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## Teaching Ethics in MIS Courses: An Introduction to Ethical Intensity and Eight Short Ethical Dilemmas for the Classroom

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**Abstract:** Ethics and ethical considerations are present in all aspects of organizational life. As such, and coupled with their high potential impacts, they need to be discussed in the classroom. One area of ethics that has received less attention relates to ethical situations in the management information systems (MIS) context. This paper hopes to provide additional information on this topic by introducing the ethical intensity construct and discussing how it can be used to help students understand and analyze ethical dilemmas related to MIS work. Further, this paper provides eight different ethical situations that have received less attention in teaching MIS classes, with the ultimate goal of being able to utilize and discuss these dilemmas in the classroom environment.

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# Teaching Ethics in IS Courses: An Introduction to Ethical Intensity and Eight Short Ethical Dilemmas for the Classroom

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## Abstract

Ethics and ethical considerations are present in all aspects of organizational life. As such, and coupled with their high potential impacts, they need to be discussed in the classroom. One area of ethics that has received less attention relates to ethical situations in the information systems (IS) context. This paper hopes to provide additional information on this topic by introducing the ethical intensity construct and discussing how it can be used to help students understand and analyze ethical dilemmas related to IS work. Further, this paper provides eight different ethical situations that have received less attention in teaching IS classes, with the ultimate goal of being able to utilize and discuss these dilemmas in the classroom environment.

**Keywords:** ethics, cases, ethical cases, ethical intensity, ethical dilemmas

## 1. INTRODUCTION

Over the years there has been substantial dialogue about teaching styles, course content, and actual classes to be taught in the information systems (IS) curriculum. Often times the focus is on technical skills and how to best ensure that students learn the material, and can apply the material learned to non-classroom, real-world situations. However, in general ethics have garnered relatively minimal attention in the context of IS, with a few topics, such as piracy, computer monitoring, and outsourcing, having received the large majority of the interest, whereas others have received much less consideration. This is surprising and unfortunate as this topic has received considerable interest in the general business and management literatures, much of which has been due to a number of recent high profile ethical lapses, some of which have toppled large companies.

Due to the nature of the work, there is considerable potential for ethical problems in the IS arena. This fact, as well as the focus on ethics in the general workplace, makes it all the more important for IS students to be exposed to ethical frameworks and situations (Couger, 1989; Harris and Weaver, 1994-1995; Joseph, 2007; Quinn, 2005). This paper hopes to help achieve this goal by introducing the concept of ethical (moral) intensity (Jones, 1991). After describing the ethical intensity construct, eight common ethical situations at work are discussed. Finally, the paper ends by providing a suggested teaching format, which has been used by the authors, for leading IS class discussions on these topics.

## 2. ETHICAL (MORAL) INTENSITY

Ethics have been discussed in the IS curriculum, but the ethical intensity construct has received scant attention (Kini, Ramakrishna,

and Vijayaraman, 2004; Peslak, 2007). Ethical (or moral) intensity is a term to “denote the underlying characteristics of an issue that may directly affect the ethical decision making process at various stages” (Jones, 1991, p. 368). The construct has previously been examined and discussed in a number of different business contexts including marketing (Lloyd et al., 1996), accounting (Leitsch, 2006), and management (Dukerich, Waller, George, & Huber, 2000). Ethical intensity is comprised of six components, which will now be discussed and are also provided in Table 1. The first of these is the magnitude of overall consequences. The second component is social consensus, which is the degree to which others perceive the action as ethically questionable. The third component is likelihood of effect, which is the probability that negative outcomes will result. The fourth component is temporal immediacy – the time between the action and its effects. The fifth component is concentration of effect. This component refers to the number of people impacted by the action, with smaller numbers resulting in a greater concentration (i.e., one person experiencing a substantial negative effect as opposed to many people experiencing slight negative effects). The sixth and final component is psychological distance, which refers to the felt proximity or the question whether someone can understand what another person is or will be going through.

In general, decisions or situations that have a low magnitude of consequences, most people think are ethical, the likelihood of negative effects are low, the time lags are long, many people are minimally impacted, and where it is difficult to understand what someone would be dealing with (high psychological distance), would all contribute to low ethical intensity (Jones, 1991). On the flipside, when these dimensions are opposite (e.g., high magnitude of consequences, high likelihood of a negative outcome), ethical intensity is high (Morris & McDonald, 1995). Depending on the specific situation, these components of ethical intensity have different levels of importance. However, previous research has established that the components of overall magnitude of consequences and social consensus are especially important in predicting outcomes from decisions (Frey, 2000).

**Table 1 The Ethical Intensity Construct**

<b>Ethical Intensity Components</b>	<b>What the Dimensions Mean</b>
Magnitude of Consequences	How much total harm results from the action.
Social Consensus	The degree to which others perceive the action as ethically questionable.
Likelihood of Effect	The probability that negative outcomes will result.
Temporal Immediacy	The time between the action and its effects.
Concentration of Effect	The number of people impacted by the action, which is inversely related with the number of people affected.
Psychological Distance	The felt proximity, which is essentially can we understand what someone else went through.

In the next sections, ethical issues that have received considerable attention in previous IS research are discussed, followed by ethical situations that have received less interest and how these can be introduced in the classroom. After presenting these eight ethical dilemmas, details are provided on how to lead discussions on these issues when teaching IS classes.

**3. ETHICAL ISSUES IN IS**

Ethics and ethical decisions are areas that play a role in every aspect of business. When dealing with computers, and more specifically IS issues, ethics have been discussed in a number of situations (e.g., Kreie & Cronan, 2000; Mason, 1995; Pliagas, 2000). In particular, a few areas have received considerable attention, so these are mentioned in the following section. Additionally, in the section after this one, ex-

tended information is provided about ethical situations that have received less focus.

The topic of computer monitoring of employees is an intriguing ethical issue (Loch, Conger, & Oz, 1998; Sewell & Barker, 2001). On one side there is the thought that what employees do on employers' systems is the property of employers. Thus, employers have rights to know what individuals are doing. On the other hand, employees have privacy rights and often argue that what they do on their work computers, such as emailing and internet browsing, is their own information that should remain private.

Another ethical situation involves the pirating of computer programs, software, and other digital information (e.g., Calluzo & Cante, 2004; Cheng, Sims, & Teegen, 1997; Kini, Ramakrishna, and Vijayaraman, 2004). A related topic is "soft-lifting", which refers to the taking or downloading of legal software that is intended for business computers onto personal or home computers (e.g., Liang & Yan, 2005; Tang & Farn, 2005).

Computers and computer technology have also resulted in employees losing a number of jobs, as computers are able to more efficiently complete the tasks an employees used to perform, thus the need for employees' jobs are eliminated. Additionally, jobs are being relocated in areas of the world where labor is cheaper (e.g., Gonzalez, Gasco, & Llopis, 2005). This situation presents an ethical dilemma for managers, as organizations want to cut costs and increase profits, but sometimes this is at the expense of laying off employees or outsourcing work.

A final ethical situation that has received considerable attention for IS professionals involves the system development, testing, and ultimately the implementation of a new system. How much time should be spent on the development and testing phases, as no system is ever perfect? However, if a system is implemented with serious flaws or bugs which ultimately cause the user (i.e., company, individual, etc.) damages, was it unethical to release the system before these bugs were identified and repaired?

In each of the ethical dilemmas described above, the ethical intensity construct can be used to analyze the situations. Depending on the specifics of the situation, different dimensions of ethical intensity may be of

differential importance. Instructors can discuss these dilemmas in class and utilize the ethical intensity construct as a guiding framework. However, since these issues have received substantial attention, this paper focuses on ethical situations related to IS that have received less consideration.

#### **4. ETHICAL SITUATIONS TO BE UTILIZED IN THE CLASSROOM**

The ethical situations described above have been discussed in a number of pedagogical and research efforts. However, there are a number of ethical dilemmas and decisions that have received much less attention, but which IS students should still be exposed. Below, eight of these issues are provided.

##### **4. 1 Keeping Detailed Information on Individuals**

Information technology and the advances in systems and databases have enabled companies to house extremely large quantities of detailed information on individuals. However, this brings up the question related to how much information should companies be keeping? Along a similar vein, how detailed should this information be? Finally, how long should companies keep it? Currently, there are no guidelines, so companies may delete all unnecessary information from their databases after a year, whereas others may keep the data indefinitely. Because of the potential for abuses, unethical uses of this information, and employee privacy, this is a situation that students need to think about before they enter the real world and begin working on or managing databases.

##### **4.2 Data Mining of Individual Data**

A related issue is data mining, or the analysis of data in the hopes of identifying patterns and relationships (Pear, 2004). Often times data mining is performed for legitimate purposes, but in certain cases this can be abused (Lawler and Molluzzo, 2006; Van Wel and Royackers, 2004). The potential power of data mining has increased as databases are able to hold higher quantities of detailed information. One possible area where data mining presents ethical problems relates to data mining for health-related issues of employees. In past cases, employers have used data mining to determine the frequency of sicknesses and which illnesses are likely to result. This information is use-

ful when purchasing health insurance for an organization, but there is the potential that the findings may be used when making hiring decisions. For example, an employer may make the decision not to hire an employee because they are likely to have certain expensive health problems. When data mining is used for this purpose, this presents an ethical issue, and one which IS professionals will have to confront as the detailed individual data collected often allows for this capability.

### **4.3 System Testing – The Contract vs. The Best**

One issue that IS workers often have to deal with is preparing a system for a contract. In virtually all cases, a part of this contract involves testing the system. As such, systems' workers will test the system per the specifications of the contract. However, it is often the case that as the system is being tested per contract requirements, IT workers realize that problems may still exist. This leads to the ethical dilemma: Should system workers continue to test systems when they think it is needed after contract specifications, or should they only test as much as they are required to? An additional point to think about is not only the functionality of the system, but how continued testing beyond contract requirements will impact the bottom line.

### **4.4 Quality of Life Issues**

Another ethical issue brought about by the power and access to information systems is the quality of life of workers. IT employees often work on critical projects, have tight deadlines, have the capability to work even after "business hours", are in constant access with their employers via email and other means, and can easily complete work at home. Due to all of these factors, there is the potential for IT workers to work extremely long and hard hours, and in some cases, this is at the expense of their non-work lives. Thus, an ethical decision for managers at the workplace is how to make sure that IT workers have work-life balance, as it is good for the company and the individual. Additionally, managers need to be cognizant that when they have high expectations and tight deadlines, there is the potential for them to overwork their IT employees at rates that are bad for the company in the long term.

### **4.5 Dealing with Conflicts of Interest**

An ethical issue that arises in a number of situations is a conflict of interest. In certain cases, a system analyst and designer may want to minimize billable hours to make a job more profitable, and this may be at the expense of doing the best job or minimizing exposure to current risks. On the flipside, IS workers may want to maximize billable hours in the hopes of making the most money for themselves. Another situation could be someone working on a system or database and not doing the best job possible, with the hopes that the client will ask the employee to come back to fix or make any improvements. A similar issue is if an IS worker does anything unique in a system or database, he or she is increasing the odds that the company will have to invite him or her back to fix the system when there are big problems. All of these situations present conflicts of interest between individuals and their organizations or clients, and are worthy of IS students thinking about them.

### **4.6 Accountability for System Problems**

Another situation that creates an ethical dilemma relates to who is accountable or responsible when a system fails or does not work the way it is supposed to. Additionally, is it even necessary or possible to find the responsible party? This could be an issue if someone needs to get money out of an ATM to pay for something in a short time frame. If there is a problem with a system or database and the individual is unable to access any money, who is responsible for the inconvenience and potentially more serious repercussions. Another situation could be a company having problems with their system and losing sales, which ultimately lead to lower profits. Does the responsibility rest with the organization, the individual who designed the system, the employee who build the database, or no one in particular at all?

### **4.7 IS Employees Having Access to Personal Data**

Another ethical dilemma is the fact that IS employees have access to personal and confidential information. The access to this data is often gathered when they are developing a system, working on a system, or working on general maintenance issues. As a result, there is the potential that IS employees may

abuse this power and access employees' personal information. Unfortunately, there are often minimal safeguards to prevent this behavior and the people who often would know that this information has been accessed, are the same ones who would have the potential to commit the unethical action. Thus, organizations and IS managers need to ensure that those who are working in the IS area are ethical, have policies and procedures in place to discourage these behaviors, and enforce the rules to minimize any potential problems related to others' personal information.

#### **4.8 Determining Risks in Systems**

A final ethical issue in IS relates to the determination of risks in a system. Regardless of the system, all have risks related to security and other issues. Thus, the question for IS managers is how far should they go in determining and eliminating these risks. If managers fix all risks, the costs of a system will likely outweigh the benefits. However, if critical risks exist, these must be fixed. Additionally, there is not only the potential that individual (employees, customers, etc.) data could be exposed by security problems, but as mentioned in the accountability for system problems, there are financial implications to system risks. As a result, IS managers need to deal with this ethical issue and determine the proper level of risk that is allowable in a system.

#### **5. APPLYING ETHICAL INTENSITY TO IS ETHICAL ISSUES**

In each of the eight ethical situations described in the previous section, the ethical intensity construct can be utilized as a guiding framework. As far as the teaching method, the specific format previously used in class by the authors and how students have reacted to it are discussed next. First, in class the ethical dilemmas are presented one at a time. Each one is presented to the students and the instructor then asks them a general question related to if they thought it was a big deal (i.e., is this even an ethical dilemma?). Next, the instructor asked students to individually rate how each situation rated on the ethical intensity dimensions. After they have completed their individual ratings, students are asked to discuss these issues in small groups (4-5 people). Finally, we talk about them as a class. Usually, a

whole class is reserved for discussing these issues, but it is likely that they will come up in other classes when related points are being discussed.

Experience has shown that students enjoy this activity. It gets them thinking and talking about ethical issues that they often would not have otherwise thought about. Also, the authors have noticed and received feedback that the ethical intensity construct is useful and helpful, as it is easy to understand, provides structure, and allows them to analyze ethical situations on a number of different criteria (dimensions of ethical intensity). Additionally, when students have to complete individual rankings, discuss these in groups, and finally in the class as a whole, students get to hear other perspectives which often challenge their own thoughts. Further, when having to discuss and defend their positions to their classmates, students are often forced to think about these issues at a deeper level and give the dilemmas additional consideration. As a whole, the authors have found these activities to be useful and a nice addition to IS classes as our students need to leave the classroom with exposure to and having thought about different ethical situations they may face in their future jobs.

#### **6. CONCLUSION**

With all that is going on in the workplace and the high potential for ethical problems in the IS area, there is a need for additional emphasis on teaching ethics in IS classes (Leonard, Cronan, and Kreie, 2004). This paper introduces the ethical intensity construct, which is comprised of six dimensions and is a useful framework for understanding and analyzing ethical situations. Additionally, this paper provides eight ethical issues or dilemmas that can be discussed in IS classes, and briefly mentions the teaching format the authors have used with success when talking about these issues. Hopefully this paper helps to spur conversations and leads to more frequent discussions about different ethical topics in future IS classrooms.

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