

An engineer's responsibility

An assessment of the obligation that engineers have towards the public from the perspective of Kantian duty ethics and utilitarianism.

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Introduction

The rapid development of technology and innovation in engineering taking place in the contemporary world are, indubitably, products of engineers' desire to provide an easier way of life for society. The products of engineering have become an integral part of society. For whatever reasons, business or otherwise, constant innovation has become a necessity today. This necessity has sparked an ambition in many to become engineers. The overwhelming inflow of engineers into society has created the need for certain rules to guide engineers' actions. The national society of professional engineers' code of ethics is one such set of rules.

The work of engineers takes them to various places across the world. To avoid personal bias when engineers encounter different cultures or work environments, NSPE has set one of the professional obligations to be "Engineers shall treat all persons with dignity, respect, fairness and without discrimination." This obligation helps dissuade engineers who, for achieving personal or business goals, are contemplating providing services that hinder society's growth or benefits one section of society and worsens another. It also helps dissuade any discrimination in the workplace for reasons other than merit and work ethic. This paper contains an assessment of the importance and justification of this obligation through the ideals of Kantian duty ethics, and utilitarianism. The paper concludes by noting that while Kantianism provides principles that signify the importance of the personal obligation discusses, utilitarianism is a

better doctrine to analyze this code since it provides a certain level of autonomy and better interpretation for engineers to respect the personal obligation.

Kantianism

Kant believed that an individual's moral philosophy should be based off an a priori method, and not their empirical knowledge. Thomas E. Hill Jr argues that Kant insists on this method because he believes that "moral theory should begin with an analysis of the idea of a moral requirement (duty)" and that "empirical methods are unsuitable for analysis of moral concepts and defense of basic principles of rational choice."¹ Certain concepts such as rationality, duty, and categorical imperative recur throughout Kantian duty ethics. Kant believed that every autonomous being has a sense of duty that guides its thinking, that this sense of duty stems from its ability to reason and be rational (not its experience), and that every rational being is motivated by certain intrinsic categorical imperatives when making decisions. Kant describes a maxim as a principle upon which a person must act or make a decision. He defines duty as the necessity of an action done out of respect for the law (law does not necessarily mean legal law in this case). Categorical imperatives are unconditional moral obligations that are binding in all circumstances, and are the essence of Kantianism and a major reason behind the criticism Kantian duty ethics receives. The third formulation of the categorical imperative is the law of autonomy. It is the ability of a person to think for themselves and determine a personal moral law, rather than being influenced by others' laws.

While addressing one category of objections that Kantianism receives about its categorical imperatives, Hill lists the following remarks - "That will kill him," "You intentionally deceived him," "She saved your life and needs help now," "No society could survive if it tolerated that."² He writes that critics justify their disapproval of Kantianism by noting that these remarks are valid only because of empirical knowledge. Kantianism expects consistency across the world, which is rarely the case. Even if the a priori argument and the rational apprehension of duty

¹ Thomas, Hill E. *Kantianism*, John Wiley & Sons, Incorporated, 2013, p. 311.

² Thomas, Hill E. *Kantianism*, John Wiley & Sons, Incorporated, 2013, p. 317.

theory is embraced by people, what people consider their duty and what is right varies across cultures and eras which means that it is unlikely for Kant's maxims to be applied.

The application of Kantianism to engineering has its advantages and disadvantages. Without empirical knowledge, it is impossible to determine whether certain projects are worth going through with even if they are "morally worthy". Kant's test of universalization invites us to imagine a world in which the maxim in question is embraced by everyone if it is possible to apply and acceptable to rational beings. NSPE's professional obligation mentioned in the introduction is acceptable because it benefits everyone – the public and engineers. Even in a professional setting, engineers wish to be treated with respect and dignity. The consistency of this maxim across the world is plausible. Most engineers are likely to reciprocate any kindness and respect shown to them. Engineers tend not to discriminate when they are not discriminated against. The major issue with consistency, however, is the difference in beliefs and learnings of engineers across the world. What is discrimination to one engineer may not be to another. For example, an employer that does not agree with the style and design used by an employee may choose not to help them and utilize their skills despite the employee's success. The employee may believe that the employer is discriminating, while the employer does not.

The formula of humanity, a categorical imperative integral to Kant's duty ethics, is "Act in such a way that you treat humanity, whether in your own person or in the person of any other, never simply as a means, but always at the same time as an end".³ This formula says that it is never right to use another individual as a mere means to achieve personal goals. In regards to the professional obligation, if an engineer treats the public with respect and dignity only to benefit themselves, Kantianism would judge this immoral. If the third formulation was applicable to engineers, they would be able to come up with a personal rule through rationality that motivates them to treat others fairly and with respect. They would need not be forced to oblige such an obligation, but would inherently possess the capability to use logic to deem such behavior towards the public as an unchangeable principle. It is a moral action only if the engineer acts that way without any ulterior motive.

³ Thomas, Hill E. *Kantianism*, John Wiley & Sons, Incorporated, 2013, p. 321.

Utilitarianism

J.J.C. Smart, in *Oxford journals*, defines utilitarianism as - “Utilitarianism is the doctrine that the rightness of actions is to be judged by their consequences⁴. This means that unlike Kantianism, utilitarianism doesn’t consider universalizing certain maxims, and takes into account experience. The doctrine of utilitarianism believes that in some scenarios, “immoral acts” of Kantianism may have positive outcomes. Smart decided to divide this doctrine into two types based off of what utilitarianist considers while making a decision. Extreme (act) utilitarianism judges an individual’s actions by their consequences. Restricted (rule) utilitarianism considers the consequences of actions taken by adopting certain pre-determined rules. The difference becomes clear in Smart’s journal. He writes that in act utilitarianism, “rules do not matter, save per accidens as rules of thumb and as de facto social institutions with which the utilitarian has to reckon when estimating consequences.”⁵

Considering the consequences of an action is a very important aspect of engineering. Careful deliberation of the pros and cons at every step of a project is integral to the success of any engineering project. From an act utilitarianist’s point of view, treating the public with respect and fairness, and without discrimination will help an engineer gain popularity, success and revenue which could help the engineer and is not morally incorrect. Unlike Kantianism, as long as engineers consider the consequences of an action and deem it right, it is fine to use the public as a mere means. A rule utilitarianist considers the actions of following the rule set by the NSPE. A rule utilitarianist would consider the rule to be more than just a rule of thumb. A person that is both engineer and rule utilitarianist would consider whether each action of theirs falls under the rule or not, and would be a true follower of the NSPE’s code of ethics.

Conclusion

While both Kantianism and utilitarianism agree with the morality of the professional obligation and justify an engineer’s compliance with the rule, they disagree in how the rule should be

⁴ J.J.C. Smart. “Extreme and Restricted Utilitarianism.” *Oxford Journals*, Oxford University Press, 1956, p. 344.

⁵ J.J.C. Smart. “Extreme and Restricted Utilitarianism.” *Oxford Journals*, Oxford University Press, 1956, p. 344.

followed. Utilitarianism disregards that which Kantianism deems essential. An individual could possibly treat others with kindness, respect, and without discrimination even with ulterior motives according to utilitarianism. This is not acceptable for Kantianism. However, the morality of this code is validated by both doctrines. Greater technology has increased the profitability of the field of engineering. The possibility of foul play and discrimination is very high these days. Thus, it is important that engineers choose a system of moral philosophy – Kantian duty ethics, utilitarianism, or virtue ethics – that constantly reminds them of their responsibility. The very real possibility of failure in the field of engineers has given engineers a reason to base more of their actions on their consequences, rather than an innate feeling of logic that is not supported by empirical knowledge. Engineers could develop a healthy fear towards facing the consequences of disrespect and unfair biases towards the public. The doctrine of utilitarianism would, therefore, better help engineers realize this responsibility because of the importance it lends to consequences.