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A Cross-National Examination of Expected Correlation of Computer Ethical Perceptions and User Computer Attitudes

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Abstract

This study examined computer ethical perceptions and computer use attitudes among three differing groups consisting of nationalities from the United States, Singapore and Hong Kong. The purpose of the study was to determine if computer attitudes have a moderating effect on the perceptions of computer ethical use across multiple cultural backgrounds. Evidence supporting this claim would add additional insight into previously discovered differences. This study found limited support for the suggested hypotheses, but confirmed fundamental cultural differences. Future research should examine other variables to determine if significant effects can be determined from unexamined variables.

Introduction

While it is generally accepted that differences in computing practices exist across cultures, (Abratt et al., 1992; Becker & Fritzsche, 1987; Hegarty & Sims, 1978, 1979; Ralston et al., 1994; While & Swords, 1992; White & Rhodeback, 1992), the reasoning behind the differences is subject to speculation.

This study seeks to identify a correlation between individual attitudes toward computers and reported ethical perceptions of representatives of multiple nationalities, specifically the U.S., Singapore, and Hong Kong.

Literature Review

While ethical behavior in general has been researched extensively, the specific nature of ethical performance in information systems (IS) has not. Earlier studies examined both motivational and ethical differences between MIS and non-MIS people, with mixed results (Paradice, 1990; Ferrat and Short, 1986; Im and Hartman, 1990). With the exception of pioneering academic research by Couger (1984; 1989), and these few examples, very little attention has been given to ethical issues in MIS.

The association between computer attitudes and perceptions of computer ethics use has been suggested, although peripherally by a number of studies. This association derives its basis from a well-studied influence of attitudes toward behavior in general. In computer literature, this translates into attitudes towards a technology influencing one's adoption, or use of this technology. The citations in this area are too numerous to list. However, Harrison & Rainer (1992), Mykytyn and Green (1992); Thong and Yap (1995), and Brock and Sulsky (1994) specifically address individual attitudes toward computer use and indicate that attitude does affect use.

Ethical Decision Making Influences

Bommer et al. (1987) formulated a model that identified and described various influences of ethical behavior. These include governmental and legal, socio-cultural, work, professional and personal environments and individual attributes. Of these, legal, socio-cultural, personal environments and individual attributes are thought to be the predominant influences in the absence of a professional/work relationship. Of particular interest to this study were the socio-cultural, personal variables and individual attributes identified in these environments.

Bradley (1985) argues that socio-cultural values are influenced by the particular ethical scenario presented. Based on this situational variable, individual performance may vary dramatically from social norms. Since this study examined differences in ethical perceptions between ethical cultures, the nationalities of the individual respondents were included as an independent variable. Our review of the literature related to individual attitude, nationality, and computer use ethics yields the following hypotheses:

H1: There is no interaction between Nationality and Computer Attitudes with regard to Computer Ethical Perception.

H2: There are no differences in Computer Attitudes with regard to Computer Ethical.

H3: There are no differences among the various Nationalities with regard to Computer Ethical Perception.

Methodology

Subjects

The subjects of the study are university students at colleges or schools of business administration at major national universities, located in the U.S., Singapore, and Hong Kong. These students will graduate and begin performing various roles as business persons, and therefore should possess a fundamental understanding of not only their nation's ethical perspectives, but those of potential global partners as well. As the students attending these classes are all doing so in an English environment, no special language formatting was considered necessary.

Measures

Computer Attitudes: The measures of computer anxiety and attitude were adapted from Harrison and Rainer's (1992) and Lambert's (1991) work on individual differences and end user computing skill. The Computer Anxiety Scale or CAS, (Heinssen, Glass & Knight, 1987) contains 20 individual items culminating in a single value used to measure overall anxiety toward computers. The higher the value resulting from a mean calculation, the higher the level of anxiety.

The Computer Attitudes Rating Scale, or CARS, (Nickell & Pinto, 1986) contained 19 individual items and was calculated to measure attitudes. The Computer Aversion Scale, or CAV, (Meier, 1988) was adapted from Lambert (1991) and contains 31 items. It is used to measure aversion in much the same manner as the CAS. Redundant measures were selected to provide a more reliable means of assessing the interactions of interest. For each of the scales used, a coefficient alpha is calculated to determine internal reliability of each construct. Acceptable levels for each of the three attitude scales were specified at .70 or better (Pedhazur and Schmelkin, 1991, p. 109; Nunnally, 1978).

Computer Use Ethics: Based on previous research by Paradice (1990), Paradice and Dejoie (1991), and Whitman and Hendrickson (1996), a series of 12 scenarios were selected representative of the spectrum of ethical dilemmas possible in IS. Each scenario was followed with one to three questions asking the respondents their perception of the ethical behavior portrayed, for a total of twenty-four questions. Responses were collected in the form of seven-point anchored rating scales ranging in value from "very-unethical" to "very-ethical."

Data Analysis

The data analysis began with a simple evaluation of the demographic variables. Next, a factor analysis of individual constructs was performed to examine the possibility of sub-constructs. Then, the internal validities of the Computer Attitude scales being used were confirmed. Subsequently, a dependent variable construct was developed and examined. Variables were subjected to a multiple regression procedure used

to test the significance of interaction effects, and subsequent main effects. This method involved testing analysis of variance using a "Full model" comparison to a "Reduced model" (Neter, Wasserman and Kutner, 1990, p.762).

Results

Of the three countries surveyed, the United States respondents produced 95 usable instruments, Singapore - 57 and Hong Kong - 151. The internal reliability tests for each individual scale resulted in coefficient alphas of .842 for the CAS, .916 for the CARS, and .933 for the CAV scales. The dependent variable construct, after revision produced a coefficient alpha of .883.

The regression analysis examined the differences in three interaction models, one per computer attitude scale, and four main effects models, one per computer attitude scale, and one for the culture effect. Overall, analysis indicated support for interaction between computer attitudes and group membership (cultural effects) in only one of the three attitude scales, CAV. This leads us to believe that there is no significant relationship between attitudes and cultural groups with regard to ethical perceptions (overall fail to reject H1). The corresponding main effects do however indicate a significant positive correlation between CAV and ethical perceptions with a correlation coefficient of .245, indicating that in general, individuals with higher aversion to computers were responding more leniently to the ethical scales than those with lower aversion. The study also failed to reject H2, finding no significant differences in ethical perceptions between differing attitude levels. The study did find support for rejecting H3, finding significant differences between the United States respondents and those of Singapore and Hong Kong (at the alpha = .05 level).

Conclusions

Overall, this study failed to discover significant relationships between computer attitudes, membership in a particular cultural group, and individual ethical perceptions of computer use. It did however, find simple group differences between the United States and the two Asian groups. This raises a number of questions as to exactly what does cause various cultural groups to possess differing opinions about ethical situations. Future studies should examine additional variables to determine if other, computer or non-computer related values play a significant role in influencing our perceptions of ethical performance by others.

(References and analysis results available upon request from the first author).