

---

# Testing an Ethical Decision-Making Theory: The Case of Softlifting

JAMES Y.L. THONG AND CHEE-SING YAP

JAMES Y.L. THONG is an Assistant Professor in the Department of Information and Systems Management, School of Business and Management, Hong Kong University of Science and Technology. He received his Ph.D. and M.Sc. in MIS and B.Sc. (Hons.) in computer science from the National University of Singapore. His research interests include small business computerization, information technology transfer and implementation, and IS personnel management. His research has been published in *Information Systems Research*, *Journal of Management Information Systems*, *Journal of Organizational Computing and Electronic Commerce*, *Journal of Information Technology*, *Information Processing and Management*, *European Journal of Information Systems*, *Omega*, and *Information and Management*.

CHEE-SING YAP is Head of the Information Systems Division, Department of Information Systems and Computer Science, National University of Singapore. He holds a B.Sc. (Eng.) from Imperial College, London, and a Ph.D. in information systems from Cambridge University. His research interests include the use of IT in small business, government policy, and IT in Asia-Pacific countries. His papers have appeared in *European Journal of Information Systems*, *Information Systems Research*, *Information and Management*, *Information Processing and Management*, *Informatization and the Public Sector*, *Journal of Information Technology*, *Journal of Management Information Systems*, *Journal of the Operational Research Society*, *Journal of Organizational Computing and Electronic Commerce*, *Omega*, and *The Information Society*.

**ABSTRACT:** There is a lack of both theoretical and empirical research on the process of ethical decision making in the domain of information systems (IS). As a step in this direction, we describe and test a general ethical decision-making theory developed in the marketing discipline. We conducted a study on the ethical decision-making process of 243 entry-level IS professionals with regard to softlifting—that is, illegal copying of software for personal use. The results show support for the applicability of the tested ethical decision-making theory to the domain of IS, specifically in the context of softlifting. Entry-level IS professionals were found to use both deontological and teleological evaluations to arrive at an ethical judgment of a moral issue. Subsequently, moral intention to pursue softlifting behavior is primarily determined by the ethical judgment. These findings have implications for both research and practice.

**KEY WORDS AND PHRASES:** computer ethics, ethical decision-making, softlifting, software piracy.

INFORMATION TECHNOLOGY (IT) IS ARGUABLY THE MOST IMPORTANT TECHNOLOGY of this century. It has the potential to permeate all facets of society. The use of IT in society is creating a unique set of ethical issues that requires the resolution of moral choices on the part of its members [15, 27, 33, 51]. An ethical issue arises whenever one party in pursuit of its goals engages in behavior that affects the ability of another party to pursue its goals. If the effect of the behavior is unjust, then the behavior is considered unethical. Examples of IT ethical issues identified by Mason [32] include property rights (e.g., software piracy), privacy (what information can be kept private), accuracy (accountability for errors in information), and accessibility (information privilege or right to obtain).

While there is a debate on whether the issues raised by IT are unique or simply the same old ethical issues that have plagued society for centuries, Johnson [25] suggested thinking of the issues raised as new species of old moral issues. The metaphor of species and genus encompasses an element of truth on both sides of the debate in that a new species has some unique characteristics that make it different from other species, while the species also has fundamental characteristics common to all members of the genus. According to Johnson [25], IT ethical issues have some unique characteristics, but do not exactly constitute a new category of issues. For example, threats to intellectual property rights have not existed in quite the form that they do with IT, but property rights have been around for a long time. Whereas legal systems and concepts such as copyrights, patents, and trade secrets surrounding tangible creations and original authorship (e.g., literary expression) have stabilized in recent years, the issue of software piracy is shrouded in uncertainty [15, 51]. Computer software does not fit within the definition of property since it is separate from the medium upon which it is stored—that is, it is intangible—and it does not need to be removed from the owner's possession to be useful to someone else. Computer software also has characteristics of compactness, plasticity, ease of replication, ease of transmission, and multiple uses [44, 45, 46]. These inherent characteristics of computer software give a new twist to ethical issues and make new legislation difficult to specify. Meanwhile, the legal position, for example, in the United States, has been confused further by the widely varying judgments handed down by U.S. courts in recent years [15]. In summary, because of IT's special characteristics, ethical issues involving IT pose a much greater challenge [40].

While the existence of IT ethical problems in the information systems (IS) domain is starting to receive recognition by IS researchers (see, for example, a special issue of *Communications of the ACM*, 38, 12 [1995]), empirical research in this area is limited [9, 28, 35]. Laudon [28] identified four difficulties with the existing IS literature. First, with few exceptions, the IS ethics literature is not well grounded in classical or contemporary theory. Second, it is disorganized as a result of quick responses to pressing social problems. Third, the existing literature is individual-oriented, focusing on what IS individuals should do. Finally, the literature is neither normative nor prescriptive. Practitioners are usually advised to consult professional codes such as the ACM code [1, 31, 38].

The existing IS empirical studies have attempted to identify the determinants of behavior toward ethical issues. For example, Harrington [19, 20] and Simpson et al.

[48] examined individual and situational variables as factors in the behavior (including softlifting) of computer users. Watson and Pitt [58, 59] identified and tested possible variables based on prior empirical studies in marketing. In the field of accounting, Christensen and Eining [7] and Eining and Christensen [10] investigated determinants of software privacy behavior among accounting students. These studies are basically factor studies rather than process studies. The ethical decision-making process is often treated as a black box. However, if one wishes to make normative prescriptions about how individuals should resolve their ethical dilemmas, a useful starting point is to attempt to understand how these individuals do in fact arrive at their ethical judgments [24, 29].

Recently, Loch and Conger [30] conducted an exploratory study on 174 graduate students to test the applicability of the theory of reasoned action to describe the ethical decision-making process in the face of issues of computer privacy and resource ownership. They concluded that the theory of reasoned action fails to describe the ethical decision-making process adequately. Other researchers have arrived at the same conclusion [41, 42]. Thus, while a number of factor studies have identified some determinants of ethical behaviors, we still do not understand the process of ethical decision making in the context of IS ethics.

In this study, we test an alternative theory of the process of ethical decision making developed originally in the marketing literature to help explain ethical or unethical conduct. We will investigate the ethical decision-making process involved in the issue of softlifting, that is, the illegal copying of software for private individual use [2]. Mason [32] identified intellectual property rights as one of the four main ethical issues of the information age. Software, an intellectual property, can be extremely costly to produce in the first instance, but once it is produced, the software is easy to reproduce and share with others. Losses from software copying have been estimated in the billions of dollars [6, 18]. Further, the practice of softlifting appears to have become socially acceptable even though stealing of tangible goods is still considered unethical and illegal [55]. Organizations are also vulnerable to the possibility of legal action brought against them because of unethical softlifting by their employees. Hence, softlifting is a popular ethical issue among IS researchers.

## Literature Review

---

ETHICS MAY BE DEFINED AS AN INQUIRY INTO THE NATURE and grounds of morality where the morality is taken to mean moral judgments, standards, and rules of conduct [53]. As such, a number of computer ethics researchers [25, 27] have suggested that ethics research be conducted on the basis of moral philosophies. The moral philosophy perspective can provide more formal systematic frameworks for assessing the ethical appropriateness of individuals' behavior. There have also been reviews of ethical theories or moral philosophies by IS researchers [28, 58, 60]. Discussion of normative ethics theory can generally be divided into two broad categories [4, 11, 16, 24, 36, 43, 47, 53]. The two categories are deontological (or rule-based) theories and teleological (or consequential) theories. They are briefly described below.

Deontological theories assume that a set of universal rules define what is right. These rules are "means"-oriented and accepted as guidelines for action. As long as rule interpretations are not ambiguous, the action to be taken is predefined, without reference to possible consequences. These rules may be based on religious beliefs, intuition, or aesthetic belief. Fundamental to deontological theories is the inherent rightness of the behavior. No action can be considered right in accordance with personal duty if it disregards the ultimate worth of any other human being. Teleological theories, on the other hand, address the rightness or wrongness of an action on the basis of its consequences. The various teleological theories differ on the question of whose good it is that one ought to try to promote. One formulation of this type of theory is utilitarianism, which emphasizes creating the maximum benefits for the largest number of people, while incurring the least amount of damages. A social cost-benefit analysis is carried out and, if the net result is positive, then the act is considered morally acceptable. Another formulation of teleological theories is egoism, which emphasizes maximizing one's own benefit only. An action is considered ethical for an individual only if the consequences of that action for the individual are more favorable than the consequences of other actions. The egoist is an opportunist who will use manipulation to promote self-interest.

As is often the case in IS, we need to borrow theories from other disciplines. Ethical decision making incorporating moral philosophies is a topic of great interest in the literature on business ethics. But reviews of the literature on business ethics have concluded that most of the existing studies tend to be nonempirical [14, 42]. Even in the general ethics literature, there are limited studies reporting theory testing [26, 42]. Some researchers have proposed theoretical models to explain and predict the process by which an individual makes an ethical judgment. These include the situational-individual interaction model of Trevino [54], the contingency frameworks of Ferrell and Gresham [11], the moral intensity model of Jones [26], and the general ethics theory of Hunt and Vitell [24]. Based on an extensive review of the empirical literature on business ethics models, Ford and Richardson [14] concluded that these models need further testing. In addition, attempts have been made to integrate the prior ethical decision-making models [12, 26].

From the literature review, we concluded that there is no strong theoretical model in the IS field to explain the ethical decision-making process when one is faced with ethical dilemmas. Further, the two most prominent moral philosophies used as a basis for discussions on ethics are the deontological and teleological theories. Thus, any positive theory of ethics must account for both the deontological and the teleological aspects of the evaluation process. In this study, we decided to test the ethical decision-making theory of Hunt and Vitell [24], one of the first positive models developed in the field of marketing, for its efficacy in the IS field. We chose their theory because it is well established, has the underpinnings of the two prominent classes of moral philosophies, and is empirically testable. Many scholars have also pointed out that much of Hunt and Vitell's [24] theory was really applicable to ethical decision making in general, not just to marketing or business [50]. Most important, it also has the advantage of explicating the decision-making process, rather than treating

it as a single black box in the model, as is the case in other existing models [12, 26]. Further, Hunt and Vitell's [24] ethical decision-making theory encompasses the four basic components of an ethical analysis. According to Mason [33], the first component is the moral agent who faces an ethical dilemma. The second component is the set of alternative courses of action available to the moral agent. The third component is the set of consequences due to the previous courses of action. Finally, the fourth component is the stakeholders. A stakeholder is any individual or group that can affect as well as be affected by the moral agent's actions.

## Research Model and Hypotheses

---

HUNT AND VITELL'S [24] ETHICAL DECISION-MAKING THEORY focuses on the reasoning process used by individuals. It is unique in its attempt to describe constructs and interrelationships in sufficient details to guide researchers in conducting empirical investigations on decisions involving ethical dilemmas, that is, situations that have ethical content. The theory attempts to identify the possible components of an individual decision-making process when one encounters issues with ethical content (see figure 1). While individuals may ultimately arrive at different moral intentions and behaviors, their reasoning process would be similar.

The first step of the theory involves arriving at a perception of the ethical problem situation, which then triggers the remaining process of the model. If the individual is ethically insensitive—that is, he or she does not perceive a situation posed to him or her as having ethical content—then subsequent elements of the model do not come into play. Once an individual perceives of a situation as an ethical dilemma, he or she will perceive a set of possible alternatives or actions that might be followed to resolve the ethical problem. As it is unlikely that an individual can recognize the complete set of possible alternatives, the identified set of alternatives will be less than the universe. Further, there are different types of alternatives ranging from taking action (either punitive or nonpunitive) to taking no action.

Once the set of possible alternatives has been determined, two types of evaluation will take place: a deontological evaluation and a teleological evaluation. In the deontological evaluation, the inherent rightness or wrongness of the behavior implied by each alternative is evaluated. The process involves comparing the behavior with established deontological norms. These norms may include both general and issue-specific beliefs. If the behavior implied by the alternative is judged to be inherently right deontologically, this will result in a favorable deontological evaluation. Conversely, if the behavior implied by the alternative is judged to be inherently wrong, this will result in an unfavorable deontological evaluation.

Teleological evaluation is a function of the perceived consequences of each alternative, the probability that each consequence will occur, the desirability of each consequence, and the importance of each stakeholder. Consequences may range from positive consequences to negative consequences for the stakeholders involved in the ethical dilemma. Similarly, stakeholders range from the individual to others who may be affected by the ethical dilemma. The theory suggests that, if the consequences of

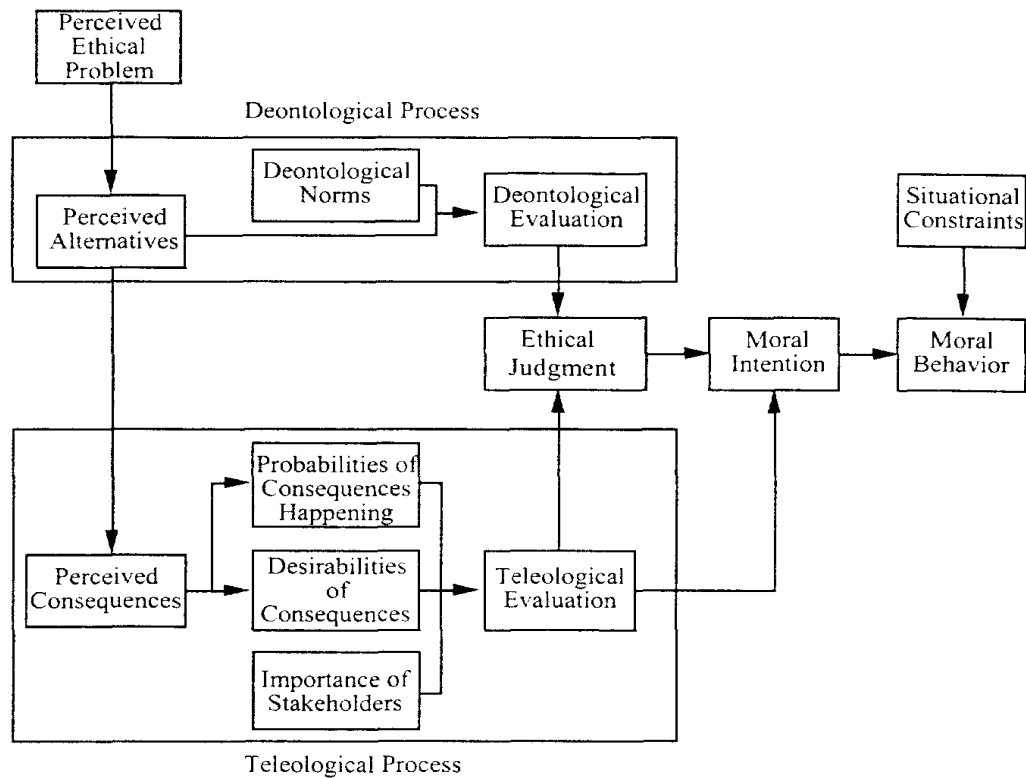


Figure 1. Hunt and Vitell's Ethical Decision-Making Theory [24]

an alternative are perceived to be more positive than negative to the stakeholders, then teleological evaluation of the alternative will tend to be positive. Conversely, if the consequences of an alternative are perceived to be more negative than positive to the stakeholders, then teleological evaluation of the alternative will tend to be negative. Hence, perceived positive consequences will influence teleological evaluation positively, while perceived negative consequences will influence teleological evaluation negatively.

The ethical judgment arrived at by the individual is a function of both deontological and teleological evaluations. Ethical judgment results from application of both deontological evaluation to each alternative and teleological evaluation of the relative goodness versus badness resulting from each alternative. Hence, the model suggests that most individuals will rely on both deontological and teleological considerations. However, the theory does not hypothesize which type of moral evaluations takes precedence. This may vary between different types of ethical dilemmas and differ from individual to individual.

Consistent with Fishbein and Ajzen's [13] model, ethical judgment will have an impact on behavior through the intervening variable of moral intention. But the ethical judgment may differ from the moral intention if the individual perceives one alternative as "most" ethical and another as having more desirable consequences. This is because teleological evaluation also affects moral intention directly. Hence, moral intention to adopt an alternative is influenced by both ethical judgment and teleological

evaluation. Situational constraints such as opportunity to adopt an alternative may also result in behaviors that are inconsistent with moral intention.

Finally, the theory posits that there are environmental or background factors such as cultural, industry, organizational, and personal experiences that are external to the ethical decision-making process but nevertheless affect it. For example, individuals who are manipulative will have lower standards of deontological norms and place more emphasis on their own importance relative to other stakeholders. The organization and the industry in which the individual works may impose their own sets of ethical standards on the individual. In addition, contrasting cultures of the different societies to which the individual belongs will produce different expectations that are expressed in dissimilar ethical standards of societies. There is a feedback loop after experiencing the outcomes of the behavior, from actual consequences to the personal experiences of the individual.

Because the Hunt and Vitell [24] model is complex, it is not feasible to test the complete model in one instance. The remainder of this paper reports on a partial test of the ethical decision-making process. While the model implies numerous testable hypotheses, Hunt and Vitell [24] have identified seven core hypotheses. In this study, we are interested in the ethical decision-making process rather than the external factors. Thus, the two hypotheses with regard to the environmental factors were excluded. We also did not test the hypothesis linking moral intention to behavior since the subjects did not act on their intentions during the study. Hence, we did test the remaining four core hypotheses. Figure 2 presents the research model. Note that the main concepts here are deontological evaluation, teleological evaluation, and ethical judgment, while the main concepts in the theory of reasoned action are attitudes and social norms. The hypotheses derived from Hunt and Vitell's [24] theory are listed below. Note also that the directional effects in hypothesis 1 for the different alternatives have to be read in conjunction with the ethical scenario chosen for this study (described in the section on scenario design).

*H1a: Deontological norms significantly influence deontological evaluation of punitive alternative (positively).*

*H1b: Deontological norms significantly influence deontological evaluation of nonpunitive alternative (positively).*

*H1c: Deontological norms significantly influence deontological evaluation of no-action alternative (negatively).*

*H2a: Positive consequences for self (probability of positive consequence times importance of self) significantly influence teleological evaluations (positively).*

*H2b: Negative consequences for self (probability of negative consequence times importance of self) significantly influence teleological evaluations (negatively).*

*H2c: Positive consequences for group (probability of positive consequence times importance of group) significantly influence teleological evaluations (positively).*

*H2d: Negative consequences for group (probability of negative consequence times importance of group) significantly influence teleological evaluations (negatively).*

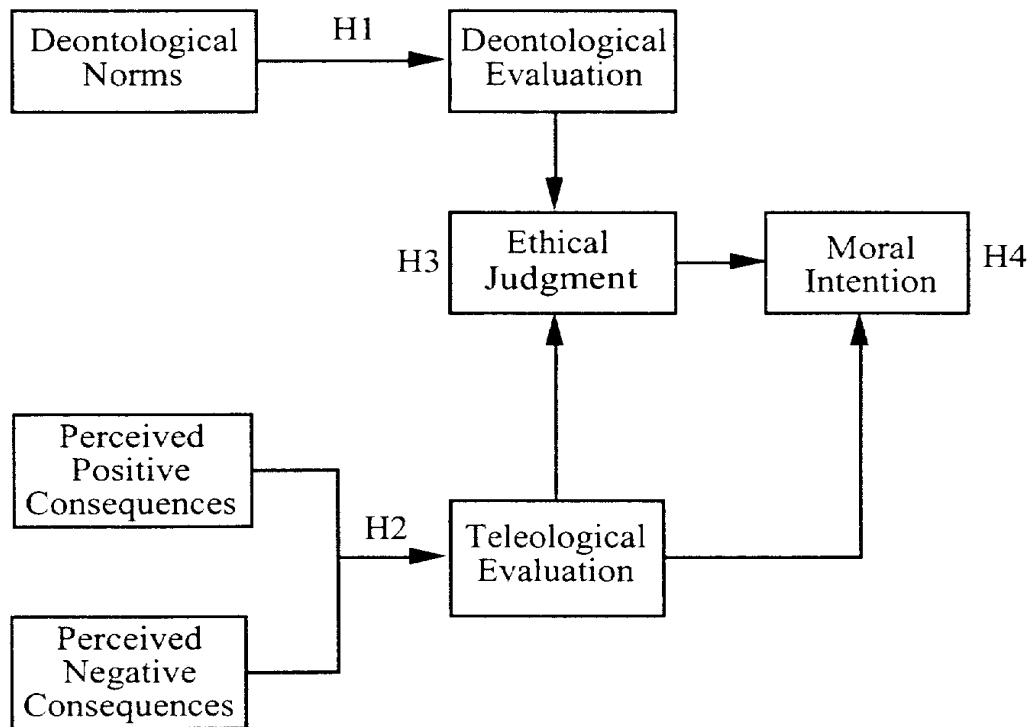


Figure 2. Research Model

*H3: Ethical judgments are significantly influenced by deontological and teleological evaluations (positively).*

*H4: Moral intentions to adopt a certain alternative are significantly influenced by ethical judgments and teleological evaluations (positively).*

## Methodology

### Sample

THE SUBJECTS FOR THE STUDY WERE GRADUATING IS STUDENTS from the Department of Information Systems and Computer Science in a major Singapore university. Each year, this department contributes approximately 25 percent of the total entry-level IS professionals released into the Singapore job market. Using graduating students who are entry-level IS professionals, rather than IS professionals who have been working in the industry, would affect external validity if we were investigating factors leading to ethical or unethical moral intention and behavior. Our primary objective, however, was to understand the process of ethical decision making. While experienced individuals might arrive at different moral intention, the process of arriving at that moral intention or behavior is unlikely to differ. Further, the ethical scenario of softlifting is immediately relevant to entry-level IS professionals [9].



## Data Collection Procedure

The questionnaire used in this study went through iterative rounds of revision based on feedback from two other IS faculty members. Input was also solicited from Scott Vitell, one of the originators of the Hunt and Vitell [24] model. A pilot study was conducted on twenty-five subjects from the sample to pretest the questionnaire. After subjects had completed the questionnaires, interviews were conducted to verify the appropriateness of the ethical scenario, the possible alternatives and consequences, the phrasing of the questions, and the layout of the questionnaire. After amendments were made, a second pilot study was conducted on fifteen new subjects. Feedback from the second pilot study produced minimal amendments to the questionnaire. We decided, then, that the questionnaire was ready for the main study. The pilot studies also indicated that the scenario was perceived as having ethical content, that is, that it presented an ethical dilemma to the respondents, and the alternatives and possible consequences were realistic and relevant. Responses from those involved in the pilot studies were not included in the final sample.

The actual study was conducted in a lecture hall and participation was voluntary. All the IS students took a course taught by one of the authors. The subjects were allocated thirty minutes to complete the questionnaire. Interactions were not allowed, and confidentiality of responses was emphasized. In addition, the subjects did not identify themselves on the questionnaires so that they would be truthful in their responses with regard to a sensitive study on their personal ethics. Excluding the forty subjects who participated in the pilot studies, the final sampling frame consisted of 260 subjects. From this sampling frame, 243 subjects returned fully completed questionnaires for data analysis.

## Scenario Design

The methodology for this study is based on the scenario approach recommended by Hunt and Vitell [24]. The scenario method is widely used in ethics research [36] and has been applied to study IT issues [19, 59]. In the current study, Hunt and Vitell's [24] marketing scenario is tailored to the situation of softlifting, which is familiar to the subjects. All subjects had completed IS development projects in groups at the time of study. The scenario used in this study is described in figure 3.

As suggested by Vitell and Hunt [56], one punitive, one nonpunitive, and one no-action alternative with corresponding consequences were proposed to the subjects for consideration when evaluating the ethical dilemma (see Table 1). An unconstrained set of alternatives would be unmanageable. The punitive alternative is to report to the lecturer to take action against John. The nonpunitive alternative is to erase the pirated software. These alternatives were chosen after pretesting of a larger set of possible alternatives during the pilot studies to determine which were perceived as most likely. The particular stakeholders used in this study were the leader of the project group and the group. Although there may be other possible stakeholders, such as the lecturer and the rightful owner of the copyrighted software, only the above two stakeholders were

You have been elected the leader of a 4-member group to do an information systems project for a lecturer. The group is told that marks will be deducted for late submission and bonus marks will be awarded for early submission of the project deliverables. However, the group will get a failing grade if the group is caught using pirated software. The lecturer allows the group to use a few PCs under his charge on campus to carry out the project. However, the PCs are shared with many other people. Lately, you discovered John, a member of your group, has copied a piece of copyrighted software into the campus PCs to carry out his work without the group's knowledge. Another member has told John to erase the software because he/she is worried that someone sharing the PCs will report to your lecturer that your group has copied pirated software into the PCs. However, John has refused to do so. His reason is that the software is able to speed up his work such that the whole project can be finished earlier to earn the bonus marks. Being the leader of the group, what will you do?

Figure 3. Softlifting Scenario

chosen. Pretesting indicated that these two were the most salient for the study sample. Further, the addition of more stakeholders would increase the complexity and length of the questionnaire without much increased benefit.

In the scenario presented, an individual who is a strict deontologist will consider softlifting to be inherently unethical. A strict teleologist, on the other hand, will consider both the possible positive and negative consequences for the individual and other important stakeholders (i.e., the group). If the individual believed that the probability of positive consequences (i.e., bonus marks) outweighed the probability of negative consequences (i.e., failing grade), he or she would take the risk of an unethical decision and do nothing. However, most individuals are not likely to be strict deontologists or strict teleologists. According to the theory, they will tend to have a mixed system of both ethical perceptions [24].

## Measures

The measurements of the constructs were derived from previous instruments and recommendations by Hunt [23], Vitell and Hunt [56], Singhapakdi and Vitell [49], and Mayo and Marks [34]. The list of remaining items to measure the research variables is presented in the appendix.

*Deontological norms* were measured by six items with seven-point Likert scales. Following the method adopted by Singhapakdi and Vitell [49], the items were derived from the ACM code of ethics with relevance to the softlifting scenario. An example of this norm is: "We should minimize the possibility of indirectly harming others such as causing loss of property." The response options to the items ranged from 1, strongly agree, to 7, strongly disagree. The items were recorded such that lower scores reflected stronger deontological norms. The scores were reverse-coded before data analysis.

Table 1. Alternatives and Consequences

Alternative 1	Report to the lecturer to take action against John. (Punitive action)
Alternative 2	Erase the software. (Nonpunitive action)
Alternative 3	Do nothing. (No action)
Consequence 1	I will be caught using the pirated software and get a failing grade for the project.
Consequence 2	The <i>group</i> will be caught using the pirated software and get a failing grade for the project.
Consequence 3	The project will not be completed in time and <i>my</i> marks will be deducted.
Consequence 4	The project will not be completed in time and the <i>group's</i> marks will be deducted.
Consequence 5	The project will not be completed early or late and I will not earn the bonus marks or have marks deducted.
Consequence 6	The project will not be completed early or late and the <i>group</i> will not earn the bonus marks or have marks deducted.
Consequence 7	The project will finish early and I will earn bonus marks.
Consequence 8	The project will finish early and the <i>group</i> will earn bonus marks.

This section of the questionnaire was completed by the subjects before the ethical dilemma scenario was presented in order to capture their deontological norms and values before they considered the possible consequences of their actions.

*Deontological evaluations* of each alternative were measured by two seven-point Likert scales. An example is: "Based on my *own values*, without considering any possible consequences, I think Alternative 1 is very ethical." The response options to the items ranged from 1, totally agree, to 7, totally disagree. Lower scores reflected stronger deontological evaluations for alternatives 1 and 2, and weaker deontological evaluation for alternative 3. This is because alternatives 1 and 2 are "action" alternatives, while alternative 3 is a "no-action" alternative. The scores were reverse-coded before data analysis. This section was presented right after the scenario was introduced and before the possible consequences were presented.

Specific consequences were designed for the respective alternatives. Under each of the three alternatives, there were both positive and negative consequences for each of the two stakeholders. Respondents were asked to rate on nine-point Likert scales the *probability of the specific consequence happening* for each alternative. The response options to the items ranged from 1, very low, to 9, very high. The items were recorded such that higher scores reflected beliefs of higher *probability of the specific consequence happening*.

The *importance of self* and *importance of group* were assessed by seven-point Likert scales. The item measuring *importance of self* was: "How would you view your personal interests in the above scenario?" The item measuring *importance of group* was: "How would you view your group members' interests in the above scenario?" The response options to the items ranged from 1, not at all important, to 7, very

important. Whichever item is scored higher will reflect the relative importance of personal interests vis-à-vis the group's interests.

*Teleological evaluations* of each alternative were measured by two seven-point Likert scales. An example is: "Based on the *possible consequences*, I think Alternative 1 is very ethical." The response options to the items ranged from 1, totally agree, to 7, totally disagree. The scores were reverse-coded before data analysis. This section was presented following the introductions of the determinants of teleological evaluations.

*Ethical judgments* of each alternative were measured by two seven-point Likert scales. For example: "Considering both the *possible consequences* and my *own values*, I think Alternative 1 is very ethical." The statement is worded this way to reflect the idea that an ethical judgment is influenced by both deontological and teleological evaluations. The response options to the items ranged from 1, totally agree, to 7, totally disagree. The scores were reverse-coded before data analysis.

The dependent variable, *moral intention* of each alternative, was measured on a seven-point Likert scale. One illustration of this measure is: "In the above scenario, Alternative 1 would definitely not be the alternative I would choose." While it is not possible to assess the reliability of a single item, it is considered adequate for evaluating the moral intention construct (see [3, 39]).<sup>1</sup> The response options to the item ranged from 1, strongly agree, to 7, strongly disagree. A high score signifies moral intention to choose that particular alternative.

## Results

---

### Construct Validation

RELIABILITY IS ESSENTIALLY AN EVALUATION OF MEASUREMENT ACCURACY. It is concerned with producing consistent results, that is, to be free from random or unstable error. Table 2 presents the Cronbach's coefficient alpha scores for the multiple-item variables measured in this study. Generally, the reliabilities of the measures used for the various variables were high and satisfied the minimum value of 0.7 recommended by Nunnally [37].

The construct validity of multiple-item measures such as deontological norms, deontological evaluations, teleological evaluations, and ethical judgments was assessed using factor analysis. Since the deontological norms construct and the deontological evaluation construct relative to the same alternative should be causally related, three factor analyses were conducted—one for each alternative. All the items loaded on their *a priori* factors, and their loadings were greater than 0.50, the limit recommended by Nunnally [37]. Further, as the deontological evaluation construct, the teleological evaluation construct, and the ethical judgment construct relative to the same alternative should be causally related, three additional factor analysis were conducted—one for each alternative. Table 3 indicates that all the items loaded on their *a priori* factors, and their loadings were greater than 0.50. Hence, these variables demonstrated adequate convergent and discriminant validity.

Table 2. Descriptive Statistics

Variables	Alpha	Mean	SD	Scale	Description
NORM	0.74	5.75	0.80	1-7	Deontological norms
IMP_GRP	—	5.38	1.23	1-7	Importance of group
IMP_SELF	—	4.89	1.43	1-7	Importance of self
+SELF1	—	28.75	13.10	1-63 <sup>a</sup>	Positive consequences for self for punitive alternative (prob. of positive consequences × importance of self)
-SELF1	—	22.64	11.14	1-63	Negative consequences for self for punitive alternative (prob. of negative consequences × importance of self)
+GRP1	—	32.04	13.19	1-63	Positive consequences for group for punitive alternative (prob. of positive consequences × importance of group)
-GRP1	—	28.63	11.66	1-63	Negative consequences for group for punitive alternative (prob. of negative consequences × importance of group)
+SELF2	—	26.55	12.84	1-63	Positive consequences for self for nonpunitive alternative (prob. of positive consequences × importance of self)
-SELF2	—	22.86	12.47	1-63	Negative consequences for self for nonpunitive alternative (prob. of negative consequences × importance of self)
+GRP2	—	29.74	13.24	1-63	Positive consequences for group for nonpunitive alternative (prob. of positive consequences × importance of group)
-GRP2	—	26.01	13.24	1-63	Negative consequences for group for nonpunitive alternative (prob. of negative consequences × importance of group)
+SELF3	—	28.40	14.95	1-63	Positive consequences for self for no-action alternative (prob. of positive consequences × importance of self)
-SELF3	—	31.33	15.03	1-63	Negative consequences for self for no-action alternative (prob. of negative consequences × importance of self)
+GRP3	—	31.09	15.00	1-63	Positive consequences for group for no-action alternative (prob. of positive consequences × importance of group)
-GRP3	—	35.84	14.94	1-63	Negative consequences for group for no-action alternative (prob. of negative consequences × importance of group)
DEON1	0.85	4.55	1.51	1-7	Deontological evaluation of punitive alternative
DEON2	0.83	5.42	1.31	1-7	Deontological evaluation of nonpunitive alternative
DEON3	0.91	2.62	1.31	1-7	Deontological evaluation of no-action alternative
TELEO1	0.90	4.54	1.47	1-7	Teleological evaluation of punitive alternative

Table 2. Continued

Variables	Alpha	Mean	SD	Scal	Description
				e	
TELEO2	0.89	5.47	1.16	1-7	Teleological evaluation of nonpunitive alternative
TELEO3	0.95	2.77	1.44	1-7	Teleological evaluation of no-action alternative
JUDGE1	0.90	4.60	1.53	1-7	Ethical judgment of punitive alternative
JUDGE2	0.90	5.41	1.23	1-7	Ethical judgment of nonpunitive alternative
JUDGE3	0.95	2.76	1.46	1-7	Ethical judgment of no-action alternative
INT1	—	2.84	1.72	1-7	Moral intention for punitive alternative
INT2	—	5.31	1.72	1-7	Moral intention for nonpunitive alternative
INT3	—	3.03	2.02	1-7	Moral intention for no-action alternative

<sup>a</sup> The scale for consequences is due to Probability (1-9 scale) times Importance (1-7 scale) resulting in a range of 1-63.

### Descriptive Statistics

The sample consisted of an almost equal number of men and women. Of the 243 subjects, 133 were men and 110 were women. Table 2 presents the descriptive statistics of the variables. The deontological norms (NORM) of the subjects were very high, with a mean of 5.75 out of 7. Perceived positive consequences for both self and group (+SELF and +GRP) were higher than their respective perceived negative consequences (-SELF and -GRP) for the punitive alternative 1 (report to the lecturer to take action against John) and the nonpunitive alternative 2 (erase the software). The reverse was true for the no-action alternative 3 (do nothing). Hence, it was not surprising that teleological evaluation results (TELEO) showed that both the nonpunitive alternative 2 and punitive alternative 1 were preferred to the noaction alternative 3.

From a deontological evaluation perspective (DEON), the subjects prefer the nonpunitive alternative 2 (erase the software) followed by the punitive alternative 1 (report to the lecturer to take action against John), and then the no-action alternative 3 (do nothing). This same ordering of alternatives was also the case for the subjects' perceptions of ethical judgments (JUDGE). The ordering was different, however, for moral intentions (INT). There was a significant decrease in the mean moral intention for alternative 1. Although the subjects judged the punitive alternative 1 to be more ethical than the no-action alternative 3, they were not willing to punish others. The subjects also perceived the group to be more important than self (IMP\_GRP versus IMP\_SELF) when making decisions regarding ethical alternatives. This may reflect the cultural background of the subjects. Asian societies tend to have lower individualism [21, 57]. Perceptions of both positive and negative consequences for group (+GRP and -GRP) were higher than their respective consequences for self (+SELF and -SELF) for all three alternatives.

Table 3. Factor Analysis

Items	Factors		
	Deontological evaluation	Teleological evaluation	Ethical judgment
(a) Punitive alternative			
DEON-1	<b>0.85</b>	0.17	0.35
DEON-2	<b>0.87</b>	0.32	0.16
TELEO-1	0.22	<b>0.79</b>	0.45
TELEO-2	0.32	<b>0.87</b>	0.30
JUDGE-1	0.27	0.33	<b>0.88</b>
JUDGE-2	0.32	0.47	<b>0.73</b>
(b) Nonpunitive alternative			
DEON-1	<b>0.85</b>	0.23	0.28
DEON-2	<b>0.91</b>	0.18	0.15
TELEO-1	0.24	<b>0.83</b>	0.37
TELEO-2	0.23	<b>0.86</b>	0.34
JUDGE-1	0.22	0.35	<b>0.87</b>
JUDGE-2	0.29	0.42	<b>0.79</b>
(c) No-action alternative			
DEON-1	<b>0.83</b>	0.36	0.30
DEON-2	<b>0.86</b>	0.29	0.31
TELEO-1	0.37	<b>0.81</b>	0.40
TELEO-2	0.39	<b>0.78</b>	0.41
JUDGE-1	0.31	0.40	<b>0.83</b>
JUDGE-2	0.35	0.34	<b>0.85</b>

Note: "-1," "-2," etc., refer to the individual items measuring the variable.  
Other figures are factor loadings.

### Hypotheses Testing

Before preparing the multiple regression results, we examined the collinearity diagnostics provided by SPSS—namely, the condition indices. In all cases except for the regressions to test hypothesis 2, the results showed no indications of multicollinearity between the independent variables. In the case of hypothesis 2, the highest condition indices in the three regressions involving positive consequences and negative consequences for self and group were 18, 22, and 19, respectively, exceeding the warning level of 10 for multicollinearity [5]. Further, positive consequences for self (+SELF) were highly correlated with positive consequences for group (+GRP) for all three alternatives, with large correlation coefficients (0.72, 0.76, and 0.81, respectively). Similarly, negative consequences for self (-SELF) were highly correlated with negative consequences for group (-GRP) for all three alternatives, with large correlation coefficients (0.61, 0.78, and 0.74, respectively). These condition indices and correlation

coefficients indicated moderate multicollinearity [52]. Thus, we combined the positive consequences for both self and group into a new variable, +CON, for each alternative. The negative consequences for both self and group were also combined into a new variable, -CON, for each alternative. Reliabilities were high for the combined positive consequences for each alternative (0.76, 0.87, and 0.85, respectively) and combined negative consequences for each alternative (0.84, 0.86, and 0.90, respectively).

The general path analysis models representing the ethical decision-making process for the three alternatives are presented in Table 4. For each alternative, four regression equations were analyzed. The models supported by the data are illustrated in figure 4 (a, b, and c).

The results supported hypothesis 1. Deontological norms had a significantly positive effect on deontological evaluation of the punitive alternative 1. Further, deontological norms had a significantly positive influence on deontological evaluation of the nonpunitive alternative 2 and a significantly negative influence on deontological evaluation of the no-action alternative 3. These results were consistent with subjects having high deontological norms preferring to take some forms of action, while those with low deontological norms preferred not to get involved. Thus, deontological norms influenced deontological evaluations as expected.

There was mixed support for hypothesis 2. Two out of six path coefficients were significant. In the case of the nonpunitive alternative 2, positive rather than negative outcomes appeared to be salient. On the other hand, the reverse was true of the no-action alternative 3. Positive consequences for both self and group had a significant positive effect on teleological evaluation of the nonpunitive alternative, while negative consequences for both self and group had a significant negative association with teleological evaluation of the no-action alternative. These results indicated that the subjects did not necessarily use the same information in forming their teleological evaluation for evaluating every type of alternative [56]. Apparently, the specific alternatives and specific consequences involved tended to determine what specific consequences the individuals relied on. What is needed is research to determine the specific circumstances under which the individual is likely to be more concerned with the positive consequences and the circumstances under which he or she is likely to be more concerned with the negative consequences.

The results were strongly supportive of hypothesis 3 with significantly large amounts of variance explained. Ethical judgments were significantly influenced by both deontological and teleological evaluations. This finding provided evidence for Hunt and Vitell's [24] thesis that individuals tend to use both types of ethical theories. Hierarchical regressions were conducted to determine whether each type of evaluation made a significant contribution in forming ethical judgment in the presence of the other. For all three alternatives, regression analysis was conducted by entering deontological evaluation, followed by teleological evaluation. This was repeated with teleological evaluation entered first, followed by deontological evaluation. In both regressions, the addition of the second type of evaluation resulted in a significant change ( $F$ -prob < 0.05) in the amount of variance explained for all three alternatives. Further, on the issue of softlifting in a group context, the subjects tend to base their



Table 4. Multiple Regression Results

Dependent variable	Independent variable	Punitive alternative		Nonpunitive alternative		No-action alternative	
		Beta (Sign.)	R <sup>2</sup> (F-prob.)	Beta (Sign.)	R <sup>2</sup> (F-prob.)	Beta (Sign.)	R <sup>2</sup> (F-prob.)
H1: Deontological evaluation	Deontological norms	0.12 (0.028**)	0.01 (0.056*)	0.24 (0.000****)	0.06 (0.000****)	-0.32 (0.000****)	0.10 (0.000****)
	Positive consequences	0.06 (0.215)	0.00 (0.711)	0.17 (0.013**)	0.04 (0.011**)	0.06 (0.172)	0.05 (0.001****)
H2: Teleological evaluation	Negative consequences	-0.01 (0.465)		0.04 (0.311)		-0.25 (0.000****)	
	Deontological evaluation	0.25 (0.000****)	0.63 (0.000****)	0.21 (0.000****)	0.60 (0.000****)	0.22 (0.000****)	0.66 (0.000****)
H3: Ethical judgment	Teleological evaluation	0.62 (0.000****)		0.64 (0.000****)		0.63 (0.000****)	
	Ethical judgment	0.32 (0.000****)	0.15 (0.000****)	0.39 (0.000****)	0.17 (0.000****)	0.51 (0.000****)	0.30 (0.000****)
H4: Moral intention	Teleological evaluation	0.07 (0.227)		0.02 (0.424)		0.04 (0.313)	

\*\*\*\*  $p < 0.001$ ; \*\*\*  $p < 0.01$ ; \*\*  $p < 0.05$ ; \*  $p < 0.10$ ; all betas are standardized.

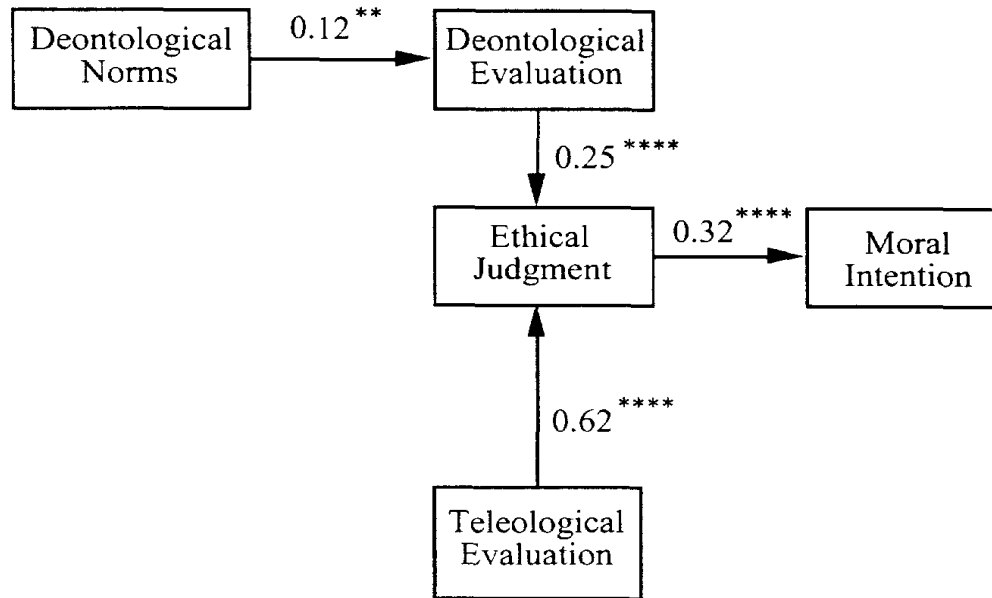
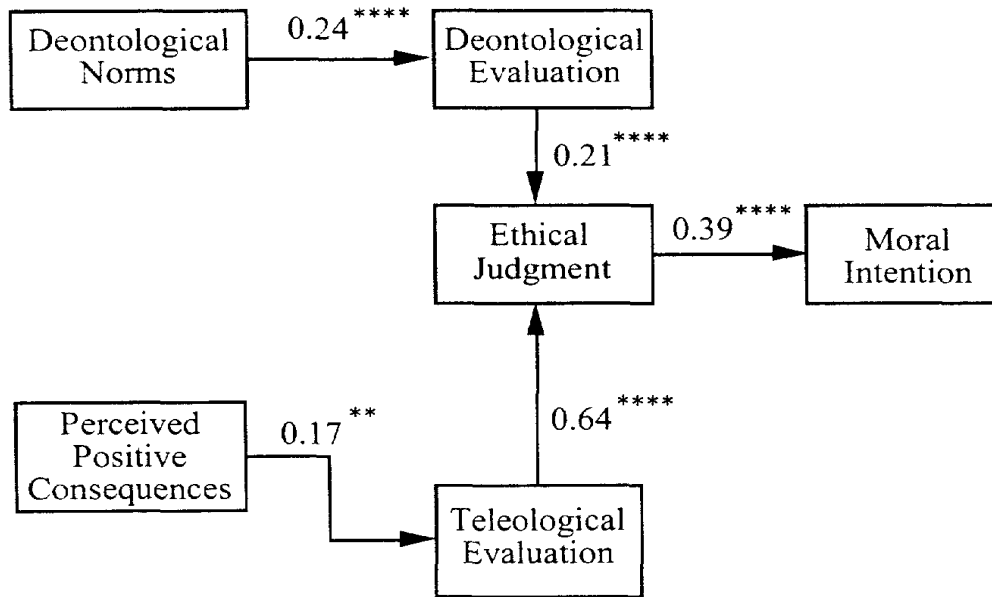


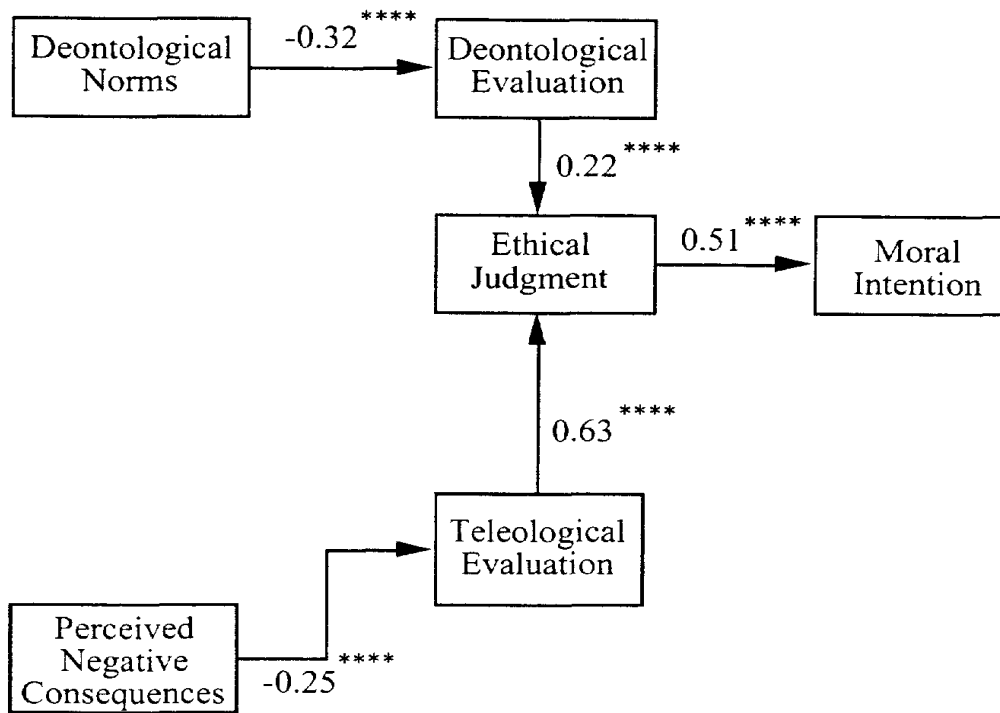
Figure 4. Research Results: A. Punitive Alternative  
 Note: \*\*\*\*  $p < 0.001$ , \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$



B. Nonpunitive Alternative

ethical judgments more on a teleological basis of evaluation than on a deontological basis.

Hypothesis 4 was partially supported by the results. In the case of softlifting, moral intentions to adopt alternatives were significantly influenced by ethical judgments. However, teleological evaluations had no significant direct effect on the subjects'



### C. No-Action Alternative

moral intentions. Hence, teleological evaluations affected moral intentions through ethical judgments (see Table 5). The indirect effects of teleological evaluations on moral intentions had path coefficients of 0.20 for the punitive alternative, 0.25 for the nonpunitive alternative, and 0.32 for the no-action alternative. Thus, after the subjects arrived at their ethical judgments based on both deontological and teleological evaluations, they tended to follow through with their moral intentions without being further influenced by the possible consequences of their behaviors.

## Discussion

THE RESULTS OF THIS STUDY SUPPORT THE APPLICABILITY OF Hunt and Vitell's [24] theory in explaining the ethical decision-making process in the context of IT ethical dilemmas. The explanatory power of Hunt and Vitell's [24] theory with  $R^2$  values ranging from 15 percent to 30 percent is much higher than those obtained under the theory of reasoned action (e.g., 7–14 percent in Loch and Conger's study [30]). Further, the explanatory power of both deontological and teleological evaluations on ethical judgment was very high with  $R^2$  values ranging from 60 percent to 66 percent. Formulating the ethical decision-making process in terms of concepts such as deontological evaluation, teleological evaluation, and ethical judgment is a fruitful extension to research using the theory of reasoned action's concepts of attitudes and social norms. To the extent that IS professionals use both deontological and teleological

Table 5. Prediction of Moral Intention

Variables	Direct effect	Indirect effect	Total effect
(a) Punitive alternative			
Ethical judgment	0.32	0.00	0.32
Teleological evaluation	0.07	0.20	0.27
(b) Nonpunitive alternative			
Ethical judgment	0.39	0.00	0.39
Teleological evaluation	0.02	0.25	0.27
(c) No-action alternative			
Ethical judgment	0.51	0.00	0.51
Teleological evaluation	0.04	0.32	0.36

evaluations in resolving an ethical dilemma, any positive model of ethics in IT must capture these processes.

The findings have implications for IS education and practice. With the increasing momentum toward building information-networked societies, there are increased opportunities for unethical behaviors such as duplicating copyrighted software without permission, creating computer viruses, and committing computer fraud. As such, an important imperative is the proper education of entry-level IS professionals to help them deal with on-the-job ethical dilemmas [9]. Training in ethical analysis will benefit these IS professionals by providing them with a set of clear principles and skills that are practical in their application. Huff and Martin [22] have discussed the advantages of project ImpactCS as a conceptual framework for presenting ethical and social issues in computing to their students. Other qualitative approaches include Collins and Miller's "paramedic" method [8] and Couger's "personalization" method [9]. The Hunt and Vitell [24] theory of ethical decision-making process presents a positivist approach to ethical analysis training that is based on moral philosophies.

For their part, organizations can include training in ethical analysis in their induction programs to socialize new entrants. Organizations may also want to develop policies and guidelines for their IS professionals to establish a certain level of ethical conduct. This may be achieved by introducing and enforcing an organizational code of ethics. The results imply that this code of ethics should emphasize the *consequences* of ethical or unethical behavior, that is, teleological evaluations. In the case of softlifting within a group context, our results have shown that teleological evaluation is more important than deontological evaluation in arriving at an ethical judgment that will subsequently lead to moral intention to perform the behavior. It is hoped that this two-pronged approach of training in ethical analysis and enforcing an organizational code of ethics will result in more ethical behavior among IS professionals.

From a research perspective, the results of this study show that Hunt and Vitell's [24] theory can adequately describe the ethical decision-making process. It is potentially a better alternative than the theory of reasoned action for understanding the

ethical decision-making process. While the results of this partial test of the ethical decision-making process are promising, more research is still needed. Future research can investigate other portions of the ethical decision-making theory. For example, what specific contextual factors (cultural, industry, organizational, and personal experiences) influence the deontological and teleological evaluation processes? What type of individuals tend to depend more on deontological evaluation than on teleological evaluation and vice-versa? The inclusion of other stakeholders and additional alternatives for behaviors may also be considered in view of the weak relationships between perceived consequences of alternatives and teleological evaluations in this study. Freeman et al.'s stakeholder perspective [17], which presents a systematic approach to examining the consequences of an alternative, may be useful in this regard. However, these additional inclusions will necessarily increase the complexity of the research design and pose practical problems. The generalizability of Hunt and Vitell's [24] theory to other IT ethical dilemmas represents another viable avenue of research. It would be useful to know whether the same decision-making process applies to other ethical issues such as privacy, accountability, and information privilege.

There are two limitations to keep in mind in evaluating the results of this study. First, to match the wording of the question on deontological evaluation, the teleological evaluation should have been rephrased: "Based on the possible consequences, without considering my own values, I think that . . ." Second, the scale used to measure probability of consequence happening was a 1–9 Likert scale anchored by "very low" and "very high" at the extremities. Some respondents who wanted to score 0 or 100 percent might be constrained to fill in 1 or 9 on the Likert scale instead. For all questions of this nature, the number of respondents who scored 1 ranged from 4 to 37 (1.6–15.2 percent) with a mean of 13 (5.3 percent). Similarly, the number of respondents who scored 9 ranged from 4 to 44 (1.6–18.1 percent) with a mean of 20 (8.2 percent). To check the effect of this limitation, we recoded respondents' scores on probabilities from 1 to 0 and from 9 to 10. The new regression results were consistent with the existing results. Those path coefficients that were significant were still significant and those that were insignificant were still insignificant. Further, the magnitudes of the coefficients differed by less than 0.01. Hence, this limitation did not appear to affect the results of the existing data analysis. Nonetheless, in future research, it would be preferable to allow a range of 0–100 percent in the measurement of probabilities.

## Conclusion

WE HAVE PRESENTED THE ETHICAL DECISION-MAKING THEORY developed by Hunt and Vitell [24]. We also tested four of the core hypotheses identified in this theory and found them to be generally well supported. Hunt and Vitell's [24] theory has the capability to help IS researchers understand the ethical decision-making process involved when IS professionals are faced with IT ethical dilemmas. By combining Mason's [33] four basic components of each ethical dilemma and drawing on Hunt and Vitell's [24] ethical decision-making theory for guidance, we can increase our knowledge of why IS professionals perform ethical or unethical behaviors. Knowledge

of the ethical decision-making process can be used in ethical analysis training to assist IS professionals in coping with new ethical dilemmas brought about by the progress of IT. Organizations can also incorporate relevant factors identified from studies of ethical decision-making process into their code of ethics to discourage unethical behavior and encourage ethical behavior.<sup>2</sup>

## NOTES

1. E-mail communication with Scott Vitell.
2. A copy of the questionnaire may be obtained from the first author upon request.

## REFERENCES

1. Anderson, R.E.; Johnson, D.G.; Gotterbarn, D.; and Perrolle, J. Using the new ACM code of ethics in decision making. *Communication of the ACM*, 36, 2 (1993), 98–107.
2. Athey, T., and Zmud, R.W. *Computers and Information Systems*. Glenview, IL: Scott, Foresman and Company, 1987.
3. Baroudi, J., and Igbaria, M. An examination of gender effects on career success of information systems employees. *Journal of Management Information Systems*, 1, 3 (1995), 181–201.
4. Beauchamp, T.L., and Bowie, N.E. *Ethical Theory and Business*. Englewood Cliffs, NJ: Prentice-Hall, 1979.
5. Belsley, D.A.; Kuh, E.; and Welsch, R.E. *Regression Diagnostics: Identifying Influential Data and Sources of Collinearity*. New York: John Wiley, 1980.
6. Bequai, A. *Technocrimes*. Lexington, MA: Lexington Books, 1987.
7. Christensen, A.L., and Eining, M.M. Factors influencing software piracy: implications for accountants. *Journal of Information Systems*, 5 (Spring 1991), 67–80.
8. Collins, R., and Miller, K.W. Paramedic ethics for computer professionals. *Journal of System Software*, 17 (January 1992), 23–28.
9. Couger, J.D. Preparing IS students to deal with ethical issues. *MIS Quarterly*, 13, 2 (1989), 211–218.
10. Eining, M.M., and Christensen, A.L. A psycho-social model of software piracy: the development and test of a model. In R. Dejoie, G. Fowler, and D. Paradice (eds.), *Ethical Issues in Information Systems Use*. Boston: Boyd and Fraser, 1991, pp. 182–188.
11. Ferrell, O.C., and Gresham, L.G. A contingency framework for understanding ethical decision making in marketing. *Journal of Marketing*, 49 (Summer 1985), 87–96.
12. Ferrell, O.C.; Gresham, L.G.; and Fraedrich, J. A synthesis of ethical decision models of marketing. *Journal of Macromarketing*, 9, 2 (1989), 55–64.
13. Fishbein, M., and Ajzen, I. *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Boston: Addison-Wesley, 1975.
14. Ford, R.C., and Richardson, W.D. Ethical decision making: a review of the empirical literature. *Journal of Business Ethics*, 13, 2 (1994), 205–221.
15. Forester, T.G., and Morrison, P. *Computer Ethics: Cautionary Tales and Ethical Dilemmas in Computing*, 2d ed. Cambridge, MA: MIT Press, 1994.
16. Frankena, W. *Ethics*. Englewood Cliffs, NJ: Prentice-Hall, 1963.
17. Freeman, R.E.; Gilbert, D.R., Jr.; and Hartman, E. Values and foundations of strategic management. *Journal of Business Ethics*, 7 (1988), 821–834.
18. Gabella, G., and Picasso, M.D. PC software industry lost \$8.08 billion to pirates in 1994. *Information and Management*, 29, 5 (1995), 285–288.
19. Harrington, S.J. Why people copy software and create computer viruses: individual characteristics or situational factors? *Information Resources Management Journal*, 2, 3 (1989), 28–37.
20. Harrington, S.J. The anomaly of other-directedness: when normally ethical IS personnel are unethical. *Computer Personnel*, 16, 2 (1995), 3–11.

21. Hofstede, G. *Cultures and Organizations: Software of the Mind*. London: McGraw-Hill, 1991.
22. Huff, C., and Martin, C.D. Computing consequences: a framework for teaching ethical computing. *Communication of the ACM*, 38, 12 (1995), 75–84.
23. Hunt, S.D. Commentary on an empirical investigation of a general theory of marketing ethics. *Journal of the Academy of Marketing Science*, 18, 2 (1990), 173–177.
24. Hunt, S.D., and Vitell, S.J. A general theory of marketing ethics. *Journal of Macromarketing*, 6 (Spring 1986), 5–16.
25. Johnson, D.G. *Computer Ethics*, 2d ed. Englewood Cliffs, NJ: Prentice-Hall, 1994.
26. Jones, T.M. Ethical decision making by individuals in organizations: an issue-contingent model. *Academy of Management Review*, 16, 2 (1991), 366–395.
27. Kling, R. Beyond outlaws, hackers and pirates: ethical issues in the work of information and computer science professionals. In *Computerization and Controversy: Value Conflicts and Social Choices*, 2d ed. San Diego: Academic Press, 1996.
28. Laudon, K.C. Ethical concepts and information technology. *Communications of the ACM*, 38, 12 (1995), 33–39.
29. Levy, M., and Dubinsky, A.J. Identifying and addressing retail salespeople's ethical problems: a method and application. *Journal of Retailing*, 59, 1 (1983), 46–66.
30. Loch, K.D., and Conger, S. Evaluating ethical decision making and computer use. *Communications of the ACM*, 39, 7 (1996), 74–83.
31. Luegenbiehl, H.C. Computer professionals: moral autonomy and a code of ethics. *Journal of Systems Software*, 17, (1992), 61–68.
32. Mason, R.O. Four ethical issues of the information age. *MIS Quarterly*, 10, 1 (1986), 5–12.
33. Mason, R.O. Applying ethics to information technology issues. *Communications of the ACM*, 38, 12 (1995), 55–57.
34. Mayo, M.A., and Marks, L.J. An empirical investigation of a general theory of marketing ethics. *Journal of the Academy of Marketing Science*, 18, 2 (1990), 163–171.
35. McFarlan, F.W. Editor's comments. *MIS Quarterly*, 12, 1 (1988), iii–vi.
36. Murphy, P., and Laczniak, G.R. Marketing ethics: a review with implications for managers, educators and researchers. In B. Enis and K. Roering (eds.), *Review of Marketing*. Chicago: American Marketing Association, 1981, pp. 251–266.
37. Nunnally, J.C. *Psychometric Theory*. New York: McGraw-Hill, 1978.
38. Oz, E. Ethical standards for information systems professionals: a case for a unified code. *MIS Quarterly*, 10, 1 (1992), 423–433.
39. Parasuraman, S. Predicting turnover intentions and turnover behavior. *Journal of Vocational Behavior*, 21 (1982), 111–121.
40. Parker, D.; Swope, S.; and Baker, B. *Ethical Conflicts in Information and Computer Science, Technology, and Business*. Wellesley, MA: QED Information Sciences, 1990.
41. Randall, D.M. Taking stock: can the theory of reasoned action explain unethical conduct? *Journal of Business Ethics*, 8 (1989), 873–882.
42. Randall, D.M., and Gibson, A.M. Methodology in business ethics: a review and critical assessment. *Journal of Business Ethics*, 9 (1990), 457–471.
43. Ross, W.D. *The Right and the Good*. Oxford: Clarendon Press, 1930.
44. Samuelson, P. Digital media and the law. *Communications of the ACM*, 34, 10 (1991), 23–28.
45. Samuelson, P. Computer programs and copyright's fair use doctrine. *Communications of the ACM*, 36, 9 (1993), 19–25.
46. Samuelson, P. Copyright's fair use doctrine and digital data. *Communications of the ACM*, 37, 1 (1994), 21–27.
47. Sidgwick, H. *The Methods of Ethics*. London: MacMillan, 1907.
48. Simpson, P.M.; Banerjee, D.; and Simpson, C.L. Softlifting: a model of motivating factors. *Journal of Business Ethics*, 13, 6 (1994), 431–438.
49. Singhapakdi, A., and Vitell, S. Research note: selected factors influencing marketers' deontological norms. *Journal of the Academy of Marketing Science*, 19, 1 (1991), 37–42.
50. Smith, N.C., and Quelch, J.A. *Ethics in Marketing*. Homewood, IL: Irwin, 1993.
51. Straub, D.W., and Collins, R.W. Key information liability issues facing managers:

software piracy, proprietary databases, and individual rights to privacy. *MIS Quarterly*, 14, 2 (1990), 143–156.

52. Tabachnick, B.G., and Fidell, L.S. *Using Multivariate Statistics*, 2d ed. New York: HarperCollins, 1989.

53. Taylor, P.W. *Principles of Ethics: An Introduction*. Encino, CA: Dickenson Publishing, 1975.

54. Trevino, L.K. Ethical decision making in organizations: a person-situation interactionist model. *Academy of Management Review*, 11, 3 (1986), 601–617.

55. Vitell, S.J., and Davis, D.L. Ethical beliefs of MIS professionals: the frequency and opportunity for unethical behavior. *Journal of Business Ethics*, 9, 1 (1990), 67–70.

56. Vitell, S.J., and Hunt, S.D. The general theory of marketing ethics: a partial test of the model. *Research in Marketing*, 10, (1990), 237–265.

57. Watson, R.T., and Brancheau, J.C. Key issues in IS management. *Information and Management*, 20 (1991), 213–223.

58. Watson, R.T., and Pitt, L.F. Personal computing ethics: beliefs and behaviour. *International Journal of Information Management*, 13, 4 (1993), 287–298.

59. Watson, R.T., and Pitt, L.F. Determinants of behavior towards ethical issues in personal computing. *OMEGA*, 21, 4 (1993), 457–470.

60. Wood-Harper, A.T.; Corder, S.; Wood, J.R.G.; and Watson, H. How we profess: the ethical system analyst. *Communications of the ACM*, 39, 3 (1996), 69–77.

## APPENDIX.: Questionnaire Items

---

### Deontological Norms

1. Violation of copyrights should be prohibited by law.
2. Punishment must be enforced on those who have done wrong.
3. We should minimize the possibility of indirectly harming others such as causing loss of property.
4. Stealing is wrong.
5. We can only use other people's property when we have been authorized to do so.
6. Copies of software should only be made with proper authorization.

### Deontological Evaluations

Based on my *own values*, without considering any possible consequences, I think that:

1. Alternative 1 (report on John) is very ethical.
2. Alternative 1 (report on John) is ethically acceptable.
3. Alternative 2 (erase software) is very ethical.
4. Alternative 2 (erase software) is ethically acceptable.
5. Alternative 3 (do nothing) is very ethical.
6. Alternative 3 (do nothing) is ethically acceptable.

### Importance of Self

1. How would you view your personal interests in the above scenario?



## Importance of Group

1. How would you view your group members' interests in the above scenario?

## Teleological Evaluations

Based on the *possible consequences*, I think that:

1. Alternative 1 (report on John) is very ethical.
2. Alternative 1 (report on John) is ethically acceptable.
3. Alternative 2 (erase software) is very ethical.
4. Alternative 2 (erase software) is ethically acceptable.
5. Alternative 3 (do nothing) is very ethical.
6. Alternative 3 (do nothing) is ethically acceptable.

## Ethical Judgments

Considering both the *possible consequences* and my *own values*, I think that:

1. Alternative 1 (report on John) is very ethical.
2. Alternative 1 (report on John) is ethically acceptable.
3. Alternative 2 (erase software) is very ethical.
4. Alternative 2 (erase software) is ethically acceptable.
5. Alternative 3 (do nothing) is very ethical.
6. Alternative 3 (do nothing) is ethically acceptable.

## Moral Intentions

1. In the above scenario, Alternative 1 (report on John) would definitely not be the alternative I would choose.
2. In the above scenario, Alternative 2 (erase software) would definitely not be the alternative I would choose.
3. In the above scenario, Alternative 3 (do nothing) would definitely not be the alternative I would choose.