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The Use of Pirated Software among Information Professionals: Measuring the Difference

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Abstract

Not millions but billions of dollars lost by software house companies due to software piracy

issue. The numbers keep increasing year-by-year. Though there are continuous research work being done and reported across the world, nothing has been done to curb the phenomena and what should be done to make piracy to stop? Hence, this study was conducted to investigate whether there were any significant differences on this issue among information professionals in Malaysia. Factors measuring the study were Impression Management (IM), Personal Attributes (PA), Degree of Hardcore Pirate (DHP), Pirating Behavior (PB), Reciprocal Fairness (RF), Procedural Fairness (PF), Perceptions (P), Subjective Norms (SN), Intention (I) and Ethical Standards (ES). The findings of this research showed that some of the factors has significant difference and some are not. To practitioners and researcher, the findings should be able assist and guide which area and factors that need and required extra attention in order to reduce piracy issue.

Keywords: Challenge software piracy; Information professionals, Information management, Malaysia, Measurement

1. Introduction

Software piracy is no longer regarded as trifling issue as it has digress to become a global matter that has been discussed my many researchers around the globe. This can be seen as many similar articles and research being published pertaining to the matter. Several prominent bodies such Business Software Alliance and etc. continuously report related topic covering the use, installation, total lost among software house companies etc. globally.

Whenever, individual install and use unlicensed illegal copy of certain proprietary software, it's considered software piracy no matter how they get it, whether its being downloaded from the internet, bought it illegally or transferred from friends. With the demand to complement daily productivy, students and information professionals are the group that potentially, highly and easily been influenced to use pirated software as per several research conducted by (Loch & Conger, 1996; Mastura, Thurasamy & Tee, 2008; Haque, Rahman & Khatibi, 2010 and Anwar, Bahry & Amran, 2012).

Factors that are being measured in this study is adapted and adopted from studies that was being conducted by Liu & Fang, 2003; Becker & Ulstad, 2007; Siegfried, n.d.; Hinduja, 2003; Namlu & Odabasi, 2007 and Anwar, Bahry & Amran, 2012. The factors measured in this study were Impression Management (IM), Personal Attributes (PA), Degree of Hardcore Pirate (DHP), Pirating Behavior (PB), Reciprocal Fairness (RF), Procedural Fairness (PF), Perceptions (P), Subjective Norms (SN), Intention (I) and Ethical Standards (ES).

With the above statement, this study aims to identify the difference on factors that influence software piracy across position hold among information professionals.

2. Literature Review

In the era of highly technological dependency, people are now highly dependent and widely use smartphone, tablets and computers. As discussed by (Hinduja, 2003), with those among pro-social benefits of the technology have become a variety of antisocial consequences, particularly in recent years. Due to that, there are more and more unethical and criminal activities involving computers has existed.

This software piracy issue usually related with the issues within computer ethics which has captured more than it's should be. That is why, this software piracy issue is almost as old as the existence of desktop computer. Therefore, attitudes issue among students regarding software piracy has been the subject of several studies (Siegfried, n.d.).

Similar opinion and stand by (Namlu & Odabasi, 2007), any computer professionals shall play a role in determining how computers able to affect their social life and plus the interaction. Therefore they should be equipped with the knowledge of appropriate computer behavior in order to avoid from using any pirated software.

In addition to the above, (Liu & Fang, 2003) mention in their study that Intention may also causing factor of behavior. This behavioral intention is usually affected by subjective norms which pertaining to behavior and/or attitudes towards the behavior of individual.

Contrast idea illustrated by (Becker & Ulstad, 2007), stated that Impression management among student may impact the relationship between biological gender and ethics whenever using and dealing with computers.

With all the above literature, the following hypothesis are established:

2.1 H1: There is a significant difference between Impression Management (IM) and position hold.

2.2 H2: There is a significant difference between Personal Attributes (PA) and position hold.

2.3 H3: There is a significant difference between Degree of Hardcore Pirate (DHP) and position hold.

2.4 H4: There is a significant difference between Pirating Behavior (PB) and position hold.

2.4.1 H4a: There is a significant difference between Software uploaded and position hold.

2.4.2 H4b: There is a significant difference between Software downloaded and position hold.

2.4.3 H4c: There is a significant difference between Software shared and position hold.

2.4.4 H4d: There is a significant difference between Software received and position hold.

2.4.5 H4e: There is a significant difference between Medium used and position hold.

2.4.6 H4f: There is a significant difference between Frequency doing piracy (per week) and position hold.

2.4.7 H4g: There is a significant difference between Frequency doing piracy (last month) and position hold.

2.4.8 H4h: There is a significant difference between Frequency doing piracy (last year) and position hold.

2.5 H5: There is a significant difference between Reciprocal Fairness (RF) and position hold.

2.6 H6: There is a significant difference between Procedural Fairness (PF) and position hold.

2.7 H7: There is a significant difference between Perceptions (P) and position hold.

2.8 H8: There is a significant difference between Subjective Norms (SN) and position hold.

2.9 H9: There is a significant difference between Intention (I) and position hold.

2.10 H10: There is a significant difference between Ethical Standards (ES) and position hold.

2.10.1 *H10a: There is a significant difference between Copyright Infringement and position hold.*

2.10.2 *H10b: There is a significant difference between Materials Used (i.e. graphics) and position hold.*

2.10.3 *H10c: There is a significant difference between Feeling guilty for pirating and position hold.*

2.10.4 *H10d: There is a significant difference between Feeling commercialized pirated software and position hold.*

2.10.5 *H10e: There is a significant difference between Feeling not to be disciplined and position hold.*

2.10.6 *H10f: There is a significant difference between Feel worried about legal repercussions and position hold.*

2.10.7 *H10g: There is a significant difference between Feeling purchasing pirated software and position hold.*

3. Methodology

3.1 Instrument and Method

The instrument used for collecting the data was questionnaire. The questionnaire is adapted and adopted from (Liu & Fang, 2003; Becker & Ulstad, 2007; Siegfried, n.d.; Hinduja, 2003; Namlu & Odabasi, 2007 and Anwar, Bahry & Amran, 2012). However, some modification is made to suit and cater the environment setting. The questionnaire is divided into 11 parts, where part A captures information on demographic, part B to part K capture information for measuring the independent and dependent variables. Items used in Part A were 8 questions, Part B were 20 questions, Part C were 16 questions, Part D and E were 8 questions each, Part F and G were 2 questions each, Part H were 30 questions, Part I and J were 3 questions each and Part K were 7 questions. Overall there are all together 107 items used in the questionnaire.

All measures for the variables were using several scale style. As Part B using likert scale with seven extremes with 1 for "Not True" and 7 for "Very True", Part C using semantic differential scale, Part D, F, G, H, I, J were using likert scale with five extremes with 1 for "Strongly Disagree", 2 for "Disagree", 3 for "Undecided / Neutral", 4 for "Agree" and 5 for "Strongly Agree", Part E using combination of "Yes" and "No" and number of frequency and Part K same as part E using likert scale with five extremes with 1 for "Strongly Disagree", 2 for "Disagree", 3 for "Undecided / Neutral", 4 for "Agree" and 5 for "Strongly Agree" and "Yes" and "No".

3.2 Instrument and Method Population and Sampling

This study was conducted among information professionals in Klang Valley, Malaysia such Federal Territory of Kuala Lumpur and Shah Alam area. Basically, they are working in across business functions. This study is using simple random sampling, 400 questionnaires were distributed to these information professionals. 384 questionnaires were returned, however 190 questionnaires were found unusable after data cleaning is made and 194 for data analysis. Statistical Package for the Social Sciences version 20 is used to analyze the data.

4. Results and Discussion

4.1 Respondents Profiles

Table 1 presents the respondent's demographic profile. Looking to the gender, 56% of the respondents are male and 44% are female. Majority of the respondents are age between 20 – 30 years old while the minority i.e. 6 out of 194 is less than 20 years old. In term of education, 57 were diploma holder, 32 were SPM/MCE and STPM/ Matriculation holder each, 27 were degree holder, 20 were SRP/PMR holder, 15 were specialization certificate holder and 6 were Master holder.

Table 1. Respondent's Demographic Profile

Characteristics Items		Frequency	Percentage
Gender	Female	85	44%
	Male	109	56%
Age (years)	Less than 20	6	3%
	20-30	107	55%
	31-40	69	36%
	More than 40	12	6%
Educational	SRP/PMR	20	10%
	SPM/MCE	32	16%
	STPM/ Matriculation	32	16%
	Specialization Certificate	15	8%
	Diploma	57	29%
	Degree	27	14%
	Master	6	3%
	PhD	0	0%
	Others	5	3%

Demographic Profile: Gender, Age and Education level.

4.2 Analysis

Data level of measurement used in variables such Impression Management (IM), Personal Attributes (PA), Degree of Hardcore Pirate (DHP), Reciprocal Fairness (RF), Procedural Fairness (PF), Perceptions (P), Subjective Norms (SN) and Intention (I) were ordinal and we transform it into scale. While, variables such Pirating Behavior (PB) and Ethical Standards (ES), remain unchanged which nominal and ordinal. To measure the objective of the study, any variables fall under data level of measurement is scale, the statistical test used is ANOVA while the rest is using Kruskal Wallis Test.

Table 2. ANOVA Analysis

Impression Management

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.781	7	1.969	3.251	0.003
Within Groups	112.643	186	0.606		
Total	126.424	193			
Personal Attributes					
Between Groups	1.797	7	0.257	0.959	0.463
Within Groups	49.779	186	0.268		
Total	51.576	193			
Degree of Hardcore Pirate					
Between Groups	25.463	7	3.638	4.927	0.000
Within Groups	137.335	186	0.738		
Total	162.799	193			
Reciprocal Fairness					
Between Groups	8.818	7	1.260	1.535	0.158
Within Groups	152.620	186	0.821		
Total	162.438	193			
Procedural Fairness					
Between Groups	11.569	7	1.653	1.707	0.110
Within Groups	180.051	186	0.968		
Total	191.620	193			
Perceptions					
Between Groups	3.584	7	0.512	2.206	0.036
Within Groups	43.174	186	0.232		
Total	46.758	193			
Subjective Norms					
Between Groups	7.035	7	1.005	1.558	0.150
Within Groups	119.962	186	0.645		
Total	126.997	193			
Intention					
Between Groups	19.157	7	2.737	2.810	0.008
Within Groups	181.117	186	0.974		
Total	200.273	193			

Table 3. Kruskal Wallis Test Analysis

Test Statistics[a,b]

Pirating Behavior

	E1	E2	E3	E4	E5	E6	E7	E8
Chi-Square	23.787	28.560	14.900	15.239	7.571	10.152	10.497	10.627
Df	6	6	6	6	6	6	6	6
Asymp. Sig.	0.001	0.000	0.021	0.018	0.271	0.118	0.105	0.101

Ethical Standards

	K1	K2	K3	K4	K5	K6	K7
Chi-Square	11.895	9.478	17.965	9.864	9.431	4.735	19.348
Df	6	6	6	6	6	6	6
Asymp. Sig.	0.064	0.148	0.006	0.130	0.151	0.578	0.004

a. Kruskal Wallis Test

b. Grouping Variable: Position

Table 4. Summary of the Analysis Hypothesis

Variable	Analysis	Hypothesis
Impression Management	F (7, 186) = 3.251, 0.003 < 0.05	Significant
Personal Attributes	F (7, 186) = 0.959, 0.463 > 0.05	Not Significant
Degree of Hardcore Pirate	F (7, 186) = 4.927, 0.000 < 0.05	
Pirating Behavior	E1: X^2 (6, N = 186) = 23.787, 0.001 < 0.05	Significant
	E2: X^2 (6, N = 186) = 28.560, 0.000 < 0.05	
	E3: X^2 (6, N = 186) = 14.900, 0.021 < 0.05	
	E4: X^2 (6, N = 186) = 15.239, 0.018 < 0.05	
	E5: X^2 (6, N = 186) = 7.571, 0.271 > 0.05	
	E6: X^2 (6, N = 186) = 10.152, 0.118 > 0.05	
	E7: X^2 (6, N = 186) = 10.497, 0.105 > 0.05	Not Significant
	E8: X^2 (6, N = 186) = 10.627, 0.101 > 0.05	
Reciprocal Fairness	F (7, 186) = 1.535, 0.158 > 0.05	
Procedural Fairness	F (7, 186) = 1.707, 0.110 > 0.05	
Perceptions	F (7, 186) = 2.206, 0.036 < 0.05	Significant
Subjective Norm	F (7, 186) = 1.558, 0.150 > 0.05	Not Significant
Intention	F (7, 186) = 2.810, 0.008 < 0.05	Significant
Ethical Standards	K1: X^2 (6, N = 186) = 11.895, 0.064 > 0.05	Not Significant
	K2: X^2 (6, N = 186) = 9.478, 0.148 > 0.05	
	K3: X^2 (6, N = 186) = 17.965, 0.006 < 0.05	Significant
	K4: X^2 (6, N = 186) = 9.864, 0.130 > 0.05	
	K5: X^2 (6, N = 186) = 9.431, 0.151 > 0.05	Not Significant
	K6: X^2 (6, N = 186) = 4.735, 0.578 > 0.05	
	K7: X^2 (6, N = 186) = 19.348, 0.004 < 0.05	Significant

Table 2 and 3 presents the output of the analysis while Table 4 presents the summary of the analysis hypothesis. It can be reported that factors such Impression Management (IM), Degree of Hardcore Pirate (DHP), Perceptions (P) and Intention (I) were significant difference with position hold among information professionals. Mean while, factors such Personal Attributes (PA), Reciprocal Fairness (RF), Procedural Fairness (PF) and Subjective Norms (SN) were not significant difference with position hold among information professionals. However, items E1, E2, E3 and E4 were significant difference and items E5, E6, E7 and E8 were not significant difference with position hold for factor Pirating Behavior (PB). Factor for Ethical Standards (ES) reported that items K3 and K7 were significant difference and items K1, K2, K4, K5 and K6 were not significant difference.

5. Conclusion and Recommendation

Any reasons behind choosing, downloading and using pirated software may due to several factors. Studies conducted across the world also look into several areas. As study conducted by Mun (2013), he investigated on the impact of various national factors, i.e. nation's economic, technological and industry- specific capabilities and found that the present piracy phenomenon in the international market is complex and multi-faceted. Another study conducted Liu & Fang (2003), they measured what are the cause and effect of relationship between morality and ethical decision-making from using software piracy using structural equation model (SEM) and the study shows that there is a positive correlation between factors, i.e. religious beliefs, moral evaluation, ethical judgment and behavioral intention. Similar study related with behavior among tertiary done by Namlu & Odabasi (2007) and the output of the study indicate that the students are comprehend and appreciate the global issues in computer ethics however they also suggested to further study on behavior to reach ethical solutions in computer technologies. Nevertheless, the use of pirated software is highly dependent with the individual ethical. With the advancement of technologies and the wide range of internet, individual has choice to choose. This issues never been solved and yet the number of using it is rising year by year. What mechanism that suitable can be filtered out with the collaboration and cooperation worldwide. Perhaps future study can measure, find out and proposed the right mechanism to reduce this issue.

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