Companies that use a “razors and razor blades” business model typically sell a primary good (e.g., razors) that generates a profitable recurring revenue stream from the sale of complementary “aftermarket” parts or services (e.g., razor blades). Profitable aftermarket sales attract competitors, and consumers often expect aftermarket competition and choices (e.g., generic razor blades). Companies that attempt to limit aftermarket competition face a number of complex legal issues.

For example, companies often use patents, copyrights, contract rights or technical locks to limit third-party competitors from offering aftermarket goods or services. On the surface, these tactics may appear downright un-American to consumers, who tend to value lower prices and more options and often believe they have full ownership rights over any device they purchase. But many companies have intellectual property or contract rights over the technology and software they create and sell, and they often rely on aftermarket revenues to fund ongoing investments in research and development. In this way, aftermarket revenues can be the lifeblood of innovation that advances technology in highly competitive industries. Third parties may offer competing aftermarket products or services at lower prices, but they do not invest in developing technology in the long run. This tension is at the heart of challenges (legal and otherwise) facing companies that use the razors and razor blades business model.

In recent years, several would-be aftermarket competitors have launched efforts to penetrate ostensibly closed aftermarkets, attracted by consumer demand for lower prices and more choices. The following examples illustrate a legal and marketplace dynamic that is here to stay, and they offer valuable lessons for companies that seek to limit aftermarket competition.

Copyrights and the DMCA
Independent automobile repair chains, such as Jiffy Lube, have long sought access to the diagnostic software developed by automobile manufacturers to maintain modern vehicles. The manufacturers that invested in creating this software have resisted, relying principally on copyright protection and the Digital Millennium Copyright Act (DMCA), which outlaws efforts to circumvent a security measure that protects software.
In 2013, Massachusetts enacted “Right to Repair” legislation, which required auto manufacturers to provide access to diagnostic software on “fair and reasonable terms.” The following year, the major auto manufacturers entered into a Right to Repair agreement with independent repair companies, essentially adopting the Massachusetts law as a national standard and agreeing to provide access to diagnostic software on “fair and reasonable terms.”

In the wake of that agreement, advocates on both sides have turned their attention to proposed DMCA exemptions that would allow access to embedded software that can be used to diagnose, repair or even personalize vehicles. These exemptions were proposed by groups representing consumers and independent repair companies that argue, among other things, that open access would foster innovation through “tinkering” and create more options for consumers.

Not surprisingly, manufacturers oppose free access to their copyrighted software, arguing that consumers have only a limited license to use the software and citing their ongoing investments in software development, as well as concerns about safety and security. Indeed, in late July, Wired magazine chronicled a demonstration in which hackers, from the comfort of a couch, used an Internet connection to access onboard software and take control of a Jeep Cherokee, disabling the car and causing it to stall on the highway. Soon after, Fiat Chrysler issued an unprecedented recall for 1.4 million Jeeps and other vehicles due to the hacking concerns.

The battle over access to vehicle software is only one conflict in a wide-ranging Right to Repair campaign. State legislatures in New York and Minnesota currently are considering “Fair Repair” bills, which would require manufacturers to make proprietary repair and diagnostic tools for all manner of electronic devices available to consumers and independent repair companies on the same “fair and reasonable terms.”

**Patents**

Manufacturers also rely on patents to safeguard aftermarket revenues. For example, when a manufacturer holds a patent on aftermarket replacement parts, it controls the production, sale and use of those parts. Recent legal developments, however, suggest that patent rights may soon be limited.

The precedent was established in 1992 by the U.S. Court of Appeals for the Federal Circuit in *Mallinckrodt v. Medipart*. Mallinckrodt made patented medical devices used by hospitals to spray radioactive mist into patients’ lungs to treat pulmonary disease. The company made it clear to its customers that the devices should be destroyed as biohazardous waste after a single use. Nevertheless, a third-party provider developed a business of sterilizing and reconditioning the devices for reuse by hospitals. Mallinckrodt sued, and the Federal Circuit ruled that it could bring patent infringement claims if the single-use restriction (1) was disclosed to its customers as a contractual condition of the sale; (2) falls within the scope of the patent; and (3) does not facilitate an antitrust violation, like tying or price-fixing.

The U.S. Supreme Court’s opinion in *Quanta Computer v. LG Electronics* (2008), however, contains language suggesting that patent holders may be unable to claim infringement based on violations of disclosed post-sale restrictions. Seizing on that language, third-party providers appear poised to overturn Mallinckrodt, thus ending patent infringement claims based on post-sale restrictions.

Specifically, federal district courts in Kentucky and Ohio recently concluded that printer manufacturer Lexmark cannot rely on single-use restrictions to bring patent infringement claims against third parties that refill and resell patented Lexmark toner cartridges. The second of these cases is now on appeal to the Federal Circuit. In April, after oral argument, the Federal Circuit decided to hear the case en banc and asked for briefing on whether the Supreme Court has implicitly overruled Mallinckrodt.

Because federal appellate courts typically require an en banc panel to reverse a prior decision, the court may be poised to change course and side with the third parties.

Indeed, since the en banc order, there has been a flood of support for the third parties through amicus curiae briefs advocating for the end of post-sale patent restrictions, including briefs from the same groups advocating for DMCA exemptions.

**Antitrust Issues**

Lacking patent or copyright protection, some manufacturers rely on technical locks to protect their aftermarket businesses. Keurig Green Mountain (Keurig) has been at the center of an aftermarket firestorm since August 2014, when it introduced its “Keurig 2.0” single-serve coffee brewing system with an integrated scanner that rejects refillable or unlicensed coffee pods.

In true razors-and-razor-blades fashion, Keurig’s profitability depends on the sale of its “K-Cup” coffee pods. Keurig sold more than 9 billion K-Cups in 2014, and its revenue from selling K-Cups is more than triple its revenue from selling coffee brewers. But since
Keurig’s K-Cup filter patents expired in 2012, at least nine different third-party competitors have sold Keurig-compatible coffee pods. Like Lexmark, Keurig brought patent infringement claims against third parties, including claims based on post-sale patent rights, but federal courts rebuffed those claims.

Unable to rely on patent rights, Keurig released its 2.0 brewer and announced that it would operate as a closed system that accepts only K-Cups. Keurig brewer sales fell precipitously, and customers who did purchase the new brewers found ways to work around Keurig’s scanner. Sellers of third-party coffee pods also found ways to defeat the lock, including a “Freedom Clip” that one coffee pod competitor provides free of charge. In May 2015, facing considerable pressure from its customers, Keurig capitulated and announced that it would reinstitute refillable pods by late 2015, and also that it plans to expand third-party licensing efforts.

In addition, Keurig is embroiled in antitrust litigation brought by third-party sellers of aftermarket coffee pods and consumers. The plaintiffs allege, among other things, that Keurig has unlawfully monopolized or attempted to monopolize an aftermarket for Keurig-compatible coffee pods.

Generally, a plaintiff in an aftermarket antitrust case must prove that competition in the primary market (e.g., coffee machines) does not discipline a manufacturer’s conduct in the aftermarket (e.g., Keurig-compatible coffee pods). To do so, plaintiffs typically are required to establish that consumers were “locked in” by their investment in a costly primary good and then exploited through aftermarket prices or policies that they were unable to anticipate at the point of sale. Consequently, an aftermarket restriction disclosed at the time of sale generally does not violate the antitrust laws, particularly when such a restriction is a contractual condition of sale.

It will be difficult for the plaintiffs suing Keurig to prove that Keurig is a coffee-pod monopolist that has enough market power to exploit its customers. There is a real question about whether consumers are locked in to Keurig 2.0 brewers that retail for less than $200, and Keurig announced from the outset that its 2.0 brewers would accept only K-Cups. Indeed, Keurig’s capitulation to competitive pressure and consumer demand for more coffee pod options is strong evidence that it lacks monopoly power. Keurig ultimately may prevail in defeating the antitrust claims it faces, but only after prolonged complex litigation and attendant legal fees.

The Bottom Line

There is a rising tide of consumer dissatisfaction with manufacturers’ efforts to prevent aftermarket competition—manifested by the Right to Repair movement, the flood of amicus curiae briefs in the Lexmark case and the consumer backlash to Keurig 2.0.

Third-party providers and manufacturers each offer their own potential benefits to consumers. In the short term, third-party providers offering lower prices and more choices make a compelling case that their interests are aligned with consumers. But in the long term, the technological innovation that consumers value depends on companies that make huge investments in research and development to remain competitive, and those companies often rely on aftermarket revenues to fund that innovation.

So long as they do not run afoul of antitrust law or other consumer protections, companies can rely on intellectual property rights to protect aftermarket revenues. But the proposed DMCA exemptions and recent developments in patent litigation threaten to limit those rights. Companies that lack intellectual property rights may devise other means to protect aftermarket revenue streams, including technological locks, but they face antitrust risk.

Ultimately, point-of-sale transparency is the key. With proper guidance to navigate through the legal minefield, many companies can secure aftermarket revenue streams by making an aftermarket restriction a contractual condition of sale, thereby establishing contract rights that can be enforced against customers and third parties while at the same time reducing antitrust risk. But companies that adopt this approach also must be willing to face at least short-term pushback from customers who desire lower prices and more options. Companies also must accept the possibility that their competitors will differentiate themselves by disavowing similar aftermarket restrictions.

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