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Introduction

The beginning of the mass production of the typewriter in 1874 brought about a new era of repair centers - convenient locations owned by the same company that sold the machine. One could drop off their malfunctioning machine, take a rental machine while theirs is being fixed, and soon have their machine returned in like-new condition. Indeed, this business model is partly why Remington, the manufacturer of the first mass-produced typewriter, was so successful in the late 19th and early 20th century (Kreps & Wilson, 2010). The new typewriter was very expensive by the office supply standards of the time, so firms that wanted to invest in them needed them to last a long time. Additionally, these machines were incredibly complex, so having skilled technicians trained exclusively for this job ensured the repairs were done right.

Today, John Deere, similarly to nearly every other manufacturer of complex electronics and machinery, increasingly requires that repairs be done by only qualified Deere-trained technicians with original equipment manufacturer (OEM) parts (Beal, 2023). This model ensures that customers' machines continue to work like-new for decades - an important thing to consider for a brand built on durability and reliability (Turapov & Siegfried, 2021). This model also has a positive side-effect for Deere's bottom line. Indeed, while the exact numbers are not public, a Bloomberg report from 2020 suggests that Deere's income from repair services and the sales of aftermarket parts are anywhere from 3-6 times more profitable than their new machinery sales (Farmers, n.d.). For a company that reported around $2.7B in net income in FY2020 (a number which increased to $7.2B in FY2024 - a nearly 170% increase in just 4 years), there's a lot of money to be made on machines that have already been sold (Deere and Company, 2020; Deere and Company, 2024; Borenstein & MacKie-Mason, 1992).

In this study, we evaluate the ethics of Deere and Company (John Deere) as it relates to the current right to repair lawsuit being brought against Deere by the Federal Trade Commission (FTC). Section II discusses this ethical issue, starting with the background of the lawsuit, as well as the economic and legal forces behind the right to repair. Then, Deere's actions will be analyzed from a philosophical and business ethics perspective. Finally, various stakeholder groups will be analyzed to determine the lawsuit's potential impact.

Lawsuit Overview

It's safe to say that, throughout the late 2010s, consumer sentiment toward Deere was slipping. At the same time machines became more complex mechanically and more software-driven than ever, the right-to-repair movement had consumers wanting cheaper options for repairs. Eventually, in 2023, Deere caved to demand, allowing farmers and third-party repairers unlimited access to operating, parts, and service manuals, vehicle diagnostics, product service demonstrations and training, and specialty tools (American Farm Bureau Federation, 2023). The effects of this agreement are still debated. Many claim that Deere made this commitment simply to get out of legal hot water (Rimmer, 2025). The Memorandum of Understanding, or MOU, was used to buy more time to avoid stricter legal action, some argue (Rimmer, 2025). Additionally, while the MOU claimed to allow farmers and third-parties access to anything they needed to make repairs, it wasn't technically enforceable, and farmers still struggled to get the repairs they needed (Rimmer, 2025). Finally, in early 2025, a claim was formally filed by the FTC, as well as the states of Illinois and Minnesota, suing Deere for forcing consumers into high repair costs (Federal Trade Commission, State of Illinois, & State of Minnesota, 2025).

Economic Perspective

As is the case with many economic issues, the question about what to do with right to repair is far from black and white. Dortz and Wagner detail in their 2025 paper a microeconomic model of a firm, first examining results as if the firm had to share 0% of its intellectual property, or IP, then examining the results if the firm had to share 100% of its IP. Being required to release 100% of their IP would cause a significant blow to a firm's competitive advantage. According to Dortz and Wagner, by simply threatening firms with the possibility of being required to release 100% of their IP, an economic social equilibrium is reached in which firms release enough of their IP to increase competition in the repair market, while retaining enough of their IP to keep their so-called first-mover advantage.

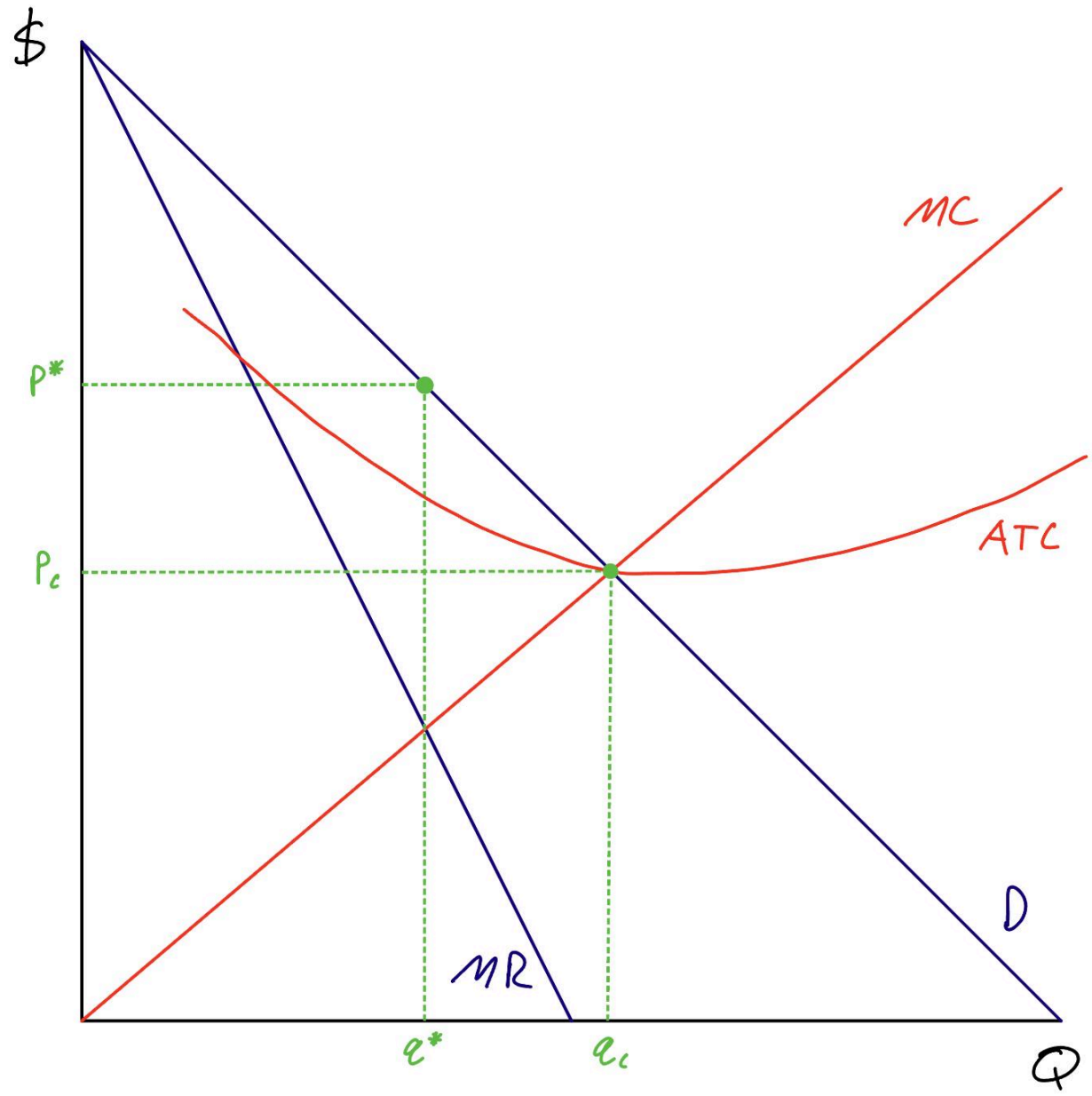
The first-mover advantage is the advantage a firm gains by being the first to develop a new product or technology; they get to operate as a monopoly in the market until others can figure out how to replicate it (Agarwal and Gort, 2001). Indeed, firms such as Deere should have a first-mover advantage, as they are the ones that invested the development money. To force a firm to release 100% of their intellectual property to the public would completely disincentivize any research and development efforts, as there would be no way for them to recoup their investment. Immediately, others would copy the technology and sell it for a lower price, driving the original developer out of business. In fact, while it took competing firms nearly 33 years to copy a first-moving firm at the turn of the 20th century, that number was already down to about 3.4 years by 1986, and has been steadily declining at around 2.9% per year (Agarwal and Gort, 2001). With no protection of their IP, Deere would very quickly stop innovating and go out of business.

Indeed, this is the beauty of the US patent system: when a firm is granted a patent, their IP becomes public record, but is protected by law for 20 years. This gives the original developer 20 years as a monopoly in the market to charge a price that will help them recoup their investment. Following that period, other firms will quickly enter the market, as the development is public record and the barrier to entry is low, and the market will move towards a more perfectly competitive solution, increasing quantity demanded and supplied while reducing price. This economic foundation is the exact reason why the US government intentionally gives a firm a monopoly over their IP when they grant a patent. The hope is that the development is successful enough to convince the firm that it is worth it to produce more ideas. While, in the short run, the creation of a monopoly through the granting of a patent reduces social welfare, the development of ideas that firm ideally undertakes as a result will increase social welfare more in the long run.

To further illustrate Deere's need for a monopoly on their ideas, we present Figure 1, which demonstrates the difference between the monopolistic and perfectly competitive equilibria. As illustrated in Figure 1, the perfectly competitive solution, denoted by p^* and q^*, allows Deere to charge a price for repairs that is above their average total cost (ATC). The reason that ATC is above marginal cost (MC) at that quantity is because of the fixed costs that Deere experiences, one of which is the development cost. As more units are sold, ATC decreases as the fixed cost is spread across more units. In the perfectly competitive solution, Deere can only charge p_c, which is also equal to MC and ATC at q_c. This means that, when taking fixed costs into account, Deere would make zero economic profit on their innovations, disincentivizing them from developing new technologies. The perfectly competitive outcome is what would result if

Figure 1

Monopoly and Perfect Competition Outcomes



Deere is forced to release 100% of their IP, as described in Dortz and Wagner (2025). The monopoly outcome is how the market currently looks, as Deere holds a monopoly on their innovations in the form of patents and trade secrets (Gallini ,2002). The proposed solution by

Dortz and Wagner (2025) would cause Deere to release a certain amount of their IP, such that the market falls in the middle of the perfectly competitive and monopoly equilibrium. This way, consumers gain from lower repair prices and better access to repair services, and Deere still maintains some economic profit on their innovation, incentivizing them to create more innovations in the future (Gilbert & Shapiro, 1990).

So, what would an economist say in response to Deere's actions, and the recent lawsuit resulting from such? It is likely an economist would say two things: first, there should be a period in which the firm is allowed to restrict access to its IP in order to give it time to make a return on its development investment, and after that period, the IP becomes public knowledge, and second, there should be a check in place, such as a threat to require a firm to release 100% of its IP, to ensure that the first point functions as intended. The first point is already thoroughly time-tested by the US patent system(Borenstein & MacKie-Mason, 1992). The second point follows what Dortz and Wagner proposed, and, as they proved, a threat like this would sufficiently increase competition and lower prices of repairs, while allowing firms to keep enough of an advantage that they are still incentivized to innovate.

As it relates to the current context, the economist's response shows a much larger solution than simply letting the current lawsuit result in a slap on the wrist for Deere. Instead, this is an opportunity to refine legislation and set an example. Instead of continuing with right to repair lawsuits, many of which end without significantly harming any stakeholders, this lawsuit could be a cornerstone of a new right-to-repair era, in which both consumers and firms have their best interests met, both now and in the long run.

Legal Perspective

Legally, right-to-repair claims draw on multiple theories: contract law (whether manufacturers can impose post-sale use restrictions); intellectual property doctrines like patent exhaustion and copyright fair use; antitrust law; the DMCA §1201; warranty law; and consumer protection law (Perzanowski & Schultz, 2011). In essence, these bodies of law are used to challenge or justify repair restrictions.

The DMCA prohibits "circumvention of a technological measure that effectively controls access to a copyrighted work" (17 U.S.C. § 1201, 2016). In practice, modern products embed copyrighted software and locks (e.g., ECU firmware in tractors), so §1201 can bar even non-infringing repair uses.

When considering warranties, the Magnuson-Moss Warranty Act prohibits conditioning a consumer's warranty on using only branded parts or service (15 U.S.C. § 2302, n.d.). This limits one justification OEMs might give for repair restrictions.

A central antitrust theory in the right-to-repair debate is that OEM repair locks can create aftermarket monopolies. Under Sherman Act §2, if a manufacturer monopolizes service-parts markets by refusing to sell diagnostic tools or parts to competitors, that may constitute unlawful monopolization or tying (see *Kodak Co. v. Image Technical Services*, 504 U.S. 451 (1992)).

Massachusetts and other states have adopted right-to-repair legislation. The Massachusetts Motor Vehicle Owners' Right to Repair Act requires manufacturers to share diagnostic and repair information with independent shops (Auto Care Association, n.d.). Voters approved a 2020

initiative requiring telematics-enabled vehicles to provide an open data platform for repair access (Massachusetts Legislature, 2020).

As of 2025, multiple states including Colorado, Minnesota, New York, and California have enacted Fair Repair laws covering electronics, and several have taken steps toward agricultural equipment repair rights (U.S. PIRG, 2023). Colorado enacted the first agricultural equipment specific right-to-repair law, with other states such as West Virginia and Vermont proposing similar legislation (U.S. PIRG, 2023).

The current federal antitrust case against Deere is one of the first major actions targeting repair restrictions (*FTC et al. v. Deere & Co.*, 2025; *Deere Repair Services Antitrust Litigation*, 2023). In short, this is a pivotal moment for the development of right-to-repair regulation and legal precedent in the United States.

Philosophical Ethics Approach

John Deere follows a very normal and generic ethics, as do most companies. A stakeholder-oriented framework that tries to balance between corporate responsibility and practical business economics, while also staying aware of other possible ethical concerns that people tend to have about businesses like business integrity, employees, company culture, and environment (Davis, 2009). Integrity is further shown as a core value by the company, which has its roots in the 1837 philosophy of its founder, "I will never put my name on a product that does not have in it the best that is in me."(John Deere) He only believed in making products that were truly as good as he could make them. (John Deere, 2025). Does John Deere fail these? From a strictly philosophical stand point no, since this they are coming under fire for strictly a business

decision, since people claim that Deere's"right to repair" goes against their claim of helping farmers, it is more complex than just yes or no, since businesses also need to help themselves (Satz, 2012). From a utilitarianist perspective Deere is doing the right thing, and considering that they aren't just thinking of one group they are also helping other people such as keeping their employees in a job, which also helps. Even though it could lead to harm to the consumers, as they might have to bear higher prices (Roy, 2023).

Business Ethics Approach

As business ethics is an incredibly expansive topic with potentially many right answers, this study starts by looking at the problem as simply as possible. The first question to ask is this: what is the goal of the firm? According to Ferrell, Fraedrich, & Ferrell (2022), the primary goal of John Deere is to maximize shareholder wealth. Considering Deere is making more from its repair and OEM parts market than it is from sales of its machines, it's safe to say that a tight grip on IP and proprietary first-party repairs maximizes shareholder wealth (Farmers, n.d.). So, if one accepts that a business' goal is to maximize the return for shareholders, then Deere wasn't being unethical. In fact, they were being very ethical.

As easy as that answer seems, that is not the only approach to business ethics. One could state that the goal of a firm is to maximize social welfare. In this case, Deere would be acting unethically. As discussed previously, when IP is closely guarded, a monopoly is created, thus leading to lower social welfare in the moment. Despite another easy answer, that may not be the full story. One can argue that this momentary reduction in social welfare could lead to a larger increase in the long run, which would make Deere's actions ethical. The money they gain by

monopolizing the repair market on their machines can be poured back into R&D to allow Deere to bring new technology to market faster, increasing social welfare in the long run.

The typical customer view has an inherent "ownership right" to control their purchased goods. If you buy a device, moral rights theorists argue you should not be barred from using it fully, including fixing it. Conversely, IP-oriented ethics give weight to creators' rights; proponents here argue inventors deserve control over their inventions. Repair advocates point to the net social good: environmental benefits, consumer savings, and competitive markets. The utilitarian argument is that the collective welfare is maximized by enabling repair. Opponents might counter with security/utilitarian claims: e.g. if improper repairs cause accidents, societal harm could result. It's a risk-cost trade-off. Just from this framework of discussion,it is just a risk vs cost, and shareholder profit vs stakeholder benefit, and what John Deere values while dealing with bare minimum ethics. Distributional ethics consider who benefits or suffers (Kujala & Sachs, 2019). Critics of repair restrictions note that they often burden smaller farmers and independent shops and create wealth disparities. Which would be true, considering that not allowing smaller farms don't have the capital to just buy new while their current one is down. So this also brings in small vs big business. While not breaking any bare minimum ethics, they do cater toward certain groups of customers. Which goes back to the discussion of what type of business ethics John Deere values, or whether they are just actually being a greedy corporation.

Owners & Management and Employees impact

When analyzing the effects of the right to repair lawsuit against Deere, it is important to analyze how owners, management, and employees might be affected. Has the impact of owners

and directors ever trickled down to management and employees or even directly came from management or employees? There have certainly been major drops in the stock price, but most of them seem to be from other outside economic forces. 2025 summer on August 14th where John Deere saw their stock drop 7 points, this actually didn't have anything to do with the looming court case for John Deere, even though a federal court on June 10th rejected Deere's attempts to dismiss the lawsuit (Neeley, 2025). Even though this case might end up resulting in hundreds of millions of dollars for deer, the drop was caused by 2 straight quarters of decreasing estimates for yearly net income and possible tariffs with president Trump now in office. Where John Deere started the year with projections of 5 to 5.5 billion in quarter 1 and fell to 4.75 to 5.5 billion in quarter 3 to 4.75 to 5.25 billion (John Deere, 2025). Plus added expenses and pressures of already placed tariffs and expected tariffs. The same can be said with employees and board of directors with evidence being very inconclusive. Although layoffs have happened recently, none of them can be traced back to unethical behavior or related to the lawsuit; rather just a mixture of the continued pressure that present and potential future tariffs are putting on the company's financials. Furthermore, the shifts of Deere moving more of its production to Mexico (Rothenberg, 2024). The only example of unethical behavior negatively affecting employees, management, and owners of Deere was on the behalf of a wholly owned subsidiary called Wirtgen Thailand, where they were bribing government officials, to get government contracts with the Department of Highways, Department of Rural Roads, and the Royal Thai Air Force. These were all labeled under business expenses for Wirtgen Thailand, and went directly against John Deere and Wirtgen Group Code of Business Conduct. John Deere was fined around 10 million dollars by the Securities Exchange Commission (SEC) in disgorgement, prejudgment

interest, and civil penalties. The company also took steps to enhance its internal compliance programs, including the termination of employees responsible for the misconduct (Cotoia, 2024). Even though this was technically fraud on the part of John Deere, other than the employees fired from Wirtgen. There was no impact on John Deere other than the $10 million in penalties, their stock saw no significant drop, and no margins within the company's quarter report were extremely different from the analysts or company projections.

Customers

The agricultural industry has changed significantly since the beginning of the Industrial Revolution. As recently as Thomas Jefferson, society largely valued small, family-owned farms (Daum & Birner, 2021). Since then, as farm machinery has gotten larger and more efficient, there has been a rise of large farms. In 2021, small farms accounted for 89% of farms in the US, but they farmed only 45% of agricultural land, and produced only 18% of total food in the US (Whitt, Miller, & Olver, 2022). Despite that study's indication that it is more profitable to run a large farm, as one would expect given the traditional rules of economies of scale, a study by Wiggins, Kirsten, & Llambi (2010) finds that it is not only feasible, but desirable to encourage the proliferation of small farms. Why is there a discrepancy between empirical economic study and real-world results? Wiggins et al. (2010) provide a possible answer: rising input costs. While they also cite the rising costs of land, seed, fertilizer, and other agricultural inputs, Wiggins et al. (2010) specifically mention that small farms' lack of access to technical assistance leaves them vulnerable to high input costs, which can lead to complete market failure (MacDonald & Hoppe, 2018).

As previously mentioned, this lawsuit is an opportunity for the government to lay down the law on the right to repair. It could run its course and slap Deere on the wrist, leaving economically desirable small farms to be victimized by high repair costs on increasingly complex machinery. Alternatively, the government could step in and provide a way forward for farmers across the country. One solution has already been discussed above, following Dortz and Wagner (2025).

Government

As discussed above, the effect of the lawsuit against Deere on the government will be, with the exception of a rounding error, zero. The reason Deere is in this position in the first place is because of lack of action by the government. Moving forward, the government should get involved, setting a precedent of requiring manufacturers to share enough information to allow farmers and third-party mechanics to make repairs on their equipment. It is clear that Deere will not take self-corrective action without government involvement. The MOU signed in 2023 has had arguably no positive impact. Additionally, Deere is not operating in an unethical manner according to many philosophical and business ethics perspectives. So, the only effective way to change their behavior is to force them into legal compliance. In short, it is time for the government to start getting involved in the right to repair.

Other Stakeholders

Independent Repair Shops and Suppliers

Independent technicians and smaller repair businesses are stakeholders adversely affected. Deere's restrictions effectively block them from servicing modern equipment, denying them income. This concentrates economic activity in Deere's authorized dealer network, which may be seen as favoring those corporate partners over smaller businesses. Ethically, limiting independent shops undermines free competition and community entrepreneurship. On the flip side, suppliers of genuine Deere parts and official diagnostic tools benefit from Deere's strategy, as sales of equipment and authorized toolkits are preserved. Suppliers of generic parts (or 3D-printable components) may suffer if Deere controls part designs.

Regulators

Public authorities including the FTC, state legislators, and environmental agencies have responded to public complaints. From a societal perspective, regulators aim to balance protecting consumers and competition against allowing companies to profit from their innovations. The FTC's involvement indicates concern that Deere's behavior may constitute an unfair practice, potentially false advertising or anti-competitive conduct under consumer protection law (*FTC et al. v. Deere & Company*, 2025; Reuters, 2025). Legislators face pressure from farmers' lobbies to enact or enforce right-to-repair rules, but also from manufacturers who cite safety and intellectual property concerns. The mixed results to date (e.g., some states exempting agricultural equipment, and only Colorado passing an agricultural-equipment-specific repair law) reflect the ethical complexity: regulators must weigh property rights against public harm.

In the European Union, recent regulations more clearly favor open repair access as a matter of public policy (European Parliament, 2024). Government stakeholders thus see both sides:

promoting innovation and safety, which tends to support Deere's position, versus fostering competition and consumer choice, which supports the interests of farmers and independent repairers.

Environment

Environmental impact is an important stakeholder concern. Deere asserts that restricting software access preserves emissions compliance and prevents tampering with pollution controls (Thompson, 2023; Massachusetts Legislature, 2020). If farmers modify emissions-related software to improve performance, that could degrade air quality. From a duty-based ethical perspective, Deere could argue it is acting responsibly to protect the environment.

Conversely, repair restrictions may increase electronic and equipment waste such as scrapping tractors that could otherwise be fixed and may slow adoption of greener practices. The FTC and environmental advocates note that longer equipment lifespans and easier servicing support sustainability goals (*FTC et al. v. Deere & Company*, 2025; Rivera, 2024). Farmers also argue that greater operational control reduces waste: repairing a tractor immediately avoids unnecessary purchases and prevents field damage from inefficient, malfunctioning equipment (Cordella et al, 2020)

A utilitarian environmental analysis must consider emissions trade-offs. If restricting repair access leads to delayed maintenance which can increase emissions from poorly tuned engines the ethical justification becomes weaker. Deere's public materials emphasize engineering rigor and

environmental protection (Thompson, 2023), implying a duty to ensure only qualified personnel perform sensitive repairs. However, independent repairers could be trained to meet those standards, meaning exclusion may be more precautionary than necessary.

Rural Communities and Broader Society

Farming communities and the public have a stake in this issue. Rural economies depend on healthy farms; when farmers incur excessive costs or crop losses, entire communities suffer (through lower investment, tax revenue, farm bankruptcies). Ethically, a policy that imposes undue burdens on family farmers can be seen as socially irresponsible. On the other hand, Deere contributes to community welfare via jobs at factories and dealerships, philanthropic programs, etc. The question is whether the net effect on society is positive. If Deere's restrictions significantly undermine farm viability, that is a moral concern (impact on food supply and rural livelihoods). Some argue the controversy even has global implications: restrictions in the U.S. could influence practices in developing nations where independent repair is the norm.

Conclusion

Ultimately, this John Deere lawsuit and ethical overview shines an essential question on modern capitalism. In an era of increased complexity driven by the integration of software into a variety of goods, what rights do the consumers maintain after purchase to repair their equipment? The answer to this question is far beyond just John Deere and its agricultural equipment. It is relevant to almost any company and their intellectual property. As this lawsuit and future regulation moves forward, the challenge will be to create a proper framework that allows

innovators to profit from their intellectual property while allowing consumers the right to fully control and maintain their purchased property. The result of this lawsuit will determine if the federal court wants the United States to lean toward a consumer-oriented model, or become a future where ownership only exists in name.

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