
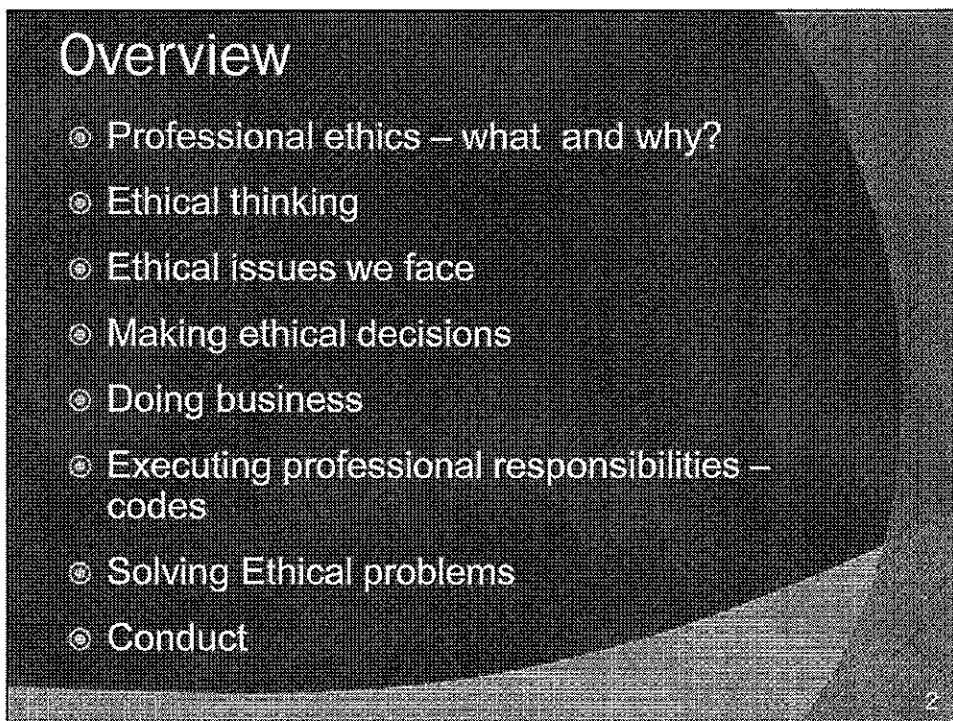


ENGINEERING ETHICS

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ENGINEERS NEW ZEALAND

23/03/12 34



Overview

- ⦿ Professional ethics – what and why?
- ⦿ Ethical thinking
- ⦿ Ethical issues we face
- ⦿ Making ethical decisions
- ⦿ Doing business
- ⦿ Executing professional responsibilities – codes
- ⦿ Solving Ethical problems
- ⦿ Conduct

2

Ethics – what is it?

- ⊙ Moral principles that govern the behaviour (and making choices) of a group or a person.
- ⊙ *Moral* – concerned with what is right or wrong or good or bad

3

Spot the difference.



Hint:

One of these men is wanted for using commercial airliners to destroy the lives of thousands of innocent victims as he continues his battle for world recognition & domination.

The other is Osama Bin Laden



Gary Toomey
former CEO
Air NZ & Ansett

4

Professional Ethics – Why?

- ⊙ Professionals
 - are experts
 - use expertise responsibly
 - belong to a professional order
- ⊙ Competence is identified
- ⊙ Incompetence can be identified

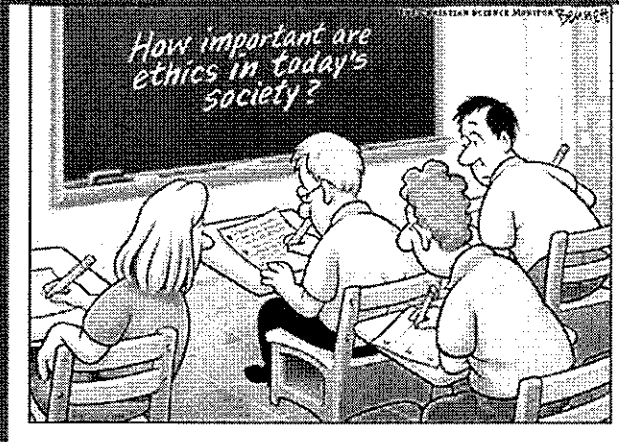
5

Professional Obligations

- ⊙ **Professional obligations are narrower than ethical duties in general**
 - A profession establishes a reputation and lives up to it
 - Professional conduct is expected
 - Duty goes beyond fiduciary (trust), stakeholder interest & liability in tort
 - Professional obligations vest in the structure & working of society rather than pure ethical thinking

6

Ethical Thinking



Ethical Guidelines 1/2

- ⑥ **GOLDEN RULE** — Are you treating others as you would want to be treated?
- ⑥ **THE GUT-FEELING TEST** — Body reactions such as a gut-feeling often indicate the need for more thought. Intuition can give a sense of right and wrong before our brains have thought it out.
- ⑥ **PUBLICITY** — Would you be comfortable if your reasoning and decision were on the front page of tomorrow's newspapers or on the TV news?

Ethical Guidelines 2/2

- ⊙ **CHILD-ON-YOUR-SHOULDER** — Would you be comfortable if young children were observing you? Are you practicing what you preach?
- ⊙ **THE ROLE-MODEL TEST** — What would a person you respect think or feel about a decision you are proposing?

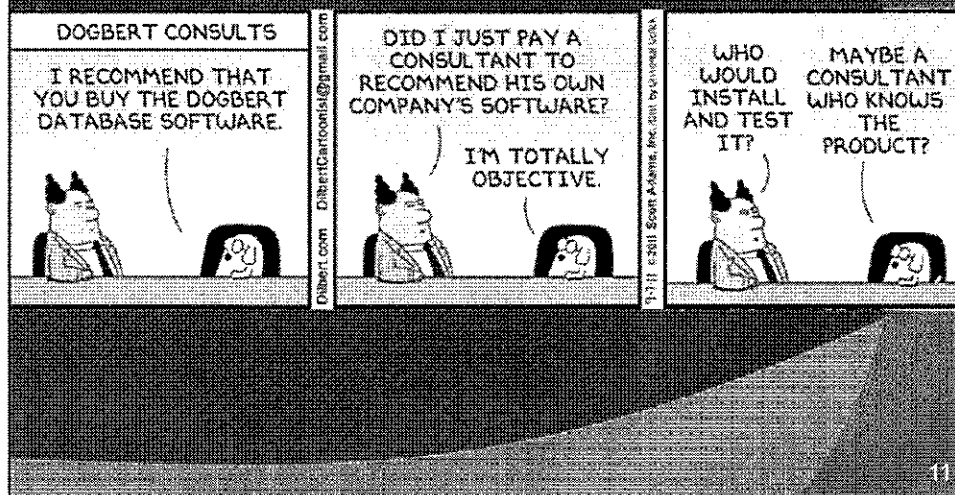
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Balance Three Types of Thinking

- ⊙ **Ends-based thinking** - deciding to do whatever provides the greatest good for the greatest number. This is known as the principle of utilitarianism. It relies on being able to predict the consequences of different actions.
- ⊙ **Rule-based thinking** - deciding what to do based on a rule that you believe should be a general principle that is always followed. Rule-based thinking acknowledges that you can never really know all the consequences of your actions and that it is better to stick to one's principles.
- ⊙ **Care-based thinking** - deciding what to do based on the idea that this is what we would want others to do to you. This is known as the principle of reversibility and is at the centre of most religious teachings.

10

Ethical Issues we typically face



Ethical issues

1. Duty of care
2. How safe is safe?
3. Product and public liability
4. Peer review & whistle-blowing
5. Professional objectivity – NZ3910
6. Intellectual property
7. Profit pressure & maximisation
8. International & cultural issues
9. Environmental Impact Statements

Issue 1 – Duty of care

- ⊙ A duty of care arises where one individual or group undertakes an activity which could reasonably harm another, either physically, mentally, or economically.
- ⊙ The test for negligence is usually established by reference to established practice in the profession or trade as deposed to by someone of repute in that occupation

13

Issue 2 – How safe is safe?

- ⊙ Business perspective – profit
 - Need to compete – if not, who gets blamed?
 - Quality & safety raise the cost/price
- ⊙ Legal view
 - Liability
 - Due care
 - Tort (negligence)
- ⊙ Contractual obligation
- ⊙ Professional obligation

14

How safe is safe?

- ⊙ In an industrial setting, cost-risk tradeoffs are complicated by the reality that it's the company's cost and the employees' or neighbors' risk.
- ⊙ Web concede that this is true.
- ⊙ But in ways it isn't entirely true.
 - The company, too, stands to lose if accidents happen.
- ⊙ And some of the costs of risk are borne by stakeholders.

15

Issue 3 – Product & public liability

- ⊙ Fit for purpose
- ⊙ Due Care Theory
 - Product manufacture must meet any standards set by statute.
 - Seller is liable for harm caused by defects only if standards were not met.
 - Origin of ISO standards.

16

Issue 4 –

Peer review & whistle blowing

- ⊙ Peer review –
 - With knowledge
 - Conflict of interest

- ⊙ Duty when the firm behaves unethically?
 - Blow the whistle, internally or publicly
 - Resign
 - Keep quiet and do what the company wants

- ⊙ Resignation may violate mutual obligations of employer and employee

17

Issue 4 –

Whistle blowing checklist

- ⊙ Am I in the position to know that what I see as fraud really is improper in the bigger picture?
- ⊙ Can I prove my allegations with self-explanatory documents that don't need my public explanation?
- ⊙ Is my family prepared for the possibility of a negative high public profile?
- ⊙ Are my family and I financially and mentally ready for a protracted fight to prove our suppositions?
- ⊙ Am I mentally ready to have my neighbours and perhaps my friends turn against me because of my disclosures?
- ⊙ Am I ready for personal attacks against my character and to have *any* past indiscretions made public?
- ⊙ Am I sure that my motivations are to expose fraud for the right reasons and not just sour grapes, revenge, or public attention?

18

Issue 5 – Professional objectivity NZS 3910

- ⊙ Engineer
 - Advises the client
 - Acts independently of client and contractor
- ⊙ **Client may be sued for breach of contract if the Engineer does not act independently.**
- ⊙ Canterbury Pipe Lines Ltd v Christchurch Drainage Board [1979] NZLR 347

19

Issue 6 – Intellectual property

- ⊙ Engineers create intellectual property
- ⊙ Trade secrets
 - Stealing a trade secret is misappropriation of intellectual property, a crime
 - Reverse engineering is not theft of a trade secret
- ⊙ A full-time employee works for hire.
 - Company has rights to any job-related ideas, even if developed at home in the garage

20

Issue 6 – Intellectual property checklist

- ⊙ Protect the company's IP and act responsibly with the sensitive information of vendors, customers, contractors, and other business partners.
- ⊙ Use confidential information only for the purpose for which it was intended.
- ⊙ Share confidential information only with employees who need it to do their job.
- ⊙ Clearly identify all confidential email communications with confidential markings.
- ⊙ Deliver all notes, records, data, and equipment back to the company upon separation from the company.

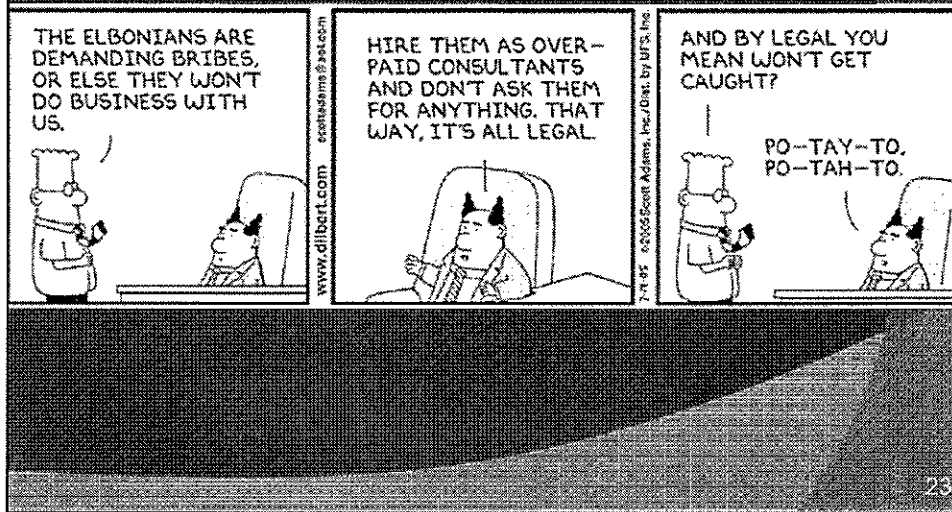
21

Issue 7 – Profit Pressure & maximisation

- ⊙ Pressure to increase profits
- ⊙ Disdain for investors' interests, the environment and the law
- ⊙ Misleading or even false statements
- ⊙ Innuendoes about competitors
- ⊙ Pressure on suppliers
- ⊙ Collusion & price-fixing

22

Issue 8 – Cross Cultural business



Issue 8 – Some Cross Cultural Issues

- ◎ Corruption
 - Kickbacks
 - Bribes
 - Cronyism
 - Nepotism

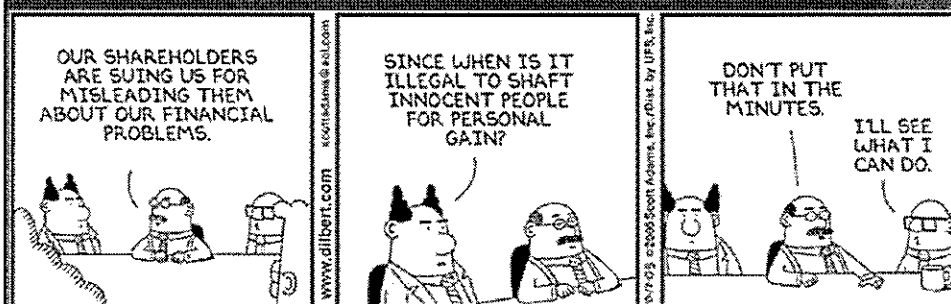
Issue 9 -

Environmental Impact Statements

- ⊙ Usually commissioned by the proponent of a project or development
- ⊙ Aim is to emphasise benefit and downplay disadvantages through:
 - Language – uncertainties played down
 - Favourable interpretation of data
 - Omission of data
- ⊙ Engineer may be less likely to be given work if *"client's priorities are not put first"*

25

Doing Business Ethically



26

Guidelines doing ethical business

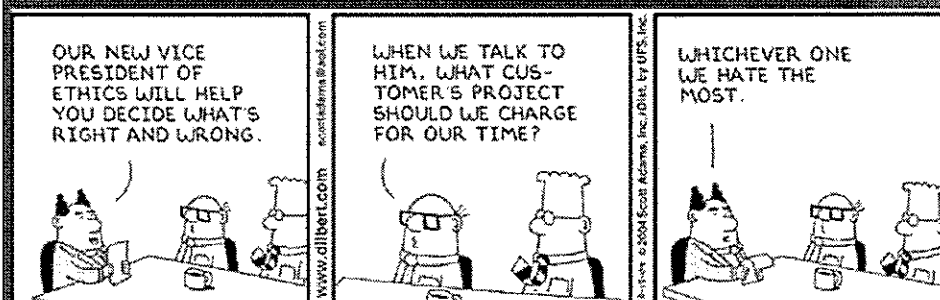
Ethical decision-making requires evaluating and giving due consideration to alternative courses of conduct in light of these standards:

- ⦿ Show uncompromising honesty and integrity in all of your business activities and relationships.
- ⦿ Avoid all conflicts of interest between work and personal life.
- ⦿ Respect the dignity and worth of all individuals.
- ⦿ Encourage individual initiative and innovation in an atmosphere of flexibility, cooperation and trust.
- ⦿ Promote a culture where promise keeping, fairness, respect and personal accountability are valued, encouraged and recognized.
- ⦿ Create a safe workplace.
- ⦿ Protect the environment.

3M guidelines on doing business ethically

27

Executing Professional Responsibilities Codes of Ethics



28

IPENZ Code of Ethics

Part 1 Values supported by guidelines

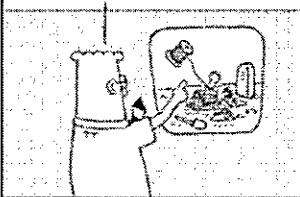
Part 2 Guidelines are given for each area mentioned

Part 3 Minimum Standards of Behaviour

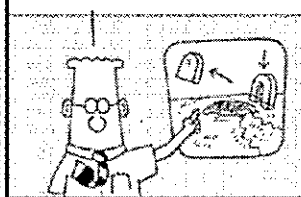
http://www.ipenz.org.nz/ipenz/who_we_are/ethics.cfm

Solving Ethical Problems

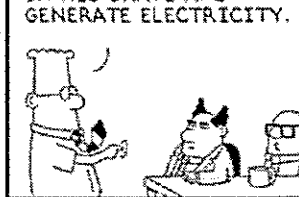
WE DUG UP THE FOUNDER OF OUR COMPANY AND WRAPPED HIM IN COPPER WIRE.



THEN WE REPLACED HIS TOMBSTONE WITH A HUGE MAGNET.



WITH ANY LUCK, OUR BUSINESS PRACTICES WILL MAKE HIM SPIN IN HIS GRAVE AND GENERATE ELECTRICITY.



Fundamental Canons

- ⦿ Hold paramount the safety, health and welfare of the public in the performance of your professional duties.
- ⦿ Perform services only in areas of your competence.
- ⦿ Continue professional development throughout your career and provide opportunities for the professional development of those under your supervision.
- ⦿ Act in professional matters for each employer or client as a faithful agent or trustee, and avoid conflicts of interest.
- ⦿ Build your professional reputation on the merit of your services and do not compete unfairly with others.
- ⦿ Associate only with reputable persons or organisations.
- ⦿ Issue public statements only in an objective and truthful manner.

31

Simply:

Don't be evil

Do not maximise short-term profits with actions that may not be in the best interests of the public

Google



32

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33

The End – what will your future actions be?



PS don't be evil.

34