

# **Cultural Dimension as an Explanatory Variable in Use and Compliance with Internal Auditing Standards in Nineteen Countries**

By

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# Cultural Dimension as an Explanatory Variable in Use and Compliance with Internal Auditing Standards in Nineteen Countries

## Abstract

Chief audit executives (CAEs) and internal audit managers (IAMs) are responsible for the use and compliance with the *International Standards for the Professional Practice of Internal Auditing (Standards)* issued by The Institute of Internal Auditors (The IIA, 2008). However, significant deviations in use and compliance with *Standards* have been reported in the literature. Using a large sample of CAEs and IAMs from 19 countries in five distinct cultural clusters (per House et al. 2004) we investigate cultural dimension as an explanatory variable for variations in the use and compliance with *Standards*. As expected, we find differences between the five cultural clusters in the use and compliance with the *Standards*. Furthermore, we hypothesize and find that cultural dimension of uncertainty avoidance is inversely related to use, while assertiveness and human orientation are positively related to compliance with *Standards*. In addition we investigate several control variables and find positive effects for the length of IIA membership, professional certification in internal auditing, and hours of CPE training on both use and compliance. Education degree (graduate vs. undergraduate), major (accounting/auditing/internal auditing vs. others), and position (CAE versus IAM) are not significant in use or compliance models. Our results suggest the importance of certification, IIA membership and continuing professional education to use and compliance with *Standards*. The results also suggest that reduction of uncertainty in *Standards* can enhance use, while improvements in IIA members' assertiveness and human orientation can improve compliance with *Standards*.

**Keywords:** Cultural dimensions, internal auditing standards

**Data availability:** Contact authors

# Cultural Dimension as an Explanatory Variable in Use and Compliance with Internal Auditing Standards in Nineteen Countries

## Introduction

At the core of the practice of internal auditing is the use of, and compliance with *The International Standards for the Professional Practice of Internal Auditing (Standards)* issued by The Institute of Internal Auditors (The IIA 2008). According to The IIA's Code of Ethics, these *Standards* are authoritative and must be used and complied with by all members who perform internal audits world-wide. In other words, *Standards* are the ultimate instrument for The IIA to promote professionalism and to uniform internal auditing practice around the globe. To this end The IIA's (2008) quality assessment review guidance strongly focuses on compliance with *Standards* as a part of the effectiveness of the internal audit activities (IAA). However, IAAs are performed in diverse legal and cultural environments, where internal auditors are influenced by their respective cultures. Hofstede (2001) posits that the more judgment an activity requires, (e.g., judgment to use and comply with *Standards*), the more it is influenced by values and cultural dimensions. However, currently there is no evidence on the effect of cultural differences on the use and compliance with *Standards*. The recent Common Body of Knowledge study by the IIA (CBOOK 2006) was conducted in part to investigate differences in internal auditing practice and compliance with *Standards* around the globe. This data base, complemented by cultural dimension data from House et al. (2004), provides a unique opportunity to investigate the effects of cultural dimensions on the degree of use and compliance with *Standards*.

Prior research has documented evidence of significant deviations in use and compliance with *Standards* in Anglo-Saxon countries (Abdolmohammadi 2009) and some other countries (Burnaby et al. 2008). However, these studies did not investigate cultural dimensions as

explanatory variables for the differences. We use data collected from a large sample of Chief Audit Executives (CAE) and Internal Audit Managers (IAM) (n = 2,782) from 19 countries in various continents to investigate the effects of cultural dimensions on the use and compliance with *Standards*. We use five clear cultural clusters (Anglo-Saxon, East-European, Germanic-Europe, Latin-American, and Latin-European) from House et al. (2004) to classify the 19 countries in our sample. We also use descriptive cultural dimension data from House et al. (2004) as independent variables to investigate their relation with use and compliance with *Standards*.

Our study complements existing research on internal auditing that has mainly described the role of the IAA in corporate governance (see Allegrini, et al. 2006; Cooper, et al. 2006; Hass, et al. 2006 for reviews). Use of *Standards* is an important and objectively measurable factor that determines the quality of the work performed by the IAA. The level of use as a proxy for IAA quality is useful for internal stakeholders (e.g., management) and external stakeholders (e.g., external auditors) in their judgment on whether or not they can rely on the work of internal auditors (cf. *International Standards on Audits 610*). Thus, it is important to investigate the reasons why CAEs and IAMs deviate from the use of *Standards*. This knowledge can help The IIA in its efforts to improve its *Standards* for global use.

A related issue of investigation is whether CAEs and IAMs who use the *Standards* also fully comply with them. Use and compliance are two different issues, but very little research is available in the accounting and auditing literature to address these issues. In accounting, using a sample of non-U.S. firms that adopted U.S. Generally Accepted Accounting Principles (GAAP), Bradshaw and Miller (2008) find that most firms that adopt U.S. GAAP adjust their accounting methods to those required by U.S. GAAP but they do not fully converge. In the context of this

study, use of *Standards* refers to the intention of CAEs and IAMs to apply *Standards*, whereas compliance refers to real application of *Standards*.

Our investigation of the large sample of CAEs and IAMs indicates significant differences between the five cultural clusters in the use and compliance with *Standards*. We then use summary data from House et al. (2004) to investigate the effects of various cultural dimensions on the use and compliance with *Standards*. We also include a number of control variables such as length of IIA membership, internal auditing certification, and continuing professional education. We find that the cultural dimension of uncertainty avoidance is inversely related to use, while assertiveness and human orientation are positively related to compliance with *Standards*. In addition, we find positive effects for the length of IIA membership, internal auditing certification, and hours of CPE training on both use and compliance. Education degree (graduate vs. undergraduate), major (accounting/auditing/internal auditing vs. others), and position (CAE versus IAM) are not significant in use or compliance models.

The remainder of the paper is organized as follows. A review of the literature is provided in the next section as a means of setting up the study's research hypotheses. The research method and results are presented in the next two sections, followed by the final section on a summary and implications from the study.

### **Literature Review and Hypotheses**

The IIA (2008) uses “*careful study, consultation, and deliberation about the basic principles for providing internal audit services*” to develop its *Standards*. These *Standards* (1) delineate basic principles that represent the practice of internal auditing as it should be; (2) provide a framework for performing and promoting a broad range of value-added IAA; (3) establish the basis for the evaluation of internal audit performance, and (4) foster improved

organizational processes and operations (The IIA 2008). According to The IIA's Code of Ethics, these *Standards* are authoritative and must be used and complied with by all members who perform internal audits.

The theory of cultural differences advanced by Hofstede (1980) and refined by House et al. (2004) posits that cultural differences have significant effects on the development and operations of various professional practices, including internal auditing. Thus, while use and compliance with *Standards* are essential to the practice of internal auditing (The IIA, 2008), cultural differences may significantly influence the degree of use and compliance with *Standards*. An issue of research is to investigate the effects of cultural variables that may explain variations between various cultural clusters with respect to use and compliance with *Standards*. Thus, we first review the literature on cultural clusters, and identify various variables (cultural dimensions) that explain differences in use and compliance. We also present a number of control variables that may affect the degree of use and compliance with the *Standards*. We discuss these variables below as a means of establishing our research hypotheses.

### **Cultural Differences**

Hofstede (1980) advanced the theory of cultural differences that he later used to classify 50 countries into various cultural clusters (Hofstede 1983). He used four cultural dimensions as criteria for this classification. The dimensions used were the degree of *uncertainty avoidance*, the level of *power distance*, the degree of *individualism versus collectivism*, and the level of *masculinity / femininity*. House et al. (2004) extended Hofstede's dimensions to nine dimensions and collected data from 62 societies on these dimensions to classify the societies into various cultural clusters. Hofstede's (1983) and House et al.'s (2004) dimensions and their definitions are presented in Table 1. This table is adapted from Burnaby et al. (2007, 359). As detailed in the

Method section, we consulted House et al.'s (2004) study to determine the cultural clusters of the 19 countries in our sample. For each of these countries we codified the summary statistics provided by House et al. (2004) on the nine dimensions in Table 1. While we have theoretical arguments to establish hypotheses for some dimensions, we do not have strong arguments for setting hypotheses for other dimensions. We investigate the hypothesized effects on the use and compliance with *Standards*. Specifically, we first develop a broad hypothesis on the effects of cultural clusters on the use (H<sub>1a</sub>) and compliance (H<sub>1b</sub>) with *Standards*. We then present summary discussions of the nine dimensions as a means of identifying three dimension-specific hypotheses.

[Insert Table 1 Here]

An implication of the cultural classification is that culture has a significant effect on the way that professions develop and practice in various countries. While *Standards* are developed to unify practice of internal auditing world-wide, the cultural differences theory implies that use and compliance with *Standards* may differ between cultural clusters. We are not aware of this issue having been investigated in the internal auditing context, but a handful of studies in the accounting and independent auditing context provide support for this expectation. Gray (1988) proposed a framework with four hypotheses on the relationship between the four cultural dimensions developed by Hofstede (1980) and the development of accounting systems, the regulation of accounting and attitudes towards financial management and disclosure. Gray's (1988) work has become widely used by other authors who have tested these hypotheses. For example, Douppnik and Salter (1995) tested the effects of culture on the development of international accounting and found culture to have an effect. Based on data from twenty-nine countries, Salter and Niswander (1995) found that Gray's (1988) framework is best at explaining

actual financial reporting practices and is relatively weak in explaining extant professional and regulatory structures. Cohen et al. (1995) found that culture was related to differences in ethical decision-making of auditors in Latin America, Japan and the United States. Specifically, Cohen et al. (1995) found that societies characterized by high power distance and collectivism are more conducive to high ethical standards.

Abdolmohammadi and Tucker (2002) used empirical data from the United Nations to show that accounting, auditing and internal auditing development in various countries is associated with a number of variables, including culture. Chan et al. (2003) found that power distance and individualism have significant explanatory power in differentiating the tainting and the materiality of accounting errors detected in different cultural enterprises. Patel (2003) found that, compared to Indian and Chinese cultures, whistle-blowing as an internal control mechanism is likely to be more effective in the Australian culture. Similarly, Tsakumis (2007) found that national culture plays a role on accountants' disclosure judgments, which could hinder the usefulness of financial statements prepared under a common set of accounting standards across countries. Douppnick (2008) demonstrated that there are cross-national differences in earnings management due to cultural differences, and Tsakumis (2008) found that Greek accountants are less likely to disclose information than U.S. accountants.

In conclusion, significant cultural differences have been found to have significant effects on the accounting and auditing profession. We extend this line of research by investigating the effects of various cultural dimensions on the use and compliance with *Standards* in internal auditing. The IIA has affiliates in over 100 countries (The IIA, 2008) that are located in various continents and cultural clusters. While some countries can easily be identified with a certain culture (e.g., U.K. and U.S. as Anglo-Saxon), other countries have a mix of cultures (e.g., both

Germanic and French cultures in the case of Switzerland). To mitigate this concern, we select countries for investigation that are classified into a specific cultural cluster by House et al. (2004) to test the following two general hypotheses. Dimension-specific hypotheses follow this general hypothesis.

H<sub>1a</sub>: Use of *Standards* varies by Cultural Clusters.

H<sub>1b</sub>: Compliance with *Standards* varies by Cultural Clusters.

Investigation of the effects of the nine cultural dimensions presented in Table 1 provides more specific explanation for differences in use and compliance with *Standards*. We briefly discuss all nine dimensions in Table 1 to identify those dimensions that have theoretical support for establishing hypotheses on their effects on use and compliance with *Standards*. As presented in the results section, there are many significant correlations between various pairs of dimensions. However, these correlations do not reach the 0.50 level that would cause concern for multicollinearity for the three dimensions (uncertainty avoidance, assertiveness, and human orientation) for which we identify directional hypotheses. We organize the discussion in the order in which the dimensions appear in Table 1.

1. *Uncertainty Avoidance (UA)*. Uncertainty avoidance addresses the extent to which ambiguous situations are threatening to individuals, to which formalized rules and order are preferred, and to which uncertainty is tolerated in a society (House et al., 2004). On the one hand adoption of new standards may introduce significant uncertainty to the point that internal auditors may shy away from use of *Standards*. An example could be the recent introduction of Attribute Standard 1300 on the establishment of a quality assurance and improvement program. On the other hand, one can argue that by providing formalized rules and procedures to follow, *Standards* reduce uncertainty and ambiguity in practice because *Standards* create predictability, consistency

and uniformity. This argument suggests that once adopted, *Standards* should be complied with because they reduce uncertainty. Thus, we expect that uncertainty avoidance has a negative effect on use, being the intention to adopt *Standards*, but may have a positive effect on compliance with *Standards* (referring to real application).

H<sub>2a</sub>: Use of *Standards* is inversely related to uncertainty avoidance.

H<sub>2b</sub>: Compliance with *Standards* is positively related to uncertainty avoidance

2. *Power Distance (PD)*. This dimension reflects the extent to which a community accepts and endorses authority, power differences, and status privileges (House et al. 2004). Thus, power distance is the extent that unequal distribution of power between a superior and a subordinate is perceived by the subordinate as acceptable (Cohen et al. 1995). However, due to the role of expertise, skills and knowledge that are transient and sharable (cf. House et al. 2004), there may not be a clear power distance between CAE/IAMs and their subordinates. Their relationship may even be based on consultation instead of autocracy (Hofstede 1980). In fact, *Standards* encourage open discussion and joint decision making between CAEs/IAMs and their subordinates. These aspects indicate reduced power distance (Wayne and Green 1993), which can enhance competence building and learning (House et al. 2004), two important goals of *Standards*. Thus, we do not anticipate an effect for power distance on use or compliance with *Standards* and do not establish hypotheses here.

3 & 4. *Individualism versus Collectivism (IC & IgC)*. Individualism and collectivism are the two extreme ends of the state in which one is extremely individualistic as compared to one behaving in the best interest of the group by being a collectivist. Chatman et al. (1998) define collectivist cultures as those that emphasize shared objectives, interchangeable interests, and

commonalities among members. Subjects from collectivist cultures exhibit the behavioral characteristics typically associated with collectivism with members of the in-group (IgC). By contrast, with out-group (IC) members, their behavior may resemble that of subjects from individualistic cultures (Kagitcibasi and Berry, 1989).

The above distinction is applicable to the context of the current study because within the internal audit profession (the in-group), collectivism may be the behavior promoted by The IIA through its slogan “*progress through sharing*” and in following high ethical standards (cf., Cohen et al. 1995). This will, in turn, promote long-term personal commitment and loyalty between The IIA members, so to satisfy their duties and obligations to the profession (cf. Triandis 1995), The IIA provides its members with support in areas such as training, personal development, and career development.

The arguments above indicate that in-group collectivism may be strong among internal auditors, and this may have a positive effect on use and compliance with *Standards*. However, this may not always be the case because turnover in IAAs is generally high, where people use their knowledge, skills and experience developed in internal auditing practice to move into higher level jobs. Thus they may exhibit individualism with the rest of the organization (the out-group) to advance their own career. Chan et al. (2003) argue that members of an individualist culture act according to their own interest (e.g., moving to a higher level job) and they champion individual achievements, even if this conflicts with the intentions of their professional organization (e.g., The IIA). Further support for this argument is the finding by Marshall (1997) and Triandis (1994) that high socioeconomic classes, such as internal auditors, tend to be more individualistic. The opposing arguments above provide no clear direction for us to establish hypotheses here.

5. *Gender Egalitarianism*. The IIA *Standards* are gender egalitarian in the sense that they do not discriminate between genders and promote performance by internal auditors regardless of their gender. While gender role differences are observed in various parts of the world, we do not have a theory to predict their influence on gender egalitarianism being associated with the use and compliance with *Standards*. Thus, we do not present any hypothesis here.

6. *Assertiveness (AT)*. Assertiveness reflects the belief that people are or should be encouraged to be assertive, aggressive (in the positive sense of the word: being positive or confident in a persistent way; enterprising or taking initiative), and tough in social relationships in order to achieve results (House et al. 2004). Assertiveness is accomplished by being explicit and to the point in communications, by using direct and unambiguous language (so-called low-context language) (Holtgraves 1997). Non-assertiveness (in terms of being tender and non-dominant) can be linked to what Goldberg (1990) call agreeableness. Agreeable people are cooperative (trusting, caring) and likable (good natured, gentle); they are softhearted and tolerant. Non-assertiveness is related to the use of high-context language, which is less direct, often more ambiguous, and more subtle (Schneider and Barsoux 1997).

*Standards* indicate that internal auditors should be generally assertive, even confrontational at times. This is not only important in order to remain objective vis-à-vis auditees, but also to collect sufficient, reliable, relevant and useful evidence to support unambiguous conclusions. Use and compliance with *Standards* could be a way to convince senior managers and board members of the value added by internal auditing. To do so, internal auditors need to be assertive, direct and unambiguous when presenting their findings. These arguments suggest that assertiveness could be positively related to use and compliance with *Standards*. Consequently, we present the following hypotheses.

H<sub>3a</sub>: Use of *Standards* is positively related to assertiveness.

H<sub>3b</sub>: Compliance with *Standards* is positively related to assertiveness.

7. *Future Orientation (FO)*. According to House et al. (2004), future orientation is the extent to which members of a society or an organization believe that their current actions will influence their future, focus on investment in their future, believe that they will have a future that matters, believe in planning for developing their future, and look far into the future for assessing the effects of their current actions.

By focusing on long-term development and improvement of the IAA (via for e.g., quality assessment and improvement programs and continuous professional development), *Standards* encourage internal auditors to be future-oriented. Tendam (1987) states that future orientation is also related to flexibility, the ability to adapt to changing environments and to pursue new goals. This is consistent with Brommer and De La Porte (1992), who argue that future orientation involves preparing the organization to meet future environmental changes. However, consistent with the arguments presented under the individualism versus collectivism caption), internal audit practitioners may take a long-term career view, but not in internal auditing. They may use and comply with *Standards* only to gain the knowledge and experience needed to secure better jobs in the future.

Thus, on the one hand *Standards* promote long-term orientation via use and compliance with Standards. On the other hand, internal auditors may have more of a long term orientation toward non-internal auditing jobs in the future. Because these interests may indicate opposite directions, we do not establish a formal hypothesis for future orientation.

8. *PO (Performance Orientation)*. Performance orientation refers to the extent to which a community encourages and rewards innovation, high standards, and performance improvement (House et al. 2004). One of the major goals of *Standards* is to stimulate continuous improvement of the performance and the quality of the IAA. Therefore, *Standards* stimulate training and development (e.g. via Continuous Professional Education) and view feedback (e.g. via external quality assessment) as necessary for continuous improvement. These arguments suggest that performance oriented societies would be associated with higher levels of use and compliance with *Standards* than societies characterized as less performance orientated.

However, an opposite argument can also be made that performance oriented societies, may not need The IIA *Standards* for their internal audit activities. They may already have high quality performance orientation regardless of where the guidance comes from (i.e., *Standards* or local guidance). This argument suggests that the relationship between performance orientation and use/compliance with *Standards* is theoretically unclear. Thus, we do not present a hypothesis here.

9. *HO (Human Orientation)*. Human orientation is defined by House et al. (2004) as the degree to which an organization or society encourages and rewards individuals for being fair, altruistic, friendly, generous, caring and kind to others. As reported by Burnaby et al. (2007), internal auditors favor increasing importance for interpersonal skills, relationship building, and being team players. These attributes should allow internal audit practitioners not only to operate within their own audit team but also to build relationships within their organization. In 2008, a global task force of The IIA introduced the “Internal Auditor Competency Framework” (The IIA, 2009). This framework uses a scale from 1 to 4 to identify the minimum level of performance for various attributes (e.g., can communicate clearly with senior executives and board-level

individuals) for each professional level of internal auditing (e.g., CAE, IAM, Senior/supervisor). The first “bucket” of attributes classified as interpersonal skills contains over 120 attributes covering communication, management, leadership, conflict management, team capabilities, collaboration, and cooperation skills. Collectively these attributes show The IIA’s focus on human orientation.<sup>1</sup>

These attributes are crucial in fulfilling the support role that the IAA provides, and suggest a positive effect on the use and compliance with *Standards*. Consequently, we hypothesize that human orientation will have a significant positive effect on use and compliance with *Standards*. Thus,

H<sub>4a</sub>: Use of *Standards* is positively related to human orientation.

H<sub>4b</sub>: Compliance with *Standards* is positively related to human orientation.

### **Control Variables**

The IIA is a world-wide professional association, whose membership is voluntary, but when an internal audit practitioner is accepted to be a member, he/she is required to adhere to the *Standards* and also stay as an IIA member in good standing. This means that a member should become professionally certified and keep up-to-date through Continuing Professional Education (CPE). The IIA prepares and administers the Certified Internal Auditor (CIA) exam at more than 500 locations world-wide. The IIA considers the CIA designation as the only globally accepted certification for internal auditors (The IIA 2009). Coupled with CPE requirements, the CIA certification provides an indication of a baseline for qualification to practice internal auditing. Since *Standards* are expected to be used and complied with by The IIA members, we expect the length of membership in The IIA to be a factor related to the use and compliance with *Standards*.

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1 The other buckets of attributes are “Tools and Techniques,” “Internal Audit Standard: Theory and

Also, certification as a CIA (or equivalent) requires the internal audit practitioner to be familiar with *Standards* and also commit to use them in practice. As such, we expect certification to be positively associated with use and compliance with *Standards*. Similarly, CPE is expected to improve an internal audit practitioner's knowledge of the *Standards*, and thus it should stimulate use and compliance with *Standards*. Therefore, we expect a positive association between the number of training hours followed and use and compliance with *Standards*.

Other variables may have effects on use and compliance with *Standards*. For example, internal auditors' academic degrees (graduate vs. undergraduate), academic major (accounting/auditing/internal auditing vs. other majors), and years of experience in the profession may have effects on use and compliance with *Standards*, and thus should be added as control variables. However, as reported later, internal auditing experience is highly correlated with length of membership in The IIA. For this reason, we do not include internal audit experience in the model. Another control variable may be the position in the IAA (CAE vs. IAM). While CAEs and IAMs are knowledgeable in the IAA, they may be different in the way they perform their tasks. Specifically, in large organizations, CAEs may be mostly in the administrative end of the internal audit activity, while IAMs may take a more operational role. As such, IAMs may actually know more about whether or not the *Standards* are being used and complied with than do CAEs. However, in smaller audit shops, the CAE and IAM positions may be performed by the same person. In this study, we use this distinction as a control variable to see if there is any difference between the responses of the two groups.

## Model Specification

The explanatory and control variables identified in the earlier sections are the independent variables in the model to be tested. The dependent variables are *Standards* use and compliance. Given the binary nature of the response to the use question (yes/no), a binary Logistic regression analysis is used to test the dependent variable (Y) being use (Model 1). Model 2 tests compliance. Subjects were asked to indicate for each of the 11 sets of Standards (see Table 4) whether they fully complied, partially complied, did not comply, or did not know. We focus on full compliance and develop a metric based on the proportion of the 11 Standards for which subjects indicated full compliance. This proportion is a number between zero to 100 percent. Thus we use an ordinary least square regression analysis to test Model 2. The model is presented as:

$$Y = \alpha + \beta_1 UA + \beta_2 AT + \beta_3 HO + \beta_4 Degree + \beta_5 Major + \beta_6 MembershipYrs + \beta_7 IACertification + \beta_8 TrainingHours + \beta_9 Position + \varepsilon$$

Where:

Y	= Use of Standards: 1/0 for yes/no (Model 1), Compliance with <i>Standards</i> : 0 to 100 percent:(Model 2)
UA	= Uncertainty Avoidance (1-7 scale)
AT	= Assertiveness (1-7 scale)
HO	= Human Orientation (1-7 scale)
Degree	= Graduate degree = 1, undergraduate degree = 0
Major	= Accounting/auditing/internal auditing = 1, others = 0
MembershipYrs	= 1 if 6 years or more, 0 if 5 years or less
IACertification	= 1 if professionally certified as internal auditor, 0 otherwise
TrainingHours	= Number of hours of training over the past 36 months <sup>2</sup>
Position	= 1 if CAE, 0 if IAM
$\varepsilon$	= Error term

## Research Method

### Source of Data

CBOK (2006) is the most comprehensive data base on the current state of the internal

auditing profession world-wide (Burnaby et al. 2007). It has data from over 100 countries. We used two screening criteria to select countries for our investigation. The first criterion was to select those countries from which a sufficient sample from CAEs and IAMs was available for statistical analysis. Specifically, to be included, a country had to be represented with at least double digit responses from CAEs and IAMs. The second screening criterion was that the country had to be clearly identified by House et al. (2004) as belonging to a specific cultural cluster. As mentioned earlier, while CBOK (2006) has data from over 100 countries, House et al. (2004) has cultural classification for only 62 societies. In some cases, a country is included as comprising more than one society. For example, Switzerland consists of two societies; Germanic and French. These societies have significantly different ratings. For example, the Germanic rating for Assertiveness in Switzerland is 4.51 while it is 3.47 for the French Switzerland. Since CBOK (2006) does not separate Switzerland by its Germanic or French cultures, we do not include this country in the sample. Using the criteria just discussed, the final sample for this study consists of 19 countries that are classified into five cultural clusters. Table 2 presents responses from CAEs and IAMs for each of these countries. As reported in the table, Venezuela with 20 responses has the smallest sample size and the United States with 1,748 responses has the largest sample. Overall, our sample consists of 2,783 responses from CAEs (n = 1,497) and IAMs (n = 1,286).

[Insert Table 2 Here]

Table 2 also provides the average ratings for every country for each of the nine cultural dimensions that are described in Table 1<sup>3</sup>. The scale for these averages is 1-7 (strongly disagree

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2 CBOK (2006) collected data on CPE every 36 months and every 12 months. The 36-month period is a more meaningful data for analysis because it indicates longer term commitment to training than training over only a 12-month period.

3 House et al. (2004) report separate averages for the UK/Ireland and for the former east/west Germany. However, CBOK (2006) has data for UK/Ireland as one unit and for Germany as a unit. Consequently, we used the

to strongly agree with the dimension). As is evident in Table 2, there is variation by country in these averages. However, since these ratings are summary statistics we cannot run statistical analysis to investigate the significance of their differences between countries. These summary statistics were entered into the data base for each of the sample members in every country to investigate our stated hypotheses. However, the analysis of variance (ANOVA) is performed to compare the cultural clusters for each of the cultural dimensions. The results are reported in the bottom of Table 2. As expected, the results confirm highly significant differences by cultural clusters at the  $<0.001$  level. With a few exceptions, the vast majority of Bonferoni paired comparison tests for the cultural dimensions indicate significant differences between all pairs of clusters. An exception is that for power distance there is no difference between Latin Europe and Eastern Europe.

### **Data Analysis**

Table 3 presents descriptive statistics on control variables (other than the cultural dimension variables presented in Table 2). Panel A presents variables with binary responses for which the results of  $\chi^2$  tests are reported. Panel B presents variables with continuous response mode as well as the results of ANOVA tests are reported to test differences by cultural clusters. The first variable in Table 3 presents the length of IIA membership of CAEs and IAMs.<sup>4</sup> Overall, 48.6 percent of all CAEs and IAMs were members of The IIA for five years or less, leaving 51.4 percent as members for six years or more. However, the  $\chi^2$  of 159.4 indicates highly significant differences between the five cultural clusters ( $P < .001$ ). While the Eastern European (69.5

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averages for these units for analysis. While there were some minor variations, the ratings were quite close to each other. For example, UK and Ireland had exactly the same mean rating (5.15) for power distance. For Germany the rating for gender egalitarianism was 3.06 for the former East Germany and 3.10 for the former West Germany.

4 Since data were collected by The IIA from its membership, there is no reason to believe that any of the CAEs in

percent) and Latin American (73.5 percent) countries had the highest percentage of membership in the category of less than five years, Anglo-Saxon countries had the lowest with 40.2 percent.

[Insert Table 3 Here]

Investigation of academic degrees and majors indicates that while 59.1 percent of the respondents possess only an undergraduate degree, 40.9 percent have earned graduate degrees. However, there is significant variation between cultural clusters, where the  $\chi^2$  of 70.9 is highly significant ( $p < 0.001$ ). Table 3 also shows that there is a statistical significance ( $\chi^2 = 234.0$ ,  $p < 0.001$ ) for the academic major, where Group 4 has the highest percentage (82.3 percent) of the respondents majoring in accounting/auditing/or internal auditing as compared with Group 5 (38.6 percent) and Group 2 (46.3 percent). Finally, the proportion of respondents certified as CIA or equivalent indicates that, overall only 44.0 percent are certified. Of these, Group 1 has the highest proportion of CIA (51.1 percent) while groups 2 (27.4 percent) and 5 (29.1 percent) have the lowest level of certification. The differences are statistically significant ( $\chi^2 = 112.0$ ,  $p < 0.001$ ).

Panel B in Table 3 presents descriptive statistics for years of internal audit experience and hours of CPE training over a 36-month period. The ANOVA results in Table 3 show highly significant differences by cultural clusters. Specifically, with an average of 13.05 years, the Anglo-Saxon group has the highest internal audit experience while the Eastern European group has the lowest level at 5.22 years of experience. The other three groups are somewhere in between these two end-points and the differences are highly significant (F-statistic = 47.7,  $p < 0.001$ ). Hours of training over 36 month period also indicates high variation between the five

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the sample were not members of The IIA.

groups (F-statistic = 17.1,  $p < 0.001$ ), where the Latin American Group with 200.45 hours has the highest level of training and the Germanic Europe Group has the lowest at 101.8 hours.

### **Dependant variables and the effects of cultural clusters (H<sub>1a</sub> & H<sub>1b</sub>)**

Descriptive statistics on dependent variables (use and compliance) are presented in Table 4. The data reveal that overall while a significant majority (84.9 percent) of CAEs and IAMs indicates use of *Standards*, a significant minority (15.1 percent) does not. The  $\chi^2$  of 18.2 is highly significant ( $p=0.001$ ), indicating differences between cultural clusters, where the lowest compliance is in Germanic Europe (78.8 percent) and Latin Europe (80.7 percent) and the maximum (90.4 percent) belongs to Eastern Europe, leaving Anglo-Saxon and Latin America in the middle.

[Insert Table 4 Here]

The CAEs and IAMs who indicated the use of *Standards* were also asked to indicate the degree of full compliance with all 11 specific *Standards*. As summarized in the bottom of Table 4, the overall percentage of full compliance is only 61.4 percent, where the F-statistic of 25.71 indicates high variation between the five cultural clusters ( $P < 0.001$ ). The lowest compliance belongs to Eastern Europe at 41.3 percent, while the highest compliance of 67.1 percent for the Anglo-culture group. Analysis by Standard also indicate high variation at  $< 0.001$  for each of the 11 *Standards* by cultural cluster. The lowest compliance statistics belong to AS 1300: Quality Assurance & Improvement, where overall, only 39.9 percent of all respondents indicate that they fully comply with this Standard. This standard requires the performance of internal (on regular basis) and external (every five years) quality assessments of the IAA. The group with the lowest compliance is Eastern Europe at 21.9 percent, while the highest, 44.6 percent belongs to the Anglo-Saxon group.

In summary, the data in Table 4 provides evidence that a significant proportion of CAEs and IAMs do not use *Standards*. The data also indicate that non-compliance with each of the 11 specific standards is even worse. In support of  $H_{1a}$  (use) and  $H_{1b}$  (compliance), the data in Table 4 shows highly significant differences by cultural cluster overall and for each of the 11 specific *Standards*. Consequently, the regression models in the next section are performed first for the use variable (Model 1) and then also for the compliance variable (Model 2) as related to the overall compliance with all 11 *Standards* (i.e., the last line in Table 4).

### **Multivariate Analysis of the Effects of Cultural Dimensions ( $H_{2a}$ – $H_{4b}$ )**

Tables 5 and 6 present correlation matrices between independent variables, where significant double digit correlation coefficients are highlighted. As shown in Table 5 many of the correlation coefficients between cultural dimensions reach or surpass the 0.50 level that cause concern for the possibility of multicollinearity. A careful examination of individual variables in Table 5 indicates that IC, IgC, FO, PO, PD, GE, and IAexperience are highly correlated with other variables. For this reason, they are dropped from the regression models. The refined set of independent variables is presented in Table 6. This table shows that none of the correlation coefficients reaches the critical level of 0.50 to cause concern for the possibility of multicollinearity.

[Insert Tables 5 and 6 Here]

Binary Logistic regression is used to test for the effects of explanatory and control variables on the binary dependant variable, use of *Standards*. The three columns under Model 1 in Table 7 present the results. For each variable, its coefficient (B) is provided as well as the Wald statistic and its significance, where the statistically significant results are highlighted. Also presented in Table 7 are the study's research hypotheses around cultural dimensions in Column

1. The model  $\chi^2$  statistics are presented in the bottom of Table 7. These statistics indicate significance for Model 1 at a very high level ( $p < 0.001$ ). The model also returns relatively high classification accuracy rates (84.8 percent). Finally, the model returns a Nagelkerke pseudo  $R^2$  of 5.5 percent.

[Insert Table 7 Here]

Model 2 in Table 7 show the results of an ordinary least square regression testing for the overall proportion of full compliance for all 11 *Standards*. The standardized B indicates the coefficient of each of the variables presented along with its T-statistic and its significance level. The model F-statistic of 14.951 is highly significant at the 0.001 level, and the adjusted  $R^2$  of 6.6 percent indicates the proportion of variation in the dependant variable, compliance, that is explained by this model.

Turning to tests of the specific hypotheses, the data related to Model 1 in Table 7 indicate an interesting pattern. Specifically, the data provide support for  $H_{2a}$ , namely an inverse effect of uncertainty avoidance on use. However, inconsistent with  $H_{2b}$ , the results do not provide support for an uncertainty avoidance effect on compliance. Specifically, as predicted by  $H_{2a}$  higher uncertainty avoidance is associated with low use of *Standards* ( $B = -0.393$ , Wald = 6.808,  $p = 0.009$ ) but it is not associated with lower compliance. The opposite is found for both assertiveness (AT) and human orientation (HO). Neither is significantly associated with use, thus we do not find support for  $H_{3a}$  and  $H_{4a}$ . However, these two cultural dimensions are positively and highly significantly associated with compliance. Specifically, AT with  $B = 0.141$  and T-stat = 5.773 is highly significantly associated with compliance ( $p < 0.001$ ). Similarly, HO with  $B = 0.106$  and T-stat = 4.600 is highly significantly associated with compliance ( $p < 0.001$ ).

As to the control variables, degree, major, and position (CAE vs. IAM) are not significant in both models. However, length of IIA membership, IA certification and CPE training hours are significant for both models with positive effects on both use and compliance with *Standards*.

### **Additional Analysis**

As stated earlier, the OLS regression model on compliance (Model 2) was tested on the average proportion of full compliance based on the data for each of the 11 specific Standards. Logit regressions were also performed on full compliance with each of the 11 Standards and the results were similar to those reported in Table 7 with some exceptions that were more in support of our hypotheses. For example, similar to the results in Table 7, most models show uncertainty avoidance to be insignificant. An exception is PS 2100: Nature of Work for which uncertainty avoidance is highly significant at the 0.003 level.

## **Summary and Implications**

### **Summary**

In this study, we first present evidence that use and compliance with internal auditing Standards are significantly different between various cultural clusters. As hypothesized, we find a highly significant effect for culture on use of *Standards*, where lack of use ranges between the low of 9.6 percent for the East-European cluster to the high of 21.2 percent for the Germanic Europe cluster. Also, we find full compliance with *Standards* to be quite low in all countries, but particularly in Eastern Europe at 41.3 percent. The cultural cluster with the highest full compliance is the Anglo-Saxon group with 67.1 percent and as hypothesized the differences between the five cultural clusters are highly significant.

We then test the effects of three cultural dimensions; uncertainty avoidance, assertiveness, and human orientation on use and compliance with *Standards*. As hypothesized,

we find uncertainty avoidance to be inversely related to use of *Standards*, but we find no significance for the effect of this variable on compliance. Conversely, we find significant effects for assertiveness and human orientation on compliance but not on use of *Standards*. Regarding control variables, we find significance for membership in The IIA, internal audit certification and continuing professional education on both use and compliance with *Standards*. However, college degree (graduate/undergraduate), major (accounting/auditing/internal-auditing vs. others) and position (CAE vs. IAM) are not significantly associated with use or compliance.

### **Implications**

A general implication of the effects of cultural dimensions on use and compliance with *Standards* is that there may be a need for a better understanding of cultural dimensions to assess their effects on standard setting as well as internal audit practices in general. It should be clear that this opens a whole new area of research opportunity. The IIA clearly argues that conformance with a unified set of *Standards* is essential, despite the fact that internal auditing is conducted in diverse cultural environments. Besides, The IIA clearly recognizes in its recently renewed International Professional Practices Framework (The IIA 2009c) that *Standards* are principles-based. Nevertheless, the results of this study suggest that taking into account the cultural differences that influence the internal auditing profession remains a challenge for The IIA. Our results suggest that overcoming these cultural differences may have a positive impact on use and compliance with *Standards*. However, while there is recognition that local affiliates of The IIA can play a crucial role in reducing these cultural influences, further research is necessary to determine the exact nature of local affiliates' effects on this important factor. We argue that local affiliates are aware of the cultural characteristics in their specific part of the world that influence the use of *Standards*. This argument implies that research at the local affiliate level

may be needed to document the variables that influence the use and compliance with *Standards*. Consistent with this argument is evidence from Table 2, which suggests that *Standards* are more adapted to the Anglo-Saxon cultural profile (high degree of uncertainty avoidance, assertiveness and human orientation when compared with the overall averages). This result is expected because *Standards* have so far been set by The IIA's headquarters in the US.

More specifically, the finding in our paper that use of *Standards* is inversely related to uncertainty avoidance indicates opportunities for future investigation. This means that especially new *Standards*, introduce significant ambiguity in terms of interpretation and application which can be considered as a barrier to the implementation of it. For example, the low level of compliance (overall, 39.9 percent with a low of 21.9 percent and high of 44.6 percent) with the new AS 1300: Quality Assurance & Improvement suggests that the uncertainty in this standard may be the culprit in its dismal use and compliance in various countries. It suggests that introduction of new standards should be accompanied with clear and straightforward guidance as well as training on how to implement it in practice. Both guidance and training are crucial to overcome the resistance to implementation, especially in clusters characterized by high uncertainty avoidance (e.g. Germanic Europe). Thus, research in developing effective guidance and training programs may be a fruitful avenue for the future.

Secondly, our results confirm that the nature of internal audit practice is generally assertive, even confrontational at times, thus we find assertiveness to be a cultural dimension positively related to compliance with *Standards*. Given that the *Standards* stress the importance of objectivity and unambiguous communication with senior management and the board, it is reasonable to see that internal auditors working in a culture characterized by a high level of assertiveness will be more keen on complying with the *Standards*. In particular, Performance

Standard 2600 recommends a persistent attitude for internal auditors when management has accepted a level of residual risk that may be unacceptable to the organization. Moreover, it remains a continuous challenge for internal auditors to defend their position in the organization, especially in times when companies cut back on the budget of support functions like internal auditing. The IIA clearly advises to use compliance with *Standards* as the ultimate way to show the added value of internal auditing to for e.g. senior managers. The results of this study suggest that this strategy will be more used by internal auditors working in assertive cultures.

Finally, the results in support of the positive effects of human orientation on compliance with *Standards* supports the growing importance of interpersonal skills for internal audit practice as reported by Burnaby et al. (2007). This result supports The IIA's identification of effective interpersonal skills in the most recent "Internal Auditor Competency Framework"<sup>5</sup>. Well-developed interpersonal skills should allow internal auditors not only to operate within their own audit team but also to build relationships within their organization. These attributes are crucial in fulfilling the support role they provide and should be traded-off with a sufficient dose of assertiveness.

Turning to control variables, of particular importance is the finding that internal audit certification (e.g., CIA) is positively and significantly associated with the degree of use and compliance with *Standards*. It indicates that concentrated effort should be placed to improve the proportion of IIA membership that is certified as internal auditors. As Table 3 shows, only 44 percent of IIA membership who are CAEs or IAMs are currently certified as internal auditors (as low as 27.4 percent in Eastern Europe and as high as 51.1 percent in Anglo-Saxon countries). Since the CIA exam's focus is on the use and compliance with *Standards* as a foundation of

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5 The first edition of the Competency Framework for Internal Auditing was published in 1999 by Birkett, W.P.,

internal audit practice, certification should be given a priority as it could overcome the barrier to implementing *Standards*. This result is consistent with earlier work done by Abdolmohammadi (2009).

A final idea for future research is to investigate the impact of institutional and legal variables in various countries. This investigation may help improve the R<sup>2</sup> in the current study that limited its investigation to the impact of cultural dimensions, but did not investigate institutional and legal context within cultural clusters.

### References

- Abdolmohammadi, M. 2009. Factors associated with the lack of use or compliance with the IIA Standards: a study of Anglo-culture CAEs. *International Journal of Auditing* 13 (1): Forthcoming.
- Abdolmohammadi, M. and R. Tucker. 2002. The Influence of Accounting and Auditing on a Country's Economic Development. *Review of Accounting and Finance* 1 (3): 42-53.
- Allegrini, M., D'Onza, G., Melville, R., Paape, L. and G. Sarens. 2006. The internal audit profession in Europe: a literature review. *Managerial Auditing Journal* 21 (8): 845-853.
- Bradshaw, M.T. and G.S. Miller. 2008. Will harmonizing accounting standards really harmonize accounting? Evidence from Non-U.S. firms adopting U.S. GAAP. *Journal of Accounting, Auditing & Finance* 23 (2): 233-263.
- Brommer, M. and R. De La Porte. 1992. A context for envisioning the future. *National Productivity Review* 11: 549-552.
- Burnaby, P.A., Abdolmohammadi M., and Hass, S. 2007. *A global summary of the common body of knowledge 2006 – preview edition* (Altamonte Springs, FL: The Institute of Internal Auditors Research Foundation).
- Burnaby, P.A., Hass, S. and Abdolmohammadi M. 2008. A global summary of the common body of knowledge: US respondents compared to non-US respondents. *Internal Auditing* (forthcoming).
- CBOK. 2006. *Common Body of Knowledge in Internal Auditing Data Base* (Altamonte Springs, FL: The Institute of Internal Auditors Research Foundation).
- Chan, K.H., Lin, K.Z. and P.L. Lan Mo. 2003. An empirical study on the impact of culture on audit-detected accounting errors. *Auditing: A Journal of Practice & Theory* 22 (2): 281-295.
- Chatman, J.A., Polzer, J.T., Barsade, S.G. and M.A. Neale. 1998. Being different yet feeling similar: The influence of demographic composition and organizational culture on work processes and outcomes. *Administrative Science Quarterly* 43: 749-780.
- Cohen, J.R., Pant, L.W. and D.J. Sharp. 1995. An exploratory examination of international differences in auditors' ethical perceptions. *Behavioral Research in Accounting* 7: 37-64.

- Cooper, B.J., Leung, P. and G. Wong. 2006. The Asia Pacific literature review on internal auditing. *Managerial Auditing Journal* 21 (8): 822-834.
- Gray, S. J., 1988. Towards a Theory of Cultural Influence on the Development of Accounting Systems Internationally, *Abacus* 24 (1): 1-15.
- Doupnik, T.S. 2008. Influence of culture on earnings management; A note. *Abacus* 44 (3):
- Doupnik, T.S. and S.B. Salter. 1995. External environment, culture, and accounting practice: A preliminary test of a general model of international accounting development. *International Journal of Accounting* 30: 189-207.
- Goldberg, L.R. 1990. An alternative “description of personality”: The Big Five factor structure. *Journal of Personality and Social Psychology* 59: 1216-1229.
- Hass, S., Abdolmohammadi, M.J. and P. Burnaby. 2006. The Americas literature review on internal auditing. *Managerial Auditing Journal* 21 (8): 835-844.
- Hofstede, G. 1980. *Culture’s consequences: International differences in work-related values* (London, UK: Sage).
- Hofstede, G. 1983. Dimensions of National Culture in Fifty Countries and Three Regions, in J.B. Deregowski, S. Dziurawiec and R.C. Annis (Eds.), *Explications in Cross-Cultural Psychology* (Swets and Zeitling).
- Hofstede, G. 2001. *Culture’s Consequences: Comparing Values, Behaviors, Institutions, and Organizations across Nations*, (Sage Publications).
- Holtgraves, T. 1997. Styles of language use: Individual and cultural variability in conversational indirectness. *Journal of Personality and Social Psychology* 73: 624-637.
- House, R.J. and M. Javidan. 2004. Overview of GLOBE. Ch. 2 in House, R.J.; P.J. Hanges; M. Javidan; P.W. Dorfman; and V. Gupta (Eds). 2004. *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies* (Thousand Oaks, CA: Sage Publications): 9-48.
- House, R.J.; P.J. Hanges; M. Javidan; P.W. Dorfman; and V. Gupta (Eds). 2004. *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies* (Thousand Oaks, CA: Sage Publications).
- Kagitçibasi, C. 1997. Individualism and collectivism. In Berry, J.W., Segall, M.H. and C. Kagitçibasi, *Handbook of cross-cultural psychology*. 2<sup>nd</sup> Ed. (Boston: Allyn & Bacon): 1-50.
- Marshall, R. 1997. Variances in levels of individualism across two cultures and three social classes. *Journal of Cross-Cultural Psychology* 28: 490-495.
- Patel, C. 2003. Some cross-cultural evidence on whistle-blowing as an internal control mechanism. *Journal of International Accounting Research* 2: 69-96.
- Salter, S.B. and F. Niswander. 1995. Cultural influence on the development of accounting systems internationally: a test of Gray’s (1988) theory. *Journal of International Business Studies* 26 (2): 379-397.
- Schneider, S.C and J.L. Barsoux. 1997. *Managing across cultures*. London: Prentice Hall Europe.
- Tendam, H.W. 1987. Managerial flexibility: A strategic asset. *Leadership & Organization Development Journal* 8 (2): 11-16.
- The Institute of Internal Auditors. 2008. *The International Standards for the Professional Practice of Internal Auditing*, available at: <http://www.theiia.org/guidance/standards-and-practices/professional-practices-framework/standards/?search=standards>
- The Institute of Internal Auditors. 2009a. *Internal Auditor Competency Framework*, available at:

<http://www.theiia.org/guidance/additional-resources/competency-framework-for-internal-auditors/?search=competency%20framework>

The Institute of Internal Auditors. 2009b. Certified Internal Auditor, available at:

<http://www.theiia.org/certification/certified-internal-auditor/>

The Institute of Internal Auditors. 2009c. *International Professional Practices Framework*,

available at: <http://www.theiia.org/guidance/standards-and-guidance/ippf/>

The International Auditing and Assurance Standards Board. 2003. *International Standards on Auditing*, available at: <http://www.ifac.com>

Triandis, H.C. 1994. *Culture and social behavior*. New York: McGraw-Hill.

Triandis, H.C. 1995. *Individualism & collectivism*. Boulder, CO: Westview.

Tsakumis, G.T. 2007. The influence of culture on accountants' application of financial reporting rules. *Abacus* 43 (1): 27-48.

Wayne, S.J. and S.A. Green. 1993. The effects of leader-member exchange on employee citizenship and impression management. *Human Relations* 46 (12): 1431-1441.

**Table 1**  
**Cultural Classification Criteria**

Dimension	Definition
<b>1. UA*</b> Uncertainty Avoidance	The extent to which members of an organization or society strive to avoid uncertainty by relying on established social norms, rituals, and bureaucratic practices.
<b>2. PD*</b> Power Distance	The degree to which members of an organization or society expect and agree that power should be stratified and concentrated at higher levels of an organization or government.
<b>3. IC**</b> Institutional Collectivism	The degree to which organizational and societal institutional practices encourage and reward collective distribution of resources and collective action.
<b>4. IgC**</b> In-group Collectivism	The degree to which individuals express pride, loyalty, and cohesiveness in their organizations or families.
<b>5. GE***</b> Gender Egalitarianism	The degree to which an organization or society minimizes gender role differences while promoting gender equality.
<b>6. AT***</b> Assertiveness	The degree to which individuals in organizations or societies are assertive, confrontational, and aggressive in social relationships.
<b>7. FO@</b> Future Orientation	The degree to which individuals in organizations or societies engage in future-oriented behaviors such as planning, investing in the future, and delaying individual or collective gratification.
<b>8. PO@</b> Performance Orientation	The degree to which an organization or society encourages and rewards group members for performance improvement and excellence.
<b>9. HO@</b> Human Orientation	The degree to which individuals in organizations or societies encourage and reward individuals for being fair, altruistic, friendly, generous, caring, and kind to others.

Definitions are from House and Javidan (2004, 11-13).

\* These two criteria are the same as those of Hofstede's (1980).

\*\* These two criteria are based on Hofstede's (1980) Individualism versus Collectivism.

\*\*\* These two criteria are based on Hofstede's (1980) Masculinity versus Femininity.

@ House et al. (2004) added these based on literature other than Hofstede (1980).

Adapted from Burnaby et al. (2007, 359).

**Table 2**  
**Cultural Clusters, Countries in the Sample, and Cluster Dimension Ratings\***

Cluster	Sample Size			Cluster Dimensional Ratings								
	CAEs	IAMs	All	UA	PD	IC	IgC	GE	AT	FO	PO	HO
<i>Anglo:</i>												
Australia	72	39	111	4.39	4.74	4.29	4.17	3.40	4.28	4.09	4.36	4.28
New Zealand	13	15	28	4.75	4.89	4.81	3.67	3.22	3.42	3.47	4.72	4.32
UK/Ireland	68	75	143	4.48	5.15	4.45	4.61	3.44	4.04	4.13	4.22	4.34
United States	760	706	1466	4.15	4.88	4.20	4.25	3.34	4.55	4.15	4.49	4.17
Total	913	835	1748	4.20	4.89	4.24	4.27	3.35	4.47	4.13	4.46	4.19
<i>Eastern Europe:</i>												
Poland	8	17	25	3.62	5.10	4.53	5.52	4.02	4.06	3.11	3.89	3.61
Russia	50	20	70	2.88	5.52	4.50	5.63	4.07	3.68	2.88	3.39	3.94
Total	58	37	95	3.07	5.41	4.51	5.60	4.06	3.78	2.94	3.52	3.85
<i>Germanic Europe:</i>												
Austria	57	6	63	5.16	4.95	4.30	4.85	3.09	4.62	4.46	4.44	3.72
Germany	40	32	72	5.19	5.40	3.68	4.27	3.08	4.64	4.11	4.17	3.29
Netherlands	26	30	56	4.70	4.11	4.46	3.70	3.50	4.32	4.61	4.32	3.86
Total	123	68	191	5.04	4.87	4.11	4.29	3.21	4.54	4.37	4.30	3.60
<i>Latin America:</i>												
Argentina	13	17	30	3.65	5.64	3.66	5.51	3.49	4.22	3.08	3.65	3.99
Brazil	11	19	30	3.60	5.33	3.83	5.18	3.31	4.20	3.81	4.04	3.66
Colombia	25	28	53	3.57	5.56	3.81	5.73	3.67	4.20	3.27	3.94	3.72
Costa Rica	16	6	22	3.82	4.74	3.93	5.32	3.56	3.75	3.60	4.12	4.39
Mexico	24	24	48	4.18	5.22	4.06	5.71	3.64	4.45	3.87	4.10	3.98
Venezuela	7	13	20	3.44	5.40	3.96	5.53	3.62	4.33	3.35	3.32	4.25
Total	96	107	203	3.74	5.35	3.88	5.55	3.57	4.23	3.51	3.91	3.94
<i>Latin Europe:</i>												
France	69	48	117	4.43	5.28	3.93	4.37	3.64	4.13	3.48	4.11	3.40
Italy	129	97	226	3.79	5.43	3.68	4.94	3.24	4.07	3.25	3.58	3.63
Portugal	14	24	38	3.91	5.44	3.92	5.51	3.66	3.65	3.71	3.60	3.91
Spain	95	70	165	3.97	5.52	3.85	5.45	3.01	4.42	3.51	4.01	3.32
Total	307	239	546	3.99	5.43	3.80	5.01	3.29	4.16	3.41	3.82	3.51
Grand Total	1497	1286	2783	4.15	5.05	4.13	4.55	3.37	4.37	3.92	4.25	3.99
F-statistic**				2354	1261	1453	2409	962	551	5149	2809	3425

\* The cultural dimension averages are based on a Likert scale of 1-7 (low agreement to high agreement) and are adopted from House et al. (2004).

\*\* The F-statistics are all significant at <0.001.

**Table 3**  
**Descriptive Statistics**  
**Control Variables**

**Panel A: Discrete Variables – Percentage of responses**

Variable	Group 1: Anglo (N =1748)*	Group 2: East-EU (N = 95)*	Group 3: German-EU (N = 191)*	Group 4: Latin-AM (N = 203)*	Group 5: Latin-EU (N = 546)*	Total (n = 2783)*	Chi-Sq. (P-value)
1. IIA membership:							
5 years or less	40.2%	69.5%	48.9%	73.5%	62.8%	48.6%	<b>159.4</b> <b>(&lt;0.001)</b>
6 years or more	59.8%	30.5%	51.1%	26.5%	37.2%	51.4%	
2. Degree:							
Undergraduate	61.6%	64.2%	30.4%	61.1%	59.4%	59.1%	<b>70.9</b> <b>(&lt;0.001)</b>
Graduate	38.4%	35.8%	69.6%	38.9%	40.6%	40.9%	
3. Major:							
Accounting/Auditing /Internal Auditing	70.9%	46.3%	57.1%	82.3%	38.6%	63.6%	<b>234.0</b> <b>(&lt;0.001)</b>
Other	29.1%	53.7%	42.9%	17.7%	61.4%	36.4%	
4. Certification:							
CIA or Equivalent	51.1%	27.4%	44.0%	30.0%	29.1%	44.0%	<b>112.0</b> <b>(0.001)</b>
Other	48.9%	72.6%	56.0%	70.0%	70.9%	56.0%	

**Panel B: Continuous Variables: Mean and (standard deviation) of responses**

5. Internal Audit Experience	13.05 (9.53)	5.22 (3.23)	11.60 (8.04)	12.42 (9.16)	7.82 (5.78)	11.63 (8.96)	<b>47.7</b> <b>(&lt;0.001)</b>
6. 36 months Training	124.36 (112.44)	149.40 (126.15)	101.80 (109.78)	200.45 (193.37)	125.28 (178.65)	129.53 (136.93)	<b>17.1</b> <b>(&lt;0.001)</b>

\* Due to missing data the actual responses may be below this sample size.

**Table 4**  
**Descriptive Statistics**  
**Dependent Variables**

Variable	Group 1: Anglo (N =1748)*	Group 2: East-EU (N = 95)*	Group 3: German-EU (N = 191)*	Group 4: Latin-AM (N = 203)*	Group 5: Latin-EU (N = 546)*	Total (n = 2783)*	Chi-Sq. (P-value)
<b>7 Use IIA standards</b>							
Yes	86.3%	90.4%	78.8%	86.6%	80.7%	84.9%	<b>18.2</b>
No	13.7%	9.6%	21.2%	13.4%	19.3%	15.1%	<b>(0.001)</b>
<b>Full compliance with:</b>							
8 AS 1000: Purpose, Authority and Responsibility	74.5%	47.3%	58.1%	58.1%	59.8%	68.5%	<b>64.14</b> <b>(&lt;0.001)</b>
9 AS 1100: Independence & Objectivity	76.7%	56.6%	71.8%	68.4%	68.6%	73.5%	<b>24.76</b> <b>(&lt;0.001)</b>
10 AS 1200: Proficiency & Due Care	75.5%	50.7%	59.2%	66.7%	60.1%	70.0%	<b>57.47</b> <b>(&lt;0.001)</b>
11 AS 1300: Quality Assurance & Improvement	44.6%	21.9%	29.3%	38.1%	31.5%	39.9%	<b>38.39</b> <b>(&lt;0.001)</b>
12 PS 2000: Managing the internal Audit Activity	70.2%	44.7%	58.7%	54.5%	52.0%	63.9%	<b>64.03</b> <b>(&lt;0.001)</b>
13 PS 2100: Nature of Work	69.2%	43.2%	45.4%	59.1%	53.2%	63.1%	<b>65.69</b> <b>(&lt;0.001)</b>
14 PS 2200: Engagement Planning	67.5%	48.7%	46.7%	59.6%	57.0%	62.9%	<b>37.97</b> <b>(&lt;0.001)</b>
15 PS 2300: Performing the Engagement	71.2%	44.0%	49.2%	55.5%	59.0%	65.3%	<b>60.88</b> <b>(&lt;0.001)</b>
16 PS 2400: Communicating Results	75.6%	45.3%	59.8%	63.2%	62.5%	70.1%	<b>60.34</b> <b>(&lt;0.001)</b>
17 PS 2500: Monitoring Progress	65.1%	37.3%	52.0%	52.0%	45.4%	58.6%	<b>67.72</b> <b>(&lt;0.001)</b>
18 PS 2600: Monitoring Progress	63.5%	20.3%	37.7%	37.5%	35.8%	53.2%	<b>157.30</b> <b>(&lt;0.001)</b>
19 All Standards	67.1%	41.3%	50.3%	55.3%	<u>52.1%</u>	<u>61.4%</u>	<b>25.71**</b> <b>(&lt;0.001)</b>

\* Due to missing data the actual responses may be below this sample size.

\*\*This F-statistic of the ANOVA test of differences in overall mean proportion of full compliance of all 11 Standards listed above.

**(Note that AS stands for Attribute Standard and PS stands for Performance Standard)**

**Table 5**  
**Correlation Matrix between *All Independent Variables***

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	UA	1.00															
2	PD	-0.42	1.00														
3	IC	0.18	<b>-0.66</b>	1.00													
4	IgC	<b>-0.57</b>	<b>0.81</b>	<b>-0.45</b>	1.00												
5	GE	<b>-0.44</b>	0.03	<b>0.34</b>	<b>0.22</b>	1.00											
6	AT	<b>0.37</b>	<b>-0.46</b>	0.03	<b>-0.47</b>	<b>-0.49</b>	1.00										
7	FO	<b>0.66</b>	<b>-0.82</b>	<b>0.50</b>	<b>-0.74</b>	<b>-0.31</b>	<b>0.70</b>	1.00									
8	PO	<b>0.55</b>	<b>-0.79</b>	<b>0.55</b>	<b>-0.78</b>	<b>-0.29</b>	<b>0.69</b>	<b>0.87</b>	1.00								
9	HO	0.01	<b>-0.67</b>	<b>0.70</b>	<b>-0.50</b>	<b>0.20</b>	<b>0.19</b>	<b>0.56</b>	<b>0.57</b>	1.00							
10	Degree	<b>0.17</b>	-0.09	0.03	-0.07	0.05	0.03	0.09	0.08	-0.09	1.00						
11	Major	0.05	<b>-0.25</b>	<b>0.17</b>	<b>-0.14</b>	0.06	<b>0.20</b>	<b>0.22</b>	<b>0.28</b>	<b>0.20</b>	0.03	1.00					
12	IAexperience	0.09	<b>-0.18</b>	<b>0.12</b>	<b>-0.14</b>	-0.07	<b>0.15</b>	<b>0.22</b>	<b>0.21</b>	<b>0.21</b>	-0.01	0.07	1.00				
13	MembershipYrs	<b>0.13</b>	<b>-0.20</b>	<b>0.14</b>	<b>-0.19</b>	<b>-0.11</b>	<b>0.16</b>	<b>0.22</b>	<b>0.22</b>	<b>0.16</b>	0.02	0.05	<b>0.50</b>	1.00			
14	IA Certification	<b>0.10</b>	<b>-0.14</b>	<b>0.10</b>	<b>-0.17</b>	-0.02	0.09	<b>0.17</b>	<b>0.15</b>	<b>0.15</b>	0.06	0.08	<b>0.18</b>	<b>0.29</b>	1.00		
15	TrainingHrs	<b>-0.10</b>	0.01	-0.01	0.09	0.06	-0.05	-0.06	-0.05	0.00	0.05	0.07	0.03	0.05	0.06	1.00	
16	Position	-0.03	-0.01	0.00	-0.02	0.02	0.00	0.01	0.01	0.04	0.00	-0.04	-0.08	-0.06	0.09	0.00	1.00

**Table 6**  
**Correlation Matrix between *Refined Independent Variables***

		1	2	3	4	5	6	7	8	9
1	UA	1.00								
2	AT	0.37	1.00							
3	HO	0.01	0.19	1.00						
4	Degree	0.17	0.03	-0.09	1.00					
5	Major	0.05	0.20	0.20	0.03	1.00				
6	MembershipYrs	0.13	0.16	0.16	0.02	0.05	1.00			
7	IA Certification	0.10	0.09	0.15	0.06	0.08	0.29	1.00		
8	TraingHrs	-0.10	-0.05	0.00	0.05	0.07	0.05	0.06	1.00	
9	Position	-0.03	0.00	0.04	0.00	-0.04	-0.06	0.09	0.00	1.00

**Table 7**  
**Multivariate Analysis**  
**Refined Logistic Regression Model for Use of IIA Standards (Model 1) and Ordinary Least Square Regression for Compliance with IIA Standards (Model 2) as Dependent Variables**

$$Y = \alpha + \beta_1UA + \beta_2AT + \beta_3HO + \beta_4Degree + \beta_5Major + \beta_6MembershipYrs + \beta_7IACertification + \beta_8TrainingHours + \beta_9Position + \varepsilon$$

Variable*		Model 1: Use (yes/no)			Model 2: Compliance (%)		
		B	Wald	Sig.	B	T-stat.	Sig.
1 (H <sub>2</sub> )	UA	-0.393	6.808	<b>0.009</b>	-0.036	-1.490	0.136
2 (H <sub>3</sub> )	AT	0.051	0.050	0.823	0.141	5.773	<b>&lt;0.001</b>
3 (H <sub>4</sub> )	HO	0.186	1.155	0.283	0.106	4.600	<b>&lt;0.001</b>
4	Degree	-0.008	0.005	0.943	0.029	1.291	0.197
5	Major	0.035	0.089	0.766	-0.006	-0.270	0.787
6	MembershipYrs	0.577	23.525	<b>&lt;0.001</b>	0.095	4.034	<b>&lt;0.001</b>
7	IA Certification	0.600	23.459	<b>&lt;0.001</b>	0.060	2.583	<b>0.010</b>
8	TrainingHrs	0.001	3.196	<b>0.074</b>	0.050	2.279	<b>0.023</b>
9	Position	0.038	0.113	0.736	0.034	1.555	0.120
10	Constant	1.720	2.321	0.128	-.686	-4.131	<b>&lt;0.001</b>
		Chi-sq (Sig.) <b>86.215 (&lt;0.001)</b>			F-Statistic (Sig.) <b>14.951 (&lt;0.001)</b>		
		Classification Accuracy 84.8%					
		Nagelkerke R <sup>2</sup> 5.5%			Adjusted R <sup>2</sup> 6.6%		

- Y = Use (Model 1), Compliance (Model 2) with *Standards*  
 UA = Uncertainty Avoidance (1-7 scale)  
 AT = Assertiveness (1-7 scale)  
 HO = Human Orientation (1-7 scale)  
 Degree = Graduate degree =1, undergraduate degree = 0  
 Major = Accounting/auditing/internal-auditing = 1, others = 0  
 MembershipYrs = 1 if 6 years or more, 0 if 5 years or less  
 IACertification = 1 if professionally certified as internal auditor, 0 otherwise  
 TrainingHours = Number of hours of training over the past 36 months<sup>6</sup>  
 Position = 1 if CAE, 0 if IAM  
 ε = Error term

<sup>6</sup> CBOK (2006) collected data on CPE every 36 months and every 12 months. The 36-month period is a more meaningful data for analysis because it indicates longer term commitment to training than training over only a 12-month period.