PERSUASION AND RESISTANCE: INFLUENCE OF ETHICS ON DECISION MAKING

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1.0 ABSTRACT

As new technologies emerge, new ethical issues and concerns are bound to surface along with them. Computing, over the years, has moved from machines that need humans to think for them to those that think for themselves. Such ability thus comes with great risks. Computer Scientists and Software Engineers must design these system to make ethically right choices autonomously. The baseline result of every decision-making process is a choice. This article begins with the introduction of psychological constructs that control these choices: persuasion and resistance. By understanding these constructs, the decision-making models that software engineers can use in making ethical decisions in systems becomes clear. The introduction of ethical approaches that are key in ethical decisions widens the views on ways for making ethically right choices. However, it becomes clear that these approaches cannot solve all ethical issues in computing. To make an ethically right decision, programmers need to bear in mind the principles of empathy and compassion. A good ethical choice is not based on one of these principle but on the blur of both of them. With the knowledge of influences of ethics on decision-making processes, major ethical issues in computing is discussed with focus on software development and software engineering. The ethical questions leading to these issues are emphasized.

Keywords: computing, decision making, ethics, ethical standards.

2.0 INTRODUCTION

It is quite common to wake up every day with newspaper telling stories of ethical issues just like they appear often in the memos in our workplace and in the evening news just before we retire to bed. Regularly, we are faced with the thoughts of the justice of our own government's domestic and foreign policies, medical technologies moralities, fairness of the society. Dealing with these thoughts could be bewildering.

Our society is built on social orders; orders that have been in existence and can be traced back to the antiquities (Sherman, 2010). Such social orders form the basic building block of modern laws and order a foundation to Ethics and Ethical laws. Knowledge of these ethics, directly and indirectly affect outcomes of decisions we make in our everyday life. To better understand this level of influence, it is important to appropriately understand the concepts of persuasion and resistance not just as a social principle but as psychological constructs that can be conceptually defined and experimentally measured.

According to Perloff (2003), persuasion can be defined as "a symbolic process in which communicators try to convince other people to change their attitudes or behaviors regarding an issue through the transmission of a message in an atmosphere of free choice." The power of persuasion has been studied by many psychologist. From peer pressure to structured commercials in our home television, the principle of persuasion is adapted often to change a person's normal thought to reflect or fall in line with that of the persuader (Oguntoyinbo, 2010). Here, communicator is simply referring to Ethics and ethical laws.

The first conceptualization (at least in writing) of resistance was by Sigmund Freud, the founder of psychoanalysis. Although his definition of resistance was more closely related to psychotherapy because of his work on consciousness and memory, it however marked a point in psychological history. Resistance can be thought of as somewhat an opposite of persuasion. While persuasion deals with the summoning of one's attitude to a direction, resistance is the psychology of not letting that happen. Resistance is simply the unacceptance or refusal to comply with a certain pattern (Lilja, 2017).

The human decision making process is a basic cognitive processes that leads to the selection of a single action is "chosen from among a set of alternatives based on certain criteria (Wang, 2007). Several factors, such as past experiences (Juliusson, Karlsson, & Gärling, 2005), individual and age differences (Bruin, Parker, & Fischoff, 2007) cognitive bias (Stanovich & West, 2008), and personal esteem (Acevedo, & Krueger, 2004). Another factor that can influence decision making is ethics (Trevino, 1986; Jones 1991). Ethics can influence decision through three mediums: commitment – the desire to do the right thing notwithstanding the cost, consciousness – awareness of the application of morality to every action, and competency – ability to weigh options and, maximize alternatives and predict future consequences (Torrance, 2014). The rest of this article focuses on how ethics can

persuade or resist a choice in the decision-making process.

3.0 DIVING DEEP: ETHICAL STANDARDS

Ethical standards refer to the principles that promote ethical values such as fairness, trust, and/or tolerance (Brand, 2016). These standards are not usually consistent and varies from culture to culture, region to region and even sometimes, varies in certain societal strata. The understanding of ethical standards requires the knowledge of what ethics is not.

Ethics is not feelings (Schafer, 1989). Notwithstanding that what we feel provide vital information about out ethical choices, they should not be confused with ethical standards. Emotions unlike ethics is subjective and vary from individual to individual. Over time, members of the society due to environmental or biological constructs have developed habits that make them feel morally wrong when they err the norms of the society. However, Other people often feel good even when they are doing something extremely wrong. Ethics is not religion (Schafer, 1989). Ethics applies to everyone within its jurisdiction whether religious or not. Typically, all religions have some high moral and ethical standards but does not cover all scenarios. Ethics is not obedience to the laws of the land (Schafer, 1989). Laws typically incorporate ethical standards but are also likely to deviate from Ethics. The morality of certain laws and justice system is still under question today. Should capital punishment be allowed? How humane does executioners need to be? Who should be blamed for wrong judgements? Laws, as we know, can fall into ethical corruption and this is evident in the authoritarian and totalitarian governments that we have seen. Ethics is not obedience to cultural norms (Schafer, 1989). “When in Rome, do as the Romans do”, an English proverb dating back to 390 AD and translated from the 54th letter of St. Augustine to Januarius, implying that we should abide by local norms in a new culture rather than upset it. Certain norms may not be ethical and the fact that such cultures does not see them as wrongdoings in the light of morality does not make them ethically right. Consider United States before the onset of the Civil War, slavery was not ethically right but at the point in history was more of a norm. This is a great example of culturally accepted norms not being ethically right always. Ethics is not science (Schafer, 1989). Science and scientific analysis has played key roles in helping us with ethical choices. However, it does not explicitly define wrong from right. In fact, science and its procedures, on its own has raised most of the ethical issues in our society today.

What do we base ethical standards? When faced with a specific situation, how do we apply these standards? The afore mentioned are the problems we face when trying to identify ethical standards to abide by. Ethics cannot or are not based on emotions, laws, religions, social norms or science. Ethics should be based on the following five standards; the first of which is the Utilitarian Approach. The utilitarian approach stems from the principle of utilitarianism as first described by Jeremy Bentham and John

Stuart Mill. This approach emphasizes that ethical action is one that can provide or bound to provide the greatest amount of good (happiness) and does the least harm (Velasquez *et. al,* 1996; Velasquez *et. al,* 2009). For instance, under this view, an ethical warfare has the greatest balance un the good achieved in ending terrorism with the collateral damage (death, injuries, infrastructural destruction, and emotional distress) caused by the war. This approach is used mainly in ethical decision making in scientific research. If the harm done by conducting a scientific study is greater than its benefits, then such study is considered to not be ethical.

The rights approach as suggested by many ethicists and philosophers follows the view that an ethical action must be able to protect and respect the rights (especially moral rights) of the affected people (Velasquez *et. al,* 1996; Velasquez *et. al,* 2009). Humans have a free will and dignity because of the human nature. The right approach is based on this proposition. From the perspective of dignity, all humans should not be treated as the mean to an end but as the end itself. From the perspective of free will, humans have the right to make their own choices. The rights to be protected by any action to be considered an ethical also extend to non-humans.

Greek philosophers, most notably Aristotle, were the earliest contributors to the notion of equality, an idea that became popular in the medieval era suggesting all equals should be treated equally. Ethical actions based on the concept of equality fall under the fairness and justice approach. From this approach, an ethical action must see and treat all humans as equals and if it should treat any human unequally, must do so on a highly defensible standard (Velasquez *et. al,* 1996; Velasquez *et. al,* 2009). Based on this approach, salary allocation may be considered unethical. Considering the discrepancy in salaries because of differences in power makes it unfair and an unequal treatment under this approach. From another view, considering salary differences to be based on skill level makes it defensible and in line with this approach.

The communal life notion and contribution of human action to such life was also a major contribution of the Greek philosophers. The common good approach bases ethical reason on the close relationships that exists within the society and the mutual respect for all members of the society (Velasquez *et. al,* 1996; Velasquez *et. al,* 2009). This approach focuses on the qualities, systems, laws, and policies that promote the welfare of every member of the society. The virtue approach is an antique approach to ethical actions. Based on this approach, ethical actions are those which are consistent with the overall growth of the human nature (humanity) (Velasquez *et. al,* 1996; Velasquez *et. al,* 2009). In other words, ethical actions should be consistent with integrity, fairness, generosity, prudence, love, courage, honesty, kindness, to mention a few. Any action which a person's conscience will feel guilty about is unethical under this approach.

4. ASSEMBLING THEM TOGETHER

The five approaches to evaluate ethical actions are important when making decisions requiring high ethical standard. Notwithstanding their clarity, they do not solve all ethical problem. In real world, for instance, we can find a scenario in which the approaches may not help us at all. In other world, there is no exact path or rule in ethical thinking. To illustrate this, consider a self-driving car, a major technological innovation of the twenty-first century. The automated driving technology is built to use maneuvers to achieve least collateral damage in any time of danger. In a first consideration, the car is driving behind a truck on a highway slightly below the speed limit and a 3 second distance from truck. Suppose the truck comes to a quick stop unexpected by the car, the car is forced to make a maneuver to prevent a crash. Slowing down, the car may crash into the truck and risk the killing its owner. The car may choose to swerve to the left with the risk of frontal collision with opposing traffic. It is left with the choice to swerve to the right, slow down and come to a complete stop. This choice is defensible by more than one ethical approach. Now suppose there are three pedestrians walking on the right side of the road. A right swerve by the vehicle will put the life of these pedestrians in jeopardy. Now at this point, we find it hard to justify the decision of the vehicle with any ethical approach.

The utilitarian approach may argue that the car should save the highest number of lives. How about the owner of the car? Should his own material choose to risk his life in such cases? The rights approach in this case will make no choice since everyone in the scenario has the right to live. The fairness and justice approach will not risk anyone in this situation because all men are equal and no one's life should be held above any other. Selecting to save the owner or the pedestrians or people in the opposing traffic will totally violate this approach. The common good approach will favor an ethical choice on one that benefit the society in general (in long run). Since we cannot predict the future, we cannot say which choice will benefit the society the most. What virtue could be satisfied by making any of the choice? Fairness? Definitely not. The virtue approach again fails to justify any possible choice for the self-driving car. Although this situation may be rare in real life, there is no certainty that it would never happen.

New technologies, algorithms, scientific innovations, and computing techniques are faced with this kind of problems. In such situations, the systems must decide and the decision must be ethically right. Machines do not make decisions on their own, they do not have their own thoughts, emotions or cultures. They only make decision based on the way they were created. For this reason, the ethics of machines (technologies) is the ethics of man (the creator). The makers of technologies are then tasked with making these machines adopt ethical choices should they be allowed to do so (as in the case of artificial intelligence) or go through the path of a pre-programmed ethical choice. Whichever way it is, humans will have to make decisions that are both ethical and socially right for technologies.

5. MAKING DECISIONS: THE RIGHT CHOICES

When faced with a dilemma, we are bound to make a certain choice. Unknown to many, ignoring to take any kind of action regarding the dilemma, is also a choice (Reamer, 2016). Human nature cannot in any way avoid decision making. In a society without order, the process of making decisions may be different from a society with order. Having ethics in the former society makes the decision-making process more stricter and the choices narrower. Ethics can influence a choice in only two possible way: promoting the choice (persuasion) or obstructing the choice (resistance).

Making decision and selecting a choice that is ethically right, is basically based on empathy and compassion (Bloom, 2017). Empathy involves the decision maker putting themselves in the shoes of those affected by their decisions and trying to experience their emotions. At the frontline, empathy sure sounds like the best way to make a great ethical choice in the decision-making process: simply experience the affected and if the decision hurts them, scrape it, otherwise, proceed. Backstage, empathy is a train wreck to the decision-making process. The problem with empathy is that it is biased and brings to the spotlight individualism. People are more likely empathize with friends rather strangers, group members rather than out-groups, family rather than society. In a recent study by Grit Hein (2010), the psychologist examined empathy in in-group and outgroup members using soccer fans. In the study, the fans were introduced to two conditions: one in which a fan supporting their team is experiencing pain and one in which an opposing team fan was experiencing pain, the participant could decide to help reduce the pain or just ignore it (an ethical choice). The empathy of the participant was also measured through neural responses. Findings showed that people felt the pain (empathized) for fans cheering for their own team and wanted to help (a right moral choice) and for opposing team fans, they felt pleasure and wanted the pain to continue (a wrong moral choice). This study shows how flawed ethical choices could be based on empathy. The responses from the participants in a survey reveals that ethics, depending on the conditions, was mainly a persuader or a resistor.

Compassion is quite different. It involves logical reasoning. What can I do to make the world a better place? How would I feel after making this decision? These are questions addressed by compassion. Humans can feel empathy and be able understand someone's pain and suffering but when we feel compassion, we are not necessarily empathizing with the anyone. A popular study on this notion was done by Klimecki et al. (2014) in which one group participants received an empathy training and another group received a compassion training (through love and kindness meditation). The researchers found that empathy training made the participants selfish while the compassion training made the participants more kind. This creates a distinction between empathy and compassion.

Thought processes and choices can mislead when guided by empathy rather than logical reasoning. Hence, to make an ethical choice when faced with such circumstances, blurring empathy and compassion together is always better than focusing on just one. With this understanding, we could make decision on how machines should act without questioning our own morals.

6. DECISION MAKING AND ETHICAL ISSUES IN COMPUTING

A new technology is bound to create dilemma in an ethical world. As technology advances, decision-making is left totally in the hands of these technology, like in self-driving cars and other automated systems. The push and pull drive in decision making process, ethical standards, and making the right choices have been explained and thoroughly examined at this point. Here, we focus on the current ethical issues in the field of computing. To avoid over-generalization, this section will focus more on software development and the creation of new software in general.

6.1 Logs

Programmers always keep record of their development process, database migrations, test suite results. In software today, a log file generally documents everything the software does while running. This information is always handy when they need to figure out why a software crashed, when and how it crashed, or understand the behavior of software in field or general find the source of a bug. This information may contain vital information about a user and will become problematic should it fall into the wrong hands.

The issue with log begs several ethical questions. Who has access to the information? How protected is the information in the log? Does destroying the log destroy all references and every data in it? What kind of information should be in the log? How much is too much information? The most ethical issue that should be highly noted is the kind of information stored. In this case, time becomes an important variable in the equation. Back in 1960s, for instance, smoking was not considered a bad and harmful health habit and information regarding smoking status of a person was not important. Today, such information could lead to the increase of an individual's health insurance rate or even a total denial of a coverage. The information in log files of an y software and who can access remains a major issue in software engineering.

6.2 User

For startups, offering a free product to rack up a high number of users sure sounds like a great idea. Sadly, it comes with the cost of turning the loyal customers into the product. Companies like Facebook and Google with huge amounts of users have systematically transformed their users into product.

This process of turning the users into the product is an ethical issue that shouldn't be taken lightly. The user must be informed through a terms of service agreement that their data from the use of such software will be used for other purposes. This becomes a problem because users may get discouraged

because of the idea that they are the product and this will persuade the developer to not disclose to the users that they are the product. Notwithstanding what the situation may be, software developers must ethically decide to inform users on any operation of the software that directly or indirectly involve them

6.3 Open Source and Content

Certain businesses are currently being built with the idea of selling contents to consumer. Most of the time the contents are usually either free or distributed originally as open source. Terms such as "fair use" and "sharing" are used to justify these acts as ethically right even when they are not. Developers are faced with the problem of deciding how free they want their work to be, while still contributing fairly to the common good of the community. In content sharing, the most important ethical issue is on the rewards of the original owner. Does the developer receive a fair share of the revenue that is generated from the commercialization of their software?

What kind of information should a software have and what should it not? How can we regulate the content that our software can transmit from one user to another? How can we ensure that contents can be restricted based on the user's age? The afore-mentioned questions are the major issues involved in the content of software. Developers should completely understand and evaluate all the possible ways that contents may be presented in the software and decide on how to control the software. This becomes an ethical issue because solving such problems requires viewing the contents (considered to be an invasion of privacy). Suppose a software is to be designed not to accept hate posts or racially discriminating posts, the software will have to examine the content and judge the content independently or with the help of a human. This will be considered an invasion of the user's privacy. This is problem is one of the reasons why it is hard to combat and end cyberbullying totally.

6.4 Protection

Privacy has always been a highly debated ethical issue in computing. How much should a software protect user data? How long should this protection last? Should this protection be threatened, what should the software do? The action of a software in terms of protection itself should be decided ethically. If someone is about to steal a user's credit card information, should the software self-destruct and prevent the invader form succeeding? What if self-destruction could lead to loss of vital medical information of the user, should the system still proceed with this action? Developers are faced with these dilemmas every time they are creating a new software. Whatever the case may be, developers should choose the best action that protects the users data and every other risk involved must be justifiable.

6.5 Bugs

Bugs are common in the field of software development. It is not possible to wrote a bug-free software. Software developers must prioritize and focus on bugs that can cause detrimental damages to the software. Sometimes, some bugs are left unfixed and the software deployed. The issue here is if we

can prioritize appropriately. What makes a certain bug more important than another one? During deployment, software developers are faced with what is considered the most important ethical dilemma in software development. Should we deploy this software knowing that it has issues? Or should we fix it?

To find a bug, we need to test the software. Knowing that we may not be able to find all possible bugs in the software, we have to stop testing at some point. How do we decide when to stop testing? And how do we justify this stopping criterion? We do not want to ship a software used in medical field with a bug that will cause the software to generate wrong test results. Developers must understand that a person may be killed by their software, should it produce wrong results. In this case, it is important that they empathize with the end user before deciding a stopping criterion for a test.

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