While in-depth analysis of competitors and suppliers is de rigueur in formulating strategy, surprisingly few companies pay much attention to firms that sell complementary products and services.

**WITH FRIENDS LIKE THESE**

The Art of Managing Complementors

by David B. Yoffie and Mary Kwak

In business, as in war, “Know yourself” and “Know your enemy” have long been rules number one and two. But a third maxim—“Know your friends”—is steadily moving up the list. The focus on supply chain management in the past two decades is an example of this principle at work.

Suppliers and distributors are not the only partners with a potential up or down vote on your success. Companies that independently
provide complementary products or services directly to mutual customers—those that increase the value of each other’s offerings in customers’ eyes and the size of the total pie—can play an equally important role. Intel and Microsoft are probably the most widely known complements in the world today, but complementors play crucial roles in all kinds of industries—printing, photography, video games, and cars, to name only a handful. The quality of relations with complementors can determine the degree to which a new product succeeds or fails and even whether a company thrives or dies. The success of digital cameras in recent years, for instance, depended heavily on the creation of affordable home photo printers, flash memory, and printing kiosks in retail outlets. In the future, if car manufacturers want to sell vehicles powered by fuel cells, they will need complementors to create a new network of hydrogen filling stations to turn that dream into a reality. Similarly, electronics companies developing e-books will have to persuade traditional publishers to make a wide range of their products available in electronic form at a price that consumers will find attractive.

At a time when increasing numbers of companies are focusing their businesses on the areas in which they have a distinct advantage and growing more dependent on third parties to create complete solutions for customers, excelling in strategically managing complementors could not be more important. Yet while many companies rigorously analyze their competitors and suppliers, surprisingly few firms invest heavily in understanding their complementors. The reason may be that executives often overestimate common interests with complementors and repeatedly underestimate the potential for conflict, as well as the investment required to align strategic interests. Even companies that have excelled in aligning their supply chains are typically less skilled at managing relationships with enterprises they neither buy from nor sell to.

Although complementors share many goals—notably, the desire to expand their common market—their interests are frequently misaligned. In their mutual desire to enlarge the pie, they may overlook the fact that the economics of their businesses and their strategies are radically different. They may mistakenly assume that production schedules or marketing programs are in sync or that both companies would naturally support the same standards. As a result, tensions can develop in many areas, such as pricing, technology, and, perhaps most important, control of the market—both in terms of which company has the most influence over customers and which one gets the bigger slice of the pie.

The Dark Side of Complementor Relations

Relationships with complementors are typically double-edged, as Adam Brandenburger and Barry Nalebuff point out in Co-opetition, the book that introduced complementors to a broad audience. “When a complementor enters the game, the pie grows. That’s win-win,” they write. “But then there’s a tug-of-war with your complementor over who’s going to be the main beneficiary. If your complementor gets less of the pie, that leaves more for you.”

The issue of pricing perfectly captures this tension. Ideally, you’d like to price your goods high while your complementors price theirs low. Airlines, for instance, would be happy to see vacation lodgings go for a song; while destination resorts could raise rates substantially and still fill their rooms if customers could fly there for free.

Take the example of Handspring, which competed directly with Palm before being acquired by the larger company in 2003. Handspring had a promising initial strategy: It invited third parties to add modules to the Visor, its expandable personal digital assistant, whose retail price ranged from $149 to $249 when it was introduced in 1999. These modules could turn the PDA into a digital camera, an Internet access device, or practically anything you could imagine. Handspring hoped that the modules would be priced at around $25 to $50 each.

Because Handspring was a new company, however, it had little leverage over potential partners. Moreover, it did not really understand the economics of producing and selling modules. In the end, Handspring’s complementors delivered a variety of creative products that were generally priced between $150 and $250. Virtually no one bought them, forcing Handspring to find a new strategy: It created the Treo, a very different product that sold at a different price point. The Treo integrated key features (including wireless, messaging, Web-browsing, and e-mail capabilities, as well as a QWERTY keyboard) directly into an all-in-one PDA phone. Handspring still relied on outside companies to provide complements ranging from e-mail services to thousands of software applications. However, compared with Handspring’s original product, the Treo, which initially retailed in 2002 at $399 if purchased with a wireless service contract, had much more out-of-the-box appeal to consumers. The device has been a great success.

Conflicts like those Handspring encountered in its early days are hard to manage. You can increase your leverage with suppliers by increasing your purchases with them; you can increase your leverage with customers by tailoring

David B. Yoffie (dyoffie@hbs.edu) is the Max & Doris Starr Professor of International Business Administration at Harvard Business School in Boston and a director of Intel and Charles Schwab. Mary Kwak, in Washington, DC, is a former research associatate at Harvard Business School. All information on Intel and Microsoft in this article is based on published HBS case materials and recently released government documents.
the purchasing process or your products in ways that lock them in. Your complementors, however, often do not do business with you, which makes the challenge of persuading them to meet your terms especially difficult.

Complementor Analysis
The first step in managing complementors is to develop a deep understanding of their economics, their strategies and goals, their existing capabilities, their incentives for cooperation, and any potential areas of conflict.

A complementor’s business model, unlike that of a competitor, will often bear little resemblance to your own. Consider the case of hardware provider Apple and one of its complementors, the application software company Intuit. Even with a market share of only 2% to 4%, Apple makes money by selling its computers at a premium over Windows-based personal computers made by companies like Dell and Hewlett-Packard. Relatively low fixed costs help make this model work: For example, Apple dedicates just 5% of sales to R&D. In contrast, Intuit pours as much as 20% of its revenues into research. High volume is critical to Intuit’s ability to cover these costs, which makes the vast Windows-based market much more attractive than the relatively small Apple market. This is why Steve Jobs has had so much difficulty over the years convincing Intuit to continue producing versions of popular programs like Quicken and TurboTax for Apple’s computers.

After considering your complementors’ economics, you need to dive into the details of their business models: How do they time their product introductions? Are they primarily interested in creating new markets or serving the installed base? Are they leaders or followers? And most important, where does your business model overlap with theirs? Are there inherent conflicts in such areas as pricing, speed of product introduction, market creation, or customer education? The more you know about the potential conflicts, the better you can anticipate them and build the necessary resources to manage them effectively.

Once you understand your complementors’ business models, you can employ a broad range of techniques to influence their behavior. The most obvious tools fall into the category of what Harvard political scientist Joseph S. Nye, Jr., calls “hard power”: resorting to inducements or coercion to get what you want.

Paying complementors to cooperate or threatening dire consequences if they don’t can often secure at least short-term gains. Bill Gates’s threat to halt development of Office for Mac unless Apple adopted Microsoft’s Web browser was an example of hard power. A more benign exercise of hard power was Sony’s bid to attract developers to its video game platform by cutting industry-standard licensing fees in half.

Carrots and sticks, however, are not the only instruments that companies can use to push and pull complementors onto a common path. Savvy strategists know that what Nye dubs “soft power” can sometimes yield the same results—or at least significantly reduce the cost of using blunter tools. Soft power relies on persuasion through indirect means. As Nye explains in his 2004 book, *Soft Power: The Means to Success in World Politics*, “If I am persuaded to go along with your purposes without any explicit threat or exchange taking place…soft power is at work.” It leads others to want what you want instead of forcing or bribing them to do as you wish. Rather than rely solely on traditional measures of strength, like market share or cash, skillful wielders of soft power also use intangible resources to build legitimacy and trust. Soft power
might involve providing complementors with market intelligence or information about future product plans to foster cooperation. It might take the form of supporting institutions that serve an industry or professional community. It might be a matter of entering into strategic commitments to further a common goal, such as establishing a new standard or jointly developing a new technology.

Building Hard Power
All managers seek to develop hard-power resources to strengthen their position vis-à-vis suppliers and customers. But too often they fail to think about how they can use hard power to manage complementors. As a result, they may overlook important sources of leverage. Hard power is typically based on traditional sources of strength, such as market share, brand equity, control of distribution channels, or cash. But companies can also employ other means to enhance their hard power.

One way to shift the balance in your favor is to reduce your dependence on complementors by producing some or all strategically significant complements in-house. In the 1880s, Eastman Kodak had limited success in selling its newfangled product, photographic film. Professional photographers, who made up most of the potential market, had little interest in switching from cameras using dry plates to cameras using film. Camera manufacturers, as a result, had little interest in building film cameras. To drive adoption of its film, Kodak embarked on a strategy of making and marketing simple cameras for the masses and offering developing and printing services.

In theory, this approach has many advantages. By determining the performance and price of key complements, companies can control customers' perceptions of the value of their products or services—something Handspring learned the hard way. They can also profit from economies in marketing and sales and, perhaps, increase barriers to entry. What's more, complementary products may generate the lion's share of profits—especially if the complements are consumables such as the ink for Hewlett-Packard printers or the toner and paper for Xerox copiers. Most important, a company that controls its complements has a much better shot at controlling its own destiny.

In practice, however, complete in-house production is rarely the best option. Internalization can be an effective strategy for companies that require a limited number of complements and have the resources to develop them on their own. In most cases, however, it makes more sense to give third parties incentives to produce at least some of the complements you need. (See the exhibit “When Should You Produce Your Own Complements?”)

Consider PalmSource (now a subsidiary of Access), the developer of the Palm operating system for handheld devices. PalmSource ultimately will thrive or die depending on how many must-have applications are developed to run on its platform. Even if PalmSource were many times its current size (about $70 million in revenues), neither it nor its parent would ever have the resources to match the creative energy and investment dollars of the entire software community. Consequently, while PalmSource has always developed a few critical applications, its focus has been on encouraging third-party development.

Many companies seek a middle ground by simultaneously cultivating independent complementors and limiting their power by producing certain strategically important complements themselves. Nintendo used the magazine *Nintendo Power* in this manner. In 1991, three years after the video game company launched the publication, *Adweek* reported that the initially ad-free monthly had 1.2 million subscribers who were each paying $15 per year. Reason enough to enter the publishing business, perhaps. But there was an additional benefit for Nintendo. As well as news and tips, the magazine fed game reviews to its dedicated readership—giving independent developers one more reason to toe the line. Even when *Nintendo Power* began to run ads, the company refused to carry advertising for video games. Developers that wanted to reach this coveted audience would do so through Nintendo or not at all. (Nintendo was also masterful in the other ways it curbed the power of its individual complementors. In addition to developing games in-house, it limited the number of games that a licensee could produce in a given year.)

Hard power can be highly effective in managing complementors, but it has disadvantages. Perhaps most important, turning repeatedly to hard power does little to build trust between companies. So while hard power can help keep potentially errant complementors in line, it is also likely to discourage deep cooperation. Therefore,
relying heavily on hard power for an extended period of time can be costly. This is literally true when hard power takes the form of outright payments rather than coercion. Absent a real sense of common purpose, which helps keep incentives automatically aligned, complementors have to be lured back to the trough over and over.

Ultimately, however, the greatest danger of hard power is that it can inspire a backlash. It is likely to drive complementors to limit their dependence on a more powerful partner and to strive to reshape the structure of the industry in their favor.

**Exercising Hard Power:**
**Lessons from Microsoft and Intel**

Some aspects of the relationship between Microsoft and Intel, which have come to light only in recent years because of the U.S. Department of Justice’s antitrust investigation of Microsoft, illustrate the advantages and disadvantages of exercising hard power. They show how even sophisticated, successful managers can be blindsided and fail if they lack a deep understanding of complementor relations.

Since 1980, when IBM chose an Intel microprocessor and a Microsoft operating system as the core components of its new Personal Computer line, Intel and Microsoft have been joined at the hip. Today, roughly 80% of personal computers worldwide ship with “Intel Inside,” and more than 90% of PCs come with Microsoft Windows preinstalled.

Microsoft and Intel have obvious incentives to promote two shared goals: growth in the overall personal computer market and improvement in the Wintel standard. By coordinating investments in new features and performance, the two companies can not only expand the market but also raise barriers to imitation and make it even more difficult for competitors to grab a piece of the pie with alternative offerings. This commonality of interests has yielded much fruitful collaboration. Time and time again, Microsoft has created new software to take advantage of the processing power delivered by Intel’s latest generation of chips. As Bill Gates once told Intel management, “We will fill the vessels you build with more software.”

But conflict has also been a constant theme in the Wintel relationship. Forced to work together while pursuing interests of their own, the two companies have often looked, in the words of one Intel executive, “like two porcupines trying to mate.” Both sides have emerged bruised and bloodied from these battles, but Intel historically had the worst of the deal. Microsoft has repeatedly used hard power to bend Intel to its will.

The conflicts between the two are rooted in the differences in their business models and the competitive conditions they face. Intel makes money on sales of microprocessors that go into new PCs. This makes constant innovation critical to Intel’s strategy: The promise of better performance is what keeps computer sales strong. And to deliver such innovation, Intel needs Microsoft’s active support. For example, it often takes a new operating system to unleash the full power of a latest-generation chip. Microsoft, on the other hand, can prosper for a while without Intel’s help because it generates a significant share of its profits by selling upgrades and applications to the installed base. What’s more, Microsoft has had little price competition for much of its history, while hungry chip makers have long nipped at Intel’s heels. The upshot is that Microsoft has often needed Intel less than Intel needs Microsoft—which means that when the two sides have clashed, Microsoft has frequently had the upper hand.

**The MMX fiasco.** A leading example of such conflict is the battle in the mid-1990s over MMX, a set of 57 new instructions Intel planned to add to its microprocessor to speed multimedia processing. Intel had invested tens of millions of dollars in its development and intended to spend another $250 million to make sure the new MMX microprocessor took off. But Intel’s plans could go nowhere without Microsoft’s support: Unless Microsoft agreed to make a relatively simple modification to Windows, most applications would be unable to access the performance advantages of Intel’s new chip.

MMX created a difficult problem for Microsoft. At least one other chip maker, Advanced Micro Devices, was pressing Microsoft to support its own multimedia technology, 3DX. If Intel went ahead with MMX, the hardware platform could split into competing strands. Microsoft would have to supply an MMX-enabled version of Windows for Intel-based computers and a different version for PCs built on AMD’s chips, which could confuse customers and multiply Microsoft’s costs.

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To solve this problem, Microsoft turned to hard power. It demanded that Intel license MMX to other chip makers at no charge in return for Microsoft's support for the new standard. Intel was understandably reluctant to comply. MMX was a potential source of competitive advantage that Intel had developed at great expense. In the end, however, Intel saw no choice but to accede to Microsoft's terms: MMX for everyone was better than MMX for no one. In 1997, Intel introduced MMX as part of the Pentium II launch. AMD also built MMX into its next-generation microprocessors, and both companies had Microsoft's support. The processors with MMX were a huge success. But because Intel could not use MMX to differentiate itself, the average selling price for its microprocessors was much lower than planned, and so were its profits.

The limits of hard power. Intel management ultimately learned two essential lessons from this and similar experiences with Microsoft. First was the importance of understanding Microsoft's business model. Andy Grove later confessed to Harvard Business School case writers that he simply had not understood the model well at the time. To remedy this shortcoming, Intel started investing heavily in understanding its complementor. It stationed its own employees on the Microsoft campus full-time, and senior managers of the two companies held regular discussions to coordinate product plans, marketing efforts, and joint engineering initiatives.

Second, Intel learned that when business models conflict, it is critical not to be too dependent on a complementor. Despite its prominence in the PC industry, Intel had remained vulnerable to Microsoft's whims. Accordingly, Intel made explicit moves to lessen its dependence on Microsoft and limit the software giant's ability to use hard power.

One such move was Intel's support for Linux—the leading competitor to Windows. In the late 1990s, Intel invested in Red Hat and VA Software, two major providers of Linux software and services. In 2000, Intel became a founding sponsor of the Open Source Development Labs, which focuses on driving corporations to adopt Linux. The benefits of this strategy are clear. Not only did Intel reap a windfall when Red Hat and VA Software went public, but it also continues to profit by supplying most of the chips used in Linux servers. In addition, the company strengthened its position in relation to Microsoft—both by diversifying its business and by making itself a swing player in Microsoft's battle against Linux. In other words, Microsoft would not always be able to take Intel's support for granted.

Microsoft should have learned an important lesson from this episode as well: If you push a complementor too hard, you risk a backlash. In the case of MMX, by using hard power to take away an important complementor's intellectual property and competitive differentiation, Microsoft probably went too far.

Building Soft Power
A particular asset can serve as the foundation for both hard and soft power. The larger your market share is, for example, the more attractive complementors are likely to find any offer you make. This effect doesn't rely on direct payments or coercion; it simply means that complementors know where their self-interests lay. A larger market for you means a larger market for them.

Traditional measures of strength also underwrite other sources of soft power, such as strategic commitments that reduce the risks that complementors face. One of the greatest stumbling blocks in relationships with complementors is the chicken-and-egg problem: Typically, you need complementors on board to get your product rolling, but they're reluctant to sign on until you have a large installed base. One way to address this problem is by building industry support for your chosen platform.

An example is how Intel helped make Wi-Fi the standard for wireless computing. In 2003, Intel introduced Centrino, a new product for laptop computers that included a new microprocessor, Wi-Fi chips, and software. Intel thought Wi-Fi was the best solution for connecting millions of mobile computers to the Internet, but its executives also realized that no one would buy a Centrino laptop if there was no Wi-Fi service (the complement). Accordingly, Intel launched a $300 million marketing campaign to assure complementors that the chip maker was deeply committed to Wi-Fi. Its strategy worked: Complementors—ranging from T-Mobile (which leapt into the
Wi-Fi service market) to Starbucks and airports (which made Wi-Fi available at their sites)—jumped on the Wi-Fi bandwagon.

Less tangible assets are also important sources of soft, or co-optive, power—what Joseph Nye describes in *Soft Power* as “the ability to shape what others want.” Sharing information, for example, plays a critical role in many soft-power strategies. Information can take the form of private intelligence, such as market forecasts, insights into proprietary technologies, or unannounced product plans. Equally important, it can take the more public form of a compelling vision in which all parties have a stake. Managers are usually better at articulating their vision for their own company and their customers than in formulating a vision that also incorporates the health and welfare of their complementors. But those who master this latter task, like Steve Jobs, are more likely to succeed.

In 2002, Jobs began his campaign to persuade the major music companies to sell tracks to iPod users through the iTunes Music Store, an online retail site that Apple would launch in April 2003. After being burned by illegal file-sharing services like Napster and Kazaa, most industry executives just wanted digital music to go away. But Jobs's passionate vision persuaded them to climb on board. He convinced them that Apple's service would protect their interests by being secure—and a smash hit. Apple's technology was designed to make it difficult for users to share downloads; Jobs promised that the combination of 99-cent pricing and Apple's marketing prowess would yield millions of sales, and the fact that Apple's platform was just plain cool didn't hurt. One music industry executive told *BusinessWeek Online* that just seeing the iTunes store changed many people's views: “Suddenly, people said 'I want to work with them.' It changed the debate from 'why do I have to give digital rights to X service' to 'we have an exclusive track for Apple that we want to do.'”

Jobs relied primarily on direct contacts with music executives and stars such as Bono and Sheryl Crow. But in many cases, working through trade associations and other institutions that serve an industry community can be equally, if not more, effective. Such organizations lower the costs of evangelism by providing a forum where companies can reach many potential complementors at once. The repeated contacts a company cultivates can make it familiar to, and trusted within, the community. And perhaps most important, by endorsing a company's vision, such interactions can amplify the firm's voice and increase its legitimacy in others' eyes.

As a start-up, Netscape, the Web browser pioneer, was a master of this game. It persuaded powerful trade organizations such as the World Wide Web Con-
One of the companies that have most successfully exploited soft power in recent years is also one of the world’s true powerhouses: IBM. The firm’s deftness in applying soft power has allowed it to play a leadership role in establishing the free Linux operating system as a force in enterprise computing—a success that not coincidentally has helped IBM to become an acknowledged leader of the Linux movement and has broadened its market share and provided means to influence its course and pace. So, beginning in 2000, IBM began by dispatching engineers to speak with members of the Linux community and making small investments in several Linux start-ups, such as Red Hat. Then in late 1999, then—senior VP Samuel Palmisano championed a new vision, which called for retooling IBM’s entire hardware and software portfolio to focus on Linux. This was an extraordinary decision by a company used to controlling its destiny through hard power. Thousands of engineers across the company embarked on the costly process of creating Linux software for all of the company’s markets. By 2005, IBM claimed to have invested over $1 billion in Linux development.

At the same time, IBM implemented an ambitious program for working with the Linux community that broke with the company’s historical insistence on mandating technology directions and controlling projects. IBM’s use of soft power came in three flavors: First, it consistently articulated a vision for Linux that would appeal to the developer community. Second, it helped to create and support industry organizations without demanding control. Third, it committed enormous resources to the collective effort and gave away technology to the Linux community without attaching the usual strings.

Articulating a vision. IBM’s conception of Linux as an industrial-strength operating system that can overthrow the empires created by Microsoft and Sun has helped the company draw many of the Linux community’s 1.2 million developers to its side. Even Linus Torvalds, the creator of Linux, has seen IBM as an ally in his efforts to drive the world to open source software. IBM and Torvalds were tapping into a powerful “anybody but Microsoft” sentiment. IBM made sure its message got through by launching a TV advertising campaign in 2003 that focused on the virtues of Linux—reliability, speed, security, and cost-effectiveness—and did not try to sell IBM.

Fostering leadership. In another important step, IBM joined forces with Intel, Hewlett-Packard, Computer Associates, and NEC to launch the Open Source Development Labs in 2000. OSDL, which has grown to 66 member and affiliate companies in 2006, is a foundation dedicated to accelerating the use of Linux in enterprise computing. Led by Linus Torvalds, it makes high-end testing facilities accessible to Linux developers, seeks to channel investment to the areas of greatest need, and generally serves as a “center of gravity” for the Linux community.

Contributing to the cause. IBM has donated a vast amount of money, people, and intellectual property to the Linux community. One of IBM’s most visible contributions was its decision in January 2005 to make 500 Linux-related patents freely available to the entire Linux community. In addition, it has donated copyrights, Linux-specific software, and engineers’ time to standard-setting organizations such as W3C and Ecma International. The scale of IBM’s investment in Linux dwarfs that of other companies. As many as 600 IBM engineers have been
IBM executive chairs OSDL, and Linux developers report that IBM’s influence in standard-setting organizations has grown considerably in recent years. When IBM wants Linux to move in a particular direction, its voice is likely to be heard. For example, when the company let it be known that it wanted Linux to support a technology known as multithreading, which allows multiple parts of a program to run simultaneously, complementors burst into action and delivered the capability within months.

IBM has largely succeeded in achieving its goals of improving Linux, giving Linux credibility, and putting pressure on Microsoft. Although it is impossible to quantify the bottom-line impact of IBM’s Linux strategy, the company certainly has reaped substantial indirect benefits: a somewhat weaker Microsoft and a trend toward turning the server operating system into a commodity, which is good for IBM’s server business.

IBM’s reliance on soft power, however, carries risks. Its lack of direct control over critical assets is a vulnerability. Despite all of IBM’s efforts, the Linux community could still evolve in directions detrimental to its interests. In addition, IBM’s leadership position in the community makes it a prominent target of Linux’s rivals. For example, when SCO carried out its threat to sue Linux users for allegedly infringing on its patents, it sought $1 billion in damages from IBM.

IBM’s reward for supporting Linux? Some developers have told us that the entire Linux community loves IBM. These warm feelings have paid off in concrete ways. An IBM executive chairs OSDL, and Linux developers report that IBM’s influence in standard-setting organizations has grown considerably in recent years. When IBM wants Linux to move in a particular direction, its voice is likely to be heard. For example, when the company let it be known that it wanted Linux to support a technology known as multithreading, which allows multiple parts of a program to run simultaneously, complementors burst into action and delivered the capability within months.

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IBM’s reliance on soft power, however, carries risks. Its lack of direct control over critical assets is a vulnerability. Despite all of IBM’s efforts, the Linux community could still evolve in directions detrimental to its interests. In addition, IBM’s leadership position in the community makes it a prominent target of Linux’s rivals. For example, when SCO carried out its threat to sue Linux users for allegedly infringing on its patents, it sought $1 billion in damages from IBM.

Smart Power

Microsoft’s battles with Intel and IBM’s efforts to work with the Linux community demonstrate that both hard power and soft power can be effective tools for handling complementor relations. How, then, should companies decide which approach to use? The answer to this question starts with a careful diagnosis of the strategic situation they face. Three factors, in particular, play significant roles in determining the relative value of hard and soft power: a company’s capacity to exercise hard power; the importance of having a large variety of complements; and the severity of the “holdup” problem, meaning the threat that one complementor may extract most or all of the value at the expense of others.

Capacity. By and large, exercising hard power successfully requires extensive resources. The ability to make direct payments or coerce complementors depends heavily on

working primarily on open source Linux projects, and thousands of other IBM engineers contribute to Linux activities. IBM’s total commitment of people, money, and intellectual property is probably at least five times greater than that of any other company, and much of these resources have been devoted to activities that benefit the entire Linux community, not just IBM.

For example, IBM has invested $50 million in work on Eclipse, a development environment that makes it much easier to test and debug Linux software. IBM has taken the lead in this project, but it has welcomed the participation of hundreds of other firms. In addition, the company has helped create a nonprofit foundation to manage and coordinate the project and conduct user and market research on its behalf—a model it has successfully applied to several other large-scale development efforts.

Increasingly, the complementor community of Linux developers and users looks to IBM for help in making Linux work. Consider SAP, a company with which IBM both competes and cooperates. More than 200 employees of IBM Global Services were recently assisting SAP on Linux projects. Yes, such actions could strengthen competition in some segments of IBM’s business. Nonetheless, its management believes that the potential gains IBM can reap by getting important global companies such as SAP to support Linux easily justify the risk.

Finally, IBM has been active in defending the Linux community as a whole. One of the most conspicuous examples is the action it took after the SCO Group, which owns the original code as well as key intellectual property underlying the Unix operating system, threatened to sue Linux users for alleged patent infringements. In an attempt to ensure that SCO’s threat did not slow adoption of Linux, IBM and Intel took the lead in setting up a defense fund: They together contributed $3 million to what became a $10 million fund (managed by OSDL) to help pay the targets’ litigation costs.

Despite its massive investments, IBM has never tried to own Linux. To reassure developers that IBM will not try to turn Linux into a proprietary product, the company has pledged never to sell or distribute the operating system. IBM customers who need Linux are referred to third-party distributors, such as Red Hat and Novell.

IBM’s reward for supporting Linux? Some developers have told us that the entire Linux community loves IBM. These warm feelings have paid off in concrete ways. An
SOFT POWER LEADS OTHERS TO WANT WHAT YOU WANT, instead of forcing or bribing them to do as you wish.

such assets as a leading market position, strong ties to other essential partners, and stockpiles of cash. Consequently, the effective use of hard power may not lie within every company’s grasp.

Soft power, by contrast, offers more options to smaller firms that lack the deep pockets of a major corporation. In fact, when it comes to the use of soft power, weaker players may even have an advantage: Potential partners are often more willing to work with them, having less reason to fear that the velvet glove of soft power hides an iron fist.

**Variety.** If success in your industry depends on tight integration with one vital complement, hard power may be relatively cost-effective. Rather than spreading your resources over many potential partners, you might be better off concentrating them on one or a few complementors and focusing on attaining the perfect product or service match. Over time, the complementor may get locked into the relationship so that hard power becomes even easier and cheaper to use. But the key to making this strategy work lies in consistently maintaining the upper hand in any one-on-one relationship, as Microsoft has frequently done. Otherwise, you may be the one facing a dearth of strategic options when your interests and those of your partner diverge.

In many cases, however, the more the merrier when it comes to the range of complements that customers can buy, and, as a result, the number of complementors. Car manufacturers, for example, have benefited from service stations being everywhere, with multiple vendors competing on price. Under such conditions, hard power can be more than a resource drain; it can turn into an exercise in herding cats. Soft power may be more effective because it often relies on the creation of public goods, which can be extended to additional complementors at little or no cost. Sharing a strategic vision with more rather than fewer partners, for example, makes it more compelling, not less. Similarly, strategic commitments to reduce complementors’ risks, such as momentum-building campaigns, can often be extended to multiple partners without becoming less effective.

**Holdup.** If, for their products to become a good match with yours, potential partners must make large, irreversible, and highly specific investments, they are bound to be much more wary of getting trapped in a relationship that could go sour. Then the cost of using hard power is likely to soar as complementors seek reassurance that you’re committed to making the relationship work—and insurance against the possibility that you’re not. Consequently, as the danger of holdup rises, a little soft power—particularly measures to reduce risk and build trust—can potentially go a long way.

**Combining hard and soft power.** In the end, choosing between hard and soft power is not an either-or decision. To get the most out of complementors, companies should dip into both toolboxes, often at the same time. As Nye reminds us, “Smart power is neither hard nor soft. It is both.” For example, when Apple opened the iTunes store in 2003, it relied primarily on soft power, cajoling the music companies into making their libraries available. It reduced the risks they faced by offering safeguards against piracy, as well as a hip product (the iPod) that would drive sales. When Apple’s contracts with the music companies came up for renewal last April, however, it turned to hard power. By then, iTunes had captured 80% of the market for legal downloads, which gave Jobs the upper hand. The music companies, which were receiving between 60 and 70 cents per download, wanted more. If the iTunes Music Store would only charge $1.50 or $2.00 per track, they reasoned, they could double or even triple their revenues and profits. Figuring that he could sell more iPods only if music was cheap, Jobs was determined to keep the price of a download at 99 cents and to maintain Apple’s margins. Given iTunes’ dominant position, the music companies had no choice but to relent.

Ultimately, conflict among complementors is inevitable. It is one thing to say you are trying to create win-win scenarios; it is quite another to expect even the closest of partners to do you the favor of abandoning its own business model, technology preferences, or desire to grab most of the pie. As a result, even the most successful partnerships are never trouble free. But together, hard and soft power can help companies manage the dark side of complementor relationships and take full advantage of the opportunities that cooperation should create.

1. This quotation from Bill Gates and the following one from the Intel executive were recorded in David B. Yoffie, Ramon Casadesus-Masanell, and Sasha Mattu, “Wintel (A): Cooperation or Conflict,” Harvard Business School Case 9-704-499.

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