Ethical tensions in technical consulting

During the Watergate hearings in 1973, professional ethics were in the news and on my mind. As a staff engineer for the California Water Resources Control Board, my primary job was to review technical reports submitted by coastal dischargers describing their existing treatment, effluents produced, related environmental impacts, and available treatment alternatives necessary to achieve compliance with the State’s relatively new Ocean Plan. The board had assembled for this task a three-person, multidisciplinary team consisting of a biologist, an engineer (me), and an oceanographer. However, the biologist and oceanographer were soon assigned to other duties, and I found myself functioning in all three capacities with the responsibility for evaluating biological data.

It may seem strange that an engineer would be expected to function in the role of a biologist. However, this practice is not necessarily unusual for government agencies or in the environmental field, which is interdisciplinary by nature. It does have ethical and professional implications, which I discuss later. Although my personal consulting experience has been as a ground water hydrologist, I have some experience with biological matters and believe that the ethical issues faced by biologists and other technical consultants are similar. In this article, I present case examples from those experiences, discuss the ethical foundations for technical professionals pertinent to consultants, and present a list of ethical issues of particular concern in technical consulting, with related examples.

Earlier career experiences

Working for the California Water Resources Control Board and subsequently for the Alaska Department of Environmental Conservation (ADEC) during construction of the trans-Alaska oil pipeline were my first opportunities to consider the ethical choices faced by technical consultants performing environmental work. The following experiences shaped my early opinions:

- A review of fish bioassay data for an untreated waste stream discharged into the Pacific Ocean near Monterey, California, indicated that the consultants for the facility had reported a survival rate that seemed too high for such apparently poor quality waste. The consultants subsequently admitted that they had neglected to mention in their report that fish survival was tested only in the supernatant of the settled wastewater rather than in the wastewater as a whole.
- Technical reports about the impacts of wastewater discharges into the Pacific Ocean in the vicinity of Los Angeles contained data showing that some elements were present at higher than normal concentrations in sediments near major outfalls. There were also indications of reductions in the diversity of bottom-dwelling organisms, a higher than expected incidence of fish abnormalities, and decreases over time in the areal extent of kelp beds. However, the reports’ conclusions often seemed divorced from much of the data in them, an observation that made more sense when I learned that the conclusions of a major set of reports had been written by administrators rather than by the scientists actually involved in the research and when I viewed underwater photography taken in the vicinity of one of the major outfalls. The pictures clearly showed a heavily impacted underwater wasteland.
- In 1975, the trans-Alaska oil pipeline was under construction, and completing it quickly was obviously more important to those building it than complying with environmental laws. Synthesizing observations made and data gathered as a pipeline monitor for ADEC, I submitted a paper to the Geophysical Institute of the University of Alaska focusing on the pipeline company’s violations of state wastewater treatment requirements. The Institute’s editorial board included a consultant for the pipeline company, who attempted to prevent publication of a paper critical of his client. However, because his objection did not deal with the technical merits of the paper, it was published anyway (Zemansky 1975). One of his employees wrote the following in a letter to me after reading the paper:

...[the pipeline company] has routinely and flagrantly ignored and/or violated the existing laws of the State of Alaska and has been allowed to get away with it by the agency entrusted with their enforcement. I can understand the helpless rage one must feel trying to be an honest, professional employee of that agency.

The same consultant who attempted to prevent the paper’s publication was subsequently listed as coauthor of a paper presented by another employee at a conference the following year that confirmed some of the problems I had discussed. However, in response to an objection by the pipeline company, this paper was withdrawn and not published in the conference proceedings.

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Ethical foundations

Ethics may be defined as “a set of standards of right or wrong.” Generally accepted ethical standards stress honesty, kindness, and concern for other human beings. They usually imply a higher standard of behavior than required by law, the distinction being that laws define a minimum of what one must do or do not do whereas ethics direct what one ought to do. Such societal norms are broadly incorporated within professional ethics (Firmage 1980).

Professional ethics. There are various definitions of what constitutes a profession. The following is a composite list from several sources of the attributes of a profession (Bennion 1969, Firmage 1980, Horn 1978):

- ability to satisfy an indispensable and beneficial social need;
- intellectual basis (i.e., mastery of a body of knowledge and achievement of specialized skills, continuing education, and the exercise of discretion and judgment);
- tradition of public service or altruism;
- commitment to high ethical standards; and
- formal society, institute, or group affiliation.

A professional group’s code of ethics is a logical starting place to determine what constitutes ethical behavior for that profession. Modern professional codes of ethics have three objectives: to enhance the image of the profession, to clarify rules of conduct within the profession, and to promote the public good. However, some professional codes of ethics have contained illegal as well as unethical elements. For example, the code of ethics of the American Society of Civil Engineers once defined competitive bidding as unethical and contained a “when-in-Rome” clause that condoned bribery for projects in other countries if that was considered to be standard practice there. The former provision resulted in an antitrust action by the US Department of Justice, which was settled by changes in the code and a consent decree (Vesilind 1993).

A review of the codes of ethics of several professional groups, including the Ecological Society of America and The Wildlife Society, indicates that these codes generally contain provisions consistent with the attributes of a profession and objectives of a code of ethics noted above. Provisions of these codes that are particularly relevant to consultants are:

- The Ecological Society of America code of ethics states that all members will:
  - “...offer professional advice only on those subjects in which they are informed and qualified through professional training and experience”;
  - “...cooperate with one another to assure the rapid interchange and dissemination of ecological knowledge”;
  - “...report accurately, truthfully, fully, and clearly...and will convey their findings objectively”;
  - “...clearly differentiate facts, opinions, theories, hypothesis, and ideas.”

Certified ecologists will:
- “...respect any request for confidentiality...by their employers or clients, provided it does not contribute to “unnecessary” environmental degradation or “jeopardize” public welfare. In the event of a conflict in this area, certified ecologists “shall notify their employers or clients...in writing, and will be guided by their conscience in taking further action”; and
- “...not associate with...any enterprise known to be contrary to the welfare of the public or the environment.”

- The Wildlife Society code of ethics states that members will:
  - “[a]void performing professional services for any client or employer when such service is judged to be...detrimental to the well-being of the wildlife resource and its environment”;
  - “[a]ccept employment to perform services only in areas of their own competence”;
  - “[m]aintain a confidential professional client/employer relationship”; and
  - not “permit personal interests...to interfere with their professional judgement.”

Scientific method. For scientists, scientific principles reinforce professional ethics. Although philosophers may debate what science is, there appears to be consensus about the essential attributes of the scientific method. These are that it is “an objective, logical, and systematic method of analysis of phenomena devised to permit the accumulation of reliable knowledge” (Lastrucci 1967). The hallmark of scientific knowledge is understanding of sufficient depth to make accurate predictions (Lakatos 1978).

Consultants. The fundamental difference between consultants and other scientific professionals is their status as independent private practitioners charging a fee for service. In theory, the fee for service concept allows not only discretion but also professional independence and impartiality because it “is determined before it is earned...to the knowledge of the client...and does not depend on any contingency in order to become payable” (Bennion 1969). In practice, this aspect of the client-consultant relationship carries with it considerable potential for ethical tension. Professional independence and impartiality may both be compromised by commercial competition. As has been noted with engineers (Turnick 1975), a “bond” between clients and consultant may develop that makes them “partners in a venture which should realistically prove profitable to both,” “promotes economy over conscience,” and “clouds issues of public welfare.” The “dilemma” for the consultant is that “he must serve two masters whose wishes do not always coincide” (Turnick 1975). In the fortuitous case in which they do coincide, there is no problem. However, where interests diverge, there is justifiable concern that the master paying the bills will call the tune.

Three counterweights can shift
the balance for consultants when interests diverge: professionalism, altruism, and potential legal liability. The first two may sometimes motivate action contrary to narrow economic self-interest. Potential future legal liability is of increasing concern for both clients and consultants. This concern has had beneficial effects. For example, consultants involved in assessment and remediation of environmental contamination may practice “loss prevention” to avoid potential future legal liability. Loss prevention functions as a form of quality control and includes documenting that clients have been informed of problems and appropriate recommendations for corrective action. Legal liability may also motivate clients to take remedial action to resolve problems they might once have ignored, resulting in truly voluntary cleanups that go beyond what a regulatory agency might require.

Technical consulting

The same ethical issues facing biologists in other employment also confront consultants. The major difference is the effect of the influence of marketing and profit making. Obviously, the business success of consultants depends on their ability to gain clients and keep them satisfied, and on their ability to complete projects with an acceptable margin of profit. The ethics and qualifications of both consultants and clients are involved in this process. The ideal situation is one in which an ethical consultant works on a time and materials basis for an ethical client on a project in which the facts support the client’s position. In the real world, however, conflicting pressures may present consultants with uncertain choices between business and ethics. These pressures increase in hard economic times or particular political climates, such as that following the November 1994 federal election. The following ethical issues are of particular concern in technical consulting:

Misrepresentation of qualifications. Ethical issues are an inherent part of the marketing process. This process typically involves direct contact with prospective clients and preparation of a proposal including information about the consultant’s qualifications (credentials, experience, and available equipment). Qualifications may be “inflated” or misrepresented, or presented in a way that does not tell the whole truth. A consultant may truthfully advertise credentials and experience that imply relevant expertise, without providing enough information for prospective clients to realize that these credentials are largely irrelevant to the matter at hand. A related issue is consultants attempting to obtain work they are unqualified for or being reluctant to turn it down when offered. As noted above, the codes of both the Ecological Society of America and The Wildlife Society indicate that it would be unethical to accept work that one is not qualified for “through professional training and experience.”

Design and/or work performance bias. The manner in which field work or research is planned and conducted affects results (i.e., is the goal to find a problem or to “miss” it). A client may request performance of a biased scope of work or a consultant may believe that the client will be receptive to such a proposal and then carry it out after approval. Additionally, bidding and limited project budgets may affect work performance and quality.

Data interpretation bias. Data may be subject to more than one interpretation. When that is the case, consultants may be tempted to give, and clients may request, the interpretation most favorable to their client. The code of the Ecological Society of America indicates that reports should accurately, truthfully, fully, and clearly...convey their findings objectively and clearly differentiate facts, opinions, theories, hypotheses, and ideas.

Client censorship of reports. Consultants often submit draft reports to clients for review before finalization. With informed and ethical clients, this additional review step can be beneficial. In other cases, it can result in client censorship in which the consultant may have a hard time resolving the reporting provision in the code of the Ecological Society of America and the provision for not associating with an “enterprise known to be contrary to the welfare of the public or the environment” with the provision for respecting client confidentiality.

Expert witness functions in controversial or legal proceedings. Consultants may be retained as expert witnesses in controversial or legal proceedings. In this capacity, consultants can advise clients on the technical issues involved, review the work of technical experts for the other side, and present testimony. However, the controversial nature of these proceedings and the money at stake can lead to ethical lapses. Lawyers can be expected to be interested in using expert witnesses to maximum advantage, and some consultants have demonstrated a willingness to engage in “junk science” to assist their clients when the technical information does not otherwise support their case.

Consultant–client potential conflict-of-interest. There are times in a project when the consultant must make recommendations to the client that essentially constitute a potential conflict-of-interest. These recommendations occur with regard to the appropriate scope of current work, the possible scope of future related work, or action with respect to project results. In such cases, the client is paying the consultant for recommendations in which the consultant has a pecuniary stake in the outcome. In another sense, there can be times in the client–consultant relationship when client requests are in conflict with the interest of the consultant to maintain an unblemished professional standing.

Conclusions

The ethical issues faced by technical consultants are similar to those any scientist faces. Marketing and profit considerations in consulting pose additional ethical issues or put a different twist on ones held in common. Many ethical issues can be successfully approached simply by being as thorough, objective, and
open as possible. When the facts are favorable, this is easier to do. Even when they are not, it makes sense because information is necessary to be able to effectively address reality.

I once read a paper on ethics in engineering in which three case examples were given of consultants facing ethical choices. In each case, the engineer took the course of action that was obviously ethically correct and lost his or her job as a result. My own firm has on one occasion believed it necessary to report a condition to a state agency that threatened public health, after it became clear that the responsible party had no intention of doing so. Our reward, as we suspected, was a summons to a frivolous lawsuit and attendant fees. Obviously, the ethical course of action will sometimes be risky or carry a price. Our ability or willingness to pay that price is not constant. It changes over time. I have sometimes thought that people taking ethical stands when they were older had an easier time of it. The young professional could jeopardize his or her entire career, whereas an older professional is already established and has more resources to draw on. On the other hand, older professional are significantly at risk also. As mentioned earlier, professionalism, altruism, reputation as principled scientists, and risks of legal action are effective countermoves strengthening the hand of the technical consultant.

When faced with a tough ethical decision, one may first have to decide what one believes in and how much one is willing to pay for it. The ethically deficient course often means no action or keeping quiet. In that case, one should consider the Periclean dictum quoted by Turnick (1975) that "silent men are useless."

References cited


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