

The Right to Repair: The Transition From Disposable Electronics to DIY Projects

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Problem and Significance

Computers, smart phones, washing machines, televisions, and toasters - just few of electronic devices that make modern life more convenient. As a society, we often buy the newest, most innovative appliances and rarely think about what happens to our discarded and obsolete devices. The majority of these forgotten devices, appropriately called electronic waste or e-waste, end up in giant landfills in developing countries. The rapid replacement of electronic devices is not sustainable and a desire for longer lasting products has been gaining traction. Such a transition from disposable electronics toward durable products is a more ethically responsible and sustainable model for consumer electronics. The model would reduce the amount of e-waste produced and provide companies the opportunity to respect the property rights of their customers. Through my investigation of "Right to Repair" legislation and a personal interview with a certified public accountant, I have discovered legal and economic constructions that treat consumers and the environment unethically. In order to catalyze this transition, tech companies need to enact appropriate measures in order to extend the viable lifespan of their product lines. Companies should design more repairable devices, provide maintenance documentation, support the consumer's "Right to Repair," and cease the practice of planned obsolescence.

Reduce, reuse, and recycle are widely known throughout the United States as the ways in which consumers can act in an environmentally conscious manner. According to Kevin Pink from the Center for EcoTechnology, a fourth "R" ought to be included: repair. Pink reveals the positive outcomes that result from repairing electronic devices. Among these outcomes are consumer savings, waste and production reduction, and the creation of jobs through a demand for repair professionals. Another author, Adam Minter, a blog writer for iFixitOrg, calls for his readers to support legislation that establishes a "Right to Repair" from electronics companies. He refers to the automobile industry, an industry that provides the same parts and documentation used during the manufacturing of vehicle to technicians so that they can repair cars locally. Minter cites the lack of these resources as contributing factor to why e-waste in the US ends up being shipped abroad. The iFixit website goes even further to propose a "Consumers' Bill of Rights" in which consumers have certain rights derived from the nature of their ownership of the product (Right to Repair - iFixit). Such rights include the ability to physically open any owned item, repair it, and jailbreak it. The bill also argues that the users ought to have access to documentation, repairable products, and reasonably priced repair stores. Any company that tries to limit such freedoms through obscure and deceptive legal agreements fails to properly respect the property rights of their customers and thus behaves unethically.

Planned obsolescence is an environmental nightmare. As new products are released every year or even every month, products are designed with brief functional lifespans that align with release of succeeding generations. This encourages consumers to purchase the newest, hottest products (Brinkmann). It's a good business model, because it keeps revenue flowing into the company. However, the staggering scale of the resulting e-waste renders it unsustainable under finite resource limitations. For a company to continue such practices is environmentally unethical.

The Vision: DIY Culture

I envision a society in which technological devices are maintained through the replacement of faulty modular components rather than the replacement of the entire device. In addition, individuals would have access to the appropriate parts and documentation necessary to

complete the repair themselves. Such a society would limit the influence of large corporations and empower people to use their devices, their property, as they see fit. Members of society will be encouraged to view malfunctioning devices as opportunities for do-it-yourself, DIY, projects and receive the benefits of completing such projects. According to a study focused on understanding a more active form of consumption, such benefits of DIY projects extend beyond the direct value provided by a product and “include feelings of accomplishment, control, and enjoyment that may affect the motivation to undertake future DIY projects” (Wolf). From my own experience as an aspiring computer professional and curious citizen, I can attest to the sense of satisfaction that I feel when I complete small scale personal projects. After the projects, I feel more confident in my abilities and enjoy the pleasure of autonomy. Furthermore, as more people are able to tinker and modify their devices to their own preferences, it is likely that society would benefit from homegrown innovative solutions. Of course, many people will justifiably argue that they possess neither the time nor patience to attempt most DIY projects. In that situation, they would more be have ample opportunity to seek out small scale repair shops that could quickly restore function to the device.

I maintain that a society that promotes DIY projects and enables small scale repair shops will not only respect the property rights of the citizens, but also positively affect the problem of e-waste by improving the lifespan of the device and reducing the number of discarded units each year. The “Right to Repair” is the ethical way to respect consumers and the environment.

Opposition to Change

There exists multiple challenges preventing the widespread adoption of the “Right to Repair.” I choose to focus on the legal barriers erected by end-user-license-agreements (EULAs), a company’s desire to monopolize the repair market, and the metric that measures a company’s success. First, I will investigate EULAs.

Interestingly, repair in the United States is not prohibited by copyright or patent law. The problem is that large companies employ an army of lawyers in order to reduce the ways in which a customer may use a purchased product. The restrictions are implemented through infamously EULAs that supposedly inform the individual of acceptable and banned behavior. Often, the banned behaviors include clauses that deny users the ability to customize, improve, or repair their own devices without the permission of the company. According to proposed repair reform, “EULAs are extremely difficult to negotiate even for major corporations that could be in an equal bargaining position. Consumers are helpless and need the support of the state to prevent abuse” (Sample Free Repair Bill). Extreme examples of possible abuse have been revealed in popular culture through South Park’s disgusting representation of the HumancentiPad (HumancentiPad) and GameStation’s legitimate claim to nearly 7,500 immortal souls (Brownlee). We, as a society, need a solution to change the way in which EULAs are written so that users are able to understand exactly what rights they are surrendering. From there, they can make informed decisions about whether or not to use the specific product or service.

Electronic manufacturing companies have financial incentive to ensure that they monopolize the repair and refurbishment of all of their products. Of course, many companies will not openly submit to such greed, and would rather obfuscate their intentions making repair more difficult or by claiming that repair is too dangerous for the average consumer. In order to do so, they design devices that are complicated and difficult to open up, which results in making amateur repair time-consuming and frustrating. Rather than perform repair themselves,

consumers must often ship their device to the manufacturers or specially licensed technicians. In one such example “industry lobbyists told lawmakers in Minnesota that broken glass could cut the fingers of consumers who try to repair their screens” (Koebler). Further excuses point towards the possibility of exploding or combustible components, such as batteries. These dangers are amplified when consumers lack the necessary resources to safely perform the repairs. By failing to provide the customers with proper documentation, companies fail to mitigate the dangers and reap the profits of their repair monopoly.

In order to be viewed as successful in the eyes of their shareholders, companies must demonstrate financial growth. According to Kathy Scott, public accountant and investor, companies constantly seek to increase sales to a levels higher than they were the year prior. As such, generating revenue at a consistent level year after year is not seen as acceptable and certainly not successful. In order to avoid stagnation, companies employ planned obsolescence to grow their annual sales. There exists a fundamental problem with unbounded growth - it is impossible to continue to grow under finite resource limitations. Using an analogy from biology, viruses exponentially replicate within the cells of the host, until the host can no longer function. The viruses unchecked growth ends up killing the host. Companies, like viruses, seek to grow without bound. We, as a society, must be mindful of the effects that such corporate growth has on the Earth, our analogous host.

Bringing the Change

I see the transition from disposable electronics to repairable devices as a necessary and inevitable step towards achieving sustainability for the human race. Our society needs to overcome the challenges that the transition faces and implement measures to facilitate it.

In order to overcome the legal barriers in EULAs, consumers need to be made adequately aware of the individual components of the agreements. It would be unrealistic to expect companies to outright eliminate EULAs for liability reasons. Instead, companies should aim towards user comprehension. One group, a website called CodePen, has released its terms and conditions in two languages: legalese and plain English. Legalese is the complex, ultra specific language used among lawyers when constructing legal documents. Such a language is predominantly incomprehensible to the majority of citizens. When scanning through the terms and conditions, the user is able to view the detailed legalese and a short summary in plain English side by side while scrolling through the document (“Terms of Service”). The result is an efficient way for the user to get the gist of the agreement, but also to have the ability to reference the legally binding phrasing. I believe that the legalese and plain English combination should be utilized wherever EULAs are employed. Most users aren’t lawyers and expecting them to navigate through complex legal documents without assistance is unrealistic. In addition, with the assistance of the plain English, I found that I was actually more willing to read through the entire document.

The effort to break repair monopolies has three, interconnected solutions: Right to Repair legislation, device repairability, and community generated repair documentation. Ideally, the legislation, if enacted, would require manufacturers to release device documentation and sell individual repair components, like smartphone batteries, to the general public. Additionally, the legislation would secure an individual’s right to repair, modify, or open any device that they legally own.

On the technical side, manufacturers need to redesign devices so that they can be easily disassembled and reassembled by regular tools. If the everyday consumer cannot easily open the device to get a look at the inner electronics, then that same consumer has little hope of fixing the problem on their own. Purposely making devices hard to open is an unnecessary and greed-based design decision that the consumers and governments of the world should not tolerate. I propose that devices must undergo industry specific “repairability testing” in order to quantify the ease in which the regular consumer could fix the device. If new products are unable to meet repairability standards, regardless of their innovative features, they should not be permitted to be sold on the open market. Repairability standards would emphasize the importance of repairability and push the market to reflect such values.

In the meantime, while legislation and standards take time to draft and implement, progress is being made on a daily basis by the repair community centered around iFixit. iFixit, and the work that they have done to document a wide variety of electronic devices, has provided a starting point, an example for the rest of the tech industry to follow. Users produce photographs and text that document device teardown and repair. This content has faced threats from corporate adversaries that attempt to remove the content on a claim of intellectual property infringement. Such claims lose their legal power because the users own the copyright for the photographs and associated text and legally purchased the device. The iFixit movement is representative of the people’s desire to break the electronic device manufacturers’ monopoly on repair. While the legal battle rages on for Right to Repair legislation, the individual members of the online community will continue to do their best to usher in the transition themselves - one teardown, one guide, and one device at a time.

As a society, we need to redefine what it means for a company to be successful. The current definition, focused on growth at all costs is a result of the way in which our society views progress. We see progress as new, shiner devices, new features and styles, and more money without the consideration of the cost of such a definition. I propose that we should look at progress more in terms of economic sustainability. Of course, in the infancy of a company, growth is essential in order for the company to mature, but this essential growth ought to be merely a phase, a means to an end, and an end which culminates in the betterment of society and proper stewardship of the environment. We should not measure a company by the manner in which the quantity of sales have improved over the previous year, but rather the way in which they respect their customers and consider the full lifecycle of their products from sourcing and to end-of-life and recycling. Such a redefinition of progress and success is certainly a cultural challenge, one that requires consumers to create a demand for responsible business practices and a strong corporate leader to meet that demand, create long lasting devices, and set the example for the rest of the world.

Conclusion

Tech companies need to implement sustainable business practices that respect the environment and the property rights of their customers. Consumers desire the “Right to Repair” devices that they purchase, and expect companies to assist them in such an endeavor by designing easily repairable devices accompanied with necessary documentation and access to spare repair parts. Through a redefinition of how a company ought to set its priorities and a shift toward longer product life, our society can work towards our continued enjoyment of high tech, convenient devices for years to come.

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