

CASE STUDIES

COLLEGIATE LICENSING

Intellectual property accounts for about 40 percent of the net asset value of all corporations in the United States.¹ One method of extracting value from these assets is by entering the licensing market for trademarks and copyrights, which involves a hundred billion dollars globally per year. The potential of this market is not limited to traditional firms and for-profit enterprises. Companies specializing in collegiate-sports licensing have been helping colleges and universities maximize revenue through licensing deals. Given that they are institutions that specialize in the creation and cultivation of knowledge and expression, universities and colleges should naturally be attuned to the potential that exists in these activities related to intellectual property.

The Collegiate Licensing Company

Founded in 1981, the Collegiate Licensing Company (CLC) is the oldest and largest collegiate licensing agency in the United States.² The company provides licensing and marketing services for its clients, which include two hundred universities and colleges.³ The CLC's clients sell more than

three billion dollars in merchandise annually. In 2007, IMG Worldwide acquired the CLC and subsequently purchased ISP, another collegiate-sports marketing firm with sixty college clients.⁴

Revenue Streams

Table 1 lists the top-ten CLC-affiliated institutions according to the royalties received on merchandise sold. Unfortunately, the CLC itself does not provide data on the amount of revenues that each institution received. Some universities, furthermore, jealously guard the total amount of royalties earned by their licensing programs.⁵ Nevertheless, data from other institutions provides an estimate of the size of these revenue streams. The University of Texas at Austin is easily the top seller of branded merchandise among the CLC's clients, pulling in over \$10 million in 2010. By comparison, Ohio State, the top seller among non-CLC schools, made about \$8 million.⁶ Although data on the bottom half of the top ten is sparse, Auburn University, an institution with approximately the same size student body as the University of Tennessee, received \$3.4 million in royalties in 2010.⁷

Table 1 Top CLC colleges, by royalties

College	Royalties
University of Texas at Austin	\$10.15 million ^a
Louisiana State University	\$4.9 million ^b
University of Florida	\$4.8 million ^c
University of Georgia	\$4.75 million ^d
University of Michigan	\$4.1 million ^e
University of North Carolina	\$4.2 million ^f
University of Tennessee	\$3 million ^g

Notes: a. John Maher, “Horns’ \$10.15 Million in Royalties Top List,” Austin American-Statesman, August 27, 2010, available at <http://www.statesman.com/sports/longhorns/horns-10-15-million-in-royalties-top-list-884171.html>; b. Louisiana State University Trademark Licensing Office, Brian Hommel email, dated February 24, 2011; c. University Athletic Association, Inc., University of Florida, 2010–2011 Operating Budget, available at http://www.uaa.ufl.edu/uaa/Executive_Summary_2010-2011.pdf; d. University of Georgia, Office of Fund Administration, Licensing, Contracts, Mary Beth Crumley email dated February 24, 2011; e. University of Michigan, FY 2011 University of Michigan Department of Athletics Operating Budget, available at <http://www.regents.umich.edu/meetings/06-10/2010-6-X-17.pdf>; f. Eric Ferreri, “Big Sports Wins Mean Big Money for Campuses; Royalties Pay for Scholarships,” News and Observers, April 25, 2010; g. Telephone interview with Michael Keener, University of Tennessee Office of Trademark Licensing, February 24, 2011.

A Range of Licensing Options

When you think of collegiate licensing, certain product categories make sense intuitively. It seems obvious to place the trademark of the licensing university on apparel, for example. Sure enough, royalties from apparel make up the bulk of the CLC's royalties. Yet in 2008–2009, royalties from nonapparel products accounted for 40 percent of the CLC's royalties.⁸ The largest royalty-generating nonapparel category was video games, with EA Sports representing the single-largest licensee.⁹ What might surprise you is the range of products that lend themselves to increased sales when combined with the strong brand of a college or university. Almost any type of product can become a market for collegiate licensing, including paper goods and printed matter, household utensils and glassware, toys and sporting goods, and education and entertainment services.¹⁰

Colleges and universities face a range of options when it comes to brand licensing. One question is what aspects of their identity should be trademarked in the first place. Registering a trademark confers several benefits, including greater remedies for infringement and the option of recording the mark with US Customs, which can then seize shipments entering the United States with infringing products.¹¹ Because colleges and universities are often comprised of many items that each can be potentially trademarked—for instance, names of stadiums, uniform

and helmet designs, and color schemes—but only limited funds to spend on registration, it is important to determine which marks should be registered, and the classes of products to which those registered marks should be applied. Given the lucrative nature of collegiate licensing, the maintenance of a trademark portfolio and attendant licensing deals is an endeavor worth pursuing.

Syracuse University successfully navigated a variety of trademark-development issues. Its example is illustrative. The challenge that the university faced was to develop a consistent brand identity. Since its founding in 1890, Syracuse has seen its brand identity undergo at least ten alterations, each time changing the logo, mascot, name, or some combination thereof.¹² Syracuse had tried multiple times to create a consistent, successful identity, but it was not until 2004 that the university finally had success when it hired Nancy Cantor as chancellor and appointed Daryl Gross as athletic director.¹³ Once the two settled on a logo that they felt adequately drew on the traditions of the athletic program—the block S—their team had to research similar identifying marks used by other universities.¹⁴ Michigan State University, which also used a block S, albeit in forest green rather than the orange with blue outline desired by Syracuse, presented a potential problem.¹⁵ After initially refusing to enter into a coexistence agreement, Michigan State eventually agreed not to challenge Syracuse's use of the block S, provided it was used with some

mark that would signal to audiences that it belonged to Syracuse and not Michigan State University.¹⁶

Issues in Collegiate Licensing

Collegiate licensing raises the potential erosion of a college athlete's ability to control their image. In 2010, Sam Keller, former University of Nebraska and Arizona State quarterback, sued video game publisher Electronic Arts, the National Collegiate Athletic Association, and the CLC, claiming that his image was being used illegally.¹⁷ Although the National Collegiate Athletic Association amateurism rules prohibit the endorsement of products by college athletes, the players' physical features, jersey numbers, and playing styles are closely duplicated in video games.¹⁸ The case presents the difficult question of when "a person's right to control [their] image trump[s] the free-speech rights of others to use it."¹⁹ Powerful groups have joined each side: the Motion Picture Association of America, Gannett, ESPN, Viacom, the First Amendment Coalition, and the First Amendment Project in the camp of Electronic Arts, and the players' unions for baseball, basketball, football, hockey, and soccer along with the Screen Actors Guild and the AFL-CIO on Keller's side.²⁰

Collegiate licensing also raises the possibility of infringement from other actors. Many apparel retailers sell

knock-off versions of what is otherwise properly licensed apparel. Smack Apparel, for example, sold T-shirts featuring the color schemes of collegiate institutions without obtaining a license.²¹ The US Court of Appeals for the Fifth Circuit affirmed a district court decision against Smack Apparel, holding that the company's use of the institutions' colors constitutes trademark infringement as a matter of law.²²

Infringement of the rights of colleges and universities can originate from unexpected sources. Consider the fact that many high schools have mascots and logos that sometimes intentionally bear a striking resemblance to those used by major colleges and universities. Glades Day School, for example, used a gator mascot and logo that were nearly identical to the University of Florida's.²³ In the past, these types of infringements would go largely unnoticed, but now the Internet makes the identifying marks of high schools around the country readily available. Certainly, colleges do not relish the prospect of forcing typically smaller, less-powerful high schools to change their designs. Colleges and universities often don't want to appear to be overly aggressive litigants, but at the same time, they fear that selective or weak enforcement can result in a loss of trademark protection or diminution of the value of the licenses that it might sell in the future.

FOLLOW-ON BIOLOGICS

The rise of generic pharmaceuticals has resulted in large price reductions as well as numerous opportunities for large and small drug companies. Now, provisions in the new comprehensive health care law combined with a wave of patent expirations on major biologics are opening the door to companies interested in pursuing generic versions of brand-name biologics, known as follow-on biologics or biosimilars. Perhaps the best example is the case of Merck's investment in and creation of a follow-on biologics unit, Merck BioVentures.

Biologics

Most drugs fall into two categories: small and large molecules.¹ Common pharmaceuticals such as Tylenol and Lipitor are small molecules; they consist of only dozens of atoms and may be reproduced exactly through well-understood chemical processes.² Biologics comprise the latter category. Unlike traditional pharmaceuticals, biologics are complexly structured, typically made up of millions of atoms, and are produced from living cells through biological processes.³ Thus, generic versions of traditional pharmaceuticals are relatively easy to produce once the

patent for the original drug expires. Biologics, however, face considerable, perhaps even insurmountable, technical challenges to the development of products that are truly equivalent to their brand-name counterparts. For this reason, these products are usually referred to not as “generic” biologics but rather as follow-on biologics or biosimilars.⁴ Apart from a description of these differences, a precise definition of the term biologic is hard to devise. The Public Health Service offers the following definition, albeit for a “biological product” rather than for biologic per se: “a virus, therapeutic serum, toxin, antitoxin, vaccine, blood, blood component or derivative, allergenic product, or analogous product, or arsphenamine or derivative of arsphenamine . . . applicable to the prevention, treatment, or cure of a disease or condition of human beings.”⁵

Despite the challenges involved in the production of follow-on biologics, the industry is expected to grow significantly in the coming years. The size of the biologics market has already been estimated at fifty-two billion dollars, with a growth rate faster than any other sector of the pharmaceuticals market.⁶ Furthermore, patents on several major biologics are set to expire in the next ten years, representing a market value that could be as high as fifty billion dollars.⁷ The new regulatory authority created by the Patient Protection and Affordable Care Act (PPACA) in March of 2010 also allows the FDA to license follow-on

biologics.⁸ These favorable market and regulatory trends have led many firms to consider developing new follow-on biologics.

The PPACA

For traditional pharmaceuticals, the Drug Price Competition and Patent Term Restoration Act of 1984, commonly called the Hatch-Waxman Act, governs the introduction of generic versions of off-patent brand-name drugs.⁹ The Hatch-Waxman Act allowed for expedited marketing approval for generics by eliminating the need for expensive and time-consuming clinical trials in most cases.¹⁰ Two expedited approval pathways are available: section 505(j) for generic drugs with the *same* active ingredient as the brand-name drug, and section 505(b)(2) for generic drugs with a sufficiently *similar* active ingredient as the brand-name drug.¹¹ Nevertheless, because it is nearly impossible to create biologics that are exactly the same as their brand-name counterparts, and the regulatory pathway for similar generics under 505(b)(2) still requires that the applying company submit additional data to demonstrate safety and effectiveness, many companies with follow-on biologics are unable or unwilling to take advantage of these provisions.¹²

The PPACA aims to allow for an analogous process in the case of follow-on biologics. The act requires an application to provide data from clinical studies to demonstrate the safety and potency of the follow-on biologic in situations where the brand-name drug is licensed for use.¹³ The Secretary of Health and Human Services may waive the clinical studies requirement, however, along with other required elements of the application.¹⁴ They may then designate the drug in question as either a biosimilar or “interchangeable” depending on the degree of similarity.¹⁵ The act also provides twelve years of data exclusivity, during which no application for a follow-on biologic will be approved after the brand-name drug’s licensure date.¹⁶

Yet the act does not remedy all challenges facing the development of follow-on biologics. For example, rather than developing new follow-on biologics, firms might try to create new biologics by making small modifications to the manufacturing process for existing ones, thereby receiving an additional twelve years of data exclusivity.¹⁷ Some industry leaders also see twelve years as an insufficient time period to incentivize research and development.¹⁸ Finally, the expense may bar all but the largest firms from developing follow-on biologics. According to the Federal Trade Commission, follow-on biologics are expected to take between eight to ten years to develop, and cost between one and two hundred million dollars, while

small-molecule generic development typically costs between one and five million dollars.¹⁹

Merck

Merck's plans for follow-on biologics offer a prime example of a large, established biotechnology company taking advantage of the opportunities provided by the changes in the biologics market. In 2008, Merck announced plans to launch a new unit, Merck BioVentures, dedicated to developing follow-on biologics.²⁰ Dick Clark, Merck's CEO, believes that the company "can become the leading provider of high quality, competitively priced follow-on biologics."²¹ At a business briefing in 2008, the company indicated that it planned to spend \$1.5 billion in order to reach its goal of producing six new follow-on biologics by 2012.²² Merck's announcement stood in contrast to that of its big pharmaceutical brethren, of which only Novartis and Teva Pharmaceuticals had created divisions aimed at follow-on biologics.²³

A key step in the advancement of Merck's follow-on biologics program was the acquisition of Insmed for \$130 million in 2009.²⁴ A developer of follow-on biologics focusing on niche markets, Insmed's fifty-thousand-square-foot office based in Boulder, Colorado, and staff

of seventy protein experts are expected to benefit Merck substantially.²⁵ Interestingly, Insmed's acquisition was the result of a unique viral marketing campaign that saw Insmed's scientists appear on YouTube to tout the benefits of follow-on biologics.²⁶ Merck had also boosted its follow-on biologics program in 2006 when it acquired Glycofi, a biotechnology company based in New Hampshire.²⁷

Still, Merck's BioVentures program also suffered a setback in 2009 when it announced the cancellation of a much-publicized follow-on biologic for Amgen's Aranesp, an antianemia drug, due to lengthy and expensive safety testing.²⁸ At the time, Merck's head of research and development maintained that the company had two other follow-on biologics in clinical development, and expected about five to be in the final stages of testing by 2012.²⁹ Merck also gained competition in the follow-on biologics market from Pfizer, which is planning to launch two follow-on biologics in the next four or five years, and ultimately plans to have ten to fifteen available.³⁰

Merck's foresight has situated it to be a leader in the follow-on biologics industry. Indeed, it appears that the current status of the follow-on biologics industry can be described as a "two-horse race" between Merck and Israeli pharmaceuticals giant Teva for market dominance.³¹ The competition between these two companies also demonstrates the high barriers to entry that characterize the follow-on biologics market. In the words of William Marth,

president and CEO of Teva's North American branch, "What you need to invest to get into that market [is] \$100 million to \$150 million per product entry, and . . . eight to 10 of them in your basket in order to come to the market with a really powerful offering."³²

INNOCENTIVE

Whether you call it crowdsourcing, open innovation, or the wisdom of crowds, the collaborative approach to innovation is becoming a force.¹ Businesses, individual inventors, and government bodies are increasingly employing the tactic. After having set aside any sense of paranoia about protecting their intellectual property rights, these leaders are turning to customers, competitors, and even the public at large for inspiration in solving a host of technological as well as design problems.

Sometimes firms with a problem turn directly to the crowd for help in finding a solution. For example, Rob McEwen, chief executive of U.S. Gold, asked the public for help in finding gold when he was the head of a Canadian company called Goldcorp. McEwen published all the mining data, maps, and geologic information relating to Goldcorp's property on the company's Web site, and offered \$575,000 to anyone with suggestions on how the company could find six million ounces of gold.² More than fourteen hundred people from fifty countries responded, identifying fifty-five new drilling sites.³ In the aftermath of this experiment, the company's value shot up from seventy million to six billion euros.⁴

More often, though, firms turn to companies like IdeaWicket, NineSigma, and Napkin Labs, all of which act as innovation “middlepeople” by connecting seekers with solvers.⁵ The best known of these entities is InnoCentive, a company founded within Eli Lilly in 2001 that became independent in 2005.⁶ InnoCentive strives to “help companies innovate better, to find the fastest path to solutions.”⁷ Firms that want to take advantage of InnoCentive’s services first post a project by constructing a detailed list of their goals. InnoCentive’s community then selects projects to “solve” from among those listed. The result can be hundreds of ideas for the firm’s technological or design problems.⁸ The prize money for the best ideas, which serves as an inducement for the problem solvers, ranges from five thousand to a hundred million dollars.⁹ The solvers come from 175 countries. More than one-third of them have doctorates.¹⁰

Dwayne Spradlin, president and chief executive of InnoCentive, says that for many companies, embracing open innovation requires a large cultural shift.¹¹ Two particular concerns are that companies that post information about their problems risk giving valuable information to competitors, or that a solver will devise a useful solution but refuse to hand it over to the organization that initially sought it. So far, neither concern has materialized.¹² In fact, InnoCentive appears to have been remarkably suc-

cessful. Giants like Procter and Gamble and even the US government have turned to the InnoCentive community for help in solving their problems.

The National Aeronautics and Space Administration

When the Space Life Sciences Directorate at the National Aeronautics and Space Administration's (NASA) Johnson Space Center in Houston needed solutions to a variety of astronaut health and performance issues, it turned to InnoCentive and its network of over two hundred thousand problem solvers. Jeffrey R. Davis, the director of the Space Life Sciences Directorate, believed that "accelerating the solutions to problems which affect astronauts will have a major impact on the future of our space program." Spradlin shared Davis's enthusiasm: "InnoCentive is pleased to work with NASA to apply the power of open innovation and the expertise of our Solver community to explore new approaches to significant problems in the aerospace industry."¹³

Three challenges were initially posted.¹⁴ They were won by Yury Bodrov, a scientist from Saint Petersburg, Russia; Alex Altshuler, a mechanical engineer from Foxboro, Massachusetts; and Bruce Cragin, a retired radio frequency engineer from Lempster, New Hampshire. Bodrov proposed a new, lightweight, flexible graphite material for food

packaging that can maintain food quality over a three-year shelf life. Altschuler suggested an aerobic and resistance exercise device that allows astronauts to exercise under limited or zero gravity. Cragin designed a solution that allows for the prediction of solar radiation during a twenty-four-hour forecast window with 75 percent accuracy.

NASA's Innovation Pavilion on InnoCentive recently listed seven challenges, ranging from designing a process for tracking medical consumables used from medical kits to determining the optimal method of coordinating swarms of sensors to collect data on extraterrestrial environments.¹⁵ The prize amount for the challenges ran from fifteen to thirty thousand dollars, and the number of solvers ranged from a low of 174 to a high of 598. Currently, all the challenges have either been awarded or are under evaluation.¹⁶ Yet the partnership between NASA and InnoCentive shows no signs of ending, ensuring that “anyone with interest and ability can impact how the U.S. explores the final frontier.”¹⁷

BP

When an explosion at a BP-owned rig unleashed the largest oil spill in US history in the Gulf of Mexico, InnoCentive decided to launch a challenge seeking ideas to help the company with cleanup.¹⁸ InnoCentive's community of

problem solvers has dealt with similar issues before. In 2007, it devised a method of removing frozen oil from the bottom of Prince William Sound after the Exxon Valdez oil spill—a problem that had gone unsolved for twenty years.¹⁹ For the BP challenge, InnoCentive saw its fastest response ever, with over a thousand solvers registering to work on the problem—61 percent of whom had PhDs or master’s degrees. More impressive was the fact that this response was generated without the aid of any financial inducement. “In a crisis situation we thought our network would get involved because it was the right thing to do,” said Spradlin.²⁰

Spradlin and InnoCentive reached out to BP with their suggestions. BP was at first receptive, identifying the remote sensing of oil and better skimming technology as two areas where InnoCentive’s solutions could be most helpful.

The open-innovation approach to problem solving is not always met with open arms. BP ended up declining to cooperate with InnoCentive—this time around, anyway. On June 19, 2010, BP said that an agreement with InnoCentive would be “too complex and burdensome,” and rejected its solutions. In a blog post on Perspectives on Innovation, Spradlin responded: “These agreements are simple, allow us to use BP’s name without InnoCentive taking on liability, and set the price of engagement at \$0.” Nor were InnoCentive’s ideas the only ones rejected. Over

a hundred thousand other suggestions were sent to BP's offices in Houston. BP claimed that "nearly all are impossible, impractical, obvious or likely to make things worse."²¹

Spradlin, however, did not end up feeling completely dejected from the experiment with BP. The impressive response from InnoCentive's community gave him confidence in the network's capacity to mobilize itself to assist with future emergencies. "We know we've got an ability to tap bright minds in a variety of crisis situations. . . . Now we can prewire some of these things that will allow us to use them on demand," he said.²²

MUSEUM LICENSING

Given that intellectual property accounts for about 40 percent of the net asset value of all corporations in the United States, for-profit entities have frequently had to contend with issues related to it.¹ Still, nonprofits with a connection to knowledge and ideas, such as museums, can also benefit tremendously from seriously considering their approach to intellectual property. These institutions are akin to the media companies, software firms, and biotechnology entities that have such strong interests in intellectual property in the for-profit context. Though it may seem counterintuitive, an open intellectual property strategy may be more beneficial for museums than for for-profits in the information business, because the mission of cultural heritage organizations extends beyond revenue creation to include preserving and disseminating ideas, expression, and knowledge. The following examples demonstrate how licensing and branding can benefit museums, licensees, and the public at large.

What Kinds of Intellectual Property?

All types of organizations have an intellectual property portfolio, and museums—which at their core, are in the

knowledge-dissemination business—are no different. For example, every museum has a brand that it must consider. Most obviously, museums also have the materials in their collections, along with the unique knowledge, expression, and ideas that surround their collections and exhibits. Museums may license their brand or loan the works that they hold, thereby obtaining revenue while increasing the dissemination of knowledge and expression. They may also license their brand or associate with the brand of another museum, as was the case with the Louvre in 2007.

The Louvre

The Louvre is one of the world's most recognizable museums. Its brand alone is tremendously valuable. In 2007, the French government agreed to lease the name, art, and expertise of the Louvre to a new museum in Abu Dhabi called the Louvre Abu Dhabi.² The agreement covers a thirty-year period, and the amount to be paid to France totals nearly \$1.3 billion, divided among the following payments: \$525 million for the Louvre brand name; \$247 million for art loans; \$214.5 million for the Louvre's management advice; \$253.5 for special exhibitions; and a \$32.5 million donation to refurbish one of the Louvre's wings in order to display international art.³ After twenty years, the Louvre Abu Dhabi will adopt its own name.⁴

The new Abu Dhabi museum will gain much more than the Louvre's name. Another component of the IP at the Louvre—the Louvre's unique artwork holdings—will also be making the trip to the United Arab Emirates, at least for a period of time. France will lease between two and three hundred artworks to the Louvre Abu Dhabi over a ten-year period.⁵ The art includes the painting *Esther Fainting before Ahasuerus* by Jean-François de Troy, and two Édouard Manet works, *The Bohemian* and *Still Life with Bag and Garlic*.⁶ For Abu Dhabi, acquiring the rights to use the Louvre's name is a great way to give credibility to a fledgling museum and gain an international spotlight for the city's twenty-seven billion dollar tourist and cultural development on Saadiyat Island, which also includes a Guggenheim Abu Dhabi, for which the Guggenheim brand had to be licensed too.⁷ In return, France gains a source of investment for its museums as well as a "way of enhancing [the] country's image," said the French culture minister.⁸

But the arrangement is not without opponents, who feel that the government has moved too far toward commercializing its cultural institutions. Forty-seven hundred French traditionalists signed an online petition objecting to the arrangement.⁹ Overcommercialization is a concern for any cultural heritage organization. Any museum pursuing similar ventures would be wise to ensure that its forays into brand development and exploitation do not compromise its essential message and function.

Product Licensing

A museum does not need to be world renowned to benefit from its brand. In fact, certain qualities inherent in the concept of “the museum” can be utilized by most institutions. Visiting a museum brings to mind an educating, uplifting experience—a cultured, sophisticated pursuit—and many businesses would want to associate their products with such a notion.¹⁰ Steven Schwartz, vice president of the licensing agent for London’s Victoria and Albert Museum, describes the museum brand as “a credibility and an authority that comes with giving a gift or buying something for yourself that has this heritage behind it.”¹¹ One might refer to this connection of the museum’s brand with additional products as “brand extension”: “the use of an established brand name to enter a new product category.”¹² A recent study on brand extension in the arts recommended that the product introduced be simple to fabricate (a calendar), congruent with the organization’s business activities (a calendar that highlights artists’ birthdays), and cobranded (a Musée du Louvres calendar by Hallmark).¹³

The Victoria and Albert Museum uses its collections as starting points for new products, allowing licensees to use the museum’s brand, or translate material from the museum’s archives into commercial and marketable themes. For example, an art deco exhibit in 2003 attracted 360,000

visitors, which in turn drove an art deco trend that boosted sales for licensees within the museum shops.¹⁴ Other highlights of the licensing program include “ceramic marble coasters inspired by Neoclassical urns from the museum’s collection,” and “a furniture collection with 18th-century echoes from John Widdicomb Inc.”¹⁵ Manhattan’s American Folk Art Museum has used licensing to generate revenue since 1978, resulting in licenses with Andover Fabrics for printing fabrics designed for home sewing, Chronicle Books for notecards, Photo Folio for post-cards, Fun Quilts for limited-edition quilts, Galison/Mudpuppy Press for puzzles and stationary, Lees Pure Teas for teas in fancy tins with images from the museum’s collection, Mammy Gift Wrap for gift wrap and accessories [from] Mary Meyer for Christmas tree ornaments and wooden nutcrackers, and Ozone for socks.¹⁶

Branding

Branding refers to “the process of delivering a clear, consistent message about an organization over a period of time.”¹⁷ A museum’s brand development program need not be as extravagant as the deal concluded by the Louvre Abu Dhabi. Empirical data support the claim that brand development can be accomplished with relatively little cost. One researcher studied the Fine Arts Museums of

San Francisco, the University of California at Berkeley Art Museum and Pacific Film Archive, and the Asian Art Museum in San Francisco. She found that the key factor in successful branding was not the amount of money spent but rather the effectiveness of the museum's message, concluding that "branding can be a low-cost mean[s] for promoting and communicating a museum's identity and mission."¹⁸

Brand development might be as simple as designing a better Web site. London's Natural History Museum employed the Internet in 2004 to "broaden its appeal online with a site that applies its brand consistently, is more easily navigated, and is entertaining and thought-provoking."¹⁹ Attractive Web sites can help museums reach people beyond their geographic base and extend the museum experience temporally, with patrons looking at the Web site before or after they visit the physical museum.²⁰ Similarly, the Brooklyn Museum of Art has built its own application on Facebook, called ArtShare, that allows people to share and manipulate images of museum artwork.²¹ Perhaps sensing a possible overcommercialization objection, the museum went to great lengths to avoid the appearance of marketing by giving away many of the images, making ArtShare itself free, and allowing Facebook members to share pictures from participating museums, such as the Metropolitan Museum of Art and the Walker Art Center in Minneapolis.²² Sharing the images online even helps

advance the museum's educational mission, as members' comments complement the curators' work by identifying unique or interesting features of the image. A 1911 picture of baseball player Germany Schaeffer holding a camera, for example, contained comments identifying the camera and providing biographical information on the player.²³

Community Development

The economic impact that museums have on their communities is also beginning to be understood by both parties. One study found that opening the Guggenheim Museum in Bilbao, Spain, increased the number of monthly overnight stays in the city by 61,742 and created 907 jobs. The city was able to recover its initial investment in the museum in about a decade, which the study called "possibly a world record."²⁴ In the past, the city of Philadelphia has also teamed up with its museums to attract visitors to art exhibitions, offering special package deals with hotels, Amtrak trains, and airlines like US Airways.²⁵

SMARTPHONES

The stories of Apple and RIM provide examples of the benefits of a smart intellectual property strategy as well as the litigious nature of the smartphone industry. An increasingly crowded smartphone market is also raising the attractiveness of the patent-licensing business model employed by firms like Qualcomm and InterDigital.

Apple and RIM Enter the Smartphone Market

In 2007, Apple, Inc. entered the competitive mobile phone market with the launch of its iPhone.¹ Apple's CEO Steve Jobs predicted that the iPhone would "change everything" in the same way that the iPod did after its release in 2001. Once again, Jobs was more right than wrong.² The iPhone was wildly successful. Apple sold a million units within the first seventy-four days.³

Like any company interested in entering the mobile phone market, Apple first had to navigate a complex "patent thicket." Before the release of the original iPhone and its subsequent, more advanced versions, Apple pursued an intellectual property strategy that allowed it to release its smartphones relatively free of the complex and costly litigation that often characterizes the smartphone industry.

RIM is the company responsible for introducing the BlackBerry, a landmark device combining a personal organizer, phone, Web browser, email client, and pager. The BlackBerry was released in 1999, and became so popular that by 2007 it had acquired more than eight million users.⁴ As with Apple, RIM's entry into the smartphone market required it to develop an intellectual property strategy, and like Apple, RIM has been relatively successful.

Both Apple and RIM negotiated patent-licensing agreements with a company called InterDigital before releasing their smartphones.⁵ InterDigital develops technology that allows mobile phones to connect with cellular networks, with a current focus on the technology standards that apply to the faster third-generation networks.⁶ Apple's agreement, completed in 2007, was worth twenty million dollars, and covered the current iPhone and its 3G successor.⁷ The patent-licensing agreement was only a small part of Apple's patent portfolio, which according to Jobs, contains two hundred patents related to the iPhone.⁸ RIM also negotiated a patent-license agreement with InterDigital that covered the BlackBerry's original release, and recently extended the license agreement through 2012 and broadened its scope to cover 3G products.⁹

Apple and RIM's stories contrast sharply with that of Samsung's, another high-tech company that attempted to launch a smartphone to compete with those offered by Apple and RIM.¹⁰ Unlike Apple and RIM, however, Sam-

sung either neglected or decided not to negotiate a patent-licensing agreement with InterDigital. Instead, Samsung found itself on the defensive when InterDigital filed a patent lawsuit against Samsung as well as a complaint before the US International Trade Commission. Samsung and InterDigital eventually settled their dispute, but the costs to Samsung were estimated at four to five hundred million dollars for a five-year agreement.¹¹

Despite Apple and RIM's successful patent-licensing agreements with InterDigital, the two companies have still faced litigation over the intellectual property behind the iPhone and BlackBerry. In 2000, NTP, a patent-holding company whose business plan involves seeking royalties through licensing rather than through the development of its patents, sent a letter to RIM alleging patent infringement and requesting that the two companies negotiate an agreement to license NTP's technology. After RIM ignored the letter, NTP filed a lawsuit, eventually winning a \$53 million jury verdict.¹² RIM fought the decision for several years and in several different courts before reaching a \$612.5 million settlement with NTP, although at one time the shutdown of all BlackBerry devices appeared so imminent that the US Department of Justice begged the presiding judge to halt the stoppage because it would interfere with the ability of federal employees to do their jobs.¹³ Apple has faced similar legal disputes regarding the patents involved in its iPhones. In 2009, Nokia filed a lawsuit

alleging that Apple had infringed on ten patents in areas such as wireless data transfer. Apple reported that twenty-seven patent infringement suits had been filed against it in 2009.¹⁴

Apple and RIM are not unique in having to litigate patent disputes related to their smartphones. The entire smartphone industry is becoming increasingly characterized by costly litigation. This turn toward litigation is in part a function of the industry's size—smartphone revenues grew to sixty-one billion dollars in 2009—and the increasing complexity of the devices themselves. The wireless communications capabilities of a 3G phone, for example, may touch on as many as eight thousand patents and the interests of forty-one patent-holding companies.¹⁵ Some litigation is aimed at extracting payments for the use of the patent holder's technology. Other firms, though, wish to keep competitors out of the market altogether. For instance, in response to Nokia's lawsuit, Apple filed a complaint with the US International Trade Commission to block the importation of Nokia phones.¹⁶ According to Stanford law professor Mark Lemley, "Apple would like to prevent competitors from making phones that are iPhone-like."¹⁷

The crowded and competitive smartphone market has resulted in the proliferation of mobile phone operating systems. Currently, RIM, Apple, and Microsoft each have developed operating systems, and there are several open-

source systems such as Android, Symbian, and Maemo. Analysts predict that open-source operating systems will dominate the market by 2012, with 62 percent of new smartphones using them. Thus, handset manufacturers will be able to participate directly in the development process, leading to more rapid innovation. Open-source platforms will also be free of licensing fees and royalties, thereby diminishing the commercial value of mobile operating systems.¹⁸

The iPad and Its Competitors

The competition between RIM and Apple is not limited to smartphones. In 2010, RIM announced plans to enter the tablet market in the near future with a device called the “blackpad,” which was designed to compete with the iPad during the holiday season.¹⁹ Soon after RIM’s announcement, Samsung followed suit by stating that it too would be releasing an iPad competitor called the Galaxy Tab. With analysts predicting that nearly sixty million tablet computers will be sold by 2015, and that they will outnumber e-readers and notebooks by 2012, the previous forays into the tablet market are understandable.²⁰

InterDigital, Qualcomm, and Patent Licensing

The rise in patent litigation related to smartphones, combined with increased licensing payments and a crowded marketplace, has made the position of patent-licensing firms more attractive. Rather than attempting to manufacture their own phones, patent-licensing firms either develop and patent their own technology, or purchase patents from others. This strategy allows firms to avoid both the manufacturing and inventory costs associated with producing smartphones as well as the competition of the smartphone marketplace.

InterDigital, a relatively small publicly traded company, has had success pursuing a business plan centered on patent licensing. In 2009, the company reported revenues of almost three hundred million dollars, or a 30 percent increase over 2008.²¹

Qualcomm is an even-larger success story. A major part of the company's business model consists of supplying technology to other companies by either providing semiconductor chips or licensing its technology. Indeed, Qualcomm possesses an enormous patent portfolio—approximately 11,600 US and 54,100 international patents and patent applications.²² This wealth of intellectual property allows the company to collect nearly a billion dollars in royalty revenues per quarter.²³ In fact, over one-third of the company's revenues come from technology licensing

fees.²⁴ As smartphone technology results in the proliferation of patents, even small firms are noticing opportunities. Earlier this year, MobileMedia Ideas, a newly formed company, purchased 122 patents from Nokia and Sony, and then proceeded to file lawsuits against Apple, RIM, and HTC.²⁵

Firms that take advantage of patent licensing risk being branded as patent trolls—as described earlier, entities that do not practice their patents but rather obtain revenue primarily from licensing their patent portfolio.²⁶ Indeed, in 2007, the Korean Intellectual Property Office stated that InterDigital was a patent troll for the way it “seemed to target the Korean hi tech players.”²⁷ InterDigital touts its “technology leadership” and notes on its corporate Web site that today, “building on the company’s legacy of innovation, we continue to make contributions to the leading standards bodies that define tomorrow’s wireless networks.” Qualcomm has also shown sensitivity to the pejorative term, insisting, after being sued by Nokia, that it was not a “grubby little patent troll,” and stressing instead the innovations for which the company has become known in the industry that gave rise to its formidable patent portfolio.²⁸

STARBUCKS VERSUS ETHIOPIA

Each year, the world produces about seven million tons of coffee.¹ Together, we drink five hundred billion cups of coffee annually.² The profit potential from this massive coffee trade are obvious. The money to be gained (or lost) as a result of the intellectual property strategies employed by the multinational coffee purchasers and the coffee-producing countries that supply them is less obvious. This case study examines the dispute over the right to use the term “Sidamo” in describing coffee products between the government of Ethiopia and the coffee giant Starbucks.

The Making of a Coffee Titan

Starbucks opened its first shop in Pike Place Market in Seattle in 1971.³ It has now expanded to more than sixteen thousand locations in over fifty countries, the result of CEO and chair Howard Schultz’s desire to take the “quality coffee bean tradition of Starbucks and merge it with the charm and romance of the European coffeehouse.”⁴ Schultz’s idea was initially ridiculed as little more than a “West Coast Yuppie fad.”⁵

Schultz proved to be a visionary. Under his inspired leadership, Starbucks has become one of the best-known

global brands. A book has been devoted to the task of “explor[ing] how Starbucks served as the apotheosis for the exploding meanings of buying in our possibly fading consumer saturated-culture.”⁶ As rock legend Alice Cooper remarked in 2009, “As Starbucks goes, so goes America.”⁷

Part of Starbucks’ success lies in its brand appeal. When people talk about a firm’s brand, they are typically speaking of the “successes of a trademark in terms of contribution to market share, sales, profit margins, loyalty and market awareness.”⁸ Starbucks has succeeded, by and large, in branding itself as a socially responsible firm. The company’s Web site states that it is “committed to buying and serving the highest-quality, responsibly grown, ethically traded coffee to help create a better future for farmers.”⁹

In 2009, Starbucks’ brand value was worth more than \$3.2 billion.¹⁰ Like all firms, Starbucks works hard to cultivate and defend its brand as a matter of intellectual property strategy. As of August 2010, Starbucks had filed 241 trademark applications with the US Patent and Trademark Office.¹¹ Moreover, the firm has not been shy about protecting its intellectual property in court, having once sued to prevent a woman named “Sam Buck” from calling her coffee shop “Sambucks.”¹² Occasionally, however, vigorous defense of the firm’s trademarks backfires, as was the case in a trademark dispute with the government of Ethiopia over a specialty coffee called Sidamo.

Sidamo refers to a type of coffee grown in the Sidamo region of Ethiopia. Ethiopia, declared by some to be the birthplace of coffee, is one of the world's poorest countries. Of its population, 44 percent lived below the national poverty line in 2000.¹³ Coffee is Ethiopia's primary export. The economic performance of the country is heavily dependent on its coffee sector.¹⁴ Starbucks is a major global purchaser of specialty coffees, which often sell for a premium on the retail market.

Ethiopian farmers have not always been in a position to benefit from the high prices commanded by their superior coffees. For example, a pound of Starbucks' roasted Shirkinia Sun-Dried Sidamo sold for as much as \$26 in 2007, while the average amount returned to the farmers who produced the coffee was \$1.45.¹⁵ Struck by this disparity, the Ethiopian government began working with Lightyears IP as well as Arnold and Porter to register three trademarks associated with coffee-producing regions: Yirgacheffe, Harrar, and Sidamo.¹⁶ The idea was that the trademarks could help boost the price of specialty coffee and ideally allow the country to increase revenue from specialty coffees by an estimated \$88 million per year.¹⁷

To this end, the government created the Ethiopian Coffee Trademarking and Licensing Initiative, which seeks to trademark names like Sidamo in foreign countries. Regardless of whether the trademarks are successfully registered,

the initiative also attempts to convince major coffee retailers to sign trademark license agreements that recognize Ethiopia's exclusive ownership of Sidamo and other coffee names. Since 2007, more than sixty companies have signed license agreements, and trademarks have been either registered or applied for in ten countries.¹⁸

While Ethiopia was pursuing its own trademarking initiative, Starbucks had applied for trademark registration of Shirkina Sun-Dried Sidamo, a coffee blend produced as part of the company's Black Apron Exclusives line of limited edition coffee.¹⁹ When Ethiopia attempted to trademark Sidamo, the US Patent and Trademark Office notified the government that its trademark was considered substantially similar to Starbucks' application, and was suspended until its resolution.

Representatives of the Ethiopian government, no doubt displeased with this result, requested that Starbucks withdraw its application. Starbucks' response was to attempt to persuade the Ethiopian government that a certification mark or geographic indication would be more appropriate.²⁰ This was also the position of the Specialty Coffee Association of America, which argued that "the World Trade Organization recommends using certification marks for the protection of geographical indications of origin as a means of protecting the intellectual property rights of agricultural producers."²¹ A certification mark informs purchasers that goods or services meet certain

standards, while a geographic indication marks a product as coming from a specific region.²² By trademarking Sidamo, however, Ethiopia does not need to certify every bag of coffee produced, as with a certification mark, nor is it restricted to producing the coffee only in the Sidamo region.²³

Perhaps most important, the registering of Sidamo as a trademark prevents others from using the name with respect to coffee without the permission of the Ethiopian government. Although Starbucks ultimately withdrew its application for Shirkina Sun-Dried Sidamo, the National Coffee Association filed a letter of opposition along with hundreds of pieces of evidence, claiming that Sidamo was a word for a generic type of coffee that came from a region in Ethiopia and thus unable to be registered as a trademark. The US Patent and Trademark Office then denied the trademark registration. Ethiopia appealed, ultimately winning the right to use Sidamo as a registered trademark.²⁴

Although Starbucks had legal grounds for attempting to trademark Shirkina Sun-Dried Sidamo, the company soon found itself faced with a barrage of negative publicity. Part of the backlash was directed against the coffee industry in general; consider the 2006 documentary titled *Black Gold*, an “eye-opening expose of the multi-billion dollar [coffee] industry.”²⁵ Much of the public ire was directed at Starbucks. After the initial difficulties with Ethiopia’s Sidamo trademark, Oxfam got involved, running an advertisement in the *Seattle Times* that accused Starbucks

of refusing to “sign an agreement recognizing Ethiopia’s ownership of the country’s coffee—the same coffee that millions of poor farmers depend on to make a living.”²⁶

This criticism stung precisely because Starbucks had often touted its socially responsible business practices. An Oxford Business School scholar slammed Starbucks for “brand hypocrisy.”²⁷ As another author observed, “Consumers paid Starbucks a little extra to absolve themselves of the sins of twenty-first-century globalization and alleviate their guilt over world-wide inequities. Would they still be willing to do this if it looked like the company wasn’t doing right by Ethiopia . . . ?”²⁸

Starbucks was further hampered by what seemed at first to be a tone-deaf media response. For example, after Dub Hay, Starbucks’ senior vice president for coffee and global procurement, told the *Wall Street Journal* that “the gift that Starbucks’ can bring to the coffee farmer is the guarantee of more business next year,” some commentators scoffed: “Starbucks seems to be saying that Ethiopian coffee farmers should be darn grateful for anything they get.”²⁹ Ethiopia’s supporters, on the other hand, arranged a remarkably successful grassroots campaign. On its Web site, Oxfam posted a “Starbucks Day of Action Toolkit” consisting of instructions for a day of protest and a petition supporting Ethiopia.³⁰ Oxfam’s campaign resulted in over ninety thousand people signing petitions to Starbucks urging it to sign a trademark license agree-

ment with Ethiopia.³¹ Moreover, Arnold and Porter's Bob Winter appeared on YouTube to explain exactly why Ethiopia was seeking a trademark, rather than a certification or geographic indicator.³²

Ultimately, Starbucks relented. The company and the Ethiopian government resolved their dispute in 2007. The Ethiopian government was awarded trademark rights for its specialty Sidamo coffee in the United States in 2008.

UNIVERSITY TECHNOLOGY COMMERCIALIZATION

The patenting of university research can be big business. In 2007, technology-licensing revenues generated by the top-ten universities alone accounted for nearly \$1.5 billion.¹ This impressive revenue was built on a strong foundation of university-based research and development. The National Science Board reported that US academic institutions spent \$48 billion on research and development in 2006, accounting for 33 percent of the total research nationally.² As the licensing-revenue numbers indicate, this laboratory research can resonate powerfully in our everyday lives. Large corporations like Google, Cirrus Logic, and Genentech have all based their products on university-licensed intellectual property.³

The Cohen-Boyer patents for recombinant DNA (rDNA) rank among the most revered and lucrative academic licenses in US history. These licenses were issued on a non-exclusive basis, rather than the conventional exclusive one. Despite the impressive returns that it has generated, the Cohen-Boyer IP strategy of nonexclusive licensing pursued by Stanford University and the University of California at San Francisco (UCSF) in the 1980s and 1990s has generally not been replicated in large part by universities throughout the United States. Instead, exclusive licensing has become

the norm throughout US research universities.⁴ This case study explores the incentive structures that characterize university settings through the lens of the Cohen-Boyer patents.

The Cohen-Boyer Patents

In 1972, professors Stanley Cohen of Stanford University and Herbert Boyer of UCSF met at an academic conference in Hawaii.⁵ Within a decade of their collaboration, they had discovered a method for splicing strands of DNA from different organisms—rDNA. The technology provided a key part of the foundation for the modern biotechnology industry, and several prominent pharmaceuticals that treat cancer, diabetes, HIV/AIDS, and heart disease.⁶

The first breakthrough occurred in 1977, when Boyer created human insulin in his laboratory. The invention would become Genentech's first product, as Boyer partnered with venture capitalist Robert Swanson to found the company.

The Cohen-Boyer intellectual property is actually a series of three separate patents for the rDNA process as well as two rDNA products generated through the use of prokaryotic and eukaryotic cells. Collectively, they have been referred to as “the most successful patent . . . in the entire history of university licensing” and the “gold standard” of

university technology transfer.⁷ The Cohen-Boyer rDNA patents operated from 1980 through 1997, and contributed to the creation of over 2,400 products by over 460 companies.⁸ This tremendous productivity netted over \$250 million in licensing revenues for Stanford and UCSF, from a base of \$35 billion in international product sales.⁹

Convinced by technology-transfer pioneer Niels Reimers, founder of the Stanford Office of Technology Licensing, of the value of patenting their invention, Cohen and Boyer agreed to allow Stanford and UCSF to patent their discovery jointly. In developing a strategy for managing this valuable intellectual property, Reimers sought to balance Stanford University's diverse goals. In addition to maximizing revenue for future education and research expenditures, Reimers pursued an IP strategy that reflected Stanford's public service ideals, promoted timely commercialization of the technology for public benefit, and minimized the potential for biohazard.¹⁰

To achieve these ends, Reimers opted for a nonexclusive licensing scheme that offered varying rates to companies based on criteria such as firm size and product category. There were four product categories: basic genetic products, bulk products, end products, and process-improvement products. Under the framework that Reimers articulated, Stanford and UCSF would also receive royalties on sales of the final drug products in a novel arrangement known as "reach-through" licensing.¹¹

Yet despite the tremendous financial, academic, and societal benefits associated with Reimers's management of the Cohen-Boyer IP, US research universities have not followed Stanford's lead. Research universities are often criticized for their "single-minded focus" on maximizing royalty revenues through the exclusive licensing of university-owned patents.¹² To understand why, we must look to the regulatory, cultural, and academic framework in which university patenting occurs today.

Universities as a Unique Class of IP Owners

Regulatory Framework

The ability of Stanford and UCSF to patent the Cohen-Boyer technology in the first place turned in part on a landmark US Supreme Court case decided in June 1980, days before the Cohen-Boyer patent was filed.¹³ In *Diamond v. Chakrabarty*, the Supreme Court held that genetically engineered microorganisms were eligible for patent protection because they fell into the category of "anything under the sun that is made by man."¹⁴

Later that same year, the Bayh-Dole Act marked a second major development in university patenting. This law is designed to encourage the commercialization of federally sponsored research in the basic sciences by granting exclusive patent rights to the university hosting the fed-

erally funded researchers. While the Cohen-Boyer patent predates the Bayh-Dole Act by several months, the control exerted by Stanford over the patent prosecution, ownership, and licensing previewed the dynamic that would become that norm in university licensing following Bayh-Dole. Typically, the university will retain the rights to the intellectual property, reserving a certain percentage of revenues as royalties for the inventing professor and their laboratory.¹⁵

Disparate Goals of the University

University leaders, like their counterparts in the non- and for-profit worlds, ought to seek IP strategies designed to achieve institutional goals. This strategic process can be difficult to manage. Each university has a variety of goals and a range of views among its leaders as to which is the most important.

Institutions of higher education have traditionally focused on the creation and dissemination of knowledge. At many schools, this historic focus comes into conflict with the contemporary goals of technology commercialization and revenue generation through patent licensing. For example, while knowledge dissemination can frequently best be achieved through publication in a scholarly journal, such public disclosure can affect the manner in which the invention is available for patent protection, thereby jeopardizing potential licensing revenues.¹⁶ Further threatening

knowledge dissemination, existing companies seeking exclusive license to a university-developed technology may do so for the sole purpose of keeping the innovation *away* from a competitor or *unavailable* to consumers.¹⁷

Though partner companies such as Genentech petitioned to secure exclusive licenses and accompanying wind-fall profits, Stanford's Reimers followed the nonexclusive patent route for Cohen-Boyer in order to pursue knowledge dissemination *through* commercialization.¹⁸ Some credit the decision to license nonexclusively with allowing the entire biotechnology industry to sprout.¹⁹

In 1989, Reimers incorporated an additional element of the contemporary research university's mission—namely, regional economic development.²⁰ Recognizing the strength of the Cohen-Boyer technology to generate new start-up companies, Reimers created more affordable royalty provisions for small firms, yielding licensing agreements with over two hundred fledgling firms, many of which were located in the nearby San Francisco Bay Area.²¹

University IP Valuation and Strategy

There are many reasons why the Cohen-Boyer story does not lend itself to replication in all cases. According to participants in a forum hosted by the National Academy of Sciences, the Cohen-Boyer patent strategy is hard to pursue because the nature of the Cohen-Boyer technology sets it apart from most advances. The invention was inexpensive

to reuse; there were no alternative technologies; and the science was truly groundbreaking in nature.²² Paradoxically, however, technology-transfer directors throughout the nation often treat new discoveries as carrying Cohen-Boyer potential, and thereby requiring adequate patent protection to secure potential future revenue streams. No technology-transfer director wants to face a university president having allowed the next Google to leave campus without ensuring that there's an ongoing revenue stream or other payment associated with it. Yet an overly aggressive negotiating stance can keep university-based technologies on laboratory shelves.

Some scholars have pointed out the difficulty, if not impossibility, of a fair valuation of intellectual property in its early stages in university laboratories.²³ Given this uncertainty, technology-transfer officials looking at the historical record have noted that at schools generating significant licensing revenues, those revenues sprout from relatively few “home run” patents.²⁴ When the Cohen-Boyer patent expired in 1997, it represented a full 62 percent of Stanford's licensing revenues and 27 percent of the entire University of California system's licensing revenues.²⁵

Despite a general preference for exclusive licenses, over the years some universities have developed interesting alternatives. Carnegie Mellon University employs a standard agreement entitling it to a 5 percent equity share of any spin-off company resulting from university-generated

technology.²⁶ In 1998, the University of California at Berkeley pursued a controversial but lucrative partnership with Novartis, receiving twenty-five million dollars in cash over five years in exchange for seats on the Department of Plant and Microbial Biology's research committee and exclusive licenses to one-third of university-owned patents resulting from departmental research.²⁷ Stanford, for its part, continued to lead IP strategy innovation with its Engineering Portfolio of Inventions for Commercialization program. Instead of charging royalties on the finished product down the road (as Stanford did with Cohen-Boyer), this program pooled licenses, allowing industry partners to “subscribe” to a portfolio of intellectual property assets and then receive nonexclusive license to it in exchange for a single up-front payment.

Looking Forward: The Politics of Innovation

Given the existing incentive structures within research universities, a wholesale move from exclusive licensing remains unlikely without a fundamental change in perspective or the background law. Such change could be prompted by a larger regulatory shift or a shift in funding methods. The Bayh-Dole Act has been criticized by some for creating an “anticommons” of excessive patenting of upstream technologies, where new technologies cannot be developed

due to the high cost of licensing necessary predicate technologies.²⁸ This kind of impact could be imagined if the Cohen-Boyer patents had been exclusive rather than widely disseminated. After thirty years and significant technological development, the act could be ripe for reform with more open licensing identified as a goal.

Funders may also affect the range of approaches that universities take when it comes to licensing. Agencies such as the National Institutes of Health, the National Science Foundation, and the US Department of Energy all require elaborate applications from researchers seeking grants. As the federal government increasingly focuses on innovation and technology commercialization, these grant applications could begin to require up-front commitments on creative strategies to deploy intellectual property so as to speed widespread commercialization.

Even absent changes in these external factors, universities ought to think broadly about the range of options with respect to intellectual property licensing beyond the standard exclusive license, with a view toward fulfilling institutional goals beyond revenue maximization. This kind of experimentation can lead to dividends that may not be easily captured on a university's balance sheet but instead may benefit humankind in ways that help to fulfill our universities' deeper missions.

NOTES TO CASE STUDIES

Collegiate Licensing

1. Kamil Idris, *Intellectual Property: A Power Tool for Economic Growth* (New York: World Intellectual Property Organization, 2003), 34.
2. For information about the CLC, see <http://www.clc.com/clcweb/publishing.nsf/Content/aboutclc.html> (accessed January 10, 2011).
3. For a list of the CLC's clients, see <http://www.clc.com/clcweb/publishing.nsf/Content/institutions.html> (accessed January 10, 2011).
4. Matthew Futterman, "IMG Moves Further into School Sports," *Wall Street Journal*, July 29, 2010, available at <http://online.wsj.com/article/SB10001424052748704895004575395532930536888.html> (accessed March 15, 2011).
5. Chris Pollone, "Big Bucks for Bama: Championship Merchandise Rakes in Millions," *Alabama's 13.com*, March 31, 2010, available at http://www2.alabamas13.com/news/2010/mar/31/big_bucks_for_bama_championship_merchandise_rakes_ar-398739 (accessed March 15, 2011). Note that "neither [the] CLC nor the university athletic department would say [how much Alabama makes each year in licensing royalties]."
6. John Maher, "Horns' \$10.15 Million in Royalties Top List," *Austin American-Statesman*, August 27, 2010, available at <http://www.statesman.com/sports/longhorns/horns-10-15-million-in-royalties-top-list-884171.html> (accessed April 7, 2011).
7. Darren Rovell, "Auburn's Licensing Revenues Will Skyrocket with Championship," *CNBC.com*, January 11, 2011, available at http://www.cnb.com/id/41019193/Auburn_s_Licensing_Revenues_Will_Skyrocket_With_Championship (accessed March 15, 2011).
8. "Did You Know," available at <http://www.clc.com/clcweb/publishing.nsf/Content/did+you+know.html> (accessed January 10, 2011).
9. Tricia Hornsby, "Collegiate Licensing Company Names Top Selling Universities and Manufacturers," press release, November 15, 2010, available at <http://www.clc.com/clcweb/publishing.nsf/Content/First+Quarter+Rankings+2010-11> (accessed March 15, 2011).
10. See Bruce B. Siegal and Jim Aronowitz, "Collegiate Licensing," *Licensing Journal* 25, no. 10 (2005): 37.
11. *Ibid.*, 36.
12. Sue Westcott Alessandri, "Developing a Consistent Collegiate Brand Identity: Retaining a Legacy while Avoiding Trademark Infringement," 16–17, available at

<http://www.reputationinstitute.com/members/nyc06/Alessandri.pdf> (accessed March 15, 2011).

13. *Ibid.*, 9.

14. For a depiction of the logo, see <http://www.sportslogos.net/logo.php?id=lhs2fxwjfmjsj71nzmqw> (accessed March 15, 2011).

15. Alessandri, "Developing a Consistent Collegiate Brand Identity," 13.

16. *Ibid.*, 14.

17. *JDSupra*, *Kellerv. Electronic Arts, Inc., et al.*, class action complaint and jury demand, available at <http://www.jdsupra.com/post/documentViewer.aspx?fid=98e583b8-4e5d-4d9e-96e1-3a382e2397f6> (accessed January 10, 2011); Katie Thomas, "Struggle over Compensation Is Much More than Video Games," *International Herald Tribune*, November 17, 2010: 23.

18. Thomas, "Struggle over Compensation."

19. *Ibid.*

20. *Ibid.*

21. Bruce Siegal, "Colorful Trends in Collegiate Trademark Protection: An Update," *Entertainment and Sports Lawyer* 26, no. 4 (2009): 19.

22. *Ibid.*

23. Adam Himmelsbach, "Colleges Tell High Schools Logos Are Off-limits," *New York Times*, November 26, 2010, available at <http://www.nytimes.com> (accessed March 15, 2011).

Follow-on Biologics

1. John E. Calfee, "Follow-on Biologics Are Not Like Ordinary Generics, and Therefore Require Congress to Exercise a Deft Regulatory Hand," American Enterprise Institute for Public Policy Research, April 2007, available at <http://www.aei.org/outlook/26010> (accessed March 30, 2011).

2. Wendy H. Schacht and John R. Thomas, "Follow-on Biologics: Intellectual Property and Innovation Issues," Congressional Research Service, CRS Report for Congress, order code RL 33901, January 6, 2010, 2.

3. *Ibid.*, 3.

4. *Ibid.*

5. 42 U.S.C. § 262(i) (2006).

6. Schacht and Thomas, "Follow-on Biologics," 1.

7. *Ibid.*, 2. See also Ludwig Burger, "Battle over Biosimilar Drugs Is Only for the Brave," Reuters, July 2, 2010, available at <http://uk.reuters> (accessed March 30, 2011); note that "90 percent of today's biotechnology drugs will be off patent" by 2020.

8. Mari Edlin, "PPACA Creates Approval Pathway for Follow-on Biologics," *Modern Medicine*, 15, 2010, available at <http://www.modernmedicine.com/modernmedicine/Chains+%26+Business/PPACA-creates-approval-pathway-for-follow-on-biolo/ArticleStandard/Article/detail/680424?contextCategoryId=40159> (accessed March 30, 2011).
9. Drug Price Competition and Patent Term Restoration Act of 1984, Pub. L. No. 98-417, 98 Stat. 1585 (codified as amended in 21 U.S.C. § 355 [2006]).
10. *Ibid.*
11. Judith A. Johnson, "FDA Regulation of Follow-on Biologics," Congressional Research Service, CRS Report for Congress, order code RL 34045, April 26, 2010, 7.
12. *Ibid.*, 8–9.
13. *Ibid.*, 13.
14. *Ibid.*
15. Wendy H. Schacht and John R. Thomas, "PL 111–148: Intellectual Property Provisions for Follow-on Biologics," Congressional Research Service, CRS Report for Congress, order code R 41270, May 25, 2010, 3.
16. *Ibid.*
17. Edlin, "PPACA Creates Approval Pathway for Follow-on Biologics."
18. *Ibid.*
19. Federal Trade Commission, "Emerging Health Care Issues: Follow-on Biologic Drug Competition," 2009, 14, available at <http://www.ftc.gov/os/2009/06/P083901biologicsreport.pdf> (accessed March 30, 2011).
20. Ed Silverman, "Merck Wants to Develop Follow-on Biologics," *Pharmalot*, December 9, 2008, available at <http://www.pharmalot.com/2008/12/merck-wants-to-develop-follow-on-biologics> (accessed March 30, 2011).
21. Quoted in *ibid.*
22. Ellen Foster Licking, "Merck's Ambitious Plans for Follow-on Biologics," *BioPharma Today*, December 18, 2008, available at <http://www.biopharmatoday.com/2008/12/mercks-ambitious-plans-for-follow-on-biologics.html> (accessed March 30, 2011).
23. *Ibid.*
24. Insmmed, Inc., "Insmmed Sells Follow-on Biologics Platform to Merck and Co., Inc. for Gross Proceeds of \$130 Million," press release, February 12, 2009, available at <http://investor.insmed.com/releasedetail.cfm?ReleaseID=364842> (accessed March 30, 2011).
25. Ellen Licking, In Vivo Blog, post, available at <http://invivoblog.blogspot.com/2009/02/dotw-evolution.html> (accessed February 13, 2009).

26. Kate Rawson, In Vivo Blog, post, available at <http://invivoblog.blogspot.com/2008/02/starring-role-for-follow-on-biologics.html> (accessed February 11, 2008).
27. Merck and Co., Inc., “Merck & Co., Inc. to Acquire GlycoFi, Inc.,” press release, May 9, 2006, available at <http://www.glycofi.com/news/050906.html> (accessed March 30, 2011).
28. Jonathan D. Rockoff, *Wall Street Journal* Health Blog, post, available at <http://blogs.wsj.com/health/2010/05/11/merck-scrap-once-promising-follow-on-biologic-for-anemia> (accessed May 11, 2010).
29. Ibid.
30. Cynthia Challenger, “Follow-on Biologics Present Opportunity to Big Pharma,” ICIS.com, February 10, 2010, available at <http://www.icis.com/Articles/2010/02/15/9333235/follow-on-biologics-present-opportunity-to-big-pharma.html> (accessed March 30, 2011).
31. Ellen Foster Licking and Joseph Haas, “A Two-Pharma Horse Race in Follow-on Biologics,” *In Vivo: The Business and Medicine Report*, February 2009, 19.
32. Quoted in *ibid.*

InnoCentive

1. Jeff Howe, *Crowdsourcing: Why the Power of the Crowd Is Driving the Future of Business* (New York: Crown Business, 2008); Henry Chesbrough, Wim Vanhaverbeke, and Joel West, eds., *Open Innovation: Researching a New Paradigm* (Oxford: Oxford University Press, 2008); James Surowiecki, *The Wisdom of Crowds* (New York: Anchor Books, 2004).
2. Joel Achenbach, “Government Finds Giving Prizes Can Be Rewarding; Contests Offer Different Way to Find Solutions for Problems,” *Washington Post*, April 30, 2010, A18.
3. Ibid.; Haydn Shaughnessy, “Marketplace for Minds and Ideas,” *Irish Times*, September 22, 2008, 17.
4. Shaughnessy, “Marketplace for Minds and Ideas.”
5. IdeaWicket, available at <http://www.ideawicket.com> (accessed August 16, 2010); NineSigma, available at <http://www.ninesigma.com> (accessed August 16, 2010); available at Napkin Labs, <http://www.napkinlabs.com> (accessed August 16, 2010).
6. InnoCentive, available at <http://www.innocentive.com> (accessed August 16, 2010).
7. “What Is InnoCentive?” available at <http://www.innocentive.com/what-is-innocentive> (accessed August 16, 2010).

8. Laura Rich, "Tapping the Wisdom of the Crowd," *New York Times*, August 4, 2010, available at <http://www.nytimes.com> (accessed March 30, 2011).
9. Scott Kirsner, "Necessity Forces Companies to Look for Outside Ideas," *Boston Globe*, December 27, 2009, available at <http://www.boston.com> (accessed March, 2011).
10. Cornelia Dean, "If You Have a Problem, Ask Everyone," *New York Times*, July 22, 2008, F1.
11. Shelly DuBois, "X Prize Goes Corporate," *Fortune*, August 5, 2010, available at <http://money.cnn.com>.
12. Dean, "If You Have a Problem, Ask Everyone."
13. "NASA Announces Winners of Space Life Sciences Open Innovation Competition," *Defense and Aerospace Week*, July 21, 2010, 18.
14. Ibid.
15. "NASA Innovation Pavilion," available at <https://gw.innocentive.com/ar/challenge/browse?pavilionName=NASA&pavilionId=1918&source=pavilion> (accessed August 16, 2010); "NASA Challenge: Medical Consumables Tracking," available at <https://gw.innocentive.com/ar/challenge/9455022> (accessed August 16, 2010); "NASA Challenge: Coordination of Sensor Swarms for Extraterrestrial Research," available at <https://gw.innocentive.com/ar/challenge/9232382> (accessed August 16, 2010).
16. "NASA Innovation Pavilion." 17. "InnoCentive and NASA Offer Global Community Opportunity to Advance U.S. Space Program," *Marketwire*, January 13, 2010.
18. Tom Zeller, "Estimates Suggest Spill Is Biggest in U.S. History," *New York Times*, May 28, 2010, A15, available at <http://www.nytimes.com>; "Emergency Response 2.0: Solutions to Respond to Oil Spill in the Gulf of Mexico," available at <https://gw.innocentive.com/ar/challenge/9383447> (accessed August 16, 2010).
19. "InnoCentive Issues Call to Action for Innovative Solutions to Oil Spill in the Gulf of Mexico," *Marketwire*, May 4, 2010.
20. Alissa Walker, "BP to InnoCentive: Sorry, We Don't Want Your 908 Ideas for Saving the Gulf," *FastCompany*, June 23, 2010, available at <http://www.fastcompany.com>.
21. David Brown, "What's Harder than Stopping the Oil? Getting BP to Listen to Suggestions," *Washington Post*, July 3, 2010, A1.
22. Walker, "BP to InnoCentive."

Museum Licensing

1. Kamil Idris, *Intellectual Property: A Power Tool for Economic Growth* (New York: World Intellectual Property Association, 2003).
2. Alan Riding, "Abu Dhabi Is to Gain a Louvre of Its Own," *New York Times*, January 13, 2007, available at <http://www.nytimes.com> (accessed March 15, 2011).
3. Noric Dilanchian, "Louvre Abu Dhabi: Museum Licensing Shifts more than Revenues," available at http://www.dilanchian.com.au/index.php?option=com_content&view=article&id=228:louvre-abu-dhabi-museum-licensing-shifts-more-than-revenues&catid=23:ip&Itemid=114 (accessed January 25, 2010).
4. Riding, "Abu Dhabi Is to Gain a Louvre of Its Own."
5. Ibid.
6. Carol Vogel, "Abu Dhabi Gets a Sampler of World Art," *New York Times*, May 26, 2009, available at <http://www.nytimes.com> (accessed March 15, 2011).
7. Alan Riding, "The Louvre's Art: Priceless. The Louvre's Name: Expensive," *New York Times*, March 7, 2007, available at <http://query.nytimes.com> (accessed March 15, 2011).
8. Riding, "Abu Dhabi Is to Gain a Louvre of Its Own."
9. Riding, "The Louvre's Art."
10. Eliza Gallo, "Museum Quality," *Gifts & Decorative Accessories* 101, no. 4 (2000).
11. Quoted in *ibid.*
12. Alain d'Astous, François Colbert, and Marilyne Fournier, "An Experimental Investigation of the Use of Brand Extension and Co-Branding Strategies in the Arts," *Journal of Services Marketing* 21, no. 4 (2007): 231 (internal quotations omitted).
13. Ibid.
14. "Crafty Licensing," *License! Europe* (April/May 2005): 38–39.
15. Gallo, "Museum Quality."
16. Michele Gerber, "Folk Core," *License!* (2006).
17. SeJeong Kim, "Understanding of Museum Branding and Its Consequences on Museum Finance" (master's thesis, University of Akron, 2008).
18. Tatyana D. Sizonenko-Leventhal, "Remodeling the Museum's Image through Branding: Benefits and Challenges associated with Branding in the San Francisco Bay Area Museums," unpublished manuscript, 2003, 13.
19. Sean Hargrave, "Breaking out of Glass Cases," *New Media Age*, July 15, 2004, 18.
20. Ibid.
21. Dan Fost, "Killer Statue: Psyched about the Site!" *New York Times*, March 12, 2008, available at <http://www.nytimes.com> (accessed March 15, 2011).

22. Ibid.
23. Ibid.
24. Beatriz Plaza, "The Return on Investment of the Guggenheim Museum Bilbao," *International Journal of Urban and Regional Research* 30, no. 2 (2006): 452, 464.
25. Carol Vogel, "Rebuilding? It's Time for Rebranding," *New York Times*, March 30, 2005, available at <http://www.nytimes.com> (accessed March 15, 2011).

Smartphones

1. "Where Would Jesus Queue?" *Economist*, July 5, 2007, available at http://www.economist.com/node/9443542?story_id=9443542 (accessed March 11, 2011).
2. "Apple's "Magical" iPhone Unveiled," *BBC News*, January 9, 2007, available at <http://news.bbc.co.uk/2/hi/technology/6246063.stm> (accessed March 11, 2011).
3. Apple, Inc., "Apple Sells One Millionth iPhone," press release, September 10, 2007, available at <http://www.apple.com/pr/library/2007/09/10iphone.html> (accessed March 11, 2011).
4. "About RIM," available at <http://us.blackberry.com> (accessed August 30, 2010); "Intellectual Property Research Institute of Australia, BlackBerry: A Teaching Case Study for WIPO," 2008, 3, available at http://www.wipo.int/export/sites/www/academy/en/ipacademies/educational_materials/cs2_blackberry.pdf (accessed March 13, 2011).
5. "About InterDigital," available at http://www.interdigital.com/about_interdigital (accessed August 30, 2010).
6. Tom Krazit, "Apple Signs iPhone Patent Deal with Interdigital," *CNet News*, September 7, 2007, available at http://news.cnet.com/8301-13579_3-9773982-37.html (accessed March 11, 2011).
7. "Form 8-K," available at <http://www.sec.gov/Archives/edgar/data/1405495/000115752307009039/a5487526.txt> (accessed August 30, 2010); Krazit, "Apple Signs iPhone Patent Deal."
8. Krazit, "Apple Signs iPhone Patent Deal."
9. InterDigital, Inc., "InterDigital Signs RIM to Worldwide 3G Patent License," press release, October 11, 2007, available at http://ir.interdigital.com/release_detail.cfm?ReleaseID=321949 (accessed March 11, 2011).
10. Samsung, available at <http://www.samsung.com/us> (accessed August 30, 2010).
11. Dave Mock, "InterDigital to Samsung: Pay Up," *Motley Fool*, April 10, 2007, available at <http://www.fool.com/investing/general/2007/04/10/interdigital-to-samsung-pay-up.aspx> (accessed March 11, 2011); Dave Kawamoto, "Samsung and

InterDigital Reach 3G and 2G Settlement,” *CNet News*, November 25, 2008, available at http://news.cnet.com/8301-1035_3-10107647-94.html (accessed March 11, 2011).

12. “Intellectual Property Research Institute of Australia,” 3, 6.13. Marc Per-ton, Engadget blog, post, available at <http://www.engadget.com/2006/02/02/doj-begs-judge-to-halt-blackberry-shutdown/> (accessed February 2, 2006).

14. Tarmo Virki, “Nokia-Apple Row May Last more than 1 Year,” Reuters, October 28, 2009, available at <http://in.reuters.com> (accessed March 11, 2011).

15. Olga Kharif, “Complex Smartphones Are the Latest Patent Battleground,” *BusinessWeek*, May 12, 2010, available at http://www.businessweek.com/technology/content/may2010/tc20100512_956709.htm (accessed March 11, 2011).

16. Leslie Katz, “Apple Seeks U.S. Ban on Nokia Imports,” *CNet News*, January 19, 2010, available at http://news.cnet.com/8301-13579_3-10436415-37.html (accessed March 11, 2011).

17. Quoted in Kharif, “Complex Smartphones.”

18. Roberta Cozza and Monica Basso, “Gartner, Android and Other Open Source Platforms Will Drive Innovation in the Smartphone Market,” unpublished paper, 2009.

19. “Research in Motion Attacks the iPhone,” *MarketWatch*, August 3, 2010, available at <http://www.marketwatch.com/story/research-in-motion-goes-after-apples-iphone-2010-08-03> (accessed March 11, 2011).

20. David Kolle, “Samsung to Release iPad Competitor,” *Informative Report*, August 5, 2010, available at <http://theinformativereport.com/2010/08/samsung-to-release-ipad-competitor> (accessed March 30, 2011); Calvin Reid, “iPads Rule at Untethered 2010,” *Publishers Weekly*, June 21, 2010, available at <http://www.publishersweekly.com/pw/by-topic/digital/conferences/article/43575-ipads-rule-at-untethered-2010.html> (accessed March 11, 2011).

21. InterDigital, Inc., “InterDigital Announces Fourth Quarter and Full Year 2009 Financial Results,” press release, February 24, 2010, available at <http://ir.interdigital.com/releasedetail.cfm?ReleaseID=447047> (accessed March 11, 2011).

22. Steven Halpern, BloggingStocks, post, available at <http://www.bloggingstocks.com/2010/02/15/qualcomm-qcom-enabling-smartphones> (accessed February 15, 2010).

23. Kharif, “Complex Smartphones.”

24. Halpern, BloggingStocks.

25. Kharif, “Complex Smartphones.”

26. J. Jason Williams, Mark V. Campagna, and Olivia E. Marbutt, "Strategies for Combating Patent Trolls," *Journal of Intellectual Property Law* 17 (2010): 367, 368n1.
27. TKorea (Telecoms Korea), "Korean Firms Threatened by Patent Trolls," no longer available at <http://www.telecomskorea.com> (accessed August 20, 2007).
28. Anne Morris, "Editor's View," *Total Telecom*, May 1, 2007, available at <http://www.totaltele.com/view.aspx?ID=352263> (accessed March 11, 2011).

Starbucks versus Ethiopia

1. "Coffee Consumption," available at http://www.worldmapper.org/posters/worldmapper_1038_coffee_consumption_ver2.pdf (accessed August 10, 2010).
2. Anton Foek, "Trademarking Coffee: Starbucks Cuts Ethiopia Deal," *CorpWatch*, May 8, 2007, available at <http://www.corpwatch.org/article.php?id=14474> (accessed March 11, 2011).
3. "Our Company," available at <http://www.starbucks.com/about-us/company-information> (accessed August 10, 2010).
4. "Company Profile," available at <http://assets.starbucks.com/assets/company-profile-feb10.pdf> (accessed August 10, 2010); Joseph A. Michelli, *The Starbucks Experience: 5 Principles for Turning Ordinary into Extraordinary* (New York: McGraw-Hill, 2007), 2.
5. Cora Daniels, "Mr. Coffee: The Man behind the \$4.75 Frappuccino Makes the 500," *CNN.com*, April 14, 2003, available at http://money.cnn.com/magazines/fortune/fortune_archive/2003/04/14/340892/index.htm (accessed March 11, 2011).
6. Bryant Simon, *Everything but the Coffee: Learning about America from Starbucks* (Berkeley: University of California Press, 2009), 2.
7. Cal Fussman, "Alice Cooper: What I've Learned," *Esquire*, January 2, 2009, available at <http://www.esquire.com/features/what-ive-learned/alice-cooper-quotes-0109> (accessed March 11, 2011).
8. "The Role of Trademarks in Marketing," *WIPO Magazine* 10 (February 2002), available at http://www.wipo.int/sme/en/documents/wipo_magazine/02_2002.pdf (accessed March 11, 2011).
9. "Being a Responsible Company," available at <http://www.starbucks.com/responsibility> (accessed August 10, 2010).
10. Interbrand, "Best Global Brands 2009 Rankings," available at <http://www.interbrand.com> (accessed August 10, 2010).
11. US Patent and Trademark Office, "Trademark Electronic Search System," available at <http://tess2.uspto.gov/bin/gate.exe?f=searchss&state=4009:kj4p4g.1.1> (search for "Starbucks" and then click "Live" radio button) (accessed March 11, 2011).

12. Ruth David, "Struck by Starbucks," *Forbes.com*, March 15, 2007, available at http://www.forbes.com/2007/03/15/starbuck-starstruck-patent-markets-eq-uity-cx_rd_0314markets5.html (accessed March 11, 2011).
13. Tassew Woldehanna, "The Experiences of Measuring and Monitoring Poverty in Ethiopia," 2004, iv, available at http://www.worldbank.org/afr/padi/ethiopia_paper.pdf (accessed March 11, 2011).
14. Dominic Rushe, "Starbucks Brews Battle with Ethiopia," *Australian*, March 10, 2007, available at <http://www.theaustralian.com.au/business/starbucks-brews-battle-with-ethiopia/story-e6frg8zx-1111113129153> (accessed March 11, 2011).
15. Stephan Faris, "Starbucks vs. Ethiopia," *Fortune*, February 26, 2007, available at http://money.cnn.com/magazines/fortune/fortune_archive/2007/03/05/8401343/index.htm (accessed March 11, 2011).
16. LightyearsIP, "Ethiopian Fine Coffee," available at <http://www.lightyearsip.net/projects/ethiopiancoffee> (accessed August 10, 2010); Arnold and Porter, "Pro Bono," available at <http://www.arnoldporter.com/probono.cfm> (accessed August 10, 2010); Faris, "Starbucks vs. Ethiopia."
17. Faris, "Starbucks vs. Ethiopia."
18. Ethiopian Coffee Network, "What's This All About?" available at <http://www.ethiopiancoffeenetwork.com/about.shtml> (accessed August 10, 2010); Ethiopian Coffee Network, "Trademark License Agreements," available at <http://www.ethiopiancoffeenetwork.com/licensing3.shtml> (accessed August 10, 2010); Ethiopian Coffee Network, available at <http://www.ethiopiancoffeenetwork.com> (accessed August 10, 2010); Ethiopian Coffee Network, "FAQ," available at <http://www.ethiopiancoffeenetwork.com/faq.shtml> (accessed August 10, 2010).
19. US Patent and Trademark Office, "Trademark Electronic Search System," available at <http://tess2.uspto.gov/bin/gate.exe?f=searchss&state=4010:h25n2p.1.1> (search for "Shirkina Sun-Dried Sidamo") (accessed March 11, 2011).
20. Faris, "Starbucks vs. Ethiopia."
21. "Intellectual Property Research Institute of Australia, Sidamo: A Teaching Case for WIPO," 2009, 13, available at http://www.wipo.int/export/sites/www/academy/en/ipacademies/educational_materials/cs4_sidamo.pdf (accessed March 11, 2011).
22. Maria Brownell, "Coffee Trademark Licensing for Farmers: Brewing a Farmer-Owned Brand," *Drake Journal of Agricultural Law* 14, no. 291 (2009): 303–307.
23. "Intellectual Property Research Institute of Australia, Sidamo," 7–9.
24. US Patent and Trademark Office, "TDR Database, Administrative Response," available at http://tportal.uspto.gov/external/PA_TOWUserInterface/Open

- ServletWindow?serialNumber=78589307&scanDate=2006081734846&Doc Desc=Administrative+Response&docType=ADR¤tPage=1&rowNum=13&rowCount=21&formattedDate=17-Aug-2006 (accessed March 30, 2011); US Patent and Trademark Office, "TDR Database, Response to Official Action," available at http://tportal.uspto.gov/external/PA_TOWUserInterface/OpenServletWindow?serialNumber=78589307&scanDate=2007011841387&Doc Desc=Response+to+Office+Action&docType=ROA¤tPage=1&rowNum=128&rowCount=21&formattedDate=17-Jan-2007 (accessed March 30, 2011).
25. *Black Gold: A Film about Coffee and Trade*, available at <http://www.blackgoldmovie.com> (accessed August 10, 2010).
 26. Quoted in Simon, *Everything but the Coffee*, 233–234.
 27. Douglas Holt, "Brand Hypocrisy at Starbucks," unpublished paper, Said Business School, University of Oxford, 2005.
 28. Simon, *Everything but the Coffee*, 236.
 29. Quoted in David Bollier, "Starbucks, Trademarks, and Coffee Colonialism," *On the Commons*, March 6, 2007, available at <http://onthecommons.org/starbucks-trademarks-and-coffee-colonialism> (accessed March 11, 2011).
 30. Mary O'Kicki, "Lessons Learned from Ethiopia's Trademarking and Licensing Initiative: Is the European Union's Position on Geographical Indications Really Beneficial for Developing Nations?" *Loyola University Chicago International Law Review* 6, no. 311 (2009): 333.
 31. Simon, *Everything but the Coffee*, 235.
 32. Ethiopian Coffee Network, "Legal Issues," available at <http://www.youtube.com/watch?v=2DiWK81j7fg> (accessed August 10, 2010).

United Technology Commercialization

1. Chronicle of Higher Education, *Almanac of Higher Education* (2009), available at <http://chronicle.com/section/Almanac-of-Higher-Education/141> (accessed March 11, 2011). The bulk of this revenue came from New York University's whopping \$791 million in fiscal year 2007 licensing revenue, of which a substantial part came from a onetime payment of \$650 million for rights to the drug Remicade. The average licensing revenue of the top-ten performers, not including New York University, is about \$75.7 million.
2. Saul Lach and Mark Schankerman, "Incentives and Invention in Universities," *Rand Journal of Economics* 39, no. 2 (Summer 2008): 403.
3. John Lipinski, Marcel C. Minutolo, and Laura M. Crothers, "The Complex Relationship Driving Technology Transfer: The Potential Opportunities Missed by Universities," *Journal of Behavioral and Applied Management* 9, no. 2 (January 2008): 112–133.

4. See, for example, Jay P. Kesan, "Transferring Innovation," *Fordham Law Review* 77 (2009): 2169.
5. Rajendra K. Bera, "The Story of the Cohen-Boyer Patents," *Current Science* 96, no. 6 (March 25, 2009): 760.
6. Kesan, "Transferring Innovation," 2174; Bera, "Story of the Cohen-Boyer Patents," 1797.
7. Commission on Life Sciences, *Intellectual Property Rights and Research Tools in Molecular Biology: Summary of a Workshop Held at the National Academy of Sciences, February 15–16, 1996* (Washington, DC: National Academies Press, 1997), 41; Maryann P. Feldman, Alessandra Colaianni, and Connie Kang Liu, "Lessons from the Commercialization of the Cohen-Boyer Patents: The Stanford University Licensing Program," in *Intellectual Property Management in Health and Agricultural Innovations: A Handbook of Best Practices*, ed. Anatole Krattiger et al. (Oxford: Centre for the Management of Intellectual Property in Health Research and Development, 2007), 1797.
8. Feldman, Colaianni, and Liu, "Lessons from the Commercialization of the Cohen-Boyer Patents," 1797.
9. Mariann Jelinek and Stephen Markham, "Industry-University IP Relations: Integrating Perspectives and Policy Solutions" *IEEE Transactions on Engineering Management* 54, no. 2 (May 2007): 259.
10. Feldman, Colaianni, and Liu, "Lessons from the Commercialization of the Cohen-Boyer Patents," 1798.
11. *Ibid.*, 1800.
12. See, for example, Kesan, "Transferring Innovation," 2169. See also Lipinski, Minutolo, and Crothers, "The Complex Relationship Driving Technology Transfer."
13. Bera, "Story of the Cohen-Boyer Patents," 761.
14. Arti K. Rai and Rebecca S. Eisenberg, "Bayh-Dole Reform and the Progress of Biomedicine," *Law and Contemporary Problems* 66, no. 289 (2003): 290.
15. For a discussion of the use of inventor royalties in university licensing, see Saul Lach and Mark Schankerman, "Incentives and Invention in Universities," *Rand Journal of Economics* 39, no. 2 (Summer 2008): 403–433.
16. See, for example, Risa L. Lieberwitz, "The Marketing of Higher Education: The Price of the University's Soul," *Cornell Law Review* 89, no. 763 (2004): 798. Lieberwitz is highly skeptical of the increased ties between academia and industry, stating that "commercialization of the university is a crisis for higher education."
17. Jelinek and Markham, "Industry-University IP Relations," 266.
18. Feldman, Colaianni, and Liu, "Lessons from the Commercialization of the Cohen-Boyer Patents," 1798.

19. Rai and Eisenberg, "Bayh-Dole Reform and the Progress of Biomedicine," 300.
20. Regional economic development is especially prominent in public university settings. For example, the State University of New York recently adopted a new strategic plan in which statewide economic development is a central pillar. Private, not-for-profit universities (such as Widener University) have increasingly touted their economic development potential as well. Typically, the IP strategies pursued by public and private universities today are far more similar than they are different.
21. Feldman, Colaianni, and Liu, "Lessons from the Commercialization of the Cohen-Boyer Patents," 1800.
22. Commission on Life Sciences, *Intellectual Property Rights and Research Tools in Molecular Biology*, 41.
23. Jelinek Markham, "Industry-University IP Relations," 262.
24. See, for example, Annetine C. Gelijns and Samuel O. Their, "Medical Innovation and Institutional Interdependence: Rethinking University-Industry Connections," *Journal of the American Medical Association* 287, no. 1 (January 2, 2002): 75.
25. Jelinek Markham, "Industry-University IP Relations," 259.
26. Lipinski, Minutolo, and Crothers, "The Complex Relationship Driving Technology Transfer," 119.
27. See, for example, Lieberwitz, "The Marketing of Higher Education," 789.
28. Kesan, "Transferring Innovation," 2180.