



Engineering Ethics A

Department of Electrical Engineering & Electronics

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1 Part I Scenario2

1.1 Dilemma of Scenario 2

Example 2 – The Dilemma You are presented with what looks like an excellent opportunity to setup a prosperous mining operation and also to provide some benefit to a local population. However, in order to get this operation off the ground, it looks like you may have to bypass certain legal channels, and to perform a quid pro quo service for the Mayor which could be interpreted as a bribe.

1.2 Analysis and Discussion of Scenario 2

1.2.1 Possible choices

Based on Scenario 2, the project manager generally has 3 solutions to the dilemma:

a. The project manager will disregard the ethical concerns and do the Mayor the favour in exchange of the mining licence which, hopefully, will yield considerable profits and boost the manager's career, with serious legal and moral risks.

b. The project manager will stick to the codes of ethics as a professional engineer and reject the Mayor's offer and then continue to seek legal channels as before to get the licence authorised, which is very unlikely to succeed and the company's mining project will have to be postponed indefinitely.

c. The project manager will arrange further talks with the Mayor and inform the Mayor his concern about the potential interpretation of the proposed agreement as bribery. Yet the manager will offer that considerable portion of the mining project's profit will be re-invested in the local town in favour of local people's welfare including the construction of the hospital through legal channels and point out that this will add much to the Mayor's political achievements as a successful mediator representing the interests of local people, and of course the company's offer and analysis of the benefits of the project to the town will be publicised. Hopefully, the situation will be improved.

1.2.2 Analysis of the stakeholder' interests

In general, there are 3 stakeholders involved in the incident: the project manager taking responsibility as the delegate of Corsey Mining Group, the town Mayor and the local communities.

a. The project manager/Corsey Mining Group

First, the goal and also the most important thing for a business to survive is making profits – of course, legally. As the project manager in duty, it would also be better-off for him to see that the project is carried out smoothly with expected profits. In this scenario, this goal has to be made with the mining licence. The easiest safe way is to get the Mayor's (as head of the local government) support through making legal deals. Second, as a multi-international company the image is also very important for carrying out business activity and maintaining its share price. However, the acceptance of the Mayor's initial offer could be interpreted as a bribery which may cause a scandal and affect the company in a very negative way, whatever the truth.

Third, Corsey Mining is very concerned about its corporate social responsibility and the wellbeing of local communities affected by its operation. However, without incoming profits, it would be hard to fund local welfare services charitably.

b. The Mayor in this case

First, the thing that the Mayor cares most about might be his ratings in polls/his political achievements, whichever would help to further his political career or fulfil his political ambition. It is also rightful for him to wield his executive power for the interests of local communities. On this basis, we may explain why the Mayor asked the multi-international group to fund the construction of a new hospital -- it can be interpreted as a successful negotiation for the local communities' interest which could add much to his political achievements.

However, this inappropriate offer can at the same time be interpreted as 'extort bribery' literally as the mayor assured that he would act in the company's favour in return for the company's inducement – funding the hospital' construction. This version of interpretation, may be the last thing the Mayor ever wanted to see.

c. The local communities

As the expected operation area is in wilderness, the influence of operation on local residents and environment can be minimised. At the same time, it is expected that the mining operation would lead to the improvement of local infrastructures and creation of jobs. It is anticipated that the local economy would boom greatly with proper management of the mining project.

1.3 Recommendation for Scenario 2

Based on the above in analysis, *the first choice* may be the fastest way to get licenced and start mining operation and making profits. However, it is not sure that the mining project will be truly profitable without an investigative mining activity. It is uncertain whether the profit made will cover the funding cost of the hospital's construction.

Furthermore, the deal with the Mayor will be a time bomb, having potential to be a scandal for both stakeholders – the manager/company and the Mayor himself.

In the second choice, the manager upheld his ethical principles as an engineer and rejected the Mayor's offer, however with lowered chance to get the project licenced, which might not be good for his career and the company's interests.

In the third choice, the engineer aligns the interests for all 3 stakeholders, the manager/company, the Mayor and the local communities, though conflicts of different parties' interests still exist, their interests become more compatible. Meanwhile, the manager upheld his principles of ethics.

Conclusion: The third choice is the best, for the choice tries to align the three party's competing interests while sticking to the laws and the principle of ethics. To add on comments, if finally, it is firmly established that the Mayor was asking for bribery, the manager should keep the evidence (like secret soundtrack of meetings) and report the incident to media and concerned authorities to deal with the issue.

2 Part II Scenario3

2.1 Dilemma of Scenario 3

Example 3 – The Dilemma You have started consultancy work on a project to develop a sophisticated monitoring system for a residential building, and you learn that the proposed use is as a surveillance system for elderly and infirm individuals. There is a concern that as some of those individuals will not have the mental capacity to understand the system, and so will not be able to fully consent to the system. Your work might lead to an invasion of individuals' privacy.

2.2 Analysis and Discussion of Scenario 3

2.2.1 Discussion of possible choices

Based on Scenario 3, the engineer generally has 3 solutions to the dilemma:

- a. The engineer will consider all her job is merely to use her expertise and skills to fulfil the tasks and requirements proposed by her employer and should not care about how her creations will be put into use – that is the management's/clients' decisions.
- b. The engineer will consider the overall development specifications of the surveillance product as unethical and refuse further execution of the contract with ALN monitoring and will reveal and criticise the whole incident via media when necessary.
- c. The engineer will try to make her employer realize the seriousness of the problem and try to solve the legal concerns whether through resorting to legal department in the company (such as set purchase restriction and disclaimers) or developing innovative designs/techs to achieve expected functionality without infringement of personal privacy.

2.2.2 Analysis of the stakeholder' interests

The engineer, ALN monitoring and the elderly together with their relatives.

a. The engineer

First, the relationship with the company means a lot to the engineer. As an employee, the engineer earns income by providing her professional skills and expertise to the company and, furthermore, creates value for the general society through the company's commercial success. In this sense, the engineer shares common interests with the employer, so it is important that her work is done honestly and meets required standards in the contract with ALN monitoring.

However, as a professional engineer, she is also in the position of trust and thus have important responsibilities to ensure that her job serves not only the clients'/her own interests but also to the good of the public, and that her conducts and behaviours are in accordance with the law and the code of ethics. In this case, the original system design which may have the potential to invade some challenged individual's privacy should not be continued to be developed.

b. ALN monitoring company

As made clear in Scenario 2, the main goal of a company is to make profit in a legal way. Meanwhile the company is also expected to practice corporate social responsibility to gain an improved public image which can benefit the company itself in many ways. So, as long as the company makes reasonable amount of profit, monetary or not, it is very possible to persuade it to choose to 'do the better' to the general public.

c. The infirm elderly and their relatives

In this case, the demand of the surveillance system in the market is mainly driven by the relatives of the infirm people to have peace mind about the welfare of their elderly relatives who are happy with the system's functionalities. Nevertheless, some of the infirm elderly people's privacy may be infringed without consent due to their incapacity of comprehending the monitoring nature of the system.

2.3 Recommendation under Scenario 3

With the first choice, it is possible that the engineer fulfilled the contract with her excellent expertise and engineering skills and ALN monitoring and clients are satisfied with her work. Nonetheless, the engineer did not uphold the ethical principles as an engineer and fail to live up to what a profession requests. Because after having realize the potential infringement on personal privacy that my caused by the device, she evaded her responsibility to try the best to get the problem corrected. The misconduct may have caused suffering for those elderly who finally realized their privacy broken and this may cause huge legal and moral issues and troubles for both the company and the engineer.

With the second choice, the engineer followed the engineering ethics and even break the contract and tried to stop the development of the surveillance system. However, as analysed before, the engineer's the relationship with the company and her own interests were severely hurt. The engineer will get herself into legal and financial trouble as well as the company's public image and potential commercial interests also incurred great loss. Market's/Clients desire for the device were not satisfied.

With the third choice, the engineer upheld the principles engineering ethics as a professional and try to use her position as an engineer to positively affect her employer company to make better decision and offered her knowledge and expertise to help solve the potential problem. This choice saved both herself and the ALN monitoring potential legal and ethical problems. Interests of stakeholders are aligned with balance. Hopefully, the company's contract and commercial interests not were unaffected and the engineer created her value for the society through company while upholding ethical principles and the law. Clients' demand was satisfied without privacy traded-off.

Conclusion: Under this Scenario, the third choice would be the best. To add on, if the company refused the proposal and tell the engineer to carry on the original design, she should help concerned parties to investigate the legality of the project.