The Influence of Consumers' Moral Intensity, Perceived Risks and Moral Judgment in Purchasing Pirated Software

J.K. Ratnasingam, Western Digital, Kuala Lumpur, Malaysia, jeyaganesh.rajnasingam@wdc.com
C.H. Ponnu, University of Malaya, Kuala Lumpur, Malaysia, cyrilh@um.edu.my

Abstract

This paper seeks to analyze the influence of consumers' moral intensity, perceived risks and moral judgment in purchasing pirated software by using the issue-risk judgment (IRJ) model. Moral intensity includes magnitude of consequence, social consensus, probability of effect and temporal immediacy; perceived risks of consumers include financial, performance, prosecution and social risks; and moral judgment is based on cognitive moral development and reasoning. This paper also examines the role of demographics, past purchase experience and price on consumers' purchase intention of pirated software. Using stratified random sampling with a sample size of 203 from the Klang Valley in Malaysia, results show that consumers' purchase intention is influenced by their perceived moral intensity, perceived risks, moral judgment and their demographics, price and past purchase experience.

Keywords: consumer behavior, Pirated Software, Malaysia.

1. Introduction

Software piracy is a prevalent and a serious problem throughout the world. According to Business Software Alliances (BSA), for the year 2006, 35% of the software installed on personal computers (PCs) worldwide was obtained illegally, amounting to nearly USD40 billion in global losses due to software piracy. With fast growing economies like India and China, software piracy rate still remains high despite intervention from government efforts on enforcement and education. The weakness in Chinese law legislation and enforcement for copyright protection also leads to high piracy rate (Yeh, 1999). According to BSA, Malaysia's software piracy rate remained at 60% (representing a loss of USD289 million) despite efforts to curb the problem.

These significant losses translate into negative impacts on IT industry employment, revenues, and financial resources available for future innovation and the development of new technologies. Sykes (1957) suggested that putting a "human face" on the detriments of piracy might give consumers a sense of obligation to individuals and communities which are adversely affected by piracy and help to discourage counterfeit purchases. The presence of human face tends to imbue a sense of conscience regarding wrongful purchases.

2. Research Problem

This paper will explore consumer ethical decision making in regards to purchasing pirated software using the issue-risk-judgment (IRJ) model developed by Jones (1991) and tested by Tan (2002). This model depicts the ethical decision making process of an individual which stipulates that the individual must recognize moral intensity, perceived risks and moral judgment. As perception plays an important role in decision making and consumers have limited information processing capacity, their perception of these three factors is the focus of this research. This is consistent with the approach adopted by Robin *et. al.* (1996) who argued that intention and behaviour arise from individuals perceptions of an ethical issue rather than the actual characteristics of the issue.

Research Hypothesis
The following hypothesis will be tested:

$H1_0$: There is no significant relationship between moral intensity of the consumers and the intention to purchase the software.

$H1_A$: There is significant relationship between moral intensity of the consumers and the intention to purchase the software.

H1a: The higher the magnitude of consequence of the consumers, the lower is their intention to purchase pirated software.

H1b: The higher the probability of effect of the consumers, the lower is their intention to purchase pirated software.

H1c: The higher the temporal immediacy of the consumers, the lower is their intention to purchase pirated software.

H1d: The higher the level of social consensus, the lower is their intention to purchase pirated software.

$H2_0$: There is no significant relationship between perceived risks and the intention to purchase the software.

H2A: There is significant relationship between perceived risks of the consumers and the intention to purchase the software.

H2a: The higher the performance risk of the consumers, the lower is their intention to purchase pirated software.

H2b: The higher the financial risk of the consumers, the lower is their intention to purchase pirated software.

H2c: The higher the social risk of the consumers, the lower is their intention to purchase pirated software.

H2d: The higher the prosecution risk of the consumers, the lower is their intention to purchase pirated software.

H3$_0$:   There is no significant relationship between moral judgment and the intention to purchase the software.

H3A: There is significant relationship between moral judgment of the consumers and the intention to purchase the software.

H3a: The higher the cognitive judgment of the consumer, the lower is their intention to purchase pirated software

H3b: The higher the moral reasoning of the consumer, the lower is their intention to purchase pirated software.

3. Literature Review

Software piracy may include a number of related practices such as illegal copying of programs, selling/purchasing pirated software, and renting unauthorized software. This research focuses on consumer decision making and behavior in purchasing pirated software. Since selling pirated software is an institutional market behavior, it presents a serious threat to the legal distribution of software by competing with and blocking consumer access to legal marketers. Usually, consumers are aware during the shopping process that the product is pirated (McDonald and Roberts, 1994). Still, they purchase the pirated software for various reasons. Understanding the influencing factors, especially in consumers' purchase decision-making process is an important factor in the design of anti-piracy education and strategies.

Ethical Decision Making Model – Theoretical Underpinning

Consumer ethical attitude has been widely expounded in the literature as a key factor influencing software piracy (Swinyard *et al.*, 1990). This attitude is an "overall evaluation that enables one to respond in a consistently favourable or unfavourable manner with respect to a given object or alternative". Since software piracy is illegal, the decision to purchase pirated software presents some stimuli that occur to invoke the consumers certain ethical dilemmas, which affect their ethical decision process.

A fundamental perspective to understanding consumer ethical decision making can be found in Rest's (1986) four component model which depicts the ethical decision making process of an individual. The model as shown in figure 2.1 below stipulates that an individual must:
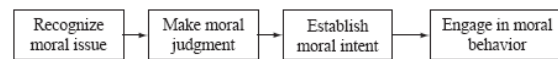
Source: Rest *et al.* (1986)

Figure 1. Four component model of ethical decision making

- Recognize the moral issue.
- Make moral judgment.
- Establish moral intent.
- Implement moral actions during the ethical decision making and behaviour process.

This model was later supplemented by Jones (1991) issue-contingent model which held that ethical decisions are primarily contingent on the characteristics of the issues at stake. More specifically, his model suggests that individuals encounter moral or ethical issues within the personal environments of their daily living. These personal environments are complex, including diverse and sometimes conflicting social, economic, cultural, and organizational elements. According to the author, the first step in the ethical decision-making process requires that the individual be capable of recognizing the moral dilemma in an act or in the failure to act. Failure to recognize a moral choice places the individual's behavior outside the realm of the ethical decision making process. Once a moral dilemma is recognized, the individual is then asked to make a moral judgment and establish a moral intent. Included in the moral intent phase are individual and situational moderating variables as well as variables of opportunity and significant others. Following the establishment of moral intent, the final step of Jones' model depicts the individual engaging in moral behaviour.

Few authors have explicitly identified criteria for evaluating ethical decision-making models. In addition, scores of ethical decision-making approaches and models exist. What differentiates Jones' (1991) model from previous ones is that past models failed to

consider the explicit characteristics of the issue as either an independent or moderating variable. If the issue itself is not significant, then the individual's process of making ethical decisions will be the same for all moral issues. By explicitly rejecting such a notion and assuming that the characteristics of the issue do matter in the ethical decision-making process, Jones incorporated moral intensity into his model.

The seminal article that this research intends to study is on the "issue contingent" model proposed by Jones (1991), which may provide the most comprehensive synthesis of ethical decision making to date (Loe *et al*.,2000). A careful examination of the Jones model should provide insight into how one can evaluate the utility of an ethical decision-making model.

Moral Intensity
A major contribution of the model is the concept of moral intensity which "captures the extent of issue-related moral imperative in a situation".   This construct is multidimensional and its component parts are characteristics of the moral issue in question. The author proposes that an ethical decision-making model must be "issue-contingent" such that it explicitly considers the characteristics of the moral issue itself. The author refers to moral intensity, which is comprised of six components:
- magnitude of consequences
- social consensus;
- probability of effect;
- temporal immediacy;
- proximity; and
- concentration of effect.

Magnitude of consequences is defined as the total harm/benefit resulting from the moral action in question. Social consensus of the moral issue is defined as the degree of agreement that an alternative is evil or good. The probability of effect refers to the probability that the action will take place and will cause the harm/benefit expected. Temporal immediacy is defined as the time between the present and the consequences of the moral action. Proximity refers to the feeling of closeness that the moral agent has for the victims/beneficiaries of the action in question. Finally, concentration of effect of the moral act is defined as the "inverse function" of the number of individuals affected by a given act.

The model recognizes that moral intensity is likely to vary from issue to issue and it influences every stage of the ethical decision making and behaviour process. Jones (1991) argued that in establishing moral intent,

the process generally involves an evaluation of the issue's characteristics which lead to the author to suggest moral intensity influencing moral intent. Since both these issues are almost the same, moral intensity might also have an influence on the performance of that behaviour.

The role of moral intensity on ethical decision making has been examined in a number of studies (Haines and Leonard 2007, Franke *et al*., 1997). Both studies show gender differences in ethical decision-making seem to primarily be related to initial attitude, with women having a more negative attitude than men toward questionable behavior. Leonard and Cronan (2005) study suggests that an individual's attitude toward ethical behavior is influenced by society, by the professional, legal, and business environments, and by one's belief system, personal values, personal environment, moral obligation and awareness of consequences.

Four components of Jones's issue-contingent model are relevant in the context of this research on consumer's ethical decision with respect to purchase of pirated software. The first component magnitude of consequences considers the extent to which the consumers are aware that their purchase of pirated software would affect the original software producers (as copyright holders) adversely. This awareness pertains to the deprivation of revenue and thereby diminishing the viability of their business as well as their ability to engage in further development of their products. The second component probability of effect puts consumers in a situation in which they consider the likelihood that the adverse effects will materialize. If this possibility is perceived to be remote consumers will feel a marginal compromise of their ethical standard and are more inclined to purchase pirated software. The third component is temporal immediacy. Where this immediacy is high, *i.e.* in a situation where there is short time lapse between present consumers action and the onset of consequences of the action they are less likely to purchase pirated software. The fourth component, social consensus prods consumers to consider the issue concerning acceptance or rejection of their behaviour in a social circle of family members, friends and business associates. Where social consensus is strongly adverse towards software piracy, the tendency of consumers to purchase pirated software is reduced.

Perceived risks
Past research has also identified risks as a critical factors influencing ethical decision making. The concept of perceived consumer risk was first

introduced by Bauer (1960) when he characterized consumer choice in terms of risk taking or reducing behaviour.

This finding was supported in a further study which suggests that certainly highly radical individuals tend to be more prone to greater risk taking in group decision making, compared to those who are conservative. Tan (2002) found that in case of pirated software purchase, when the attractive monetary and functional incentives associated with such a purchase are more apparent to consumers during their decision making process, economic considerations tend to prevail over the consideration of moral implication issues. Wang *et.al* (2005) study among Chinese consumers revealed the chances of being caught when purchasing pirated software in China is low hence encouraging them to pursue the act. Ang *et. al*. (2001) study found that consumers age 15 and above in Singapore did not think buying counterfeits CD's was as risky and felt it was alright to buy counterfeits.

Of the six aspects portrayed by Ang *et.al* (2001), the risks applicable in the context of software piracy are performance, financial and social risks. Consumers face performance risk as there is no warranty that the pirated software will function as perfectly as the original product. This absence of an assurance of satisfactory performance from the sellers of the pirated software translates into performance risk to the consumers. The pirated software may malfunction, contain viruses or even damage the consumer's computer system. In addition to performance risk, the probability of failed pirated software also subjects the consumers to financial risk. This risk is reflected in terms of the time lost and incidental expenses incurred in reinstatement of the computing system and data recovery.

Consumers also face social risk (Swinyard *et.al.* 1990). For instance consumers may be conscious of the image they project to their peers and they may have the desire to identify themselves with certain groups of people. Perceived physical risk is omitted because pirated software is unlikely to cause any harm to its user. Instead prosecution risk is the risk that the consumer could face since installation of pirated software is an infringement of copyright law and consumers run the risk of a civil action by copyright owner.

Moral judgment
Another factor which affects a consumer's ethical decision is his moral judgment. A number of empirical studies have suggested the linkage between judgment concerning an action and the intentions to perform that action (Robin *et al*., 1996). An individual's cognitive judgment is the decree to which he or she considers a particular behaviour morally acceptable. It is considered opinion of what should be done when a person is confronted with an ethical dilemma. The moral judgment of an individual critically affects his perception as to why certain actions are perceived as morally just or preferred. Lau (2006) studies have shown in the ethical decision making process, individuals faced with an ethical dilemma must make a behavioural decision. For example, when an individual is given the opportunity to acquire or use pirated software, he or she must decide whether to do so. The author's study among 309 students in various disciplines found most felt software piracy was acceptable.

Other factors influencing software piracy
A review of other software piracy literatures has identified other factors that also influence the consumer to act this way besides the individuals own unethical behaviour and moral judgment. They are:-

Price / Value consciousness
Price plays a critical role in the appeal of pirated software products. Moores and Dhillion (2000) conducted research in Hong Kong, studying shoppers' intention to purchase pirated software and found lowering the cost of legitimate software may effectively reduce purchases of pirated software. Ang *et.al* (2001) found that it was the superior price and not the brand, quality or function of pirated CD that attracted consumers to buying fake CD's. Tan (2002)'s study reveals that price is significantly related to consumers purchase intentions in Singapore. Value consciousness is defined as a concern for paying lower prices, subject to some quality constraints (Ang *et.al*, 2001). As pirated software usually provides similar functions to the legal version of software but with a lower prices, consumers who are value conscious may have positive attitude towards software piracy. Evidence has also shown that when a counterfeit has a distinct price advantage over genuine product, consumers will select the counterfeit (Swinyard, *et.al*., 1990). Lau (2006) study which approached the subject matter at hand in a qualitative manner also found that price of original software was the key reason for respondents using pirated software no matter how much money they had. A number of comments treated pirated software merely as a cheaper, completely equivalent version of the original version. One person stated that the pirated version was "completely the same as the original version".

Culture (Collectivist culture)

Swinyard *et al*. (1990) conducted research to compare the software piracy morality of students in Singapore and the USA, and discovered differences in moral values between the two groups, as the US group was more influenced by legality of the copying and the Singaporeans focused more on the impact of outcomes. They suggested that the cultural difference between the west and the east is a major reason. The collectivist culture has been used extensively to explain the difference in piracy rates and in consumers' ethical decision making between eastern and western countries. In large part, consumers' perception that buying counterfeits is not unethical may stem from the Asian philosophy of sharing. One's expertise should be used to benefit the society and be shared, as opposed to benefits accruing essentially only to the originator. Hence, buying original products does not make sharing of benefits with the society easy. Indeed, counterfeiting offers an avenue in which creations can be enjoyed by the masses. "He that shares is to be rewarded; he that does not, condemned" is cited widely to refer the impact of the collectivist culture on software piracy (Swinyard *et al.*, 1990). Wong *et. al*. (1990) also suggested that people in China and Hong Kong in particular often use and share pirated software due to the existence of Confusian beliefs in their culture for the past 2,500 years.

Gender / Age

The impact of gender on software piracy is not conclusive. Wong *et. al*. (1990) found that gender had no effect. Rahim *et al.* (1999) also found that gender and age has no relationship with the types of tasks performed with pirated software but positively correlated with computer ownership and experience. They conducted their study in Darussalam, a city of Brunei, using a sample of 169 students. Nevertheless study of Leonard *et. al*. (2005), they found that gender (male respondents), computer ownership, and more computer experience were positively correlated on the use of pirated software. And *et. al*. (2001) study concludes with gender (male respondent) have more favourable attitude toward piracy than females and age were not significant predictor.

Attitude

"Attitude" is ". . .a learned predisposition to behave in a consistently favorable or unfavorable manner with respect to a given object" (Schiffman and Kanuk, 1997, p. 167). Attitude is considered to be highly correlated with one's intentions, which in turn is a reasonable predictor of behavior (Wee *et. al*, 1995). If a person's attitude towards counterfeiting is favourable, it is highly likely that he or she would consider the purchase of counterfeit products. For instance, a recent survey shows that Singaporeans, who are less supportive of software copyright law, are more inclined to make pirated copies of software than their US counterparts (Swinyard *et al.*, 1990). Wee *et. al*. 1995 study supports the contention that the more unfavourable a person's attitude toward counterfeiting, the lower would be his/her intention to purchase counterfeit goods. In testing Singaporeans' attitudes toward pirated CDs, Ang *et al*. (2001) found that buyers and non-buyers had different attitudes toward software piracy. Compared to non-buyers, buyers of counterfeits perceive that the purchase of such products is less risky, worthier of purchase, will benefit society and entertainers more, as less unethical, and that stores selling counterfeits can be trusted. To identify attitudinal differences to software piracy between Chinese buyers and non-buyers Wang *et. al*. (2005), results showed buyers were more acceptable attitudes to software piracy than non-buyers.

Novelty seeking

Another important factor is novelty seeking. Novelty seeking is curiosity of human to seek variety and difference (Kay 1990). In an empirical study on consumer motivations for purchasing pirated software versus legal versions, Cheng *et al*. (1997) found that novelty (wanting to try out the software) is the second most important reason only behind cost consideration (software too expensive) out of the nine main reasons. Wee *et al*. (1995) found that novelty seeking is an influential factor for purchasing pirated software in student groups, but did not find it as an important influential factor in working adult samples. Novelty seekers may be more likely to purchase the legal version of software when satisfied with the product than consumers who are intensively value conscious.

Ethics

Peterson (2002) studied ethical problems associated with computer usage guidelines of computers in the workplace. The respondents were students with MBA working full time in a professional position. The results revealed the interaction between computer guidelines and beliefs in moral rules was significant. Business professionals with a strong belief in moral rules exhibited high ethical intentions regardless of whether or not the organization had clear guidelines concerning the use of company computers. However, for business professionals with low moral rules, the presence of computer guidelines had a positive effect on ethical intentions.

4. Theoretical Framework

This paper will use the issue risk judgment (IRJ) model as developed by Jones (1991) and understand consumers decisions involved when purchasing pirated software. This model was chosen instead of *Ang et.al* (2001) and *Wang et. al*. (2005) because it has incorporated behaviour and intention from individuals perception of an ethical issue rather than the actual characteristics of the issue. It also has control variables acting as moderating constructs. Tan (2002) tested the IRJ model and the overall Cronbach alpha coefficients for moral intensity, perceived risks, moral judgment and purchase intention are high, indicating that the constructs are reliable.
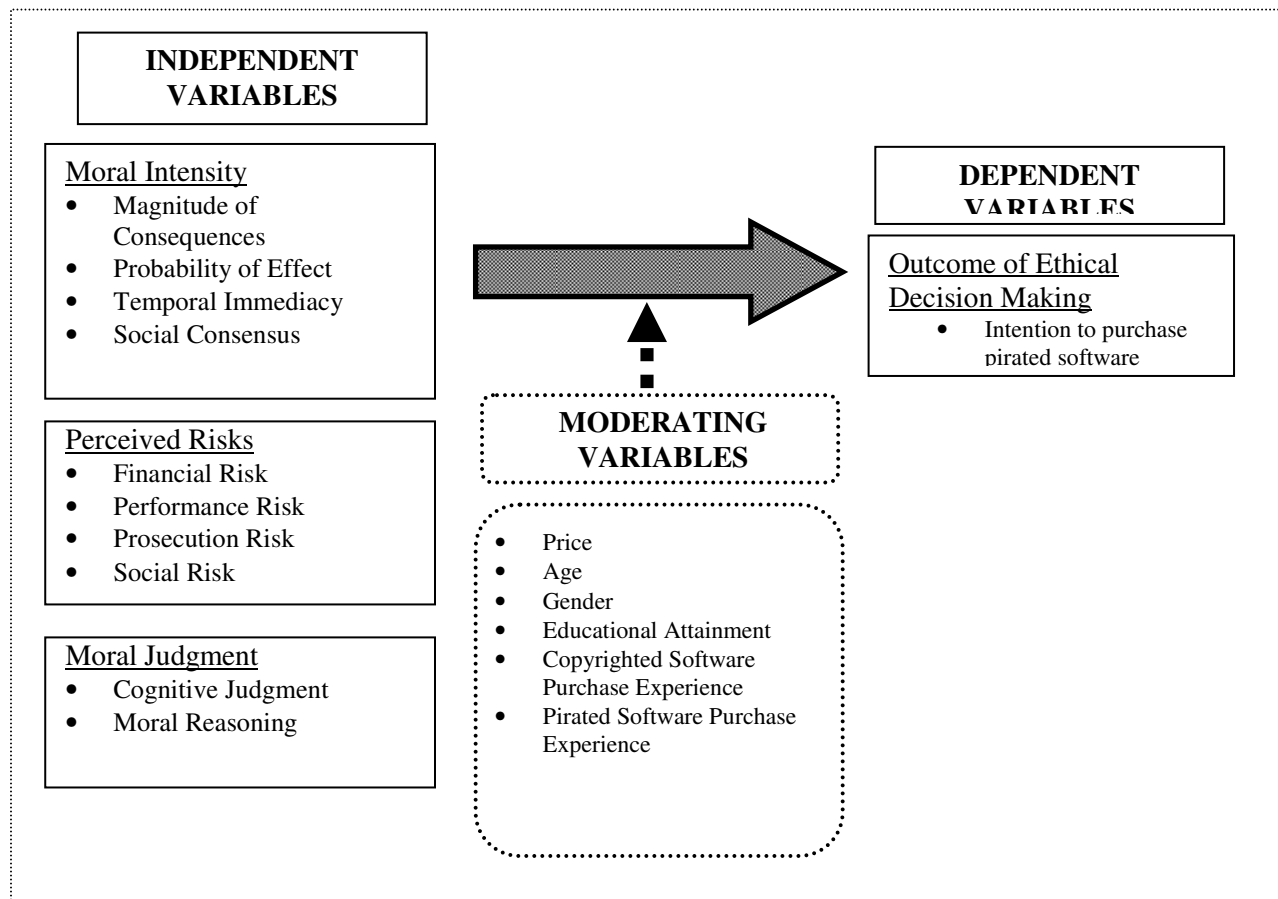

Figure 2. An issue –risk-judgment (IRJ) model of ethical decision making

The first independent variable Moral Intensity consists of 4 constructs which consists of Magnitude of consequences which is defined as the total harm/benefit resulting from the moral action in question. Social consensus of the moral issue is defined as the degree of agreement that an alternative is evil or good. The probability of effect refers to the probability that the action will take place and will cause the harm/benefit expected. Temporal immediacy is defined as the time between the present and the consequences of the moral action. The second variable perceived risks which consists of financial risks which is the probability of losing money by the intended decision, performance risk where that could be a probability that there will be something wrong with a product or service purchased. Financial risk refers to the probability of a failed product or service. This risk

is reflected in terms of incidental expenses incurred and social risks refers to the consciousness of the image projected to their peers or desire to identify

themselves to certain groups of people. The last independent variable is moral judgment where cognitive judgment refers to the individuals way of processing information, applying knowledge and changing preference and moral reasoning refers to individual or collective practical reasoning about what, morally, one ought to do.

5. Research Methodology

In this study, we use intention to purchase as a surrogate for actual purchase for two main reasons. The first and most important is that if we use actual purchase, the subjects would be giving information on purchase decisions made over differing time periods (Wee et. al 1995). This would create some sort of a response bias, as some subjects may not be able to recall or give accurate information pertaining to their past purchases. Second, some post-purchase rationalization may also interfere with the subjects' true assessment of items such as product attributes and attitude towards counterfeiting. These problems could be reduced by asking subjects about their intended purchases.

Table 1: Constructs

Variable		
Moral Intensity	*Perceived risk*	*Moral Judgment*
Magnitude of consequences	Financial risk	Cognitive judgment
Probability of effect	Performance	Moral reasoning
Temporal immediacy	Prosecution risk	
Social consensus	Social risk	

Data collection and sampling methods
Primary data was collected by distributing questionnaires to respondents living in the Klang Valley, Malaysia. Most previous studies were conducted in an academic setting among university students or in an organization among business professionals. In order to eliminate biasness, efforts were made to obtain a sample of respondents with distribution that approximates the population. The respondents included both students and working professionals from various institutions and organizations respectively. A total of 230

questionnaires were distributed and 221 were returned, however only 203 were found usable.

Instrumentation and scales.
For both the independent and dependent variables, a Likert scale ranging from 1 to 5 was used with 1 representing "very low", "highly unlikely" or "strongly disagree" and 5 representing "very high", "highly likely" or "strongly agree". For the independent variable moral intensity, perceived risks and moral judgment were adapted from Jones (1991) and for the dependent variable purchase intention was adapted from Wee *et. al*.(1995).

To further reduce the possibility of socially desirable responses, this study ensured the anonymity of the respondents and participation is voluntary. The cover letter stressed that no attempt would be made to identify the respondents and pointed out that no markings were used to identify the respondents on the survey.

Data Analysis Techniques
A total of 203 responses were retained for data analysis through SPSS. After data collection, the following steps were undertaken: First, the data was checked for missing values / observations. To avoid this problem, the missing values are replaced by mean substitution and outliers cases needs to be dealt with as well. Thereafter the data was tested for normality, linearity and homoscedasticity before any further analyses can be performed. Once these criterions have been satisfied, validity and reliability of the scale was tested to verify the suitability / consistency of the constructs. Finally, hierarchical regression analysis was used to focus on the variables forming the hypotheses and at the same time filter out the influence of the control variables that might have a moderating influence on consumer ethical decision.

6. Findings

Demographic Profile
A total of 230 questionnaires were distributed to participants and 203 responses were received, with a response rate of 88 percent. A total of 18 were not completed appropriately thus were excluded in the data analysis and remaining 9 were not returned. 103 or 50.7 percent of the respondents were in the less than 20 age group while the second most belonged in the 21-30 age group with 35.5 percent.

Purchase copyright and pirated software experience

Table 2: Purchase Copyright software

		Frequenc	Percent	Valid Perce	Cumulative Percent
Valid	Yes	115	56.7	56.7	56.7
	No	88	43.3	43.3	100.0
	Total	203	100.0	100.0	

Table 3: Purchase Pirated software

		Frequenc	Percent	Valid Perce	Cumulative Percent
Valid	Yes	161	79.3	79.3	79.3
	No	42	20.7	20.7	100.0
	Total	203	100.0	100.0	

Both the table above shows the respondents buying behaviour for original and pirated software. The number of respondents to have purchased pirated software is 79.3 percent compared to 20.7 percent who have not had the experience of purchasing a pirated copy. The number of respondents who has purchased copyright software before is 56.7 percent compared to 43.3 percent who have not.

Table 4: Price

		Frequenc	Percent	Valid Perce	Cumulative Percent
Valid	150	135	66.5	66.5	66.5
	350	55	27.1	27.1	93.6
	560	13	6.4	6.4	100.0
	Total	203	100.0	100.0	

The table above shows 66.5 percent of the respondents are willing to purchase MS Office Basic 2007 for RM150 if that was the suggested retail price it is to be sold for. A 27.1 percent would still purchase the software if it is moderately priced at RM350 and the remaining 6.6 percent would not mind paying the current retail price it is being sold for.

Preliminary Analysis – Normality, Linearity and Homoscedasticity Tests
Data screening is useful in making sure that data have been entered correctly and that the distribution variables that are to be used in analysis are normal. If variable distributions deviate dramatically, this may affect the validity of the results that are produced. In a normal probability plot, the cases fall more or less in a straight line.
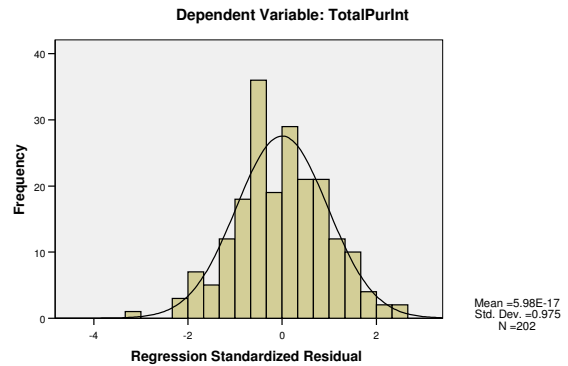
Histogram

Figure 3. Normality graph

The graph above shows data from the issue risk judgment model (IRJ) regressed with the dependent variable purchase intention to determine normality, linearity and homoscedasticity. The graph above illustrates that the data collected is normally distributed.

Normal P-P Plot of Regression Standardized Residual
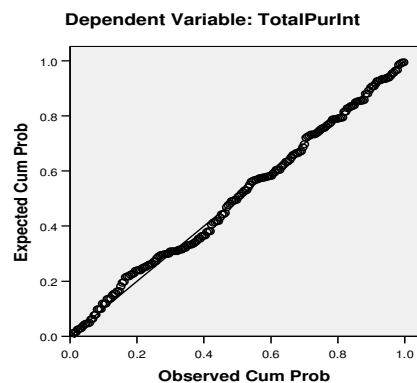
Figure 4. Linearity graph

The graph above indicates the data has a linear relationship and is clustered uniformly about the regression line.

Reliability Analysis
Scales were analyzed in terms of their reliability, by means of internal consistency (Cronbach's alpha). This is to evaluate the extent of consistency among construct measures which ranges in value from 0 to 1. The test of construct reliability in Table 5 below shows the overall Cronbach alpha coefficients for moral intensity, perceived risks, moral judgment and purchase intention which are high, indicating that the constructs are reliable.

Table 5: Reliability of constructs

Variable	Cronbach Alpha
Moral Intensity	
Magnitude of consequence	0.746
Probability of effect	0.736
Temporal immediacy	0.806
Social consensus	0.809
Perceived Risks	
Financial risk	0.723
Performance risk	0.765
Prosecution risk	0.794
Social risk	0.861
Moral Judgment	
Cognitive judgment	0.653
Moral reasoning	0.696
Purchase Intention	0.874

The table above shows the Cronbach Alpha for ten measures of the whole issue risk judgment model (IRJ) is 0.743 which demonstrates a consistency of constructs measures.

Table 6: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.743	.737	10

Regression
A two step hierarchical regression analysis was used to test the three hypotheses and at the same time sieve out the influence of the control variables that might have a moderating influence on consumer ethical decision. In the first step of the hierarchical multiple regression analysis, moderating variables (control variables) relating to price and consumer demographics were entered into the regression model as a block. In the second step the independent variables *i.e.* moral intensity, perceived risks and moral judgment were entered in the regression model as predictors of consumers intention to purchase pirated software.

Influence of price and consumers demographics on intention to purchase
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.595(a)	.354	.352	1.54224	.354	37.266	1	201	.000
2	.561(b)	.314	.305	1.49374	.056	14.267	1	200	.000
3	.561(c)	.313	.301	1.49747	.034	.003	1	199	.000
4	.566(d)	.321	.301	1.49723	.004	1.065	1	198	.303
5	.566(e)	.321	.297	1.50094	.000	.021	1	197	.885
6	.574(f)	.324	.201	1.49747	.008	1.916	1	196	.168
7	.582(g)	.338	.204	1.49413	.007	1.875	1	195	.172

a Predictors: (Constant), Price
b Predictors: (Constant), Price, Purchase Pirated software
c Predictors: (Constant), Price, Purchase Pirated software, Purchase Copyright software
d Predictors: (Constant), Price, Purchase Pirated software, Purchase Copyright software, Age
e Predictors: (Constant), Price, Purchase Pirated software, Purchase Copyright software, Age, Gender
f Predictors: (Constant), Price, Purchase Pirated software, Purchase Copyright software, Age, Gender, Education Level
g Predictors: (Constant), Price, Purchase Pirated software, Purchase Copyright software, Age, Gender, Education Level, Earning an Income
h Dependent Variable: TotalPurInt

Table 7: Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
7	(Constant)	8.177	.904		9.043	.000
	Price	.390	.187	.341	5.014	.000
	Purchase Pirated software	.279	.300	.213	2.935	.000
	Purchase Copyright software	-.045	.228	-.032	-.023	.000
	Age	.029	.222	.012	.132	.895
	Gender	.055	.214	.016	.255	.799
	Education Level	.304	.175	.171	1.740	.083
	Earning an Income	.376	.275	.113	1.369	.172

a Dependent Variable: TotalPurInt

Table: 8

The first step hierarchical regression is shown in the Table 8 above which reveals the influence of moderating variables on consumers intention to purchase pirated software. This step answers the fourth question of the study. Table 9 shows that price, purchase experience of pirated software and purchase experience of copyright software are statistically significant related to consumers purchase intention (β=0.39). Price has been well regarded by the coverage in literature review section as an important determinant in consumer decision making. Ang *et.al* (2001) found that it was the superior price and not the brand, quality or function of pirated CD that attracted consumers to buying fake CD's. Tan (2002) study reveals that price is significantly related to consumers purchase intentions in Singapore. Results indicate that if consumers have purchased pirated software before the tendency to purchase pirated software in future also increases (β =0.27). On the other hand if consumers have purchased copyright software before, they are less likely to purchase pirated software (β =-0.45). Different from Tan (2002), age, gender, education level and earning an income are not found important in influencing consumers decision to purchase.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.593(a)	.351	.328	1.47331	.244	15.853	4	197	.000
2	.649(b)	.421	.372	1.43069	.058	3.978	4	193	.000
3	.662(c)	.438	.380	1.42339	.014	1.993	2	191	.000

Contribution from the issue risk judgment (IRJ) model Model Summary(d)

a Predictors: (Constant), TotalSocCen, TotalMagCos, TotalTempImm, TotalProbEff
b Predictors: (Constant), TotalSocCen, TotalMagCos, TotalTempImm, TotalProbEff, TotalFinRisk, TotalPerfRisk, TotalProsecRisk, TotalSocRisk
c Predictors: (Constant), TotalSocCen, TotalMagCos, TotalTempImm, TotalProbEff, TotalFinRisk, TotalPerfRisk, TotalProsecRisk, TotalSocRisk, TotalCogJug, TotalMorReas
d Dependent Variable: TotalPurInt

Table: 9

Form the table above it can be said model 1 which compromises constructs for moral intensity is statistically significant and contributes 35 percent to the whole issue risk judgment model. Model 2 which constructs describe perceive risk adds a contribution of 6 percent to the variance of intention to purchase after perceived risk has been accounted for. Model 3 shows the combination of all three factors describing the issue risk judgment model (IRJ) influence on purchase intention which is 43 percent.

Influence of moral intensity on consumer purchase intention

Hypothesis 1   **Coefficients(a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.566	.563		17.006	.000
	TotalMagCos	.030	.058	.036	.508	.612
	TotalProbEff	.020	.075	.020	.265	.791
	TotalTempImm	.001	.064	.001	.022	.983
	TotalSocCen	-.489	.063	-.501	-7.812	.000

a Dependent Variable: TotalPurInt

Table 10

As seen from the Table 10 above in testing the effect of moral intensity only social consensus (β =-0.48) is significantly correlated to consumers purchase intention. The results reveal that social consensus has a negative significant influence on consumers purchase intention. Tan (2002)'s study also had magnitude of consequence negatively influencing purchase intention unlike this research which show the other three constructs that make up moral intensity are statistically insignificant. Therefore H1 is just barely supported with only H1d and null hypothesis can be rejected.

Influence of perceived risk on consumer purchase intention

Hypothesis 2   **Coefficients(a)**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.566	.563		17.006	.000
	TotalMagCos	.030	.058	.036	.508	.612
	TotalProbEff	.020	.075	.020	.265	.791
	TotalTempImm	.001	.064	.001	.022	.983
	TotalSocCen	-.489	.063	-.501	-7.812	.000
2	(Constant)	9.265	.821		11.280	.000
	TotalMagCos	.044	.057	.054	.776	.577
	TotalProbEff	-.033	.075	-.033	-.447	.655
	TotalTempImm	.030	.064	.031	.464	.643
	TotalSocCen	-.316	.076	-.323	-4.155	.000
	TotalFinRisk	-.293	.080	-.272	-1.168	.000
	TotalPerfRisk	-.137	.060	-.121	-.049	.000
	TotalProsecRisk	-.165	.066	-.174	-.250	.000
	TotalSocRisk	-.242	.071	-.274	-3.432	.000

Dependent Variable: TotalPurInt   Table 11

As seen in Table 11 above, all four constructs, financial risk, performance risk, prosecution risk and social risk supports H2. Results reveal that all components of perceived risk are statistically significant to influence consumer purchase intention. The β values of financial, performance, prosecution and social risk are -0.29, -0.13, -0.165 and -0.24 respectively. The negative relationship between financial and performance risks and ethical decision are generally related to the product. Social and prosecution risk affirms that fear of public exposure and getting caught. H2 here is fully supported.

Influence of moral judgment on consumer purchase intention

Hypothesis 3

                    Coefficients(a)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	9.566	.563		17.006	.000
	TotalMagCos	.030	.058	.036	.508	.643
	TotalProbEff	.020	.075	.020	.265	.791
	TotalTempImm	.001	.064	.001	.022	.983
	TotalSocCen	-.489	.063	-.501	-7.812	.000
2	(Constant)	9.265	.821		11.280	.000
	TotalMagCos	.044	.057	.054	.776	.581
	TotalProbEff	-.033	.075	-.033	-.447	.655
	TotalTempImm	.030	.064	.031	.464	.643
	TotalSocCen	-.316	.076	-.323	-4.155	.000
	TotalFinRisk	-.093	.080	-.072	-1.168	.000
	TotalPerfRisk	-.003	.060	-.003	-.049	.000
	TotalProsecRisk	-.016	.066	-.017	-.250	.000
	TotalSocRisk	-.242	.071	-.274	-3.432	.000
3	(Constant)	9.848	.868		11.347	.000
	TotalMagCos	.047	.056	.058	.837	.521
	TotalProbEff	.000	.076	.000	.006	.995
	TotalTempImm	.028	.064	.029	.444	.658
	TotalSocCen	-.287	.077	-.293	-3.721	.000
	TotalFinRisk	-.111	.081	-.087	-1.373	.000
	TotalPerfRisk	-.004	.060	-.004	-.063	.000
	TotalProsecRisk	-.033	.066	-.035	-.508	.000
	TotalSocRisk	-.221	.072	-.250	-3.072	.000
	TotalCogJug	-.176	.083	-.147	-1.044	.000
	TotalMorReas	-.294	.086	-.277	-1.002	.000

a Dependent Variable: TotalPurInt

Table 12

Table 12 above, model 3 shows both constructs for moral judgment which is cognitive judgment and moral reasoning are significant predictors to consumers purchase intention with β values of -0.17 and -0.294 respectively. This study confirms with research by Tan (2002) which claims when consumers are confronted with ethical dilemma, they rely on cognitive judgment to make an ethical decision. It also demonstrates the consumers level of moral reasoning affects their perception as to why certain actions are perceived as morally just or preferred.

7. Summary, Conclusion and Recommendations

From the results of the hierarchical regression analysis, it can be seen that from the first step, price has significant impact on consumers purchase intention toward pirated software. Consumers consider the prices charged for copyright software to be too high despite the after purchase (sales) support that they are entitled for. If the software companies developing those software were to lower their margins of originals, it will discourage consumers from purchasing pirated copies and it will discourage counterfeiters to reduce their already low prices further to compete against the originals hence will keep them away from the unethical act.

Different from Tan (2002) study ,consumers demographics such as age, education level, gender are not significant predictors for consumers purchase decision although studies by (Rahim et.al 2000; Leonard and Cronan, 2005) showed that males are more inclined to toward an unethical behaviour. Unlike Wee et. al (1995) study showed that the higher

the educational attainment, the more likely they are to purchase pirated software which is opposite of what Tan (2002) study revealed. This research showed educational attainment did not play any role in predicting consumers purchase intention.

Previous purchase experience of copyright and pirated software are significant predictors toward purchasing pirated software as supported by Ang et. al (2001). From the second step of the hierarchical regression analysis, certain components of moral intensity, perceived risk and moral judgment do influence consumers decision to purchase pirated software. It is interesting to note that there appears to be a difference in terms of what is fair and what is unethical. Although majority of respondents thought that pirated softwares deprive programmers and software seller to lose revenue, they did not think that it was unethical to buy them. Hence the results showed moral intensity hypothesis only partially supported which is similar to Tan (2002) study. Perceived risks is an important predictor for consumer decision in purchasing pirated software. The thought of not being prosecuted due to poor enforcement laws and the functional attributes outweighing monetary issues are attractive factors influencing consumers intention to purchase the software. As for social risk, there are significant cultural and economical differences between Asian and Western countries that result in differences in attitudes toward software piracy. Hence the results showed the lower the social risks involved the higher the purchase intention.

Consumer purchase of pirated software unlike other products such as commodities and branded goods, pirated software purchase poses moral implication for the consumers. The IRJ model of consumer ethical decision making integrates all past theories on ethical issues in a holistic framework that includes individuals background and situational factors. The result of the test has identified certain components of the model as relevant factors which influence consumer purchase decision.

The significance of the study could aid Domestic Trade and Consumer Affairs ministry, Business Software Alliance (BSA) and respective government and private body in combating this ill decease.

First the study only covered participants from Klang Valley and covers consumers purchasing the pirated software. There are more than one ways of obtaining a pirated copy. Second, participants may be unwilling to disclose their true intention when comes to ethical subject matter and one-shot surveys of ethical

behaviour may not account for the complete process of ethical decision making.

Future studies encompassing other counterfeit products with a wider sampling base may help cement this model as an important tool in studying consumers purchase intentions. Authorities of educational institution and organisations should collaborate with major software vendors and BSA to explain the rationale for not using pirated software. This study could be further be used to study different types of software (operating systems, games, etc) that are in demand which are frequently pirated.

References
[1] Ang. S.H., Cheng. S. P and Lim C.E (2001), "Spot the difference: consumer responses towards counterfeits", Journal of Consumer Marketing, Vol.18, No.3, pp. 219-235.

[2] Cheng, H.K., Sims, R.R. and Teegen, H. (1997), "To purchase or to pirate software: an empirical study", Journal of Management Information Systems, Vol. 13 No. 4, pp. 49-60.

[3] Haines.R. and Leonard.L.N.K (2007), "Individual characteristics and ethical decision-making in an IT context", Industrial Management & Data Systems, Vol. 107, No.1. pp.5-20.

[4] Jones. T.M. (1991), "Ethical decision making by individual: an issue-contigent model", Academy of Management Review, Vol.16, April, pp. 366-95.

[5] Kay, H. (1990), ``Fake's progress'', Management Today, July, pp. 54-8.

[6] Loe, T.W., Ferrell, L. and Mansfield, P. (2000), "A review of empirical studies assessing ethical decision making in business", Journal of Business Ethics, Vol. 25, pp. 185-204.

[7] Leonard L.N.K and Cronan P.T. (2005), "Attitude toward ethical behaviour in computer use: a shifting model", Industrial Management & Data Systems, Vol. 105, No.9. pp.1150-1171.

[8] Lau K.W. (2006) "Factors motivating people toward pirated software" , Qualitative Market Research, Vol.9, No.4, pp. 404-419.

[9] Moores, T. and Dhillon, G. (2000), "Software piracy: a view from Hong Kong", Communications of he AGM, Vol. 43 No.12, pp. 88-93.

[10] McDonald, G. and Roberts, C. (1994), "Product piracy: the problems that will not go away", The Journal of Product and Brand Management, Vol. 3 No. 4, pp. 55-65.

[11] Moshe, G. and Vijay, M. (1995), ``Software piracy: estimation of lost sales and the impact on software diffusion'', Journal of Marketing, January, pp. 29-37.

[12] Oz, E. (1998), ``Acceptable protection of software intellectual property: a survey of software developers and lawyers'', Information & Management, Vol. 34, pp. 161-73.

[13] Rahim, M.M., Seyal, A.H. and Rahman, M.N.A. (1999), "Software piracy among computing students: a Bruneian scenario", Computers & Education, Vol. 32, pp. 301-21.

[14] Rest, J.R., Bebeau, M. and Volker, J. (1986), "An overview of the psychology of morality", in Rest, J.R. (Ed.), Moral Development, Praeger Publishers, New York, NY, pp. 1-27.

[15] Robin, D.P., Reidenbach, R.E. and Forest, P.J.(1996), "The perceived importance of an ethical issue as an influence on ethical decision making of ad managers", Journal of Business Research, Vol. 35, January, pp. 17-28.

[16] Sims, R.R., Cheng, H.K. and Teegen, H. (1996), ``Toward a profile of student software piraters'', Journal of Business Ethics, Vol. 15, pp. 839-49.

[17] Sykes, G.M. and Matza, D. (1957), ``Techniques of neutralization: a theory of delinquency'', American Sociological Review, Vol. 22, December, pp. 664-70

[18] Swinyard, W.R., Rinnie, H. and Kau, A.K. (1990), "The morality of software piracy: a cross cultural analysis", Journal of Business Ethics, Vol. 9, August, pp. 655-64.

[19] Tan B. (2002) "Understanding consumer ethical decision making with respect to purchase of pirated software", Journal of Consumer Marketing, Vol. 19, No.2, pp. 96-111.

[20] Wang. F., Zhang. H and Ouyang.M (2005), "Purchasing pirated software: an initial examination of Chinese consumers", Journal of Counsumer Marketing, 22/6, pp. 340-351.

[21] Wong, G., Kong, A. and Ngai, S. (1990), ``A study of unauthorised software copying among postsecondary students in Hong Kong'', The Australian Computer Journal, Vol. 22 No. 4, pp. 114-22.

[22] Wee, C.H., Tan S.J., and Cheok, H.K. (1995), "Non price determinants of intention to purchase counterfeit goods", Vol.12, No.6, pp. 19-46.

[23] Yeh, P. (1999), "Yo, ho, ho and a CD-ROM: the current state of software piracy in the PRC", Law and Policy in International Business, Vol. 31 No. 1, pp. 173-94.