Managing Your Engineering Career

Engineering Ethics

Ethical Dilemma

Pat's post-surgical team consists of a physical therapist, occupational therapist, nurse practitioner (who provides nutritional counseling) and a clinical social worker by way of home visits. A pharmacist offers medication management and consultation to Pat and the health care team. Pat's treatment and medications are paid for by MaineCare. She's collecting disability until she returns to work.

While visiting with Pat she shares that she is not complying with her medication protocol or diet plan. She has not told this to her other providers and asks you to keep it confidential. "The others are not as understanding as you are," she says. "I tell them what they want to hear so they'll leave me alone."

At the monthly phone huddle, the pharmacist voices concern that, with the exception of her pain medications, Pat does not seem to be refilling her prescriptions. In regard to the pain meds, the pharmacist also discloses that Pat has asked the pharmacy twice for an early pain med refill.

The nurse practitioner states concern that Pat is gaining rather than losing weight despite insistence that she's staying on her diet plan. "I don't think she's really committed to her treatment" he says. "She's playing Russian roulette with her health."

Figure 1: How We Act When Facing a Moral Dilemma

		Moral Dilemma/Decision	
		Moral	**Immoral**
Ethical Dilemma/Decision	**Ethical**	You believe that the failing product may hurt your customer and society—you refuse the CEO's request and proceed to notify the customer.	You believe that telling the customer is the right thing to do but remain silent—until you get caught. When the company asks if you will testify against your former CEO, you do.
	Unethical	You believe that any moral duty to your customer is minor compared to your commitment to your firm. You choose to remain silent, the product is released, and people are directly injured by your product.	You believe that telling the customer is the right thing to do, but do not tell the customer because you fear the consequences.

What is Ethics?

Ethics (dictionary) "the philosophy of morals or the standard of character set by any nation or race"

Morals (dictionary) "pertaining to action with reference to right and wrong".

- Ethics is about behavior, doing the right thing in the face of dilemma. Ethical people take the "right" and "good" path when they come to the ethical choice points.

- Values are integral to attitude formation and to how we respond to people and situations.

Established behavioral standards and written codes of ethical conduct can help bolster virtuous values and promote ethical organizational behavior.

Behavioral standards usually incorporate specific guidelines for acting within specific functional workplace areas.

Most engineering professional societies have a code of ethics. As engineering community becomes more global, it is important to recognize ethics in a global sense.
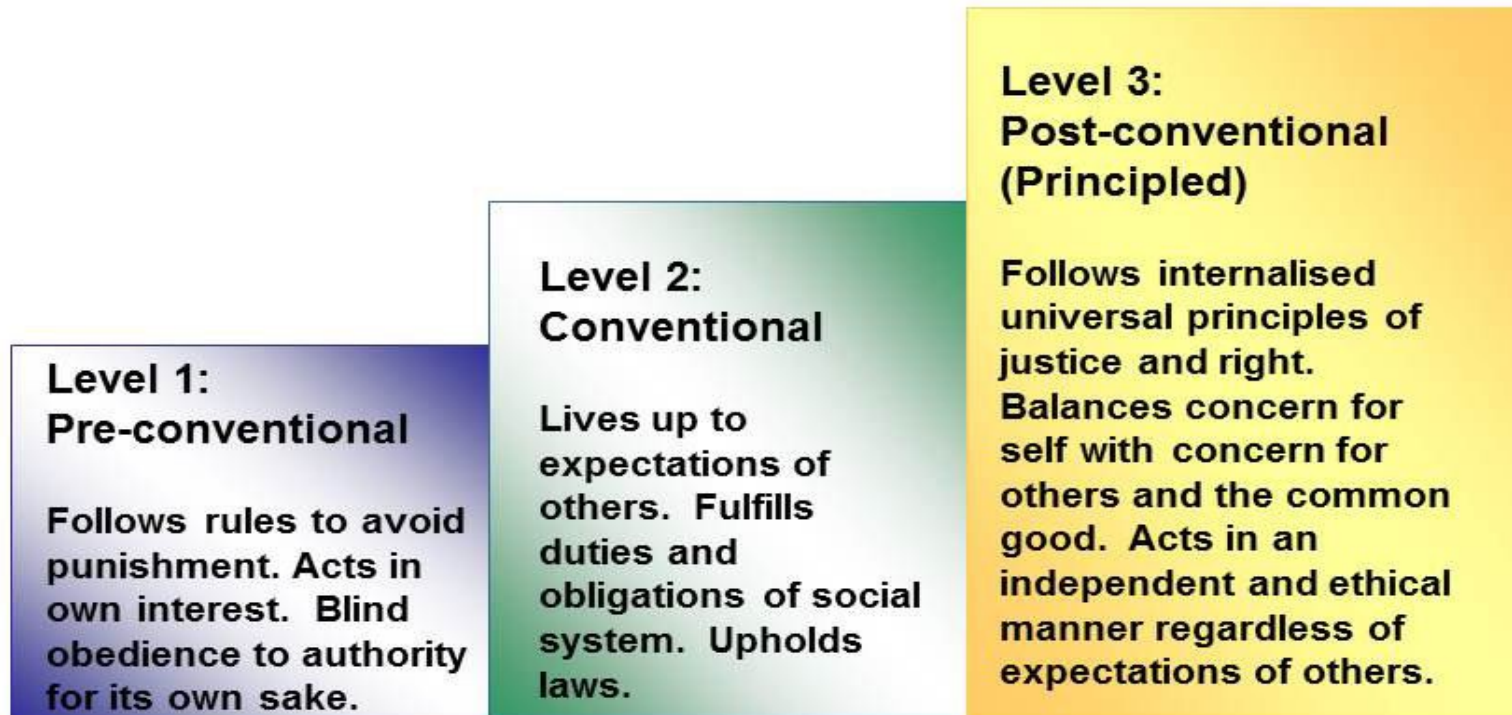
Engineering Ethics:

"Study of moral values, issues and decisions as they relate to Engineering Practice"

Professional Societies and Codes of Ethics: "Provide a set of guidelines of how engineers should behave with respect to clients, the profession, the public, and the law"

- "Engineers shall undertake assignments only when qualified by education or experience in the specific field involved"

- "Engineers are morally responsible for harms they intentionally [knowing and deliberately], negligently [unknowingly, but failing to exercise due care] or recklessly [aware that harm is likely to result] cause"

Three Levels of Personal Moral Development

Level 1:
Pre-conventional

Follows rules to avoid punishment. Acts in own interest. Blind obedience to authority for its own sake.

Level 2:
Conventional

Lives up to expectations of others. Fulfills duties and obligations of social system. Upholds laws.

Level 3:
Post-conventional (Principled)

Follows internalised universal principles of justice and right. Balances concern for self with concern for others and the common good. Acts in an independent and ethical manner regardless of expectations of others.

(Kohlberg, 1976; Daft 2007)

Set of standards
adopted
by professionals

Moral ideals shared by
most members of a
culture or society

Professional
Ethics

Common
Morality

Personal
Ethics
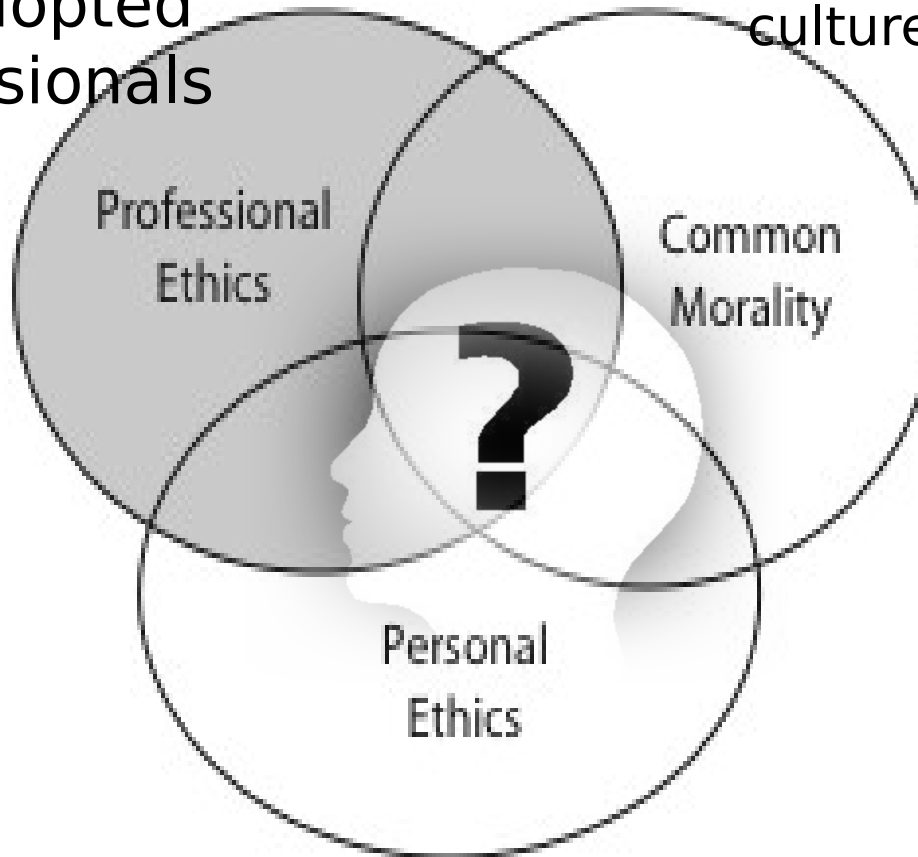
Set of one's own ethical commitments
usually given in early home or religious
training

Professional Societies and Codes of Ethics

Provide a common agreed-upon standard for professional conduct

Do not provide new ethical principles but incorporate a lot of what is found in common morality

Various Engineering Societies have their own code of ethics

"Provide a set of guidelines of how engineers should behave with respect to clients, the profession, the public, and the law"

Code of Ethics

- Code of ethics are formal statements of what an organization expects in the way of ethical behavior
  - It will not solve every dilemma
  - Provide rules & guidelines
  - It reflects senior management's desire for compliance with values, rule & policies in support of an ethical climate
  - And it should be specific enough to be reasonably capable of preventing misconduct

Approaches to Ethical Decision Making

Teleological	Actions are judged as ethical or unethical based on their results.
Egoism	Actions are judged as ethical or unethical based on the consequences to one's self. Actions that maximize self-interest are preferred.
Utilitarianism	Actions are judged as ethical or unethical based on the consequences to "others." Actions that maximize the "good" (create the greatest good for the greatest number) are preferred.
Deontological	Actions are judged as ethical or unethical based on the inherent rights of individual and the intentions of the actor. Individuals are to be treated as means and not ends. It is the action itself that must be judged and not its consequences.
Justice	Actions are judged as ethical or unethical based on the fairness shown to those affected. Fairness may be determined by distributive, procedural, and/or interactional means.
Relativism	Actions are judged as ethical or unethical based on subjective factors that may vary from individual to individual, group to group, and culture to culture.

Four Major Theories of Ethics

– Utilitarianism: net benefits

– Rights: entitlement

– Justice: fairness

– Egoism: self-interest

Questions from the ethical theories

– **Utilitarianism:** does the action yield the greatest net benefits?

– **Rights:** does the action negatively affect someone's moral rights?

– **Justice:** does the action give a fair distribution of costs and benefits among those affected?

– **Egoism:** will the action lead to other people behaving toward me in a way I would like?

Four Types of Ethical Theory

Type of Theory	Advantages	Disadvantages
Consequence-based (Utilitarian)	**Stresses promotion of happiness and utility**	**Ignores concerns of justice for the minority population**
Duty-based (Deontology)	**Stresses the role of duty and respect for persons**	**Underestimates the importance of happiness and social utility**
Contract-based (Rights)	**Provides a motivation for morality**	**Offers only a minimal morality**
Character-based (Virtue)	**Stresses moral development and moral education**	**Depends on homogeneous community standards for morality**

Utilitarian Ethics	Deontological Ethics	Virtue Ethics
definition		
the greatest good for the greatest number of people	the idea that people should be treated with dignity and respect	considering what virtues make a good public relations professionals
application		
making a decision based on what will benefit the majority	identifying one's duty and acting accordingly	making a decision in light of those favored virtues
pros & cons		
Con: decision-makers are forced to guess the outcome of their choice **Con**: harming a minority and benefitting a majority doesn't build mutually beneficial relationships **Con**: it is not always possible to predict the outcome of a decision	**Con**: there may be disagreement about the principles involved in the decision **Con**: the possibility of making a "right" choice with bad consequence **Con**: the possibility of a conflict in duties **Pros:** strongest model for applied public relations ethics	**Con**: misses the importance obligations to client and publics **Con**: the possibility of a conflict in virtues

No single one of these views provides us with simple, reliable guide to resolving the ethical dilemmas. In the end, we must fall back on our personal set of *values – individual, professional, societal, and human values.*

What is your work ethics quotient?

For each point, choose one of the three options based on how you think, feel and behave across situations at workplace

1 When you are sitting idle, the internet connection at workplace
- [ ] A Saves your private bill to download updates, music and movies
- [ ] B Helps you increase your general knowledge
- [ ] C Touch base with friends and acquaintances

2 Your preferred strategy to impress the boss
- [ ] A Is to be a competent professional
- [ ] B Is to take a stand against those whom boss dislikes
- [ ] C Is to be his/ her satellite

3 When angry with your boss you would
- [ ] A Share the matter with him/ her clearly and politely
- [ ] B Create a scene in the office
- [ ] C Secretly damage or steal office property

4 Your subordinate needs emotional support
- [ ] A You frown because you believe that emotional mess should be kept outside office
- [ ] B You offer it
- [ ] C You are too busy and make an excuse

5 In order to meet deadlines, it is better to
- [ ] A Do substandard work when no one is checking you
- [ ] B Pull your socks and work hard
- [ ] C Boss around and throw work at others

6 Do you tell exaggerated lies to reduce your workload
- [ ] A Yes
- [ ] B Sometimes
- [ ] C No

7 In your opinion, seeking and giving sexual favours for achieving promotion is
- [ ] A Ok. if both parties consent to it
- [ ] B A dirty shortcut
- [ ] C Is thrilling and pleasurable

8 Your superior at work has cheated on the company for huge monetary gain
- [ ] A You happily become a partner in crime
- [ ] B Report it to the authorities
- [ ] C Sleep over it

SCORING
1) A=1, B=3, C=2
2) A=3, B=2, C=1
3) A=3, B=2, C=1
4) A=1, B=3, C=2
5) A=1, B=3, C=2
6) A=1, B=2, C=3
7) A=2, B=3, C=1
8) A=1, B=3, C=2

Between 10-22: You are self-centered and have a tolerant attitude towards dishonesty at work. Your work ethics are poor.

23 and above: You follow good work ethics. Although this may seem to be a waste of time in the short run, the vision will push you to internal satisfaction.

COMPILED BY PULKIT SHARMA, CLINICAL PSYCHOLOGIST, IMAGO CENTRE FOR SELF

Ethical Problems in Industrial Practice

- Environmental Problems
- Conflict of Interest
  - Gifts
  - Moonlighting
  - Inside Information
- Post Employment Problems
- Sexual Harassment

Ask yourself the following questions:

1. Is it legal? Is it procedural according to our organisation's policies and procedures?
2. How would it look if published in a newspaper?
3. Is it consistent with our organisational values?
4. Is it fair to all?
5. If I do it, will I feel bad?

Guidelines for Facilitating Solutions to Ethical Dilemmas in Professional Practice

Step 1: Determine the facts in the situation. Obtain all of the unbiased facts possible.

Step 2: Define the stakeholders—those with a vested interest in the outcome.

Step 3: Assess the motivations of the stakeholders by using effective communication techniques and personality assessment.

Step 4: Formulate alternative solutions based on most complete information available, using basic ethical core values as a guide.

Step 5: Evaluate proposed alternatives—shortlist ethical solutions only; may be a potential choice between or among two or more totally ethical solutions.

Step 6: Seek additional assistance, as appropriate—engineering codes of ethics, previous cases, peers, reliance on personal experience, prayer.

Step 7: Select the best course of action—that which satisfies the highest core ethical values.

Step 8: Implement the selected solution. Take action as warranted.

Step 9: Monitor and assess the outcome. Note how to improve the next time.

Source: http://www.niee.org/pd.cfm?pt = AECM, 9/7/05.

Nine Basic Steps to Personal Ethical Decision Making

Step 1: Practice ethical behavior actively (initiate a personal ethical awareness training program), including definition of personal worldview and review of core ethical values.

The ethical design professional is consistently ethical!

Step 2: Beware of "new ethics" programs. Very little of true value is "new"; all of the necessary tools are already at your fingertips.

Step 3: Define the ethical problem when it arises. Ignoring the problem doesn't make it go away.

Step 4: Formulate alternatives. Avoid "first impulse" solutions without having extensive ethical awareness training and experience.

Step 5: Evaluate the alternatives. Are they ethical? Am I the sole beneficiary? How would I feel if the roles or circumstances were reversed?

Step 6: Seek additional assistance, as appropriate—previous cases, peers, reliance on personal experience, prayer.

Step 7: Choose best ethical alternative—the one that does the most good for all the right reasons.

Step 8: Implement the best alternative—no initiative, no results.

Step 9: Monitor and assess the outcome—how to improve the next time.

Whistle-blowing

Whistle-blowing is the act of telling the authorities or the public that the organization you are working for is doing something immoral or illegal.

It empowers employees to act on incidences of misconduct and help maintain a safe workplace, while protecting profits and reputation.

Responsible people blow the whistle when they believe more harm than good will occur if the whistle-blower stays silent. A virtuous whistle-blower acts in an ethical manner if she truly believes a responsibility exists to protect the public interest.

Whistle-blowing is morally justifiable when there is impending danger and a concerned employee "has made his moral concern known" to his immediate superior who has subsequently failed to act. When this happens, advises DeGeorge, a concerned employee should take his or her complaint upward through company channels, if necessary, to top management. After all internal efforts have failed, public disclosure is justifiable. For whistle-blowing to be obligatory as well as justifiable, two more conditions must be met: first, that the employee have documentation or other hard evidence (else his chances are slim); and second, that he "must have good reason to believe that by going public he will be able to bring about the necessary changes."

- It is methods can be contributed to identify and act of disclosing wrong in an organization
- Like blowing a whistle to call attention to a thief or unethical practitioner
- But it is questionable when...
  - Dissent / disagree - Must speak out against others in organization
  - Breach of Loyalty - Perceived as one who violates confidentiality and loyalty
  - Accusation - Singles out specific individuals as threats to organization or the public

Barriers of Whistle-blowing

- A lack of trust in the internal system
- Unwillingness of employees to be "snitches"
- Belief that management is not held to the same standard
- Fear of retaliation
- Fear of alienation from peers

Whistle-blowing is considered ethical under following five conditions:

(1) When the company will cause serious harm to the public.

(2) When the employee identifies a serious threat of harm he or she should report it and state his or her moral concern.

(3) When the employee's immediate supervisor does not act the employee should exhaust the internal procedures and chain of command.

(4) The employee must have documented evidence that is convincing that the practice, product or policy seriously puts the public in danger.

(5) The employee must have valid reasons to believe that revealing the wrongdoing to the public will result in changed necessary to remedy the situation.

Whistle-blowing can be considered unethical if the employee is motivated by financial gain or media attention, or if they carry a vendetta against the company. In this case the legitimacy of their whistle-blowing must be questioned.

The morality of whistle-blowing might be viewed from the perspective that corporations have a moral obligation not to harm.

De George identifies five criteria when whistle-blowing is morally permitted.

(1) the firm's actions will do serious and considerable harm to others;

(2) the whistle-blowing act is justifiable once the employee reports it to her immediate supervisor and makes her moral concerns known;

(3) absent any action by the supervisor, the employee should take the matter all the way up to the board, if necessary;

(4) documented evidence must exist that would convince a reasonable and impartial observer that one's views of the situation is correct and that serious harm may occur; and

(5) the employee must reasonably believe that going public will create the necessary change to protect the public and is worth the risk to oneself.

Criteria for Blowing the Whistle In an Engineering Context

Permissive Whistle Blowing per De George:

1) The harm that will be done by the product [or company action] to the public is serious and considerable.

2) The engineer (or employee) has made their concerns known to their superiors.

3) The engineer (or employee) has received no satisfaction from their immediate supervisors and he has exhausted the channels available within the company, including going to the board of directors.

Mandatory Whistle Blowing per De George:

4) The engineer has documented evidence that would convince a reasonable, impartial observer that his/her concern for public safety is correct and the company product or action is likely to cause serious and considerable public harm.

5) There is strong evidence that making the information public will in fact prevent the threatened serious harm.

The following questions can lead to a solution you can adopt with self-respect and live with:

- Does the action I am considering make good sense?

- Does this action fit my best concept of a dedicated professional engineer?

- Will my action unnecessarily harm others? Is there some way that I can compensate them?

- Would my action stand up to close public scrutiny? Would I have difficulty explaining it to a reporter? To a judge and jury? To my colleagues? To my own family?

- Am I hiding behind a superior's judgment or wish, or can I justify it based on my own values?

" Ethics must begin at the top of every organization.It Is a leadership issue and CEO must set the example."

EDWARD HENNESSY