



SNS COLLEGE OF TECHNOLOGY

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An Autonomous Institution

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DEPARTMENT CIVIL ENGINEERING

PROFESSIONAL ETHICS

IV YEAR / VII SEMESTER

Unit 2 : ENGINEERING AS SOCIAL EXPERIMENTATION

TOPIC 2 : ENGINEERS AS RESPONSIBLE EXPERIMENTERS





ENGINEERS AS RESPONSIBLE EXPERIMENTERS



General responsibility of engineering as society :

- Engineers are primarily considered as technical enablers or facilitators, rather than being the sole experimenters.
- Engineers' responsibility is shared with management, the public and others.
- The other unique responsibility of engineers include monitoring projects, identifying risks, providing customers and clients the required information to make reasonable decisions
- While exercising engineering duties, the engineers should display the virtue of being morally responsible person.



ENGINEERS AS RESPONSIBLE EXPERIMENTERS



General features of moral responsible engineers :

1. Conscientiousness
2. Relevant information
3. Moral Autonomy
4. Accountability



ENGINEERS AS RESPONSIBLE EXPERIMENTERS



Conscientiousness:

- Conscientiousness means commitment to live according to certain values. It implies conscientiousness.
- Engineers have to be sensitive to a range of moral values and responsibilities, which are relevant in a given situation.
- Also engineers should have the willing to develop the skill and apply the effort needed to reach the best balance possible among various considerations.



ENGINEERS AS RESPONSIBLE EXPERIMENTERS



- Open eyes, open ears and an open mind are required to evaluate a given situation, its implication and to determine who are involved or affected.
- The primary duty of morally responsible engineers is to protect the safety of human beings and respect their rights of consent.



ENGINEERS AS RESPONSIBLE EXPERIMENTERS



Relevant information:

- Conscientiousness is impossible without relevant factual information.
- Engineers have to show the commitment to obtain and properly gauge all the information related to meeting one's moral obligations.

The two general ways of losing perspective on the context of one's work are given below.

- To grasp the context of one's work, one should be aware of implication of that work.
- To shifts the responsibility and blames the others in the organization.



ENGINEERS AS RESPONSIBLE EXPERIMENTERS

Thus, conceiving engineering as social experimentation, it is important that engineers act as **responsible agents**. The responsible agents require

- Imaginative forecasting of possible bad side effects
- The development of an attitude of “Defensive engineering” and “Preventive technology”
- Careful monitoring of projects and
- Respect for people rights to give informed consent



ENGINEERS AS RESPONSIBLE EXPERIMENTERS



Moral autonomy:

- The moral autonomy is the ability to think critically and independently about moral issues and apply this moral thinking to situations that arise during the professional engineering practice.
- It is understood that an individual personality depends on the integration of his moral benefits and attitude.
- When one's labor and skills are sold, then it is an illusion to think that the person is not morally autonomous.



ENGINEERS AS RESPONSIBLE EXPERIMENTERS

- As an experimenter, an engineer has to undergo an extensive and updated training to form his identity as a professional.
- There will be a personal involvement in one's work.
- The magnitude of moral autonomy to be experienced by engineering is highly influenced by the attitude of company's managements.
- Where there is a treat for engineers' moral autonomy, then engineers can look for moral support from their professional societies and outside organization.



ENGINEERS AS RESPONSIBLE EXPERIMENTERS



Accountability:

- The term 'accountability' means being responsible, liable, answerable or obligated.
- In proper terms, the accountability refers to the general tendency of being willing to submit ones action to any type of moral scrutiny and be responsive to others assessment.
- It involves a willingness to present morally convincing reason for ones action and conduct.
- Morally responsible people are expected to accept morally responsibility for their action.



ENGINEERS AS RESPONSIBLE EXPERIMENTERS

- According to Stanley Milgram, people are not willing to accept personal accountability when placed under authority.
- There exist a lot of difference and separation between casual influence and moral accountability in all professions including engineering.



ENGINEERS AS RESPONSIBLE EXPERIMENTERS



Because of modern engineering practices, the complication in accepting one's moral accountability further worsened. Some of these situations are explained below:

- Modern engineering projects involve teamwork, in which each member contributes a small part of personal accountability.
- Modern organizations are based on the principle of 'division of work'. Due to this division of work, the personal accountability is also stretched within hierarchies of authority.
- A preoccupation with legalities in a time of proliferating malpractice lawsuits.

Thank you !!!