



Engineering Ethics B

Department of Electrical Engineering & Electronics

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1 Scenario 2: SudoWatch

1.1 Background of SudoWatch

SudoWatch is a technology company that focuses on surveillance, especially CCTV and cameras security system [1]. Shanil is a senior engineer on one of the main projects that is developing a system that can monitor real-time closed-circuit television recordings(CCTV) to detect abnormal or suspicious behaviours which are mainly used in train stations and airports [1]. Shanil is committed to this project because he believes the technology may make a great contribution since it can protect people's safety by protecting people from terrorist attacks and protect people's privacy better.

1.2 Current situation and concerns

However, SudoWatch recently started to produce cheap hidden camera products, such as making some hidden cameras into smoke alarms, clocks, MP3 players, pens and watches [1, 2]. These products usually sell for less than 200 pound and can be purchased by anyone who wants them. Although Shanil has nothing to do with the process of these products, he is concerned about the lack of supervision over the sales and use of such products [2]. Additionally, the public may ignore how easily these products are available and the potential risks.

2 Dilemma

Shanil is the senior engineer who leads the main project of SudoWatch and has a promising career in this company [1]. Convinced by the mission of providing the public with safety and ensuring their privacy interests, Shanil contributed to the surveillance technologies. However, he found the company has gone in the wrong direction, producing cheap hidden cameras and not informing the public of their easy availability and potential impacts. As an engineer, although Shanil is not involved in the production of those products, he has the responsibility to question the legitimacy of those cheap hidden camera products as well as to inform the public of the possible harm to people caused by those products. But doing those may jeopardize the profits of the company, subsequently the future career of the engineer.

3 What could I do?

Based on the Scenario and dilemma stated above, Shanil has three possible solutions:

1. Option 1 for Shanil

This engineer will **disregard** the concern for cheap hidden cameras which may violate a large number of people's privacy interests and consider himself having no relationship with any possible consequence since he is not a member of the project team. However, if Shanil ignores the company's errors, it violates the engineer's principles of ethics.

2. Option 2 for Shanil

Out of the four fundamental ethical principles, the engineer **exposes the company's secret to the media** and the public directly, raising people's awareness and draw official attention to facilitate the formulation of laws and regulations to supervise the usage of

surveillance equipment. However, the engineer is likely to be punished by the company when he exposes the incorrect facts to the media, including fines and expulsion.

3. Option 3 for Shanil

The engineer should first **negotiate** with the person in charge of the company about his concern and to see if any **regulating systems or public declaration** can be done to ensure both the company's profits and the public's interest. If it does not work, he should turn to local executive branch for help, finding out whether current **laws or regulations** can manage this situation. If none exists and the company won't step back and reconsider his business plan, the **executive officers** can place limitation on its products and guide the business operation in a legal way.

4 Discussion for the possible solutions

4.1 Analysis of stakeholders' interests

Generally, there are three stakeholders in this scenario, the engineer, SudoWatch and the potential public which may be monitored by those hidden cameras.

a) The engineer

The job at SudoWatch is important for Shanil not only because of the salary but also his promising future career in this company, since his devotion is compatible with the project of providing public citizens with protection against terrorist as well as protecting the public's privacy. If he disregards this phenomenon, he will probably get a promotion and ensure more income and higher platform. On the other hand, the engineer should be obedient with the ethical principles. In this scenario, Respect for Life, Law, and the Public Good, Responsible Leadership are the guiding principles, while **Accuracy and Rigor, and Honesty and Integrity** are also of great significance for a qualified engineer [2]. Therefore, the best solution for the engineer is that he uphold the code of engineering ethics while minimizes the potential detriment to his own career.

b) SudoWatch

The primary goal of any company is to make profits, but its operation should follow the law and business ethics. In this scenario, selling cheap hidden cameras without the public's notice will surely bring huge profits, which can be used to finance other research and development divisions. However, with the widespread of hidden cameras, the scandals of violating privacy are inevitable, with the subsequent accusation and lawsuits of SudoWatch. The company will probably face huge amount of fines and compensation claim. Therefore, the company **could have better filed** a plan to the government branch to back up the plan, informed the public of the surveillance technology and conducted related surveys to gather opinions and demolish the hidden cameras or transform them into legible sizes with legitimate uses. In this way, SudoWatch can ensure a sustainable and legal profits without taking any risk of violating laws and ethic principles.

c) The general public

The secret release of hidden cameras poses great threats to the public's personal privacy. Once these micro-CCTV are used by some criminals, the privacy of the public will be directly leaked and may be widely disseminated. Therefore, demolishing those products or changing

them into legal usage under the government’s regulation is vital when it comes to protecting human rights. Strengthening the supervision of production companies can most directly reduce the risk of privacy leakage.

4.2 Rationale for possible solutions

1. For solution a

The engineer keeps the company’s business secret and with the profits he may made great advances on his project and got promoted later. However, he failed to uphold the ethical principles, most prominently, breaking the principles of **Respect for Life, Law and the Public Good** for not minimising any adverse effect on society and not holding paramount the safety of others [1]. He may choose the company’s and his own interest over the public and immediately experience no loss, but those devices may “explode” sooner or later and finally brings dooming damage to the company, as well as to the engineer himself.

2. For solution b

The engineer directly exposes the hidden cameras to the public. Although he upholds the principle of **Responsible Leadership** by informing the public of the possible impacts and risks of the devices, he is far from a ethical engineer because his reckless behavior will cause public panic and give a blowing strike to his company, therefore, he disobeys the **Honest and Integrity Principle** and even overlooking the rights and reputations of SudoWatch [1]. What’s more, without any negotiation with the company and consultancy of the official branch, if the engineer just exposes the secrets to media to exaggerate the seriousness, citizens can only learn of the indirect gossip instead of official announcement, which is not a sign of **Respect for Life, Law and the Public Good** [2].

3. For solution c

The engineer first negotiates with the company about enforcing regulations and informing the public, which demonstrates the **Honesty and Integrity, the Accuracy and Rigour principle** for considering different parties’ benefits and reputation and giving accurate reviews [2]. Additionally, the engineer encourages the company to raise the public’s idea of the usage of surveillance technology. If it fails, he can still turn to the government, which represents the **Respect for Life, Law and the Public Good and the Responsible Leadership** [2, 3]. In this circumstance, the engineer himself upholds the ethical principles and ensure both the company’s and the public’s long-term benefits. Meanwhile, his future career in SudoWatch won’t be hindered since he negotiated with different parties to come up with a solution that actually cares about the public and the company.

5 Conclusion

In conclusion, solution c is the best to Scenario 2. The reasons are as follows:

1. Follow the Engineer Principles of Ethics

Because the engineer will first negotiate with the company’s senior, the public declaration may be issued to guarantee “the right to know” for public, which complies with the principle **Respect for life, Law and the Public Good** [1, 3]. Additionally, engineer

ensures that all projects are **legal and compliant**. Moreover, engineer also complies with **Honesty and Integrity** because he does not ignore the company's incorrect behavior and choose to change it [1]. The suggestion will remind company executives to avoid fraud, prevent corruption or professional misconduct and declare conflicts of interest [1]. For the other perspective, the engineer considers the impact which may generate matter on the public and therefore, he also achieves **Responsible Leadership: Listening and Informing** [3]. For other solution, such as directly telling the public about the company's bad behavior, which will violate this principle because this solution does not take into account that adverse events will cause public panic and may be contrary to the original intention.

2. Without affecting the future of engineer

Since the engineer chooses to negotiate internally instead of directly reporting all bad behavior to the media, if SudoWatch impose restrictions on this product, the interest could have been maintained to the most extent and losses could have been minimized. In addition, because the engineer makes suggestions to the company's senior, if this proposal can be adopted, he will obtain a great chance of being appreciated by the company and is likely to get a promotion opportunity. From the company's perspective, SudoWatch also maintain a **positive external role** if it handles the matter properly.

3. Correct the bad behavior of SudoWatch

From the perspective of SudoWatch, it is incorrect without regulating products that may be illegal. Once this behavior is exposed to the public by the media or the government, it will make a large impact on the company's performance, and then affect the future. Engineer will also inevitably be implicated in the company and may lose his job as a result. According to the principle: **Honesty and Integrity**, engineers have the responsibility to alert, put forward their opinions on the company's bad behavior and make acceptable suggestions, which will have a positive impact on both the engineer and the company.

References

- [1] Á.García-Fernández, "Ethics for engineers lecture b," https://liverpool.instructure.com/courses/46000/pages/engineering-ethics-b?module_item_id=1258999, 2021.
- [2] Mexico Documents, "Engineering ethics in practice," <https://vdocuments.mx/documents/engineering-ethic.html>, 2015.
- [3] D.Nguyen, "Engineering ethics," <https://sites.tufts.edu/eeseniordesignhandbook/2013/engineering-ethics-2/>, 2013.