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The Ethical Debate on Drones

RELG 327-02 Business Ethics

By: Anne Hopkins

Table Of Contents

	Page
I. Introduction	2
II. What can they be used for?	2
III. How do they Work?	3
IV. Drone Regulations	4
V. Military Use of Drones	6
VI. Business Use	8
VII. The Ever Day Use	10
VIII. Privacy Issues & Concerns	11
IX. Conclusion	13
References	16

The development of the first drone has increased tremendously over the past few years. Since the early twentieth century, drones have been being used as practice dummies for the U.S Army (Understanding Empire). However the “true” introduction of the first drone was in the early 2000s when the CIA first used an unnamed Predator drone in a targeted killing. A drone is an unmanned aircraft system that is remotely controlled and can be used for many things such as military use, civilian use, and business use. From the start of the military implementing these “flying robots”, to affordable drones being available to the everyday person, the use of these unmanned aircrafts are increasing dramatically. However, is it ethical to kill people, to spy on people, or to take away jobs from people?

What can they be used for?

Since the technology has improved, the price of drones has dropped dramatically. There are unmanned aerial vehicles (UAVs) that come in varieties of sizes, shapes and functions, which are controlled either by remote or control systems from the ground. Depending on what model, size, and the use you want the drone for, the average cost for a drone is \$1000. A drone with this cost includes good quality film with high resolution. However, there is a more affordable drone costing around \$100 with a lower quality resolution. Also, there are drones of much bigger size that are mostly available to the military costing thousands, even millions, of dollars. These UAVs are generally used to carry out tasks in which manned flight is considered to be too risky. Drones are primarily used for military services, but are now available in various civilian operations. Some drones are used for search and rescue and weather analysis because of their precision and stealth

features. Drones have carried out monumental tasks in preventing terrorist attacks and capturing important Taliban leaders, including the surveillance of the infamous "Osama Bin Laden" (Read and Digest).

In addition to military use and civilian use, businesses are starting to implement this new technology into their business model. Amazon recently started "Amazon Prime Air", which is their future delivery system designed to safely get packages to customers in 30 minutes or less using unmanned aerial vehicles. On Amazons website, the company states "Prime Air has great potential to enhance the services we already provide to millions of customers by providing rapid delivery that will increase overall safety and efficiency of the transportation system" (Amazon). Prime Air has many advantages such as decreasing the delivery and waiting time and the delivery cost for Amazon itself. However, there are a few concerns with Prime Air. With Amazon implementing this new delivery system, will it be safe to have all of these drones delivering packages? What if your package gets damaged when dropping it off or flying in the air? With technology growing rapidly, people worry about their jobs being taken away. Implementing this new technology in their business model takes away jobs from the delivery people and possibly other jobs.

How do they work?

A typical drone is made of light composite materials to reduce weight and increase maneuverability. The composite material strength allows it to cruise at extremely high altitudes. Some are equipped with cameras, GPS, laser or GPS guided missiles and other top-secret systems. They can either be controlled by remotes or a ground cockpit. Drones come in many different sizes, which some can be launched by hand and others require a

short runway. A UAV has two parts, the drone itself and the control system. For military use, the plane is controlled from the ground by trained combat pilots or programmers. The surveillance data is sent to satellites from which it is received by the ground forces to form the attack strategies and vulnerable areas in the enemy's camp. On the contrary, drones can also be used for civilian use with basic use as videotaping, taking pictures, and more.

Drones can fly at extremely high altitudes to avoid detection, but the more the drone entails the more expensive it is. As mentioned, there are now more affordable drones for the everyday civilian (Read and Digest).

Drone Regulations

Before you go out and fly your drone, you need to be aware of the regulations that the Federal Aviation Administration has put into place for flying drones in the U.S and need to be aware of the rights of others around you. A new drone owner needs to register it with the government. Registration costs only \$5, but if you are caught flying an unregistered drone you can pay civil penalties up to \$27,500 (PCMAG). Aircrafts lighter than .5 pounds are exempt because they tend to lack GPS stabilization and automated flight features. If you own a Drone that is heavier than 55 pounds than you will need to fill out a paper form instead. Once you are registered, you will receive an identification number and it is valid for three years. Each aircraft needs to be physically marked with the number. The basic rules are the following:

- Fly below 400 feet and remain clear of surrounding obstacles
- Keep the aircraft within visual line of sight at all times
- Remain well clear of and do not interfere with manned aircraft operations

- Don't fly within 5 miles of an airport unless you contact the airport and control tower before flying
- Don't fly near people or stadiums
- Don't fly an aircraft that weighs more than 55 pounds
- You will be fined for endangering people or other aircraft
- Fly during daylight and need permission from FAA to fly during nighttime

In addition to the FAA rules, the National Parks have banned the use of drones within their confines. The airspace around Washington D.C is also restricted. All of these rules are for noncommercial use. If you are using a drone as a realtor, wedding videographer, or for other profit purposes, you will need to apply for an exemption with the FAA. For commercial drone pilots, to operate the controls of a small unmanned aircraft system (UAS), you need a remote pilot airman certificate with UAS rating or be under the direct supervision of a person who holds the certificate. You must be 16 years old to qualify for a remote pilot certificate. The FAA does not require small UAS to comply with current agency standards or obtain aircraft certification. Also, you must make your drone available to the FAA inspection or testing on request and provide any records required to be kept under the rule. You must report to the FAA within 10 days of any operation that results in serious injury, loss of consciousness, or property damage of at least \$500 (Federal Aviation Administration). Lastly, several states have adopted dozens of local laws that restrict drones, such as prohibiting drones with weapons and barring flights over private property. According to the National Conference of State Legislatures, at least 31 states have adopted laws governing drones, with 18 requiring search warrants for police to use drones for

surveillance, 13 adopting criminal penalties for misusing drones and 12 creating privacy protections (USA Today).

Military Use of Drones

President Obama confirmed that drones are used for precision strikes and were kept on a “tight leash”. Drones are used in situations where manned flight is considered too risky or difficult. They provide troops with 24-hour surveillance “eye in the sky”. The aircraft the military owns can stay aloft for up to 17 hours at a time lingering over an area and sending back real time imagery of activities on the ground. The drones used by the United States Air Force and Royal Air Force range from small intelligence, surveillance, and reconnaissance craft, some light enough to be launched by hand, to medium sized armed drones and large spy planes. Although the U.S does not speak much about UAV operations, President Obama did confirm that they regularly strike suspected militants in Pakistan’s tribal areas. The U.S has 8,000 drones and the U.S Army has a plan for using them more and more in the future. The use of unmanned aircraft began under President George W Bush, but their use has more than doubled under Obama administration. A Justice Department memo given to select members of Congress last year, says U.S government can use lethal force against American citizens overseas who are operational leaders of al Qaeda or its affiliates (CNN Politics). Drones are seen by military as delivering precision strikes without the need for more intrusive military action. However, with this comes much controversy. Since the increasing use of drone operations, hundreds of people have been killed by the strikes in Pakistan including civilians and militants. How is it ethical to sacrifice civilians in these communities just to get rid of a few militants? Some argue it is the only way to

protect their own soldiers in a high-risk environment, but others believe it is not okay to kill innocent civilians in order to capture militants.

There are two medium-sized drones currently in use in Afghanistan and Pakistan: MQ-1B Predator and MQ-9 Reaper. Both of these “planes” carry many sensors with black and white TV-cameras, image intensifiers, radar, infra-red imaging for low light conditions and lasers for targeting. They also can be armed with laser guided missiles. Each multi-million dollar Predator and Reaper system comprised four aircraft, a ground control station and a satellite link. The MQ-1B Predator was originally designed as an aircraft for intelligence-gathering, surveillance, identifying targets and reconnaissance. However, since 2002 it was equipped with missiles meaning it can strike at a range of up to five miles. It is used for long endurance missions. The newer MQ-9 Reaper was conceived as a “hunter-killer” system. It can carry four missiles and laser guided bombs. It is designed to carry out the kill chain (find, fix, track, target, execute, and assess) against high value, fleeting, and time sensitive targets (CNN Politics).

Although drones are unmanned, there is a pilot behind each one. There is trained crew who steer the craft, analyze the images, which the cameras send back and act on what they see. The base may be local to the combat zone or thousand miles away. Many of the drone missions in Afghanistan are controlled from air force bases in Nevada and USA, but takeoff and landing is handled locally (BBC News).

These UAV's have played a key role in capturing Taliban leaders and other terrorists, but do the civilian casualties outweigh the advantages? Is it ethical to bomb a community with the loss of 40 civilian causalities and 1 terrorist? Or is it more ethical to have a piece of technology do so rather than an active soldier? Regardless, someone has to

be in control of the drone and drop the missile or be on foot in the community. Is it morally right to order a pilot to kill a bunch of people and then go home to his family? This pilot would be acting as an assassin with civilians as collateral. Should we risk our own or sacrifice innocent others? With this new technology, it allows the military to lessen their own causalities and reduce the risk, but it does come with its consequences of possibly endangering innocent civilians.

This issue involves the principle of double effect, which is the set of ethical criteria Christian philosophers have advocated for evaluating the permissibility of acting when one's legitimate act may also cause an effect one would normally be obliged to avoid. According to the principle of double effect, sometimes it is permissible to cause harm as a side effect of bringing about a good result (Stanford Encyclopedia of Philosophy).

This principle relates to the problem that follows with the use of drones in the military. Military officers have to make moral judgments on whether to decide to protect their own and risk the lives of others. This is an action that can cause serious harm, such as death, as a side effect of promoting good end. Therefore, as an officer it is your job to protect the lives of your own with the possible risk of harming others. I believe that this effect does come into play with drone strikes, but I think there should be more regulation in the military to analyze the strikes to ensure the good outweighs the bad. The New America Foundation estimates that in Pakistan, between 1,953 and 3,279 people have been killed since 2004 -- and that between 18% and 23% of them were not militants. The "non-militant casualty rate" was down to about 10% in 2012, the group says (CNN Politics). As the data shows, it can be assumed the military is analyzing the strikes due to the decreasing

causality rate. It would be interesting to see the regulations the military has enforced in order to decrease this rate drastically.

Business Use

Soon Amazon will have drones delivering packages around neighborhoods. If they do, they will likely have the legal right to fly over your house and the same goes for commercial land surveyors using cameras to prepare maps. “If the drone is simply traveling over your property, but didn’t do any harm, then there are no damages and therefore you would not have a trespass claim under most states’ laws” says an Ohio Lawyer (Consumer Report).

Businesses want to implement drones into their business model. Incorporating this new technology, means some jobs and people will be replaced. Having drones deliver packages to customers can take a blue-collar worker out of a job and replace him with a person who knows how to operate the drone. Is it ethical for companies to fire a deliveryman and hire someone possibly at a higher pay because they want to make delivery faster? How do we know this is going to work? Now someone is out of job and you are at risk of the process not even working.

With this new implementation come many concerns. Although they have not given all the information about how this new delivery system will work, customers are concerned their packages will either be damaged or lost in the process. Customers are curious as how the drone can tell the difference between the “neighbors landing” and theirs. In order to lessen some of these issues, one suggestion can be to make sure the equipment is high tech and would not release the package until on the ground or maybe a foot off the ground. Also,

with the concern of possibly your package landing in your neighbors yard, the landing strip can be coded so the drone can tell the difference. Another concern would be what to do with the obsolete delivery workers. I believe Amazon should set up a program to assimilate as much of the current delivery force to participate in drone training. Instead of firing these workers and hiring others, Amazon can train these current workers and make them become certified drone pilots. Overall, the delivery system has issues that need to be worked out before implementing this system.

The Every day Use

According to CNN Politics, until 2004 drones were primarily used for surveillance in Pakistan (CNN Politics). However now they are being used for purposes outside the military. Some law enforcement agencies including border control are using them for surveillance and to monitor hostages. National Oceanic and Atmospheric Administration uses drones to study weather systems and ecosystems. The Federal Aviation Administration has announced integrating unmanned aircraft systems into the U.S aerospace system. Also, numerous private companies have made small controlled mini-aircraft with cameras for sale. In addition, journalists and sports photographers use them in lieu of expensive helicopters and real estate agents use them for aerial photos and video (CNN Politics). Also, farmers can make their job easier to do aerial surveys of crops and even fertilize their crops.

An estimated 700,000 to 1 million drones were sold during the 2015 holiday season (USA Today). Growth in commercial and personal drones has created numerous safety concerns, mostly midair collisions and loss of control. Specific concerns about drones flying

too close to commercial aircraft prompted the FAA to implement regulations. Although there are regulations in place, there are still concerns for the use of drones by the everyday person.

There have been a few instances with drones flying over the White House the past few years. Last May, a man flew a drone over the White House fence and was detained and arrested. However, this was not the first incident. Four months earlier, a U.S intelligence agency employee lost control of a quadcopter drone and it crashed and landed on the White House lawn at 3 a.m. Charges were not filed with this employee (CNN). However, after these incidents restrict access to fly near or over the White House was put into place.

Privacy Issues and Concerns

By June 8, 2016, the FAA registered 464, 591 drone operators who can fly one or more drones. Another 10,054 people registered one drone apiece for special permission for non-hobbyist operations such as for police and fire departments. There is a concern with an overload of drones registered and in the air at the same time. Airline and general aviation pilots worry that a collision with a drone could bring down an aircraft. Pilots reported 1,346 drone sightings from November 2014 through January 2016. The reports include sightings from airliners approaching or departing airports (Federal Aviation Administration). Do UAV's in the sky oppose a danger to other people?

Along with the issue of possible "drone overload" in the sky, drones are creating issues with violating people's privacy. The cameras and video cameras are allowing drone owners to take pictures or record people without their consent. There have been a few cases where people are spying on them with their drones. In the U.K, there was a case with

a peeping tom spying on people through their windows. Perverts are using these drones not only to spy on people, but also to post the videos or pictures of them on websites. Since the issue is increasing, it is beginning to make people afraid of who is watching them and if they are safe. There was an instance in Seattle where a woman called the police when she feared a drone was peeping into her apartment. But, the drone belonged to a company conducting an architectural survey (Consumer Report).

There are not exact FAA laws in place protecting people's privacy with UAV's, but it has increased many state laws privacy protections especially if a drone is shooting photos or videos. California legislation states, "A person is liable for physical invasion of privacy when the person knowingly enters onto the land or into the airspace above the land of another person without permission...in order to capture any type of visual image, sound recording, or other physical impression of the plaintiff". A similar privacy law in Wisconsin makes it illegal to photograph a "nude or partially nude person" using a drone (Consumer Report). Now if only all states can have these following laws, then there may not be such an issue with drone operations.

When an incident arises, the problem people are having is providing proof in order to make a case against a drone operator. The problem lies with the FAA as they solely deal with air safety and the state and local authorities deal more with privacy and trespass. But the issue is how can each state control where and how people are using the drones when that lies with the FAA? Although the FAA controls the air safety, the State and Local authorities can help enforce these air restrictions within their limits. Some of the rules and regulations the State and Local have include the requirement for police to obtain a warrant

for surveillance, prohibiting the use of UAV's for hunting or fishing, and attaching firearms or other weapons to the drone (FAA.gov).

As mentioned, state and local authorities deal solely with privacy and trespass issues. One states legislation states, "A person is liable for physical invasion of privacy when the person knowingly enters onto the land or into the airspace above the land of another person without permission...in order to capture any type of visual image, sound recording, or other physical impression of the plaintiff" (CBS News). Given the rapid growth of the use of drones, it is hard to see how the Federal Aviation Administration actually can ensure that these rules are followed. Is allowing civilians to fly drones around with cameras and videos attached violating people's privacy? How is it ethical to allow someone to fly their drone over someone else's backyard and take pictures of them? Although there are regulations in place, there are not many regulations in protecting and monitoring people's privacy and safety of people. Since there is a division between the FAA and State and local authorities, I would suggest each state should form an Aviation Administration committee where they can communicate directly with the FAA and deal with all regulations including air and privacy issues. These committees would create an open line of communication between the FAA and state and local authorities that can help enforce the regulations.

Even with all of the regulations, the real question is if this new technology is ethical or not? The use of UAV's is increasing by the day with civilians, military, and businesses. Without many knowing, the military has been using drone technology for many years. Though, there is an ethical concern for their use of drones. One of the military's uses of this

technology is dropping missiles and targeting militants. How is it ethical to sacrifice innocent civilians just to target militants? According to the principle of the double effect, in order to promote good you may cause harm. These military officers are making moral judgments to protect their own even if that means causing harm elsewhere. Some believe the military is doing the right thing by not sacrificing their own in high-risk missions. Well others believe it is morally not right to kill innocent people just to get rid of a few militants. Is it ok to kill 30 innocent people and 1 militant? Based off the principle of double effect, I believe innocent people should not be killed, but the use of drones in risky missions is better than sacrificing one of our own. In my opinion, in war time it is not okay to directly shoot at civilians, but when our soldiers are being shot at and civilians get injured in the cross fire, it can be justified. If this is justified, why can't drone strikes be justified to protect our soldiers from being shot at?

Either case, innocent people are sacrificed. Drone surveillance can be seen as an impartial practice serving the interests of all or catering to some at the expense of others. There is not one exact answer to this issue. One alternative to the use of drones can be to send in heavy bombers, but then there might be more damage. Drones tend to have better focus with less collateral damage. Maybe the further development of this technology can help decrease the causalities even more.

In addition, the civilian use of drones has soared in the past few years. It is only going to continue to grow, which means the regulations and rules need to be very straight forward and concise. As of now, there are not strict enough rules protecting people's privacy and rights. Is the introduction of this new technology opposing a threat to people or actually helping our society? As mentioned earlier, some believe drones are contributing

highly to society and creating benefits for many. On the contrary, there are cases where people's privacy is being violated and issues of concerns with this new technology.

Along with the military and civilian use, businesses implementing this new technology pose a concern for future customers and civilians. The concern is if companies like Amazon and Google will have the legal right to fly over their private homes whenever they want. Also, if there poses a danger with this new delivery system with packages in the sky. What happens if a drone drops a package? Will citizens be protected if this occurs? There are not rules in place yet due to this being a future goal. Lastly, the biggest concern for companies is what jobs will be replaced by this future technology. Is it okay to take away a job to implement a new technology even with the risk of this new system not working? Drone technology is outstanding, but with this new technology comes many concerns and can affect many people negatively.

Are drones acting as a "big brother"? Should people feel safe knowing someone can be watching them taking pictures of them? How can people feel safe with this concern? Yes, this technology is creating benefits for many, but it is also creating concerns for others. If this technology is going to be apart of our everyday life and continue to grow, there needs to be more regulations protecting civilians and higher consequences if violated. The FAA endorses all the benefits drones entail and believes they are good for America (USA Today). I believe the benefits outweigh the costs with drone technology, only if there are strict rules following in order to protect civilians.

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