

ECONOMICS OF ORGANIZATION AND MANAGEMENT: AN INTEGRATIVE COURSE PROPOSAL

Daniel R. LeClair
University of Tampa

Business school continues to undergo many changes. These changes are designed to integrate current business concepts across the curriculum, remove boundaries between functional areas, and embrace learning through interactive teaching methods. These goals are not unrelated. To drive current topics, such as quality management, ethics, global issues, leadership, teamwork, technology, and diversity, into the curriculum, business schools must rethink their core curriculum and the way they deliver instruction. The curriculum has to become more integrated and instructors must begin emphasizing innovative teaching approaches (e.g., simulations and team-building exercises). A quick review of the past 6 years of the *Journal of Management Education* reveals the rapid pace in revising business education.

Economics has generally been slow to participate in and adapt to changes in the business curriculum. Managerial economics, a course often required for business students, continues to be firmly grounded in traditional theory. This may enhance student critical-thinking skills but introduces few practical management tools and presents little material that relates directly to the rest of the curriculum. Meanwhile, theoretical research in microeconomics has made significant contributions that can substantially increase the value economics adds to business education.

Author's Note: This article was originally submitted for publication in February 1995. The version appearing here was completed in June 1996. Correspondence should be addressed to Daniel R. LeClair, College of Business, University of Tampa, 401 West Kennedy Blvd., Tampa, FL 33606; (phone) 813-253-3333 ext. 3650, (fax) 813-258-7408, (e-mail) dleclair@alpha.utampa.edu.

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At the core of this article is a rapidly evolving literature called the economics of organization and management (EOM). This literature provides the foundation and opportunity to reinvent the managerial economics course. In this article, EOM is discussed, current approaches to the managerial economics course are described, and a new integrative approach is defined. This new approach, based on the EOM, is a course-content innovation that provides a framework for students to integrate concepts from other business courses that introduce more substantive and direct managerial applications, and that create an environment conducive to interactive learning. The justifications for such bold statements are delineated in a discussion of the limitations of the current approaches and the benefits of adopting the integrative approach.

The Scope of EOM

Paul Milgrom and John Roberts (1990) define EOM as "a relatively new area of study that seeks to analyze the internal structure and workings of economic organizations, the division of activity among these organizations, and the management of relations between them through markets or other higher-level organizations" (p. 57). EOM recognizes that economic organizations are created by people, and people interact within them to pursue individual and collective goals. In the economics of organization and management, we are

careful to treat organizational decisions and actions as the outcomes either of strategic interplay among self-interested people responding to incentives designed to influence their behavior, or of collective or managerial attempts to compromise the interests of the parties affected by the decisions. (Milgrom & Roberts, 1992, p. 39)

In the interest of space, this article will present only a cursory overview of the EOM. What follows is merely an informal description of its basic ideas, assumptions, and issues within its broad scope. This description serves not only to introduce EOM but also to provide examples of how it may be applied and, most importantly, to form the background for understanding its potential for integrating the business curriculum. For a formal treatment of EOM, see the annotated reading list in the appendix.

Current Approaches to Teaching Managerial Economics

Managerial economics is often a required course for undergraduate business majors and also a requirement in most MBA curricula. It is most often a

junior-level course and has principles of economics as a prerequisite. The managerial economics course is typically taught using either one of two approaches. Both attempt to provide a good foundation in microeconomic theory but may differ in the range of subject matter covered, applications used, and supplements employed.

The first and most common approach treats managerial economics as a course in intermediate microeconomic theory. The range of material is from consumer choice to general equilibrium. It involves the use of indifference curves and Edgeworth-Box diagrams. In this course, the firm is typically black boxed and completely described by its production function. By now, most of these courses include some introduction to game theory when oligopoly models are discussed. Most also include some introduction to information economics in separate sections dealing with adverse selection and moral hazard problems.

The second approach treats managerial economics as a course designed for the practical business application of traditional economic theory. This course might skip indifference curves to focus on forecasting demand or estimating elasticities. It spends a great deal of time on pricing theory, inventory analysis, and linear programming. Many of these courses include case studies or, at least, many real world examples and problems.

Limitations of the Current Approaches

LACK OF MANAGERIAL APPLICATION

The traditional microeconomics approach often lacks clear managerial application. For instance, the consumer choice model may help students to understand the basics of economic modeling (e.g., marginal analysis) and provide a neat and simple method for presenting and understanding many economic concepts. However, the tools used—indifference curves and budget lines—do not have direct applications in managerial decision making. Models of firm behavior in the context of competitive markets offer few insightful managerial applications. Although comparing the efficiency consequences in a variety of market structure models will help students understand the relative merits of competition vis-à-vis monopoly, it too has few if any direct managerial applications. The same is true for general equilibrium analysis.

On the other hand, monopoly pricing models and oligopoly models have important managerial applications. In particular, understanding the basics of price discrimination or multiproduct production and pricing can be useful to

those interested in marketing or management. The marginal analysis and reference to price elasticity in these models provide a useful set of tools for many types of decisions managers must make. The strategic analysis provided by oligopoly models can help students understand that decisions in markets are mutually interdependent. Game theory introduced to discuss oligopoly is useful to students of business in a variety of strategic situations.

Although this latter material should be kept in the managerial economics course, it is incomplete without also presenting the economics of organization and management. According to Spulber (1992), the problem is that "managers are inside the firm looking out rather than outside the firm looking in" (p. 536). In fact, they are also inside the firm looking in. They must address a variety of decisions that are primarily internal in nature. Spulber argues, "For economic models to have practical value to managers, they need to address the choice of both *competitive actions* and *organizational design*" (p. 536). John Kay (1991) argues that the reason why economists currently lack relevance in business is because of their reluctance prior to the 1970s to look within the boundaries of the firm, as well as their inability to communicate what appears to most in business to be too mathematical and esoteric to be of practical use.

The noted absence of organizational considerations and the associated lack of managerial application in traditional courses is significant for many reasons. First, organizations consist of many individuals interacting in a complex decision process. Managers must understand their role in the organization and the intricacies of the decision process to be effective. Second, the process itself will affect organizational efficiency and its goals and objectives. Thus, to properly understand firm behavior in the context of market analysis, it is important to understand the decision process. Finally, firms play a central role in the growth and prosperity of a country's economy. Policy decisions relating to organizational change have an important impact on societal welfare. Focusing on welfare consequences from an industry or market perspective is simply not enough.

REDUNDANCIES IN CURRENT APPROACHES

Much of the economics curriculum tends to be redundant. There is reason to believe that some repetition is necessary or desirable within any discipline. It may be necessary to reinforce basic concepts. It may also be necessary because the managerial economics course at the undergraduate level serves the dual purpose of providing service in the business curriculum and providing the microeconomic foundations for economics majors, who may wish to pursue graduate degrees in economics.

Although much of what is repeated at intermediate levels is genuinely relevant for students of business, some topics will be of concern only to economics majors. More effective repetition to drive the point home may be achieved by addressing topics more common to other business disciplines. By providing a variety of perspectives on the same issue, economics may complement and enhance the perspectives provided by business-related disciplines.

RELATIONSHIP TO MATERIAL TAUGHT IN OTHER BUSINESS COURSES

The applications of traditional microeconomic theory of the firm are by now taught in other required business courses. For example, marginal analysis, Black-Scholes option pricing model, stand-alone cost test, and inventory theory are all innovations derived, at least in part, from economics but are now presented in other courses (Faulhaber & Baumol, 1988). These other courses include operations management, finance, marketing, and accounting. To see that most undergraduate and graduate curricula include these courses, one need only examine the requirements imposed by accrediting bodies (American Assembly of Collegiate Schools of Business, 1993). To see that these courses include this material, one must simply glance at popular textbooks in these areas and sample syllabi borrowed from colleagues (see Copeland & Weston, 1988, in finance; Pride & Ferrell, 1995, in marketing; and Stevenson, 1993, in operations management).

A New Approach to Managerial Economics

The approach to managerial economics proposed in this article begins by recognizing that organizational design is important, then systematically introduces the basic concepts of EOM. It then proceeds to present those traditional microeconomic theory topics that have direct and important managerial applications. The course would maintain its current place in the curriculum and have the same prerequisites. Other foundation business courses, such as management principles, finance, and marketing, may be taken before or after. However, all of these courses should precede a business policy/strategy course.

An interesting perspective on the theories of the firm in economics is provided by Spulber (1992). He states that "economic theories of the firm are largely a matter of perspective—they depend on whether the firm and its markets are viewed from 'far away' or 'nearby' " (p. 536). Based on this, he classifies economic theories of the firm into four categories: (a) neoclassical,

(b) industrial organization, (c) contractual, and (d) organizational incentive. The neoclassical theory of the firm is the farthest away and is concerned with the economy as a whole. Firms are price takers and have no impact on market equilibria, because there are many of them and each is small relative to the size of the economy. More importantly, each firm is described only in terms of its production function. Less far away are the industrial organization theories of the firm, which consider a wider range of specific markets, including monopoly and oligopoly. Strategic interactions are emphasized, but the firm is still described in terms of technology and cost. Moving still closer, we have the contractual theories of the firm. They emphasize the individual transactions of the firm and strategic interactions. The closest perspective comes from the organizational incentive theories of the firm. They look at relationships between individuals within an organization. Coordination and motivation questions are addressed from this perspective.

Based on Spulber's (1992) range of economic perspectives, current approaches to the course begin with the neoclassical theory of the firm, then move closer but often never reach the contractual or organizational incentive theories. This article proposes to begin the course as close to the firm as possible by immediately recognizing that any organization consists of people. It then moves farther away from the firm as the course progresses. This may be called an inside-out approach.

This approach can help managers understand the environment in which they work and encourage them to think in terms of enhancing organizational efficiency. Its generality of application, logic, and relative ease of presentation make it useful not only for upper-level managers making strategic decisions but also entry-level managers making day-to-day decisions. This is important because most students and managers will spend their careers acting as agents for superiors. Thus, EOM can enhance a manager's understanding of organizational behavior and institutions.

Some Basic Concepts of EOM

THEORIES OF THE FIRM

Traditional theories of the firm have ignored the relationships between people in organizations. Labor was just another input in the production function, which is based on the assumption that inputs are combined to produce the maximum possible output. The optimal combination of inputs minimized the cost of producing a chosen output level, and output was chosen simultaneously based on demand and cost. This approach led to interesting theoretical models of behavior under various market structure conditions and empirical

estimates of cost functions. However, it did not provide an answer to fundamental questions regarding why firms exist and how organizational design contributes to competitive advantage.

With modern theories of the firm, we ask the following question: Why do people come together in an organization with hierarchical control when, theoretically, their relationships can be coordinated by a system of markets and prices? The most well known theory, initially due to Coase (1937), has individuals coming together in a firm to economize on transaction costs. The cost of coordinating a transaction or solving motivational problems associated with transactions is often higher if the transaction takes place in the market rather than in a hierarchical organization.

Once the variety of explanations for the existence of organizations are understood, questions regarding coordination, rationality, ethics, organizational credibility, and strategy may be explored.

Coordination. When the price system is supplanted by formal organization, coordination becomes a major task for management. Coordination means deciding who makes decisions and with what information, and how to arrange communication to ensure that the proper information is provided. It involves the choice of how to allocate decision rights.

Questions regarding coordination are not easy to answer. Specific attributes of the organizational system result in a variety of problems that may have very different solutions. Very seldom do managers rely on an internal price system to coordinate decisions. Instead, they specify goals, develop plans, and direct employees to carry out tasks. Managers develop administrative rules, and routines evolve to deal with frequently occurring questions. The nature of these mechanisms introduced to address coordination problems are influenced by problems associated with employee shirking and information distortion. Although complex, a consideration of coordination problems often leads to a discussion of decentralization, employee empowerment, and core competencies.

Bounded rationality. The assumption of bounded rationality is important to many models in EOM. Organizations are made up of people and people are only boundedly rational. Individuals are purposely self-interested. However, they are not omniscient or perfectly farsighted, so unforeseen circumstances may develop. Complex problems cannot be solved exactly, instantaneously, or without cost, so every circumstance cannot be adequately dealt with. People cannot communicate perfectly, leading to imprecise definitions of relationships and expectations. People write explicit contracts to deal with relationships and expectations and to commit to actions that are efficient in

the transaction. Because people are only boundedly rational, however, contracts are necessarily incomplete (Hart & Holmström, 1987). This leads to adverse selection, moral hazard, and other problems associated with imperfect commitment and bargaining. These problems are discussed below.

Moral hazard and adverse selection. Moral hazard occurs when one party in a transaction has a postcontractual incentive to choose actions that raises the cost or lowers the benefit to the other party. An interesting and popular example of moral hazard occurs when there is a separation of ownership and control in a corporation. Shareholders would like managers to make decisions to maximize profit (present value of future profits), because this is associated with higher stock price and dividends. However, managers may often have other goals, like sales revenue maximization. The key is that no one stockholder may have sufficient interest, or it is too costly to monitor carefully the decisions made by managers. Managers have better information about what goes into their decisions than do stockholders. This informational asymmetry leads to a moral hazard problem, in which managers choose actions that increase the cost or reduce the benefit to shareholders. Shareholders may develop control mechanisms to deal with this problem. They may set up a board of directors to monitor managerial decisions, offer managerial stock options, or set up rules limiting the ability of managers to make takeovers more costly. This example can be extended to address the implications of moral hazard for corporate finance. For example, it may explain observed patterns of corporate debt-equity ratios.

Examples of moral hazard problems in and between organizations are abundant. Managers may set up workplace rules, increase monitoring, or offer bonuses to workers to reduce shirking. On a larger level, when two firms invest to create a joint specific asset (which has no value outside the transaction), each may have an incentive to hold the other up by trying to grab the whole return.

Organizations must also deal with the problem of adverse selection. This problem occurs because one party in a transaction has an incentive to take advantage of precontractual private information to raise the cost or lower the benefits to another party. In an employment example, if the productivity of workers varies and firms cannot tell low-productivity workers apart from high-productivity workers, then a firm may end up paying less than the marginal revenue product of a high-productivity worker and, thus, hire only low-productivity workers. This may lead to signaling, with high-productivity workers acquiring an education that low-productivity workers find too costly to acquire. The firm may also screen workers by offering a menu of contracts to separate high-productivity workers from low-productivity workers.

Credibility and commitment. In transactions and strategy, the idea of credibility and commitment is very important. Each party in a transaction may have an incentive to renege on a deal or try to grab the whole value of the transaction. This has the effect of preventing or increasing the cost of mutually beneficial transactions. If both parties could credibly commit to not take advantage of the other, these efficient transactions would occur without much additional cost. Individuals or organizations use explicit contracts to credibly commit to certain actions by giving each party something to lose if it takes advantage of the other.

Organizational credibility can also be demonstrated through the principles of EOM. For instance, by developing a reputation, an individual or firm gives itself something of value that it may lose if it does not carry through with agreed-on actions or follow through with threats or promises. From an organizational perspective, Kreps (1990) argues that "corporate culture is the main vehicle for establishing and nurturing a good reputation, which is of much strategic significance. It conditions the employees' behavior in accordance with desirable reputational objectives and sends a message to other transacting partners" (p. 125). One may commit by burning bridges and eliminating the possibility of retreat or cutting off communication to prevent renegotiation. One may use competitors as sources of information to demonstrate commitment. For example, a supplier may sacrifice economies of scale in production by licensing a new product to competitors in order to demonstrate to potential buyers that they will not hold them up by charging higher prices in the future. By doing so, they use competitors to force themselves to price competitively even after buyers commit to using their product.

Bargaining. In addition to the problems of moral hazard, adverse selection, and imperfect commitment, another source of inefficiency in contracting involves private information at the time a contract is being negotiated. For example, when bargaining over the sale of a good, sellers may have an incentive to exaggerate cost to negotiate a higher price, whereas buyers may understate the good's value to negotiate a lower price. This problem may prevent a mutually beneficial exchange from being carried through or simply raise the cost of market transactions.

Bargaining questions have been approached from two different perspectives. One approach has been directed toward understanding the various strategies used to acquire, maintain, and use bargaining power. This approach examines the noncooperative nature of most bargaining problems. For instance, it may ask what the role of brinkmanship is in determining the outcome of labor negotiations. It may also be interested in why organizations have agents to represent them in bargaining situations. Answers to both

questions emphasize the importance of commitment in strategic situations. The other approach has been more interested in the cooperative outcomes of bargaining situations. This axiomatic approach helps develop an understanding of the impact the rules of bargaining have in determining the ultimate mutual gains.

Management strategy. Also within the scope of organizational economics are models dealing with management strategy. Management strategy requires a full analysis of the problems facing a firm, both externally and internally, and that choices from the feasible set be made with respect to the organization's goals and objectives. With respect to external decisions, managers can benefit directly from neoclassical theories of the firm, which focus on technology, costs, and demand. However, external choices must also deal with issues regarding the importance of first-mover advantages, commitment, reputation, signaling, and the strategic control of resources and information. Internal questions include those related to the appropriate vertical, horizontal, and strategic scope of a firm. External considerations often cannot be separated from internal organizational questions, and internal organization is affected by external market variables. That is, from a strategy perspective, external choices and internal choices are very much interdependent. Since modern industrial organization theory benefits from traditional market structure perspective and organizational economics, it could be argued that industrial organization economics includes what might be called the science of management strategy.

The Benefits of the New Approach to Managerial Economics

MAINTAINS IMPORTANT ASPECTS OF TRADITIONAL THEORY

Current approaches leave little room for EOM. However, approaching managerial economics from the organizational perspective does not necessarily mean that the traditional theory of the firm and competition must be completely eliminated from the course. In fact, the definition of EOM should be interpreted to include the more traditional industrial organization models of consumer, firm, and market behavior under a variety of assumptions regarding market structure. Because firm behavior is the result of a joint decision process within a network of agency relationships, one could argue that EOM enhances our traditional models as it attempts to answer the question of what forces will ensure that the process will maximize profits. That is, it

recognizes that firm behavior is not independent of organizational issues. It demonstrates that neoclassical economic theory of the firm and EOM are not separate modules and should not be presented as such.

CONSISTENT WITH LEARNING OBJECTIVES AND TEACHING METHODS

Most business programs seek to enhance the ability of students to think critically, logically, and strategically. The idea is that students should learn to apply important concepts in a variety of situations and problems. An approach based on EOM places managerial economics in an excellent position to help achieve these learning objectives.

First, few decisions are made in a vacuum. A focus on strategic models helps students recognize that decisions are indeed interdependent. Second, the approach accommodates the use of more traditional case studies, which many argue is the best way to enhance critical-thinking skills. Finally, it helps students focus on the factors that are really important in the types of decisions they will make. Saloner (1991) emphasizes this point well when he argues that organizational economics is useful to business not in a literal way but rather in a metaphorical way. The aim is to capture and formalize only the essential features. The objective is to create a model that qualitatively (not quantitatively) simulates the environment being studied. It is useful to simply understand why the model works or what drives the results rather than also try to force some quantitatively prescriptive implication on the model.

Although traditional economic theory has ignored the interdependencies between individuals within organizational boundaries, the EOM focuses on them. When economists speak of decisions made by firms, students are asked to ignore the fact that actual decisions are made by people and that those decisions affect others in the organization. New instructional methods (e.g., simulations, in-basket exercises, or simple interactive instruction) designed to build mastery in leadership and team skills and enhance learning make more sense to use when individual interactions in organizations are the focus. In addition, student participation should be greater in classroom discussions of topics directly related to what is learned in other business courses.

INTEGRATIVE

Microeconomics has the potential for being an integrative discipline for the business curriculum but only if firms are examined at the organizational level. This allows for the introduction of topics usually presented from a different perspective in other business courses. These topics include corporate culture, motivation, and communication. EOM can be the glue that pulls

seemingly separate pieces of material from finance, accounting, marketing, and management together. The business policy/strategy course typically assumes the responsibility of integrating the curriculum. By getting students to recognize the connections between disciplines at an earlier stage, the ability of the strategy course to integrate the curriculum should improve.

Figure 1 is introduced to provide some examples of how EOM relates to other disciplines in the business curriculum. In the diagram, the organization is presented with undefined boundaries representing the importance of understanding the nature of the firm, especially in vertical relationships. Within the organization, there are a variety of topics in EOM that are also addressed in other business courses, such as management (MGT), finance (FIN), marketing (MKT), and management information systems (MIS). Also described are many topics in EOM that relate to understanding the vertical and horizontal scope of the firm as well as relationships with other organizations. These topics are also addressed from a different perspective in a variety of business courses. Keep in mind that the fundamental structure of economic analysis and rational choice provides the consistent framework holding the EOM together in each of these topics, regardless of the subject area they are applied to.

Approaching managerial economics from this perspective is, in fact, necessary for the integration of some of the current hot topics in management, such as total quality management, teams, global business, and ethics. These topics are addressed in more detail below.

Total quality management. If we assume that a firm combines inputs efficiently and minimizes cost, then we immediately rule out a role for discussing internal quality concepts. However, once we recognize that any organization is made up of people who make decisions and recognize their interdependence, we can begin to use principal-agent models and game theory to help understand management of internal quality issues.

There are many examples applying EOM to understand total quality management. When discussing relationships between customers, a simple teams model (Alchian & Demsetz, 1972) may be used to discuss problems associated with divergent interests and asymmetric information. The same model may be used to introduce potential solutions. In the management literature, much has been written about the importance of having a quality culture. Of course, discussions of corporate culture are usually beyond the scope of the traditional managerial economics course. However, using organizational economics, it is easy to explain that culture consists of a set of implicit contracts—a shared set of beliefs regarding expectations. When viewed as such, it is easy to understand why culture is so difficult to change. It means

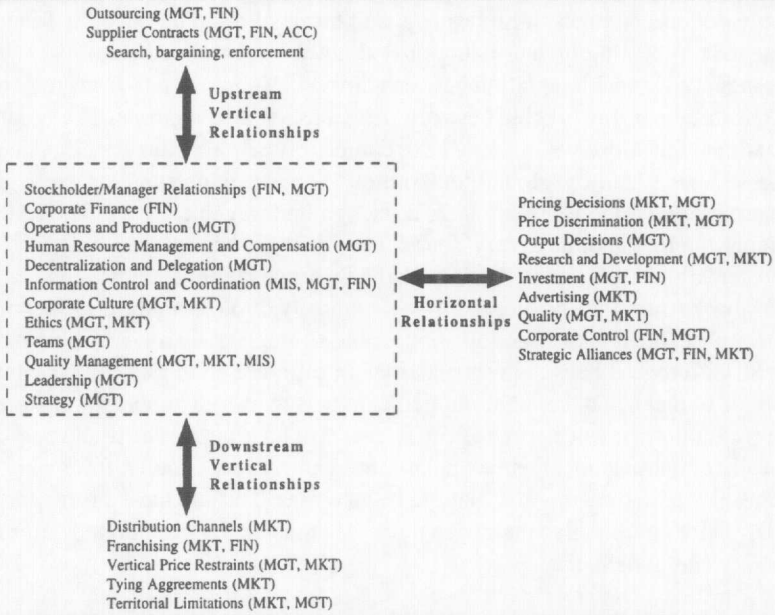


Figure 1: Integration of EOM in Business Disciplines

breaking old contracts and implementing new ones without the benefit of being able to discuss the terms of either explicitly (Kreps, 1990). Many managers would argue that higher quality can be obtained at lower cost, resulting in lower prices. Using our traditional models, this would not make sense because each firm minimizes cost by assumption. However, by discussing the internal interactions of an organization, it is not difficult to understand how inefficiencies might develop.

Teams. Many organizations have discovered that organizing work in teams can enhance productivity (Dumaine, 1994). Just like psychologists, sociologists, and management theorists, economists have been studying behavior in teams for quite some time. By applying this research, managers can learn to appreciate the importance of size, selection, training, measurement, decision-making autonomy, compensation, and organizational culture in the effective management of teams (LeClair, 1996). Of course, traditional theories of the firm have had little to say regarding these issues.

Global business. EOM can help internationalize the managerial economic course (LeClair, 1995). First, a discussion of global business should not

only address comparative advantage and terms of trade but also the fundamentals of dealing in and with global alliances. What may be optimal with respect to vertical integration between domestic suppliers and firms may be undesirable or unworkable between firms in separate countries. The organizational questions we ask may have completely different answers in a market characterized by global competition. Second, understanding strategic international trade issues requires a background in game theory. The traditional microeconomic theory course provides this background only in the presentation of oligopoly models. Using the organizational approach means this background can be presented systematically throughout the course, with a simple extension to oligopoly models and strategic trade issues. Third, cultural differences between organizations in different countries can be interpreted to mean that the set of implicit contracts within an organization varies across countries. Furthermore, a different set of laws implies a different set of explicit contracts that can be applied in organizations. Finally, firms play a central role in the growth of national economies. Thus, to have a full appreciation for comparative macroeconomy, one must understand organizational policy and dynamics.

Ethics. Using the organizational approach, interesting perspectives on ethical issues can be presented fairly easily. One can discuss ethical issues in the context of fundamental organizational problems, such as adverse selection, moral hazard, and bargaining. In each case, opportunistic individuals take advantage of private information prior to or after contracting to raise the cost or reduce the benefit to other parties in a transaction. Each of these problems would not be an issue in an organization populated by honest individuals. This can be used as a starting point for a more general discussion of how efficiency and ethics cannot always be separated. This is in contrast to the much more difficult discussion of ethics, which evolves from a general equilibrium perspective (see Hausman & McPherson, 1993).

One interesting example would recognize an economic role for a code of ethics in an organization, whether it is a firm or professional association. For example, an accountant might join an association of auditors and agree to abide by its code of ethics. The reason this might make sense to the accountant is that it provides a vehicle for making his or her commitment to ethical standards credible. Essentially, the accountant is giving him- or herself something to lose should he or she do something generally considered unethical. Related to this, the organization has reason to police the code to maintain the value of being a part of this organization. Of course, this is not different from how we might explain why some firms choose to develop a reputation for providing high-quality products and services.

Summary

The managerial economics course should be approached from the perspective of EOM. The important limitations of current approaches and benefits of an approach based on EOM provide the impetus for revised curricula and teaching approaches.

EOM benefits students by providing a foundation for integrating seemingly unrelated courses in the curriculum. It also benefits faculty by allowing economics to introduce more interesting current business applications and provides opportunities to engage students in interactive learning. It enhances the ability of the curriculum to meet educational objectives, such as integration and critical thinking, and provides a unique approach to introducing perspectives on common business topics, such as ethics, leadership, global issues, and quality.

Too often when businesspersons are asked how much they know about economics, they respond by saying "not much." When asked what they think economics can do for them, again the response is often "not much." Even though microeconomists are directly concerned with costs, pricing, market conditions, and organizations, businesspersons turn to accountants for cost analysis, marketing professionals for pricing options, business strategists and planners for market analysis, and management consultants for organizational advice. This article presents a framework for making economics directly applicable to what most managers do. The approach preserves the fundamental assumptions and rigor of economics but addresses organizational and strategic issues that are important in business decision making. By taking an integrative approach to teaching managerial economics, we can more effectively prepare students to enter a multifunctional work environment that requires the skills of critical analysis.

Appendix

A Brief Annotated Reading List in EOM (of books and articles not cited in text and in references)

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- Acs, Z., & Gerlowski, D. (1996). *Managerial economics and organization*. Englewood Cliffs, NJ: Prentice Hall. A textbook focusing on many of the issues discussed in this article.
- Barney, J., & Ouchi, W. (Eds.). (1986). *Organizational economics*. San Francisco: Jossey-Bass. A management book that relies on an economics approach.
- Brickley, J., Smith, C., & Zimmerman, J. (1997). *Managerial economics and organizational architecture*. Burr Ridge, IL: Irwin. A new textbook that focuses on internal organization. Interesting for its applications in total quality management, leadership, and ethics.
- Chandler, A. (1990). *Scale and scope*. Cambridge, MA: Belknap Press. Comprehensive discussion of the history of industry useful to understand the importance of organization structure.
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(continued)

Appendix (Continued)

- Dixit, A., & Nalebuff, B. (1991). *Thinking strategically: The competitive edge in business, politics, and everyday life*. New York: Norton. A popular introduction to game theory.
- Ghemawat, P. (1991). *Commitment: The dynamic of strategy*. New York: Free Press. An important contribution to the strategy literature with game theory roots.
- Laffont, J.-J., & Tirole, J. (1993). A theory of incentives in procurement and regulation. Cambridge, MA: MIT Press. An important text presenting research on organizational issues.
- McMillan, J. (1992). *Games, strategies, and managers*. New York: Oxford University Press. A useful game theory applications book.
- Rubin, P. (1990). *Managing business transactions: Controlling the cost of coordinating, communicating, and decision-making*. New York: Free Press. An applications book on transaction cost economics.
- Schmalensee, R., & Willig, R. (Eds.). (1989). *Handbook of industrial organization*. New York: North-Holland. Although somewhat outdated now, it is the most comprehensive resource on the industrial organization literature.
- Tirole, J. (1988). *The theory of industrial organization*. Cambridge, UK: Cambridge University Press. The first modern industrial organization text.
- Williamson, O. (1985). *The economic institutions of capitalism: Firms, markets, relational contracting*. New York: Free Press. Builds on transaction cost theory.
- Williamson, O., & Winter, S. (1991). *The nature of the firm: Origins, evolution, and development*. New York: Oxford University Press. Interesting discussion of industrial history.

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