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Managerial Decision-Making on Moral Issues and the Effects of Teaching Ethics

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ABSTRACT. This study uses judgment and decision-making (JDM) perspective with the help of framing and schema literature from cognitive psychology to evaluate how managers behave when problems with unethical overtones are presented to them in a managerial frame rather than an ethical frame. In the proposed managerial model, moral judgment of the situation is one of the inputs to managerial judgment, among several other inputs regarding costs and benefits of various alternatives. Managerial judgment results in managerial intent leading to managerial action. The model and the effects of taking an ethics course on ethical and managerial judgment and managerial intent were then indirectly tested in this study, wherein subjects judged the ethical wrongness, managerial badness, and the managerial intent regarding decisions made in a case. Forty-nine MBA students analyzed a case involving budget-based bonuses and production, in which the ethical issue evolved over three stages. It appears from the Path-analysis results that managerial judgment mediated between moral judgment and the judgment of managerial intent as suggested by the proposed model, and that taking an ethics course directly affected managerial judgment but did not affect the moral judgment. Additionally, in the first stage of decision-making (early stage of a developing ''ethical slippery slope''), moral judgment did not significantly influence managerial judgment. However, students with ethics course still were more inclined to judge the decision as managerially bad as compared to others, indicating that they were more aware or sensitive to the moral issues involved.

KEY WORDS: business ethics, framing, judgment and decision-making, managerial decisions, schema, teaching ethics

Introduction

> It was perhaps less a question of right or wrong to the participants and more a matter of finding a solution to a narrowly defined technical problem. The activities of involved individuals were constructed as technical tasks connected to a limited organizational imperative and easily disconnected from all other considerations.

Reflecting on recent corporate scandals, Young (2005) made the above statement regarding why so many people participated in various corporate misdeeds. This study uses judgment and decision-making (JDM) perspective with the help of framing and schema literature from cognitive psychology to evaluate how managers behave when problems with unethical overtones are presented to them in a managerial frame rather than an ethical frame.

Previous psychological studies have shown that framing can change the decisions individuals make. A review of ethical and managerial decision-making models shows that these models deal with situations presented in different frames. For the situation presented in an ethical frame, the goal is finding the best ethically right decision. On the other hand, when presented in a managerial frame, the goal in the situation is to find the best decision for the manager and his/her organization. Further, when making moral judgment to evaluate various alternatives, an ethical frame activates an ethical schema, such as Personal Interest, Maintaining Norms, or Post-conventional (Rest et al., 1999) that is different from what a managerial frame activates (such as economic rationality schema) to make a managerial judgment (Jones, 1991).

Managers make decisions everyday using managerial schema, including some alternatives that may have unethical overtones. Young (2005) suggests that even decisions involving major moral issues are sometimes presented to managers as technical problems to be solved. I propose that, in managerial schema, moral judgment (rightness or wrongness of an alternative) becomes an input into the managerial judgment (i.e., managerially how good or bad an

alternative is). The managerial judgment, in turn, determines managerial intent, i.e., whether a decision SHOULD be made or not. For a manager, moral judgment does not directly influence the intent; rather moral judgment influences managerial judgment. This sequence is represented by the following path model:

Moral Judgment → Managerial Judgment → Managerial Intent → Managerial Behavior

The model is then tested by presenting a business case to MBA students (mean age 30 years and mean work experience 6 years) in a management accounting class. In this case, the situation developed from being in an ethical gray zone in Stage 1 to an unethical decision in the final Stage 3. The subjects were asked to make ethical and managerial judgments and judge the managerial behavior. Further, the effects of taking ethics course(s) on various components of Managers' ethical decision-making model were investigated.

The next section contains a literature review, model, and hypotheses followed by the experimental method in Section "Method". Results are described and discussed in Section "Results and discussion" followed by conclusion in Section "Conclusion".

Literature review, model, and hypotheses

Framing and its effects

Yates (1990, p. 361) describes the term framing as referring to "variations in the presentation of a decision situation such that the decision maker constructs markedly different representations of that situation." In a study with experienced doctors and medical students, a marked difference was observed in choices made when the situation was presented in a positive frame (mentioning the probabilities of survival) versus when in a negative frame (mentioning the probabilities of deaths) (McNeil et al., 1982). In a positive frame, it appears that decision maker's goal was to increase the number of living, while in a negative frame, the goal was to reduce the number of dead. Tversky and Kahneman (1986) also reported a difference in decisions when the situation was presented to decision makers in different frames (loss versus gain) and the prospect theory, based on framing effects, has been widely supported (Tversky and Kahneman, 1992).

Framing effects are not limited to decision-making. Simon and Hayes (1976) found similar effects in problem solving (Kahneman, 2003, p. 703). What makes one frame different from another is "the manner in which the choice problem is presented as well as by norms, habits, and expectations of the decision makers" (Tversky and Kahneman, 1986, p.73). I propose that, when managers face a moral issue in decision-making, they make a different decision depending upon how the problem is presented to them or how they perceive the problem, whether in an ethical frame or a managerial frame.

In an ethical frame, the problem is presented and/or perceived as a moral issue. The goal is to arrive at an ethically RIGHT decision according to the decision maker's beliefs using criteria such as greatest good for the greatest number, justice, rights, and caring. Therefore, the questions asked in an ethical frame are also different from those asked in a managerial frame. For example, according to Velasquez et al. (2005):

> Ethics or morality poses questions about how we ought to act and how we should live... According to what standards are these actions right or wrong? ... What character traits (like honesty, compassion, fairness) are necessary to live a truly human life? ... What concerns or groups do we usually minimize or ignore? And why might that be?

Similarly, Michael McDonald (2001) suggests:

> Use your ethical resources to identify morally significant factors in each alternative considering moral principles, moral models, and using ethically informed sources and using personal judgment and organized procedures for ethical consultation ... then check whether your choice passes the following test before you make the final decision: (a) Would a good person do this? (b) What if everyone in these circumstances did this? and (c) Will this maintain trust relationships with others?

In a managerial frame, on the other hand, the problem is typically presented and/or perceived as

one of routine managerial problems containing no moral issues. Managers perceive a problem as a gap between the current and organizationally desirable situation or as an obstacle to or an opportunity for achieving organizational goals. Alternatives are evaluated using criteria of expected costs and benefits to personal/organizational goals to judge how managerially good or BAD an alternative is. The manager's goal is to make a managerially good decision that achieves organizational goals at a minimum expense of resources. For example, Hellriegel and Slocum (1986, p. 254) and Handy (1994) suggest that a manager should compare alternatives by evaluating "expected results and determining the relative cost of each alternative." Similarly, according to Daft (2000, p. 280), Mayer (1995); and Keeny (1994), "The best alternative is one in which the solution best fits the overall goals and values of the organization and achieves the desired results using the fewest resources."

Thus, it appears from the current literature that ethical and routine managerial problems are perceived in two distinct frames. These frames differ in how the problem is described, alternatives evaluated, and decisions judged.

How does framing work? People use different schemas

Psychologists suggest that framing effects arise "from a variety of cognitive mechanisms," as the frames "call up different associations from long-term memory. In effect, they cause the decision maker to think of different things" (Yates, 1990, p. 363). Such cognitive mechanisms residing in long-term memory have been called schemas, which are "essentially, organizing structures for knowledge" (Eyesenck and Keane, 2005, p. 383). Rest et al. (1999) proposed an approach to ethical development based on Schema theory (Rummelhart, 1977; Taylor and Crocker, 1981) and summarized the concept of schema as follows:

> Schemas (i.e., expectations, hypotheses, concepts, regularities) are formed as people notice similarities and recurrences in experiences. Schemas are evoked (or "activated") by current stimulus configurations that resemble previous stimuli. A schema consists of a representation of some prior stimulus phenomenon, applying organized prior knowledge to the understanding of new information (sometimes referred to as "top-down" processing). ... In short, schemas facilitate information processing.

According to Rest et al. (1999), once individuals perceive an ethical issue they may use one or more of the three schemas to make moral judgments: benefits perceived, maintaining norms, and post-conventional schema.[1]

Following up on Rest's four-component model (Rest, 1984), Jones (1991) emphasized moral intensity of the issue in his proposed issue-contingent model of ethical decision making.[2] Jones took the social cognition (Fiske and Taylor, 1984) perspective of schema in his model and suggested that decision makers use the ethical making schemas if the issue is of sufficiently high moral intensity. If the issue is perceived having low moral intensity, they may use other schemas such as economic rationality schema (p. 380).

According to economic rationality schema, individuals pursue maximization of their own utility. Based on Jensen and Meckling (1976, 1992), Zimmerman (2006, p. 156) describes the basic assumptions of the schema as follows:

> Employees, managers, and owners are assumed to be rational, utility-maximizing people. Individuals have preferences for a wide variety of not only goods and services but also intangibles such as prestige, love, and respect, and they are willing to trade one thing they value for another. People evaluate the opportunities they face and select those they perceive will make them better off.

As managers are assumed to be self-interested, effort-averse individuals, their incentives (as part of their incentive-based compensation plans) are so structured that when they increase their own utility, owners' (organizations') utility is also increased, and thus, the managers' interests are aligned with owners' interests. Managers are supposed to use an economic rationality schema in making routine managerial problems, and are expected to evaluate alternatives based on the alternatives' relative cost and benefits to themselves and their organizations.

> Rather than considering whether a particular transaction or decision should be undertaken, corporate managers frequently select actions and make decisions

based on their congruency with organizational aims and self-promotion (Jackall, 1988). As Adams and Balfour (1998, p. 135) comment, 'Doing things the right way and protecting organizational interests can define or supersede doing the right things and make it easier to commit or contribute to destructive acts (Young, 2005).

In their everyday routine decisions, managers do not face moral issues and thus are not likely to use ethical schema to evaluate alternatives unless the problem is perceived as having high moral intensity (Jones, 1991). Some analysts suggest that even moral issues are presented to them as non-moral technical problems as cited in the opening quote. General Motors' Chairman's address to 2005 annual meeting of stockholders (Wagoner, 2005) provides an example of how a moral issue of firing 25,000 employees is presented as a non-moral managerial problem:

> And finally in the cost reduction area, we need to get to 100% capacity utilization, or better. With the plant closing and idling announcements in North America in recent months, we'll have reduced our annual assembly capacity from six million units in 2002 to five million units by the end of this year.
>
> Going forward, in order to achieve full capacity utilization based on conservative volume planning scenarios, we expect to close additional assembly and component plants over the next few years, and to reduce our manufacturing employment levels in the U.S. by 25,000 or more people in the 2005 to 2008 period. We project that these capacity and employment actions will generate annual savings of approximately $2.5 billion.

Even if the problems are not intentionally presented as technical, some managers may unintentionally perceive the problem as technical, because they are used to perceiving their problems in a managerial frame. In a managerial frame, ethical schemas are not readily accessible. Kahneman (2003) suggested mental "accessibility" as a primary reason why different frames cause different decisions.

A question asked in this paper is that, from a judgment and decision-making perspective, what happens when managers perceive a problem in a managerial frame and then see that one or more of the alternatives have moral issues involved. Such issues may have low moral intensity for the decision makers, so the whole problem is not perceived as a moral problem as such and any of the ethical schemas are not activated. It is proposed in this paper that managers use ethical schema within the economic rationality schema to evaluate the costs and benefits of a particular alternative, and that moral judgment serves as one of the inputs into their managerial judgment. In other words, the manager first decides to what extent selecting an alternative may be ethically WRONG or right, and what costs and benefits may be associated with it (i.e., arrives at a moral judgment). Then, that information is used as an input into his/her managerial decision-making schema.

In a managerial schema, the managers calculate the costs and benefits of selecting various alternatives (i.e., how managerially BAD or good those alternatives are) to form their managerial judgments. The managerial judgment leads to managerial intent, i.e., what alternative they intend to select. The model can be simply represented as follows (for a detailed representation, see Figure 1).

Moral Judgment → Managerial Judgment → Managerial Intent → Managerial Behavior

Moral intent versus managerial intent

Rest described moral intent as Component 3 in his four-component model (1984, p. 27) as follows:

> Component 3 involves deciding what one actually intends to do by selecting among competing values. Typically, a person is aware of a number of possible outcomes of different courses of action, each presenting different values and activating different motives. And it is not unusual for non-moral values to be so strong and attractive that a person chooses a course of action that preempts or compromises the moral ideal (p. 32).

The component was named as moral intent because of the emphasis on moral values' role. The role of other non-moral values, such as "factors that activate different motives other than moral motives, factors that influence estimates of costs and benefits, factors

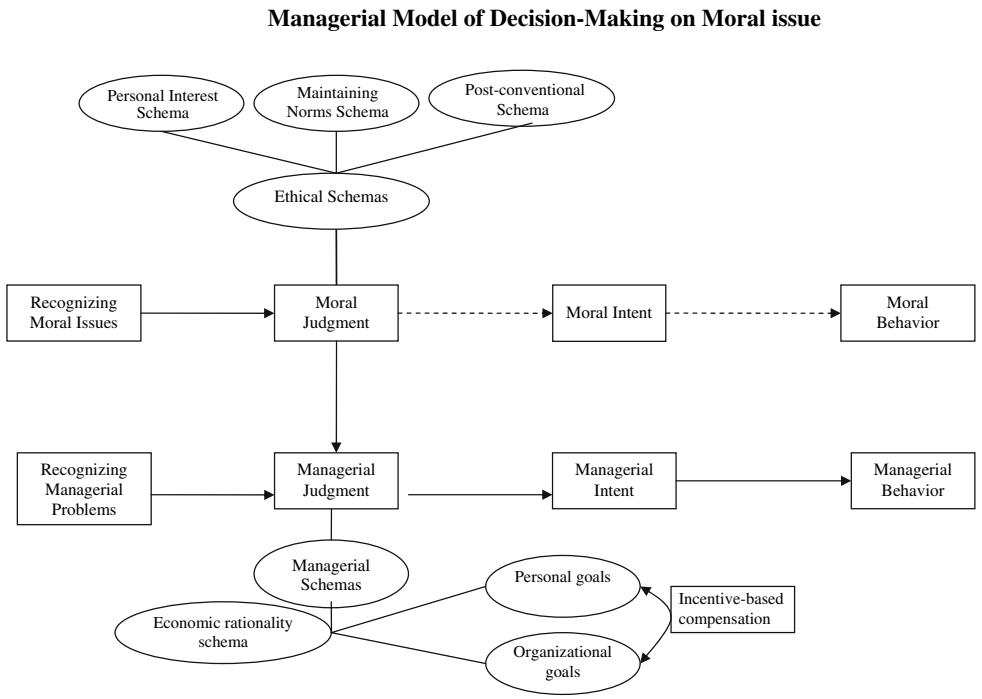

Figure 1. Managerial model of decision-making on moral issue.

that influence subjective estimates of the probability of certain occurrences'' were considered as secondary influences on the component. Trevino (1986) also recognized the role of situational variables moderating the effect of moral judgment on ethical/unethical behavior. One of the situational variables she listed was characteristics of the job itself, and she proposed, ''Managers' ethical behavior will be influenced negatively by external pressures of time, scarce resources, competition, or personal costs.'' I agree that non-moral values play a secondary role in ethical decisions (Rest, 1984) and job characteristics act as moderating variables (Trevino, 1986) when a problem is perceived in an ethical frame. However, I propose that when problems are perceived in a managerial frame, moral judgment becomes an input into managerial judgment along with other factors and thus, moral factors play a secondary role. In addition, managerial judgment becomes a mediating variable between the manager's ethical judgment and manager's intent (managerial intent) leading to his/her behavior (managerial behavior).[3]

As earlier studies have tested how moral judgment leads to ethical intent and ethical behavior (O'Fallon and Butterfield, 2005), the problems in most of the studies are presented in ethical frames. This study focuses on managerial frames. Hence, I have two hypotheses:

Hypotheses 1: The judgment of ethical wrongness of a decision will be positively associated with the judgment of managerial badness of the decision.

Hypothesis 2: The judgment of managerial badness of a decision will be negatively associated with the judgment whether an action should be taken or not.

Effects of taking business ethics courses

Regarding the effects of teaching business ethics, Marnburg (2003) stated that a course in Business Ethics might have one or more of the following effects on students: improved moral reasoning, better awareness of moral issue, change in attitudes, and change in actual behavior. Sims and Sims (1991) expect the following effects of teaching business ethics:

> Students may set higher ethical standards for themselves if they first encounter the moral problems of the working world in the classroom instead of waiting to confront them at a point in their career when they must take moral risks in their organizations.

A survey of ethics textbooks and syllabi reveals that ethics courses typically try to achieve one or more of the following goals:

1. Teach different ethical theories and make students consider all the stakeholders that may possibly be affected by the decision.
2. Teach that good ethics is good business, i.e., good ethics always pays off for the business in short-term or long-term.
3. Even if an ethical decision is not likely to pay off in financial terms, an ethically right decision should be made because it is ethically right. This proposition is usually accompanied by a discussion of business organizations' social responsibility.

If decision makers consider all the stakeholders and all the possible harms to stakeholders from an action under consideration, the analysis will affect their moral judgments. If the action has some unethical overtones, it is quite likely that ethics trained managers will be more inclined to judge the action as ethically WRONG than others who analyze the action without a detailed and systematic consideration. Hence,

Hypothesis 3: Students who have taken a business ethics course (Ethics Course Yes or ECY students) will be more inclined than others (Ethics Course No or ECN students) to consider a decision with unethical overtones as ethically wrong.

There are scores of studies using DIT instrument for measuring ethical development of students before and after an ethics course, and P and N2 scores have been taken as a measure of ethical intent. However, all scenarios in the instrument involve only social situations. When it comes to business situations, especially for graduate (such as MBA) students, one must go beyond social situations, because a manager has an added constraint: He or she has to be a good manager. In the business world, many experts say, and examples are cited to show, that good ethics is good business, if not always, at least most of the time. Many business ethics textbooks emphasize the view that good ethics is good business. For example, Velasquez (2000, p. 6) states:

> This book takes the view that ethical behavior is the best long-term strategy for a company, a view that has become increasingly accepted during the last few years.

In addition, many courses on Business Ethics and Social Responsibility, explicitly state this as one of the goals for their course. For example, John Dienhart, the author of *Business, Institution, and Ethics* (Dienhart, 2000) has two goals for his MBA course (Dienhart, 2005).

1. At the end of this class, you should be able to identify skills and information that will help you make ethically informed, defensible business judgments.
2. Understand, if not believe, the thesis that ethical management is good business management.

If decision makers tend to believe strongly that good ethics is good business, the belief is likely to affect their managerial judgment. If the action has some unethical overtones, it is likely that they will be more inclined to judge the action as managerially BAD than others who do not have such strong belief. Hence,

Hypothesis 4: ECY Students will be more inclined than ECN students to consider a decision with unethical overtones as managerially bad.

Method

Overview and task

Subjects were shown a professionally prepared video of a case and were also given the transcript. The case involves two main characters: Plant Foreman and Plant Accountant working at a manufacturing plant of Electro Plus Inc. The drama of this case consists of three acts or decision stages:

Stage 1 (November 30, a month before the year end)
The manufacturing plant, which had received bonuses in the two previous years, is below target and is not likely to receive a bonus in the current year. Plant Accountant brings to Foreman's notice an order large enough to achieve the budgetary target. But the order is a 6-week job that will have to be expedited in the 4 weeks remaining before the year-end if they want to receive the bonus. Foreman decides to expedite the order.

Stage 2 (December 15, 2 weeks before the year end)
The production order is exceeding cost budget and is behind schedule because of equipment problems and over-time payments. Foreman talks with Plant Accountant and finds out that no partial shipments are allowed under the contract and the order has to be 100% inspected before shipment. Foreman has doubts whether the order can be completed, but decides to continue expediting hoping to still finish in time.

Stage 3 (December 30, 9 PM)
The Foreman tells the Accountant that the order has been shipped out but only 80% inspected instead of 100% as required by the contract. The Foreman asks the Accountant to keep quiet and accuses him that he too shares responsibility in this matter.

Thus, the case involved three stages of decision-making:

Stage 1: Expediting: The Foreman decided to expedite the order.
Stage 2: Continue expediting: The Foreman decided halfway through to continue expediting although he (a) found out that the customer would not accept partial orders and the order had to be 100% inspected, and (b) doubted whether the order could be completed in time.
Stage 3: Shipping uninspected: The Foreman shipped the order only 80% inspected instead of 100% inspected required under the contract.

Questionnaire

A 6-point scale (0 = definitely not, and 5 = definitely yes) was used for all questions except some of the demographics. This even-point scale was selected to force students to pick a side, yes or no.[4]

The students were given five pages of questionnaire: one for each Act, one for overall evaluation after knowing the outcome, and one for manipulation checks and demographic information. After each Act, the video was stopped and students were asked to answer the questions for that Act. When done, the responses were collected before continuing the video. At any point, the students were not allowed to read information about any next stage.

Each stage-wise question page asked three main questions:

1. Did Foreman make a bad decision as a manager? (BADi)[5]
2. Did Foreman make an ethically wrong decision? (WRONGi)
3. Overall, should Foreman have made the decision? (SHOULDi)[6]

[Where i = 1, 2, 3; respectively, for each Stage]

Thus there were nine dependent variables, three for each of the three stages.[7]

The manipulation check questions asked whether the case was interesting and clear to understand. The demographic questions page asked questions about students' gender, age, current household income, highest degree, pre-MBA major, experience in service and manufacturing industries, and whether they had taken courses in operations management and ethics.

Pilot testing

A pilot testing of the case was done with a group of 18 accountants who perceived the decisions getting increasingly BAD (managerially) and WRONG (ethically), and gave decreasing scores on whether the decision SHOULD have been taken. Thus, the data indicated that the ethical situation in the case was developing from bad to worse. We also noticed that all of the decisions fell in the ''gray'' area as the range of responses varied from 0 to 5 in most cases. Thus, the pilot testing indicated that the case was suitable for using in the investigation. We observed similar statistics in the actual study also.

Subjects

Students of two graduate level classes (Managerial Accounting, and Cost Accounting) from an AACSB accredited program of a U.S. university participated in the study. The case was presented as a part of each course's budgeting module.[8] However, no grade was assigned for this task and students were told to express their opinion freely as there were no correct or incorrect answers. The

response data were used in the next class for further case discussion.

Results and discussion

Manipulation checks

All students scored 3 or above on a 0 (definitely not) to 5 (definitely yes) scale on questions whether the case was ''interesting'' (mean = 3.88) and ''clear to understand'' (mean = 4.44). Further, these two variables were not significantly correlated with any of the dependent variables. Three students who had seen the video in an earlier class were excluded from the analysis. One student who did not answer any demographic question was also excluded.

Demographics

Out of 49 students included in analysis, 24 (25) were female (male) (See Table I). On average, their age was 29.7 years (median 29.5 years, range 22–49 years, with a mean service industry experience of 6.1 years (median 5.0 years, range 0–25 years), manufacturing industry experience of 1.5 years (median 0.0 years, range 0–10 years) and total work experience of 7.6 years (median 5.5 years, range 0–30 years).

TABLE I

Demographics

A. Gender	Frequency	Percent
Female	24	49.0
Male	25	51.0
Total	49	100.0

B. Current household income	Frequency	Percent
0–$25,000	5	11.4
$25,001–50,000	10	22.7
$50,001–75,000	16	36.4
$75,001–100,000	8	18.2
$100,001+	5	11.4
Total	44	100.0
Missing = 5		

	Operations Management		Ethics	
C. Whether a course taken in —?	Frequency	Percent	Frequency	Percent
No	31	63.3	14	28.6
Yes	18	36.7	35	71.4
Total	49	100.0	49	100.0

D. Age and work experience	*N*	Mean	Median	SD
Age	48	29.69	29.50	5.340
Service experience	48	6.10	5.00	5.594
Manufacturing experience	48	1.49	0.00	2.270
Total experience	48	7.59	6.00	5.546
Missing = 1				

Eighteen of the students (26.7%) had taken a course in Operations Management (OM) and 35 (71.4%) had taken a course in Ethics.[9] The highest degree for 44 students (90%) was Bachelors and 5 (10%) had Masters. Their annual household income and pre-MBA majors are listed in panels B and D of Table I.

Control variables

None of the variables—age, income levels, operations management course, and service, manufacturing, or total work experience—was significantly correlated with any of the dependent variables, except one. Manufacturing experience was found to be negatively correlated with WRONG2 (Pearson $r = -0.519$, $p < 0.000$). It meant that subjects with longer work experience in manufacturing industry found the Stage 2 decision (continuing expediting) less ethically wrong. However, manufacturing experience was not found significant when included in models along with WRONG2.

We suspected that taking any OM courses might bias students' decisions in favor of achieving operational results while ignoring ethical implications of the situation. However, *t*-tests comparing means of the two groups, with and without OM classes, were not significant for any of the dependent variables.

We also asked students whether their department/company or they themselves had ever been involved in a moral issue or conflict. Responses on a 6-point scale (0 = definitely not, 5 = definitely yes) for the departmental and personal questions had, respectively, means of 2.60 (SD 1.854, range 0–5) and 2.46 (SD 1.868, range 0–5). Only the personal involvement was positively correlated with one of the nine variables, SHOULD2 (Pearson $r = 0.385$, $p = 0.007$). This meant that subjects who had been personally more involved in moral issue or conflicts were more approving of the decision to continue expediting. However, when personal involvement variable was added to the independent variables in models involving SHOULD2, it was not significant and the results were substantially unchanged.

Preliminary analysis

Overall the students considered that with each successive stage, Foreman's actions were managerially worse and ethically more wrong. On a 6-point scale from 0 to 5 (0 = definitely not, 5 = definitely yes), the respective means for BAD1, BAD2, and BAD3 were 2.46, 3.47, and 4.74, respectively, and for WRONG1, WRONG2, and WRONG3 were 2.10, 2.92, and 4.90, respectively[10] (See Table II and Figure 2). The three scores on the third question (SHOULD1, SHOULD2, and SHOULD3), which were presented in a positive tone, i.e., "should Foreman have made the decision?" gradually decreased from 2.72 to 1.58 to 0.53, respectively.

Correlations

Pearson correlations between the three variable in each stage and ETHICS are shown in Table III.

- BADi is significantly correlated to SHOULDi (–) and ETHICS (+) in all stages and to WRONGi (+) in stages 2 and 3 but only marginally (0.07) in stage 1.
- WRONGi is significantly correlated to SHOULDi in stages 1 and 2 but not in stage 3.
- ETHICS (coded as 0, 1 variable) is significantly correlated only to BADi in all stages.[11]

One-way ANOVA and non-parametric tests (Mann–Whitney *U* and Wilcoxon *W*) were conducted to test the effects of ETHICS on all three variables (BADi, WRONGi, and SHOULDi for the three stages. As shown in Figure 3, BADi score for ECY is higher than that for ECN in all three stages. For ANOVA (Table IV, Panel A) and non-parametric tests (Table IV, Panel B) showed that mean difference between ECY and ECN groups were significant (at 0.05 level) for BAD in all three stages but not for WRONG or SHOULD in any of the stages. Means for ECY and ECN groups for WRONGi and SHOULDi are shown in Table V.

Path analysis and hypothesis testing

The four hypotheses were tested by path analysis of the model presented in Figure 4 using AMOS statistical package.

Model Fit

The overall fit statistics in Table VI show that the proposed model fits the data reasonably well in stages

TABLE II

Descriptive statistics

Variables	Mean	Median	SD	Minimum	Maximum
BAD1	2.459	2.500	1.443	0.00	5.00
BAD2	3.469	4.000	1.487	0.00	5.00
BAD3	4.735	5.000	0.730	1.00	5.00
WRONG1	2.102	2.000	1.531	0.00	5.00
WRONG2	2.918	3.000	1.566	0.00	5.00
WRONG3	4.898	5.000	0.368	3.00	5.00
SHOULD1	2.724	3.000	1.565	0.00	5.00
SHOULD2	1.582	1.000	1.586	0.00	5.00
SHOULD3	0.531	0.000	1.226	0.00	5.00

Decision Making Stages: Stage 1, Expedite; Stage 2, Continue Expediting; Stage 3, Ship un-inspected.
Questions Asked (Variable, i = 1, 2, 3 stages): As a manager, did Foreman make a *bad* decision? (BADi). Was Foreman ethically *wrong* in deciding to...? (WRONGi). Overall, do you think, Foreman *should have* decided to...? (SHOULDi).
Scale: 0 = Definitely Not; 5 = Definitely Yes.

1 and 3, and somewhat to a lesser degree in stage 2.[12] First, as the χ^2 in all stages is >.05, we fail to reject the null hypothesis that data fits the model. Second, the Table VI shows several fit indices. The Bentler-Bonnet (1980) normed fit-index (NFI) can range between 0 and 1, where one indicates a perfect fit and models with NFI > 0.90 are considered acceptable. Accordingly, the model is acceptable for stages 1 and 3, but is close (0.886) in stage 2. Bollen's (1989) incremental fit index (IFI) and Bentler's comparative fit index (CFI) also show an acceptable fit if above 0.90 and Table VI shows that according to these standards the model is acceptable in all stages. Further, RMSEA measure shows the population discrepancy function by fitting a model to population moments rather than sample moments (Arbuckle and Wothke, 1999, p. 401) and the model is acceptable if RMSEA is below 0.10 (Brown and Cudeck, 1989). The RMSEA statistic is acceptable for stages 1 and 3, but not for stage 2 (RMSEA = 0.164).

Hypothesis testing

The path coefficients (standardized regression weights) of each path in the model for the three decision stages are presented in Figure 5, and

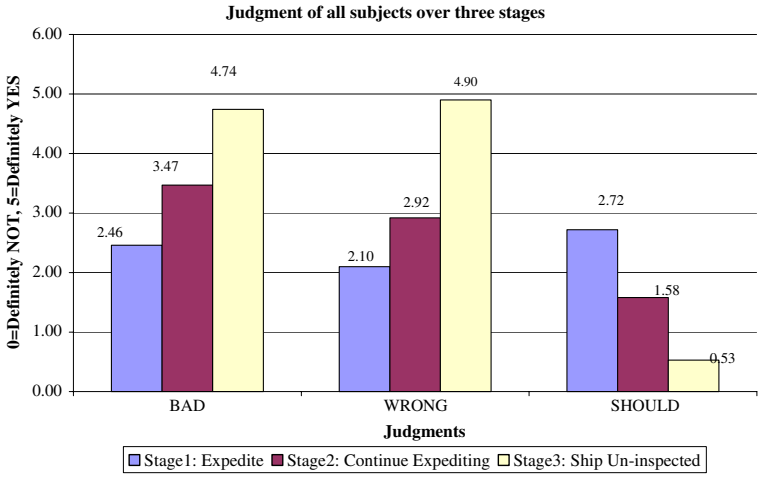

Figure 2. Judgment of all subjects over three stages.

TABLE III

Pearson correlations (Sig. 1-tailed)

Stage 1		BAD1	WRONG1	SHOULD1	ETHICS
BAD1	Pearson *r*	1			
	Sig.				
WRONG1	Pearson *r*	0.214	1		
	Sig.	0.070			
SHOULD1	Pearson *r*	−0.610**	−0.284*	1	
	Sig.	0.000	0.024		
ETHICS	Pearson *r*	0.425**	0.132	−0.200	1
	Sig.	0.001	0.183	0.084	
Stage 2		BAD2	WRONG2	SHOULD2	ETHICS
BAD2	Pearson *r*	1			
	Sig.				
WRONG2	Pearson *r*	0.357**	1		
	Sig.	0.006			
SHOULD2	Pearson *r*	−0.631**	−0.358**	1	
	Sig.	0.000	0.006		
ETHICS	Pearson *r*	0.294*	0.025	0.004	1
	Sig.	0.020	0.432	0.489	
Stage 3		BAD3	WRONG3	SHOULD3	ETHICS
BAD3	Pearson *r*	1			
	Sig.				
WRONG3	Pearson *r*	0.363	1		
	Sig.	0.005**			
SHOULD3	Pearson *r*	−0.491	−0.155	1	
	Sig.	0.000**	0.144		
ETHICS	Pearson *r*	0.331	0.071	−0.058	1
	Sig.	0.010**	0.314	0.345	

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).
Note: Listwise $N = 49$.

detailed in Table VII (Significant *P* and path coefficients are printed in bold).

Hypothesis 1: proposed a positive association between ethical and managerial judgments (WRONG and BAD, respectively). The analysis shows that the hypothesis is supported in stages 2 and 3, but not in Stage 1. It means that in the first stage when the decision was not considered unethical and thus the issue had low moral intensity (Jones, 1991) (mean WRONG on average was 2.16 on a 0 (definitely not) to 5 (definitely yes) scale), moral judgment was not a significant factor in managerial judgment (mean BAD was 2.51), which is not surprising. In other two stages, when the moral intensity was higher (mean WRONG was 2.96 and 4.90, respectively), the hypothesis was strongly supported.

Hypothesis 2: proposed a negative association between managerial judgment (BAD) and managerial intent (SHOULD) i.e., higher the BAD score, the lower the SHOULD score. The path coefficients (Table VII) show that the hypothesis is strongly supported in all stages. The result is not surprising in itself, but in combination with the Hypothesis 1, it supports the proposed model that managerial judgment mediates between moral judgment and managerial intent of managers.

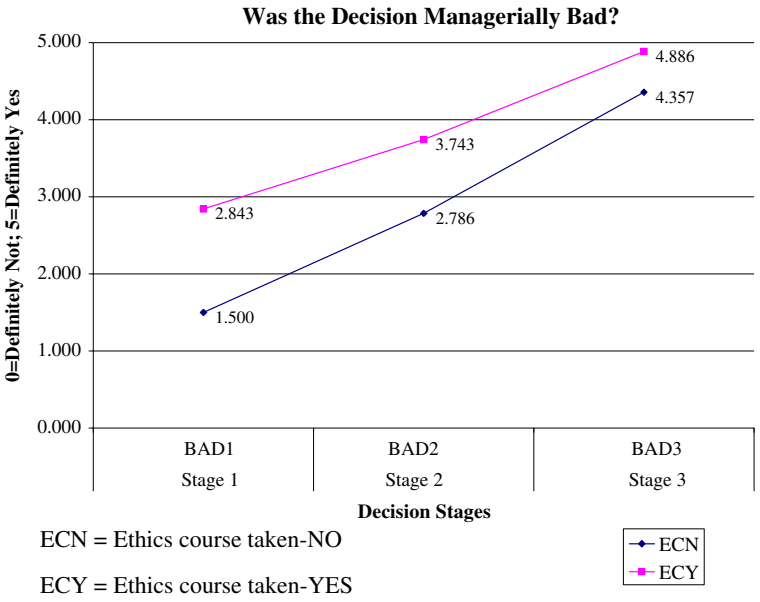

Figure 3. Was the decision managerially bad? ECN = Ethics course taken—NO, ECY = Ethics course taken—YES.

Hypothesis 3: proposed a positive association between taking an ethics course and considering a decision ethically more WRONG. Path coefficients in Table VII show that the hypothesis is not supported in any of the stages. However, the results are interesting in combination with the results of Hypothesis 4 discussed next.

Hypothesis 4: proposed a positive association between taking an ethics course and considering an unethical action (or an action with unethical over-

TABLE IV

Univariate analysis of BAD ("As a manager, did Foreman make a *bad* decision?")

Panel A: One-way ANOVA

		Was Ethics course taken?		ANOVA	
		NO (N = 14)	YES (N = 35)	F	Sig.
Stage 1	Mean	1.50	2.84	10.350	0.002
	SD	1.698	1.143		
Stage 2	Mean	2.79	3.74	4.437	0.041
	SD	1.805	1.268		
Stage 3	Mean	4.36	4.89	5.770	0.020
	SD	1.151	0.404		

Panel B: Non-parametric tests

Variables	Mean ranks		Mann–Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)
	Was Ethics course taken?					
	NO (N = 14)	YES (N = 35)				
Stage 1	16.00	28.60	119.000	224.000	−2.839	0.005
Stage 2	19.46	27.21	167.500	272.500	−1.812	0.070
Stage 3	20.18	26.93	177.500	282.500	−2.324	0.020

Scale: 0 = Definitely Not; 5 = Definitely Yes.

TABLE V

Mean difference in WRONGi and SHOULDi between students with and without ETHICS course

	WRONGi						SHOULDi					
	Stage 1		Stage 2		Stage 3		Stage 1		Stage 2		Stage 3	
ETHICS	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
N	14	35	14	35	14	35	14	35	14	35	14	35
Mean	1.786	2.229	2.857	2.943	4.857	4.914	3.214	2.529	1.571	1.586	0.643	0.486
SD	1.805	1.416	1.657	1.552	0.363	0.373	1.718	1.480	1.828	1.507	1.336	1.197
Mean difference*	−0.443		−0.086		−0.057		0.686		−0.014		0.157	

Scale: 0 = Definitely Not; 5 = Definitely Yes.

*None of the mean differences is statistically significant at 0.05 level.

tones) as managerially BAD. The path coefficients (Table VII) show that the hypothesis is strongly supported in all stages. The result is interesting particularly in view of Hypothesis 3 results. It means that although taking an ethics course did not show an effect on how ethically WRONG a decision is considered, those students who had taken an ethics course (ECY) were more inclined to consider an unethical action managerially BAD than others. Additional analysis of the total (direct + indirect) standardized effects of causal variables on dependent variable as obtained from path analysis (Table VIII) provides comparative magnitude of the effects. It shows that the effect of ethics course was higher on managerial judgment (BAD) than on moral judgment (WRONG) by multiples of 3.2, 11.8, and 4.7 in the three stages, respectively.

Further, the results are interesting when combined with the results of Hypothesis 1 testing. Recall that the link between moral judgment (WRONG) and managerial judgment (BAD) was significant in stages 2 and 3 but not in stage 1, i.e., Moral judgment was not a significant input to managerial judgment in Stage 1. Nevertheless, ECY subjects found the decision as managerially worse than ECN subjects did. It suggests that the ECY subjects were more aware of the possibilities of an ethical slippery slope phenomenon.

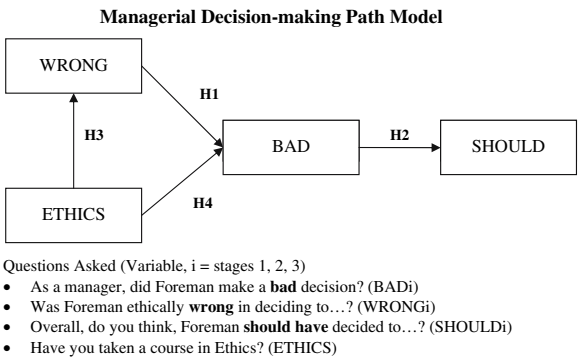

Figure 4. Managerial decision-making path model. Questions asked (Variable, *i* = stages 1, 2, 3). As a manager, did Foreman make a *bad* decision? (BADi). Was Foreman ethically *wrong* in deciding to...? (WRONGi). Overall, do you think, Foreman *should have* decided to...? (SHOULDi). Have you taken a course in Ethics? (ETHICS).

TABLE VI

Managerial decision-making path model overall fit summary

Statistical tests	Acceptable fit standards	Decision Stage 1	Decision Stage 2	Decision Stage 3
χ^2	NA	2.335	4.589	0.839
df	NA	2	2	2
p-value	>0.05	0.311	0.101	0.658
Fit indices				
NFI Delta1	>0.90	0.936	0.886	0.968
IFI Delta2	>0.90	0.990	0.932	1.047
CFI	>0.90	0.989	0.924	1.000
Residual analysis				
RMSEA	<0.10	0.059	0.164	0.000

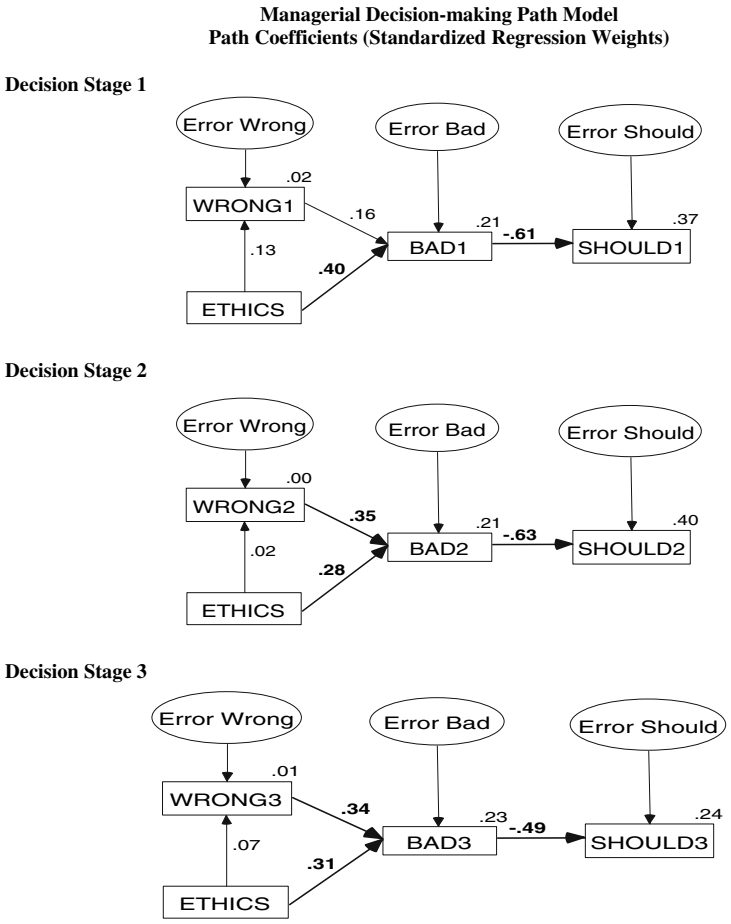

Figure 5. Managerial decision-making path model path coefficients (Standardized Regression Weights). *Note*: The numbers on the arrows are the path coefficients (standardized regression weights). Significant paths and path coefficients are printed **bold**. The number above the top right corner of each rectangle is the R^2 value of each dependent or mediating variable.

TABLE VII

Managerial decision-making path model path coefficients (standardized regression weights)

Path	Decision Stage 1		Decision Stage 2		Decision Stage 3	
	Estimate	*p*	Estimate	*p*	Estimate	*p*
WRONG ← ETHICS	0.132	0.356	0.025	0.863	0.071	0.622
BAD ← WRONG	0.161	0.215	**0.350**	**0.007**	**0.341**	**0.007**
BAD ← ETHICS	**0.404**	**0.002**	**0.285**	**0.027**	**0.306**	**0.016**
SHOULD ← BAD	**−0.610**	***	**−0.631**	***	**−0.491**	***

Note: Numbers in bold font are statistically significant at traditionally acceptable levels.
***$p < 0.001$.

TABLE VIII

Managerial decision-making path model total (Direct + Indirect) standardized effects

	Causal variables	Effect on variables		
		WRONG	BAD	SHOULD
Decision Stage 1	ETHICS	**0.132**	**0.425**	−0.259
	WRONG	0.000	0.161	***−0.098***
	BAD	0.000	0.000	***−0.610***
Decision Stage 2	ETHICS	**0.025**	**0.294**	−0.185
	WRONG	0.000	0.350	***−0.220***
	BAD	0.000	0.000	***−0.631***
Decision Stage 3	ETHICS	**0.071**	**0.331**	−0.162
	WRONG	0.000	0.341	***−0.168***
	BAD	0.000	0.000	***−0.491***

Notes: Numbers in **bold** compare the effect of ETHICS on WRONG and BAD (Row 1) in each stage. Numbers in ***bold italics*** compare the effects of WRONG and BAD on SHOULD (Column 5) in each stage.

Conclusion

It appears from the results that managerial judgment mediated between moral judgment and managerial intent as suggested by the proposed model. In two out of three decision-making stages, moral judgment significantly affected managerial judgment, which in turn significantly affected managerial intent. Further, it appears that taking an ethics course directly affected managerial judgment but did not affect the moral judgment. Those who had taken an ethics course were more inclined to judge unethical decisions managerially bad than others. Additionally, in the first stage of decision-making (early stage of a developing ''ethical slippery slope''), moral judgment did not significantly influence managerial judgment. Nevertheless, students who had taken an ethics course were more inclined to judge the decision as managerially bad as compared to others, indicating that they were more aware or sensitive to the moral issues involved.

The study has several limitations that provide avenues for further research. The study involved only one case, hence the generalizability is limited. The proposed model needs to be tested on other business situations. Second, the students were evaluating the decisions made by someone else. Their own judgments and intent may be different when they themselves face similar situations. Finally, the case was presented to subjects in a managerial frame. Comparative study of the effects when the same case is presented in ethical versus managerial frames is needed to complete the picture.

Nevertheless, the study contributes to the literature in several ways. It provides evidence that teaching a business ethics course may not directly influence moral judgment *per se*, but may influence managerial judgment and managerial intent in other ways. This effect of teaching business ethics to professionals had largely been ignored. In addition, the study suggested and provided support for a managerial decision-making model of business situations that involve ethical issues, but are not perceived as moral issues.

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Notes

[1] These schema overlap with different theories of good, rights, fairness, etc. suggested in ethical decision-making models.

[2] Subsequent studies, such as Singhapakdi et al. (1996, 1999), Singer (1996), Weber (1996) and Paolillo and Vitell (2002), have confirmed the importance of moral intensity. For a review of these studies, see O'Fallon and Butterfield (2005).

[3] The terms "managerial intent" and "managerial behavior" are used to distinguish that they arise in the context of a managerial frame.

[4] One student answered 2.5 on a question, which was recorded as 2.5 without change.

[5] This question about managerial badness was asked before the question about ethical wrongness so as not to lead them to think on the proposed path in the model.

[6] Subjects are assumed to be expressing their own managerial intent as they judge the foreman's behavior.

[7] The overall evaluation page also asked students to make a judgment of the decisions after knowing the outcome, specifically, whether Foreman should have decided to: expedite the order (XSHOULD1 for Stage 1), continue expediting (XSHOULD2 for Stage 2), and ship without full inspection (XSHOULD3 for Stage 3). These ex-post variables (XSHOULDi) were significantly correlated with SHOULDi variables, were statistically lower than them indicating outcome effect, and when used instead of SHOULDi variables did not change the results in any substantial way.

[8] If this case were given in an Ethics class, students' answers might have been biassed. They might have suspected that there was a right answer and answered the questions from an ethics perspective rather than a business managerial perspective.

[9] Of all the students who had taken a course in Ethics, approximately 17% had taken a course titled, "International Cultural and Ethical Issues," and the rest had taken the course Business Ethics and Social Responsibility.

[10] It should also be noted that as the scale ranged from 0 (definitely not) to 5 (definitely yes), stage 1 decision was considered ethically wrong (score ≥ 3) by 18 out of 49 students and not ethically wrong (score ≤ 2) by 31. Thus, the situation was not perceived as clear-cut and could be considered as falling in the ethical "gray" zone.

[11] It appears, therefore, that if we remove BAD from the model, taking an Ethics course would show no effect.

[12] This could have been due to the fact that Stage 2 was a less definitive action, a transitional stage.

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