# ENGR 4950

**Contemporary Issues Case Studies**

This resource provided by Dr. Scott Mason of Clemson University.

Five cases are available for debate. The purpose of the presentation of these case studies is to explore these contemporary issues as a class.

# Case 1 – Corporate Ethics and Loyalty

Chantale Leroux works as a clerk for Naste Environmental Services, a small toxic-waste disposal company. The company has a contract to dispose of medical waste from a local hospital. During her work, Chantale comes across documents that suggest that Naste has been disposing of some of this medical waste in a local municipal landfill. Chantale is shocked. She knows this practice is illegal. And even though only a small portion of the medical waste that Naste handles is being disposed of this way, any amount at all seems a worrisome threat to public health.

Chantale gathers together the appropriate documents and takes them to her immediate superior, Dave Lamb. Dave says, "Look, I don't think that sort of thing is your concern, or mine. We're in charge of record-keeping, not making decisions about where this stuff gets dumped. I suggest you drop it."

The next day, Chantale decides to go one step further, and talk to Angela van Wilgenburg, the company's Operations Manager. Angela is clearly irritated. Angela says, "This isn't your concern. Look, these are the sorts of cost-cutting moves that let a little company like ours compete with our giant competitors. Besides, everyone knows that the regulations in this area are overly cautious. There's no real danger to anyone from the tiny amount of medical waste that 'slips' into the municipal dump. I consider this matter closed."

Chantale considers her situation. The message from her superiors was loud and clear. She strongly suspects that making further noises about this issue could jeopardize her job. Further, she generally has faith in the company's management. They've always seemed like honest, trustworthy people. But she was troubled by this apparent disregard for public safety. On the other hand, she asks herself whether maybe Angela was right in arguing that the danger was minimal. Chantale looks up the phone number of an old friend who worked for the local newspaper.

# Teams assigned as ‘For’: For whistle blowing

**Teams assigned as ‘Against’: Against whistle blowing**

**Questions for Discussion:**

* What should Chantale do?
* What are the reasonable limits on loyalty to one's employer?
* Would it make a difference if Chantale had a position of greater authority?
* Would it make a difference if Chantale had scientific expertise?
* What are implications of blowing the whistle?
* Are there any safety nets for whistle blowers?

# Case 2 – Cultural Issues

Dr. Peter Gilmore works for BG Chemicals Ltd and is based at their plant in Boston. He is sent to France for 6 months to liaise with Monsieur Loreau at the Douai site concerning a project to develop and produce marine lubricants. Peter rents a flat in a nearby village and is given a desk in Mr. Loreau’s office so that he can work comfortably. He is made to feel very welcome, with everyone being forgiving of his weak grasp of the beloved French language. It takes a couple of weeks to settle in properly but soon Peter is chatting in French that, whilst not fluent, is certainly understood by his colleagues. He is working closely with Mr. Loreau and the project is progressing well, with completion due well within schedule.

Feeling more at home, Peter has started to explore around the office during his lunchtime, and on one of his walks finds a charming little bistro, tucked away down a side street. He decides to try their *menu du jour* and is ushered to a table near the back. He glances over to the table next to his and sees faces that he recognizes; he does not know their names, but he has seen the three men working on the factory floor. They look to be halfway through their lunch and there are already two empty bottles of wine on their table. As Peter enjoys his meal he observes that the Frenchmen polish off another bottle of wine before they leave the bistro and return to work.

Concerned, Peter approaches Mr. Loreau when he returns to the office and tells him of the large amount of alcohol that he has seen some of the workers consuming before returning to deal with poisonous and corrosive chemicals as well as heavy machinery. Mr. Loreau shrugs, and says that this is quite normal. The French tend to enjoy a leisurely lunch with free-flowing wine, but this is always accompanied by a hearty meal. Plus, the men do this every day, so alcohol does not affect them as it would someone less used to drinking regularly. Mr. Loreau tells Peter that he is not to worry; wine is even served at the factory canteen for those that wish to stay in for their lunch.

# Teams assigned as ‘For’: For bringing his concerns to higher management.

**Teams assigned as ‘Against’: Against bringing his concerns to higher management.**

**Questions for Discussion**

* Why is Dr. Gilmore concerned? Are his concerns justified? Why/ why not?
* Was Dr. Gilmore right to take his concerns to Mr. Loreau?
* What should Dr. Gilmore do next? Why?
* Would your answer be the same if the incident had occurred in the US? Why?

# Case 3 – Ethics in Emerging Technology Areas

B&G Diagnostics is a medical diagnostics company specializing in adult genetic susceptibility testing for a range of heritable and complex genetic conditions. Their main business involves testing for the mutations associated with cystic fibrosis, hereditary kidney disease, as well as breast, ovarian and colorectal cancer.

They have a well-staffed, well-run, sophisticated genetics laboratory capable of rapidly processing hundreds of samples for analysis on their many automated high-throughput DNA sequencers. B&G considers their testing methodology to be the 'gold standard' and to that end, implement the latest testing technologies as they become available. Further, B&G maintains good working relations with several leading university research laboratories, with whom they regularly verify their testing methods.

B&G's chief clientele to date has consisted of hospitals, physicians, and private insurers ordering genetic testing for patients. The company has become known for providing quick, accurate, and confidential services at a competitive price. The B&G Board of Directors has recently decided to expand the existing market and begin offering commercial genetic testing services direct-to-consumer through the company website.

As corporate Ethics Officer, you've been asked to work with the Vice President in charge of the new Direct-to-Consumer division to ensure that services are provided in an ethical manner. As far as the VP is concerned, the only ethical issue is consumer privacy, and given that B&G already has privacy rules in place for dealing with physicians, hospitals, and insurance companies, the VP does not see that much needs to be changed for direct-to-consumer services. You, however, see the situation as being more complex, and so are faced with convincing the VP that other ethical questions must also be addressed.

# Teams assigned as ‘For’: For B&G to offer commercially genetic testing services

**Teams assigned as ‘Against’: Against B&G to offer commercially genetic testing services**

**Questions for Discussion**

* Should B&G Diagnostics provide in-house genetic counseling, and can this counseling be unbiased? If not, should arrangements be made with private and public genetic counseling programs, and who should pay for it?
* Should B&G have a formal ethics policy statement dealing specifically with issues related to marketing genetic tests directly to consumers, and should it be online?
* What are the information privacy issues for consumers as compared with physicians or hospitals?
	+ E.g., should 'cookies' be used on the website, to store information about potential customers? Will the information gathered be used only for improved customer service or also sold to third parties?
	+ Who owns the genetic material used for testing - the consumer or B&G? Can the material be sold for research purposes? What limits on direct-to-consumer genetic testing are imposed by national or international regulations or oversight mechanisms?
* How should B&G be working with various national health care institutions...as a contractor of services or as a competitor?
* Will B&G accept samples sent by employers? That is, will B&G facilitate questionable workplace genetic testing?
* Where can B&G look to find 'best practices' in this area?

# Case 4 – Work Environment and Safety

Nick Rafferty works for Wallcote Brothers, a small engineering firm that produces components for washing machines and other domestic appliances. Nick has been with the company 5 years and after completing his induction program (6 week rotations in each of the company’s departments) settles in their design division. He is a popular member of staff and combines a very sharp mind and an ability to solve problems with a relaxed and easygoing manner, which makes him popular with employees from all levels of the firm. This includes the ‘shop floor team’, with whom he occasionally shares an after-work pint.

Nick has recently been promoted to Team Leader of Design. Whilst he still reports to Henry Jarvis the Head of Design, Nick has the responsibility for managing a group of 20 employees comprising part of the shop floor team that manufactures washing machine drums. Nick’s promotion initially made things a bit frosty with some his new team members as he changed from being their friend to being their supervisor at work. However, Nick has a natural management style which soon appeases any worries that any of the team had about the power going to his head.

Nick is called into Henry’s office one day where Henry explains that all shop floor employees at Wallcote Brothers must undergo their regular audiometric surveillance. Most of Wallcote’s employees work on a noisy factory floor. Health and Safety laws require that, among other things, companies must implement health surveillance programs as a duty of care where their employees are exposed to health risks such as loud noise on a prolonged or regular basis.

EarsRUs, a private occupational health service, has been brought in to deliver the surveillance and Nick must inform his team that they are expected to undergo a hearing test. Nick announces in the team briefing the next morning that EarsRUs will be visiting the following week. He explains that the employees’ hearing only will be monitored, and that the purpose of this is to ascertain whether Wallcote needs to take any further measures to protect its employees’ health.

EarsRUs come in to the factory and conduct the tests. After these are complete they report their findings to Wallcote’s Human Resources (HR) department. EarsRUs are not at liberty to disclose confidential clinical information about the health of individuals that they gain as a result of administering the tests, but they do update each employee’s health record, stating whether they are fit or unfit for work. All of Nick’s team are declared as fit for work. Although patient confidentiality means that Wallcote cannot access any employee’s test results without that employee’s written permission, they are entitled to see grouped anonymized results. This data identifies how many employees’ hearing abilities fall within a particular range. Wallcote request such information after every health surveillance check and do so on this occasion as a matter of routine.

On receipt of the information, the HR department compares this year’s results to those from previous years. There is a small staff turnover at Wallcote, with around 85% of the workforce having 6 or more years of service. It is noticed that there is a significant proportion of staff whose hearing has deteriorated over the years, which indicates that there is a worrying trend developing. While all employees were declared fit for work, if the hearing loss trend continues, this may result in more serious long-term problems arising.

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| --- | --- | --- | --- | --- | --- | --- |
| Hearing range | Category 1 | Category 2 | Category 3 | Category 4\* | Total | Unilateral Hearing Loss |
| 2007 | 30 | 9 | 1 | 0 | 40 | 0 |
| 2008 | 30 | 9 | 1 | 0 | 40 | 0 |
| 2009 | 29 | 10 | 1 | 0 | 40 | 0 |
| 2010 | 30 | 8 | 2 | 0 | 40 | 0 |
| 2011 | 30 | 8 | 2 | 0 | 40 | 0 |
| 2012 | 28 | 9 | 3 | 0 | 40 | 0 |
| 2013 | 28 | 9 | 3 | 0 | 40 | 0 |
| 2014 | 27 | 8 | 4 | 1 | 40 | 0 |
| 2015 | 26 | 8 | 4 | 2 | 40 | 0 |
| 2016 | 27 | 6 | 3 | 4 | 40 | 0 |

**Fig 1: Table showing results of group anonymized data** (\*category 4 denotes worse hearing loss than category 3.)

While the statistical arrangement of the data means that it is impossible to say for sure that the hearing of particular individuals has deteriorated, the trend does look worrying particularly the increase in category 4 which indicates rapid hearing loss in 4 employees.

The HR team cascade the report to the Senior Management Team (SMT) and the production floor team leaders. The talk amongst members of SMT is that immediate action must be taken and they should consider implementing many changes, which could cost the company a substantial sum of money.

Nick receives a copy of the results from HR and feels distinctly uncomfortable. He knows that his team of

20 workers rarely uses the safety equipment that they currently have. He is, of course, partly responsible for this; as their supervisor he should have enforced the wearing of earplugs and earmuffs. However, his predecessor allowed the team to work without them as they found hearing protection inconvenient and uncomfortable to wear and Nick didn’t want to start throwing his weight around just after he had been promoted, especially since he was already friendly with most of the team. It is possible that the members of his team, all of whom have worked for Wallcote for over 10 years, form a significant proportion of those workers whose hearing has deteriorated. Nick not only feels guilty that his negligence may have led to hearing damage in some members of his team but realizes that if the board are unaware of the lax attitude of staff towards the use of hearing protection then they may spend money unnecessarily, on sophisticated equipment which is not required.

# Teams assigned as ‘For’: For Nick coming clean

**Teams assigned as ‘Against’: Against Nick coming clean**

**Questions for Discussion**

* Who are the stakeholders in this case? What are their interests? (‘Stakeholders’ means everyone likely to be affected by Wallcote’s actions both long- and short-term.)
* How are Wallcote related to each of the stakeholders? What duties (if any) do they have towards

each of them? Which stakeholder’s needs are most important?

* Are there any practical issues surrounding fulfilling each of these duties? (e.g. Are there rules which must be obeyed?) Does solving any of these practical issues create new problems for other stakeholders?

# Case 5 – Revenue vs. Customer Satisfaction

Charles North is a software architect for Flex Technologies Ltd, a large company with an established reputation. He is currently writing a tender bidding for work for Replicant Insurance. Replicant need a capability which will enable Independent Financial Advisors (IFA’s) to access their products. This capability will not just enable IFA’s to purchase Replicant products but also has some account management features. The job for Replicant has two components: (i) to develop a front-end capability enabling IFA’s to access products and (ii) to integrate this into Replicant’s existing back-end systems infrastructure.

Charles does some background research into the project and concludes that Flex already have the existing technology to undertake the back-end aspect of the job. However, he is not entirely sure about how to approach developing the front-end aspect. There is software in existence that could be applied to this aspect of the project, but it would require a lot of tailoring to make it suitable for Replicant’s purposes. In essence, Flex would have to develop a custom-built application which would need a lot of development and testing. This would be expensive for Replicant but lucrative for Flex.

One night after work, Charles goes for a drink with one of his colleagues, Karen Ellis. Karen has heard that a Spanish company, Seguroware, are also bidding for the Replicant job. She tells Charles that Seguroware are an independent software vendor (ISV). ISV’s sell applications that they have built for a particular business purpose; Seguroware already specialize in delivering applications for the insurance business so they will more than likely be able to offer a front-end solution quite easily, and at a lower cost than Flex. Karen knows, however, that Seguroware have very little experience in developing back- end applications; Seguroware are unlikely to be able to compete with Flex on this front. Flex are also a more established company than Seguroware and so are more reputable in the marketplace than their Spanish rivals.

The following day, Charles returns to writing the tender. He looks again at the costings for the front-end capability; they are very high, and while he is confident that Flex can deliver both components of the project, he can’t help but feel that the best technical solution is to be found by combining the resources of Flex and Seguroware. This way, the customer would get high specification front- and back-end capabilities. He also feels that Flex’s lack of experience with the insurance sector may put them at a disadvantage when it comes to securing the bid, even though their technical expertise is superior in some respects to that of Seguroware; joining forces definitely has its advantages. Charles does not work on commission but taking this route will reduce the company’s revenue by about 50% due to loss of licensing and implementation fees.

# Teams assigned as ‘For’: For Charles pursuing joining forces with Seguroware

**Teams assigned as ‘Against’: Against Charles pursuing joining forces with Seguroware**

**Questions for discussion**

* Flex and Seguroware are the only two companies in competition for Replicant’s business. What options do Replicant have in terms of who they give the business to? How good is each of these options in terms of providing value for money and a good technical solution? What are the advantages and disadvantages of each of these options?
* Charles must decide whether to bid for all of the business or whether to come up with a joint bid in which Flex and Seguroware develop the back- and front-end application respectively. What should Charles do? Give reasons why this is the best course of action.
* Suppose that Charles decides to go for the joint bid, would he have failed regarding any duty or obligation? What reasons are there for thinking that Charles ought to promote the financial success of Flex?