The Relationship between Machiavellianism and Ethical Computer Self-Efficacy

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Abstract

Ethical dilemmas related to computer technology and computer use abound in the work place. Actions which are viewed by some as clearly improper and indeed some actions which are actually illegal are practiced knowingly and unknowingly by computer technology users. The opportunity for unethical computer use and the absence of a structured framework to guide behavior compounds this serious problem. Machiavellian orientation has been seen as one of the most important variable in the study of management and organizational behavior in the last three decades. One of the key reason is that Machiavellian orientation is highly correlated with ethical orientation, which have an important effect on employees' unethical behavior. Situational factors have been identified as potentially the important sets of Machiavellian orientation. But measurement of relationship between Machiavellian and ethical computer self-efficacy in our country seem to be lack. The purpose of research is to develop Machiavellian orientation in relation to ethical computer self-efficacy. A total of 331 usable questionnaires were returned from employees and university students. However, we found almost dimensions of factors negative but not significantly correlated. This research then made some conclusive suggestions according to findings to business and scholars.

Keyword: Machiavellianism, Computer Ethics, Ethical Computer Self-Efficacy

1.Introduction

Ethics in business is one of the most important problems facing companies. Unethical behavior among employees and managers ranges from breaking civil or criminal law to disregarding company polocies. In a typical code of business ethics, employees are asked to avoid any activity while on company premises or while engaging in company business that is illegal, immoral or improper, or that could in any way harm or embarrass the company, its shareholders or its customers(Baehr, Jones & Nerad,1993).The study of individual reactions to computing technology has been an important topic in recent information systems research(Compeau, Higgins & Huff,1999). Ethical dilemmas related to computer technology and computer use abound in the work place. Actions which are viewed by some as clearly improper and indeed some actions which are actually illegal are practiced knowingly and

unknowingly by computer technology users. The opportunity for unethical computer use and the absence of a structured framework to guide behavior compounds this serious problem (Pierce & Henry, 1996).

Many studies have been conducted to research self-efficacy in computer-related use. One example of this research stream of computer self-efficacy (CSE) defines it as an individual judgment of one's capability to use a computer (Compeau & Huggins, 1995; Kuo & Hsu, 2001). The Social Cognitive Theory (SCT) adopts a cognitive interactionist perspective to personal behavior. Within SCT, personal factors in the form of thought and affections, environmental factors like social norm and peer encouragement, and personal behavior, all operate as interacting determinants that influence each other bidirectionally (Bandura, 1986). SCT suggests that self-efficacy has formidable predictive powers and thus carries a number of important implications for more effective management of human ethical performance (Kuo&Hsu, 2001).

Jones(1990) described ten kinds of workplace behavior of a dubious ethical nature and determined that the hierarchical position adopted by respondents influenced the perceived acceptability of these behaviore.Mudrack(1993) examined ten kinds of workplace behavior of a dubious ethical nature and found to be internally consistent clearly linked with Machiavellianism. Nelson & Gilbertson(1991) recently stressed the importance for both organizations and their members of understanding more completely Machiavellianism and its implications, and this research established that Machiavellians generally regards workplace behavior of a dubious ethical nature as acceptable. Machiavellianism has been a subject of widespread research since Christie & Geis(1970) published their book on this subject. Machiavellianism, as a personality construct, has been employed to classify individuals in terms of their beliefs that manipulative behavior (including untruthfulness) can be employed to achieve their goals. The source of this construct is found in the writings of Niccolo Machiavelli's two prominent works on the subject: The Prince and Discourse of the First Ten Books of Titus Livius(Cable & Dangello,1994).

Hegarty & Sims(1978) identified Machiavellianism as one of the personality variables that was a significant covariate in graduate business students ethics studies.Their findings indicate that individuals identified as Machiavellian-oriented had less ethical behavior than other study participants.It is predicted that this finding will hold in this study. Some researches have been tend to indicate that demographic variables does make a difference in terms of ethical beliefs or Machiavellian Orientation (Vitell, Lumpkin & Rawwas, 1991;Ma, 1985). To sum up, this research has two purposes, one is to investigate the relationship between Machiavellianism and

Ethical Computer Efficacy, and the other is to find moderate effect of demographic variables between the relationships as mentioned.

2.Literature Review

2.1 Machiavellianism and Computer Ethics

People who are distrustful of others are more likely to behavior in an unethical manner (Rotter, 1980). Negative attitudes and personality variables such as Machiavellianism have been shown to predict unethical behavior in employees (Zey-Ferrell, Weaver & Ferrell, 1979; Andersson & Bateman,1997).Hunt & Chonko (1984) noted that the label Machiavellian is becoming a negative epithet, indicating at least an amoral way of manipulating others to accomplish one's objectives. Christie & Geis(1970), based on their studies, cautioned against this interpretation. More appropriately, Machiavellian persons possess a kind of cool detachment that makes them less emotionally involved with others or with saving face in potentially embarrassing situations. Hegarty & Sims(1978) identified Machiavellianism as one of the personality variables that was a significant covariate in graduate business students ethics studies. Rawwas, Vitell & Al-Khatib(1994) investigated the consumer's ethical beliefs, ideologies and orientation. The results indicated that consumers in Lebanon, which had torn by civil unrest and terrorism, tended to be more Machiavellian, less idealistic, and more relativistic than Egyptian counterparts. Rayburn & Rayburn(1996) investigated the relation between personality traits and ethical orientation. Intelligence is found to be positively associated with Machiavellian and Type A personality orientation but negatively asspciated with ehtical orientation. Machiavellians tends to have Type A perosnalities, but tend to be less ethically-oriented than Nonmachiavellians.Their findings indicate that individuals identified as Machiavellian orientation had less ethical behavior than other study participants. The logic suggests the following hypothesis:

Hypothesis 1: Machiavellianism will be negatively correlated with ethical computer self-efficacy

2.2 Moderating effects of demographic variables on the link between Machiavellianism and ethical computer self-efficacy

Some researches have been tend to indicate that age does make a difference in terms of ethical beliefs, with older individuals appearing to be more ethical than younger ones(Vitell, Lumpkin & Rawwas, 1991). Rayburn & Rayburn(1996) indicated sex is not an good predicators for differences in Machiavellian, Type A or ethical orientation. Chonko(1982) identified machiavellian orientation of females and males was significantly different. Ma(1985) found that there was a positive

relationship between age and a law-abiding orientation. Pratt, Golding & Hunter (1983) found that older individuals tended to be better organized and more consistent in their moral thinking. They tend to be more philosophically reflective than the young. Vitell, Lumpkin & Rawwas(1991) investigated the relationship between Machiavellianism, ethical ideology and ethical beliefs for elderly consumers. The results indicated that elderly consumers, while generally being more ethical than younger consumers, are diverse in their ethical beliefs. As mentioned above, I should notice the situation problem. So, I take some demographic variables into consideration. In the past, there have been studies of the moderating effect of “situation” moderating variables on the relationships of ethical computer self-efficacy and another variables(Compeau, Higgins & Huff,1999). These variables included “age,” “gender,” “education,” “tenure”. These variables should moderate the relationship between Machiavellianism and ethical computer self-efficacy , leads us to the following hypothesis:

Hypothesis 2: Demographic variables will moderate the relationship between Machiavellianism and ethical computer self-efficacy

3.Methodology

3.1 Samples and Data Collection

The sample was drawn from a convenient method. The present researcher asked EMBA, MBA, and their coworkers at three universities in north Taiwan. Three hundred thirty-one employees and students were asked to voluntarily fill out a three-part questionnaire. All agreed to participate, and the rate of useful responses was 100%. All the persons are both part-time students and full-time employees who take evening classes at their university where the questionnaire easy administered. Characteristics of the sample as follows:

Table 1 Characteristics of the sample

Demographic variables	Frequency	Percentage

Gender		
Male	104	31.7
Female	227	68.3
Age range		
15-20	53	16.0
21-25	91	27.5
26-30	82	24.8
31-35	67	20.2
36-45	16	4.8
45-65	18	5.4
66 plus	4	1.2
Marriage		
Single	305	92.1
Married	25	7.6
Others	1	0.3
Education		
High school less	1	0.3
High school (vocation)	10	3.0
Junior College	20	6.0
University	250	75.5
Graduate or more	50	15.1

3.2. Operationalization of Study Variables

3.2.1 Mach IV scale

Two structured questionnaires were used in this study. At the beginning of the questionnaire, there was an introduction including objectives of the proposed study and instructions. The Mach IV scale, developed by Christie & Geis(1970), has been widely used to measure the Machiavellian dimension of personality-individuals use guile and deceit to achieve their objectives. Truthfulness, and one's ethics, can be sacrificed to attain goals. This scale has been used in a wide range of setting (Gable & Dangello,1994; Gable & Topol,1987,1988,1989,1991; Hunt & Chonko, 1984, Okanes & Murray,1980). This scale contains twenty items with 10 items worded in a Machiavellian direction and 10 items worded in the opposite direction. But, there is an item "Barum was very wrong when he said there's a sucker born every minute" which is not appropriate for this study. This study deleted this item. Respondents were asked to indicate their degree of agreement or disagreement with 19 statements.

3.2.2 Ethical Computer Self-Efficacy scale

The Ethical Computer Self-Efficacy scale developed by Hsu&Kuo(2001) and Marakas,Yi & Johnson(1998) which was used to determine the general computer efficacy level of subjects which make process of individuals in regard to software piracy. The 12-item of Ethical Computer Self-Efficacy is used in the present study to measure overall general computer efficacy. The Ethical Computer Self-Efficacy is a self-administered instrument with more high score more high ethical computer self-efficacy. A 7-point Likert-type scale format is used for all items.

3.3 Measurement Assessment

A pre-test of these instruments were employed to assess the instructions, wording and questions of the questionnaire. As Chinese is a major language in Taiwan and to increase response rate, a Chinese questionnaire, which was translated from the revised English questionnaire, was prepared for employees. Following the back- translation method by Brislin (1970), two translators who knew both English and Chinese quite well were invited to translate the English questionnaire into Chinese independently. Then, two other translators back-translated the Chinese questionnaire into English. A meeting with the four translators was arranged so as to resolve disagreements on different versions of the questionnaire. A finalized version in Chinese was constructed after the meeting. The Machiavellian Orientation scale was operationalized by adding a constant of 19 to total scores of Machiavellianism statements. The total score at the theoretically neutral point was 76(4*19 items). The minimum score was 19(1*19items) and the maximum score was 133(7*19items). A factor analysis was used to analyze the Machiavellianism scale and the Ethical computer efficacy scale, a pearson correlation analysis was performed to determine the relationship between the independent variable, that is, demographic composition and Machiavellian orientation , and dependent variable of Ethical computer efficacy accordingly.

3.4 Factor analysis

Measurement theory” teaches that the sum of many items is more reliable than any one item”(Dooley, 1995) Thus, rather than analyze responses on the basis of Machiavellian Orientation, I find three dimensions in order to create a more reliable measure. A principal component factors analysis with a varimaxi rotation was run on the 19 items. The result solution displayed three factors with eigenvalues greater than one; an examination of the scree plot suggested a three-factor solution (accounting 68.8% of the variance), including manipulation orientation, exploitation orientation, and deviousness orientation. The second scale, a principal component factors analysis with a varimax rotation was run on the 12 items. The result solution displayed three

factors with eigenvalues greater than one; an examination of the scree plot suggested a three-factor solution (accounting 74.5% of the variance), including no use efficacy, no transmit efficacy, and persuade efficacy.

3.5 Reliability

To assess Machiavellian Orientation, we averaged ratings on all items of Christie & Geis(1970) except no.20. For my research, three dimensions measure: Manipulation orientation cronbach's α=.68, .71 for Exploitation orientation, and .70 for Deviousness orientation. Fraedrich, Ferrell & Pride(1989)also have the same dimensions. In the other, to assess ethical computer efficacy, we averaged ratings on all items of Hsu&Kuo(2001) three-dimensional measure. For this study, three dimensions were identified: No use efficacy cronbach's α=.63, .62 for No transmit efficacy, and .61 for Persuade efficacy. Hsu&Kuo(2001) subscale was also used. The construct reliability of Machiavellian orientation and Ethical Computer Self-efficacy were reported in Table 2.

Table 2 Construct reliability

Construct	Number of items	Cronbach's α	Item number
Machiavellian Orientation			
Manipulation	9	0.68	1、4、6、7、9、13、15、17、18
Exploitation	5	0.71	2、5、8、10、14
Deviousness	5	0.70	3、11、12、16、19
Ethical Computer Self-efficacy			
No use	6	0.63	1、2、3、5、10、12
No transmit	3	0.62	4、6、9
Persuade	3	0.61	8、7、11

4.Result

This research has two purposes, one is to investigates the relationship between Machiavellianism and Ethical Computer Efficacy, the other is to find moderate effect of demographic variables between the relationship as mention.

4.1 Pearson correlation analysis

The correlation coefficients of all variables are reported in Table 3.

Table 3 Means, standards deviations, and correlations among measures

Measure	M	SD	1	2	3	4	5	6
Machiavellian Orientation								
1.Manipulation	212.42	96.17	--					
2.Exploitation	15.09	4.05	0.09	--				
3.Deviousness	12.09	2.88	0.06	0.49***				
Ethical Computer self-efficacy								
4.No use	18.73	5.83	0.02	-0.1*	-0.02	--		
5.No transmit	9.45	3.64	-0.02	-0.08	-0.01	0.61***	--	
6.Persuade	9.34	3.68	-0.04	-0.08	-0.00	0.57***	0.71***	--
Age	2.92	1.41	-0.03	-0.08	-0.02	0.53***	0.54***	0.85***
Marriage	1.69	0.48	-0.10*	-0.19***	-0.24***	0.04	0.06	0.05
Education	1.37	0.75	0.15**	0.04	0.10*	0.14**	0.19***	0.11**
Gender	1.07	0.26	0.06	0.02	0.01	0.04	0.08	0.04

*P<0.1; **P<0.05; ***P<0.001

There are significant negative correlations of Exploitation orientation with No use efficacy (r24=-0.1,P<0.1). The other correlation coefficients are almost negative but no significant. In demography variables. Ethical computer efficacy including three dimensions are positively correlations with age (r=.53 .54 .85,P<.001).Machiavellian orientation including three dimensions are significant negatively correlations with marriage (r=-0.10, P<0.1,-0.19,-0.24,P<.001). Machiavellian orientation including two dimensions and ethical computer efficacy including three dimensions are positively correlations with education. While gender is not significantly correlated with Machiavellian orientation or ethical computer efficacy. Thus, Hypothesis 1 is partial supported.

4.2 General Linear Model's analysis

According to two purpose of this study, I want to know the moderate effect betwwn Machiavellian oeientation and ethical computer self-efficacy. The ANCVOA program of SAS was adopted. The General Linear Models analysis of Machiavellian orientation and ethical computer self-efficacy by demography variables are reported in Table 4.

Table 4 General Linear Models analysis of Machiavellian orientation and ethical computer self-efficacy ---demography variables

Source	Df	Sum of Squares	Mean square	F value	Pr>F
Model	14	246669.03	1762.07	29.82	**0.0001*** **
Error	316	18671.16	59.08		
Corrected Total	330	43340.19			
		R-Square	C.V.	Root MSE	Y Mean
		0.5691	20.47	7.68	37.54
Source	Df	Type I SS	Mean square	F value	Pr>F
Age	6	23527.19	3921.19	66.36	0.0001***
Marriage	2	523.65	261.82	4.43	0.0126**
Education	4	510.29	127.57	2.16	0.0735*
Gender	1	91.982	91.98	1.56	0.2131
Source	Df	Type III SS	Mean square	F value	Pr>F
Age	6	22391.45	3731.90	63.16	0.0001***
Marriage	2	459.20	229.60	3.89	0.0215**
Education	4	549.65	137.41	2.33	0.0564*
Gender	1	92.75	92.75	1.57	0.2112

*P<0.1; **P<0.05; ***P<0.001

Table 2 shows that, general linear models is significantly (P<0. 0001). Age, marriage and education are moderating the effect of Machiavellianism orientation and ethical computer self-efficacy (P<. 001 and P<. 05), Thus Hypothesis 2 is partial supported.

5.Discussion

5.1 Result

The present research was able to examine the interaction between Machiavellian orientation and ethical computer efficacy. There are significant negative correlations of Exploitation orientation with No use efficacy. The other correlation coefficients are almost negative but not significant. In demography variables. Ethical computer efficacy including three dimensions are positively correlations with age. Machiavellian orientation including three dimensions are significant negatively correlations with marriage. Machiavellian orientation including two dimensions and ethical computer efficacy including three dimensions are positively correlations with education. While gender is not significantly correlated with Machiavellian orientation

or ethical computer self-efficacy. In the other hand, age, marriage and education are moderating effect between the relationship between Machiavellian orientation or ethical computer self-efficacy.

5.2 Limitations

One limitation of the current study is the nature of the sample: the subjects were relatively young with limited organizational tenure, and the majority of the subjects were lower level employees or first-line supervisors. Thus, it is possible that we are not seeing the full range of effects because of restriction of range. My research has limited the study to two major cities, Taipei and Keelung, which are among the most industrialized and most exposed to western influences. If samples were drawn from a wider range of locations with a wider range of educational backgrounds and inclusive of older experienced workers, it is possible that the effects I have found here could be even more pronounced.

6.Conclusion

To conclude, this study represents an active attempt to investigate a less studied topic, i.e. the relationships between Machiavellian orientation and ethical computer self-efficacy and the moderating effects of employee demography on the relationship between them, in a less studied society (i.e. Taiwan). Although no single study can provide conclusive evidence on all issues examined here, the result obtained are encouraging and suggest some interesting topics for future research. Especially from the view of cross-culture research, my study may be demonstrate that under the influence of traditional Chinese culture, business employees in Taiwan behave differently from their western counterparts. This is worthy of further study. Practically, our study suggests that managers may predict employees' ethical computer self-efficacy based on information about the employees' Machiavellian orientation (especial exploitation orientation) and demography. These results provide a brief look at the all-important selection process. According to literature review, some conclusions of this study still matched with other researches including: Hegarty & Sims(1978) Vitell, Lumpkin & Rawwas(1991),and Ma(1985).

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