

# Preface

It wasn't so long ago that intellectual property (IP) didn't much matter to company managers and investors. Copyright was for writers and artists, trade secrets were difficult to protect, and, as for patents, they seemed at best a necessary expense for large technology companies. Not that IP was exactly ignored; epic patent battles followed the introduction of photography, the telegraph, and television, to name just a few disruptive technologies, while the music and broadcast industries struggled over copyright royalties for most of the twentieth century. But few companies viewed IP as a strategic asset. Particularly in the United States, courts historically detected the foul odor of monopoly when asked to enforce IP rights, and the universe of protectible subject matter was limited – software, for example, lay firmly outside the patent system, while the prospects for biotechnology remained uncertain. Lawsuits involving patents were (and still are) enormously expensive, yet few companies licensed their IP routinely and voluntarily. These circumstances left IP uncertain in scope, difficult to enforce, and unlikely to yield an economic return, absent exhausting and potentially ruinous litigation.

As a result, managers spent little time fretting over IP. Often disinclined to dive too deeply into the details of their companies' technology in any case, many simply delegated, trusting that responsibility would reach the sober hands of engineers, scientists, and lawyers padding about their offices in mismatched socks. And why not? Business success seemed to depend no more on IP than the locks on the doors. What more could be done than defining a reasonably secure perimeter around the company's innovation, keeping competitors a step behind if not at bay?

By the 1980s, forces that would dramatically change this static picture began to converge. Commercial software was starting to infiltrate the mass market. Unlike most goods, software is licensed rather than sold so that the originator can retain the underlying IP rights (in particular copyright, which had recently been extended to cover software). Suddenly licensing became a familiar mechanism for disseminating technology, and the notion of sharing innovation with

total strangers didn't seem so fraught. Certainly it seemed like a good idea to universities, which, thanks to the Bayh-Dole Act of 1980, found themselves able to keep the rights to inventions made with government funding. In order to bring these inventions into the marketplace – an explicit goal of Bayh-Dole – universities began accumulating patents and licensing them to industry.

It also seemed like a good idea to IBM. For decades one of the world's leading patent recipients, IBM began to license its IP to all comers as a way of generating revenue. To those inured to the notion of patents as a defensive wall – even in the computer industry, these were the days of proprietary architectures – IBM's decision to install a tollbooth seemed heretical. By welcoming smaller, nimbler competitors, wouldn't IBM ensure its own eventual irrelevancy?

Years passed and IBM prospered, its licensing revenues growing impressively. Keen observers warmed to the notion of IP as a monetizable commodity. All that remained was for licensing practices to become institutionalized. Here the telecommunications industry led the way. Think of the telephone network: its value to any particular user derives from the number of other people who also use it. Expansion of a network benefits both consumers and the industry players that create its infrastructure, providing a strong motivation toward standardization – the more the network is based on common designs and technical specifications, the more easily new products can be brought into the network. In response to the rapid growth of telecommunications and the increasing need for compatibility across continents (not to mention the imperative of containing the system's increasing complexity), standards-setting organizations began to proliferate. Soon the benefits of standardization became evident to non-network markets such as the computer industry, the semiconductor industry, and even the highly segmented software industry, as familiarity with common features lured customers and encouraged the development of complementary products. (The auto industry, of course, had learned this lesson generations earlier.)

Technical specifications don't grow on trees, however. While some technology developers may be willing to donate their efforts to a standard in order to fuel marketplace acceptance of their products, others seek to profit directly from their labors. Standards-setting organizations, always seeking the very best technologies, have largely accommodated them. Today most such organizations permit for-profit licensing by their contributors.

At the same time IP licensing was proliferating, its value and scope were increasing. In 1980 the US Supreme Court issued its landmark *Chakrabarty* ruling, which announced a policy of interpreting the patent laws broadly. Sanctioning patent coverage for engineered micro-organisms, the court held

that patents could cover “anything under the sun that is made by man.” The introduction two years later of a specialized appeals court for patent cases in the United States further signaled a historic reversal of judicial sentiment against patents, and brought much-needed nationwide uniformity to legal standards. The United States accorded copyright protection to software in 1978, Japan did so in 1985, and a European initiative was approved in 1991 (although some member states had already enacted the necessary legislation). With the emergence of clear protection for biotechnology and software, IP law was keeping pace with the fastest-growing areas of industrial innovation, which, in turn, grew ever more dependent on – and creative with – the vehicles IP law provided. Today few businesses (and, as a consequence, few merger partners, acquirers, and equity investors) can afford to ignore them.

Still, IP often strikes fear into the hearts of those it touches due to its sometimes arcane laws and the technical nature of its subject matter. Rather than fear, they should thrill at the sheer range of options and potential strategies now available. IP can be valued, exploited, and traded – even securitized – outside the context of litigation. No longer is there much question about what can be protected. Consider the number of patents issued annually in the United States, which increased from 66,000 in 1981 to 166,000 in 2001. Such growth reflects not only the surging importance of IP, but also the ever-broadening range of enterprises that rely on it.

The aim of this book is to acquaint managers with basic IP concepts, current strategies for its acquisition and exploitation, and how IP strength can be evaluated meaningfully. The term “managers” is intended in the broadest possible sense – research-group leaders, company founders, investors in technology enterprises, corporate sachems and industry mandarins, all-knowing visionaries of every stripe . . . anyone with decision-making responsibility at the interface where business and innovation meet. Corporate and university research managers need cost-effective programs for developing IP that adhere to a sensible budget, while cultivating enthusiasm and cooperation on the part of innovators. A prospective CEO must be able to distinguish a disastrous IP picture from a promising one, and, if he or she decides to join the organization, to define and pursue a realistic strategy. Before investing in a new portfolio company, a venture investor needs an understanding of management’s approach to IP and how their efforts have, or will, support business objectives.

IP, in short, forms the bones of this book, but its flesh is all business. In a well-run company, as, it is hoped, in this introduction to the subject, the two are inseparable.