

General Causal Models in Business Ethics: An Essay on Colliding Research Traditions

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ABSTRACT. The construction of causal models for research in business ethics has become fashionable in recent years. This paper explores four recent proposals, comparing and contrasting their views. The primary purpose of this paper is to expose several confusions inherent in such models and to account for these errors in terms of a failure to distinguish between "models as theories" and "models as representing a research tradition." We conclude with a brief set of recommendations for linking two major research traditions in business ethics: empiricism and ethical theory.

The causal models promoted in recent years by theorists of business ethics portray behavior (ethical or unethical) as the resultant of three forces: a decision process, the individual (his or her preferences, personality, etc.), and the situation or context in which the individual makes a decision. The decision making process is taken as the primary determinant, with internal (dispositional) and external (situational) factors proposed as playing moderating roles.

In what follows, we briefly review four recently proposed causal models and identify the basic features they have in common. These are not the only

general causal models found in the literature, but they are representative of the breadth of influence of this kind of research. We then argue that the primary contribution of these models is not, as their authors claim, theoretical, but rather that they serve to reaffirm and advocate what Laudan (1977) calls a "research tradition" — in this case, empiricism. Furthermore, in the course of doing so these authors actually confuse two dominant research traditions in the field of business ethics — ethical theory and empiricism. Our argument proceeds by exposing several errors or confusions inherent in the causal models under review, and we conclude by attempting to clarify the roles of the two dominant research traditions in the field of business ethics.

Throughout, we use the phrase "causal models" only in the most general, non-technical sense. By this phrase we simply mean "aggregations or collections of moderating variables which are thought to influence human behavior." The word "causal" represents such words as "influence," "moderate," "produce," "induce," "determine," and "bring about." Nothing more technical is implied in our use of the word.

The history of causal models in the field

For twenty years scholars of business ethics have considered problems in business from a variety of perspectives, borrowing approaches and tools from allied disciplines such as philosophy, psychology, and sociology. A large percentage of this work has been normative, but empirical or descriptive studies in business ethics are becoming common, perhaps in response to increasing intolerance for purely normative analyses across the disciplines comprising social science. Such dissatisfaction pressures scholars to

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produce theory that “goes beyond” the normative, which, within the context of North American social science, typically leads straight into the realm of predictive models. During the last five years, several authors have proposed models that share this important classic orientation which we label “causal.” Below we briefly examine these models and explore their similarities and differences.

In 1985 Ferrell and Gresham attempted to build a comprehensive framework of the determinants of ethical behavior in the field of marketing. They proposed a model which showed individual decision making to transform an ethical issue into human behavior with the influence of several additional factors: significant others, opportunity, individual factors, and the social and cultural environment. Their aim was to explicate the multiple variables that bear upon ethical decision making for marketers.

Hunt and Vitell (1986), also working in the field of marketing, proposed a positivistic (non-normative) model for thinking about ethical behavior that was meant to serve as a general theory and guide for empirical research. They list four factors which moderate human decision making: cultural environment, industry environment, organizational environment, and personal experiences. The least deterministic of the four, their model focuses on the causal influences of the decision making process itself, as factors considered by the decision maker in the course of ethical deliberations.

In 1986 Trevino proposed what she calls an interactionist model which posits that ethical decision making in organizations is explained by the interaction of individual and situational components (1986, p. 602). It relates human cognitions to stages of moral development and provides a closer look at both individual and situational moderators of human behavior, including ego strength, field dependence, locus of control, immediate job context, organizational culture, and characteristics of the work.

Finally, Bommer *et al.* (1987) constructed a model as a “first attempt to identify and relate the various factors which influence managers’ decisions to act ethically or unethically” (1987, p. 266). It suggests six categories of moderators which influence the decision process: social, government/legal, work, professional, and personal environments, and individual attributes. Relationships between each environmen-

tal factor and the decision process are two-way, and each causal category may contain several elements.

Despite some important differences, all of these models contain at least four common elements: (1) a decision process, modified by (2) internal and (3) external factors, leading to (4) ethical or unethical behavior, all of which are connected by arrows representing causes or consequences. Figure 1 provides a simple illustration of what such models look like.

In view of the largely normative issues in business ethics, such models serve to identify and catalog a diverse array of empirical findings. These findings represent the points of scientific access to topics in business ethics which invite genuine scientific examination. Several authors explicitly acknowledge this motivation, and all are able to identify numbers of empirical studies that, taken together, appear to illustrate the general relations proposed by their models. They also suggest avenues of future research using methods attractive to each author. These models remind us of the truly multi-disciplinary nature of the field of business ethics and of the vast number of variables capable of influencing behavior in significant ways.

The confusing of theories with research traditions

The four discussions of causal models in business ethics cited above do make some contributions to

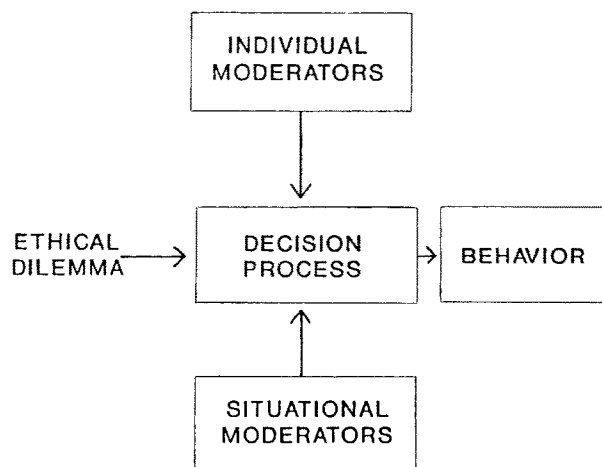


Fig. 1. The general framework for causal models.

the field. For one thing, they provide a visual representation of some general theoretical abstractions associated with empirical research: ethical dilemma, ethical decision making, ethical (or unethical) behavior. They provide a framework for organizing literature reviews, and they call attention to the selected methods for doing non-normative research in business ethics.

In doing so, they all claim the status of theories for their models, in most cases explicitly. We will show below, however, that at least three common features of these models betray their claim to theoretical status: (1) they solve no problems but raise only very general issues, (2) they exhibit confusion regarding the nature of causal links, and (3) they simply appeal to empirical dogma concerning increasing predictive power through the aggregation of moderating factors. We conclude instead that these models of ethical behavior are really just general appeals for commitment to the empirical research tradition in the field of business ethics. The three errors we identify arise, we think, from the authors' confusing theories with research traditions, assuming their models to be the former when, in fact, they are the latter. Below, we describe and discuss the three forms of evidence we have for these assertions.

General causal models solve no problems and raise only general issues

Each of the authors we review describes his/her product as a model or "theory" — even a "general theory." Ordinarily, theoretical models serve to enlighten: they may solve puzzles, predict outcomes, generate new questions, or simply provide some order in the place of chaos. As Larry Laudan says,

The first and essential acid test for any theory is whether it provides acceptable answers to interesting questions: whether, in other words, it provides satisfactory solutions to important problems (1977, p. 13).

He adds,

The adequacy or effectiveness of individual theories is a function of how many significant empirical problems they solve, and how many important anomalies and conceptual problems they generate (1977, p. 117).

The four models described above fail this first

test. In no case are they constructed for the purpose of solving some problem or puzzle. The most explicit general motive is to provide a very general framework for relating the various lines of empirical research in the field of business (or marketing) ethics. But the tradition of empiricism already does this. What is contributed by these causal models that could not more easily be accomplished with a simple outline or catalog of research?

Furthermore few particularly interesting theses are generated by these models. Typically, we would expect general hypotheses from general models, and that is what we get: "Behavior is a function of individual intentions and situational constraints" (Hunt and Vitell, 1986, p. 11); "The more individuals are aware of moral philosophies for ethical decision making, the more influence these philosophies will have on their ethical decisions" (Ferrell and Gresham, 1985, p. 93). And so on. Trevino's propositions are more interesting, although not so much because of her model as because of the implications of relating particular studies and methodologies she has identified to illustrate her model. To the degree that meaningful and interesting research tasks can be identified, less and less is owed to the general causal model and more and more to previous research conducted independent of the model.

Another way of describing this feature of general causal models is to say that they fail to specify a domain of interest. As Robert Dubin says:

An essential characteristic of a powerful model is that it distinguishes a limited phenomenon and focuses analytical attention only on that realm (Dubin, 1978, p. 29).

The problem with general causal models in business ethics, however, is that they fail to do this; they fail to adequately specify their domain of interest. Instead, their motivations are more general: to "capture the important interfaces among individual and situational variables" (Trevino, 1986, p. 601), "to develop and present a general theory that can serve as a guide for empirical research in the important area of marketing ethics" (Hunt and Vitell, 1986, p. 6), to plug the gap in research resulting from the lack of an integrated framework (Ferrell and Gresham, 1985, p. 87), and to address the dearth of research on the factors affecting ethical and unethical behavior in organizations (Bommer *et al.*, 1987, p. 265).

We think such motivations are inadequate foun-

dations for theories. And the absence of any problem-oriented motivations for these models implies the existence of other purposes. Instead of building theories, then, we think these authors are advocating to the worth of the empirical research tradition in the field. And in the course of making those appeals, they attempt to generate enthusiasm for researching a variety of relationships among variables identified in their models, as though such tests might provide verification of the value of the model. In reality, however, such hypotheses are inspired by little more than what is implied by empiricism in general.

We hold that nothing is really at stake here. If these models really were theories, they would provoke more of a contest. As Laudan says, "The evaluation of theories is a competitive matter" (1977, p. 71). However, none of these authors cite each other as competitors in theory building, even though each specifies the same dependent variable but widely differing independent variables. If these really were theories, we would expect to find far greater competition among these models than currently exists.

So, we conclude that whatever interest appears to be generated by general causal models in business ethics is owed to interactions among whatever particular studies each author identifies as illustrating the model and not by virtue of the model itself. Empirical research in business ethics will proceed along roughly the same lines with or without general causal models.

General causal models are unclear regarding the causal connections among moderators

Most of our authors uncritically assume that the causal relationships of interest lie between the decision making process and various moderating factors (see Figure 1). Certainly, the decision process "box" is a handy nexus of causal relations. But is it the right one? Environments do not restrict their influence to the point of decision making. They are ever present: prior to decision making they give rise to and define the situation; during decision making they bear upon the process of deciding; and they facilitate or impede translation of decision into action. Figure 2 illustrates these three kinds of causal relations.

Type I: Obstacles to performance. Type I describes

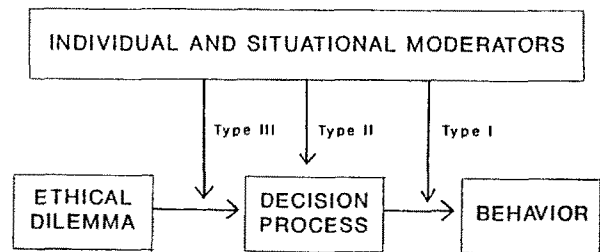


Fig. 2. Three types of causal relations.

situational and individual moderators as influencing not the capacity of human beings for making ethical decisions, but their ability to act in accordance with those decisions once they are made. It represents situations where individuals make clear ethical judgments but fail to act in accordance with those judgments. Something breaks the link of ethical decision to action: prudence, selfishness, weakness of will, etc. Trevino describes this type of moderating influence using various characteristics of the individual (ego strength, field dependence, locus of control), the organizational culture, and the work done.

Type I may be the most deterministic of the three forms of influence because it allows for moderating behavior regardless of the decision making processes preceding action. The influence of determinants that bear upon action are so strong that ethical/unethical behavior results despite the individual's decision.

Type II: Influences upon cognition. Of the three types of causal relation illustrated in Figure 2, Type II is most like the relations modeled by Bommer *et al.* and Ferrell and Gresham. This kind of causal determinant acts directly upon decision making to impede the process of ethical choice. As Kohlberg (1969) has shown, people tend to overcome a variety of influences upon their ethical decision making abilities as they mature. Only the final stage of moral development could be described without reservation as ethical decision making. The five earlier stages describe persons as influenced by others, society, rewards, etc. All such influences upon not-fully-developed moral being qualify as Type II determinants.

The area of research that subsumes most of this work is the literature on human values as determinants of decision making. Indeed, if the *process* of decision making itself is moderated by anything, it is

probably one's own preferences and values. We may also include in this category the external variables that bear upon decision processes, such as those that produce stress or uncertainty, for the success of the decision making process is surely a function of the individual's ability to take account of available information.

Type II causes are distinguished from Type III causes in that the former represent persons making decisions *in* situations, while the latter represent persons *aware* of situations in which they have yet to become involved.

Type III: Antecedent determinants. The Type III causal relation may be the least deterministic of the three types under consideration. This type describes individual and situational moderators as giving rise to and defining the situation itself, prior to entering the decision making process. It explicitly allows for the *awareness* of the decision maker and explicitly reminds us of the human capacity to anticipate situations and prepare for them or even circumvent them.

Typical of studies of this type of causal factor are studies in motivation and those antecedent conditions (such as salary, position, and other inducements) that can be manipulated for control of another's choices to behave. Hunt and Vitell model this type of cause most closely.

Where the other types of causal modeling fall short is in ignoring the possibility that decision makers can anticipate possible situations and environments, estimate their influence, and choose alternative courses of action which circumvent those situations. Indeed, one might argue that this is what the teaching of business ethics should be all about: helping future business persons to recognize "red flags" and take action to avoid situations that might prove overpowering if they were to arise.

Given, then, that fundamental causal issues are unaddressed by these models, how does one account for the lack of precision? Why so much confusion and ambiguity regarding the types of causes being modeled? . . . Again, we think the absence of the kind of precision one would expect for a well-formed theory is evidence that these models, in fact, are not theories at all. On the contrary, their primary function seems almost ceremonial — to promote the relevance of the empirical research tradition for

business ethics. In each case, the intent seems to be to aggregate under a general causal rubric a more or less comprehensive collection of research relating to ethical behavior in business.

The claim to promote prediction is more dogma than theoretical assertion

The expressed goal of empirical research in the field of business ethics is the development of an organizational science (Trevino, 1986, p. 601). With improved understanding of this complex phenomenon called ethical decision making, researchers can reduce uncertainty and promote prediction. Ferrell and Gresham argue, for instance, that the wide variation in ethical behavior in organizations is not random but determined by a set of "important contingency variables" (p. 88). Trevino's paper "suggests that an inductively driven model can be used for understanding, investigating, and predicting ethical decision making in organizations" (1986, p. 615). Bommer *et al.* (1987) and Hunt and Vitell (1986) deny advocating any form of strict behaviorism; nevertheless, their models are certainly consistent with the goal of managing organizational behaviors. As Stead *et al.* say, "Managing ethical behavior is thus no doubt a critical social problem for business organizations" (1990, p. 233).

Although we agree that prediction is an important function of theories, we deny that the wholesale aggregation of disparate moderating variables (as proposed by the causal models under review) promises any gains in predictability. To suppose that it does, again confuses theory building with the mere advocating of research traditions. On the contrary, *we assert that beyond a certain point causal modeling impedes prediction by introducing (not reducing) uncertainty into the phenomenon of ethical decision making.* Heiner has shown, for example, that "predictable features of behavior do not arise from optimizing with no uncertainty in choosing the most preferred behavior; [rather] . . . observed regularities of behavior can be fruitfully understood as behavioral rules. . ." (1983, p. 561). The aggregation of disparate moderating elements to a causal model of human behavior, therefore, introduces considerable uncertainty into the model which is not compensated for by a concomitant increase in the amount of variance in

behavior explained by the model. The causal modeling of ethical behavior implies far greater responsiveness to individual and environmental moderators than is exhibited by most human behavior. If, as general causal models suggest, human beings are subject to a wide variety of internal and external influences, shouldn't we become increasingly *less* confident regarding our predictive capabilities? Science shows that the most unpredictable entities are those that are sensitive to multiple factors, such as three or more gravitational bodies interacting simultaneously. . . . We suspect that whatever grounds there are for predicting human behavior will not lie in maximizing models that mimic multivariate regression analysis.

This tendency to regard human behavior as arising from a maximum of psychological and other factors is referred to by Karl Weick as "overdetermination" (1979, p. 37). And overdetermination in causal models in business ethics jeopardizes "Occam's Razor," the long venerated principle of economy in scientific research.

At the very least, general causal models may commit the informal logical fallacy of composition: that if any given piece of behavior is explained by a cause, the aggregation of various behaviors under a single model implies the relevance of the aggregated causes for explaining single behaviors. And this may not be true. An aggregation of theories may not itself be a theory. That is, the generality of causal models depends on a crucial ambiguity regarding the relevance of collected moderators for simultaneously cooperating to explain a single behavior. We suspect that this informal logical fallacy is reflected also in increasingly poor statistical results beyond the aggregation of one or two simple variables.

So, general causal models implicitly promote the idea that the aggregation of independent variables yields increasing predictive power of the general model. It does not follow, however, that because bits and pieces of highly constrained behaviors are moderately correlated with specific variables that an aggregation of such findings into a general causal model facilitates predictability of human behavior in general. Demonstrated inabilities to time stock market activities is just one example of general predictive failure despite exhaustive examination of alleged causes bearing upon this single human

behavior. And this is human behavior in the aggregate; far less optimism is possible for the prediction of individual investment choices.

So, general causal models are poor metaphysics resulting in poor predictive power. Human beings do not act as though they are sensitive to vast sets of simultaneously influential exogenous factors. On the contrary, the evidence is strong that they select from a finite repertoire of possible behaviors according to their recognition of dominating features of a situation (Heiner, 1983; Tversky and Kahneman, 1974; Nisbett and Ross, 1980). Sometimes they act with sufficient commitment that no exogenous variables can alter their course. Such realities demand greater theoretical sophistication than existing comprehensive causal models offer. If such models truly served theoretical ends, they could not ignore one of the best known features of human behavior — behavioral stability in the face of significant situational and individual moderating factors.

We conclude, therefore, that claims to predictive power derive, not from anything inherent in general causal models, but from dogma of the empirical research tradition. We claim, furthermore, that such dogma is highly questionable.

The confusing of research traditions

Above, we have tried to show that one set of problems common to recent causal models in business ethics derives from confusing theories and research traditions. Another set of problems remains, making these models doubly problematic in our eyes: they conflate the objective of two dominant research traditions in the field of business ethics, viz. ethical theory and empiricism. More specifically, they claim to (1) provide empirical means for distinguishing between ethical and unethical behavior and (2) make empirical use of deontological and utilitarian ethical categories for empirical purposes.

The claim to distinguish empirically between ethical and unethical behavior

In a recent article, Stead *et al.* summarized the conclusion of empirical research in business ethics:

Current behavioral research strongly supports a person-situation interaction explanation of human behavior in which both individual and situational factors influence the behavioral choices made by individuals (1990, p. 234).

They cite several authors in support of this assertion.

On the most general level, this statement is a truism: Human beings generally do take their situation into account when they act, and they exhibit a variety of personal character traits in doing so. Furthermore, they are conscious to varying degrees of these personal and environmental influences. Each of the four models reviewed here, except perhaps for the Hunt and Vitell paper, claims to distinguish empirically between ethical and unethical behavior in organizations. Bommer *et al.* define ethical behaviors to be “those behaviors the correctness of which constitutes the moral intuition in business and the professions” (p. 267).

For the ethical theorist, however, empirical or even popular definitions of ethical behavior are far too coarse. Kantians, for example, would argue that ethical behavior is not a function of moderating factors at all. Indeed, the Kantian would say, the whole point of developing an ethic is to free oneself from environmental influence and to make right choices and to be satisfied with the actions these choices direct, no matter what the world offers up as enticement or reward. Ethics, they say, is about freedom from external pressure and about overcoming one’s personal limitations rather than giving in to them. A model, therefore, which purports to distinguish between ethical and unethical behaviors based on individual and situational moderating factors may account for normal and deviant behaviors or perhaps for behaviors commonly labeled ethical or unethical, but it cannot *distinguish between* ethical and unethical behavior. That is the domain of the ethical theorist.

We assert, therefore, that the distinction between ethical and unethical behavior in all these models is an unscientific feature of those models. We urge, instead, that labels like “normal behavior” and “deviant behavior” be used for the dependent variables in such models. To retain the “ethical/unethical distinction” begs an important metaphysical question regarding the grounds of ethical behavior.

The conversion of ethical theory from prescription to description

All four models under review include ethical theory as a decision methodology for the individual, as a means for processing at least some of the situational and individual factors in the environment. Trevino is the least explicit of the four since ethical theory is included only indirectly as components of the sixth stage of moral development in Kohlberg’s theory, which she relies upon heavily. The other authors explicitly include ethical theory in their models in one way or another.

Now, there are two things that are confusing about this approach to causal modeling of ethical behavior in business. First, the best studies of managerial decision making fail to support the hypothesis that ethical theoretic methods are good descriptions of what managers do. Since 1955, for example, Simon had argued that managers generally do not maximize judgments of utility, as utilitarian theory would require (1955; 1956). And many other writers over the years have joined to challenge the standard utilitarian model (Cyert and March, 1963; Soelberg, 1967; Cohen *et al.*, 1972; Mintzberg, *et al.*, 1976; Fahey, 1981). From the empirical tradition, then, a picture of managerial decision making begins to emerge that has come to be called “constrained” or “bounded” rationality, in contrast with the maximizing view of traditional utilitarianism.

From the perspective of deontological ethics, we are aware of no empirical studies that have investigated the application of this methodology.

Taken together, there is little empirical reason to reproduce standard ethical theoretic methodologies in causal models of managerial decision making. As Trevino says,

... normative ethical theory is not designed for the purpose of explaining or predicting behavior. Rather, normative ethical theory represents an ideal that may not reflect accurately the processes engaged in by people in actual situations (Trevino, 1986, p. 604).

So, why do these new causal models of ethical behavior in business ignore several decades of empirical research regarding the relevance of classical ethical theory for describing decision making? The answer, we think, involves the long-felt need in the

field of business ethics to link the two dominant research traditions of empiricism and ethical theory. If a link can be made, it will be made in the way suggested by the causal models we have reviewed, namely by converting ethical theory from merely prescriptive models into descriptive methods with empirical content. That is, both utilitarian and deontological methods will be regarded not just as theoretical grounds for ethical judgment, but as the actual descriptions of what people do when they make an ethical decision.

Now this seems to be a huge issue which has virtually been ignored by the authors of causal models: Can the two research traditions in business ethics be merged? As shown above, the evidence so far is discouraging. On the other hand, we have very little evidence of any kind; it is still very early. Furthermore, if the proponents of "constrained" managerial decision making are correct, they are left with the serious problem of showing how managerial decisions are moral. Can merely "satisfactory" decisions be moral (Brady, 1990)?

There is a second major problem facing our causal modelists. That is the conversion of a prescriptive theory to a descriptive theory. How would it be done? How would one operationalize utilitarian and deontological reasoning? No one, to our knowledge, has tried. Furthermore, we are aware of only one who has provided a descriptive theory of deontological reasoning (Brady, 1988); and that theory differs strongly from the traditional philosophical characterizations of deontological thinking.

Conclusion

The recent promotion of general causal models in business ethics is not an attempt to meet explanatory needs. A variety of confusions generated by these models arise from the common failure to understand the difference between a theory and a research tradition. Contrary to the intent of their authors, these models serve the purpose of reviving interest in the empirical research tradition, rather than providing any new theoretical insights. Furthermore, they fail to distinguish clearly between the two dominant research traditions of business ethics — empiricism and ethical theory. The result is work which on the surface resembles genuine theoretical contributions

but underneath is really the reiteration of assumptions common to the empirical research tradition.

Progress in business ethics will be made as both philosophers and empiricists dilligently focus on topics of genuine interest and mold the tools to fit the needs. One of those topics is the possibility of the descriptive reduction of ethical theory and the merging of philosophical and empirical research traditions. Without being too optimistic, we have tried to focus attention on the specific tasks that would face researchers interested in the project.

References

- Bommer, M., Cratto C., Gravander J., Tuttle M.: 1987, 'A Behavioral Model of Ethical and Unethical Decision Making', *Journal of Business Ethics* 6(4), pp. 265–280.
- Brady, F. N.: 1988, 'Practical Formalism: A New Methodological Proposal for Business Ethics', *Journal of Business Ethics* 7(3), pp. 163–170.
- Brady, F. N.: 1990, 'Constrained Managerial Decision making and Business Ethics: Are Merely "Satisfactory" Decisions Moral?', *Journal of Managerial Issues* 2(4), pp. 423–438.
- Cyert, R. M. and March, J. G.: 1963, *A Behavioral Theory of the Firm* (Prentice-Hall, Englewood Cliffs, NJ).
- Dubin, R.: 1969, *Theory Building* (The Free Press, New York).
- Fahey, L.: 1981, 'Strategic Management Decision Processes', *Strategic Management Journal* 2 (January/March), pp. 43–60.
- Ferrell, O. C. and Gresham, L. G.: 1985, 'A Contingency Framework for Understanding Ethical Decision Making in Marketing', *Journal of Marketing* 49 (Spring), pp. 87–96.
- Heiner, R.: 1982, 'The Origin of Predictable Behavior', *American Economic Review* 73 (September), pp. 560–595.
- Hunt, S. D. and Vitell, S.: 1986, 'A General Theory of Marketing Ethics', *Journal of Macromarketing* (Spring), pp. 5–16.
- Kohlberg, L.: 1969: 'Stage and Sequence: The Cognitive-developmental Approach to Socialization', in D. A. Goslin, ed., *Handbook of Socialization: Theory and Research* (Rand-McNally, Chicago), pp. 347–480.
- Laudan, L.: 1977: *Progress and Its Problems: Toward a Theory of Scientific Growth* (University of California Press, Los Angeles).
- Mintzberg, H., Raisinghani, D., and Theoret A.: 1976, 'The Structure of "Unstructured" Decision Processes', *Administrative Science Quarterly* 21 (June), pp. 246–275.
- Nisbett, R. E. and Ross, L.: 1980, *Human Inference: Strategies and Shortcomings in Social Judgment* (Prentice-Hall, Englewood Cliffs, NJ).

- Simon, H.: 1955, 'A Behavioral Model of Rational Choice', *Quarterly Journal of Economics* **69** (February), pp. 99–118.
- Simon, H.: 1956, 'Rational Choice and the Structure of the Environment', *Psychological Review* **63** (March), pp. 129–138.
- Soelberg, P. O.: 1967, 'Unprogrammed Decision Making', *Industrial Management Review* **8** (Spring), pp. 19–29.
- Stead, W. E., Worrell, D. C., and Stead J. G.: 1990, 'An Integrative Model for Understanding and Managing Ethical behavior in Business Organizations', *Journal of Business Ethics* **9**(3), pp. 233–242.
- Trevino, L.: 1986, 'Ethical Decision Making in Organizations: A Person-situation Interactionist Model', *Academy of Management Review* **11**(3), pp. 601–617.
- Tversky, A. and Kahneman, D.: 1974, 'Judgment Under Uncertainty: Heuristics and Biases', *Science* **185**, pp. 1124–1131.
- Weick, K.: 1979, *The Social Psychology of Organizing*, Second Edition (Addison-Wesley, Reading Massachusetts).

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