2. Co-opetition

If business is a game, who are the players and what are their roles? There are customers and suppliers, of course; you wouldn't be in business without them. And, naturally, there are competitors. Is that it? No, not quite. There's one more, often overlooked but equally important group of players—those who provide complementary rather than competing products and services. That's where we'll begin this chapter. We'll see how complements can make the difference between business success and failure.

1. Thinking Complements

The classic example of complements is computer hardware and software. Faster hardware prompts people to upgrade to more powerful software, and more powerful software motivates people to buy faster hardware. For example, Windows 95 is far more valuable on a Pentium-powered machine than on a 486 machine. Likewise, a Pentium chip is far more valuable to someone who has Windows 95 than to someone who doesn't.

Though the idea of complements may be most apparent in the context of hardware and software, the principle is universal. A complement to one product or service is any other product or service that makes the first one more attractive. Hot dogs and mustard, cars and auto loans, televisions and videocassette recorders, television shows and *TV Guide*, fax machines and phone lines, digital cameras and color printers, catalogs and overnight delivery services, red wine and dry cleaners, Siskel and Ebert. These are just some of the many, many examples of complementary products and services.

Let's take a closer look at the complements to cars. An obvious one is paved roads. Having built a better mousetrap, the fledgling auto industry didn't leave it to others to make a beaten path to its door. While it couldn't pave all the roads itself, it got many started. In 1913 General Motors, Hudson, Packard, and Willys-Overland, together with Goodyear tires and Prest-O-Lite headlights, set up the Lincoln Highway Association to catalyze development of America's first coast-to-coast highway.[1] The association built "seedling miles" along the proposed transcontinental route. People saw the feasibility and value of paved roads and lobbied the government to fill in the gaps. In 1916 the federal government committed its first dollars to building roads; by 1922 the first five transcontinental highways, including the Lincoln, had been completed.

Today there are plenty of roads, but money can still be scarce. Cars, especially new ones, are expensive, so if customers find it hard to borrow, they may find it hard to buy a new car. Thus, banks and credit unions complement Ford and General Motors. But auto financing has not *always* been accessible. That's why General Motors created General Motors Acceptance Corporation back in 1919 and Ford Motors formed Ford Motor Credit in 1959. It doesn't really matter who provides the financing—banks, credit unions, or the automobile credit companies themselves. More money in this market leads to lower interest rates. Better and cheaper access to credit enables people to buy more cars—and that helps Ford and GM. The flip side is also true: selling cars helps Ford and GM sell loans. Over the last decade, Ford has actually earned more money making loans than making cars.

Auto insurance is a complement to cars because, without insurance, people might not be willing to risk investing $20,000 or more in a new car. Just as carmakers have made auto loans more affordable, perhaps they could help make auto insurance more affordable. This would be particularly valuable to first-time buyers, who often face prohibitively high insurance rates.

Complements are always reciprocal. Just as auto insurance complements new cars, new cars complement auto insurance. The more new cars people buy, the more insurance they buy, especially collision and theft insurance. Thus, auto insurance companies might want to use their expertise and clout to help their customers get a better price on new cars. We'll come back to the subject of cars and auto insurance later in the book.

Suppliers to the car industry haven't forgotten complements, either. Until tire manufacturers figure out a way to add a fifth wheel to a car, there's really only one way for them to boost sales, and that's to whet people's appetite to drive. That's why the French tire maker Michelin sells the Michelin guidebooks. These guidebooks don't give just the shortest route, they make sure to point out the longer scenic routes as well. The Michelin guide makes getting there at least half the fun. It encourages travelers to keep moving, to keep wearing down those tires. There's always another town to see, another interesting detour to make. The Michelin guide not only helps sell more tires, it's also a profitable business in its own right. It dominates the guidebook market in France and is making inroads in the rest of Europe.

The used-car market also benefits when people pay attention to complements. For proof, look to John and Louise MacBain, publishers of *La Centrale des Particuliers*, a Paris weekly specializing in advertisements for used cars. They have found people who will provide the complementary services their readers want—auto insurance, financing, and mechanical warranties. And the MacBains have prenegotiated very favorable rates for their readers by giving the providers a prominent listing in the magazine and use of the *La Centrale* brand name. The MacBains go even further, selling some complements themselves. Both readers and advertisers want to know average transaction prices and the average time on the market for each make, model, and year. Through France's Minitel online service, the MacBains make this information available for a fee.[2] By paying attention to complements, the MacBains have ensured that there is no competition for *La Centrale*. They've taken their idea on the road, changing the way used cars are sold in Canada, Hungary, Poland, Sweden, Thailand, the United States, and other countries.

The complements mindset also helps explain why some businesses fail. Alfa Romeo and Fiat had trouble selling their cars in the United States, because people knew they'd have trouble finding spare parts and qualified mechanics. Both have exited the U.S. market. The Sony Betamax videocassette recorder, though technically superior to the VHS in some respects, was ultimately undone by the lack of rental movies in the Betamax format. In many cities, downtown shopping has lost out to suburban malls because of a lack of convenient parking. If these enterprises had provided the necessary complements, they might have fared much better.

The problem of missing complements is multiplied a thousand times over in the case of a new economy. This is the situation in much of the third world and in many of the former communist countries. There the fate of everything—not just the company or industry but often the whole country—depends on complements. One industry will need complementary industries so it can get going, but those complementary industries will need the first industry so *they* can get going. It's a chicken-and-egg situation everywhere you look. Everything has to happen all together, or nothing might happen at all. That's why some developing economies take off while others stall.

Thinking complements is a different way of thinking about business. It's about finding ways to make the pie bigger rather than fighting with competitors over a fixed pie. To benefit from this insight, think about how to expand the pie by developing new complements or making existing complements more affordable.

Intel is the ultimate competitor. Andy Grove, the CEO, is known for saying: "Only the paranoid survive."[3] But competitors aren't the only thing on Grove's mind; Intel is also on the lookout for complements.

Inside Intel We started this chapter by explaining how Microsoft benefits when Intel develops a faster chip and how Intel benefits when Microsoft pushes forward in software development. But from Intel's perspective, Microsoft doesn't push hard enough. According to Andy Grove: "Microsoft doesn't share the same sense of urgency [to come up with an improved PC]. The typical PC doesn't push the limits of our microprocessors. . . . It's simply not as good as it should be, and that's not good for our customers."[4]

If software applications don't push the limits of existing microprocessor chips, then Grove has to find something else that will. Otherwise, his customers won't feel the continued need to upgrade. If they don't keep upgrading, not only will the market become saturated but the other chip manufacturers—AMD, Cyrix, and NexGen—will be able to catch up.

This is not a new problem for Intel; processing capabilities have always led the software applications. For example, although 32-bit processing has been a technological reality since 1985, Microsoft's first 32-bit processing system—Windows NT—didn't appear until 1993.[5] Intel has always been on the lookout for applications requiring massive processing capabilities.

One of the most CPU-intensive applications is video. Even the Pentium chip will not handle full-screen, 24-frames-per-second output. But the next-generation chip, the Pentium Pro, will. What Intel wants, therefore, is a cheap and widely used video application. To that end, it has invested over $100 million in ProShare, a videoconferencing system that sits atop a desktop computer.[6] ProShare is an ideal complement to Intel's chips.

But Intel faced the same problem that makers of fax machines faced a decade earlier: what's the point of having a desktop videoconference system if there's no one to call? Fax machines only took off in 1986, when their price came down to under $500. How could Intel establish a market presence for ProShare and get the price down without shelling out another $100 million? Intel's strategy was to look for other companies interested in helping out.

The phone companies proved to be a natural ally. ProShare complements their business because it receives and transmits more data than ordinary phone lines can handle. To work effectively, ProShare requires an Integrated Services Digital Network (ISDN) line.[7] These lines have three channels for transmission—two for data and one for voice—each with nearly five times the capability of ordinary twisted copper. The phone companies have the capability of supplying ISDN lines, but there's been little demand so far. If people buy ProShare, they'll buy ISDN lines, too.

So Intel doesn't have to pay for ProShare all by itself. Just as phone companies subsidize the purchase of a new cellular phone in order to attract new subscribers, some are subsidizing ProShare to encourage people to buy ISDN lines. They are offering ProShare to their customers for $999, half the list price of $1,999.[8]

In another move to create momentum for ProShare, Intel reached an agreement with Compaq under which Compaq will include ProShare in its business PCs. This integration brings down the cost of ProShare for Compaq buyers to between $700 and $800 and gives ProShare's market presence a further boost.

All the players—Intel, phone companies, and Compaq—recognize their complementary relationship. Intel wants to increase the demand for processing capability; phone companies want to increase the demand for data transmission; Compaq wants its business PCs to stand out from the competition. These objectives all come together with personal videoconferencing.

2. The Value Net

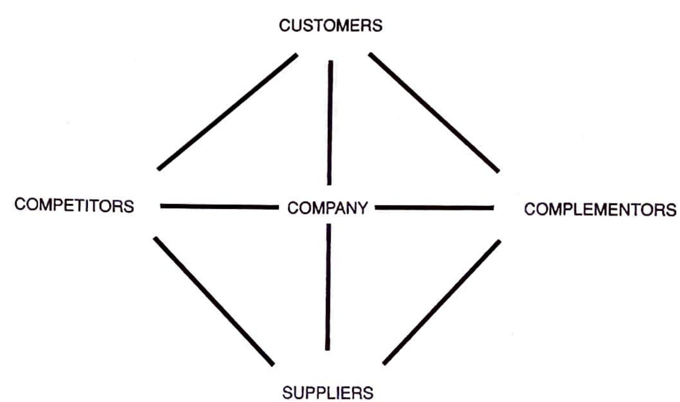
We're now in a position to better answer our first question: if business is a game, who are the players and what are their roles? Customers, suppliers, and competitors. And one more category: people who provide complements. There's no word for people who provide complements, so we're going to propose one: *complementor*. This is the natural counterpart to the term "competitor." The fact that we had to coin a new word is proof that the vital role of complements has been largely overlooked in business strategy.

Why not just call complementors "partners" or "allies"? There are two reasons. First, the terms "partner" and "ally" are too broad. Customers, suppliers, and complementors can all be your partners or allies. We want to distinguish these roles. Second, the terms "partner" and "ally" are, in a different way, too narrow. They don't necessarily capture the full nature of the business relationship—a relationship that involves some inherent tensions, as we'll see.

In the rest of this chapter, we're going to present a complete picture of the game of business. We'll explore the roles of all four types of players—customers, suppliers, competitors, and complementors—and the interdependencies among them. We'll see how the same player can have multiple roles. We'll define exactly what we mean by our new term "complementor"; it will even prove useful to give a definition of the familiar term "competitor."

It's a back-to-basics exercise. Focusing on one type of player or one type of relationship tends to produce blind spots. Taking in the wider picture reveals many new strategic opportunities.

To get things started, we introduce a schematic map to help you visualize the whole game. This map, the Value Net, represents all the players and the interdependencies among them. As we proceed, you might start thinking about how you'd draw a Value Net for your business. You'll see the Value Net we drew for our own business later on in this chapter.



THE VALUE NET

Along the vertical dimension of the Value Net are the company's *customers* and *suppliers*. Resources such as raw materials and labor flow from the suppliers to the company, and products and services flow from the company to its customers.[9] Money flows in the reverse direction, from customers to the company and from the company to suppliers.

Along the horizontal dimension are the company's *competitors* and *complementors*. We've already seen many examples of complementors. Here's a definition of the term:

> **A player is your complementor if customers value your product *more* when they have the other player's product than when they have your product alone.**

Thus, Oscar Mayer and Coleman's are complementors. People value hot dogs more when they have mustard than when they don't. And vice versa. The way to identify complementors is to put yourself in your customers' shoes and ask yourself: what else might my customers buy that would make my product more valuable to them?

Competitors are the reverse case:

> **A player is your competitor if customers value your product *less* when they have the other player's product than when they have your product alone.**

Coca-Cola and Pepsi-Cola are a classic example of competitors. So are American Airlines and Delta Air Lines. If you've just had a Coke, you value a Pepsi a lot less than if you've yet to quench your thirst; Coke doesn't add life to Pepsi. Likewise, if you have a ticket on Delta, American is something a little less special in the air.

The traditional approach defined competitors as the other companies in your industry—those companies that make products similar to yours in a manufacturing or engineering sense. As people think more in terms of solving their customers' problems, the industry perspective is becoming increasingly irrelevant. Customers care about the end result, not about whether the company that gives them what they want happens to belong to one industry or another.

The right way to identify your competitors is, again, to put yourself in the customers' shoes. Our definition leads you to ask: What else might my customers buy that would make my product less valuable to them? How else might customers get their needs satisfied? These questions will lead to a much longer, and more insightful, list of competitors. Thus Intel and American may end up as competitors as videoconferencing takes off and becomes a substitute for business trips.

As Microsoft and Citibank each work to solve the problem of how people will transact in the future—whether it be E-money, smart cards, on-line transfers, or something else—they might end up being competitors. This is despite the fact that they come from different "industries" as traditionally defined—software and banking.

Phone companies and cable television companies are both working to solve the problem of how people will communicate with each other and access information in the future. Again, different industries—telecommunications and cable television—but increasingly one market. Today European banks are selling insurance, and European insurance companies are selling tax-advantaged savings vehicles. It's no longer the banking industry or the insurance industry—it's one marketplace for financial services.

So far we've been stepping into customers' shoes to identify who complements you and who competes with you in attracting customers' dollars. But that's only half the game.

The Supplier Side

The top half of the Value Net deals with customers, the bottom half deals with suppliers. And, just as with customers, there are two sides to the game with suppliers. Other players can complement you or compete with you in attracting suppliers' resources. Here are the definitions:

> **A player is your complementor if it's *more* attractive for a supplier to provide resources to you when it's also supplying the other player than when it's supplying you alone.**

A player is your competitor if it's *less* attractive for a supplier to provide resources to you when it's also supplying the other player than when it's supplying you alone.

Competition for suppliers often crosses industry boundaries. Capital providers are suppliers, and the competition to attract their funds takes place in a global market. Employees, too, are suppliers. People don't usually look at it that way, but follow the dollar: the company pays employees to provide a valuable resource—namely, their expertise, labor, and time. Competition for employees crosses industry boundaries. For example, companies from very different industries compete for the supply of newly minted M.B.A.'s.

Many companies are both competitors and complementors with respect to their suppliers. Compaq and Dell, for example, compete for the limited supply of Intel's latest chip. But the two companies are complementors as well as competitors with respect to Intel. Between development costs and building a new fabrication plant, Intel will spend well over a billion dollars to develop the next-generation chip. Intel will be able to spread that cost among Compaq, Dell, and all the other hardware makers, which means that each one of them will pay less to have Intel inside.

American and Delta compete for landing slots and gates. But although they are competitors for airport facilities, they are complementors with respect to Boeing, a key supplier. When American and Delta decide to commission the next-generation airplane, it's much cheaper for Boeing to design a new plane for both airlines together than to design a new plane for each of them separately. Most of the development costs can be shared, and the greater demand helps Boeing move down the learning curve faster, too.

The same principle applies to fighter planes, although the U.S. Congress may have discovered this a bit too late. The F-22 fighter jet complements and is complemented by other defense programs that share common development activity, such as avionics and navigation. Kill one of these supply-side complementors and you may shoot down the F-22 without meaning to. William Anders, former chairman and CEO of General Dynamics Corporation, explains the problem:

The F-22 is being recognized as one of the most successful, best managed next-generation weapons system development programs currently under way. However, as demand continues to fall in other defense programs served by the F-22 team, a portion of the fixed and overhead costs formerly supported by those programs automatically shifts over to the F-22. The danger is that this model program could ultimately become unaffordable because of the growing overhead and fixed cost burdens.[10]

In cutting back defense programs that it decides it can do without, Congress inadvertently endangers programs that it wants to keep. With complements, it's sometimes all or nothing. There may be no halfway.

As we continue moving into the information economy, supply-side complementarities will become increasingly the norm. There's a big up-front investment in learning to make something—whether computer chips or airplanes—and then variable costs are relatively modest. There's huge leverage. The more people that want a knowledge-based product, the easier it is to provide.

In the case of computer software or drugs, essentially *all* the costs are up-front; then it's gravy. For Microsoft, all the real cost comes in the intellectual step of writing the computer code for a new program. Copying the disks costs only pennies. So the bigger the market, the more the development costs can be spread out. The mass-market program is better and cheaper than what any one person could commission on his own. That's the nature of markets for knowledge-based products.

Recognizing Symmetries

The Value Net reveals two fundamental symmetries in the game of business. On the vertical dimension, customers and suppliers play symmetric roles. They are equal partners in creating value. But people don't always recognize this symmetry. While the concept of listening to the customer has become a commonplace, the same isn't true when it comes to suppliers. We've all heard people tell their suppliers: "You've got the specs. You don't need to know what the product's for. Just get it to me on time at the lowest price." Imagine talking to customers that way! Only recently have people begun to recognize that working with suppliers is just as valuable as listening to the customer.

Supplier relations are just as important as customer relations. In one labor negotiation, we heard the head of human resources exclaim: "I have to get my employees to understand that the customer comes first." Seeing the Value Net helped change his mind and made for much more productive discussions. In the end, everyone recognized a common goal—to create the biggest pie. To do that, you can't put anyone first. If a customer wants something special, such as rush delivery, but isn't willing to pay enough to compensate workers for a lost weekend with their families, then satisfying this order would not create value—in fact, it would destroy value. The customer isn't always right. Employees have rights, too.

On the horizontal dimension, there's another symmetry. Go back to the definitions of complementor and competitor. You'll see that the only difference between them is that where it says "more" in the definition of complementor, it says "less" in the definition of competitor. At the conceptual level, complementors are just the mirror image of competitors. That's not to say that people are equally good at seeing the mirror image. Just as people have been playing catch-up when it comes to thinking about suppliers, there's a lot more work to be done in recognizing and benefiting from complementor relationships.

Symmetries of the Value Net

Customers and suppliers play symmetric roles.

Competitors and complementors play mirror-image roles.

It's easy to focus on only one part of your business, and miss others. The Value Net is designed to counter this bias. It depicts all four types of players you interact with, and it emphasizes the symmetries between them—the symmetries between customers and suppliers, and between competitors and complementors.