 5.6 | 9.1 |
| Disagree | 15.1 | 14.6 | 12.5 | 16.7 | 4.5 |
| No opinion | 42.3 | 43.1 | 50.0 | 55.6 | 45.5 |
| Agree | 16.7 | 27.0 | 37.5 | 16.7 | 36.4 |
| Strongly agree | 8.4 | 6.6 | 0.0 | 5.6 | 4.5 |
| The United States will adopt IFRS, $\chi^2(16, N = 431) = 19.42, p = .247$ | | | | | |
| Strongly disagree | 4.6 | .7 | 0.0 | 0.0 | 0.0 |
| Disagree | 8.8 | 15.4 | 6.3 | 5.6 | 4.5 |
| No opinion | 32.6 | 27.9 | 37.5 | 22.2 | 36.4 |
| Agree | 45.2 | 51.5 | 56.3 | 66.7 | 54.5 |
| Strongly agree | 8.8 | 4.4 | 0.0 | 5.6 | 4.5 |
| The adoption of IFRS will improve financial reporting and comparability, $\chi^2(16, N = 425) = 20.16, p = .213$ | | | | | |
| Strongly disagree | 14.3 | 6.8 | 0.0 | 0.0 | 9.1 |
| Disagree | 16.9 | 18.2 | 12.5 | 22.2 | 13.6 |
| No opinion | 38.4 | 40.2 | 31.3 | 27.8 | 36.4 |
| Agree | 23.2 | 28.8 | 50.0 | 50.0 | 36.4 |
| Strongly agree | 7.2 | 6.1 | 6.3 | 0.0 | 4.5 |
| The adoption of IFRS will affect work, $\chi^2(8, N = 432) = 8.82, p = .358$ | | | | | |
| Impact the majority | 13.9 | 15.0 | 0.0 | 0.0 | 0.0 |
| Impact the minority | 42.6 | 46.6 | 40.0 | 58.8 | 38.9 |
| Will not impact | 43.5 | 38.3 | 60.0 | 41.2 | 61.1 |

TABLE 8
CROSSTABULATIONS OF ORGANIZATION SIZE AND CPA ATTITUDES
(ALL FIGURES ARE PERCENTAGES)

| | 1 to 5 | 6 to 20 | 21 to 50 | 51 to 100 | > 100 |
|--|--------|---------|----------|-----------|-------|
| The United States should adopt IFRS, $\chi^2(16, N = 429) = 31.27, p = .012$ | | | | | |
| Strongly disagree | 15.9 | 10.8 | 11.1 | 9.1 | 5.0 |
| Disagree | 16.8 | 11.7 | 25.0 | 4.5 | 5.0 |
| No opinion | 44.5 | 47.7 | 33.3 | 40.9 | 40.0 |
| Agree | 17.7 | 18.0 | 27.8 | 36.4 | 40.0 |
| Strongly agree | 5.0 | 11.7 | 2.8 | 9.1 | 10.0 |
| The United States will adopt IFRS, $\chi^2(16, N = 428) = 12.65, p = .698$ | | | | | |
| Strongly disagree | 3.2 | 2.7 | 0.0 | 4.5 | 2.5 |
| Disagree | 8.2 | 9.9 | 16.7 | 18.2 | 12.5 |
| No opinion | 36.1 | 25.2 | 30.6 | 27.3 | 25.0 |
| Agree | 47.0 | 54.1 | 47.2 | 45.5 | 47.5 |
| Strongly agree | 5.5 | 8.1 | 5.6 | 4.5 | 12.5 |
| The adoption of IFRS will improve financial reporting and comparability, $\chi^2(16, N = 421) = 26.90, p = .043$ | | | | | |
| Strongly disagree | 11.9 | 8.5 | 14.3 | 9.1 | 2.5 |
| Disagree | 18.3 | 14.2 | 25.7 | 0.0 | 17.5 |
| No opinion | 39.4 | 42.5 | 28.6 | 36.4 | 32.5 |
| Agree | 26.6 | 27.4 | 22.9 | 50.0 | 30.0 |
| Strongly agree | 3.7 | 7.5 | 8.6 | 4.5 | 17.5 |
| The adoption of IFRS will affect work, $\chi^2(8, N = 429) = 32.99, p < .001$ | | | | | |
| Impact the majority | 7.7 | 13.5 | 13.9 | 31.8 | 25.6 |
| Impact the minority | 38.9 | 54.1 | 55.6 | 31.8 | 43.6 |
| Will not impact | 53.4 | 32.4 | 30.6 | 36.4 | 30.8 |

The idea that professionals who will soon leave the profession are less likely to embrace change for maintaining human capital (Fama & Jensen, 1998) is supported in the analyses. Certified Public Accountants with more than 20 years of experience were more likely to have negative attitudes toward adopting IFRS and were less likely to report that IFRS adoption would affect their work. Respondents with only a bachelor's degree were more likely than other groups, with the exception of those with doctorates, to believe that adopting IFRS would affect the majority of their work. Those with doctorates are primarily employed in educational settings and may be less likely to be dealing directly with clients in a way that they felt would be affected by adopting IFRS in the United States. Those with only a bachelor's degree were probably licensed before 1997 when Louisiana began to require a baccalaureate degree and 150 semester credit hours for initial licensure (State Board of Certified Public Accountants of Louisiana, 2007). Therefore, the respondents with only bachelor's degrees may have been closer to the end of their careers than respondents in other education level categories were which may have influenced their attitudes toward IFRS adoption.

Conclusions and Recommendations

Findings of differences in attitudes toward adopting IFRS among the subgroups of the accounting profession lends support to the literature on agency theory as modified by the sociology of professions by providing additional evidence of the control the profession exerts over its members (Almer et al., 2005; Covalleski et al., 1998; Fogarty, 2000). An individual professional's experiences, contacts, and exposures within the profession do affect his or her attitudes toward change. The study helps to close a gap in literature by adding information on individual level characteristics of CPAs who are more likely to have positive attitudes toward IFRS adoption.

Actual adoption of IFRS in the United States will provide an opportunity for research into the financial reporting benefits of IFRS in a country that already has a high quality set of accounting standards. The research could then be compared to the attitudes measured in the current study to determine if CPAs' opinions of whether the United States should adopt IFRS and whether IFRS adoption would improve financial reporting and comparability are aligned with actual outcomes after adoption. Research will also be needed into the changes the profession experiences while moving from the rules based approach of U.S. GAAP to the more principles based approach of IFRS. Some areas to be examined are changes in the number and nature of audit findings, the frequency of financial statement restatements, the quality of financial measures, and the frequency and outcome of lawsuits related to financial

reporting and auditing before and after IFRS. The number and characteristics of individuals entering and leaving the accounting profession around the time of the change from rules based standards to principles based standards may also be of interest.

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THE EFFECTS OF AN ECONOMIC DOWNTURN ON EARNINGS FORECASTS

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ABSTRACT

Prior studies in the area of management forecasts contain a common characteristic, they make no distinction as to the economic cycle of the U.S. when assessing voluntary earnings disclosures. This research tests whether voluntary earnings disclosures released during periods of an economic downturn differ from disclosures released during periods of economic expansion. In terms of bias and information content, findings suggest that forecasts tend to significantly differ during these distinctly different periods. With the U.S. in the grip of what may be a protracted recessionary period, these findings have practical and important implications for users and disseminators of forecast information.

INTRODUCTION

Nature of the economic downturn

The 2008-2012 global economic crisis is considered by many economists to be the worst economic crisis since the Great Depression of the 1930s (Haidar, 2012). It resulted in the threat of total collapse from large financial institutions, the bailout of banks, industries and nations, and downturns in the stock markets around the world. The housing market also suffered due to evictions, foreclosures, and prolonged unemployment in the private sector. The crisis played a significant role in the failure of key businesses, declines in consumer wealth estimated in the trillions of dollars and a downturn in the economic activity leading to the 2008-2012 global recession and contributing to the European sovereign debt crisis. The U.S. Financial Crisis Inquiry Commission reported in its findings of January, 2011 that “the crisis was avoidable and was caused by; widespread failures in financial regulation, including the Federal Reserve’s failure to stem the tide of toxic mortgages, dramatic breakdowns in corporate governance resulting in firms assuming too much risk, an explosive mix of excessive borrowing and risk-taking by U.S. households, and over-leveraging by many U.S. banks.” (NY Times, 2011).

Effect of the economic downturn on voluntary earnings forecasts

Some extant research concludes that earnings forecasts may be less beneficial during unsettled economic periods (Miller, 2009), and as a result fewer may be issued during such periods. Other literature concludes that earnings forecasts help to cut through the fog of economic uncer-

tainty (Anilowski et al, 2010) and are encouraged to assist users particularly during such periods. An analysis of the Dow Jones News Retrieval Service (DJNRS) was made for the years 2003-2012(third quarter) in an attempt to determine the number of quarterly forecasts recorded by the DJNRS for this time frame. Results are shown in Table 1.

| TABLE 1 QUARTERLY FIRM POINT FORECASTS OF EARNINGS DOW JONES NEWS RETRIEVAL SERVICE | |
|--|---------------|
| Year Number | Number |
| 2003 | 504 |
| 2004 | 489 |
| 2005 | 517 |
| 2006 | 476 |
| 2007 | 530 |
| 2008 | 521 |
| 2009 | 482 |
| 2010 | 509 |
| 2011 | 473 |
| 2012 (Three Quarters) | 383 |

As can be seen from Table 1, there appears to be no discernible drop-off in the number of voluntary earnings forecasts during the economic crisis of 2008-2012. Having demonstrated this, the next step is to ascertain whether or not there are any inherent differences in the quality of the earnings forecast with respect to bias and informa-

tion content during economic downturn periods (2008-2012) and economic growth periods (2003-2007).

Prior earnings forecast literature

Prior research in the study of voluntary earnings forecasts finds that managers release information that is unbiased relative to subsequently revealed earnings and that tends to contain more bad news than good news (Baginski et al, 1994; Frankel, 1995). Such releases are also found to contain information content (Patell, 1976; Waymire, 1984; Pownell and Waymire, 1989). Although forecast release is costly, credible disclosure will occur if sufficient incentives exist. These incentives include bringing investor/manager expectations in line (Ajinkya and Gift, 1984), removing the need for expensive sources of additional information (Diamond, 1985), reducing the cost of capital to the firm (Diamond and Verrechia, 1987), and reducing potential lawsuits (Lees, 1981).

All of the aforementioned empirical studies have one common characteristic, they assess voluntary earnings forecasts irrespective of economic climate (i.e., during both economic expansions and contractions). The research question addressed in this study is: Do voluntary earnings forecasts differ depending upon the economic environment? This question links earnings management to voluntary disclosures of earnings. For several years researchers have found that some degree of earnings management may exist in mandatory earnings disclosures. I argue that incentives leading to earnings management may manifest in voluntary disclosures as well. If the potential exists for voluntary disclosures to be managed, then to what extent do investors rely upon the forecast information?

In addressing this research question, I rely upon literature that indicates potential earnings management during periods with differing incentive structures. DeAngelo (1986) shows that managers have incentives during management buyouts to manage earnings downward in attempt to reduce buyout compensation. Collins and DeAngelo (1990) indicate that earnings management occurs during proxy contests, and market reaction to earnings during these contests is different than during non-contest periods. DeAngelo (1990) finds that managers have incentives during merger activities to manage earnings upward so as to convey to current stockholders that the potential merger will not adversely affect their investment. Perry and Williams (1994) find that management of accounting earnings occurs in the year preceding "going private" buyouts. Stunda (1996) finds that managers exert greater upward earnings management during mergers and acquisitions. And Stunda (2003) finds greater earnings management when a firm is under Chapter 11 protection.

This study assesses any differences that the economic environment may have on management forecast credibility. In accomplishing this, the presence of earnings forecast management is tested by using bias measures along with the market reaction to the forecasts. The study focus is on firm forecasts during a period of relative economic expansion (2003-2007) versus firm forecasts during a period of relative economic contraction (2008-2012). Based upon statistical analysis, conclusions are reached that identify whether or not economic environment is a factor that has the potential for influencing voluntary earnings forecasts. The results have implications for all public firms during both periods of economic expansion and contraction, in addition to investors and potential investors in those firms.

HYPOTHESIS DEVELOPMENT

Hypotheses about bias of management forecast

As previously noted, most past studies of voluntary earnings forecasts do not find evidence of bias in such disclosures. These studies of management forecasts must be considered along with the earnings management literature. For instance, voluntary disclosures facilitate additional information to the investor at a lower acquisition cost. However, if only partial communication flows from management to investors and acquiring full information is costly, there exists asymmetric information and the potential for earnings management of the forecast.

If the same degree of earnings management (whether positive or negative) exists in both the forecast of earnings and actual earnings, the expectation is that there would be no difference in forecast error. If, however, the ability to perform earnings management is anticipated but not realized, some difference of forecast error would be present. If greater upward earnings management of the forecast occurs (or less actual earnings management), a negative forecast error should exist. If greater downward earnings management of the forecast occurs (or less actual earnings management), a positive forecast error should result. Thus, the first hypothesis tests for the existence of forecast error. The null hypothesis tested is:

- H1: Average management forecast error (actual EPS – management forecast of EPS) equals zero for firms regardless of economic environment.

Introducing a firm-specific control (i.e., a forecast for the same firm during economic expansion versus economic contraction) allows a test of the relative forecast error in both economic environments. If firms display the same degree of earnings management in both periods, the ex-

pectation is that there will be no difference in forecast error. If, however, there exist different incentives to manage earnings (either upward or downward) during times of economic fluctuation, then a positive or negative forecast error would result. Stated in null form:

- H2: The average forecast error for the firm is not significantly different during periods of economic expansion and economic contraction.

Hypothesis about information content of accounting earnings and management forecasts

If mandatory disclosures of earnings contain some degree of earnings management, then voluntary disclosures may possess the potential for such earnings management as well. Investors may react to managed earnings in one of two ways; they may discount the information as additional noise, or they may view this information as enhancing the properties of the signal (i.e., in terms of amount or variance). Research during the past two decades has shown that accounting earnings possesses information content. Current literature finds that the information content of earnings announcements is different during non-routine periods (i.e. stock proxy contests, mergers and acquisitions, buyouts, Chapter 11 proceedings, etc.).

If investors interpret managed earnings forecasts as just additional noise, the market would discount this information. If, however, investors view the managed earnings forecast as a positive (or negative) signal form management, the market would not discount the information. The expectation for information content of management forecasts in varying economic environments would revolve around these two notions. These alternative notions suggest the following null hypothesis:

- H3: The information content of management forecasts during periods of economic expansion is not significantly different from the information content of management forecasts during periods of economic contractions.

RESEARCH DESIGN

The sample consists of quarterly management forecast point estimates made during two sample periods, 2003-2007 (representing economic expansion), and 2008-third quarter 2012 (representing economic contraction). The sample met the following criteria: 1) The management earnings forecast was recorded by the Dow Jones News Retrieval Service (DJNRS). 2) Security price data was available from the Center for Research on Security Prices (CRSP). 3) Earnings data was available from Compustat. The samples consist of firms which made at least one man-

agement earnings forecast in each sample period. Table 2 provides details on the samples.

| TABLE 2 | |
|--|----------------------------|
| STUDY SAMPLES BY SAMPLE PERIOD | |
| Economic Contraction Study Period | |
| Year | Number of forecasts |
| 2003 | 215 |
| 2004 | 189 |
| 2005 | 207 |
| 2006 | 176 |
| 2007 | 218 |
| Total | 1,005 |
| Economic Expansion Study Period | |
| Year | Number of forecasts |
| 2008 | 204 |
| 2009 | 180 |
| 2010 | 212 |
| 2011 | 178 |
| 2012 | 127 |
| Total | 901 |
| Source: Dow Jones News Retrieval Service | |

TEST OF HYPOTHESIS 1

The management forecasts of earnings must be related to actual earnings in order to determine if bias exists. McNichols (1989) analyzes bias through the determination of forecast error. Stated in statistical form, the hypothesis is represented as follows:

$$\sum \frac{fe_i}{n} = 0$$

Where: fe_i = forecast error of firm i
(forecast error = actual eps – management forecast of eps), deflated by the firm's stock price 180 days prior to the forecast.

In order to test hypothesis 1, firm forecasts included in the combined study samples were analyzed. Statistical analysis is performed on the samples in order to determine if the average forecast error is zero. McNichols (1989) and DeAngelo (1988) conduct a t-test on their respective samples in addition to a Wilcoxon signed rank test. Lehmann (1975) reports that the Wilcoxon tests has an efficiency of about 95% relative to a t-test for data that are normally distributed, and that the Wilcoxon test can be more effi-

cient than the t-test for non-normal distributions. Therefore, this analysis consists of performing a t-test and a Wilcoxon signed rank test on the average cross-sectional differences between actual earnings per share and the management forecast of earnings per share.

HYPOTHESIS 1 RESULTS

Test of hypothesis 1 was conducted on the combined two samples (i.e., forecasts made during periods of economic expansion, and forecasts made during periods of economic contraction), a total of 1,906 firm forecasts. Table 3 contains the results of this test.

Table 3 indicates a mean forecast error for these forecasts is .04 with a p-value of .05. Using the distribution-free rank test, significance is observed at the .01 level. These results are consistent with the preponderance of extant earnings forecast literature that indicates that management forecasts tend to reflect more bad news in the forecast relative to actual earnings. As a result, Hypothesis 1 which states that average management forecast error equals zero regardless of economic environment is overturned, since the forecasts in the sample, on average, exhibits downward bias of the management forecast.

TEST OF HYPOTHESIS 2

The second hypothesis introduces firm-specific and time-specific controls, namely, it assesses potential bias of the management forecast by the two study periods, those made during economic expansion, and those made during economic contraction for the same firms. This permits a test of the relative forecast error in these two respective periods. Stated in statistical form the hypothesis is represented as follows:

$$\sum \frac{fe_i}{n \text{ expansion}} = \sum \frac{fe_i}{n \text{ contraction}}$$

In order to test hypothesis 2, the same firms are selected from both samples. Required criteria for this test is at least one management forecast of earnings had to exist during each sample period for each firm. When this constraint is applied to the firms, the sample size as indicated in Table 2 is greatly reduced. For the sample period 2003-2007 (economic expansion), a total of 147 firm forecasts are observed. For the sample period 2008-2012 (economic contraction), a total of 121 firm forecasts are observed.

HYPOTHESIS 2 RESULTS

Test of hypothesis 2 was conducted on two samples; one sample including firm forecasts between 2003-2007 (economic expansion), and the other sample including firm forecasts between 2008-2012 (economic contraction). As mentioned above, both of these samples contained the same firms. Table 4 contains the results of this test.

Panel A of Table 4 indicates results for the economic expansion sample of firm forecasts of earnings per share. Mean forecast error for these forecasts is .03 with a p-value of .05. Using the distribution-free rank test, significance is observed at the .01 level. As seen with hypothesis 1, these results are consistent with prior earnings forecast literature which indicates that management forecasts tend to reflect more bad news in the forecast relative to actual earnings. Panel B of Table 4 provides results for the economic contraction sample of firm forecasts of earnings per share. Mean forecast error for these firms is -.12 with a p-value of .01. Using the distribution-free rank test, significance is observed at the .01 level. These results are inconsistent with those from Panel A. They indicate that forecasts during economic contraction tend to reflect more good news in the forecast relative to actual earnings. Therefore, hypothesis 2 which states that there is no significant difference in forecast error between these two sample periods, must be rejected.

| TABLE 3 AVERAGE MANAGEMENT FORECAST ERROR DEFLATED BY FIRM'S STOCK PRICE 180 DAYS PRIOR TO FORECAST | |
|--|---------------------|
| $\sum \frac{fe_i}{n} = 0$ | |
| n | 1,906 |
| Mean | .04 |
| Median | .01 ^b |
| Minimum | -.127 |
| Maximum | .229 |
| Standard Deviation | .0017 |
| (t-statistic) | (2.25) ^a |
| a Significant at the .05 level (two-sided test). | |
| b Significant at the .01 level using the non-parametric sign-rank test. | |
| fe _i = forecast error of firm i (actual eps – management forecast of eps) | |
| n = sample of 1,906 firm forecasts during 2003-2012 | |

| TABLE 4 AVERAGE MANAGEMENT FORECAST ERROR DEFLATED BY FIRM'S STOCK PRICE 180 DAYS PRIOR TO FORECAST | |
|--|----------------------|
| $\sum \frac{fe_i}{n_{\text{expansion}}} = \sum \frac{fe_i}{n_{\text{contraction}}}$ | |
| Panel A- management forecasts during economic expansion (2003-2007) | |
| n | 147 |
| Mean | .03 |
| Median | .01 ^b |
| Minimum | -.027 |
| Maximum | .229 |
| Standard Deviation | .0020 |
| (t-statistic) | (2.26) ^a |
| a Significant at the .05 level (two-sided test). b Significant at the .01 level using the non-parametric sign-rank test. fe _i = forecast error of firm i (actual eps – management forecast of eps) n = sample of 147 firm forecasts during 2003-2007 | |
| Panel B- management forecasts during economic contraction (2008-2012) | |
| n | 121 |
| Mean | -.12 |
| Median | -.05 ^b |
| Minimum | -.220 |
| Maximum | .121 |
| Standard Deviation | .0011 |
| (t-statistic) | (-2.35) ^a |
| a Significant at the .01 level (two-sided test). b Significant at the .01 level using the non-parametric sign-rank test. fe _i = forecast error of firm i (actual eps – management forecast of eps) n = sample of 121 firm forecasts during 2008-2012 | |

TEST OF HYPOTHESIS 3

The purpose of this test is to assess the relative information content of management earnings forecasts during periods of economic expansions and economic contractions. The model below is used to evaluate information content:

In this model, the coefficient a measures the intercept. The coefficient b_1 is the earnings response coefficient (ERC) for all firms (i.e., 1,906) in both samples. The coefficient b_2 represents the incremental ERC for firm forecasts made during periods of economic expansion (i.e., 1,005). The coefficient b_3 represents the incremental ERC for firm forecasts made during periods of economic contraction (i.e., 901). The coefficients b_4 , b_5 , and b_6 are contributions to the ERC for all firms in the sample. To investigate the effects of the information content of management forecasts on ERC, there must be some control for variables shown by prior studies to be determinants of ERC. For this reason, the variables represented by coefficients b_4 , b_5 and b_6 are included in the study.

Unexpected earnings (UE_i) is measured as the difference between the management earnings forecast (MF_i) and the security market participants' expectations for earnings proxied by consensus analyst following as per Investment Brokers Estimate Service (IBES) (EX_i). The unexpected earnings are scaled by the firm's stock price (P_i) 180 days prior to the forecast:

$$UE_i = \frac{(MF_i - EX_i)}{P_i}$$

For each disclosure sample, an abnormal return (AR_{it}) is generated for event days -1, 0, and +1, where day 0 is defined as the date of the forecast disclosure identified by the DJNRS. The market model is utilized along with the CRSP equally-weighted market index and regression parameters are estimated between days -290 and -91. Abnormal returns are then summed to calculate a cumulative abnormal return (CAR_{it}). Hypothesis 3 is tested by examining the coefficients associated with unexpected

MODEL

$$CAR_{it} = a + b_1 UE_{it} + b_2 UEE_{it} + b_3 UEC_{it} + b_4 MBit + b_5 Bit + b_6 MV_{it} + e_{it}$$

Where: CAR_{it} = Cumulative abnormal return forecast i, time t

a = Intercept term

UE_{it} = Unexpected earnings for forecast i, time t

UEE_{it} = Unexpected earnings for forecast i, time t during economic expansion

UEC_{it} = Unexpected earnings for forecast i, time t during economic contraction

MBit = Market to book value of equity as proxy for growth and persistence

Bit = Market model slope coefficient as proxy for systematic risk

MV_{it} = Market value of equity as proxy for firm size

e_{it} = error term for forecast i, time t

earnings during economic expansion (b2) and economic contraction (b3). There are two possible conclusions of results; the forecast may be noisy, which in this event, the coefficient < 0 , or the forecast will possess an information-enhancing signal to the investor, which will result in the coefficient > 0 .

HYPOTHESIS 3 RESULTS

Hypothesis 3 tested information content of management forecasts during periods of economic expansion and economic contraction. Table 5 reports the results of this test. As indicated in the table, the coefficient representing the overall ERC for all firm forecasts in both study periods (b1) has a value of .14 with a p-value of .01. This is consistent with prior management forecast literature regarding information content. The coefficient representing the incremental ERC for firm forecasts during economic expansions (b2) has a value of .10 with a p-value .01. The coefficient representing the incremental ERC for firm forecasts during economic contractions (b3) has a value of -.03 with a p value of .01. All other control variables are not significant at conventional levels. These findings indicate that not only do forecasts contain information content, there is a difference between the information content of forecasts made during periods of economic expansion versus those made in economic contraction. Those made during economic expansion possess an information-enhancing

signal to investors and other users while those made during economic contraction are interpreted by investors and other users as being noisy information that may or may not be usable.

In addition, whenever a set of multiple regression variables are employed, there is a probability of the presence of multicollinearity within the set of independent variables which may be problematic from an interpretive perspective. To assess the presence of multicollinearity, the Variance Inflation Factor (VIF) was utilized. Values of VIF exceeding 10 are often regarded as indicating multicollinearity. In the test of hypothesis 3, a VIF of 1.9 was observed, thus indicating the non-presence of significant multicollinearity.

CONCLUSIONS

This study provides empirical evidence regarding the credibility of management forecasts of earnings during differing economic cycles, namely, economic expansion, and economic contraction. Bias results indicate that during periods of economic expansion, managers exert greater downwards earnings management on the forecast (relative to actual earnings). This is consistent with prior management forecast literature. However, during periods of economic contraction, managers exert greater upwards earnings management on the forecast (relative to actual earnings). Information content results indicate the pres-

TABLE 5
TEST OF INFORMATION CONTENT OF MANAGEMENT FORECASTS

MODEL:

$$CAR_{it} = a + b_1 UE_{it} + b_2 UEE_{it} + b_3 UEC_{it} + b_4 MBit + b_5 Bit + b_6 MV_{it} + e_{it}$$

Where: CAR_{it} = Cumulative abnormal return forecast i, time t

a = Intercept term

UE_{it} = Unexpected earnings for forecast i, time t

UEE_{it} = Unexpected earnings for forecast i, time t during economic expansion

UEC_{it} = Unexpected earnings for forecast i, time t during economic contraction

$MBit$ = Market to book value of equity as proxy for growth and persistence

Bit = Market model slope coefficient as proxy for systematic risk

MV_{it} = Market value of equity as proxy for firm size

e_{it} = error term for forecast i, time t

Coefficients (t-statistics)

| a | b1 | b2 | B3 | B4 | B5 | B6 | Adjusted R ² |
|--------------|----------------------------|----------------------------|-----------------------------|--------------|----------------|--------------|-------------------------|
| .20 (.78) | .14 (2.35) ^a | .10 (2.40) ^a | -.03 (2.42) ^a | .11 (.32) | -.05 (-.18) | .04 (.28) | .189 |

a Significant at the .01 level (two-sided test)

b_1 , b_4 , b_5 and b_6 sample = 1,906 firm forecasts

b_2 sample = 1,005 firm forecasts

b_3 sample = 901 firm forecasts

ence of information content in management forecasts during both economic expansion and contraction periods. During economic expansion, forecasts tend to exhibit an information-enhancing signal to users. However, during economic contraction, forecasts interpret the forecast as being more noisy and potentially less informative. These findings have significant implications for managers issuing earnings forecast during an economic contraction, such as the one we are currently experiencing. If investors become aware of a potentially positively biased forecast, there will be a tendency for these users to discount the information provided by the forecast. Both managers and users of the management forecast must be cognizant of potential upward bias of earnings forecasts during contraction periods.

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SUGGESTIONS FOR THE PREPARATION, PRESENTATION AND EVALUATION OF CASE STUDY REPORTS IN STRATEGICALLY-ALLIED GLOBAL BUSINESS EDUCATION PROGRAMS

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ABSTRACT

Business education programs use case studies to familiarize students with the practices of business and to enhance their abilities to apply appropriate concepts, methods and models to solve real or simulated business problems. This paper focuses on the use of case studies within courses that fulfill the requirements for an undergraduate or a graduate degree in one of the business disciplines. The authors suggest that an established consistency between and among instructors regarding the preparatory structure of student case reports and the methods used by faculty members to evaluate the substance of students’ case reports can enhance the academic value of the case study method. Further, a consistent approach to evaluating students’ case study reports will provide empirical data relevant to validating the assessment or assurance of learning objectives stated by colleges and universities. The consistent reporting and evaluation formats suggested in this paper are especially beneficial for both cooperating domestic and international educational programs that enroll foreign students. Structural formats for the preparation of case reports, examples of commentary and scoring protocols currently in use and brief summaries of the benefits of these protocols reported by both students and faculty members are presented.

The paper focuses on case studies employed in business education, however, the approach discussed in the article, the outlines for the preparation of reports and the commentary code for evaluation, are applicable to case studies used in the behavioral and social sciences and in educational studies. More generally, they can be adapted by any academic discipline within any course that requires students to submit written reports, essays or term papers.

GLOBALIZATION OF BUSINESS AND BUSINESS EDUCATION

Business practices and business education programs are interdependent entities in the global environment. The relationship between the two generates benefits for both and as such the relationship represents a true strategic alliance (Ohmae, 1989; Mowery, Oxley & Silverman, 1996; Amatori & Jones, 2003).

The globalization of business educational programs continues to expand (Kao & Mao 2011). Countries where

personal discretionary income and market potential were on the rise and where further advances in the technology, communications, production efficiency and logistics were anticipated, were considered likely locations for business schools to establish satellite programs that, in many cases, evolved into permanent branch installations (Ohmae, 1990; Dobyns & Crawford- Mason, 1991; Friedman, 2005).

The diffusion of innovative educational ideas and methods is a force that has stimulated global companies to

move from an initial reliance on exporting a cadre of domestic managerial personnel to the practice of recruiting foreign nationals into the managerial and executive ranks of both their domestic and foreign operations (Chadraba & O'Keefe, 2011). Growth in the globalization of business operations underscores the need for internationally comparable business education programs. Universities the world over continue to respond to that need (Daly, 2006). Both American and European colleges and universities were "first responders" and their commonly held pedagogical interests and objectives have stimulated a level of similitude in degree programs.

As a result of articulation agreements between and among universities, a student living in a foreign country can earn a degree from an American university that has established a branch in his or her home country. Alternatively, that student might elect to travel to the United States to attend classes on the university's home campus. That same student could elect to take classes at other cooperating institutions located in another country. Articulation agreements provide for the transfer of credits between and among educational institutions. Articulation agreements have expanded the range of cooperative degree programs crossing both domestic and international borders.

Unifying Educational Programs: The Bologna Agreement

Articulation agreements between colleges or universities are specific regarding accepting credits and recognizing degree requirements. These agreements take time to formulate, to implement, to administer and to maintain. As business education programs transitioned from an insular to a global perspective, articulation agreements between and among educational institutions have increased in acceptance and importance.

The Bologna Agreement, for example, represents a comprehensive and far-reaching effort to unify higher educational practices. The agreement specifies that the quality assurance standards governing the awarding of academic degrees be more comparable and compatible between and among participating educational institutions. Initially, 45 European nations signed the Bologna agreement. Adelman (2008, 2009) has reported that the Bologna agreement has had an influence that extends beyond the borders of the European continent. The Bologna Agreement mandates that course credits may be transferred between participating institutions of higher learning. The agreement also standardizes the length of lecture periods, the credit hours earned from completing courses and the credits required for completion of undergraduate or graduate degrees. Institutions that have accepted the terms of the Bologna Agreement also encourage students to broaden

their educational perspective and experience by enrolling in classes at other institutions that have signed and implemented the terms of the Bologna Agreement. (Keeling, 2006; Patsiba, 2006).

Comprehensive descriptions and explanations of aspects of the Bologna Agreement abound in the literature. The following citations represent only a small sample of descriptive articles: Wachter, 2004; Witte, 2004; Graduate Management News, 2005; Kettunen & Katola, 2007. These articles are substantively in agreement concerning the importance of major points of the Bologna Agreement.

STANDARDIZATION OF BUSINESS EDUCATION PROGRAMS IN THE USA

In the United States the structure and delivery of curricula, the requirements for awarding undergraduate and graduate degrees and the qualifications of instructors are matters guided, to a degree, by existing AACSB standards (Thanopoulos & Vernon, 1987; Graduate Management News, 2005). Accreditation by the AACSB is a hallmark of high-quality undergraduate and graduate business programs. Reflecting the global orientation of business education, the AACSB has changed its name from The American Association of Collegiate Schools of Business to the more comprehensive AACSB International: The Association to Advance Collegiate Schools of Business. The AACSB's board of directors now includes representatives from both American and European schools of business (Biz Ed., 2011, p. 14). In concert with EQUIS, its European counterpart, the AACSB has encouraged cooperative programs between US and European universities and has accredited a number of prestigious European business programs (Biz Ed, 2011, pp. 20-21). AACSB continues to offer its accreditation to other interested business schools located outside of the United States and is actively engaged in entering into agreements with other business-school accrediting associations around the world. The result has been the addition of a number of foreign business schools to the association's international membership roster.

STANDARDIZATION: THE LANGUAGE OF BUSINESS

Many business schools located outside of the US treat English as the language of business. These programs use textbooks and other course materials published in the English language (Briguglio, 2007; Kuiper, 2007; Neeley, 2012). Reliance on a common language reduces errors in interpretation and assures that the accepted meaning of

business terms and the operational definitions of business concepts are standardized and understood across business programs (Chadraba & O'Keefe, 2007).

Case Courses: Some Benefits of Standardization

Case-centered courses, especially those that assign a sequence of traditional case reports to be either written and/or presented for discussion can benefit from a substantive level of standardization (Brooke, 2006; Brown, 2010). Students will likely experience the case method and other experiential approaches to teaching, alone or in combination, within each of the courses that comprise graduate and undergraduate business programs (Lynn, Brady & Davis, 2009). In instances where case courses are offered by several academic departments or where students may complete their case-centered courses at one or more of several cooperating universities, in the interests of institutional transfer of credits and the systematic assignment of grades, the authors strongly recommend a standardized protocol. The protocol outlines the structure within which case analyses are prepared and presented (Lau Bertrand & Lee, 2012).

Based upon personal experience and communication with a number of faculty members who have taught case-based courses and with a large number of students who have evaluated their experience with case study courses, the authors advance the opinion that it is confusing and detrimental to learning to demand that students master and conform to a different approach and a different reporting structure for the case reports required in the individual courses that comprise an educational program. Efforts devoted to achieving a standardized format for preparing both the verbal and written presentations of the case reports assigned seem especially critical. If articulation agreements between business schools in two or more countries are to be valid and meaningful, it seems essential to adopt and implement a standardized structure for this very important component of a business education.

In addition to a standardized structure for the presentation of case study report, it would be useful to develop, agree upon, and implement a standardized and transparent method for assessing the quality of the substantive and stylistic components organized within students' case presentations and written reports. Globalized business education will benefit from adopting a standardized method for transforming the subjective perception of the quality of a completed assignment into a traditional grade that is accepted, shared and clearly understood by students and by administrators in the cooperating strategically-allied educational institutions. A uniform protocol for the preparation, analysis and reporting of case study assignments

will contribute to achieving truly transferable graduate business programs of comparable quality across academic business disciplines and across cooperating universities and colleges.

STANDARDIZATION AND ACADEMIC FREEDOM

The standardized format that the authors suggest in this paper represents no real threat to any traditional interpretation of academic freedom. Quite the contrary, it suggests adoption of a template for presentation and evaluation of students' case reports, while leaving the content and the focus of the case report or any written assignment to be examined and reported upon entirely within the control of the instructor. Instructors must be free to choose to assign the cases or assignments that they believe have both pedagogical and practical value for the students who must study, analyze and submit written reports on the cases. The instructor should always be considered to be the best judge of which of the aspects of an assigned case are vital to understanding the topics and central for students to achieve a deeper understanding of those topics as well as relevant to meeting both the teaching and learning objectives of the course (Shim & Walzak, 2012).

In what follows, examples of standardized formats for the preparation and evaluation of case study reports are presented. The examples offered have been tested in both domestic and international business programs. They may be adopted exactly as presented in this paper or they can be treated as simply examples that can be modified. Whichever presentation and evaluation formats are ultimately agreed upon, the important point is that they will be consistently applied within and between educational institutions that have entered into strategic alliances and agreed to articulation of their programs.

AN EXAMPLE OF A STANDARDIZED METHOD FOR CASE ANALYSIS PREPARATION AND EVALUATION

As discussed above, case study reports provide a valuable pedagogical method for assessing students' ability to delineate a business problem or an array of problems and to structure a solution or array of solutions derived from the application of concepts and principles mastered within traditional coursework.

Business cases vary in both their informational content and structure. With regard to the extent of the information presented, some cases are considered to be comprehensive. These cases require a student to infer the central

problem or problems within the case and formulate logical and comprehensive solutions to the problems identified. These case study reports represent a type of two-dimensional consulting. More comprehensive cases are most likely incorporated into advanced courses that deal with business or organizational policies and strategies (Swayne & Ginter, 1993; Erskine, Leenders & Maufette-Leenders, 2003; Maufette-Leenders, Erskine & Leenders, 2005).

In introductory courses or later in advanced required or elective courses that focus on specific disciplinary content, the subject matter of the assigned cases used to assess a student's mastery of that content is often more direct. Rather than an unspecified problem to be inferred and solutions to be provided, such cases are usually brief and may include a specified series of questions to be answered. More specific cases are likely to be included in courses such as Advertising, Human Resources, etc., which have more directed topical coverage such as in introductory texts such as, for example, Peter & Donnelly, (2010) and & Kurtz (2010). Cases in these introductory texts are convergent with topics covered in specific chapters or sections of the text.

Whether a case is comprehensive or specific, both the student and the instructor have very clear responsibilities to fulfill. The student is charged to read the case completely, to diagnose and delineate the problem(s) inferred from the information provided, to suggest relevant solutions to the problem(s) inferred or the questions to be answered and to clearly communicate these solutions or answers in a verbal discussion, a written report or both (Bontis, Hardie, & Serenko, 2010).

More often than not, the several sections of the completed case report are presented within an assigned content and structure (format) designed to assure a measure of consistency in the way students' verbal or written case analyses are presented (Ramaekers, van Kulen, Kremer, Pilot, & van Beukelen, 2011). The instructor is responsible for providing the appropriate structure or format for the presentation of the case report and assuring that the students understand the details of that structure (see Appendix A). The suggestions for completing a case report, the scoring protocol for such reports and the commentary code used to provide detailed evaluations of student reports, benefit both the students and the instructors (Dolmans & Schmidt, 2000). The structure helps students to understand exactly what is expected in a case analysis report and explains the basis of the evaluative score or grade that the faculty member has assigned to the case report. The evaluative commentary codes that are discussed in this paper have been proven to be a means for instructors to more objectively and more efficiently evaluate both the style and the substance of student case reports.

An Example Structure for Case Preparation

Appendix A of this article illustrates the structural expectations for the discussion and presentation of a comprehensive case. The example presented in Appendix A focuses on the elements required for the presentation of comprehensive cases in marketing strategy. Structures relevant to comprehensive cases dealing with strategy in other disciplines are available in texts representative of these other disciplines. The instructional information contained in Appendix A is, with permission, directly adopted from Duncan, Ginter & Swayne (1993). The instructions and expectations are linked to the evaluative commentary codes presented in Appendix C of this paper.

Consistency benefits both the student and the instructor. A predetermined and assigned structure directs the student as to how the report is to be organized. The instructor is responsible for consistently evaluating the relevance and the meaningfulness of the proposed solutions or answers presented within each of the students' case reports. Consistency in the structure of case reports submitted for evaluation makes objective evaluation easier for the instructors. Those instructors who assign both written and presentation case reporting assignments expect students to produce reports of professional quality. Students expect that instructors will carefully read, evaluate and grade their work and provide a clear and consistent rationale for the number or letter grade assigned.

Appendix B presents a set of format instructions applicable to cases that require that each student's report consists of answers to a series of structured questions linked to the content of the case. The format instructions in Appendix B serve the same purpose as those outlined in Appendix A. In each situation both the instructor and the students understand what is to be expected in the verbal or written reports presented by the students and what is expected in the faculty member's evaluation. The commentary code presented in Appendix C is also applicable to the presentation and, more pointedly, to the evaluation of case reports.

A COMMENTARY CODE FOR EVALUATING CASE REPORTS

Over at least the past decade, business schools have been made acutely aware of the necessity for their students to become more skilled in written communication. Business school advisory boards frequently cite communication skills as an area most in need of attention and improvement (Singleton & Newman 2009; Pelekani 2010). Toward this end, examinations required for acceptance into undergraduate programs require evidence of writing ability and the Graduate Management Admissions

Test (GMAT) has added an essay component. The mission statements of most universities incorporate objectives that focus on students' developing critical thinking and improvement in both their verbal and written communication skills (Schlitz, et al., 2009). To respond to the reported deficiency in written communication skills, many business schools have added additional coursework in communication or have attempted to integrate these skills over a range of courses by initiating, for example, "Writing across the Curriculum" programs. To encourage improvement a number of educational and business institutions have adopted "Auto-Scored Writing". This approach is based on a technology called Pearson's Intelligent Essay Assessor or IEA (Pearson 2012)

Successful implementation of these sorts of programs requires that faculty members in all departments and programs assign several writing assignments over an academic term. Beyond the matter of assigning writing exercises, these programs expect that faculty members with or without the contemporary technology will evaluate the structure, substance and style of the students' written reports. Empirically and consistently evaluating these written reports provides faculty members with a method for assessing whether students are making progress toward achieving the communication and critical thinking objectives frequently cited as objectives in institutional mission statements.

RATIONALE FOR THE CODE (APPENDIX C)

Business classes at both the undergraduate and graduate level often enroll 40 or more students. Each student is assigned to produce several case reports. This means that, if an instructor is to fairly and consistently evaluate each student's reports, he or she must invest a great deal of time. As mentioned above, student case reports require an instructor's evaluative comments and also require that the grade or the points awarded are explicitly linked to the instructor's evaluative comments (Andrade, 2000; Arter & McTiche, 2001; Healy & McCutcheon, 2010).

Instructors teaching smaller graduate or undergraduate seminar-type courses have no problem writing detailed evaluative comments and conveying the meaning of these comments to the students. For the oversized undergraduate or graduate courses, however, extensive commentary on all writing assignments is a true test of commitment and stamina. Experienced instructors understand that the content of the case reports will be repetitive as will some of the substantive and stylistic errors.

To do justice to student reports the instructor must respond to issues of structure, substance and style within each individual report and these responses must be con-

sistent across the entire array of reports (Hattie & Timperley, 2007; Vardi, 2009; Bertrand & Lee, 2012). This is a critically important aspect of teaching and one that demands an instructor's complete attention. Once again, for reasons obvious to experienced instructors, attempting to provide a comprehensive evaluative commentary for each of a large number of reports within a single sitting threatens the integrity of the commentary and the consistency of the evaluation. In such a situation both physiology and psychology operate against the evaluator. One can, for example, evaluate a few reports at a time or assign them to a team of graduate teaching assistants, but either method raises the question of evaluative consistency over time periods or persons or both (Campbell & Stanley, 1966). Piecemeal approaches also lengthen the time devoted to evaluation and extend the turnaround time for student assignments.

The authors have had extensive experience with commenting on the style and substance of student reports assigned in a number of classes over a number of academic terms. These classes were conducted in both domestic and international programs (Chadraba & O'Keefe, 2007).

This shared experience led us to develop a numbered code system for each of the most frequently repeated evaluative comments. As seen in Appendix C, each number (1-12) represents an evaluative statement that is linked to the evaluative components of the assignment. The three evaluative components that the faculty member must consider and evaluate are Structure /Format (Code items 1 & 10) Substance/Content (Code items 5, 6, 7, 8 & 9) and Style (Code Items 2, 3, 4, 11 & 12).

THE COMMENTARY CODE: BENEFITS REPORTED BY FACULTY MEMBERS

Faculty members who adopted the code were interviewed. The following comments deal with the benefits realized from using the commentary code:

1. The code speeds evaluation and so turnaround time for student reports.
2. The code operates in real time. The coded numbers call a student's attention to words or phrases by combining the number with a circle or checkmark.
3. The code allows the faculty member to call attention to mistakes and to provide both constructive criticism and, importantly, constructive appreciation of elements of the student's report at the time it is being read and evaluated.

4. In situations where an instructor is assigned to teach a course for the first time or where, as part of their pedagogical training and experience, graduate teaching assistants are assigned to read and grade cases, the code can increase the probability of evaluative consistency by controlling for individualistic evaluations.
5. Recording the most frequent codes for each student in a grade book generates the data for a formative and eventually a summative assessment of each student's improvement in both substance and style over his or her case or topical reports required within the course (see Table 1).
6. At the conclusion of the evaluative reading, the instructor can insert a grade and a more specific summary of his or her evaluation.

| TABLE 1: EXAMPLE OF A STUDENT PROGRESS EVALUATION COMPONENT | | | |
|--|-------------|------------|------------|
| | Case # 1 | Case # 2 | Case # 3 |
| <i>STRUCTURE</i> | 6 (-4) | 7 (-3) | 10 (0) |
| <i>SUBSTANCE</i> | 18 (-12) | 22 (-8) | 25 (-5) |
| <i>STYLE</i> | 5 (-5) | 8 (-2) | 10 (0) |
| Both actual and difference scores are incorporated. | | | |

THE COMMENTARY CODE: BENEFITS REPORTED BY STUDENTS

Students have reported the following benefits derived from the use of the code:

1. Each student has a copy of the code and knowledge of the elements on which their reports will be evaluated.
2. Students report that the code is easy to understand and its application is relevant to their assigned reports.
3. Students prefer the numbered code designations to having to decipher a faculty member's handwritten comments.
4. Students report that they intensely dislike having written reports returned to them with little or nothing in the way of evaluative comments that detail the justification for the grade assigned. The code provides objective evaluative commentary.
5. Some students report that they sometimes suspect that, if the papers submitted were read at all, the reading was at best cursory. Again, the use of the code statements provides tangible evidence that their work was carefully read.
6. Students also report that when they have sought out a faculty member for a more comprehensive evaluation of their work, the passage of time and the fallibility of human memory make ex post facto justifications less than convincing. This same complaint is expressed in situations where senior faculty members leave the evaluation of student reports to graduate assistants. The codes assist recall and provide a road map leading to the eventual grade.
7. Students especially appreciate having their initial reports quickly returned to them so that they are afforded ample time to study the evaluative comments and make improvements in subsequent reports. The codes serve to improve the efficiency of evaluation and so to improve turnaround time.
8. Students for whom English is a second language especially appreciate the coded comments.

The Comment Code: Formative and Summative Assessment Possibilities

As mentioned above, both Internal and external pressures have made the topic of assessment, or better stated the assurance of learning, a central topic for discussion and action (Desrochers, Fink, Kemmerling, & Tung, 2007) The example illustrated in Table 1 assumes a case report that is worth 50 points to the total points accumulated by a student and then translated into a letter grade. The formative assessment potential examines the student's progress in adhering to the structure, providing substantive discussion of the case and providing a case report that demonstrates an understanding of appropriate grammar and punctuation. The summative assessment is derived from the student's overall score. The instructor must, of course, provide a criterion of acceptability in the form of a raw score or a percentage of the overall score. Schools which have developed an overall program of assessment may dictate the criterion for acceptability (O'Keefe, Hamer & Kemp 2013).

CONCLUDING COMMENTS

A number of instructors from different departments in our graduate and undergraduate programs have adopted the commentary code reported in Appendix C or have created variations of the code which were adapted to the pedagogy of their various classes. The codes were found to be especially useful since, as is true of a number of colleges and universities; our student population has become more diverse and more international each year (Business Week 2012 p.60) The Wall Street Journal reported that during the 2010-11 academic year, approximately 723,000 foreign students were enrolled in colleges and universities in the United States (The Week 2012). For the majority of these foreign students, English is a second language. During the same period of time, there were an estimated 270,604 American students studying in colleges and universities abroad. It is very likely that English was a second language for many of the faculty members within these colleges and universities.

The recruitment and enrollment activities currently being undertaken by universities and colleges is one important reason for making the language and the objectives of the commentary code easy to understand. Commentary codes have been used in our MBA/IMF program which recruited the majority of its students from Europe and Asia. The codes were also used in our programs conducted in several European and Middle Eastern countries. Whether the locale was domestic or international, the benefits for faculty and students proved to be the same as those reported earlier in the body of this paper

A CONCLUDING STATEMENT

As programs become even more global in their content and classes are attended by multilingual students and conducted in several countries, English has emerged as the language of business and so as the language of business education. For international business education programs, the commentary codes presented here can enhance program depth and efficiency. Instructors who share program responsibilities across several schools in several countries can cooperate by developing and using an agreed upon commentary code that assures greater integration and consistency in evaluating student case reports.

Finally, the authors are not operating under the illusion that the system we have outlined in this paper will be immediately adopted by faculty members conducting business education programs the world over. Resistance must be expected and will be experienced. Some faculty members, however, will recognize and elect to adopt the current code or will create variations of relevance to their own programs and their own program objectives. As a re-

sult these faculty members may be willing to assume the critical role of "product champions" and act to advance the concepts of cooperation and articulation in university educational programs (Chakrabarti, 1974 ; Ettlie & O'Keefe, 1982).

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APPENDIX A
AN OUTLINE FOR CASE ANALYSIS

- I. Situational Analysis
 - A. External Environment Analysis
 - 1. General Environmental Analysis—Economic, Social, Political, Technological
 - 2. Industry Analysis—Economic, Social, Political, Technological
 - 3. Market Analysis
 - B. Internal Environmental Analysis
 - 1. Evaluation of the Mission
 - 2. Evaluation of the Objectives
 - 3. Evaluation of the Functional Areas
 - a. Marketing
 - b. Finance
 - c. Production
 - d. Human Resources
 - 4. Evaluation of Marketing Strategies
 - a. Target Market
 - b. Product Strategies
 - c. Pricing Strategies
 - d. Distribution Strategies
 - e. Promotional Strategies
 - (1). Advertising Strategies
 - (2). Selling Strategies
 - (3). Public Relations/Publicity Strategies
 - (4). Sales Promotion Strategies
 - C. Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis
- II. Identification of the Problem (Opportunity)
- III. Development of Strategic Alternatives
- IV. Evaluation of the Strategic Alternatives
- V. Recommendations
- VI. Implementation
- VII. Finalizing the Report

From: Swayne, L. & Ginter, P. *Cases in Strategic Marketing*, 2nd Edition, 1993. Reprinted by permission of Pearson Education Inc., Upper Saddle River, NJ.

APPENDIX B STRUCTURE INSTRUCTIONS

Preparing Case Reports

The cases used in (course title & #) differ from those used in more traditional case analyses. Rather than asking students to identify problems and suggest solutions, these cases pose a series of specific questions to be answered.

1. Always read the entire case carefully and completely before answering the questions. Most of the information you'll need to answer the questions is in the body of the case presentation.
2. Read the questions just as carefully. That sounds obvious, but people do misinterpret questions and, therefore, provide irrelevant answers.
3. Use a memo format for the report.
4. There is no need for a cover page.
5. There is no need to repeat the questions. Simply use the question numbers.
6. Use your text as a source. The text provides the evidence you need to support your statements. For example, should a question deal with values, your answer should include specific values and definitions of these values drawn from the text. Statements that are unsupported by evidence are no more than opinions. These cases are included to illustrate that textbook concepts are applicable to real situations.
7. Good case reports use the text as evidence; excellent case reports incorporate information from sources outside the text. The popular press, business publications, and local newspapers often have articles about the issues and companies covered in the cases.
8. Good writing counts. Practice brevity and clarity.
9. A good, inexpensive writing guide can be of great help. My own favorite is Strunk and White's *The Elements of Style*
10. *Edit your report for spelling and grammatical errors.*

APPENDIX C A COMMENTARY CODE FOR EVALUATING CASE REPORTS

Commentary Code for Evaluating Case Reports

I have prepared this code sheet to help speed the return of case reports. The suggestion sheet included with your syllabus outlines the approach to be taken in presenting your case reports.

1. Follow the report structure outlined in your syllabus.
2. Pay more attention to the mechanics of writing – spelling, punctuation, etc. Errors in mechanics distract the reader from your ideas.
3. Watch your choice of words. The right word can make an idea or a statement more impressive to the reader: the wrong word can dilute your intended meaning.
4. Pay close attention to sentence structure and clarity. The best ideas are sometimes ignored when they are not presented clearly. Don't expect the reader to infer your meaning; state your point of view clearly.
5. Cite evidence. Support your statements, points, and assumptions with concepts drawn from the text or outside sources. Unsupported assumptions are no more than opinions.
6. A good use of concepts drawn from the text in support of your statement.
7. A good use of outside sources in support of your statement.
8. A creative insight into the details of this case.
9. Very well prepared and written. Your points are clear and concise.
10. Reread the suggestion sheet in the syllabus before preparing the next case report.
11. Invest in a good writing guide, e.g. Strunk and White's *The Elements of Style*.
12. *Contact the university writing center: (phone ext./email address)*

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POTENTIAL POWER AND PROBLEMS IN SENTIMENT MINING OF SOCIAL MEDIA

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ABSTRACT

Sentiment mining research has experienced an explosive growth in awareness and demand as Web 2.0 technologies have paved the way for a surge of social media platforms that have significantly and rapidly increased the availability of user generated opinionated text. The power of opinions has long been known and is beginning to be tapped to a fuller potential through sentiment mining research. Social media sites such as Twitter have become a paradise for sentiment providing endless streams of opinionated text encompassing an infinite array of topics. With the potential to predict outcomes with a relative degree of accuracy, sentiment mining has become a hot topic not only to researchers, but to corporations as well. Although, sentiment mining faces some inherent challenges produced by the complexities of human language, progress is being made in the field to overcome these challenges and provide more accurate results. As the social media user base continues to expand and as researchers compete to fulfill the demand for sentiment analytic tools to sift through the endless stream of user generated content, the growth of sentiment mining of social media will continue well into the future with an emphasis on improved reliability, accuracy, and automation.

INTRODUCTION

Sentiment mining (SM), also called opinion mining or sentiment analysis, has evolved over the last decade from text mining and natural language processing, but aims to determine the attitudes of individuals/groups with respect to some specific topics. More recently, SM has greatly assisted decision makers in extracting opinions from unstructured human-authored documents. SM is a computational process which is profoundly rooted in the field of computer science. SM utilizes analytical tools including natural language processing, computational linguistics, and text analysis to isolate and extract subjective information from factual information from a source of text (Pang & Lee, 2008; Anderson, 2011). Once extracted, SM seeks to analyze and determine the opinions, feelings, emotions, attitudes, and sentiments embedded in the text by aggregating and categorizing text as positive, negative, or neutral.

The process of SM is significant as it provides a basis for the determination of distinctive insights into the thoughts and opinions of individuals based on written text. This information is of tremendous value to a diverse

population of researchers particularly those concentrated in the marketing spectrum. The demand for information regarding the opinions and sentiments of individuals and groups of individuals has grown tremendously. Opinions are a crucial aspect in the decision making process both on a personal and business level (Liu, 2010; Gopal, Marsden, and Vanthienen, 2011). Opinions ultimately influence our decisions and behaviors which ultimately define an outcome. It is this influential relationship as well as the outcome(s) of the opinions and behaviors that have heightened the interest of SM to decision making entities including individuals, researchers, corporations, politicians, and even governments.

Individuals' opinions are not only figuratively valuable, but also literally valuable. Corporations spend millions of dollars each year to gain insights into customers' thoughts, attitudes, and opinions. Traditionally, researchers have used conventional methods such as opinion polls or questionnaires amassed of intricately crafted questions designed to produce heavily opinionated responses to gauge the sentiment of a population. While these methods may be effective in determining the sentiment of the given population, the information obtained more than likely

does not represent an accurate reading of true sentiment due to population size limitations and questionnaire bias.

While the concept and value of SM has existed for some time, its potential has been severely stifled by the absence and availability of opinionated text. However, with the relatively recent advent of Web 2.0 and its resulting social media revolution, many have reawakened to the potential and power of SM. Blogs, wikis, social networking sites, namely Facebook and Twitter, and user review/comment portals have significantly accelerated the production of user generated content immensely increasing the volume and availability of opinionated text which is both free and easily accessible. With such a tremendous surge of the publication of user generated opinionated text, the World Wide Web has become a valuable trove of opinion laden information waiting to be mined.

With such an explosion of social media, current SM research is almost exclusively focused on social media as user generated content from social media has provided the fuel for SM fire. However, although Web 2.0 has negated the lack of opinionated text which had hindered the advancement of SM, there will continue to be inheriting challenges in the field of SM as the complexities of natural language have not yet been overcome by artificial intelligence making SM an imperfect science. However, while SM may remain an imperfect science for the time being, it is by no means a futile science. Current SM research has shown to be between 70 and 80% accurate (Liu, 2009; Cai et al., 2010; Bai, 2011). This statistic may spawn a community of skeptics, it is crucial to realize the field of SM is in its infancy and as additional research is conducted and the field continues to generate interest, advancements in SM tools and techniques are taking shape leading to more accurate results and to the development of more complex mining tools and techniques that have the potential to forever change how research is conducted and how decisions are made. As the field of SM continues to evolve, future research will take direct aim at the natural and technical challenges of the field with a focus of moving toward the delivery of automated SM tools that can provide real time, highly accurate results (90%+) with little human interaction.

CURRENT RESEARCH

Social media has become a way of life in the United States and around the globe. Web 2.0 technologies have fueled the growth and popularity of social media sites such as Facebook, Twitter, and YouTube. Coupled with the advancement of mobile communications technologies, access to social media platforms is available 24 hours a day. With such a large array of social media platforms and their uninterrupted availability, heavy users nearly docu-

ment their entire lives in real time across these various platforms making them an optimal source for sentiment analysis. However, simply because the data is in existence does not mean it is easy to analyze. With such an enormous volume of user generated content from social media platforms, all of the content cannot possibly be mined by humans alone thus; sentiment analysis software development has become the primary focus of the field igniting an industry of social media oriented sentiment analytics providers such as ScoutLabs, Evolve24, Radian6 (now part of salesforce.com), OpenAmplify, DNA 13, and most recently Thompson Reuters.

Converting opinions to usable data may seem like an impossible task, however, current research and advancements in sentiment analysis have turned the impossible into imperfect but tolerable. With the assistance of human sentiment programming, computers and their software are able to rapidly analyze sentiment embedded in text and are able to produce relatively accurate results.

Current sentiment analysis research has primarily been based on basic algorithms developed using the principals of polarity. Polarity classification through text analytics classifies sentiment contained in sentences and statements as being positive, negative, or neutral. Once classified, researchers are using the data for a variety of uses from marketing research to predicting specific outcomes.

Twitter is King

The Micro-blogging site Twitter has become an epicenter for sentiment analytics. Twitter is a social media platform which allows its users to post short messages limited to 140 characters. These short messages are referred to as Tweets (Savage, 2011). The inception of Twitter was one of mixed appeals as users had mixed emotions about its use and were encouraged by Twitter's "what are you doing?" slogan to share posts about mundane activities that they experienced throughout their day (Gayo-Avello, 2011). However, as Twitter has evolved and its user base has grown, Twitter has become a global pipeline of real time information sharing and broadcasting. From news to product reviews, the data from Twitter is constantly flowing. With approximately 200 million tweets being posted per day, the amount of opinionated text available is practically infinite. With its broad reaching scope, and endless stream of information, Twitter has become a tremendous asset to the field of sentiment analysis. Countless studies have been conducted using Twitter as the primary source for obtaining, extracting, and classifying sentiment which was then used to predict outcomes of certain events.

Data from Twitter was analyzed by Asur and Huberman (2010) to predict box-office sales of movies. The study uti-

lized a sample set of 2.89 million Tweets from 1.2 million users which referred to 24 different movies released in a 3 month period. The authors developed a linear regression model to predict box office sales for movies based on their Tweet rates. The results of their study revealed that movies with lower Tweet rates will bring in less revenue than movies with higher Tweet rates. The authors compared their results to predictions forecasted by the Hollywood Stock Exchange, a virtual entertainment stock exchange, and to News based forecasts. They discovered that their predictions based on Tweet rates were consistently better at predicting revenues than both the Hollywood Stock Exchange and news-based predictions. Furthermore, the prediction level of box office revenue and movie performance after its release was improved with the addition of sentiment analysis. A general prediction model which incorporates sentiment analysis for predicting the revenue of any product and perceivably service was derived.

While sentiment analysis clearly demonstrates its usefulness when applied to business intelligence, it also can be useful in applications spanning different domains such as in the political arena (Pang & Lee, 2008). O'Connor et al. (2010) explored this application in their study of consumer confidence and political opinion during the period of time between 2008 and 2009. Their research consisted of 1 billion tweets obtained from Twitter and opinion surveys from various polling organizations as well as information gathered from the Index of Consumer Sentiment from the Reuters/University of Michigan Surveys of Consumers and Gallop's Economic Confidence Index. Using several methods including correlation analysis, the authors were able to determine that the text data analyzed from Twitter imitated that of the opinions obtained from traditional methods.

As in the case of the study conducted by Asur and Huberman (2010) concerning the prediction of movie box-office revenue, O'Connor et al. further authenticated the usefulness and effectiveness of sentiment analysis for predicting outcomes, in this case, the prediction of the general pulse of public political opinion. Sentiment analysis has a tremendous potential for replacing the expensive and time consuming resources of traditional polling while producing the same results.

Twitter has clearly demonstrated its lucrativeness as a sentiment analysis epicenter for business and politics. While comprehensive SM tools are being developed aimed for the consumption of researchers and corporations, smaller scale and less comprehensive resources have been emerging aimed toward the casual web user (Wright, 2009). Free websites such as Tweetfeel, Twendz, and Twitrrat provide SM of Tweets based on user entered keywords. Ironically, a search for the keywords of SM on Tweetfeel

produce an overall negative sentiment caused by false positives as a result of sarcasm, one of the primary hindrances, discussed later, of automated sentiment analysis.

User Reviews are Gaining Traction

SM can also have applications to review based websites, in addition to websites containing review data (Pang & Lee, 2008). Social media has provided a unique medium for users to post their thoughts and opinions regarding an infinite array of topics from entertainment to politics, however, social media has also contributed to the growth and popularity of user reviews for products and services. In addition to review exclusive websites such as Epinions, and Yelp, practically all online merchants offer an area for customers to post reviews regarding a product or service. Review dedicated sites, as well as Facebook and Twitter posts have become the future of word of mouth advertising. Consumers often base their decisions to buy products and services based on the opinions from others who have already experienced the product or service. With the explosion of social media, consumers no longer need to rely on poorly conducted and population limiting polls of friends and family, but rather can sift through the expansive collection of review related posts available on the web to gain valuable insights to assist them in their decision making process.

Manufactures and service providers have realized the impact that user reviews have on their operations, however with so much user review data being compiled from the likes of social media, it is nearly impossible to determine a general consensus of opinion regarding a specific product or service. SM of social media and its proven level of reliability and accuracy has sparked the interest of many companies as they seek to gain valuable consumer insights about their products or services. Large companies including Coca-Cola, Ford Motor Company, Proctor & Gamble, Best Buy, Cisco Systems, and Intuit have turned to SM to leverage the power of opinion.

What about Facebook and Blogs?

Popular social media site Facebook as well as blogs have also been a focus of sentiment analysis. However, unlike Twitter's vast availability of public Tweets, Facebook posts are largely kept more private which is a likely result of the privacy hysteria created by Facebook's announcement to change its terms of use early in 2012 (Gross, 2012). However, although Facebook may not have the same popularity to researchers as Twitter, Facebook posts are being touted by some as being better for SM purposes than Twitter as they have a more generous character cap theoretically allowing users to provide a more accurate

portrayal of their opinion's through better structures sentences and statements (Ahkter & Soria, 2010).

Blogs have also been used to conduct sentiment analysis, however, their general exclusivity to a particular topic and their limited user base make their results less lucrative than sites such as Twitter which encompass such an enormous population.

Social Media and the Challenges

Social media etiquette as well as natural language has presented many challenges to sentiment analysis. While social media may provide an endless stream of opinionated text, the informal environment of such platforms typically results in unstructured text that computers cannot possibly decipher. In addition, sentiment and subjectivity are generally context sensitive adding to the complexities of SM (Pang & Lee, 2008).

The usage of irony, sarcasm, and slang, particularly by younger users, hinders the accuracy of text analytics algorithms employed in SM by producing false positives. For example, a Twitter post concerning the weather reading "It's pouring rain out, that's just great." Employs the use of sarcasm thus consequently, the use of artificial intelligence and automated SM will almost surely assign the Tweet a positive rating based on the adjective used; "great. Additional caveats of natural language including the now widely adopted abbreviations for phrases (ex. LOL = laugh out loud) made popular by SMS messages highlight the limitations of automated sentiment analysis.

A Viable Procedure

One of the biggest challenges for current decision support systems is developing effective methods and tools to extract opinion-oriented information automatically from unstructured data. Text mining and natural language processing are traditional methods used to help people find business intelligence from free-form data; however, these methods lack strength in detecting people's opinion. Cao, Thompson, and Yu (2013) propose a viable procedure to mine opinions from a large collection of texts. The authors generate a set of IT governance measures using a multi-label classification method and compare against their proposed sentiment analysis procedure. Using 10-K forms to develop their measures of IT governance, they examine the role of IT governance on firm performance and find significant evidence of four dimensions in explaining firm performance. However, only one dimension significantly explains firm performance (i.e., strategic alignment) via the multi-label classification method.

Opinion Spamming

Although sentiment mining has the potential to provide tremendous benefits to its adopters, by determining the overall opinion of an individual or population about a particular, object, ironically, a future direction of SM research will be in the area of detecting fake opinions. An overwhelming prevalence of opinion spamming can lead to the demise of opinion mining as the results obtained would not be of any valuable use (Jindal & Liu, 2008; Kaiser, Schlick, and Bodendorf, 2011). Opinion spamming refers to human activities that attempt to deliberately mislead readers by falsely bolstering the features/reputation of a product or by defaming and criticizing a competing product. Companies may purposely employ review spamming for the benefit of monetary gain through the increase of sales revenue or of advancement in the industry through decreased market share of its competitors. Likewise, reviewers themselves may choose to engage in review spamming as retaliation for poor customer service received. The research conducted by Mukherjee, Liu, & Glance (2012) indicates that while identifying fake reviews individually is a difficult task, identifying a group of fake or spammed reviews is much easier.

While the full extent of online opinion spam is unknown primarily due to lack of research, the little research that has been done has shown that opinion spam is prevalent. A study of 5.8 million reviews and 2.14 million reviewers from the popular online shopping website, Amazon.com revealed that opinion spam is widespread among the site (Jindal & Liu, 2008). While little research has been done in respect to opinion spamming related to reviews, the need and demand for such research is likely to grow as more and more consumers are turning to collective opinions of social media to help them choose what products and services they will buy. In addition, because opinion spam severely thwarts the efforts of sentiment analysis, it is important for more research to be conducted in order gain a better understanding of the topic and also to develop better techniques for detecting opinion spam.

FUTURE DIRECTIONS

One can be fully assured that opinion mining of social media is not a fad but will rather be an integral aspect of the future as the volume of data facilitated by the use of social media continues to grow to astronomical levels. Future SM research is likely to be heavily focused on negating the many challenges posed by natural language and improving the reliability, accuracy, and automation of sentiment analysis. With its broad reaching applications, the demand for SM has sparked a surge of startup companies looking to cash in on hot topic of opinion min-

ing, particularly of social media. As SM tools continue to evolve and improvements are made to algorithms SM will likely become an even more valuable tool in the prediction of outcomes or in the use of market research.

Awareness of Sentiment Mining

In addition to the large number of startups providing sentiment analytics tools, there has been a surge in general awareness of the benefits and possibilities made possible through the use of sentiment analysis. A key entity in the field of SM is the Sentiment Analysis Symposium (SAS). The SAS bridges technology and business in one of the most exciting applications to emerge in recent years: software that discovers business value in opinions and attitudes in social media, news, and enterprise feedback. The symposium program features expert, authoritative, interesting speakers from research and industry. The SAS has seen an increase in attendance since its inception in early 2009, and is a tremendous resource for anyone, especially businesses, to learn what sentiment mining is and the benefits that it can potentially provide.

One can be assured the SM will be a topic of discussion in every board room of every corporation at some point in time. With social media use continuing to grow coupled with the increasing use of mobile communication devices, particularly smartphones, and tablets, users will continue to generate an infinite supply of opinionated data which is teeming with valuable information that is demanded by CEOs around the world. With the volume and flow of data increasing at an astounding rate, it is crucial that research focused on improved automation of sentiment mining be conducted as sentiment mining automation is the only tool which will be able to truly harness the power of opinion as social media has provided a unique platform which facilitates the flow of opinionated text virtually in real time. If opinions cannot be harnessed in a timely fashion, the insights obtained from them will likely prove useless as outcomes will occur at a rate faster than they can be predicted.

Sentiment Mining as a Marketing Tool

While sentiment mining as it exists today may not be able to on its own be exclusively used for decision making, when coupled with additional business analytics, the power of sentiment mining can be enhanced. However, as the field continues to develop, sentiment mining will inevitably become a powerful tool for decision making. While the field of sentiment mining is still in its infancy, high regard is held by many for its future, particularly in the area of business intelligence.

According to Zaino (2010), CEO J. Brook Aker of Expert Systems, a vendor of software, believes that advancement in sentiment detection and classification will ultimately lead to a better spend of marketing dollars. Being able to understand the sentiment of consumers is truly a valuable asset as it will allow marketers to identify new product and service opportunities as well as to identify areas for improvement of existing products and services. This information will be able to be freely obtained from social media sites thus significantly reducing the amount of marketing dollars needed to be spent on focus groups and surveys. It is clear that the future of sentiment mining is poised to have a huge impact on the future of marketing. As sentiment mining tools continue to be developed and as research continues to lead to improvements in the field, sentiment mining will undoubtedly become an even more valuable asset to marketers. In fact, sentiment mining industry members see a future of sentiment mining that will provide improved measurements for online awareness campaigns, improved business performance predictions, and an insight to understanding perceptions across different media.

Ontology-based Analysis

Micro-blogging is one of the most popular Web 2.0 applications and related services, like Twitter, have evolved into a practical means for sharing opinions on almost all aspects of everyday life. However, text-based sentiment classifiers often prove inefficient, since tweets typically do not consist of representative and syntactically consistent words, due to the imposed character limit. Kontopoulos et al. (2013) propose the deployment of original ontology-based and semantic techniques towards a more efficient sentiment analysis of Twitter posts. The novelty of the proposed approach is that posts are not simply characterized by a sentiment score, as is the case with machine learning-based classifiers, but instead receive a sentiment grade for each distinct notion in the post. Overall, their proposed architecture results in a more detailed analysis of post opinions regarding a specific topic.

“Emotional Processor”

In many ways, analysis of online sentiment is replacing more labor-intensive methods such as focus groups and polling. Tsvetov, Kazil, and Kouznetsov (2012) propose a new approach to SM that helps overcome inherent problems while exploring media bias and electoral sentiment.

The new approach sidesteps the issue of sentiment analysis and goes directly to measuring public support for or against public figures. The authors rely on a psychological phenomenon called “mirroring”. They created a system

that continuously samples geocoded social media data and processes results through the same linguistic pipeline. A comparison of linguistic networks of geographical areas to these of political candidates can be performed via a normalized Hamming distance between these networks.

Hopefully, one day traditional methods, multi-dimensional methods and implicit methods will be combined as an “emotional process” that can understand its emotional content.

CONCLUSION

Sentiment mining of social media is not only an interesting topic of study, but is also one of great significance to the research community as it has many broad reaching applications. Social media has been an integral aspect to the study of sentiment analysis. Its expansive user base and platforms for collecting opinionated text have provided the collective elements needed to fuel research in sentiment analysis. While sentiment mining research is in its infancy, current research has demonstrated its effectiveness of predicting outcomes with a relatively high degree of accuracy. Research in the field of sentiment mining has not gone unnoticed. Decision making entities, especially businesses have quickly grown fond to the potential benefits of sentiment analysis. The spike in interest has resulted in a surge of sentiment mining based startups looking to cash in by fulfilling the high demand for opinion mining services focusing on social media platforms.

A heavy emphasis for sentiment mining research has been placed on the popular micro blogging site, Twitter. Twitter provided a unique platform for the creation and sharing of opinionated text that is publically available and which has taken on a real time flow characteristic. With such a vast amount of content available and its “up to date” characteristics, Twitter has become the epicenter of sentiment mining research as researchers have focused on leveraging the characteristics of Twitter data to predict outcomes. Many studies of sentiment have been conducted using data obtained from Twitter and have demonstrated relatively high levels of accuracy. These promising results continue to generate interest in the field as many are intrigued with the prospect of outcome prediction. Imagine a world where stock market performance, sales revenues, and presidential election outcomes can be accurately predicted with the click of a button.

While sentiment mining research has significantly progressed since its inception, there exist several challenges in opinion mining of social media, as research continues to develop, the hindrance from such challenges will likely be reduced and at some point, as advances in artificial intelligence are made, even removed. The challenges being faced

along with increasing demand for opinion mining services is likely to produce a vibrant and competitive future for the field. As further research is conducted an emphasis is being placed on increasing the accuracy, reliability, and automation of sentiment analysis.

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ASSESSING IS STRATEGIC PLAN QUALITY AND SOME IMPORTANT DETERMINANTS

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ABSTRACT

Strategic information systems planning (SISP) has become increasingly important as companies grow dependent on IS resources to conduct business operations and improve decision making. SISP is also widely recognized as an important challenge facing IS managers, requiring extensive organizational efforts coupled with significant outlays of corporate resources. Thus, it is important to understand which factors are important for companies to produce good quality IS strategic plans. As one of its primary objectives, this study surveyed the relevant literature to develop a measure of SISP quality which is theoretically valid, as well as relevant to practicing IS and business managers. Further, the study identified several factors which have been proposed as likely determinants of strategic IS plan quality and empirically tested the proposed relationships. The results confirm the importance of company analysis effectiveness, leadership and motivation, breath of vision, and breath of ownership in the plan development process as determinants of SIS plan quality.

INTRODUCTION

The importance of assuming a strategic view in the management of company information technology and resources has been widely recognized in the literature (Jukic & Jukic, 2010; Kaushik & Kumar, 2009; Newkirk, Lederer & Johnson, 2008; Shupe & Behling, 2006; Glaser, 2004; Melling, 2005). As a consequence, strategic information systems planning (SISP) has become increasingly important as organizations attempt to leverage information technology applications to improve efficiency, reengineer business processes, gain competitive advantage, and compete more effectively (Curran, 2010; Shawyun, 2009; Schultz, 2006; King & Teo, 1997). Indeed, the importance of SISP is recognized worldwide and across a variety

of industries (Ward, 2010; Kanooni, 2009; Song, Wang, Yin, Liu, & Jiang, 2009; Basahel & Irani, 2009; Bielski, 2008). SISP has been defined as the process of identifying a portfolio of computer-based applications that will assist an organization in executing its business plans and realizing its business goals (Hartono, Lederer, Sethi & Zhuang, 2003; Lederer & Sethi, 1988; Lederer & Sethi, 1996). Lederer and Gardiner (1992) further extended the definition of SISP to the process of establishing objectives for organizational computing and identifying potential applications that the organization should implement.

From another perspective, IS planning has been defined as the stream of organizational activities directed toward recognizing opportunities for the use of information technology, determining the resource requirements to

exploit these opportunities, and developing strategies and action plans for realizing these opportunities and meeting the resource needs (Byrd, Sambamurthy, & Zmud, 1995). In this study, SISP is considered a specialized form of IS planning that emphasizes the assimilation of organizational business plans and business goals into the organization's IS strategic plan. It also echoes Lederer and Mendelow's (1986) call for more sophisticated management techniques and a better use of existing techniques for information systems planning. Within the SISP and IT literature, considerable effort has gone into categorizing SISP and IT planning methodology. These methods include analyzing internal core processes and pockets of data dispersion throughout the organization for basis of redesign (Brancheau & Wetherbe, 1986; Brancheau, Janz, & Wetherbe, 1996; Goodhue, Kirsch, Quillard, & Wybo, 1992; Hagel & Singer, 1999), identifying opportunities to utilize IS for competitive advantage (Porter & Millar, 1985; Pyburn, 1983), and/or aligning the organization's strategic information systems plan with the strategies of the organization (King, 1988; King & Teo, 1997). Some methodologies introduced to categorize SISP have been considered somewhat limited (Das, Zahra, & Warkentin, 1991; Sambamurthy, Venkataraman, & DeSanctis, 1993) or even incorrect (Earl, 1989; Earl, 1993). Other views have suggested that SISP and IT planning should model larger organizational systems of strategic planning (Dutton & Duncan, 1987; Henderson, Rockart, & Sifonis, 1987; Hufnagel, 1987; Venkatraman, 1985; Venkatraman, 1990; Venkatraman & Henderson, 1994). These differing views suggest that a consensus on one common SISP process methodology has yet to be attained.

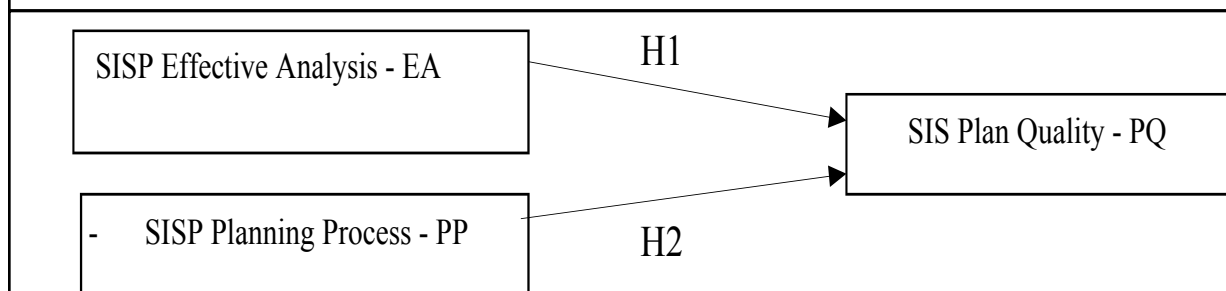
The primary purpose of this study is to identify what comprises SIS plan quality and the planning process activities that are most important to achieve it. The theoretical

basis for the research relies on prior findings suggesting that SISP provides business value to the corporation by enabling the alignment of IS strategy with the organization's business strategy. The next section of this paper reviews the IS literature on proposed models of the SISP process and their constructs, yielding a suggested model for a common SISP process. The suggested SISP process model is then operationalized and empirically tested.

THE THEORETICAL FRAMEWORK

The explosive usage and dependence on information technology over the past twenty years has resulted in a growing industry concern to make IS part of the strategic fiber within organizations (McFarlan, 1984), resulting in SISP becoming a critical issue within the business environment (Brancheau & Wetherbe, 1987; Brancheau et al., 1996). Many industry surveys have proposed that improving SISP is the most important challenge facing IS management (Beath & Orlikowski, 1994; Martin & Leben, 1989; Pavri & Ang, 1995; Porter & Millar, 1985), and many surveys on IS management issues also have noted this challenge (Brancheau et al., 1996; Galliers, 1993; Watson, Kelly, Galliers, & Brancheau, 1997). "Strategic planning" was chosen as the number one IS management issue in 1980, 1983, and 1986 (Brancheau & Wetherbe, 1987; Ball & Harris 1982; Dickson, Leitheiser, Wetherbe, & Nechis, 1984). In the nineties the issues of developing an IS architecture and infrastructure again ranked at the top (Niederman, Brancheau, & Wetherbe, 1991; Brancheau et al., 1996). Needless to say, IS architecture and infrastructure development are impacted by SISP as they provide the structure and access to organizational information. More recently, between 2003 and 2009, IS strategic planning was consistently among the top ten top IS managers' concerns each year as identified by the annual

FIGURE 1:
SIS PLAN QUALITY DETERMINANTS (THE THEORETICAL MODEL)



Hypothesized Relationships:

H1: Effective analysis is directly related SIS plan quality.

H2: The planning process is directly related to SIS plan quality.

Society for Information Management membership survey (Luftman & Ben-Zvi, 2010).

The SISP Process

The basic objective of SISP is to derive an organization's information resources requirements and IS strategy from its business strategy (King, 1988). Historically, Andreu, Ricart, and Valor (1994) proposed that effectively linking strategic business planning to SISP must account for the relationship between organizational design and organizational requirements from IS resources planning and deployment. Nunamaker, Dennis, Valacich and Vogel (1991) stated that IS architecture provides a road map for the IS building process, where system components fall into perspective, specify their system functionalities, and define their structural relationships and dynamic interactions. The importance of this relationship has also been recognized from the opposite direction, Ross (2003) proposed that business strategies depend on specific underlying IS capabilities, and before synergy between the two can develop, firms must first develop organizational competencies in IS architecture and operations. Indeed, the IS literature relevant to SISP suggests that effective business and IS strategic planning should be performed simultaneously at the same enterprise level to ensure that common elements of the overall business plan are integrated into the IS plan and that IS strategies that assist in achieving overall business goals are incorporated into the enterprise business plan. Brown and Magill (1994) found that the majority of IS structural changes should be made to better align responsibilities for the IS functions with characteristics of the overall organization. King and Teo (1997) also showed that an evolutionary pattern of integration stages exists when organizations attempt to integrate business planning and IS planning, with few organizations reaching full integration and where the application of IT (administrative to strategic) within the business plan drove an organization towards full integration.

Typically, an SISP plan results from an enterprise-wide strategic planning initiative that defines the overall vision and architecture for IS within the enterprise (Whitten, Bentley, & Dittman, 2004). The resulting SISP plan is a group of action plans for IS development in each business and function within the enterprise as required by top management (Doll, 1985). The SISP plan is consistent with corporate strategy and incorporates the IS architecture that has been accepted during the iterative strategic planning sessions described by Andreu et al. (1994) as the "weeding out" process between alternative IS opportunities and capabilities that support and meet overall business goals. Tallon, Kraemer and Gurbaxani (2000)

pointed out that firms whose IS were closely aligned with their overall business strategy reported higher perceived payoffs from IS resources than firms where the strategic alignment was weaker.

The Theory on Ensuring SISP Success

SISP success is obviously dependent on many factors. Intuitively, in practice the perceived quality of the resulting SIS plan and the process used to communicate and implement the plan are paramount. Much of the SISP literature focuses on factors important for overall success. Venkatraman and Ramanujam (1987) suggested that planning success might be operationalized as two inter-related dimensions—the fulfillment of key objectives and the improvement in the capability of the planning system. Raghunathan and Raghunathan (1994) adapted the Venkatraman and Ramanujam planning system success model to SISP research and specified a theoretically supportable model that paid specific attention to construct measurement issues. Segars and Grover (1998) later expanded the dimensionality of the two SISP constructs when they proposed and empirically tested the theory that SISP success could be operationalized as a second order factor model, with first order constructs identified as alignment, analysis, cooperation, and capabilities. Alignment, analysis, and cooperation expanded the fulfillment of key objectives, while cooperation and capabilities addressed the improvement of the planning system (Segars & Grover, 1998). Prior to Segars and Grover (1998), Lederer and Salmela (1996) proposed an SISP process theory that incorporated IS analysis, planning, delivery, and implementation in achieving better alignment of IS/IT strategies while executing business plans and realizing business goals. The Lederer and Salmela SISP process model, included six components: internal environment (IE), external environment (EE), planning resources (PR), planning process (PP), information plan (IP), plan implementation (PI), and plan alignment (A). Lederer and Salmela suggested that a more effective and efficient planning process in a simple, stable environment would lead to a more comprehensive approach in implementing a more useful IS plan leading to better plan alignment. That, in turn, indicates that organizational strategy had been integrated into its' IS architecture and infrastructure.

The Importance of Developing Quality SIS Plans

In practice, IS top managers recognize the importance of SISP success and are keenly interested in ensuring SIS plan quality. Every year between 2003 and 2009, SIS planning has been consistently among the highest ten top IS managers' concerns according to the annual Society

for Information Management membership survey (Luffman & Ben-Zvi, 2010). Despite its obvious importance, a survey of the relevant literature reveals very little research regarding the assessment of plan quality and the factors important to achieving it. One research study by Hahn and Powers (2010) targeting the banking sector, assessed the interaction of plan quality with plan implementation capability as factors affecting bank performance. Plan quality has been indirectly assessed by Hahn and Powers (2010) through the surrogate measure of planning process sophistication. While planning process sophistication has been found to be related to company performance advantage, this relationship has been somewhat controversial due to the different ways in which sophistication was measured (Miller & Cardinal, 1994). The existing literature seems far from sufficient for addressing this important topic. Specifically, an important practical question regarding planning quality in general is how to effectively assess plan quality so managers can measure the relevancy of what they will be trying to implement. Second, how should companies go about (do or not do) producing higher quality plans. In other words, specifically, what are the important factors leading to a high quality SIS plan? This study focuses in answering these two questions.

The Dependent Variable

SISP Plan Quality (PQ): SISP has evolved in a pattern similar to that of general business planning (Henderson & Venkatraman, 1989). Similar to early business planning methodologies, early IS planning efforts emphasized the effective distribution of the organization's IS resources within the organization's IS function itself (Main & Short, 1989). More recent SISP and IS literature depict the need for SISP that includes the integration of organizational business strategies with IS strategies to distinguish opportunities for IS to enable the attainment of critical business goals (Boynton & Zmud, 1987; Cash & Konsynski, 1985; Henderson et al., 1987; Henderson & Venkatraman, 1989; King, 1988; McFarlan, 1984). Within the context of strategic planning, SISP plan quality enables the realization of business goals through existing IS resources and/or scheduled IS enhancements. SISP plan quality requires more than just opportunity identification and IS resource reallocation to utilize information technologies for competitive advantage. SISP plan quality reflects the ability of IS management to follow through with a manageable SISP between existing IS resources and future IS and/or IS deployment. The SISP plan quality should reflect an integrated, competitive, and manageable perspective that directly incorporates the organization's business strategies.

As discussed above, plan quality has been indirectly assessed by several authors (Hahn & Powers, 2010; Baker & Leidecker, 2001; Hahn & Powers, 1999; Miller & Cardinal, 1994) with mixed results through the surrogate measure of planning process sophistication. While plan process sophistication may very well be an important factor as a determinant of plan effectiveness in aiding company performance, it does not assess plan quality directly and unambiguously. In this study, plan quality was assessed by asking the marketing executives and IS managers to express the extent of their agreement/disagreement with the nine items shown in Table 2.4, using a 7 point scale ranging from completely agree to completely disagree, with 4 indicating neither agreement or disagreement with statements that their company's SIS plan had each of the listed characteristics. Echoing some of the items proposed by the literature on plan sophistication (Baker & Leidecker, 2001; Bracker & Pearson, 1986; Burt, 1978), in this study a quality SIS plan must clearly define the role IS should play to support business, how IS is to be used as a competitive weapon/tool and how internally it is to enhance company competitiveness. Also included in this measure for plan quality are items addressing the importance of clearly describing how the company IS function is organized, its information technology architecture, IS capacity requirements, the necessary IS investments, the expected benefits from plan implementation, and a schedule for implementing the more significant projects.

The Independent Variables and Hypotheses

SISP Effective Analysis (EA): Numerous authors of SISP literature have focused on issues surrounding the organizational analysis required for SISP (Brancheau & Wetherbe, 1986; Boynton & Zmud, 1987; Hackathorn & Karimi, 1988; Henderson et al., 1987). Organizational analyses of both internal and external environments, along with analyses of available resources, capabilities, and organizational information needs are required during the SISP process. Organizational analysis of company wide information needs during the SISP process highlights the complex nature of intra-organizational information systems (e.g., the complex issues generated between functional groups), as well as inter-organizational information systems (e.g., along the organization's supply chain). The initial SISP process requires a rigorous organizational effort to better understand its internal operations (Lederer & Sethi, 1988). SISP requires an organization to effectively analyze its core competencies, business processes, corporate culture, and existing technologies (Hagel & Singer, 1999). Many of the objectives related to effective analysis seek to find optimum ways to operate and compete with an information technology advantage. Other objectives seek to build an information technology architecture,

and integrate applications and databases across functional organizational boundaries. Within the context of SISP, effective analysis should provide a clear understanding of how IS can enable the organization to meet business plans, business goals, and identify critical IS improvement areas. Thus it is reasonable to expect that the quality of the SIS plan will be heavily dependent on the effectiveness of the organization analysis used to produce the plan. For the purposes of this study, the effectiveness of the analysis was assessed by the nine items presented in Table 2.2. Based on the above discussion we propose the following hypothesis:

H1: More effective analysis will produce better plan quality.

SISP Planning Process (PP): IT planning has been a topic of key importance in both academics and practice since the mid-1960s (Main & Short, 1989). According to Blumenthal (1969), the IT planning process must build a consensus across organizational functional boundaries regarding the role of IT within each of the organization's functional units and within the organization as a whole. Most SISP planning approaches view the IT plan as a response to business strategies and seek through differing means to identify and accomplish these objectives (Mason & Mitroff, 1981; Zani, 1970; Zmud, Boynton, & Jacobs, 1986). As organizations capitalize on opportunities for IT to enable a means of gaining competitive advantage in the business environment, the IT planning process has evolved to include high levels of interaction between business strategy and IT strategy (Benjamin, Rockart, Morton, & Wyman, 1984; Pyburn, 1983). In order for assimilation of business strategy into IT strategy to occur, an effective SISP planning process must exist to provide better coordination for the organization's IT resources. The effectiveness of the planning process was assessed by the 16 items presented in Table 2.3. Based on the above discussion we propose the hypothesis:

H2: A more effective planning process will produce greater plan quality.

METHODOLOGY

Questionnaire Construction and Sampling Process

The questionnaire was developed by a systematic process which started with a survey of the literature relevant to the study objectives. Once the constructs to be addressed by the study were defined, measures for each construct were developed based on the literature and modified by consensus of a group comprised of the researchers and managers knowledgeable in the IS planning area. Once

the questionnaire was formalized the contents and readability were tested by a small convenience sample of IS directors and top business managers (vice presidents and above) who directly participate in their respective company's corporate planning process. Based on this pilot test, several questions were superficially reworded to improve readability, without changing the primary meaning of the question.

Representing their company's top management team, a total of 1000 marketing executives were randomly selected from the mailing list of a national sales and marketing manager's professional association to receive this study's data collection kit which included a cover letter, the final version of the questionnaire, the marketing association's newsletter, a previously published report by one of the researchers on the impact of competitive intelligence and IS support on companies effectiveness managing business change. The cover letter described the study's objectives, invited the marketing director (representing the top management team) and the company's IS director to participate in the study by filling out one of two separate parts of the questionnaire with questions relevant to their respective roles in the company. The cover letter also clearly requested study participation only if the company had been engaged in IS strategic planning for at least three years. The front page of each questionnaire promised complete company and respondent anonymity, offered a copy of the study results, and instructed respondents to return their questionnaires directly to the researchers using an attached self-addressed envelope.

Of the 1000 kits mailed out, 22 were returned due to incorrect address and 271 were returned indicating companies that did not meet the three year formal IS planning requirement for participation in this study. Of the remaining 707 kits, 268 were returned to the researchers. Of those, 29 were discarded because either the Marketing manager or the IS manager did not complete their part or had too much missing data, leaving a total of 239 usable questionnaires.

A random sample of 30 non-respondents was used to check for response bias against the original mailing list in terms of the company's primary business area and gross revenue. The chi-square test revealed no significant differences. The same sample of non-respondents was compared to the study participant sample along the company's primary business area, gross revenue, and whether or not the company has a formal IS plan. The chi-square measures again revealed no significant differences for the first two variables, but it shows that non-respondents tend to be companies without a formal IS plan.

Sample Description

The largest primary business group represented in our sample size was manufacturing (36%). Individual gross revenues of respondent companies were all over \$50 million, with the largest segment (22%) reporting between

\$600 million and \$1 billion. Respondents noted that their companies on average had been developing and maintaining SISP for the past 11.2 years, with 45% of the companies revising their SISP plan at least as often as every 3 years. Table 1 details the company demographics from the individual survey responses.

| TABLE 1 SISP SURVEY DEMOGRAPHICS | | |
|--|--------------|------------|
| Primary Business | Count | % |
| Manufacturing | 87 | 36 |
| Communications | 14 | 6 |
| Financial Services | 11 | 5 |
| Insurance | 12 | 5 |
| Health Care | 13 | 5 |
| Utilities | 10 | 4 |
| Banking | 19 | 8 |
| Transportation | 15 | 6 |
| Mining | 3 | 1 |
| Wholesalers | 17 | 7 |
| Retailers | 16 | 7 |
| Other | 22 | 9 |
| Total | 239 | 99 |
| Gross Revenue | | |
| \$300M or less | 22 | 9 |
| \$300–\$600M | 41 | 17 |
| \$600M–\$1B | 53 | 22 |
| \$1–\$5B | 49 | 21 |
| \$5–\$10B | 33 | 14 |
| Over \$10B | 41 | 17 |
| Total | 239 | 100 |
| Plan Revisions | | |
| Once per year | 34 | 14 |
| Every 1 to 3 years | 75 | 31 |
| Every 3 to 5 years | 58 | 24 |
| Revised Sporadically | 72 | 30 |
| Total | 239 | 99 |
| Number of years each company has maintained a formal IS plan: n = 239, mean = 11.2, median = 8, mode = 6, minimum = 4, maximum = 25 | | |

Validity and Reliability of the Measures

Despite the exploratory nature of this study, several precautions were taken to ensure the validity of the measures used. Many of the recommendations by Carmines and Zeller (1979) were followed. To ensure content validity, a thorough survey of the relevant literature was undertaken to understand the important aspects of each major construct and its components, and not to neglect any important dimension. To further reduce the possibility of non-random error, the main threat to a construct's measure validity, a group of practitioners with substantial experience with SISP in major organizations, reviewed the questionnaire for validity (measuring the phenomena intended), completeness (including all relevant items), and readability (making it unlikely that subjects will misinterpret a particular question). Tables 2.1 through 2.4 show the items comprising the dependent variable and its proposed determinants. Table 3 shows that factor analysis using Varimax rotation has produced separate factors confirming their discriminant validity. The items comprising SISP planning process have loaded into 3 separate subgroups (Factors 3, 4 and 5). Given the

| TABLE 2.1 ITEM MEASURES FOR SIS PLAN QUALITY (PQ) | |
|--|---|
| PQ01 | The role IS should play in order to support business goals was well defined. |
| PQ02 | How IS should be used as a competitive weapon was well defined. |
| PQ03 | It was described thoughtfully how IS could be used internally to support competitiveness. |
| PQ04 | It was described clearly how information management functions should be organized. |
| PQ05 | The basic architecture for information technology was described. |
| PQ06 | IS capacity needs were well defined. |
| PQ07 | Needed IS investments were well defined. |
| PQ08 | The benefits for the realization of the IS plan was well defined. |
| PQ09 | A schedule for the more important projects was described. |

| TABLE 2.2 ITEM MEASURES FOR SISP EFFECTIVE ANALYSIS (EA) | |
|---|---|
| AE01 | Analysis of technology trends and its effect on the firm. |
| AE02 | Analysis of hardware and software requirements. |
| AE03 | Analysis of future strategic business opportunities and threats for developing IS applications. |
| AE04 | Analysis of environmental issues that affect IS department (i.e. outsourcing). |
| AE05 | Review of business strategies and linking IS plans with business plans. |
| AE06 | Evaluation of organizational capabilities to use and assimilate available IS technology. |
| AE07 | Evaluation of IS management's capabilities to integrate IS and business. |
| AE08 | Evaluations of general management's capabilities to integrate IS technology and business. |
| AE09 | Analysis of overall company resources, constraints, and contingency plans. |

| TABLE 2.4 MEASURES FOR IS STRATEGIC PLAN QUALITY (PQ) | |
|--|---|
| PQ01 | The role IS should play in order to support business goals was well defined. |
| PQ02 | How IS should be used as a competitive weapon was well defined. |
| PQ03 | It was described thoughtfully how IS could be used internally to support competitiveness. |
| PQ04 | It was described clearly how information management functions should be organized. |
| PQ05 | The basic architecture for information technology was described. |
| PQ06 | IS capacity needs were well defined. |
| PQ07 | Needed IS investments were well defined. |
| PQ08 | The benefits for the realization of the IS plan was well defined. |
| PQ09 | A schedule for the more important projects was described. |

| Table 2.3 Item Measures for the SISP Planning Process (PP) | |
|---|---|
| PP01 | Top management had a crucial role in the initiation of IS planning process. |
| PP02 | Top management supported substantially the whole IS planning process. |
| PP03 | The IS planning process had a corporate champion. |
| PP04 | This champion was knowledgeable about relevant business conditions. |
| PP05 | This champion was politically powerful and could control much of the required resources. |
| PP06 | Outside facilitators were used to provide necessary input to the planning process. |
| PP07 | Multiple, different ways were used to gather and create views and knowledge on IS planning issues. |
| PP08 | IS planning process was a continuous integration process between the people from IS function and other organization units. |
| PP09 | Executives from the main company units participated in the planning process. |
| PP10 | IS planning themes were translated into specific IS deliverables. |
| PP11 | Planning process accounted for emerging business and IS issues. |
| PP12 | IS management was committed to ensure the success of the planning process. |
| PP13 | User management was committed to the IS planning process. |
| PP14 | User management contributed to the planning process by pointing out critical business and IS issues. |
| PP15 | IS planning process supported the formation of a joint, mutual understanding of strategic IS issues. |
| PP16 | Critical stakeholders (top, IS and user management) understood their roles and responsibilities during the IS planning process. |

Table 3
Loadings for Factor Analysis with
Varimax Rotation

| Items | Factors | | | | |
|--|---------|-------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 |
| AE01 | .72 | -.04 | .24 | -.11 | .01 |
| AE02 | .68 | .13 | .21 | -.01 | .12 |
| AE03 | .85 | .01 | .24 | .05 | .02 |
| AE04 | .72 | .02 | .16 | -.11 | -.01 |
| AE05 | .77 | -.01 | .05 | .02 | .04 |
| AE06 | .82 | .01 | .11 | .02 | .11 |
| AE07 | .74 | -.01 | .27 | -.01 | -.01 |
| AE08 | .66 | .29 | -.04 | .05 | -.03 |
| AE09 | .83 | -.01 | .03 | -.01 | .04 |
| PP01 | -.04 | -.06 | .02 | .63 | .10 |
| PP02 | -.06 | .10 | -.05 | .58 | .01 |
| PP03 | -.11 | .07 | -.06 | .69 | .06 |
| PP04 | -.01 | -.01 | .14 | .70 | .07 |
| PP05 | .05 | .16 | -.01 | .66 | .13 |
| PP06 | .11 | .06 | .05 | .28 | .71 |
| PP07 | .27 | .02 | .11 | .30 | .67 |
| PP08 | .25 | -.01 | .75 | -.05 | .07 |
| PP09 | .18 | .05 | .69 | .13 | .13 |
| PP10 | .21 | .05 | .72 | .24 | .15 |
| PP11 | .24 | .03 | .13 | .27 | .73 |
| PP12 | .16 | .21 | .68 | .04 | .07 |
| PP13 | -.05 | -.06 | .74 | -.06 | .13 |
| PP14 | -.06 | .10 | .11 | .11 | .66 |
| PP15 | .08 | .05 | .73 | .16 | -.01 |
| PP16 | .02 | .03 | .71 | .04 | .01 |
| PQ01 | -.01 | .72 | .06 | .15 | -.01 |
| PQ02 | .09 | .69 | .07 | -.03 | .29 |
| PQ03 | -.01 | .81 | .13 | -.03 | .28 |
| PQ04 | .29 | .71 | -.06 | .04 | .30 |
| PQ05 | .23 | .68 | .10 | .04 | .28 |
| PQ06 | .30 | .66 | .06 | .01 | .28 |
| PQ07 | .19 | .70 | .07 | .06 | .28 |
| PQ08 | .21 | .65 | .06 | .07 | .28 |
| PQ09 | .15 | .69 | -.02 | .18 | .05 |
| Variance explained by each factor (All Eigen values above 1.72) | | | | | |
| | 13.88 | 10.65 | 9.41 | 5.70 | 3.29 |

theoretical background and objectives of this study, these three subgroups in subsequent analyses were used separately as shown in the empirical model (Figure 2) produced by the data analysis results. Table 4 summarizes the factor analysis results and shows the internal consistency reliability coefficients (Cronbach's Alpha) for the scales used in this study. All Alpha coefficients are well above the level of .50, acceptable for exploratory studies of this type (Nunally, 1978).

DATA ANALYSIS RESULTS

The statistical computations for this study are fairly simple and straight forward. As discussed above, factor analysis using Varimax rotation shown in Table 3 has produced 3 separate subfactors (factors 3, 4 and 5 shown in Tables 3, 4, 5 and 6) within the planning process. As discussed earlier, Table 4 summarizes the factor analysis results and shows the internal consistency reliability coefficients (Cronbach's Alpha) for the scales used in this study. Pearson's correlation coefficients (Table 5) were computed to measure the strength of the relationships among the major variables. The results show all independent variables are significantly (.01 level or better) related to the dependent variable. Last, to eliminate the possibility of multicollinearity, Table 6 shows the results from the stepwise multivariate regression analysis used to assess the percentage of the variance in the extent of perceived plan quality which is explained by each independent variable as it entered the regression equation. A total of 55 percent of the variance in plan quality was explained by the hypothesized determinants, providing clear support for the prescriptions on what needs to be done by companies to increase the quality of their SIS plans.

CONCLUSIONS AND RECOMMENDATIONS

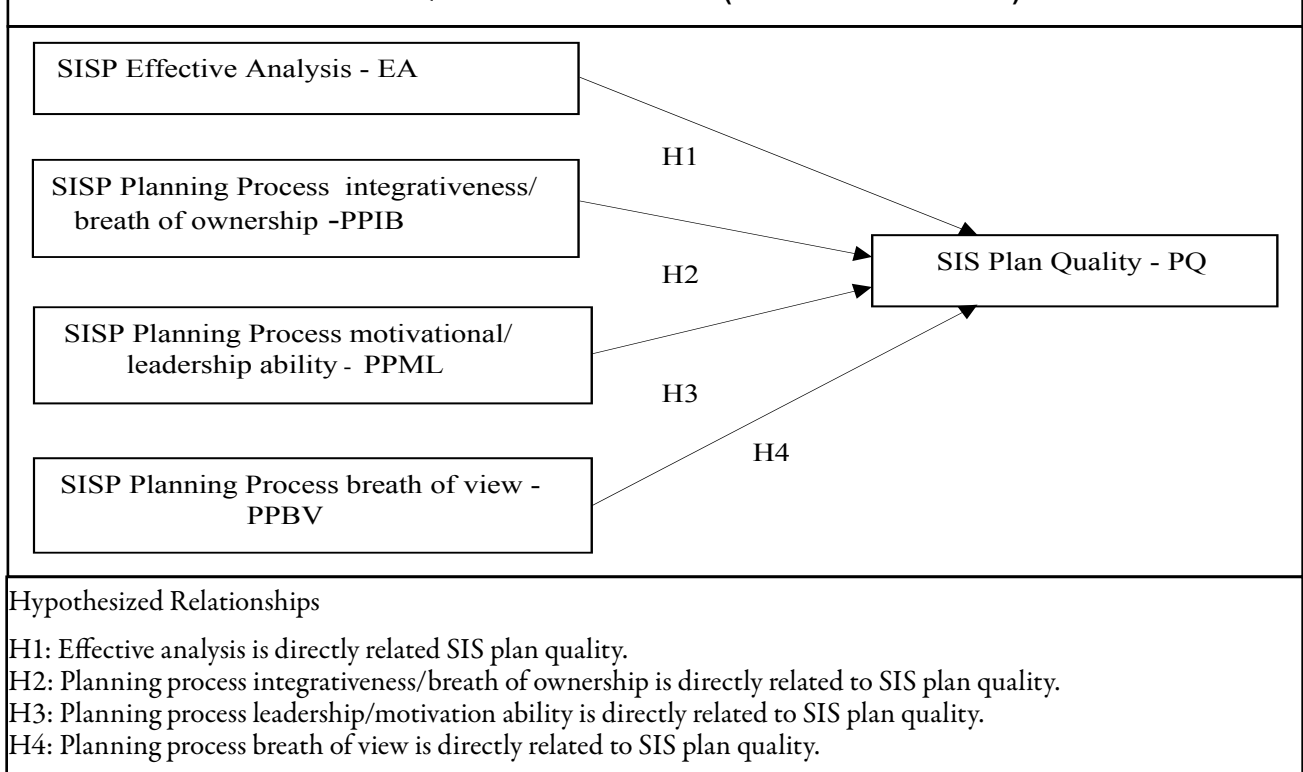
It is important for IS managers to recognize that better SIS plan quality is a necessary step for ultimate planning success, and SIS plan organization wide credibility and acceptance by corporate business managers. Good SIS plan quality as measured here is an important requirement for effective long term use and management of IS resources. Further, good SIS plan quality contributes to the stature of the IS group within the organization, thus facilitating the acquisition of necessary financial and human resources necessary to effectively implement new IS initiatives and systems. Our theoretical/empirical SIS plan quality model provides a significant vehicle to predict SIS plan quality in the eyes of top business managers. The correlation coefficients in Table 5 support all four hypotheses proposed in our data driven empirical model. Given the possibility of multicollinearity among the independent variables, a multivariate regression analysis was conducted. It retained all

TABLE 4
FACTOR ANALYSIS AND RELIABILITY ANALYSIS RESULTS SUMMARY

| | SISP Determinant Variable | No. Items | %Variance Explained | Reliability α Coefficient |
|----------|------------------------------|-----------|---------------------|----------------------------------|
| Factor1 | EA – Effective Analysis | 9 | 18.50 | .89 |
| Factor2 | PQ – Plan Quality | 9 | 13.88 | .86 |
| Factor3* | PIIB – Integration/Ownership | 7 | 10.65 | .84 |
| Factor4* | PPML – Motivation/Leadership | 5 | 5.70 | .90 |
| Factor5* | PPBV – Breadth of View | 4 | 3.29 | .85 |

*Factors derived from the SISP planning process measure.

FIGURE 2:
SIS PLAN QUALITY DETERMINANTS (THE EMPIRICAL MODEL)



four proposed determinants of plan quality and explained 55 percent of the variance in SIS plan quality ratings by top managers.

As measured in this study, good plan quality requires a well- defined role for IS in supporting business goals; its function/use internally and for competitive advantage; specifically how the IS function is organized to accomplish its goals; the IS resources and capacity needs; the IS corporate architecture and required investments; the expected benefits from the SIS plan implementation; and a time schedule for the implementation of the main projects. This list of items gathered for this study provides a useful

benchmark for IS managers to ensure that their SIS plans contain such information.

To assist IS efforts to improve the quality of their plans, the four main factors developed by this study as determinants of SIS plan quality deserve attention: effective organization analysis, the planning process degree of integrativeness and breath of ownership, the planning process ability to provide leadership and motivation during the plan development, and the breath of view assumed during the planning process. To improve company analysis effectiveness, SIS plan developers must develop a thorough understanding of and keep in mind when developing the SIS plan knowl-

TABLE 5
MAJOR VARIABLES
PEARSON CORRELATION MATRIX

| | PQ | AE | PPIB | PPML |
|--|------|------|------|------|
| Plan Quality (PQ) | | | | |
| Effective Analysis (EA) | .47* | | | |
| Planning Process Integrativeness/Breath of Ownership (PPIB) | .56* | .34* | | |
| Planning Process Motivation/Leadership (PPML) | .37* | NS | .22* | |
| Planning Process Breath of View (PPBV) | .42* | .25* | .36* | .21* |
| *means significance level = .01 or lower. NS means not significant. | | | | |

TABLE 6
MULTIVARIATE ANALYSIS RESULTS
DEPENDENT VARIABLE:
PLAN QUALITY (PQ)

| Explanatory Variables: | Cumulative R ² | Significance Level |
|---|---------------------------|--------------------|
| Planning Process Integrativeness/Breath of Ownership (PPIB) | .31 | .00 |
| Effective Analysis (EA) | .11 | .01 |
| Planning Process Breath of View (PPBV) | .07 | .02 |
| Planning Process Motivation/Leadership (PPML) | .06 | .04 |
| Total R ² | .55 | |

edge about several important areas: technology trends and their specific effects on the firm; the hardware and software requirements by different applications; future strategic business opportunities and threats for developing IS ap-

plications; possible environmental issues that might affect IS department (i.e. outsourcing); a thorough review of business strategies and the link of IS plans with corporate business plans; present organizational capabilities to use and assimilate available IS technology; IS management's capabilities to integrate IS and business issues and policies; general management's capabilities to integrate IS technology and business; and a clear understanding of overall company resources, constraints, and contingency plans.

To improve the planning process degree of integrativeness and breath of plan ownership among organization sub-units, SIS plan developers should strive to ensure that the IS planning process is a continuous integration process between the people from IS function and other organization units; that executives from the main company units participate in the planning process; that IS planning themes are translated into specific IS deliverables; that IS and user department management are all committed to ensuring the success of the planning process; that the IS planning process supports the formation of a joint, mutual understanding of strategic IS issues; and that critical stakeholders (top, IS and user management) understand their roles and responsibilities during the IS planning process.

To improve the motivation and leadership necessary for smooth plan development, acceptance among all parties involved, and subsequent successful plan implementation, SIS plan developers should strive to ensure that top management plays a strong role in the initiation of and provides strong support for the whole IS planning process; that the planning process has a corporate champion who is knowledgeable about relevant business conditions, who is politically powerful and can control access over much of the required resources.

To ensure an appropriate breath of view for the SIS planning process which is to produce a high quality plan, SIS plan developers should consider engaging outside facilitators to provide necessary input regarding new business models or processes, new products, and/or new technologies beyond the expertise presently available at the company. Plan developers should explore using different ways to gather and create new views and knowledge on IS planning issues; account for emerging business and IS issues, opportunities, and technologies; and invite user managers to express their views regarding critical business and IS issues.

Study Limitations and Research Opportunities

This study focused on two major areas thought to affect the quality of SIS plans: the effectiveness of the organization analysis and several characteristics of the plan development process. There might be other factors determining plan quality which would enhance the empirical model

tested here. The importance of SIS plan development, quality, and implementation is high enough to motivate studies considering that different factors may be more or less important to plan quality and implementation success depending on moderating variables such as company size, industry sector clockspeed, etc. The relatively small sample size in this study does not provide the discriminating power to test these possible moderating effects in satisfactory detail. These represent important opportunities for further research on this critical topic.

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THE INFLUENCE OF THE LEADERSHIP PRACTICE “ENCOURAGING THE HEART” ON PERCEIVED ORGANIZATIONAL SUPPORT

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ABSTRACT

Leadership is an area that researchers continue to be interested in. Many researchers focus on leader behaviors and its impact on the organization. This paper suggests that the leadership practice of “Encourage the Heart” as originally introduced by Kouzes and Posner enhances employee perceived organizational support. A discussion of the aspects of this behavior is included as well as the author’s findings. This perceived support has been linked to other organizational outcomes such as increased commitment, satisfaction, and decreased turnover.

INTRODUCTION

Leadership is a hot topic and of critical importance in today’s economy. Bennis (1988) suggests that leaders learn best from leading in through adversity. They create the climate of the organization and are responsible for bringing about change within the organization. Leaders should “Encourage the Heart” in order to achieve extraordinary results (Kouzes and Posner, 2002) and improve employees’ perceived organizational support. Leaders should not confirm to the status quo in our current environment but must be innovative, willing to take risks, and challenge assumptions about the way things have always been done which involves “challenging the process”. Leadership is not just about the individual leader but it also involves others. It is a relationship between the leader and follower (Kouzes & Posner, 2002) and is based on the follower’s perceptions. Leaders must encourage initiative in employees (Kouzes & Posner, 2002). Followers attribute the behaviors of leaders to the organization and perceive whether or not the organization supports or cares about them known as perceived organizational support. This paper will discuss whether or not the leadership practice of “challenging the process” will influence an employee’s perceived organizational support starting with the literature review.

LITERATURE REVIEW

This paper will discuss the literature on the leadership as it relates to the practice of “Encouraging the heart” start-

ing with a discussion of transformational leadership. This paper will also discuss perceived organizational support based on Organizational support theory.

Four components of transformational leadership have been identified: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Avolio, Bass & Jung, 1999; Antonakis, 2001). Torpman (2004, p. 895) noted these practices are:

1. Motivation through personal identification with the organization or group. The leader acts as role model for followers, communicates through vision and symbols to strengthen efforts. This form of motivation partly fostered the warmth and caring behaviors toward subordinates by leaders. When subordinates feel that leaders care for them as persons rather than instruments, they learn to see the organization as value in itself.
2. The feeling of honestly concerning membership is further supported by the individual treatment invested in subordinates by leaders.

Kouzes and Posner (1993) developed five leadership practices and ten commitments of leadership. The leadership practice discussed in this paper is “encourage the heart”. Competencies or behaviors of credible leaders, according to Kouzes and Posner (1988), are listed below and the characteristics are the number items following the competencies Gabris and Ihrke (2000, p. 43):

They encourage the heart:

1. Recognize individual accomplishments
2. Celebrate group success."

For each competency or behavior, there are two characteristics or commitments listed. The ten commitments of leadership are: finding your voice in order to clarify personal values, setting an example, envisioning future possibilities, and sharing the vision with others, searching opportunities to change, grow, and improve, taking risks, fostering collaboration through cooperative goals and building trust, strengthening others, recognizing contributions of others, and celebrating through the spirit of community (Kouzes & Posner, 2002).

Bickelhaupt (2003) reviewed and agreed with Bailey's (2002) in his book, *Plain talk about leadership: Silver Bullets of Success*, which describes relationships as the foundations of success. In his book, Bailey (2002) suggests using Kouzes and Posner's (1987) leadership practices and gives simple explanations of these practices. "Encouraging" embodies motivation from immediate feedback, listening, showing respect, and appreciation for employees (Bailey, 2002). Bickelhaupt (2003) explains that leadership is a hot topic today and since communication and integrity are the keys to success. Townsend, Kendall, and Kendall (2004) found that student perceptions of their instructors were more positive when their practices involved informative, collaborative, empowering, and participative decision-making.

Leadership is a relationship between the leader and followers. Leaders encourage the heart by appealing to subordinates and relating to developmental needs (Popper & Zakkai, 1994) and values (Mink, 1992), such as caring and respect (Dixon, 1998; Mastrangelo et al., 2004). Leaders influence the self-esteem and self-worth of subordinates in the exchange relationship (Javidan & Waldman, 2003). Leaders should also show appreciation for good work (Kouzes & Posner, 2002) and celebrate accomplishments (Taylor, 2003). Sincere communication, recognition, and rewards imply to the employee that the organization cares about and values them (Shore & Shore, 1995; Wayne et al., 1997; Zagorsek et al., 2004) and contributes to affective commitment (Buchanan, 1974) and perceived organizational support (Allen, 1992; Wayne et al., 2002). Leaders should care and encourage others, believing that they can make a difference, (Kouzes & Posner, 2000). Managers should recognize the perceptions, emotions, and feelings that are created through sharing a vision with trust and integrity (Weymes, 2003). Encouraging involves being proactive (Kibort, 2004). It is important to find people that are doing things well (Snee & Hoerl, 2004).

Employees personify organizations as they develop perceived organizational support (POS) (Eisenberger et al., 1986) according to Organizational Support Theory (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002; Shore & Shore, 1995), "Perceived Organizational Support is an experience-based attribution concerning the benevolent or malevolent intent of the organization's policies, norms, procedures, and action as they affect employees" by the leader (Eisenberger et al., 2001, p. 42). Since employees make attributions about their treatment by the organization based on the leader's practices and they perceive whether or not it favors or disfavors them. Attributional processes of employees are used to infer organizational support. These attributional processes are based on experience concerning the caring or non-caring intentions of policies, norms, or actions of an organization that affect employees (Eisenberger et al., 2001).

When perceived organizational support is high, the employees feel obligated to be committed and engage in behaviors that further the goals of the organization (Wayne et al., 1997; Eisenberger et al., 1990; Rhodes et al., 2001; Randall et al., 1999; Shore & Tetrick, 1991; Aselage & Eisenberger, 2003). Subordinates' perceived organizational support appreciate the organization to a greater extent and help to achieve company goals (Eisenberger et al., 1986; Rousseau, 1989; Wayne et al., 1997; Osca et al., 2005; Aselage & Eisenberger, 2003).

Perceived organizational support focuses on the one-sided perception of employers' by employees whether explicit or implicit. This phenomenon occurs because: 1) organizations are responsible for their agents' actions legally, morally, and financially, 2) organizational policies guide the behaviors of its agents at different locations and times, and 3) there is perception consistency of an employee by others in the organization based on experiences with the employee and a review of their actions as indicated by performance appraisals (Levinson, 1965; Eisenberger et al., 1986).

HYPOTHESIS

The following research hypothesis and null hypothesis were examined in this study of the influence of leadership practices on perceived organizational support:

- H_0 : A significant relationship between the leadership practice of "Encourage the heart" and subordinate perceived organizational support does not exist.
- H_1 : A significant relationship between the leadership practice of "Encourage the heart" and subordinate perceived organizational support exists.

METHODOLOGY AND DATA COLLECTION

The purpose of this study was to determine the influence of leadership practices on perceived organizational support. This study invited all the Masters of Business Administration students at a private Florida university who evaluated their leaders' actual behaviors of how frequently he or she engages in the independent variables of five leadership practices and the dependent variable of perceived organizational support. Of the 127 students who completed the survey all the surveys were received and usable. Participants were asked to respond as realistically as possible regarding their leaders' actual behavior on most days, projects, and people. These participants were an available convenience sample population for the researcher.

A cover letter explaining the reason for the study and the details of the study including survey content and outline, as well as directions for completion, and assurance of confidentiality will be attached to the surveys. The cover letter was emailed to each of the participants containing the link to the website containing the survey. Respondents were asked to complete the survey and submit it via the web. Web-based surveys are becoming increasingly popular due to the reduced cost to administer, flexible format, ease of data entry, control of answer order, required completion of answers, convenience, speed and reduced turnaround time (Granello & Wheaton, 2004; Evans & Mathur, 2005).

A general demographic questionnaire, Leadership Profile Inventory-Other (LPIO; Kouzes & Posner, 1988), and Survey of Perceived organizational support (SPOS; Eisenberger et al., 1986) were used. Answers were submitted confidentially and anonymously. Participants were employed students and permission was obtained from a school official to administer the survey. Permission was obtained from the developers of the surveys to use the surveys in this study.

VARIABLES

This research study was conducted to identify the relationship between the dependent variable of perceived organizational support (Eisenberger et al., 1986) and the independent variable containing the leadership dimension: Encourage the Heart (Kouzes & Posner, 1987). The researcher attempted to determine if there was a relationship among these variables to see if the leadership practice influenced employees' perceived organizational support. The researcher did not study other variables such as commitment, satisfaction, or turnover since both the leadership practices and perceived organizational support have been shown to be linked to those variables.

The independent variable of leadership practice: Encourage the Heart was measured by the Leadership Practices Inventory-Other developed by Kouzes and Posner (2002). The dependent variable of perceived organization support was measured using the Survey of Perceived organizational support developed by Eisenberger et al. (1986).

INSTRUMENTATION

The instruments that were used for data collection in this study contain three important sections outlined below:

General Demographic Questions;

1. Leadership Practices Inventory: Other (LPI-O) published by James Kouzes and Barry Posner (2002);
2. Survey of Perceived organizational support (SPOS) developed by Eisenberger et al. (1986).

The general questions section of the questionnaire was used to gather personal demographic characteristics of respondents of the sample population. The second part of the questionnaire consisted of the Leadership Practices Inventory: Other (LPIO) instrument. The LPIO consists of 30 descriptive statements (6 statements for each practice) regarding five different leadership practices but for this paper only the six statements related to "challenging the process" was examined. The responses were based on a 10-point Likert scale ranging from 1 (almost never) to 10 (almost always) with responses placed in five categories of leadership: "Encouraging the heart" is the ability of the leader to encourage employees and reward them for their achievements" (Kouzes & Posner, 1988).

Posner and Kouzes (1993, p.191) in Psychometric Properties of the Leadership Practices Inventory-Updated noted that leadership is critical, a reliable and accurate measure is needed so the Leadership Practices Inventory (LPI) was designed.

The Leadership Profile Inventory-Other (LPIO; Kouzes & Posner, 1988) was used to appraise leader behaviors by leaders and subordinates (Herold & Fields, 2004). The LPIO has been shown to have strong reliability and validity (Posner & Kouzes, 1993). It allows subordinates to confidentially assess perceptions of leaders' performance and effectiveness. Internal reliability scores range from 0.81 to 0.91 in a study of 36,000 managers and their subordinates involving both public and private companies (Posner & Kouzes, 1993). The reliability scores listed in Table 1 of the instrument range from 0.82 to 0.92 in many studies (Posner & Brodsky, 1992). The test-retest reliability was completed using 157 MBA students and was .93

TABLE 1
MEANS, STANDARD DEVIATIONS AND RELIABILITY INDICES

| | Mean | Std Dev | LPI (N= 36,226) | LPI-Self (N=5,298) | LPI-O (N=30,913) | Test-Rest (N=157) |
|------------------------------|-------|---------|--------------------|-----------------------|---------------------|----------------------|
| Encouraging the Heart | 21.96 | 5.17 | .91 | .85 | .92 | .93 |

and above for each of the five practices (Posner & Kouzes, 1993).

The Leadership Practices Inventory-Other contains 30 descriptive statements that employees used to rate their supervisor on the usage of five leadership practices with six statements for each. The six questions relating to “Encourage the Heart” are shown in Table 2. This scale is generally statistically independent and do measure other event (Kouzes & Posner, 1997).

TABLE 2
LEADERSHIP PRACTICES’ SCALE

| Leadership Practices | Corresponding Questions |
|----------------------|-------------------------|
| Encourage the heart | 5,10,15,20,25,30 |

The third section of the questionnaire included the Survey of Perceived organizational support consisting of 36 questions in which the employees indicated the extent they agreed with each item. Half were positively and half negatively worded to control response bias based on a Likert-scale. The negatively worked questions (3, 6, 7, 11, 14, 15, 16, 17, 19, 22, 23, 26, 28, 31, 32, 34) were reverse coded.

According to Eisenberger, Huntington, Hutchison, and Sowa (1986), the reliability analysis resulted in a reliability coefficient (Cronbach’s alpha) of .97, with item-total correlations ranging from .42 to .83. The mean and median item-total correlations were .67 and .66, respectively. In sum, every one of the 36 items showed a strong loading on the main factor, with minimal evidence for the existence of other factors.

DATA ANALYSIS AND DESCRIPTIVE STATISTICS

In order to test the hypothesis concerning the leadership practices inventory results, the Pearson product moment correlation was used. Descriptive statistics were used to describe the sample population, dependent, and independent variables. Correlational analysis was performed to reveal the relationship between the variables. Cronbach alpha was performed to show the internal reliability of the survey instruments.

This study examined and indicated the influence of leadership practices on perceived organi-

zational support. The descriptive statistics for each leadership practice is shown in Table 2 below. The answers of respondents ranged from a minimum of 1 and a maximum of 10. The results show the mean scores for the leadership practices of “Encourage the heart” was 6.6378. The standard deviation for “Encourage the heart” was 2.68414.

TABLE 3
**DESCRIPTIVE STATISTICS FOR THE
LEADERSHIP PRACTICES INVENTORY**

| | N | Min. | Max. | Mean | Std. Dev. |
|----------------------------|-----|------|-------|--------|--------------|
| Encourage the Heart | 127 | 1.00 | 10.00 | 6.6378 | 2.68414 |
| Valid N (listwise) | 127 | | | | |

The hypothesis was tested and analyzed using the Pearson Correlation 2-tailed test. The results are shown below. As shown in the table below the leadership practice of “Encourage the Heart” and perceived organizational support ($r = .628, p < 0.01$) are related and so the null hypothesis is rejected. According to the data, employees have perceived organizational support:

Table 4 indicates a significant positive relationship between “Encourage the heart” and perceived organizational support ($r = .622, p < 0.01$) suggesting the null is reject-

TABLE 4
**CORRELATIONS BETWEEN “ENCOURAGE THE HEART” AND
PERCEIVED ORGANIZATIONAL SUPPORT**

| | | Encourage the Heart | Perceived Organizational Support |
|---|---------------------|---------------------|----------------------------------|
| Encourage the Heart | Pearson Correlation | 1 | .622(**) |
| | Sig. (2-tailed) | . | .000 |
| | N | 127 | 127 |
| Perceived Organizational Support | Pearson Correlation | .622(**) | 1 |
| | Sig. (2-tailed) | .000 | . |
| | N | 127 | 127 |

** Correlation is significant at the 0.01 level (2-tailed).

ed. Subordinates need to be encouraged and recognized for their hard work and commitment to the organization (Kibort, 2004; Eisenberger et al., 1986; 2001) which increases their perception of organizational support. The author believes leaders must devise ways of recognition. They must sincerely show enthusiasm for the success of employees. When leaders enjoy the group's success, self-esteem, and self-worth is supported. If the employee has developed self-worth, then he or she feels supported and encouraged. Sincere supervisor praise contributes to employee attitudes about the organization. Recognition can also serve to foster a productive organization where employees feel supported. Showing support indicates a reciprocal relationship and improved organization.

The components of "Encourage the heart" include: recognizing individual accomplishments, celebrating group success, (Taylor, 2003; Gabris & Ihrke, 2000; Kouzes & Posner, 2002), influence the self-esteem and self-worth (Javidan & Waldman, 2003), relating to developmental needs (Popper & Zakkai, 1994) and values (Mink, 1992), such as caring and respect (Dixon, 1998; Mastrangelo et al., 2004). Perceived organizational support is influenced by employee's treatment, including the frequency and sincerity of statements of praise and approval (Eisenberger et al., 1986, p.501). Sincere communication, recognition, and rewards imply to the employees that the organization cares about and values them (Shore & Shore, 1995; Wayne et al., 1997; Zagorsek et al., 2004) and perceived organizational support (Allen, 1992; Wayne et al., 2002). Communication from a supervisor in the form of praise must be clear, honest, fair, and show that he or she cares about the employee for the subordinate to sense organizational support.

LEADERSHIP PRACTICES AND PERCEIVED ORGANIZATIONAL SUPPORT

The null hypothesis was used to test whether a relationship existed between subordinates perceived organizational support and supervisor leadership practices using the Survey of perceived organizational support (Eisenberger, et al., 1984) and the Leadership Practices Inventory (Kouzes & Posner, 2002).

The results of this research showed a significant positive relationship between perceived organizational support and each of the leadership practices (Kouzes & Posner, 1988): Encourage the Heart. It is important to understand what leadership practices contribute to subordinates' perceived organizational support since this information could direct leaders to valuable information about commitment, performance, turnover, organizational citizenship behavior, and satisfaction.

ASSUMPTIONS, LIMITATIONS, AND PRACTICAL IMPLICATIONS

This study assumes that the data collection method was appropriate and valid. This study was limited to employed students and it will be assumed that the respondents were competent and answered honestly. Assumptions were made by the researcher that their answers were useful to make generalizations regarding the influence of leadership practices on perceived organization support in most organizations.

One limitation of this study was the population consisted only of MBA students at one prestigious South Florida University with an adequate same size but results could be improved with a larger population or a more diverse population. Also another limitation of this study was that it was cross-sectional and not longitudinal.

The relationship of gender differences, traits, leadership styles, and powerbases between supervisors and employees should also be studied. Leaders influence the culture of the organization which could be linked to perceived organizational support which could be another area of future research.

Leaders today should recognize the core competence of the organization is its people (Weymes, 2005) who spend so much time in organizations working with others that they identify with the organization and ascribe feelings and characteristics to the organization (Eisenberger et al., 1990) based on the supervisor's behaviors. This study confirms the vital importance that leaders engage in leadership practices that will encourage employee commitment and perceived organizational support to performance (Eisenberger et al., 1990).

The significant positive relationship between "challenging the process" and perceived organizational support implies that leaders need to allow employees to "Encourage the Heart" and leaders can enhance subordinate performance capacity by setting high expectations and helping them address difficult challenges (Avolio, 1999; Bass, 1998). Interesting, challenging work is an important component of challenging the process and enabling others to act providing intrinsic motivation for employees to be innovative, flexible, and adaptable to change (Kouzes & Posner, 1987, Kibort, 2004).

This study indicated a link between "Encourage the Heart" and perceived organizational support. This leadership practices implies the opportunity to make a difference, think "outside the box", and experiment with new ideas without fear of discipline or blame for making a mistake increases employee motivation and perceived organizational support. Thus, employees need to be able to try

new ideas and ways of doing things (Bass & Avolio, 1994; Tracey & Hinkin, 1998; Tucker & Russell, 2004). Leaders should encourage healthy dissent and allow employees to Encourage the Heart (Bennis, 1999).

If leaders do not engage in this leadership practice, it may cost the organization in terms of performance (Swanson & Johnson, 1975). Leaders should make every effort to support, sustain, maintain, and promote support through the leadership practice of "challenging the process". Leaders that do not use this leadership practice should participate in leadership development programs emphasizing these practices in order to achieve extraordinary outcomes. The researcher concurs with Kouzes and Posner (1987) that extraordinary outcomes are achieved by challenging the process.

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USABILITY MEASURES OF TEXT-BASED CAPTCHA

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ABSTRACT

Completely Automated Public Turing Tests to Tell Computers and Humans Apart (CAPTCHA) is a security tool that is used by commercial websites to avoid spamming and hacking. Designers of CAPTCHA are faced with a complex task of creating a quality CAPTCHA that is robust and usable. This study reports an on-going study that focuses on understanding the usability aspects of text-based CAPTCHA. A think-aloud protocol and a card-sorting practice are applied to conceptualize and operationalize usability of text-based CAPTCHA. Findings suggest that usability is a solution of four latent constructs of: (i) content; (ii) format; (iii) distortion; and (iv) services. The study contributes to efforts in the area of usable security in the context of the commercial websites.

INTRODUCTION AND MOTIVATION

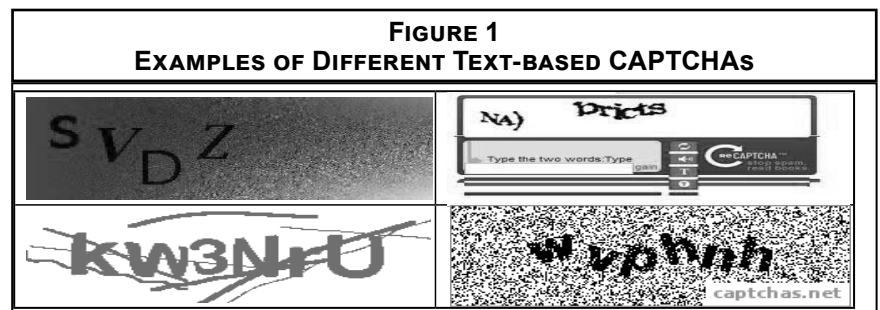
Completely Automated Public Turing Tests to Tell Computers and Humans Apart (CAPTCHA) is now considered a common practice among websites to avoid malicious bot programs. A good CAPTCHA is the one that balances between robustness and usability (Sutherland, 2012). The robustness of CAPTCHA is its strength to protect the website from hacking and spamming attempts, while usability is the extent the CAPTCHA is solvable by humans. Although the first issue (i.e., robustness) has attracted large number of studies (e.g., Chellapilla et al., 2005; Hwang et al., 2012; Smith and Swaid, 2013), CAPTCHA usability is still an underdeveloped area in research. This study is designed to cover this area in research.

CAPTCHAs come in different forms, but generally, it is classified into four types: (i) text-based CAPTCHAs; (ii) sound-based CAPTCHAs; (iii) image-based CAPTCHAs; and (iv) others (e.g., game-based CAPTCHAs, mathematical problems CAPTCHA, multimedia-based CAPTCHA). Because text-based CAPTACHA is the most common ones found in commercial websites (Sauer et al., 2008), designers of text-based CAPTCHAs struggle in developing a quality CAPTCHA that is usable to humans, but also capable of resisting adversarial attacks. Text-based CAPTCHA today exhibits the following pattern: the CAPTCHA is presented in obfuscated way to the user. The user is asked to type the original text into an answer box. In case the answer is incorrect, the user is presented with another text. The user is given the choice to repeat this process to choose among different CAPTCHAs the one he can solve. Some

CAPTCHAs provide the user with an a feature to switch to audio-based CAPTCHA (e.g., ReCAPTCHA) (see Fig 1). A considerable number of calls have been issued to study usability in the context of CAPTCHA. These calls are mainly for four reasons: (i) text-based CAPTCHA are the most common ones in commercial websites (Sauer et al., 2008); (ii) website users have different common cognitive backgrounds (Belk et al., 2012), in which might affect their perception of CAPTCHA's usability; (iii) CAPTCHA is an essential tool to be used to stop harm caused by malicious bots (Sutherland, 2012); and (iv) website designers should give careful attention to all aspects of the user experience with the website to satisfy and retain their users (Swaid and Wigand, 2007; 2009). Thus, adopting criteria of usable security would ensure satisfying website users and thereby retaining them (Flavián and Guinalú, 2006). This paper reports on a first phase of a study to develop a scale to measure quantitatively CAPTCHA usability from the perception of the website user.

BACKGROUND

The World Wide Web has become a common place for users to consumer free services. Commercial websites compete to provide joyful experience to its users. One of these aspects that contributes to users experience is providing



usable CAPTCHA, that humans can solve. Although a notable attempts have been made to understand usability of text-based CAPTCHA (e.g., Fidas, 2012; Sauer, 2008; Sutherland, 2012; Yan and El-Ahmad, 2008), no study developed a scale that can be used to evaluate usability and identify areas of improvements. For example, a study recognized the impact of different distortion techniques on the usability of CAPTCHA designed by Microsoft (Chellapilla et al., 2005). Others applied usability criteria of accuracy, response time and perceived difficulty (e.g., Hwang et al., 2012) in measuring usability. However, no guidelines were provided on how to improve usability. Another attempt was done by Sutherland (2012), who based on experience in CAPTCHA, analyzed different properties of text-based CAPTCHAs that might explain usability. Others, and based on their experience in the field, proposed a framework of three dimensions of distortion, content and presentation (Yan and El-Ahmad, 2008) to understand usability of CAPTCHA. Fidas and others (Fidas et al., 2011) investigated the users views related to perceptions, usage and user preferences related to CAPTCHA usability and security. Although these studies shed light on number of usability criteria, no systematic framework was followed in developing a scale to quantitatively measure CAPTCHA usability.

THE STUDY

In order to develop a scale to measure CAPTCHA usability, it is important to conceptualize its constructs first (Churchill, 1979). In this study, CAPTCHA usability is defined, as the extent CAPTCHA system is easy to use to accomplish the task of solving CAPTCHA problem. Considering this definition, literature was reviewed to identify related latent constructs of CAPTCHA usability. Next, latent constructs were operationalized based on literature (i.e. Sutherland, 2012; Yan and El-Ahmad,

2008), think-aloud protocol and a card-sorting exercise, as shown below.

Think-Aloud Protocol

Think-aloud protocol is common usability engineering method used to identify any problems in design (Somerén et al., 1994). Think-aloud starts with giving the participants a number of tasks to accomplish. While participants are completing the tasks, they are encouraged to say their thoughts aloud. This provides usability experts an understanding to humans' way of thinking while performing the tasks (Sommer et al., 1994) and enables identifying design problems. Total of six college students, participated in the think-aloud study in a laboratory environment. Participants were all college students, whose ages ranged from 21 to 29 years old with 50% of them females. One male student was with English as a second language. All participants use the web for more than three hours daily and no one of them has any vision problems. Participants were provided with six different text-based CAPTCHAs to solve (i.e., JCapcha, Recaptcha, Gimby, Captchas.net, CryptograPHP and Securimage CAPTCHA). While trying to solve the CAPTCHA, participants were encouraged to think-aloud to identify any type of obstacles they face. Feedback from participants was used to compile list of usability criteria of text-based CAPTCHA. Findings indicate that usability of text-based CAPTCHA is multidimensional one with four dimensions: (i) content; (ii) presentation; (iii) distortion; and (iv) services (see Table 1).

Card-Sorting Exercise

Card-sorting is a user-centered activity that usability experts use to gain understanding of how users understand usability concepts and to understand the links between

TABLE 1
CONSTRUCT CONCEPTUALIZATION OF TEXT-BASED CAPTCHA USABILITY

| Construct | Definition | Source |
|------------|---|---|
| Content | The extent contents embedded in CAPTCHA is understandable to users | Yan and El-Ahmad, 2008; Sutherland, 2012; Think-aloud study |
| Format | The extent CAPTCHA content is formatted and presented to users | Yan and El-Ahmad, 2008; Sutherland, 2012; Think-aloud study |
| Distortion | The extent distortion is applied to CAPTCHA's text | Yan and El-Ahmad, 2008; Sutherland, 2012; Think-aloud study |
| Services | The extent CAPTCHA system provides services to facilitate solving CAPTCHA problem | Think-aloud study |

items and concepts. Originally, card-sorting was developed by psychologists as a method to study how people organize and categorize their knowledge (Tullis, 2007). A typical application of this method is that participants are asked to sort cards with terms into meaningful categories. The card-sorting can be applied as a close card-sorting or an open one. It is a closed card-sorting task when participants are given the names for the categories. It is an open card-sorting practice when participants create the groupings or categories that would represent the constructs under study (Tullis, 2007). Card-sorting exercise may be conducted in laboratory settings with note cards and a table, or using software for card-sorting, or over the internet (Paul, 2008). Although guidelines on the number of participants needed for a valid card-sort vary (Paul, 2008), in general having six to twelve participants is considered sufficient (Paul, 2008; Wood and Wood, 2008). This technique of card-sorting has been widely applied by

psychologists, information architects, website designers and marketing professionals. Based on literature (Yan and El-Ahmad, 2008; Sutherland, 2012) and outcomes from think-aloud study, a number of measures are proposed to operationalize the proposed four dimensions of text-based CAPTCHA usability. Following the recommendations of (Tullis, 2007), a closed card sorting practice is implemented with 16 participants. As the study aims to categorize the measures into pre-existing set of categories, the purpose of the study was made explicit to participants (Woods and Woods, 2008). Items were written on note cards, with a detailed description of the item on the back of the card. Also, categories and its definitions were provided to participants. One round of card-sorting tasks was conducted (see Table 2). Metric of average of the maximum percentage of agreement across all cards was used to evaluate agreements among participants.

TABLE 2
RESULTS OF CARD-SORTING EXERCISE

| Item | Measure | Category of Content | Category of Format | Category of Distortion | Category of Service |
|-----------------|--|---------------------|--------------------|------------------------|---------------------|
| 1 | Character set in use | 75% | 13% | 6% | 6% |
| 2 | Familiarity with characters | 56% | 18% | 13% | 13% |
| 3 | Words from dictionary | 81% | 7% | 6% | 6% |
| 4 | Friendliness of words | 63% | 19% | 13% | 5% |
| 5 | Ease to understand to non-English speakers | 75% | 13% | 6% | 6% |
| 6 | Inoffensive words | 88% | 6% | 6% | 0% |
| 7 | Number of words | 62% | 19% | 13% | 6% |
| 8 | Length of words | 56% | 25% | 13% | 6% |
| 9 | Font style | 31% | 50% | 13% | 6% |
| 10 | Font size | 25% | 44% | 19% | 12% |
| 11 | Font color | 19% | 50% | 19% | 12% |
| 12 | Background color | 12% | 75% | 7% | 6% |
| 13 | Background complexity | 19% | 69% | 12% | 0% |
| 14 | Distortion type | 13% | 13% | 62% | 12% |
| 15 | Distortion level | 6% | 19% | 69% | 6% |
| 16 | Noise added to text is appropriate | 19% | 13% | 62% | 6% |
| 17 | Textbox size | 13% | 25% | 6% | 56% |
| 18 | Integration with website | 6% | 19% | 6% | 69% |
| 19 | Symbols used | 13% | 25% | 6% | 56% |
| 20 | Functions to use | 6% | 13% | 6% | 75% |
| 21 | Help provided | 19% | 0 | 0 | 81% |
| 22 | FAQ provided to answer questions | 3% | 0 | 0 | 88% |
| 23 | Number of trails | 6% | 6% | 0 | 88% |
| 24 | Standard way to present CAPTCHA text | 19% | 6% | 6% | 69% |
| 25 | Standard services and functions of CAPTCHA | 6% | 6% | 0 | 88% |
| Average: | | | | | 68% |

Conclusion and Further Research

It has become a standard practice to use CAPTCHA to differentiate between human users and automated agents in commercial websites. As the perception of security significantly effect users' attitude toward the website (Swaid and Wigand, 2007; 2009), it is important to employ usable CAPTCHA. This paper reports a study to understand design aspects of text-based CAPTCHA. Findings suggest that usability of text-based CAPTCHA is a multidimensional construct. Dimensions of text-based CAPTCHA usability are conceptualized and operationalized applying a user-centered approach. The next steps would be testing and purifying the measures to identify the underlying structure of CAPTCHA usability. A factor analysis study and structural equation modeling would be applied to test the psychometric properties of the scale. The ultimate contribution of the study is constructing a scale, systematically, to quantitatively evaluating the usability of text-based CAPTCHA.

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LANCE ARMSTRONG: CLAIM OF RIGHT OR WRONG? A LOOK AT I.R.C. §1341!

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ABSTRACT

Claim of right is a long established doctrine requiring the taxpayer to recognize income in the year in which it appears that they have an unrestricted claim of right. Courts have disagreed about the interpretation of the "appearance of an unrestricted right" to the income. The conclusion is a determinant for the application of I.R.C. §1341 should the taxpayer be required to repay any or all of the income in a subsequent year. Claim of wrong exceptions suggest that taxpayers who receive income as the result of wrongdoing have not, in fact, received the income with an unrestricted claim of right. In this analysis, it appears unlikely that Lance Armstrong will be able to utilize the benefits of I.R.C. §1341 to mitigate the negative tax consequences of the repayment of millions of dollars in bonuses and winnings following the release of substantial evidence that he illegally used performance enhancing drugs to win seven consecutive Tours de France.

INTRODUCTION

Lance Armstrong crafted a journey that very few dare to dream. He was first a cancer survivor. He founded a charitable organization in 1997 named *Livestrong* to raise funds and promote cancer research. From 1999 to 2005, Armstrong won seven consecutive Tours de France. His celebrity status helped raise millions of dollars for Livestrong to fund cancer research. Corporate sponsors stood in line hoping to sign him to marketing contracts. His winnings and endorsements totaled in the millions. It was an empire few could imagine. Then cracks in the façade began to appear.

Rumors had swirled for years. Lance Armstrong was doping. There was no other explanation. Without performance enhancing drugs, no one could win seven consecutive tours. Notable contenders had been caught and punished. Yet, Lance denied each and every accusation. He even sued a company (SCA Promotions) who, in 2004, refused to pay a bonus for that year's Tour win claiming that Lance was using performance enhancing drugs. He had cheated to win they said. Among the depositions of witnesses for the suit was Armstrong, who denied under oath in 2005 that he used any performance enhancing drugs. SCA settled paying \$7.5 million for bonuses and legal fees.

Following the United States Anti-Doping Agency's (USADA) October 10, 2012, release of 1,000 plus pages of evidence that he not only used performance enhancing

drugs but that he supervised the entire U.S. Postal Team's use of drugs, the former American idol has announced that he will no longer fight to preserve his reputation. The USADA report even describes the Armstrong strategy as a conspiracy. Although he could have appealed the conclusion of the USADA, he will not do so. As a result of the USADA report, the Union Cycliste Internationale (UCI) endorsed the USADA's recommendation to ban him from sanctioned cycling events and strip him of his seven Tour wins. He is no longer associated with the charity he founded (Livestrong). His corporate endorsements with such firms as Nike, Trek, Oakley, and Anheuser Busch have been terminated. Following his appearance on a national television talk show and confession of lying and doping for the years he was winning seven Tours, he now faces liabilities and lawsuits exceeding \$100 million. The accusations are that he defrauded the companies and organizations that paid his winnings, bonuses, and monies while cycling. Those seeking to recover money are the federal government, two insurance companies, a British newspaper, and several class-action plaintiffs. The federal government joined a civil fraud case as a result of the United States Postal Service sponsorship of Armstrong's cycling team for several years. The \$31 million of sponsorship and treble damages could total \$93 million. All of the money was paid under the expectation and requirement that Armstrong was not doping, not cheating. If Armstrong is required to repay winnings and bonuses on which he has already been taxed, what recourse, if

any, might the provisions of the Internal Revenue Code (I.R.C.) provide?

CLAIM OF RIGHT DOCTRINE

According to the claim of right doctrine, taxpayers are required to recognize income received in a given year under the appearance of a claim of right. This is true even if it is later determined that the taxpayer is obligated to repay the income. The repayment may be deductible but deductibility of the repayment must be determined by relevant provisions of the IRC. The claim of right doctrine was established as the result of the 1932 case of *North American Oil Consolidated Co. v. Burnet*.¹ In this case, the taxpayer wanted to include income received in 1917 on a 1922 tax return following the conclusion of litigation. The Court found for the IRS that the income was taxable in 1917. In 1951, in *Lewis*,² the taxpayer paid tax on a bonus received in 1944. In 1946, the taxpayer was required to repay approximately one-half of the bonus and sought a refund of taxes paid in 1944. The Court found that the repayment was deductible in 1946. Congress found the result in *Lewis* inequitable for the taxpayer. A deduction in a later year often does not mitigate the differences in tax rates across years. As a result, I.R.C. §1341 was enacted.³

I.R.C. §1341

The intent of I.R.C. §1341 is to put the taxpayer in the same position as if they had not originally claimed the income or as if they had been allowed to amend the returns for the prior year or years. I.R.C. §1341 states:

Sec. 1341. Computation where taxpayer restores substantial amount held under claim of right.

(a) General rule. If –

- (1) An item was included in gross income for a prior taxable year (or years) because it appeared that the taxpayer had an unrestricted right to such item;
- (2) A deduction is allowable for the taxable year because it was established after the close of such prior taxable year (or years) that the taxpayer did not have an unrestricted right to such item or to a portion of such item; and
- (1) The amount of such item exceeds \$3,000,

Then the tax imposed by this chapter for the taxable year shall be the lesser of the following:

- (2) The tax for the taxable year computed with the deduction; or
- (3) An amount equal to—
 - (A) The tax for the taxable year computed without such deduction, minus
 - (B) The decrease in tax under this chapter (or the corresponding provisions of prior revenue laws) for the prior taxable year (or years) which would result solely from the exclusion of such item (or portion thereof) from gross income for such prior taxable year (or years).

The tax consequences of including an item in income in one year and the deduction for repayment in a later year are offset if the tax rates have remained constant across the respective tax years. If the tax rates have decreased, the net effect of the deduction will not offset the taxes paid previously and the taxpayer will suffer a net negative consequence.

The benefit of I.R.C. §1341, where applicable, is the provision for an alternative tax calculation intended to mitigate against unfavorable tax consequences that may occur when an item is included in gross income in one year and subsequently deducted in a later year.

Example. During 2010, a taxpayer receives income in the amount of \$20,000 for sales commissions earned. The taxpayer includes the amount in 2010 income on his 2010 income tax return. As a result of nonpayment by customers for sales upon which commissions were calculated and paid, the taxpayer must return \$5,000 in 2011. According to I.R.C. §1341, the taxpayer may choose to calculate the effect of the deduction using either the marginal tax rate for 2010 or 2011.

The Internal Revenue Manual provides the following guidance:

1. If the amount repaid was more than \$3,000, it is either deducted (Method 1) or used to figure a credit (Method 2), whichever results in less tax.
2. Method 1 – Figure the tax with a deduction for the amount repaid.
3. Method 2 – Follow these steps:
 1. Figure the tax *without* deducting the amount repaid.

¹ *North American Oil Consolidated Co. v. Burnet*, 286 U.S. 417 (1932).

² *United States v. Lewis*, 340 U.S. 590 (1951).

³ H.R. 1377, 83rd Cong., 2d Sess. (1954)(enacted).

2. Refigure the tax for the earlier year of inclusion without including the amount repaid.
3. Subtract the refigured tax under step (2) from the actual tax for the earlier year. The difference is the credit.
4. Subtract the credit under step (3) from the tax under step (1).
4. If the tax under Method 1 is less, the repayment is deducted, in general, on the same form or schedule on which it was previously included
5. If the tax under Method 2 is less, the credit figured under that method should be entered on Form 1040, line 72, with the annotation "IRC Section 1341" in the column to the right of line 71.

A caution states that §1341 does not apply to deductions for legal and other expenses of contesting the repayment.⁴

Claim of Wrong Exception

One controversial aspect of the claim of right doctrine revolves around the meaning of the term "appeared that the taxpayer had an unrestricted right" to income. There has not been a consensus opinion in the interpretation of "appearance of an unrestricted right" to income. Discussion has focused on apparent versus actual right to the income. Opinions, including court opinions, have been diverse. The meaning of the word "appear" is sufficiently vague. The Court in *Cinergy*⁵ considered the definitions of three separate dictionaries before concluding that the legislative history of I.R.C. §1341 should be considered. After much deliberation, the Court concluded that

"while the legislative history of section 1341 indicates that it is limited to individuals adversely affected by the claim of right doctrine, the case law, supported by considerable commentary, demonstrates that doctrine does not apply to those who have an "actual," rather than "apparent," right to an item of income. It follows, *modus ponens*, that individuals with an actual right to an item of income are not covered by section 1341."

Additionally, some courts have concluded that taxpayers who intentionally commit wrongdoing in order to obtain the income have not fulfilled the "appearance of an unrestricted right to the income." Under the claim of right doctrine, the taxpayer must demonstrate a bona fide claim to the income item originally. Exceptions to the claim of right are items of income originally received due to intentional wrong doing and have been labeled as "claim of wrong" cases.

In *Culley*,⁶ the taxpayer appealed a lower Court decision against him. He had pleaded guilty to mail fraud. The taxpayer then deducted settlement charges of \$3 million dollars for the repayment of income illegally obtained and included on his 1988 tax return. He computed his tax liability using favorable benefits of I.R.C. §1341. Following a discussion of the interpretation of "appearance of unrestricted right," the Court concluded that when a taxpayer knowingly obtains funds fraudulently, it cannot appear to him that he has a legitimate unrestricted claim on the income. It stated that

"when committing an intentional wrong, a taxpayer must be prepared for the eventuality of being discovered and being liable for repayment in the form of restitution, disgorgement, civil or criminal penalties, or the like. A taxpayer's illicit hope that his intentional wrongdoing will go undetected cannot create the appearance of an unrestricted right."

In *McKinney*,⁷ embezzled funds reported as income in 1966 were refunded in 1969. The taxpayer sought to be made whole tax-wise under §1341. The court concluded that

"...as an embezzler, plaintiff never received his employer's funds under a claim of right and the benefits of Section 1341 of the Code are not available to him."

In *Parks*,⁸ a case involving fraud claims, the Court concluded that

"if one commits an intentional wrongdoing, one always does so at the risk of discovery and the potential for disgorgement, restitution, civil penalties, criminal liability, and the like."

The overwhelming conclusions in these cases and others can be summarized by saying that the Courts seem to

⁴ Internal Revenue Manual. 21.6.6.3.12.3 (02-03-2011).

⁵ *Cinergy Corp. v. United States*, 91 AFTR 2d 2003-1229 (55 Fed. Cl. 489).

⁶ *Culley v. United States*, 222 F.3d 1331 (Fed.Cl. 2000).

⁷ *McKinney v. United States*, 574 F.2d 1240 (CA-5 1978).

⁸ *Parks v. United States*, 945 F. Supp. 865 (DC-PA, 1996).

read “unrestricted right to income” in §1341 as excluding from its coverage taxpayers who receive income knowing that they have no legal right to the income.⁹ This exclusion does not prevent the taxpayer from deducting any repayment of income on a subsequent year tax return. According to Judge Douglas in the *Lewis*¹⁰ case, disallowance of a deduction for repayment of income would place the government in the

“unconscionable position that it can keep the tax after it has shown that payment was made on money which was not income to the taxpayer.”

The exclusion merely prevents the taxpayer from enjoying the benefits of §1341 and attempting to be made whole tax-wise.

CONCLUSION

As Armstrong reflects on the prospective repayment of bonuses and winnings, his comments in an interview in 2005 are amazingly similar to the conclusion of the courts. He was asked what would happen if he were found guilty of doping. He responded that all of his sponsors would go away. He would lose the faith of cancer survivors around the world. He had considered the eventuality of his wrongdoing being discovered. It seems that for Lance Armstrong, the “appearance of an unrestricted right to income” is without merit. He could not have believed that he had an unrestricted right to the income. It is unlikely that he will be able to take advantage of the benefits of §1341.

As a policy matter, it would seem appropriate for Congress and/or the IRS to strengthen the language related to “claim of right.” The plethora of court cases suggests that much time has been devoted to the discussion of the definition of claim of right. Taxpayers’ repayment of income derived from intentional wrongdoing and the request for the benefits of §1341 has not generally met with Court approval. The Court’s statement in *Culley*¹¹ would be a good rule of thumb. *A taxpayer’s illicit hope that his intentional wrongdoing will go undetected cannot create the appearance of an unrestricted right.* A simple statement that cases specifically determined to be claim of wrong exceptions will not qualify for the benefits of §1341 would alleviate some of the burden on the courts. One consequence of intentional wrongdoing should be the absence of opportunity to be made whole.

⁹ *Perez v. United States*, 553 F Supp 558 (DC-FL, 1982).

¹⁰ *Lewis v. United States*, 340 U.S. 590 (1951).

¹¹ *Culley v. United States*, 222 F.3d 1331 (Fed.Cl. 2000).

**SUPRANATIONAL CULTURE:
AN EMPIRICAL ASSESSMENT OF THE RELATIVE PREDICTIVE POWER OF
THREE COMPETING MODELS OF NATIONAL CULTURE IN THE
CONTEXT OF THE TOYNBEE-HUNTINGTON CIVILIZATIONAL HYPOTHESIS**

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ABSTRACT

Quantitative models of national culture now include those of Hofstede, the GLOBE project, and Minkov, each representing an important advance in the etic conceptualization of the common drivers of human values and practices in different countries. Of these models, that of Hofstede is in widest use, followed by the GLOBE project, and finally Minkov's recent model based on the World Values Survey. The question of which model explains a country's culture most accurately, however, remains open. One of the implicit desires of researchers is to identify an unambiguous taxonomy of cultural dimensions with reasonable parsimony. Toward this end, the present study compares the relative predictive power of these three models against a conception of civilizational groupings that originates in an empirically independent literature, in the form of the Toynbee-Huntington civilizational hypothesis. This hypothesis, based on Toynbee's theory of civilizations, treats civilizations, which usually consist of clusters of culturally similar countries, as the highest order of abstraction of human identity short of that of the human race as a whole. Insofar as the competing models of cultural dimensions accurately predict the civilization-level membership of specific nations, the civilizational hypothesis validates the theoretical conception of cultural dimensions as a substantive representation of human culture, demonstrating that the search for a stable taxonomy of cultural dimensions is indeed worthwhile. Conversely, cultural dimensions provide an empirical basis for refining the identification of civilizational boundaries in terms of country membership, while contributing further insight to determine how civilizations emerge and change over time. Empirical findings affirm the superiority of Hofstede's model over the others, while the GLOBE and Minkov interpretations offer insights that may help understand the Hofstede dimensions more deeply. The study concludes with a summary statistical comparison among the models and discusses implications for future research into both the civilizational model and cultural dimensions.

INTRODUCTION

Cultural dimensions permit the quantification of cultural differences and similarities across countries, using a single taxonomy of cultural descriptors. They are thus essential to the etic approach to studying culture and hence provide basic comparative measures useful for cross-cultural training, on top of which the trainer must add the emic features of each national culture to reflect its unique, non-generalizable character (Chang, 2003). The first taxonomical model of cultural dimensions was that of Hofstede (1980), which began with four cultural dimensions based

on a multi-country empirical study of IBM employees' self-report data and has since undergone three modifications, each time adding a new cultural dimension, to arrive at its present structure incorporating seven dimensions in all (Hofstede, Hofstede, Minkov, & Vinken, 2008). Earlier tributary work often addressed country-level characteristics, most prominently individualism-collectivism (e.g., Rapoport & Rapoport, 1965). This work established the fundamental logic of cultural dimensions by showing that certain aspects of cultural behavior are indeed measurable as society-level phenomena (cf. Bierstedt, 1948), serving to link all members of a society together in a common

conception of desirable *versus* undesirable behavior and beliefs, despite individual differences in personality or personal values (Kluckhohn, 1956).

Hofstede's (1980) 4-dimension and subsequently (1991) 5-dimension model remained the only prominent etic model of culture until the GLOBE project (House, Hanges, Javidan, Dorfman, & Gupta, 2004). The latter sought to replicate Hofstede's taxonomy in the light of more recent insights into potential etic properties of national culture to produce a completely new model that included interpretations of the same cultural dimensions as Hofstede's 5-dimension model, while considering some new variants. After this development, some degree of intellectual competition seemed to set in among culture researchers of the etic tradition, with the implication that either Hofstede or GLOBE must be better (Smith, 2006). Hofstede (2006) reanalyzed the GLOBE data to assess whether GLOBE findings fit within the Hofstedeian conceptual structure. Despite some differences in nomenclature and possibly two unique additions to the taxonomy, GLOBE merely reaffirmed the dimensional structure of the earlier model in Hofstede's own estimation.

Then Hofstede encountered Minkov's ongoing work (*cf.* Minkov, 2011), which presented new cultural dimensions for consideration based on the World Values Survey (World Values Study Group, 1989), a large-scale project begun in 1981 to measure a long list of attitudinal items (predominantly political attitudes) across nations. Hofstede first added one of Minkov's new dimensions to his model (indulgence *versus* restraint, from Minkov's industry *versus* indulgence), producing a 6-dimension variant, and then a second one shortly thereafter (monumentalism *versus* self-effacement, from Minkov's monumentalism *versus* flexumility), to produce the current 7-dimension model (Hofstede *et al.*, 2008). Meanwhile, the prospect that Minkov's own model might present a third alternative to those of Hofstede and GLOBE emerged for consideration. Three of Minkov's four dimensions constitute empirical derivatives of the World Values Survey and therefore arguably reflected a complete cultural model in its own right, under the assumption that the World Values Survey includes all conceivable values and hence the full variety of measurable cultural attributes. If so, then Minkov's model must somehow capture reflections of all of Hofstede's cultural dimensions as well. However, Minkov's (2011) fourth dimension, hypometropia *versus* prudence, is actually a composite measure of national statistics (*e.g.*, rates of educational attainment, adolescent fertility, and violent crime) and therefore falls outside the domain of attitudinal measures represented in these models.

Three important etic models of culture therefore exist with the implication that one is superior to the others, or possibly that some admixture among them constitutes the ideal model of national culture. This condition creates a dilemma for researchers in international culture, who would like to adopt a reliable measure of national culture without worrying that it is suboptimal for their purposes. Contrarily, no researcher wants to expend the considerable time and energy measuring a model that proves later to be deficient in some manifest way. Meanwhile, there is also the problem that many national cultures in the world remain to benefit from direct measurement, and measuring cultural dimensions is a very challenging process, especially given the fact that it requires an effort to match subjects across countries by other factors that affect personal values (Hofstede, 2011). For example, surveying business managers in one country and then government employees in another creates misleading results, because it is impossible to disentangle the effect on personal values that comes from the difference in career field, as opposed to that which reflects differences in national culture.

In answer to this dilemma, the Toynbee-Huntington civilizational hypothesis may point to a remedy. This hypothesis, advanced by Toynbee (1946) to include all historical civilizations and updated by Huntington (1993) to fit modern nations into current civilizations, groups the world's nations into meaningful clusters that each serve as a common source of higher-order identity for their members. For Toynbee, membership in a common civilization creates a normative sense of how to think rationally or to experience high culture. Thus, Americans see Western Europe as a collection of cultures that they understand on some level, and their self-appraisal as civilized people has much to do with their learned experience in Western European art, philosophy, and aesthetic tradition, as these represent the core identifying characteristic among Western peoples (Wax, 1993). For Latin Americans, in contrast, the focal point of the historically anchored cultural past is more specifically the Iberian Peninsula (Martz & Myers, 1983). For people in Islamic nations, the focal point includes the Arabian Peninsula and Iraq (Moaddel, 2002). In short, a civilization typically presents such a common history among its member nations as to provide an historic reference point as a common source of identity across one or more nations, superordinate to national identity but more specific than that of simply being a member of the human race (Toynbee, 1946).

Toynbee's civilization model thus presents an historically driven conception of human identity, which typically results in commonalities of classical source language (*e.g.*, Latin in Europe, Arabic in the Islamic nations, Sanskrit in India, and Chinese script in the nations surrounding China), religion, ethnicity, and predominant politico-

economic structure. A country's legitimacy is therefore largely a product of its adherence to those features of the core civilization that most countries recognize as essential to their own identities. However, because Toynbee traced the evolution of civilizations from their deepest historical roots, he made relatively little effort to identify the civilizational membership of modern nations (*e.g.*, whether Latin America constitutes its own civilization or merely an outgrowth of that of Western Europe). He provided the theoretical logic to determine such matters but left it to the reader to consider the individual history of each modern nation to determine its civilizational membership.

By comparison, Huntington's civilization model attempts to answer the question of civilizational identity for every nation that currently exists. His interest was international relations, rather than the study of civilizations *per se*, so Huntington (1993) sought to identify only modern civilizations and proposed that nations in the same civilization tend to get along better than nations in different civilizations, especially after the end of the Cold War and consequent removal of the associated polarizing effects of East-West political tensions. The model of civilizations that Huntington extended from that of Toynbee therefore happens to provide a basis for facilitating the search for cultural profiles applicable to international business. For example, a comparison of cultural dimensions across Latin American nations, one of Huntington's identified civilizations, shows strong similarity among them. The same is true of Islamic nations, another of Huntington's identified civilizations. The similarities are often strong enough to enable ascribing a cultural-dimension profile to a currently unexamined nation in the same civilization, simply by obtaining the mean scores from the remaining nations in the same civilization.

Thus, the theoretical knowledge of civilizational identity may offer practical benefits for anyone interested in specifying a cultural-dimension profile for a nation for which published culture scores have yet to become available. Conversely, however, this observation raises the issue of whether some cultural dimensions more correctly reflect cultural attributes at the level of one nation at a time, rather than at that of the civilization as a whole. For example, were one to analyze political attitudes, one would immediately notice that there are often striking exceptions to the norm (*e.g.*, Cuba or Libya). If some cultural dimensions listed in a given model actually reflect political attitudes more than higher-order cultural characteristics, then they may instead be country-specific rather than generalizable across civilizations. In fact, it is conceivable that certain cultural dimensions with no manifest political content nevertheless reflect national idiosyncrasies rather than civilization-level attributes. Therefore, the question

of how to choose from among the available models, or perhaps from the available cultural dimensions themselves, in a way that most reliably reflects civilization-level identity remains open for investigation.

LITERATURE REVIEW

As explained above, the three models of cultural dimensions of greatest current importance are Hofstede's model, which currently incorporates seven dimensions in all (Hofstede *et al.*, 2008), the GLOBE project, which includes nine values and nine practices (House *et al.*, 2004), and the 3-dimension model that constitutes the attitudinal component of Minkov's (2011) inferences from the World Values Survey (World Values Study Group, 1989). Of these, the first enjoys the most widespread use, but the second is gaining rapidly in popularity as an alternative with possibly new kinds of explanatory power, while the third has rapidly gained popularity in several countries but remains quite new to most English-speaking researchers.

As an etic construct, cultural dimensions are abstract rather than concrete, so it is infeasible to predict specific behaviors from them, but they provide a source of explanation for observed behaviors and cultural artifacts (Hofstede, 2011; Morris, Leung, Ames, & Lickel, 1999). Thus, associating emic observations with cultural dimensions to make sense out of them subsequently permits anticipation of new phenomena within the same culture (Osland, Bird, Delano, & Jacob, 2000). For example, rationalizing by way of cultural dimensions why Americans always seem to be in a rush in turns helps predict their idiosyncratic norms of salutation, which are naturally brief and often informal, consistent with a preoccupation with time and arguably consistent with their low score on long-term orientation. Cultural dimensions similarly provide a way to anticipate attitudes, given that they operate at a level of psychological abstraction equivalent to that of universal human values and thus govern attitude formation (Schwartz & Bilsky, 1987; *cf.* Rokeach, 1968).

It is important to avoid confusion between cultural dimensions and personality traits (Hofstede, 2001). While all members of every society are responsive to the normative effects of cultural dimensions, personality also develops as a source of individual difference among members of the same culture (Javidan, House, Dorfman, Hanges, & Sully de Luque, 2006). While culture guides this process by promoting certain personality attributes and discouraging others, individuals often behave at odds with cultural norms, while nevertheless recognizing that such cultural norms exist (Osland *et al.*, 2000). Cultural dimensions shape attitudes toward vertical and horizontal social differentiation by communicating expectations in

an overarching way, such that individuals model their behavior after them without realizing it and feel that somehow they are challenging the boundaries of reason or normalcy when they deviate from them (Yuki, 2003). Cultural dimensions therefore inform the cultural acceptability of specific practices and provide clues to determine the smoothest, least obstructed modes of interaction available within the noted culture, but individual differences will persist (Cruz, Shafer, & Strawser, 2000). In general, people will obey cultural dimensions, while both personality and political motivation may at times induce those same people to act in contrary fashion (Osland *et al.*, 2000).

It is also important to note that cultural dimensions alone are insufficient as a source of information about common cultural rites, rituals, and practices (Berezin, 1997). Indeed, nations that are clearly dissimilar in terms of their language, religion, ethnicity, political condition, level of conflict, or level of corruption may be quite similar in terms of cultural dimensions before consideration of how the members of those distinct but similar nations actually apply those dimensions (Chang, 2003). For example, China and Bangladesh both rate 80 in power distance and 20 in individualism in Hofstede and Hofstede's (2005) tables. Nevertheless, this falls short of explaining how Chinese and Bangladeshi people apply high power distance and low individualism within their respective cultures (Pye, 1985). From the emic perspective, people in China will manifest this combination in a Confucian way, while people in Bangladesh will have an Islamic way of interpreting it. The careful observer can indeed infer abstract similarities along these lines, but most valid inferences will depend on specific observations, of which the trained observer will have learned to make sense using cultural dimensions as an explanatory principle and thus an aid to predicting further patterns, rather than as the self-sufficient predictor of specific practices *per se* (Spillman, 1999).

For practitioners, the relationship between Hofstede's (1980, 1991) cultural dimensions and Huntington's (1993) civilizations is first a question of grouping and second a matter of nuance. Both theories suggest that culture operates most generally at a very high level of analysis, which stops at the boundaries of civilizations for Huntington and nation-level entities for Hofstede (Leung, Bhagat, Buchan, Erez, & Gibson, 2005). Thus, while Hofstede readily acknowledged the fact that cultural dimensions will often be similar among nations that are similar in some other way (*e.g.*, sharing a common language, religion, or history), Huntington provided a theoretically driven way to group them along the lines of deeper similarities, without considering the role of cultural dimensions at all (Leung *et al.*, 2005).

Thus, as an independent line of theoretical reasoning from that of modern cultural-dimension models, Huntington's (1993) civilization model builds on that of Toynbee (1946) to advance a conception of how the world has come to organize its cultures in both an historical and a sociological sense (Benthall, 2002). In essence, Huntington updated and applied Toynbee's (1946) model to the world's current alliances, rifts, and trends to identify cultural identity in terms of how it affects political motivation. Huntington observed that at certain times in human history, notably during the Cold War, some other source of identity has trumped the power of civilizations as the primary motivator of political attitudes, with the result that the effect of civilizational identity has often been difficult to detect. However, commonalities in historical experience across nations are much more important than political alliances in creating civilizational identities.

For theorists, cultural-dimension models and the civilization model unite upon the common groundwork of the role of identity as both a motivator of action and a filter of perception, with apparent implications for the study of human values (*e.g.*, Schwartz, 1993). Before considering the role of civilizational identity, cultural dimensions appear to underlie the normative sociology of nations with no obvious antecedent. They clearly have inertia and therefore endure, as is the case with sociological phenomena in general, but the mechanisms of their mutation over time, especially under conditions of national trauma (*e.g.*, an invasion) are less apparent. Therefore, a consideration of civilizational identity may enable Hofstede's (1980) cultural dimensions to benefit from Toynbee's (1946) explications of sociological transitions in history, thus enriching the available detail that can explain how individual nations differ culturally from one another within the same civilization, let alone across civilizations. This additional theoretical substance permits the theorist to link resource considerations, for example, to a given nation's particular cultural dimensions, thereby providing a link between theory and observable phenomena for the practitioner. For example, the strong correlation between individualism and *per capita* GDP is common knowledge (Lim, Leung, Sia, & Lee, 2004), but the reason for it has been a matter of speculation. Drawing from Toynbee on the subject provides the basis for stronger theoretical reasoning, such as by highlighting the difference between civilizational membership, which encompasses idiosyncrasies of economic factor endowments and political traditions, and culture, which is narrower in scope (Pryor, 2007).

In short, Huntington's (1993) model of civilizations, as built upon Toynbee's (1946) theory, provides strong logic to justify considerations of common cultural characteristics across a civilization, measurable by means of cultural

dimensions. Thus, practitioners can have at their disposal a means of understanding culture first from the perspective of the relevant civilization, and then by reference to nationally specific cultural dimensions. Pursuant to the foregoing literature review, the next section will examine how well the three competing models of cultural dimensions predict whether a pair of nations belongs to the same civilization or to different civilizations.

HYPOTHESES

While this study is primarily an exploratory effort, the expectation is that each of the three models of cultural dimensions presented herein will predict the civilization-level pattern significantly. This is because the governing assumption in this study is that the separately developed theories of culture and civilizations will converge in a meaningful way. This convergence will in turn serve as a source of theoretical validation for each of the models. Accordingly, Hypotheses 1-4 are as follows:

- H1. The Hofstede 7-dimension model of culture will significantly converge with the Toynbee-Huntington civilization model.
- H2. The GLOBE 9-dimension model of cultural practices will significantly converge with the Toynbee-Huntington civilization model.
- H3. The GLOBE 9-dimension model of cultural values will significantly converge with the Toynbee-Huntington civilization model.

As noted previously, only three of Minkov's four cultural dimensions are attitudinal constructs, the fourth (*hypometropia versus* prudence) being an interpretation of national statistics construed in the same metric as the cultural dimensions. Therefore, the appropriate model in the present analysis only consists of those three dimensions that consist of composites of attitudinal items, hence Hypothesis 4:

- H4. Minkov's 3-dimension model of culture will significantly converge with the Toynbee-Huntington civilization model.

METHODOLOGY

The approach taken in this study is to work around the fact that several nations for which there exist published cultural dimensions in one model are missing in one or both of the other models. This reduces the sample size too much to enable ordinary statistical tests using countries as subjects and cultural dimensions as measures. However, paired comparisons between nations are a viable alternative. The paired-comparison procedure entails creating the sampling frame by listing two nations at a time, noting whether they are theoretically of the same civilization,

and presenting the absolute value of the difference in their respective cultural dimensions. There are only 29 nations for which cultural dimensions are available in all models simultaneously with no missing data, but the pairing procedure expands this sample size to $N = 406$ pairs of nations in all.

Because the predictors consist of several variables (each cultural dimension produces one difference score, in the form of the absolute value of the arithmetic difference) and the criterion is a binary variable, the optimal procedure is logistic regression analysis. This approach produces a score associated with the probability that a given pair belongs to the same-civilization category (indicated by a value of zero), as opposed to the different-civilization category (indicated by a value of one). Accordingly, the procedure entails testing each model separately first, to assess which variables the statistical process retains. One advantage with logistic regression analysis is that the procedure identifies which variables fail to add to significant predictive power, which in turn enables the researcher to remove them and rerun the analysis.

To define civilizations, the approach taken herein is to maintain the same total number of civilizations as presented by Huntington (1993), whose model addresses all major civilizations that exist at the present time (as opposed to historical civilizations), while adjusting boundaries based on a close reading of Toynbee. The reason for altering some of Huntington's boundaries is that Huntington sometimes deviated from Toynbee in this respect without explanation, but he ascribed his choices of boundaries to Toynbee. Therefore, Huntington's intent was to adhere to Toynbee's boundary definitions, rather than to apply any new methods to the boundary determination process. Thus, a careful reading of Toynbee produces changes from Huntington affecting the identification of civilizational boundaries in three specific ways. First, Korea and Japan become components of a single civilization, in contrast to Huntington's assignment of Korea to the Sino-Confucian civilization and Japan to its own category. Second, the non-Orthodox Slavic nations become members of the Slavic-Orthodox civilization rather than to the Western civilization. Third, the Iberian Peninsula becomes a component of an Ibero-American civilization rather than of the Western civilization. Although the Western civilization remains unwieldy, given its size and the fact that certain clusters of Western countries appear quite different from others, the study will ignore the prospect of subdividing it and instead reserve judgment, to see whether the statistical analysis produces results that reflect this understanding. For the sake of completeness, Toynbee provided enough guidance to justify subdividing the Western civilization into core Western European states, Central European states, Nordic states, and the

English-speaking states, in addition to relegating the Iberian Peninsula to Latin America. However, observing an intact Western civilization should offer a more conservative analysis. Consequently, the civilizations defined here-in consist of the following:

Table 1 enumerates the civilizations depicted in the present study. As noted previously, this list adheres to Huntington's (1993) enumeration, while adjusting selected civilizational boundaries based on Toynbee's (1946) original observations. The civilizational nomenclature deviates somewhat from both Huntington and Toynbee by adopting in most cases a dual form. The Arabo-Islamic civilization thus corresponds to the Islamic civilization for both Huntington and Toynbee but adds an ethnolinguistic identity reference rather than just a philosophicoreligious one. The total number of nations in the sample is small, but the sample actually consists of all possible pairs of nations, so the composite facet of the study (*i.e.*, that which includes all models simultaneously) includes $N =$

406 pairs. Meanwhile, those analyses in the present study that only address one or two cultural-dimension models at a time naturally include more nations than shown in Table 1. These numbers are visible in the descriptive statistics below.

RESULTS

Descriptive Statistics

The descriptive statistics for each model, presented below, reflect the difference scores across all possible pairs of nations. Meanwhile, the large number of possible pairs is visible in the large sample size in each case (*e.g.*, $N = 1,035$ for the Hofstede 7-dimension model in Table 2). The *max*-figures presented in these tables generally suggest the maximum score on the noted scale, because the maximum difference generally observable between nations is close to the maximum score on the dimension itself.

TABLE 1
LIST OF CIVILIZATIONS
USED IN THE PRESENT STUDY

| Civilization | Nations Represented in the Present Study |
|-----------------|--|
| African | Nigeria |
| Arabo-Islamic | Egypt, Indonesia, Iran, Morocco, Turkey |
| Hindu-Buddhist | India |
| Ibero-American | Argentina, Brazil, Colombia, Mexico, Spain |
| Korean-Japanese | Japan, South Korea |
| Sino-Confucian | China |
| Slavic-Orthodox | Poland, Russia, Slovenia |
| Western | Australia, Finland, France, Germany, Italy, Netherlands, New Zealand, Sweden, Switzerland, United Kingdom, United States |

TABLE 2
HOFSTEDEAN 7-DIMENSION MODEL
DESCRIPTIVE STATISTICS

| | N | Min | Max | Mean | SD |
|--|------|-----|-----|-------|--------|
| civ (same civilization [0], different civilization [1]) | 1035 | 0 | 1 | .83 | .373 |
| pdi (power distance) | 1035 | 0 | 72 | 21.12 | 15.372 |
| idv (individualism-collectivism) | 1035 | 0 | 79 | 24.86 | 19.188 |
| mas (masculinity-femininity) | 1035 | 0 | 90 | 19.39 | 16.152 |
| uai (uncertainty avoidance) | 1035 | 0 | 92 | 23.34 | 17.385 |
| lto (long-term orientation) | 1035 | 0 | 93 | 28.57 | 20.890 |
| ivr (indulgence <i>versus</i> restraint) | 1035 | 0 | 100 | 28.69 | 20.694 |
| mon (monumentalism <i>versus</i> self-effacement) | 1035 | 0 | 50 | 18.02 | 12.497 |

These data refer to difference scores between pairs of nations.

TABLE 3
GLOBE PRACTICES,
DESCRIPTIVE STATISTICS

| | N | Min | Max | Mean | SD |
|---|------|-----|------|------|------|
| civ (same civilization [0], different civilization [1]) | 1830 | .00 | 1.00 | .83 | .380 |
| asp (assertiveness practices) | 1830 | .00 | 1.36 | .40 | .282 |
| isp (in-group collectivism practices) | 1830 | .00 | 1.85 | .45 | .347 |
| igp (in-group collectivism practices) (in-group collectivism practices) | 1830 | .00 | 2.91 | .79 | .630 |
| fup (future orientation practices) | 1830 | .00 | 1.82 | .51 | .373 |
| gep (gender egalitarianism practices) | 1830 | .00 | 1.62 | .40 | .292 |
| hup (humanitarian orientation practices) | 1830 | .00 | 1.83 | .51 | .368 |
| pfp (power distance practices) | 1830 | .00 | 1.70 | .44 | .317 |
| pdp (power distance practices) | 1830 | .00 | 2.00 | .42 | .331 |
| uap (uncertainty avoidance practices) | 1830 | .00 | 2.33 | .66 | .508 |
| These data refer to difference scores between pairs of nations. | | | | | |

TABLE 4
GLOBE VALUES
DESCRIPTIVE STATISTICS

| | N | Min | Max | Mean | SD |
|---|------|-----|------|------|------|
| civ (same civilization [0], different civilization [1]) | 1830 | .00 | 1.00 | .83 | .380 |
| asv (assertiveness values) | 1830 | .00 | 3.16 | .70 | .564 |
| isv (institutional collectivism values) | 1830 | .00 | 1.81 | .54 | .380 |
| igv (in-group collectivism values) | 1830 | .00 | 1.56 | .36 | .266 |
| fuv (future orientation values) | 1830 | .00 | 1.84 | .42 | .318 |
| gev (gender egalitarianism values) | 1830 | .00 | 1.86 | .53 | .396 |
| huv (humanitarian orientation values) | 1830 | .00 | 1.06 | .26 | .185 |
| pfv (performance orientation values) | 1830 | .00 | 1.43 | .32 | .248 |
| pdv (power distance values) | 1830 | .00 | 1.59 | .35 | .293 |
| uav (uncertainty avoidance values) | 1830 | .00 | 2.57 | .67 | .501 |
| These data refer to difference scores between pairs of nations. | | | | | |

TABLE 5
MINKOV 3-DIMENSION MODEL
DESCRIPTIVE STATISTICS

| | N | Min | Max | Mean | SD |
|---|-----|-----|------|--------|---------|
| civ (same civilization [0], different civilization [1]) | 780 | 0 | 1 | .83 | .372 |
| ivi (industry <i>versus</i> indulgence) | 780 | 0 | 1000 | 311.11 | 214.020 |
| mon (monumentalism <i>versus</i> flexumility) | 780 | 1 | 1000 | 323.28 | 225.958 |
| exc (exclusionism <i>versus</i> universalism) | 780 | 0 | 977 | 329.21 | 234.002 |
| These data refer to difference scores between pairs of nations. | | | | | |

Correlations

Tables 6-9 present standard correlation matrices for the respective scales. It is important to note that these correlations reflect difference scores, so a strong correlation between LTO and MON, for example, means that countries

different in LTO are also usually different in MON, but the correlation hides whether there is actually a positive or a negative correlation between LTO and MON. In addition, the larger sample size resulting from the use of pairs of nations results in more instances of statistical significance than is usually the case in tables of this kind.

TABLE 6
HOFSTEDEAN 7-DIMENSION MODEL, CORRELATION MATRIX

| | civ | pdi | idv | mas | uai | lto | ivr |
|--|--------|--------|--------|--------|--------|--------|------|
| pdi (power distance) | .312** | | | | | | |
| idv (individualism-collectivism) | .278** | .569** | | | | | |
| mas (masculinity-femininity) | .049 | .239** | .227** | | | | |
| uai (uncertainty avoidance) | .304** | .052 | .047 | .039 | | | |
| lto (long-term orientation) | .190** | -.072* | -.058 | .089** | .007 | | |
| ivr (indulgence <i>versus</i> restraint) | .113** | .066* | .086** | .062* | -.075* | .141** | |
| mon (monumentalism <i>versus</i> self-effacement) | .334** | .128** | .015 | .173** | -.035 | .616** | .048 |

*p < .05; **p < .01; civ = civilization (same [0], different [1]).

TABLE 7
GLOBE PRACTICES, CORRELATION MATRIX

| | civ | asp | isp | igp | fup | gep | hup | pfp | pdp |
|---|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| asp (assertiveness) | -.020 | | | | | | | | |
| isp (institutional collectivism) | .102** | .105** | | | | | | | |
| igp (ingroup collectivism) | .217** | .121** | .150** | | | | | | |
| fup (future orientation) | .091** | .019 | .177** | .327** | | | | | |
| gep (gender egalitarianism) | .088** | .003 | .090** | -.007 | .041 | | | | |
| hup (humane orientation) | .050* | .134** | .087** | -.042 | .003 | .003 | | | |
| pfp (performance orientation) | .087** | .052* | .166** | .091** | .346** | .051* | -.017 | | |
| pdp (power distance) | -.023 | .045 | .121** | .137** | .175** | .079** | .027 | .088** | |
| uap (uncertainty avoidance) | .135** | .095** | .254** | .458** | .562** | .028 | .007 | .351** | .147** |

*p < .05; **p < .01; civ = civilization (same [0], different [1]).

TABLE 8
GLOBE VALUES, CORRELATION MATRIX

| | civ | asv | isv | igv | fuv | gev | huv | pfv | pdv |
|--|--------|---------|--------|--------|--------|--------|--------|---------|---------|
| asv (assertiveness values) | .135** | | | | | | | | |
| isv (institutional collectivism values) | .178** | .067** | | | | | | | |
| igv (in-group collectivism values) | .057* | .057* | .070** | | | | | | |
| fuv (future orientation values) | .121** | -.031 | .017 | .116** | | | | | |
| gev (gender egalitarianism values) | .243** | .074** | -.023 | .020 | .158** | | | | |
| huv (humanitarian orientation values) | .084** | -.096** | -.025 | .106** | .032 | .092** | | | |
| pfv (performance orientation values) | .160** | .106** | .085** | .210** | .005 | .001 | -.035 | | |
| pdv (power distance values) | .064** | -.113** | .003 | .239** | -.014 | .054* | .156** | .205** | |
| uav (uncertainty avoidance values) | .205** | -.014 | .034 | .067** | .320** | .270** | .131** | -.076** | -.098** |

*p < .05; **p < .01; civ = civilization (same [0], different [1]).

Next, Tables 10-15 provide correlation matrices between scales, for the sake of comparison. To reiterate the previous note on the nature of these correlations, strong correlations merely indicate that nations different in one dimension are also usually different in the other, but the

true correlation between the variables may either be positive or negative in reality. In the present analysis, the main goal is to observe the overall similarity or difference between models.

TABLE 10
HOFSTEDE-7 AND GLOBE PRACTICES, CORRELATION MATRIX

| | pdi | idv | mas | uai | lto | ivr | mon |
|---|------------|------------|------------|------------|------------|------------|------------|
| asp (assertiveness) | .141** | -.046 | .129** | .152** | .008 | .048 | .054 |
| isp (institutional collectivism) | .054 | -.050 | .309** | .129** | .186** | -.041 | .195** |
| igp (ingroup collectivism) | .682** | .515** | .158** | .210** | -.040 | .182** | .121* |
| fup (future orientation) | .339** | .083 | .175** | .152** | -.003 | -.010 | -.017 |
| gep (gender egalitarianism) | .042 | .042 | .071 | .092 | .110* | .127* | .075 |
| hup (humane orientation) | -.021 | -.090 | -.113* | .092 | .024 | .025 | .076 |
| pfp (performance orientation) | .190** | .012 | .044 | .053 | .010 | -.050 | -.059 |
| pdp (power distance) | .027 | .028 | .074 | .056 | .065 | .068 | .153** |
| uap (uncertainty avoidance) | .470** | .203** | .154** | .285** | .068 | .014 | .136** |

*p < .05; **p < .01; see Table 6 for Hofstede (columnar) variables.

TABLE 11
HOFSTEDE-7 AND GLOBE VALUES, CORRELATION MATRIX

| | pdi | idv | mas | uai | lto | ivr | mon |
|--|------------|------------|------------|------------|------------|------------|------------|
| asv (assertiveness values) | -.060 | -.064 | .156** | .119* | .112* | -.045 | .117* |
| isv (institutional collectivism values) | -.013 | -.059 | .098* | .110* | .102* | -.086 | .128** |
| igv (in-group collectivism values) | .168** | -.017 | -.015 | .090 | .054 | .049 | .003 |
| fuv (future orientation values) | .139** | .113* | .013 | .165** | .130** | .015 | .252** |
| gev (gender egalitarianism values) | .259** | .247** | -.049 | .063 | .112* | .304** | .287** |
| huv (humanitarian orientation values) | .214** | .017 | -.083 | -.044 | -.101* | .104* | .027 |
| pfv (performance orientation values) | .000 | .036 | .132** | -.007 | .215** | -.034 | .070 |
| pdv (power distance values) | .040 | -.006 | -.148** | -.040 | .021 | .087 | .032 |
| uav (uncertainty avoidance values) | .621** | .396** | .169** | .093 | .085 | .132** | .257** |

*p < .05; **p < .01; see Table 6 for Hofstede (columnar) variables.

TABLE 12
HOFSTEDE-7 AND MINKOV-3, CORRELATION MATRIX

| | pdi | idv | mas | uai | lto | ivr | mon |
|--|------------|------------|------------|------------|------------|------------|------------|
| mon (industry <i>versus</i> indulgence) | .071 | .056 | .041 | -.051 | .679** | .139** | 1.000 |
| ivi (monumentalism <i>versus</i> flexumility) | .401** | .195** | .113* | .168** | .094 | .488** | .088 |
| exc (exclusionism <i>versus</i> universalism) | .619** | .441** | .041 | .060 | .073 | .185** | .388** |

*p < .05; **p < .01; see Table 6 for Hofstede (columnar) variables.

TABLE 13
GLOBE PRACTICES AND GLOBE VALUES, CORRELATION MATRIX

| | asp | isp | igp | fup | gep | hup | pfp | pdp | uap |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| asv (assertiveness values) | .139** | .086 | -.075 | -.086 | -.058 | .021 | -.074 | -.127* | -.078 |
| isv (institutional collectivism values) | .117* | .564** | .060 | .022 | .139** | -.030 | -.027 | .081 | .060 |
| igv (in-group collectivism values) | .275** | .150** | .181** | .142** | -.022 | -.022 | .236** | -.020 | .126* |
| fuv (future orientation values) | .163** | .085 | .348** | .206** | -.028 | .002 | .103* | .269** | .336** |
| gev (gender egalitarianism values) | .147** | -.043 | .229** | .000 | .162** | .283** | -.086 | .118* | .010 |
| huv (humanitarian orientation values) | .251** | -.033 | .096 | -.117* | -.033 | .148** | .029 | .064 | -.013 |
| pfv (performance orientation values) | .029 | .219** | -.061 | -.067 | .194** | -.016 | -.034 | -.034 | -.027 |
| pdv (power distance values) | .092 | .070 | .079 | -.033 | -.039 | .219** | .119* | .085 | -.064 |
| uav (uncertainty avoidance values) | .197** | -.010 | .722** | .507** | -.084 | .002 | .171** | .298** | .520** |

*p < .05; **p < .01; in variable codes: ...v = ...values; ...p = ...practices.

TABLE 14
GLOBE PRACTICES AND MINKOV-3, CORRELATION MATRIX

| | asp | isp | igp | fup | gep | hup | pfp | pdp | uap |
|--|--------|--------|--------|--------|--------|------|-------|--------|--------|
| ivi (monumentalism <i>versus</i> flexumility) | .167** | .140** | .403** | .096 | .289** | .023 | -.047 | .130** | .234** |
| mon (industry <i>versus</i> indulgence) | .054 | .195** | .121* | -.017 | .075 | .076 | -.059 | .153** | .136** |
| exc (exclusionism <i>versus</i> universalism) | .084 | .008 | .751** | .263** | .013 | .055 | .083 | .119* | .459** |

*p < .05; **p < .01; see the preceding table for GLOBE practice (columnar) variables.

TABLE 15
GLOBE VALUES AND MINKOV-4, CORRELATION MATRIX

| | asv | isv | igv | fuv | gev | huv | pfv | pdv | uav |
|--|-------|--------|--------|--------|--------|-------|--------|------|--------|
| ivi (monumentalism <i>versus</i> flexumility) | .090 | .029 | .134** | .152** | .408** | .079 | .168** | .018 | .253** |
| mon (industry <i>versus</i> indulgence) | .117* | .128** | .003 | .252** | .287** | .027 | .070 | .032 | .257** |
| exc (exclusionism <i>versus</i> universalism) | -.052 | .012 | .048 | .258** | .384** | .108* | -.119* | .000 | .675** |

*p < .05; **p < .01; see the preceding table for GLOBE value (columnar) variables.

Analyses

Tables 16-19 present the results of the logistic regression analyses for the four noted models (*viz.*, Hofstede, Minkov, and the two GLOBE variants), after eliminating those variables whose reported predictive power (*i.e.*, the *p*-value associated with the Wald statistic) is less than *p* = .05). A comparative synopsis of each model follows, showing statistical properties before eliminating variables (Table 20) and then after.

For each logistic regression model, the first table (a) shows the percentage correct, using only the dimensions retained. Importantly, several pairs of nations appear similar in cultural dimensions but are different on an emic level. That is, there are several coincidences of cultural-dimension profiles between countries in very different civilizations. While this phenomenon reduces the measurable predictive power of each cultural-dimension model, it has no bearing on the model's theoretical legitimacy, because emic differences between unlike civilization already ren-

der them distinct. For purposes of the empirical analysis, such emic differences are immeasurable, so the result is simply a lower threshold of predictive power than would be evident if it were feasible to quantify emic cultural characteristics as well. Therefore, the percentage of correctly identified same-civilization cases (predicted civ = 0) is always significantly lower than that of correctly identified different-civilization cases (predicted civ = 1).

After completion of the foregoing analyses, the effort to combine the results into a composite table was a natural next step, given the prospect that such a combination might reasonably lead to the retention of only the core variables that explain the civilization level of analysis. Instead, the result retained variables from one model that were analogous to one or more from another. For example, the model retained IDV from Hofstede, in addition to IGP and ISV from GLOBE, among which ISV showed a relatively weak Wald statistic, suggesting the possibility that it was superfluous, while falling short of providing a clear indication as to what conclusion to draw. Other

TABLE 16A
HOFSTEDE-7, LOGISTIC REGRESSION SUMMARY
(SIGNIFICANT VARIABLES ONLY)

| | | | | | | |
|----------|---------|------------|---------|---------|----------------|---------------------------|
| | | Predicted | | % | -2LL | 237.319 |
| | | CIV = 0 | CIV = 1 | Correct | R ² | .330 (Cox & Snell) |
| Observed | CIV = 0 | 43 | 36 | 54.4 | χ^2 | 2.083 (Hosmer & Lemeshow) |
| | CIV = 1 | 20 | 307 | 93.9 | df = 8 | |
| | | Overall %: | | 86.2 | p = .978 | |

TABLE 16B
HOFSTEDE-7
LOGISTIC REGRESSION COEFFICIENTS
(SIGNIFICANT VARIABLES ONLY)

| | B | SE | Wald | df | p | Exp(B) |
|----------|--------|------|--------|----|------|--------|
| PDI | .029 | .015 | 3.981 | 1 | .046 | 1.030 |
| IDV | .076 | .014 | 29.290 | 1 | .000 | 1.079 |
| UAI | .033 | .012 | 8.047 | 1 | .005 | 1.034 |
| LTO | -.029 | .012 | 5.561 | 1 | .018 | .972 |
| IVR | .027 | .010 | 6.695 | 1 | .010 | 1.027 |
| MON | .008 | .001 | 34.670 | 1 | .000 | 1.008 |
| Constant | -3.223 | .533 | 36.522 | 1 | .000 | .040 |

Table excludes non-significant predictors.

TABLE 17B
GLOBE PRACTICES
LOGISTIC REGRESSION COEFFICIENTS
(SIGNIFICANT VARIABLES ONLY)

| | B | SE | Wald | df | p | Exp(B) |
|----------|--------|------|--------|----|------|--------|
| IGP | 2.881 | .424 | 46.078 | 1 | .000 | 17.839 |
| FUP | -1.076 | .513 | 4.399 | 1 | .036 | .341 |
| GEP | 3.732 | .630 | 35.140 | 1 | .000 | 41.763 |
| PFP | -1.504 | .580 | 6.734 | 1 | .009 | .222 |
| PDP | -1.677 | .530 | 10.015 | 1 | .002 | .187 |
| Constant | .022 | .384 | .003 | 1 | .955 | 1.022 |

Table excludes non-significant predictors.

TABLE 17A
GLOBE PRACTICES, LOGISTIC REGRESSION SUMMARY
(SIGNIFICANT VARIABLES ONLY)

| | | | | | | |
|----------|---------|------------|---------|---------|----------------|----------------------------|
| | | Predicted | | % | -2LL | 280.158 |
| | | CIV = 0 | CIV = 1 | Correct | R ² | .256 (Cox & Snell) |
| Observed | CIV = 0 | 33 | 46 | 41.8 | χ^2 | 11.297 (Hosmer & Lemeshow) |
| | CIV = 1 | 19 | 308 | 94.2 | df = 8 | |
| | | Overall %: | | 84.0 | p = .185 | |

dimensions, such as MAS *versus* GEV and ASV, behave similarly, preventing any straightforward conclusion. In fact, the foregoing intercorrelations between models furthermore suggests that more work is necessary prior to any effort to identify individual cultural dimensions as equivalent to analogous cultural dimensions in another model. Instead, each model seems to exist on its own, such that the selection of items for a given cultural dimension in one model has some relationship with the selection of items for another cultural dimension in the same model, but the interpretations seem to be different across models. In the end, it proved infeasible to choose which model's variables to retain in some instances, so there was no logical way to produce a composite model to suggest core civilization-level cultural dimensions.

To summarize the foregoing findings, Table 20 provides a synopsis for comparison. While the overall percent-

age seems to suggest fairly good predictability overall, it is important to observe that there are far more instances of unlike pairs than like pairs in the sample, so a model that happens to predict all cases to be unlike pairs will already achieve what appears to be a strong percentage correct. The stronger the model, the greater the percentage of like pairs (civ = 0) that it will predict correctly. From this perspective, Hofstede's model is the strongest, followed by GLOBE practices. Meanwhile, the calculated R² values are also of interest, in that these serve as estimates of the total amount of explained variance provided by a given model, after accounting for capitalization on chance. On this measure, Hofstede's model is again clearly strongest, followed very closely by GLOBE practices. (The R² values reported here are the Cox and Snell calculation, so they underrepresent absolute explained variance and are therefore interpretable only very conservatively as represent-

TABLE 18A
GLOBE VALUES, LOGISTIC REGRESSION SUMMARY
(SIGNIFICANT VARIABLES ONLY)

| | | Predicted | | % | -2LL | 311.355 |
|------------|---------|-----------|---------|---------|----------------|---------------------------|
| | | CIV = 0 | CIV = 1 | | | |
| Observed | | | | Correct | R ² | .196 (Cox & Snell) |
| | CIV = 0 | 21 | 58 | 26.6 | χ^2 | 6.119 (Hosmer & Lemeshow) |
| | CIV = 1 | 16 | 311 | 95.1 | | |
| Overall %: | | | | 81.8 | $p = .634$ | |

TABLE 18B
GLOBE VALUES
LOGISTIC REGRESSION COEFFICIENTS
(SIGNIFICANT VARIABLES ONLY)

| | B | SE | Wald | df | p | Exp(B) |
|----------|--------|------|--------|----|------|--------|
| ASV | .821 | .279 | 8.633 | 1 | .003 | 2.272 |
| ISV | 1.129 | .386 | 8.553 | 1 | .003 | 3.094 |
| GEV | 1.889 | .479 | 15.583 | 1 | .000 | 6.614 |
| PFV | 2.192 | .712 | 9.478 | 1 | .002 | 8.951 |
| UAV | 1.321 | .333 | 15.725 | 1 | .000 | 3.746 |
| Constant | -2.082 | .442 | 22.204 | 1 | .000 | .125 |

Table excludes non-significant predictors.

TABLE 19B
MINKOV 3
LOGISTIC REGRESSION COEFFICIENTS
(SIGNIFICANT VARIABLES ONLY)

| | B | SE | Wald | df | p | Exp(B) |
|----------|--------|------|--------|----|------|--------|
| IVI | .003 | .001 | 10.557 | 1 | .001 | 1.003 |
| MON | .005 | .001 | 19.629 | 1 | .000 | 1.005 |
| EXC | .006 | .001 | 30.922 | 1 | .000 | 1.006 |
| Constant | -1.948 | .380 | 26.262 | 1 | .000 | .143 |

There were no non-significant predictors.

TABLE 19A
MINKOV-3, LOGISTIC REGRESSION SUMMARY
(SIGNIFICANT VARIABLES ONLY)

| | | Predicted | | % | -2LL | 268.131 |
|----------|---------|------------|---------|---------|----------------|---------------------------|
| | | CIV = 0 | CIV = 1 | | | |
| Observed | | | | Correct | R ² | .278 (Cox & Snell) |
| | CIV = 0 | 32 | 47 | 40.5 | χ ² | 8.384 (Hosmer & Lemeshow) |
| | CIV = 1 | 23 | 304 | 93.0 | df = | 8 |
| | | Overall %: | | | 82.8 | p = .397 |

ing how well cultural dimensions predict civilizational membership.) Finally, the number of variables retained (as a percentage) reflects the extent to which the model in question consists of only the most necessary variables to explain culture at the civilization level of analysis. Using this criterion, Hofstede's model again proves superior to all others, followed by GLOBE Practices. It is worth noting that two of Hofstede's variables in the 7-dimension model are the same as two of Minkov's variables, as the latter was actually their source. Thus, the Hofstede 7-dimension model is already a composite of optimal models to some extent.

Of the four models, the two measures of most interest in determining the outcome of each of the hypotheses consist of the correct percentage prediction of like nations (civ = 0) and the observed R² values. Both before and after eliminating non-significant variables (Table 20), both GLOBE models and Minkov-3 show deficiencies in

this regard, compared to Hofstede-7, against a criterion of complete random chance (*i.e.*, 50%). Nevertheless, all models predict civilizational membership significantly, as evidenced by the overall percentage correct (above 80% in all cases) and the significance associated with the χ^2 value, which shows better fit insofar as the χ^2 value is low and the corresponding p -value is high.

DISCUSSION

This paper set out to compare three models of cultural dimensions against the Toynbee-Huntington civilizational hypothesis. The results show marked differences among the models in terms of their predictive power, but all models predict civilizational membership significantly. Nevertheless, some models are stronger than others in this role. In descending order of predictive power, the results show Hofstede-7, GLOBE Practices, Minkov-3, and

TABLE 20
SYNOPSIS OF LOGISTIC REGRESSION OUTCOMES
(FULL MODELS)

| Model | % Correct | | | -2LL | R ² | χ^2 | p | Model Retained | |
|-----------------|-----------|---------|---------|---------|----------------|----------|------|----------------|-----------|
| | Overall | Civ = 0 | Civ = 1 | | | | | % | Variables |
| Hofstede-7 | 85.7 | 54.4 | 93.3 | 235.790 | .333 | 2.777 | .948 | 100.0% | 7 |
| GLOBE Practices | 84.5 | 43.0 | 94.5 | 273.313 | .268 | 10.811 | .213 | 100.0% | 9 |
| GLOBE Values | 81.8 | 30.4 | 94.2 | 306.904 | .205 | 5.132 | .743 | 100.0% | 9 |
| Minkov-3 | 82.8 | 40.5 | 93.0 | 268.131 | .278 | 8.384 | .397 | 100.0% | 3 |

Notes:
 R² (Cox & Snell²);
 χ^2 (Hosmer & Lemeshow).
 Lower log-likelihood (-2LL) and chi-square (χ^2) results reflect stronger model.
 Higher R² and chi-square significance (p) reflects stronger model.

TABLE 21
SYNOPSIS OF LOGISTIC REGRESSION OUTCOMES
(SIGNIFICANT VARIABLES ONLY)

| Model | % Correct | | | -2LL | R ² | χ^2 | p | Model Retained | |
|-----------------|-----------|---------|---------|---------|----------------|----------|------|----------------|-----------|
| | Overall | Civ = 0 | Civ = 1 | | | | | % | Variables |
| Hofstede-7 | 86.2 | 54.4 | 93.9 | 237.319 | .324 | 2.083 | .978 | 85.7% | 6 |
| GLOBE Practices | 84.0 | 41.8 | 94.2 | 280.158 | .256 | 11.297 | .185 | 55.6% | 5 |
| GLOBE Values | 81.8 | 26.6 | 95.1 | 311.355 | .196 | 6.119 | .634 | 55.6% | 5 |
| Minkov-3 | 82.8 | 40.5 | 93.0 | 268.131 | .278 | 8.384 | .397 | 100.0% | 3 |

Notes:
 R² (Cox & Snell²);
 χ^2 (Hosmer & Lemeshow).
 Lower log-likelihood (-2LL) and chi-square (χ^2) results reflect stronger model.
 Higher R² and chi-square significance (p) reflects stronger model.

finally GLOBE values after eliminating non-significant contributors to overall predictability. However, using log-likelihood (-2LL) or R² as the criterion, the ordering is Hofstede-7, Minkov-3, GLOBE Practices, and then GLOBE Values. Finally, the χ^2 test shows Hofstede-7, GLOBE Values, Minkov-3, and then GLOBE Practices. Regardless of criterion, Hofstede-7, which already benefits from two Minkov-3 items, is the strongest explanatory model of civilization-level culture. Meanwhile, the only item eliminated from that model in the final analysis was MAS (masculinity-femininity). By comparison, both GLOBE models retained GEP/GEV (gender egalitarianism), while other GLOBE variables (*viz.*, assertiveness and performance orientation) may provide clues as to whether it is possible to sharpen the MAS variable in later studies.

One of the underlying questions operating in the present study was whether some cultural dimensions may operate at a more local level of analysis than that of civilizations. Clearly, most cultural dimensions appear to function at the civilization level of analysis, but some GLOBE dimen-

sions seem to fall outside that domain and may therefore instead apply at the country level of analysis. The latter is a possibility for at least two reasons. First, political differences between countries that are members of the same civilization will encourage differences in political attitudes; thus, in the Western civilization, some countries easily accommodate socialist ideas, while others insist on rejecting them. Such a difference may influence measures of institutional collectivism (ISP or ISV in the GLOBE scales). Second, some countries benefit from histories that promote a much stronger sense of national identity and pride than occurs in others; thus, France in the Western civilization, Morocco in the Arabo-Islamic civilization, Russia in the Slavic-Orthodox civilization, or Mexico in the Ibero-American civilization may manifest country-level reflections of this difference that have little to do with civilization-level culture. In addition to these potential sources of differentiation among nations, others are certainly possible as well, so it remains an objective in the present line of research to draw out these distinctions.

Future research should proceed to confirm the civilizational structure presented herein, making further boundary adjustments based on the outcomes of these analyses. Specifically, such questions as whether Korea is a part of the Sino-Confucian civilization or a Korean-Japanese civilization (a point of disagreement between Huntington and Toynbee) are approachable with the assistance of cultural dimensions that verifiably function at the civilization level of analysis. For this reason, it is important to exclude any cultural dimensions from such an effort that appear to function only at the country level of analysis, hence one of the primary rationales for the present study. Meanwhile, the question of how to address the fissures evident in the Western civilization remains open, given the broad base of literature that treats the Western civilization as a single entity. Indeed, Toynbee (1946) described more than one Western civilization, first by reference to a distinct Central European cluster of nations (having a common history involving Ottoman invasion and occupation) and additionally by way of his explanation of how new civilizations form at the edges of old civilizations (hence implications for the Nordic countries, the English-speaking countries, and the Iberian Peninsula). If it is culturally more meaningful to treat the Western civilization as actually more than one civilization, then persistence in the traditional nomenclature is counterproductive to culture research.

If it is feasible to establish a reliable civilization-level structure of cultural dimensions with a theoretically consistent geographical structure of civilizations, it will then become possible to address many of the larger questions of what constitutes the correct cultural-dimension taxonomy, in addition to systematizing the emic definition of culture at the civilization level of analysis. The combination of etic and emic characteristics may also enable richer treatment of culture than has typically been the case with cultural dimensions. Such an effort may additionally help lay the groundwork for extending cultural-dimension estimates to new nations by reference to common civilizational identities. This last step should complement ongoing research by providing a way to broaden the data set and so improve the basis for validation studies.

Limitations in the present study include those that naturally always affect this line of research, namely, the small number of nations for which sufficient data exist in published form across all models in question. Insofar as there are different lists of nations under different models, and indeed insofar as several nations benefit from published data on only part of a model, this fact limits the ability of researchers to delve into the theoretical properties of these models as quickly as they would like. Nevertheless, the strong predictability against the civilizational model afforded by Hofstede's current model provides an

important basis for cross-validation, which is much more difficult to achieve without the benefit of a comparative model of this kind, emanating as it does from a completely independent line of research. From this perspective, the present study helps make up for the small data sets inherent in this research, to provide a better way to improve the models in general.

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JOINT CONFERENCE
May 21st, 22nd and 23rd 2014 in
Nashville, TN at the Holiday Inn Vanderbilt

**Academic Business World
International Conference
(ABWIC.org)**

**International Conference on
Learning and Administration in
Higher Education
(ICLAHE.org)**

The aim of Academic Business World is to promote inclusiveness in research by offering a forum for the discussion of research in early stages as well as research that may differ from 'traditional' paradigms. We wish our conferences to have a reputation for providing a peer-reviewed venue that is open to the full range of researchers in business as well as reference disciplines within the social sciences.

Business Disciplines

We encourage the submission of manuscripts, presentation outlines, and abstracts pertaining to any business or related discipline topic. We believe that all disciplines are interrelated and that looking at our disciplines and how they relate to each other is preferable to focusing only on our individual 'silos of knowledge'. The ideal presentation would cross discipline borders so as to be more relevant than a topic only of interest to a small subset of a single discipline. Of course, single domain topics are needed as well.

All too often learning takes a back seat to discipline related research. The International Conference on Learning and Administration in Higher Education seeks to focus exclusively on all aspects of learning and administration in higher education. We wish to bring together, a wide variety of individuals from all countries and all disciplines, for the purpose of exchanging experiences, ideas, and research findings in the processes involved in learning and administration in the academic environment of higher education.

We encourage the submission of manuscripts, presentation outlines, and abstracts in either of the following areas:

Learning

We encourage the submission of manuscripts pertaining to pedagogical topics. We believe that much of the learning process is not discipline specific and that we can all benefit from looking at research and practices outside our own discipline. The ideal submission would take a general focus on learning rather than a discipline-specific perspective. For example, instead of focusing on "Motivating Students in Group Projects in Marketing Management", you might broaden the perspective to "Motivating Students in Group Projects in Upper Division Courses" or simply "Motivating Students in Group Projects". The objective here is to share your work with the larger audience.

Academic Administration

We encourage the submission of manuscripts pertaining to the administration of academic units in colleges and universities. We believe that many of the challenges facing academic departments are not discipline specific and that learning how different departments address these challenges will be beneficial. The ideal paper would provide information that many administrators would find useful, regardless of their own disciplines.

