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The Unholy Alliance of Business and Science

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ABSTRACT. This paper will build on a recent article appearing in the Harvard Business Review that blamed the alleged crisis in management education on the scientific model that has been adopted as the sole means of gaining knowledge about human behavior and organizations. The solution, they argue, is for business schools to realize that business management is not a scientific discipline but a profession, and deal with the things a professional education requires. We will expand on this article and discuss its implications by looking at the scientific model from a philosophical perspective and dealing with the issue of whether management is a profession. Our discussion of these issues has implications for our understanding of business in society and the design of the business school curriculum.

KEY WORDS: management, education, science, profession

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The unholy alliance of business and science

In a recent article appearing in the Harvard Business Review, Bennis and O'Toole (2005) analyze the reasons for the alleged failure of business schools to adequately prepare their graduates for the world of business. In the beginning of the article they enumerate recent criticisms of MBA programs including failing to impart useful skills, failing to prepare leaders, failing to instill norms of ethical behavior, and even failing to lead graduates to corporate jobs. These criticisms come from many different groups including students, employers, the media, and deans of some of the country's most prestigious business schools. Attempts to address this problem have resulted in many efforts to revise the curriculum to be more relevant to the business world. Bennis and O'Toole believe, however, that the curriculum is the effect, and not the cause, of what ails the modern business school.

The actual cause of today's crisis in management education, they believe, can be traced to a dramatic shift in the culture of business schools that has taken place over the past several decades as many leading business schools have come to measure their success solely by the rigor of their scientific research rather than in terms of the competence of their graduates or how well faculties understand important drivers of business performance. This scientific model, they argue, is predicated on the faulty assumption that business is an academic discipline like chemistry or geology, when in fact it is a profession akin to medicine and the law. Business schools should be professional schools, and this distinction between a profession and an academic discipline is crucial, and in their view, no curricular reforms will work until the scientific model is replaced by a model that is more appropriate to the special requirements of a profession.

The rest of the article discusses how business schools came to embrace the scientific model of physicists and economists rather than the professional model of doctors and lawyers. The problem is not that business schools have embraced scientific rigor, but that they have forsaken other forms of knowledge that are relevant to business organizations. To regain relevance, business schools must realize that business management is not a scientific discipline, but a profession, and they must deal with the things a professional education requires. There must be a balance between rigor and relevance.

We believe that this paper raises some important issues for business education, and in particular ethics education, which needs further exploration. In our paper, we will first discuss the scientific model and point out its limitations in advancing our knowledge of how humans behave in organizations and how organizations function in society. In doing this we will discuss the rise of modern science and the problem it created relative to our understanding of humans and nature in the modern world. Business schools ignore this problem at their peril in their wholesale adoption of the scientific model as the only way to advance knowledge.

Secondly, we want to discuss the issue of whether or not management can be considered a profession like law and medicine, or whether there are crucial differences that have led to a crisis of management education. We believe this issue is central to the argument of Bennis and O'Toole since they argue that business schools need to recognize that business management is a profession and not a scientific discipline. In what sense is business and management a profession? The answer to this question has important implications for curriculum design and the purpose of business in society.

Business as a science

The scientific model was adopted in response to two studies sponsored by the Ford (Gordon and Howell, 1959) and Carnegie (Pierson et al., 1959) foundations respectively that were extremely critical of business school education at the time, characterizing business schools as little more than glorified trade or vocational schools. Most professors dispensed practical wisdom through the telling of stories based on experience or other methods that lacked the academic rigor of other subjects. To gain academic respectability and promote rigor in the business school curriculum, business schools turned to the scientific paradigm, and over time switched their primary focus from educating practitioners to conducting scientific research to push back the boundaries of knowledge. They adopted a model of science that uses abstract financial and economic models, statistical analysis, and occasionally laboratory psychology. The practical implications of this research were not always obvious particularly to practitioners themselves.

Business schools in general did gain academic respectability using this approach and have by and large eliminated the vocational stigma that once was attached to business school education. But in the process, many believe that they have lost relevance, in that scientific research techniques that require considerable skill in statistics or experimental design calls for little insight in complex social and human factors that are involved in business decisions and minimal time in the field discovering the actual problems facing business managers. When applied to business, which is essentially a human activity in which judgments are made with messy, incomplete, and incoherent data, statistical and methodological wizardry can blind rather than illuminate (Bennis and O'Toole, 2005).

An important consequence of the adoption of this scientific model is that evaluations of faculty are heavily influenced by the number of articles they publish in approved business research journals. To get published in these journals, scholars must focus on narrower and narrower subjects chiefly of interest to other academics, not practitioners. Professors who publish in highly quantitative journals are much more likely to receive tenure and promotions while those who publish in the pages of a more professional journal like the Harvard Business Review, which is much more likely to have an actual influence on business practices, risk being denied tenure and promotion.

This scientific culture likewise generates pressure on fields of study in business schools to adopt the scientific model in order to gain academic respectability. The field of Business and Society, for example, which began in the 1960s as a response to social issues of importance to business, started out with a group of committed scholars who wanted to change business behavior to be more socially responsible, and their articles were largely advocacy oriented to the end of promoting social responsibility. Over the years, however, the field has become more scientific oriented as new scholars entering the field have impressive training in scientific methodology and have been able to get published in the leading business journals. The same is true of business ethics, as reflected in more and more empirical articles appearing in business ethics journals.

Scientific rigor in itself is not the problem, as science can help us understand how organizations function and the role human beings play in these organizations. But by embracing this model as the only way to gain knowledge, business schools have forsaken other forms of knowledge that are relevant to business organizations, such as that gained through actual experience in business and the use of imagination and creativity in solving business problems. The scientific model has been embraced to the exclusion of everything else, and is seen as the only source of knowledge that is worth one's attention.

Consider the following statement made in a paper submitted for review in a business journal. "Current ethical decision making theory generally rejects normative perspectives (which often assume ethical absolutes) in favor of positivist approaches (which describe what actually occurs in organizations)." The statement is holding up the positivist approach as an absolute approach to knowledge, and assumes that such an approach actually describes what goes on in organizations. Philosophers in the field of business ethics, generally do normative work, not all of which assumes ethical absolutes. They reject the positivist approach because it says nothing about right and wrong, bad and good; in other words, the positivist approach makes no normative statements, which many believe is central to ethical decision making.

Furthermore, one might argue that the scientific approach does not necessarily describe what actually occurs in organizations, but only describes what the researcher's perceptual net happens to catch. The scientific model limits the researcher to catching only those aspects of a situation that can be quantified and analyzed using statistical methods. Researchers tend to forget that the process of quantifying leaves behind all the richness of a situation that cannot be caught by a quantitative net. The use of the tool of quantification predetermines the type of content which can be examined in that it has to be inherently mathematizable, while the exclusively mathematizable type of content apprehended in turn reinforces the belief that quantification is the only tool that can be legitimately used for observational truth.

Perhaps a specific example will serve to illustrate how this process works. Several years ago, one of the authors along with two colleagues published an article in a business journal entitled "Power and Pay: The Politics of CEO Compensation" (Elhagrasey et al., 1999). The public was concerned with what was perceived to be unreasonably high CEO earnings several years ago, a concern that has only increased over the past few years as CEO pay has continued to widen the gap between the highest and lowest paid workers in corporations. The purpose of the paper was to focus explicitly on analyzing how the CEO manages and controls the compensation process, a focus we believed was lacking in previous research. The paper built upon a range of previous work on CEO power, CEO compensation, corporate governance, top management behavior, and political processes in organizations to construct a framework for understanding and analyzing CEO influence on compensation.

After doing the obligatory review of previous research in this area and identifying several factors that influence CEO compensation, four hypotheses were then developed related to CEO control over the compensation process and then the research framework was operationalized to test these hypotheses. The dependent variable was, of course, CEO compensation as reported in the Forbes annual survey of CEO compensation. The independent variables included CEO/board chair position, which was taken to be an indicator of formal power, CEO tenure as a measure of informal power, and size and profitability, which were hypothesized to affect CEO compensation. Control variables included sales growth, shareholder return growth, diversification, industry concentration, and industry median compensation.

In choosing these variables we were limited, of course, to finding factors that could be quantified and where data could be found to conduct a statistical analysis. Using a regression model to test the hypotheses, we found that CEO tenure was strongly correlated with CEO compensation, while formal CEO power (consolidated CEO/board chair position) was positive but insignificant. Profitability was also shown to have a stronger effect on CEO compensation for smaller firms, and size had a significant effect on compensation for both high and low performers, a finding at variance with our hypothesis that size would have a stronger influence in less profitable firms.

While this study may shed some light on what drives CEO compensation and some valuable insights may be gained, one has to question whether a study of this nature really gets at the most significant factors and is actually describing what goes on in this process. Does it really get at the power a CEO exercise over the compensation process? Does it even begin to describe the relationships that exist between the CEO and board members? Does it begin to get at the legitimacy issue with respect to the CEOs and the ability they have in the existing system to determine their own compensation regardless of performance? Does it begin to describe the human factors related to dominance and intimidation that are undoubtedly a part of this process? And of course, the larger ethical question of whether such high levels of executive compensation are justified is completely ignored.

The point is that human and organizational behavior are ultimately much too rich and complex to be completely captured by a scientific model based on quantification and mathematical analysis. While we can learn much from scientific studies, and this point should not be deemphasized, there is much that they miss, and in some cases, may miss the most significant things that are going on in organizations. Human organisms and the organizations in which they function are rich with qualities and values of everyday experience and have interests and concerns that cannot be captured with a scientific model no matter how sophisticated.

There is no such thing as a spectator theory of knowledge, where one can design a research framework that enables the researcher to just stare at reality and describe it in a totally objective and unbiased fashion. We look at the world from a particular perspective, and the scientific perspective allows us to see certain things, but forces us to ignore others. The so-called facts that are discovered are not brute givens waiting to be discovered, but emerge from our experience with the world and are no difference from values in this regard. There is no fact-value distinction that makes facts something that this objective and real and values mere matters of opinion.

Any single study of some matter is never definitive in itself, and indeed, a good research article will point out in the conclusion where the study is lacking and opens areas for further research. The way things usually work is that after enough studies have been conducted that come to roughly the same conclusion, certain facts begin to emerge out of this experience that come to be widely held. Secondhand smoke does cause cancer, asbestos is a harmful substance, and global warming is real despite the Bush administration's denial. But no single study is ever definitive, and indeed, new studies may come along in the future to challenge conventional wisdom. This is the way good science works, and the way progress in our understanding of the world in which we live advances.

The problem here is one that has existed for centuries and that continues to plague science in general and social science relative to organizational behavior in particular. With the rise of modern science, nature came to be viewed as a machine that could be investigated with scientific methods and manipulated for human interests. The human body itself became part of nature and was considered to be a mechanism that could be worked on and manipulated. The mind and its activities were outside of nature and could not be investigated by the tools of science. As science gained respectability and particularly with the rise of the social sciences, all of human activity was reduced to the contents of nature. Human functions that could not be quantified, that could not be gotten hold of by the tools of science, were not considered to be real and part of nature.

What, then, becomes of the mind and its activities, things like freedom, creativity, imagination, emotion, and all the other things that make us truly human. Philosophers who are interested in these matters have been struggling with this question ever since Descarte apparently started the whole problem. Scientific methods cannot get hold of things like freedom and imagination, and if the scientific model dominates how we think about organizations and their role in society, these factors of human behavior are not considered. If human action is reduced to nothing but quantifiable factors, the richness of human beings and their activities is lost and becomes unimportant.

Science is reductionistic and has to reduce the factors that are considered into something that can be quantified and observed in some mechanistic sense. But most decisions facing business management are matters of judgment and cannot be reduced to a scientific equation. Decisions that are based solely on quantitative factors and leave out human elements such as emotion and imagination are ignoring precisely those factors that are most important to consider. Thus the scientific model, while giving the business school curriculum academic respectability, makes it increasingly irrelevant to actual business practice, and does not prepare its graduates for the real world of business where data must be interpreted and applied to real world situations.

Business as a profession

To regain relevance, according to Bennis and O'Toole (2005), business must come to grips with the reality that business management is not a scientific discipline but a profession, and they must deal with those things that a professional education requires. Citing an associate professor at Harvard Business School, they point out that the professions have at least four key elements: (1) an accepted body of knowledge, (2) a system for certifying that individuals have mastered that body of knowledge before they are allowed to practice, (3) a commitment to the public good, and (4) an enforceable code of ethics (Bennis and O'Toole, 2005: 102). Professions are oriented toward practice and focused on client needs, and above all integrate knowledge and practice. While not proposing making management a gated profession requiring credentialing and licensing, they do believe that imagination and experience ought to be central to business education.

The professional model they propose raises some profound questions about the activity called business and whether it is indeed a profession akin to the law and medicine. Taking the criteria they mention as important elements to a profession and applying them to the practice of management is problematical. For one thing, is there an accepted body of knowledge that has to be mastered before one can enter business? The M.B.A. degree is not like a law degree of a degree from a medical school. One does not need it in order to start a business or even get a job in a business organization. There are hundreds of people like Bill Gates who are college dropouts that went on make an enormous success in business. This in itself constitutes an important and crucial difference between business management and the more traditional professions of law and medicine. Regarding a code of ethics, there is no code of ethics for management as such as there is for the practice of law and medicine. What codes of ethics do exist are related to a particular business organization, not to the practice of management as a whole. This alone suggests that there is no such thing as a management profession, but that the focus of business is on organizations where some people are managers who control the behavior of others in the organization. These codes of ethics are meant to express the values of the organization and what it stands for in terms of acceptable and unacceptable behavior, and do not necessarily reflect the values of management as a profession.

These are crucial difference between business and management and the more traditional profession and have implications that need further exploration. But perhaps the most important criterion mentioned is commitment to the public good. What does this mean in a business context and what implications does it have for management education? Is it possible for business management to be committed to the public good or is this something that is more akin to the traditional professions who have an obligation to focus on their clients needs? What is expected of management in our society and in the kind of system in which business functions? What does it mean for business to be a profession in the context of a free enterprise or capitalistic system.

According to Levi (1964) writing in an article entitled "Ethical Confusion and the Business Community," the aim of a profession is the performance of a service and the true professional keeps his or her eye on the activity. Commitment and responsibility are thus a mark of the professions. The aim of business, on the other hand, is profit, and the true businessman keeps his eye on the reward. This is a logical distinction, according to Levi (1964), and calls attention to the diametrically opposed point of view between a ''business'' and a ''profession'' as ordinarily understood.

This distinction is largely a matter of emphasis, as if a doctor thinks more of his fee than of the patient, he is a businessman even if he spent six years in the best medical school in country. Likewise, if the owner of a bakery takes pride in his bread and is less interested in the volume of his yearly profit than in the quality and reputation of his merchandise, he is a professional man even if he has never graduated from college. Levi recognizes that this distinction may sound ''utopian'' to many people and squares badly with the practice of many fee hungry doctors and lawyers, but does not impair the logic of the position. It only indicates the falling off which results when business mentality at is worst corrupts the traditional professions.

For business to become a profession, then, it must devise methods whereby emphasis upon the activity, commitment, and responsibility become the common property of members of the business community. But this change of emphasis in business goes against the grain of the mentality of Western civilization and would require a psychological re-orientation of the business mentality, a rethinking of the purpose of business and a rethinking of the society itself. As Levi (1964: 27) states, the ethical behavior of any segment within society is generally not without roots in the more general aspirations of that society as a whole.

Modern capitalism is based upon a philosophy of individualism, which implies that the basis of society is to be found in rights and not in responsibilities. Individuals have a ''natural right'' to use their property as they see fit and follow their economic self-interest independent of any obligation or duty to serve society in any way, shape, or manner. These rights are possessed quite apart from any obligation to contribute to the general happiness of society or to an overarching social purpose or public good. It was Smith (2003) who made this feature of capitalistic societies into a virtue with the claim that the pursuit of economic self-interest automatically led to the public good by increasing the wealth of nations through the production of more and more goods and services.

Thus we have the development over the years of an ''acquisitive society'' whose main preoccupation is the enthronement of money and the acquisition of economic wealth. The business organization is the engine that creates this economic wealth, and its purpose if not its social responsibility, as Friedman (1970) put it years ago, is to make as much money as possible while staying within the rules of the game. The maximization of shareholder wealth is still the stated or unstated purpose of most courses in the business school curriculum despite many years of social responsibility, ethics, and stakeholder management. There has been no significant change in the economic, social, and moral philosophy that under-girds the business enterprise.

The unholy alliance

This brings us to another major difference between business and the traditional professions of law and medicine, and a return to the issue of the unholy alliance. These latter professions have no home discipline, so to speak, that provides them with the rationale and justification for their existence. They are strictly practical activities that need no other justification beyond their duty to serve their client's interests. Business, however, does have a home discipline in economics that prescribes the role business is to play in society and describes how the firm functions to create economic wealth. While it could be argued that certain courses such as organizational behavior have their home in sociology, this emphasis is subservient to the larger economic purpose and role of the business enterprise as prescribed in economics.

And it is here that the connection with science reasserts itself most pointedly. Perhaps it is no accident that in the 1950s and 1960s, as business schools began to adopt the scientific model to promote a more rigorous curriculum, economics began to change from a political economy orientation to the highly mathematized discipline it is today. Such changes may reflect society's fascination with science as a whole, as during the 1950s in particular, science and technology ushered in a new age of affluence with a proliferation of new devices that made people's lives better and more comfortable. And the atomic age contained promises of unlimited sources of energy before concerns about both cost and safety entered the public arena.

In any event, economics as a scientific discipline prescibes the role of business in our society, and provides a moral justification for its existence. Business is solely an economic institution whose purpose is to create more and more economic wealth. This purpose can be quantified and measured by the ability of a business to generate profits and increase the price of its shares traded on the stock exchanges. The success of the society as a whole is measured by an increase or decrease in gross national product, or gross domestic product, as it is sometimes called. Our fascination with and belief in quantification is reflected in these measures of success.

The social responsibility idea came of age in the 1960s as something of a counter to this idea of the firm and as a response to the social problems that began to plague the society. It was argued that the market by itself failed to provide sufficient incentives for business organizations to address social problems such as equal opportunity, job safety, product safety and other consumer concerns, poverty, and environmental concerns. Business must find ways to be more socially responsible, it was argued, and address these issues to make a better society. Many reasons, such as long-run self-interest and avoidance of government regulation, were advanced as a justification for this idea of social responsibility.

That this effort failed is quite evident in the growth of government regulation that took place in the 1960s and 1970s, addressing these very issues that were part and parcel of the social responsibility movement. Has business ethics fared any better in promoting responsibility over rights and in developing a deepened sense of moral purpose in the business community? After the scandals that took place just a few years ago, one would have to judge this effort was also a failure, perhaps in part because many of us tried to sell ethics on the basis of it being good business, the good ethics is good business idea, again making ethics subservient to economics.

Is the answer to the problems of business schools to be found, then, in the adoption of a professional model, as Bennis and O'Toole (2005) advocate? Perhaps so, but as this article has tried to point out, the implications of this proposal are profound and far-reaching. The problem with a professional model for business is the conflict between the professional demand for service and the exclusively business demand for profits. What a professional model would require is the formulation of a new moral, social, and economic philosophy for business, something that has not as yet been attempted on a large enough scale, at least, by scholars in business schools or in ethics for that matter. It would require a new vision of Western economic society based on the idea of community and responsibility rather than individual rights related to the use of property. Otherwise, ''the hope of committing business to the canons of responsible professional behavior is only a dream, a moralist's vision without consequence in reality'' (Levi, 1964: 28).

Making the professional model something more than just a moralist's vision has implications for the curriculum of business schools that are themselves revolutionary. A bottom line mentality is promoted in almost all the courses taught in business schools. The idea that the corporation is nothing more than an instrument to make money and increase its profits in the interests of maximizing shareholder wealth if pervasive. If anyone takes a look at the objectives of courses in the typical business school curriculum, one will find little, if any, mention of the contribution business can make to the public good beyond increasing its profits, nothing about the maximization of consumer welfare, little or nothing about the promotion of environmental responsibility, or similar objectives.

For business to become a true profession, every course would have to have as it stated purpose service to some stakeholder group, not that of profits and the maximization of shareholder wealth. Marketing would have to gear to promoting the well-being of consumers rather than an increase of market share. The purpose of finance courses would be to provide the means for business to contribute to the wellbeing of society as a whole. Strategic planning would have to be related to the promotion of the public good and the contribution the organization can make to the well-being of society beyond the mere creation of economic wealth. Accounting courses might stress a broader objective that has to do with accounting for the use of society's resources rather than simply showing if the company is making or losing money.

Equally important is a course in the last semester that would give students the opportunity to reflect on the meaning of it all and what they want out of a career in business and management. This course would be like a capstone course that would give students the opportunity to integrate what they have learned into some kind of meaningful philosophy of business. Subjects should be covered that would encourage students to think more broadly of their chosen career. The most important part of this course would be an assignment for students to write a lengthy paper expressing their own personal philosophy of management. Every student in a business school leaves with some understanding of management, but this is mostly unarticulated. It would be a most valuable experience for students to have the opportunity to articulate their own philosophy of management and business.

This presents an enormous challenge to those of us who are part of the academic community. Thus far we have just nibbled around the edges of this problem, and have sort of tacked on social responsibility and ethics to the economic model of business. This has helped to alleviate some of the difficulties business has experienced in society, but has by no means amounted to a major redefinition of the purpose of the corporation and its role in society. Bennis and O'Toole (2005) have raised some important issues for business education and have pointed to the professional model as a solution to what they believe ails business schools. But the implications of their suggestion go far beyond what they have outlined in the article.

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