

## Introduction

There was a time, not long ago, where robots were a thing of sci-fi books and movies. As time went on and technology advanced, however, more and more artificially intelligent systems are entering the market. These robots are responsible for many tasks to help in a human's day to day lives, but one emerging type of robot is causing quite the controversy: android sex workers, or "sexbots" as the terminology we will use in this case study. In the following scenario, businesses in the town are offering the services of anthropomorphic sex robots to customers who wish to experience pleasure without the need of another human. As a well-known AI ethics expert in the town, we have been asked by the town council to prepare an ethical analysis on the implementation of sexbots in the prostitution industry.

## Ethical Issues and Situational Facts

The most important situational fact in this scenario is a proper definition of a "sexbot". A sexbot and a sex doll are different; while a sex doll is solely used for pleasure, a sexbot provide much more than sex; they are programmed with self-learning algorithms to engage their partner's emotions, so much so that one can even argue sexbots are developing sentience or consciousness [1].

By listing the given situational facts, we can also think about the ethical issues that lie in the scenario. The first ethical issue that we can think about is the effect a sexbot can have on its "customers"; more specifically, how it impacts their violent sexual tendencies, rape fantasies, and virtual child pornography fantasies. For the rest of this case study, a customer is to refer to a person that buys a sexbot's service for their own sexual pleasure. Consider the following situational facts:

- Any person of age can purchase the temporary service of a sexbot. No background checks are required for the customer.
- A sexbot can provide sexual gratification to its customer by doing anything a human sex worker can do, effectively replacing them.
- The interaction between a customer and a sexbot will allow customers to carry out their unique predilections in privacy, without the need to harm a real person.

Because the interaction between a sexbot and a customer is completely private, the latter can perform unethical actions on the sexbot, as mentioned above. This potentially can increase the sexual tendencies or fantasies by the customers because they now have a chance to express it more freely, but can also potentially decrease these tendencies, since customers will no longer need to resort to humans as a potential target. The question is which; will the use of sex bots increase or decrease these unethical tendencies of customers?

The second major ethical issue involves sexbots taking the jobs and potential livelihoods from human sex workers. We've all seen those kiosks in fast food restaurants that let you order food on them, automated cashiering at grocery stores, and even robots cashing in your check. It's impressive how we went from that to robots taking over the prostitution industry in just a few years. Consider the following situational facts:

- Human sex workers are licensed to work in legal brothels under strict conditions such as weekly testing for sexually transmitted infections, regular background checks, as well as having to pay for their own medical and licensing expenses, among others. It's fair to say that sex workers must invest a lot of money and time into perfecting their art.
- Failure to meet these requirements can result in a suspension or even complete revocation of their worker license.
- Sexbots do not need a license, nor do they need to be tested for sexually transmitted infections or background checked.
- Sexbots can perform the job just as well as a human sex worker can. Their technology allows them to be completely sanitized, and they programmatically cannot engage in criminal behavior.

Not only can customers weigh the pros and cons of purchasing services from a human versus a robot, but brothels can also choose between employing humans, who need a constant hourly rate, or robots, which has a onetime purchase few and low maintenance costs. Nonetheless, even without regards to how much presence humans have over robots in the sex industry, robots are taking customers away from the human sex workers who invest so much into their profession.

One final ethical issue that is present is the brothel businesses promising a certain result from their artificial intelligent sexbots without considering potential risks, liabilities, or variance. Consider the following fact given in the scenario:

- Sexbot brothels promise the availability of “personal companionship” without the risks to human lives inherent in the sex trade.

Although the brothels promise this, there is no guarantee that personal companionship can happen. After all, robots do not have emotion; they can do their best to use their algorithms to mimic emotion, but at the end of the day, they cannot guarantee the feelings of companionship with all their customers. In regard to the human lives part, there is also no guarantee that the implementation of sexbots will eliminate the risk of human lives in the sex trade; even if there is, sex workers accept the risk of their safety. The decision for sex workers to pursue this unique profession is no more of a risky decision than the hundreds of risks everyone in the world makes on a daily basis. Just like how a police officer accepts the risk of being killed in the line of duty, sex workers accept the risk of being subjected to the sex trade; it's not necessarily a bad thing, so brothels promising to eliminate the risk is not something that is either guaranteed nor completely beneficial.

### **Ethical Framework for Analysis**

Many ethical frameworks can be used for analysis in this case study, but the utilitarian approach is most suitable when analyzing the situation and generating potential responses. This approach says that the [most] ethical action is the one that produces the greatest balance of good over harm for as many stakeholders as possible” [2]. This approach is appropriate because whether sexbots are implemented will harm and benefit all stakeholders; it is up for debate to reason which course of action will result in the most benefit and least harm for the stakeholders. The utilitarian approach is a solid ethical framework for almost all ethical analyses because there are clear

rights and wrongs; outcomes in this case is completely objective given the due facts and leave little room for interpretation.

### **Stakeholders and Decision Makers**

The active stakeholders and decision makers in this scenario are the businesses and brothels that are implementing the sexbots. They are considered the active stakeholder and decision maker because their decision to provide sexbot services will directly affect the customer's purchasing abilities, the human sex workers, and potentially the public's perception on the town's ethicality. After all, this is a very controversial topic that is heavily criticized by the public, especially from politicians and feminist groups, as pointed out in the scenario. The businesses values change and new technologies, given that they are taking the risk to implementing a new type of prostitution that the world has never seen before, as well as their customers' right to choose between human and robot sex workers.

The second group of active stakeholders would be the customers who purchase prostitution services. Notice how I specified prostitution services instead of sexbot services; I am generalizing all customers who purchase services, including those from human sex workers and robot sexbots alike. The reason behind this generalization is because the actions of implementing sexbots into a brothel can likely make a customer go from sex workers to sexbots in a flash, or even vice versa. The customers are also considered decision makers because their decision to use sexbots over sex workers can directly impact the job status of our passive stakeholders: the sex workers. These customers value reliability and cost-effectiveness in the products they are purchasing, which makes sense since everybody wants to save money and receive the best service.

The sex workers of the brothels are the major passive stakeholder in the scenario. Their job has the potential to be lost because of the invasion of sexbots, which can even result in a loss of finances, socioeconomic status, and reputation. The sex workers are not considered decision makers because their decision to keep or quit their job will not concretely impact any other stakeholders. They value their own jobs, since it is the thing that puts food on the table and pays their rent.

The final group of passive stakeholders in the scenario would be the citizens of the town in which the sexbot brothels reside. While not apparent at first, these citizens could be greatly impacted by the publicity- good or bad- that sexbots bring to the town. In the event of good publicity, more people will come to either live in or tour the town, wanting to try out the sexbots for themselves. This creates a tourism boom and can help the economy a lot. However, in the event of bad publicity, the town will also likely receive visitors, but more so in the forms of protests. This can spell trouble for the town's residents and even make some leave for good. The citizens of the town value their reputation and livelihoods, as do everybody else in the world.

### **Rights and Duties of Stakeholders**

The decision makers have their own duties and rights that should be respected and paid attention to in this scenario, especially when handing down an ethical analysis. Let's first take a look at

the rights and duties of the business and brothels, who are implementing the sexbots. As a decision maker, they have the right to choose whether or not to implement the sexbots, and to what degree; will it completely phase out traditional prostitution, or would it exist in harmony with it? They also have the right to charge customers however much they want for it, since it is a growing business with little competition elsewhere. The duties of these businesses are simple and the same as every single other for-profit business in the world: to make as much money as possible, through any means. In this case, it would be implementing the perfect amount of sexbots to increase customer traffic and profit.

The second group of decision makers are the customers. The Consumer Bill of Rights states that every customer has four basic consumer rights- the right to be informed, the right to choose, the right to safety, and the right to be heard [3]. In this case, the right to safety means that the customer has the right to be protected against hazardous services that the sexbots may provide, especially since their algorithms could have potential bugs. Customers have the right to be informed of all possible options, as well as the details, rules, and safety concerns of interacting with the sexbot. The right to choose is arguably the most important right in regards to the customer; not only do customers have the right to choose between sexbots, but they also have the right to choose between sexbots and human sex workers. This choice can greatly impact the sexbot business and sex workers like. Finally, customers have the right to be heard; their review of the sexbots' services will receive full and sympathetic consideration in making the experience better for them in the future. The customers do not have any major duties, except to provide adequate compensation in exchange for the service of sexbots, in the form of monetary payments.

### **Values vs. Duties/Rights**

At the core of this ethical dilemma is determining whether it is more important to provide quality service to customers at the expense of dozens or even hundreds of jobs and the potential emotional turmoil for customers, or completely scrap this emerging technology despite its availability and potential for profit for the businesses.

The business's values of change harmonizes with their right to an open market, as well as their duty to make money. The right to an open market is what allows businesses like the one in this scenario to put up new products and services for their customers, while their duty to make money is the primary motivation behind everything. More change also allows customers to exercise their right to choose; in fact, the greater the number of options, the greater the likelihood that a customer will purchase a product or service that is perfect for their needs [4].

On the other side of the active stakeholder's spectrum, the customer's values of receiving reliable and cost-effective products is not guaranteed with the business's right to implement a new product in the marketplace. Since anthropomorphic sex dolls are still an emerging technology, their design and algorithms are nowhere near polished; it is very likely that they can malfunction or provide subpar services to customers in a way that is not intended. We have no information on how much it costs to rent a sexbot, so there can't be any judgement passed to its cost-effectiveness; however, it's definitely reasonable to say it is much less reliable than human

sex workers, at least in the beginning when it is still an emerging technology. In the distant future, when the algorithms and technology have been perfected constantly, then reliability may be a different story.

The value of the sex workers is one of the primary reasons of this ethical dilemma because it strongly classes with the rights and duties of both the businesses and the customers. The businesses have the duty to make the most profit, which may include ditching human sex workers in an attempt for cheaper, more modernized sexbots. The customers also have the right to choose which option is more appealing, causing many old-timers to switch from the service a human sex worker provides to one that a robot can provide for potentially cheaper and more reliable. In both perspectives, ditching sex workers for sexbots or selecting sexbots for services instead, will result in a dismissal of the values that sex workers possess in their everyday lives.

Finally, the values of the town's citizen to maintain a reputation may also clash with the rights and duties of the businesses and customers. As mentioned in a previous section, the business's right to choose to implement sexbots will lead to countless controversies that may affect the town's reputation, as well as lead to protests among other negative outcomes. However, this could also lead to a booming economy as a result from tourism and people who are looking to try this new technology. Therefore, the rights and duties of the sexbot industry may prove to be both positive and negative at the same time.

### **Principles and Virtues**

The first ethical principle in this scenario is that of autonomy. This ethical principle addresses the concept of independence and allowing an individual the freedom of choice and action. In this scenario, where so many stakeholders may be affected either positively or negatively, it is important to realize that all stakeholders have the ultimate form of choice. From an ethics perspective, the businesses have the right to choose between implementing sexbots or retaining human sex workers. Customers have the right to choose between purchasing the services of sexbots, or human sex workers. The sex workers have the autonomy of staying with their current job and competing against sexbots, or leaving the industry. Finally, the towns' citizens have the choice of staying in the town and accepting the town's reputation as their own, or moving out. With so many moving components, what's important as an ethical principle is that all stakeholders have autonomy; nobody is physically limited by anybody else. While some decisions may be more difficult than others, it's not completely out of the question; therefore, autonomy is achieved. All stakeholders should make their own decisions and act on their own ethical values.

Another important principle is that of beneficence: the moral obligation to act for the benefit of others. Someone who practices beneficence will protect and defend the life, happiness, and socioeconomic wellbeing of others. Such a principle is crucial in any ethical dilemma, and says that with everything else being equal, one's actions should benefit another. However, the world unfortunately does not work with "everything else being equal". People don't simply take actions without some sort of impact on themselves to begin with. If the impact of their beneficence is the sacrifice of one's own values, then there is absolutely no reason that they will continue to pursue

the action. If the course of action has some sort of benefit for the person and someone else at the same time, then this would be a good course of action; however, if it benefits the person but harms someone else, and not taking the action would harm the person themselves, then comes the moral question of whether it's more ethically correct to benefit themselves and hurt someone else, or vice versa. In this scenario, the decisions made by the stakeholders can often lead to benefits or harm of another; for example, the decision by businesses to implement sexbots may lead to more customers and better profits, at the cost of the jobs of human sex workers. Meanwhile, this may also increase tourism for the town and lead to a booming economy. As you can see, this aligns with the ethical framework of utilitarianism; the stakeholders must balance out the good and the bad of their actions in order to display appropriately ethical behavior.

The third ethical principle that we can bring to the table is that of justice. Contrary to popular belief, justice does not mean treating everybody the same way, but "treating equals equally and unequals unequally but in proportion to their relevant differences" [5]. Is it justice that a business has no repercussions in introducing a technology that may result in the loss of livelihood for hundreds of sex workers upfront, but potentially thousands or even hundreds of thousands across the nation as this technology spread around the world? Is it justice that although the townspeople has no say in the implementation of sexbots, that their town could be targeted by critics and protestors? And finally, is it justice that sex workers sacrifice so much of their time and money to create and maintain their profession, only to be outsourced by a robot? Justice in this scenario lies on a very thin, ragged boundary because there are no real numbers or data; its simply subjective in saying who has the upper hand.

The last important moral virtue is that of integrity and truthfulness. Many critics believe that through the use of sexbots, customers can develop a dangerous mindset regarding rape fantasies and violent tendencies. This should be something that the businesses have done research on, or at the very least, considered. Furthermore, as an emerging technology, the potential for dangerous bugs in the AI of the sexbot is high and can result in undocumented consequences. Businesses who choose to implement sexbots should be honest and truthful about the potential impacts of using a sexbot, as well as be responsible for those who develop mental illnesses or even commit crimes caused by their products.

### **Potential Responses and Projected Outcomes**

The first potential response to this situation in response to the autonomy virtue is to allow all stakeholders to make their own decision; in other words, to not regulate the implementation of sexbots at all. This response would respect all individual's autonomy, no matter the result. From a utilitarian perspective, the potential response will benefit the business the most, since they have another option to make profit that could potentially be more rewarding than using sex workers. It will not benefit nor harm customers, because although they develop another option and can exercise their freedom to choose, they are not gaining or losing anything by purchasing the services of a sexbot rather than a human sex worker. This response can either benefit or harm the citizens of the town, as mentioned multiple times previously. The introduction of sexbots may boost the economy of the town due to people nationwide that want to try the sexbots, but can also cause unwanted attention and scrutiny to the town. Finally, this response will harm sex

workers the most because they are being competed against by sexbots and could potentially lose their jobs. If all stakeholders were equal, then this potential response will result in a net balance in terms of harm and benefit; there is an equal amount of harm and benefit. However, from a long term perspective, this potential response can result in the businesses becoming very rich and powerful at the expense of hundreds if not thousands of lost jobs around the nation. From the utilitarian point of view, this response will simply not provide the best for all stakeholders involved.

The second potential response in accordance with beneficence is to advise the governing body to restrict all brothels that use sexbots as services. This relates to beneficence because it will take into account each stakeholder and do what will be the most good, or at least the least harmful to them. By restricting all sexbots, businesses will not be harmed in that they may continue to use human sex workers as a form of profit. Although using sexbots may potentially be more profit, this course of action does not cause businesses to decline or go bankrupt. Customers will also not be affected, as they can still receive reliable service from human sex workers. The sex workers will not be affected, as they will get to keep their jobs that they worked so hard for. Finally, the people of the town will not be affected at all, since life goes on as normal because of sexbots being a thing of the past. This seems like a good solution in the short term, but may not be the most viable in the long term due to one important factor that affects the economy and consequentially everybody under it: change. Progress is impossible without change, and if businesses keep this form of prostitution forever, there may be no chance for the town to adapt to the ever-changing environment. The future is unsure, but many potential long-term outcomes can occur, such as businesses losing customers due to a lack of interest.

The final potential response will take into account the ethical principles of justice as well as the moral virtue of integrity and provide a long-term utilitarian solution of this ethical dilemma, unlike the short-term one proposed in the previous potential response. The details of this response will be laid out in the following section.

### **Best Course of Action**

The best course of action as to what to do in response to an emergence of sexbots is to allow sexbots to be assimilated into the sex industry of the town, but at a highly regulated pace. The allowance for businesses to introduce sexbots to the public will benefit them in allowing more options for consumers, effectively increasing sales and eventually profit. However, regulation must be in place to make sure that all other stakeholders are benefited at an equal standard. First of all, background checks should be performed on all customers who wish to purchase the service of a sex robot. Many brothels, especially high-end ones, already implement background checks on customers to check any criminal history regarding sexual violence or child pornography, as well as mental issues and sexually transmitted diseases [6]. The brothels of this town can employ similar techniques to allow only mentally fit customers with no history of sexual violence from purchasing services of sexbots. This will solve the issue proposed by critics that sexbots can increase individual's illegal sexual tendencies and thoughts, and can potentially justify sexbots enough to where protestors and critics won't ravage the town's citizens.

Another thing that this course of action will bring is a healthier balance between sexbots and sex workers. The governing body can regulate the price of renting a sexbot so that while it is appealing, it is not appealing enough to where sex workers can completely be eliminated from the equation. Furthermore, brothels should be regulated to specialized in one type of sex work—either robot or human, instead of a mix of both. This way, brothels can dedicate all of time and money to presenting to one single source, instead of putting too much time and effort into sexbots to where sex workers are not receiving the proper care they deserve. Finally, the AI of sexbots should be thoroughly tested to make sure it does not have catastrophic bugs that may affect the safety and wellbeing of customers. This will result in two things that are beneficial to stakeholders. There will be less sexbots on the market, which means less competition for human sex workers. Also, the few sexbots that *are* on the market will be a premium quality machine that can be trusted to perform its tasks exceptionally. However, mechanical issues still may occur, so the governing body should require brothels that use sexbots to fully disclose any liability issues, terms, and conditions with customers before purchase, to eliminate potential legal lawsuits.

This course of action best exhibits the ethical framework of utilitarianism because it causes the most good for all stakeholders in the long run. It allows businesses the freedom to put whatever they want on the market and potentially turn a huge profit. At the same time, their customers are free to choose whatever product they want that suits their need, with the promise of high-quality sexbots that are polished to perfection before deployment. Sex workers also don't have to worry about losing their jobs, with the clear distinction between traditional brothels and sexbot brothels, as well as the mandatory regulation of sexbot pricings. Finally, the citizens of the town would only have to worry about the economy boom the town may see in the future; critics would be silenced by the promise of background checks on customers and more thorough testing for the sexbot software.

## Reflection and Conclusion

When thinking about three different decisions that each contributed to the situation, we have to keep in mind that emerging technologies are bound for an ethical dilemma. How can we show that such intrinsically subjective topic can be ethically concluded?

The first decision that contributed to the situation was the simple legality of prostitution in this jurisdiction. In the US, only the state of Nevada allows legal prostitution in the form of regulated brothels; all other states forbid it [7]. The decision to allow brothels in the jurisdiction was significant in causing this ethical dilemma. If it was illegal, then this entire scenario would have never happened; businesses would go elsewhere to implement their sexbots, sex workers would not exist, and the innocent civilians of the town wouldn't have to worry about repercussions. This decision would have prevented the potential harm done and follow a nonmaleficence framework, where everybody is harmed to the least degree possible

Another decision that contributed to the situation would be the businesses deciding to incorporate sexbots into the sex industry. The sole reason behind this decision is to use new technologies to rake in more profit for the business itself. This isn't unethical by itself; in fact, it is because of a duty-based principle that businesses would want to make as much money as



possible. However, the lack of ethics appear when there is little to no regards to the humans who need to work in the industry to make a living. An alternative decision to this one would be to not implement sexbots at all, and instead invest in the current sex industry and see how it can be improved to not only provide more profit, but more care for sex workers as well.

The third decision that contributed to this ethical dilemma would be the brothel's strict requirements for sex workers, which included weekly testing for STIs, regular background checks, and paying for their own medical and licensing expenses, among others. Such a lengthy and expensive procedure forces sex workers to be attached to their trade; they can't just leave in pursuit of another job if they feel like it, as they would feel like they sacrificed too much to leave. This is one of the root causes in the ethical dilemma where sex workers may be forced to quit this job they worked so hard for, because of a lack of customers due to sexbots. An alternative action to minimize the current dilemma would be relaxing the strictness of such procedures. For example, sex workers, especially those that have been in the business for a long time, should not be forced to pay for their own medical and licensing expenses. Instead, brothels should take care of those costs; they are employing the sex workers after all. Of course, weekly STI and background checks are necessary, but brothels should do all they can so that their workers don't feel pressured to stay in such a high-stress occupation.

Overall, there are no decisions other than completing illegalizing brothels that will prevent the ethical dilemma. However, there are ways to minimize the impacts of it against stakeholders, such as restricting the implementation of sexbots and promoting the treatment of sex workers.

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