
The Competitive Dynamics of Network-Based Businesses

by Kevin P. Coyne and Renée Dye



Harvard Business Review

Reprint 98103

DO NOT COPY

Harvard Business Review

JANUARY - FEBRUARY 1998

Reprint Number

ROBERT SIMONS AND ANTONIO DAVILA	HOW HIGH IS YOUR RETURN ON MANAGEMENT?	98110
ANTHONY J. RUCCI, STEVEN P. KIRN, AND RICHARD T. QUINN	THE EMPLOYEE-CUSTOMER-PROFIT CHAIN AT SEARS	98109
KEVIN P. COYNE AND RENEE DYE	THE COMPETITIVE DYNAMICS OF NETWORK-BASED BUSINESSES	98103
JOAN MAGRETTA	GOVERNING THE FAMILY-OWNED ENTERPRISE: AN INTERVIEW WITH FINLAND'S KRISTER AHLSTROM	98107
DAVE ULRICH	A NEW MANDATE FOR HUMAN RESOURCES	98111
JAY A. CONGER, DAVID FINEGOLD, AND EDWARD E. LAWLER III	APPRAISING BOARDROOM PERFORMANCE	98102
WARREN D. MILLER	HBR CASE STUDY SIBLINGS AND SUCCESSION IN THE FAMILY BUSINESS	98108
SUSAN FOURNIER, SUSAN DOBSCHA, AND DAVID GLEN MICK	THINKING ABOUT... PREVENTING THE PREMATURE DEATH OF RELATIONSHIP MARKETING	98106
J. GREGORY DEES	SOCIAL ENTERPRISE ENTERPRISING NONPROFITS	98105
RONALD N. ASHKENAS, LAWRENCE J. DeMONACO, AND SUZANNE C. FRANCIS	IDEAS AT WORK MAKING THE DEAL REAL: HOW GE CAPITAL INTEGRATES ACQUISITIONS	98101
ROBERT J. CRAWFORD	BOOKS IN REVIEW REINTERPRETING THE JAPANESE ECONOMIC MIRACLE	98104

DO NOT COPY

*Do you really
know what your
customers value in
your network?*

The Competitive Dynamics of Network-Based Businesses

by Kevin P. Coyne and Renée Dye

MANY OF THE WORLD'S BUSINESSES move people, goods, or information from various points to various other points. Such *network-based businesses* take many forms: telecommunications carriers, transportation companies, financial institutions, even health maintenance organizations—but they have much in common. Many have been deregulated in the last two decades and since then have fared relatively poorly. The long-term returns in most areas of transportation have been weak, for example; branch banking has suffered from chronic overcapacity; and telephony is struggling with intense price competition around the globe.

Of course, the transition from regulation to competition is always difficult. But even apart from that issue, the economics of networks are nettlesome. A substantial portion of the value these businesses generate arises from the “transport effect” – the value inherent in connecting an entry point in the network to a desired exit point. In other words, customers value the *links* in the network. But understanding *how much* customers value these links has always been a slippery issue.

Before improvements in information technology made it possible to track individual usage patterns, managers had to assume that customers’ use was uniformly distributed across the network and that customers valued all the links more or less equally. Intuitively, of course, managers knew this assumption was often incorrect. But without real data, their efforts to formulate strategy and allocate resources were based on educated guesses.

Today, however, with new processing power and robust mapping software, managers can determine how customers actually use networks and can develop new insights into how customers value each of a network’s links. We used these tools to aggregate and analyze actual customer-usage patterns in a number of network-based businesses – banks, telephone companies, airlines, and railroads. We discovered that, in some cases, customers did indeed value all links equally. But that was only one of three common patterns. In other cases, customers valued only one part of the network. And in still other cases, they valued only certain links within the overall network. Each of these three patterns requires a different strategy to direct managers in making the decisions fundamental to running any network-based business: whether to open or to close outlets, whether or not to connect their network to others, and how to organize the business units to reflect the network’s structure.

The Economics of Networks

Airlines carry people from one city to another. Bank branches and automated teller machines transport funds so customers can make transactions at any point in the network. HMOs carry patients’ health records and their right to use health care facilities to any clinic in the network. Even brokerage firms and other companies that make markets qualify as network-based businesses because they transmit information about many potential sellers to many potential buyers. The key distinction is that these

networks transport people, goods, or information for customers, not just for their own distribution purposes. As long as the transport effect constitutes a substantial portion of the value to customers – even if it is not the sole or primary source of value –

In some cases, customers value all network links equally. But that’s only one of three patterns.

it meets our criteria. (See the exhibit “The Spectrum of Network-Based Businesses.”)

Although the transport effect accounts for a great deal of the value in a network, much of its cost tends to be concentrated in the individual outlets. This asymmetry can obscure the relationship between value and cost, making it hard to determine what constitutes a natural business unit. Is it the individual outlet? The entire network? Something in between? On one hand, it is common, for example, for bank executives to consider whether to open or close a branch without taking into account its relationship to other branches in the network even though they know that most customers use more than one branch. On the other hand, an executive at a company that transports packages recently insisted that “the entire United States is a single business unit for me.” As he spoke, specialty carriers were picking apart his supposed single business unit by targeting attractive regions.

What makes understanding the strategic relationship between cost and value in network-based businesses even more difficult is that competitors can, and often do, share a common infrastructure. For example, providers of local telephone service are required to supply access lines to competitors. And competing banks are interconnected through ATM networks.

Interconnection upsets the normal competitive model in several ways. A shared infrastructure decreases the importance of proprietary economies of scale, as each competitor piggybacks on the capacity of rival networks. Interconnection opens up the possibility of competing at the wholesale level by buying and selling network capacity. For example, resellers of long-distance telephone service have gained market share at the expense of the major

Kevin P. Coyne is a director in the Atlanta office of McKinsey & Company. *Renée Dye* is a strategy analyst in the same office.

carriers in the United States, while in Europe travel agents in “bucket shops” undercut the airlines by buying blocks of seats from whoever has the lowest rates at any given time and then reselling them. But interconnection also allows competitors to become a *source* of customers for one another when one provider originates traffic and another eventually delivers it. This proliferation of jointly provided services, cost-sharing, and cross-subsidies makes it hard to answer the basic questions: Are we making or losing money in a particular portion of our network? Is our competitor making or losing money in that same portion?

The Three Usage Patterns

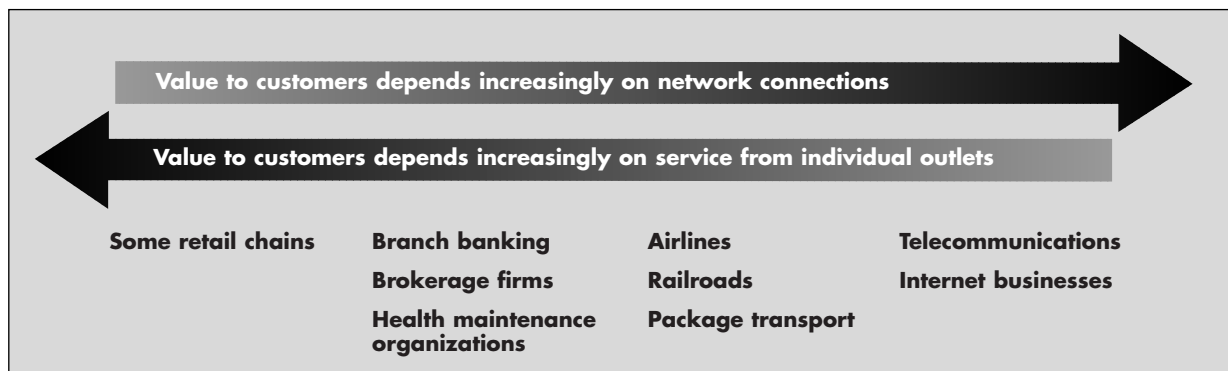
These complexities notwithstanding, managers can understand a network’s underlying economics if they track their customers’ actual usage patterns. They first need to realize that different customers can use the same network in a variety of ways. At one extreme, for example, one customer will use—and value—only one branch of a bank, even though it is connected to a network of a thousand other

outlets. At the other extreme, another customer who travels throughout the network will value whatever branch is most convenient at the moment. Between these extremes, most individuals will concentrate on a subset of outlets, such as the bank branches that are near their homes and near their workplaces.

Individuals may be using a network in every conceivable way, but if managers look at usage in the aggregate, they will see patterns emerge. And that’s important because for each major usage pattern that managers identify in their network, they need to develop a different strategy.

Zero Concentration. When, in the aggregate, customers use a network truly at random, the resulting pattern is zero concentration. In this situation, a particular customer may be using only one link, but other customers are using the other links to roughly the same degree. Indeed, in some networks, even if customers don’t actually use most of the links in the system, what they really value is the general connectivity of the entire network. Zero concentration is easy to recognize because no concentration emerges when link usage is mapped.

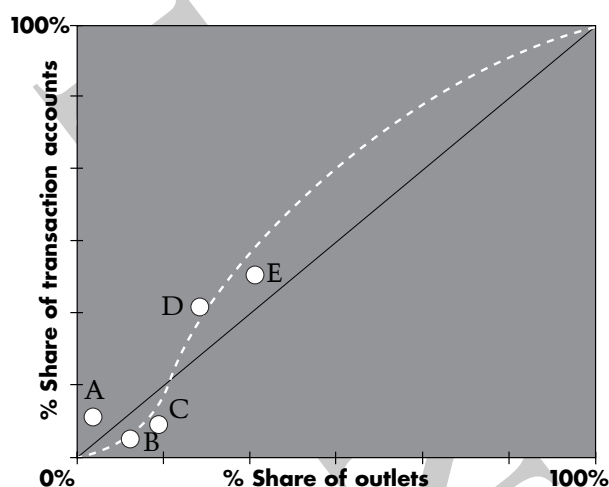
THE SPECTRUM OF NETWORK-BASED BUSINESSES



Network-based businesses are those that deliver a significant portion of their value to their customers by transporting people, goods, or information from any entry point on a network to any exit point. These businesses can be categorized by the degree to which their value to customers resides in the network or in the individual outlets. This spectrum begins with the weakest network businesses on the far left, where most of the value to customers arises from the outlets. Moving to the right, an increasing proportion of value to the customer arises from the links between the outlets. Businesses at the far right operate almost entirely through networks.

Some companies commonly thought of as networks do not qualify as such under this definition. Broadcast networks and cable television carriers, for example, send all their information from only one entry point to their customers at many exit points (although this would change if cable networks became interactive). Similarly, even though retail chains operate a network of stores for customers to choose from, these networks generally do not transport customers’ goods, only their own. These chains would qualify as networks only if many customers took advantage of their links by going to one store to return goods bought in another store or by using gift registries.

THE S-CURVE FOR A BANKING MARKET



This graph describes a zero-concentration market, in which all bank branches are used to roughly the same degree. Banks D and E have succeeded in setting up enough outlets to make the big jump in market share; for them, adding outlets would no longer produce a correspondingly large additional increase in market share. Banks B and C have a number of outlets, but do not have a wide enough presence to attract many customers, so they lack the economies of scale that D and E enjoy. Bank A has the fewest outlets, but it has a surprisingly large market share because it attracts specialized accounts of corporations and wealthy individuals that generally don't need to bank at multiple outlets. Bank A competes as a stand-alone business rather than on the basis of its network.

In zero-concentration patterns, market share is tightly related to the scale of the network. The relationship is not linear, however. At first, adding an outlet (and its links) will only slowly increase market share. But when the number of outlets—and, hence, the number of links—increases beyond that of most other competitors, share will rise sharply. Then at some point, as the outlets and links effectively cover the area, market share will begin to level off because having additional outlets will make little difference. When graphed, this relationship forms an S-curve. (See the graph “The S-Curve for a Banking Market.”)

Companies gain competitive advantage in this situation because adding physical outlets and links is expensive. Every provider can't afford to be on every street corner. Differences in coverage will therefore quickly emerge, and the first player to build a large network will usually gain a strong and lasting lead.

The simple arithmetic of outlets and links shows why. Consider package delivery in a region that has four major towns. Suppose that each town ships 2 packages a day to the other three towns, for a total of 24 packages. A company that has outlets in only two of the towns can serve only 2 routes, say from town A to town B and back again. But a competitor that has an outlet in every town can cover all 12 routes—six times the number of links with only twice the number of outlets. Its value-to-cost ratio is therefore much higher.

An important challenge for a dominant player is to know when to stop expanding its network. When

the S-curve begins to flatten, each new outlet or link adds little value. Profitability hinges on a company's ability to know where on the S-curve it is and to measure the impact of an additional link. For example, if the U.S. Postal Service's only goal were to maximize profits, it would surely not deliver mail to the most remote areas of the country—like Cicely, Alaska—nor would it have so many branches and drop boxes in each city. Indeed, because larger players clearly have the advantage, governments have often stepped in to regulate their behavior by such means as ensuring that they serve the “last outposts,” by limiting their pricing power, or by requiring them to interconnect with new rivals.

As managers analyze the economic trade-offs involved in adding new outlets, they need to keep in mind an intangible factor as well. When customers place a high value on general connectivity, the perception of ubiquity can matter more than the actual number of outlets. Because the value customers derive from perceived ubiquity does not stem from any particular outlet, managers must be careful to test the impact on the whole network of any decision to open or close an individual outlet.

Zone Concentration. In many networks, large numbers of customers concentrate their usage in some portion or portions of the network. In such cases, it makes strategic sense to think of the network as separate zones of concentrated use.

Consider the market in Atlanta for transferring high-speed data between businesses. Companies there cluster around four natural hubs: Downtown, Midtown, Buckhead, and the Northern Perimeter.

Although businesses in each hub transmit data everywhere in Atlanta, as well as to locations outside the city, most transmissions remain within these four areas. Each of these hubs constitutes a tiny fraction of Atlanta's geography, but together they form a zone of concentrated use. Companies providing high-speed data-transmission services can maximize their return on investment in fiberoptic cable by focusing their networks on this zone instead of providing uniform coverage throughout the entire city.

Similarly, in retail banking, customers tend to do business where they live, work, and shop. For each customer, money and information flow among only a few branches. If each customer worked and shopped in a place different from his or her neighbor, the result would be zero concentration. But, to a surprising degree, people who live near each other also tend to shop and work near each other—even if their work is miles away in a downtown area. Therefore, customers in a given area tend to concentrate their use of bank branches and ATMs according to a common pattern. In the aggregate, these patterns form distinct zones. (See the exhibit "Zones for a Retail Bank.")

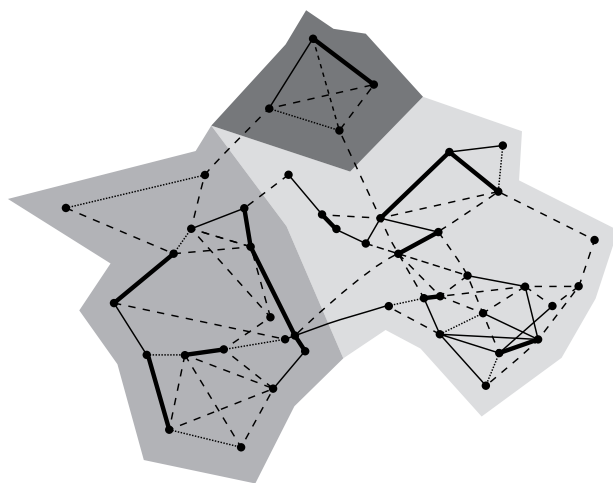
Because some customers will always cross zone lines, these zones rarely have clear boundaries. But network managers can still look for areas that are strategically separable. Put simply, if an individual area is separate enough to survive and prosper independent of the rest of the network, it can be treated as a distinct zone. In retail banking, for example, we use a general rule of thumb: draw the outlines of a

zone so that it captures 70% of all transactions generated by the customers who opened their accounts in that zone. If managers expand the zone to cover more of these transactions, the zone will include outlets that are not valuable to most customers within that zone. If they aim for fewer transactions (thus cutting the network into more pieces), the zone may not meet enough of the needs of the customer base. Managers need to optimize the trade-off between efficiency (putting outlets where customers demand them but nowhere else) and effectiveness (covering the full needs of most potential customers within the zone).

The zone's outlets do not have to be geographically contiguous. One New York bank found that a large number of its customers who lived and banked in suburban Westchester County also used a branch near Manhattan's Grand Central Station on their way to work. Before the bank understood this zone relationship, it almost closed the Grand Central branch. Evaluated as a stand-alone branch, Grand Central generated high costs and low revenue because the revenue from the commuters was credited to their home branches. But once the bank's executives understood the zone pattern, Grand Central emerged as one of the most important branches in the system. The bank has now redefined its Westchester County zone to include an outlying link to midtown Manhattan.

Once managers establish a zone, they need to decide how many outlets to set up within it. They can employ the same S-curve analysis used to determine optimum coverage in zero-concentration

ZONES FOR A RETAIL BANK



Computer programs tied to network databases can track usage patterns in a wide variety of industries. This computer-generated image shows the links, and their varying intensity of use, between branches in a large metropolitan area. Because most customers use only the branches near where they live, work, and shop, most links between a customer's home branch and another branch stay within a well-defined zone of the bank's overall network. Managers can think of these zones as separate business units.

networks because customers follow a zero-concentration usage pattern within a zone. However, since zones by definition contain fewer outlets than the entire network, differences in the quality of individual outlets matter more. Consider, for example, two banks that together have spread 400 branches over a particular state. It is unlikely that one bank's branches could consistently be more attractive and better located than all of its competitors' branches

Upstarts offering access to a limited number of high-traffic outlets have taken market share away from full-network players.

because these branch systems took decades to build. But it is possible that one bank entered a particular zone that has demand for only five branches earlier than its rival and seized the two best locations. Because it already has an advantage in the quality of outlets, this bank may not need as many outlets as it would otherwise require. The optimal number of outlets would therefore only loosely correspond to that predicted by a simple S-curve.

Conveniently, zones essentially amount to natural business units. So a company whose network consists of strategically separable zones can choose different strategies for each. A trucking company whose market covers four contiguous zones, for example, might decide to exit two of the zones because of their low profit potential—either because their customer base was unattractive or because the company was too low on the S-curve in those zones. It might decide then to invest heavily in the two that promise profitable growth. The company would lose a few of its customers in the zones where it remained because those customers valued access to outlets in the dropped zones. But if the zones were properly designed, such customers would be a small minority.

The U.S. airline industry made effective use of zones in the 1980s, when the strongest carriers emerged from deregulation by concentrating on developing very high shares of traffic around particular regional hubs. Even today, highly profitable Southwest Airlines focuses on the few zones where it has the largest position.

Lane Concentration. In this third pattern, customers heavily use or heavily value individual links in a network. That's often the case with tele-

phone service, for example. Although business customers need and value universal connectivity, they make certain calls with notable frequency. For example, one office might regularly make 50 calls a day, 15 to one customer and the rest randomly distributed to several other customers. The company might not notice or care about this high-usage lane if it paid a flat monthly rate for local telephone service and the favored customer lived within the area

covered by that rate. But it would be a different story if the price of the individual lane were high, which would be the case if it were part of the company's long-distance service.

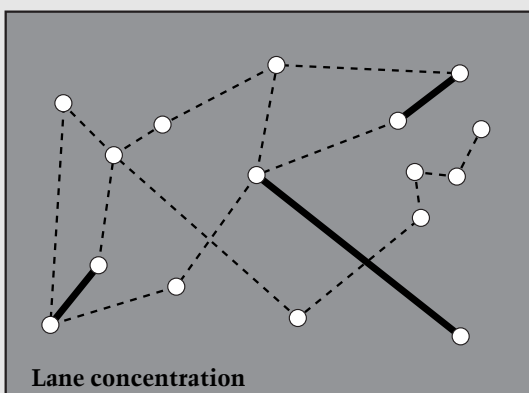
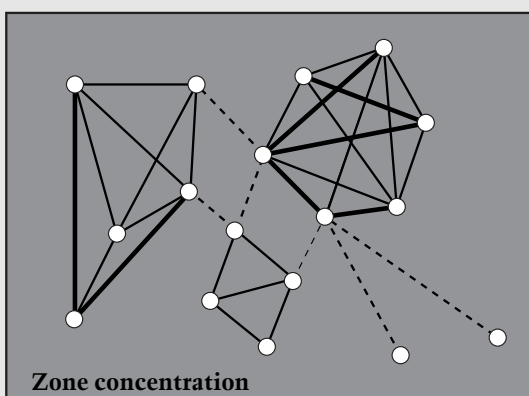
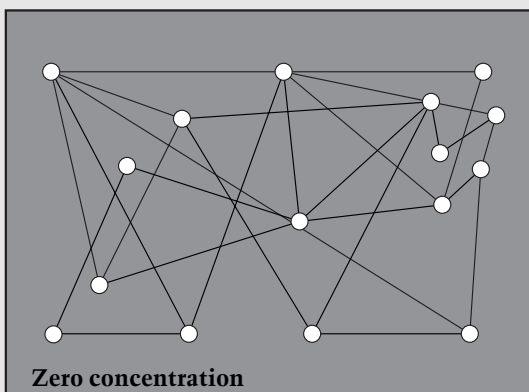
When an office makes a large number of high-cost long-distance calls, it is heavily using a specific lane in its local telephone network. Before the United States deregulated local telephony, all long-distance calls

went through the customer's basic local phone line to the local long-distance facility, which sent the call on to the faraway city. That carrier had to pay the local phone companies at both the sending and receiving ends a fee for each call (usually about three cents a minute). For the frequent caller, that added up to a lot of money each month. Since deregulation, long-distance providers have been free to build their own lines (called special-access lines) from their local facilities to big customers, to bypass the local phone companies' charges. By identifying such lane concentrations in local phone networks, these providers have been able to skim away those fees.

Upstarts offering access to a limited number of high-traffic outlets have taken market share away from full-network providers in other businesses as well. Consider Roadway Package Service (RPS), which unlike the broader-based United Parcel Service or Federal Express, delivers packages only within and between large cities, refusing to pick up or deliver in suburbs or rural areas. Or consider the air corridor that runs from Boston through New York City to Washington, D.C., where the market is dominated by shuttle services that do not require reservations or advance tickets. It's true that broad-network players, such as Delta, own the shuttles, but they manage them as largely self-contained businesses.

Not surprisingly, lane competition tends to appear whenever a concentration of individual links is high enough to justify a dedicated system to serve them, as with the shuttles. Lane specialists compete with two main cost advantages. First, and most important, they carry only the most profitable

THREE KINDS OF NETWORK USAGE PATTERNS



A given network can have different usage patterns depending on its customers. Managers have usually assumed that customers used networks roughly evenly. That is zero concentration. But in many networks, most customers concentrate their usage in separate zones, rarely using links to outlets outside those zones. In both zero-concentration and zone-concentration networks, some customers may heavily use links between certain outlets. For each pattern, companies need to follow a different strategy.

links and outlets so they don't need to subsidize the less profitable ones. But, second, these new entrants often enjoy the potential of much lower labor costs. Because many network industries have only recently been opened to competition, incumbents tend to be saddled with higher-cost labor agreements carried over from their monopoly days.

For lane players to succeed, these advantages must outweigh two disadvantages. First, lane players obviously lack the economies of scale and scope that full-network players enjoy. One indirect result is that attracting customers can be costly. But lane players can control that cost by focusing on a distinct set of prospects. The ideal for a lane player would be to have a few large customers that send a high volume of goods or data down a single lane. Such is the case with the "unit trains" that transport coal directly from a mine to its shipping port. Alternatively, lane players could do what RPS did: go after multiple customers in a concentrated area whose total volume of business would support a single lane player and undercut the price the broad-network player is charging on that one lane.

The second disadvantage lane players face is that they must usually convince customers to accept multiple vendors—one for the lane and another for all other situations—and to manage a more complicated information flow. Buying decisions are therefore harder for customers to make and implement. For example, a business manager might analyze the pricing schemes from different package-delivery providers and decide, "I'll use UPS for all shipments, except for small packages between Philadelphia and New York, when I'll use RPS, and for medium-weight packages to Boston, when I'll use Federal Express...."

Competition in these situations usually revolves around influencing the key trade-off from the customers' perspective: the savings from using a dedicated lane supplier versus the inconvenience of using multiple suppliers. Network players can cut prices to match the lane competitors'—but obviously they would want to use this approach sparingly. Alternatively, they can underscore their value to their customers by helping those customers optimize their own system of facilities. Some telephone companies, for example, use their expertise, unused capacity, and knowledge of customers' calling habits to help them manage a complex array of communications facilities. Full-network players can also help customers manage the logistics of their own networks, offering guidance on such cost-sensitive issues as warehousing. A customer trying to decide whether to set up regional warehouses and a central distribution center,

for example, can benefit from UPS Worldwide Logistics's broad understanding of transportation costs. A lane player is unlikely to be able to match that level of expertise.

Broad-network players can also offer bundled pricing to fend off a lane player's advances. Companies that provide the full range of package-shipping services, for example, can discount prices based on total customer shipments instead of pricing each package separately. Customers who chose separate lane providers would then jeopardize their overall price discounts.

Long-distance telephony providers adopted this same technique to frustrate competitors' attempts to create "least-cost-routing" businesses. In the 1980s, some vendors hoped to create such a business by routing a customer's long-distance calls to a computer that would pick whichever carrier had the lowest price to the desired destination at that precise moment. In effect, these players hoped to turn every long-distance telephone route into a concentrated lane in each minute of the day. But when the carriers switched to bundled pricing, optimizing the total bill was no longer the same as optimizing each call separately, effectively eliminating any price advantage the least-cost routers were trying to create.

Similarly, frequent-flyer programs help the broad-network airlines discourage customers from using lane providers. These programs in effect bun-

Broad-network players can offer bundled pricing to fend off a lane player's advances.

dle each separate flight decision into a broader decision-making process. Passengers might save money on an individual flight by using Kiwi Airlines rather than Delta, but they jeopardize their overall benefits by not concentrating their frequent-flyer miles with one carrier.

Although broad-network providers should be careful not to engage in a price war with lane competitors, they can sometimes use targeted lane discounts strategically. That's what MCI Communications Corporation achieved when it first introduced its "Friends and Family" promotion. MCI subscribers could submit a list of names of the people they called most often. If those people were also MCI subscribers, all parties were offered a significant discount on all calls made to one another.

The company used the discount on individual lanes to gain—at full price—all the other long-distance calls of both parties.

For their part, lane competitors can work to decrease the complexity of their option for the customer. For example, PBX-switching systems route long-distance calls over a separate special-access line, thus shielding the customer from the complexity of having to decide how each call should be routed. Lane players in the transport business can similarly reduce complexity by establishing standing accounts instead of separately invoicing each shipment—even for small-volume customers.

Decisions about Outlets

Decisions about whether to open or to close individual outlets affect the whole configuration of the network. Making decisions based on an outlet's stand-alone economics, as many network-based companies do, can therefore be dangerous. To which outlet should revenue be assigned when what customers value is the linkage between outlets? As in the case of the Grand Central Station bank branch, crediting an outlet with revenue only from customers who originate their relationships or transactions there might underestimate its true economic value. Assigning costs is often no easier. In addition to its direct costs, every outlet shares the linkage and overhead costs of the entire network. Closing a route can save far less than managers anticipate.

Some adjustments aimed at clarifying outlet economics can ironically end up doing more harm than good. Some airlines, for example, double count the revenue along a route by fully crediting both the originating and the terminating airports.

According to this novel accounting method, it almost never makes sense to eliminate a route.

How can a manager accurately assess the economics of an outlet? The first step is to define the outlet's function in the network. The only function of some outlets is to service the customers (they're the ones at which a shipment or transmission originates or terminates); others both service customers and attract new ones. The appropriate way to evaluate them is likely to vary depending on the function. The performance of those that serve only sales functions is best measured according to the profits generated by the shipments it attracts after all the network revenues and costs are considered. When prices and asset utilization are fairly uniform across the network, an average profit measure can be

applied to all shipments. When network utilization and prices vary, the profit allocated to any shipment will need to be adjusted depending on the path the shipment travels.

Service functions require different measures. Because any given shipment travels between two outlets, the shipment's profit must be split between them. In general, it's best to split the profit evenly, even if one of the outlets has higher costs. This approach will encourage outlet managers to increase their shipments to and from low-cost outlets while decreasing their shipments to and from high-cost ones. That will enhance not only their own outlet's profitability but the overall network's as well. Because such an approach sets up a competitive dynamic among outlets, it also gives outlet managers a strong incentive to keep tight control of their costs.

In some higher-cost outlets, though, managers will want to adjust this approach. For instance, in many network-based businesses, New York City is a highly valued outlet for customers. Because of higher overhead and labor costs, the New York service outlets' profit levels will appear to be lower than those of the rest of the network if managers calculate profitability only by splitting average shipment profits evenly among outlets. Managers must, however, be cautious in making allowances for higher-cost outlets. They make sense only when the outlet's existence translates directly into higher prices on routes involving that particular outlet. Otherwise, cross-subsidies can sap profitability levels across the network.

Finally, zone players and zero-concentration players need to remember the importance of the perception of ubiquity. For these two strategies, there is value in being perceived as "the carrier that goes everywhere." As that value is not attached to any particular outlet, decisions about opening or closing individual outlets are best made in light of judgments about the cumulative effect of closing any number of outlets on the network's perceived ubiquity. As this brief discussion shows, analyzing outlet economics can be a complex challenge. But it needs to be done well if the network is to be managed successfully.

Who Should Connect to Whom

Many network-based businesses allow rivals to use their networks. Local telephone companies give access to long-distance and cellular providers, rail-

roads accept cargo from one another, and airlines interconnect through partnerships, reservation systems, and common airport terminals. Most mail carriers and several of the largest package-shipping companies, however, have refused to connect with other players in their territory. Banks have inter-

The U.S. airline industry made effective use of zones in the 1980s when carriers concentrated on particular regional hubs.

connected their ATM networks but not their core branch networks.

In cases where an established network was formerly a monopoly, regulators have usually mandated interconnection. This has recently happened in telephony in the United States, and it is about to begin for electricity and natural gas retailers. But in other industries, companies can choose whether to participate in these arrangements.

In zero-concentration networks, or within a single zone, smaller players should generally favor banding together to compete against the dominant provider. Consider retail banking in New York City. In the late 1970s, Citibank—by far the biggest presence—became the first to offer large numbers of ATMs at its branches, providing 24-hour access to banking services at most points in the city. Other vanguard banks had previously installed a few ATMs, but none was widespread. Citibank's proprietary network gave it an enormous advantage. In response, rivals with smaller ATM networks, led by Chemical Bank, banded together over the next several years to form the Plus network of ATMs.

Citibank initially declined to join Plus. But as often happens in zone-network wars, the greater combined numbers of the small players overwhelmed the large single player. Although Citibank was the most convenient single bank, it could not match the combined presence of the other banks. That would have required placing a proprietary outlet almost everywhere anyone wanted to do banking. The Plus network was the winner in the battle for perceived ubiquity.

Interconnection of smaller players can narrow or even eliminate the convenience gap between companies that approach ubiquity in a network and those that fall short. Given that interconnection disproportionately benefits small networks, large

incumbents can sometimes demand that small networks pay the entire price of interconnection—instead of agreeing to “symmetrical pricing,” whereby the owner of the network in which a transaction originates pays the owner of the network in which it terminates regardless of which network is bigger. For example, cellular networks pay the local telephone company whenever a call is placed between a cell phone and a land line, regardless of which instrument placed the call. By contrast, symmetrical pricing results in a net payment of zero if a typical

General managers assigned to a particular type of business unit need to have skills that fit their specific network strategy.

customer receives as many transactions as he or she makes. That’s often true for telephony, although not for other networks, such as railroads.

Organizational Considerations

Recognizing the underlying usage patterns that dictate network strategy is a challenging task, requiring that managers closely monitor customers. Companies can facilitate this process by aligning their organizational structure to match the economics of their network. That is, however, easier said than done. In many companies, managers are so wedded to an existing geographic arrangement that they may devote more energy to preserving the integrity of their own turf than to analyzing whether their business unit should merge with an adjoining area or be split in half. If the boundaries of their traditional business unit are considered immutable, managers won’t be able to put the requisite systems in place to trace customer usage patterns across multiple business units.

Why do companies so frequently make this mistake? Often senior managers presume that general managers can cover only a certain extent of any geographic territory or a certain number of outlets. As a result, they tend to divide territory evenly, regardless of their customers’ behavior. Or they may never have realized that a single geographic area can encompass many zones and lanes, so they may not assign enough managers to these high-usage areas. Finally, management frequently remains loyal to a retail mind-set that treats each outlet separately in

profit-and-loss analyses. These organizational presumptions and structures tend to inhibit discovery of the company’s natural business units.

The key is to organize around the natural business unit and make profit-and-loss assessments only at that level. If a company is pursuing a strategy appropriate for zero concentration, the natural business unit is the entire network. For those going after concentrated usage patterns, the unit would be either the zone or the lane. A company can target different usage patterns within the same network,

but to do so effectively, each targeted pattern needs to have its own business unit, just as Delta treats its shuttle separately or a railroad might create a different department for its unit trains.

A single general manager needs to run an entire business unit, whatever shape it may assume. One manager could run two business units—if he or she managed them separately.

But two managers cannot effectively run one business unit. And a crazy quilt of managers whose territories are incongruent with business-unit boundaries is an absolute barrier to strategic progress. That situation is unlikely to arise if the business units align with the network, but it’s all too common when the units cover geographic regions not related to the way the network is used. This guideline means that different managers may manage different numbers of outlets. That’s fine.

Furthermore, general managers assigned to a particular type of business unit need to have skills that fit their specific network strategy. General managers who have moved from one type of network to another will need time and training to develop the appropriate managerial skills. On one hand, managers of zones need to focus on matching network resources to usage patterns and on monitoring them closely for changes. Marketing efforts usually take the form of large-scale broadcast initiatives. Lane managers, on the other hand, are spared much of the headache of network management but generally have to keep a sharp eye on their costs. They also need to mount a much more targeted marketing effort to pursue aggressively the most attractive customers. Because the loss of just a few customers can devastate a lane competitor, these managers need to cultivate close enough relationships with customers to ensure satisfaction with their price and service levels.

In a typical nonnetworked business, assets are usually dedicated to individual business units. In contrast, resources for network-based business are

often shared across business-unit lines. For instance, in railroads, the cars and locomotives can be shifted from zone to zone. Managers of even a largely separate lane unit, such as an airline shuttle or a unit train, have to acknowledge the value of sharing some resources with other parts of the business and manage appropriately. Usually, it is best to establish separate departments for those shared resources and use transfer pricing to charge back the business-unit users for services provided.

Despite their many differences, network-based businesses share several features and a common underlying economic structure. Information technology is now making it easier to discover the different usage patterns at the base of these networks. Those who don't spot these patterns and understand their strategic implications will find themselves on the losing end of the network battle. ▢

Reprint 98103

To place an order, call 800-988-0886.

Harvard Business Review



Case Studies and Harvard Business Review Article Reprints

Many readers have asked for an easy way to order case studies and article reprints or to obtain permission to copy. In response, we have established a Customer Service Team to grant permission, send rush copies in paper form, deliver files in Acrobat (PDF) format electronically (*Harvard Business Review* articles only), or customize collections.

Please contact the Customer Service Team:

Phone: 617-496-1449

United States and Canada: 800-668-6780
(8 A.M.-6 P.M. weekdays, voice mail after hours)

Fax: 617-496-1029 (24 hours, 7 days a week)

E-mail: custserv@hbsp.harvard.edu
(24 hours, 7 days a week)

Web Site: <http://www.hbsp.harvard.edu>

Prices (minimum order, \$10):

Harvard Business Review Reprints

(Discounts apply to multiple copies of the same article.)

1-9 copies	\$5 each
10-99	\$4
100-499	\$3
Electronic	\$3.50 each

Harvard Business School Case Studies

\$5 each

For quantity estimates or quotes on customized products, call Frank Tamoshunas at 617-495-6198.

Permissions

For information on permission to quote or translate Harvard Business School Publishing material, contact:

Customer Service Department
Harvard Business School
Publishing Corporation
60 Harvard Way
Boston, MA 02163

Phone: 617-496-1449

United States and Canada: 800-668-6780

Fax: 617-495-6985

E-mail: custserv@hbsp.harvard.edu

Harvard Business Review Subscription Service

United States and Canada

Phone: 800-274-3214

Rates per year: United States, \$85;
Canada, U.S.\$95

International and Mexico

Phone: 44 1858 435324

Fax: 44 1858 468969

Rates per year: international, \$145;
Mexico, \$95

Orders, inquiries, and address changes:

Harvard Business Review

Tower House, Sovereign Park
Lathkill Street, Market Harborough
Leicestershire LE16 9EF
England

Payments accepted: Visa, MasterCard,
American Express; checks at current
exchange rate payable to
Harvard Business Review.

Bills and other receipts may be issued.

Catalogs

Harvard Business School Publishing Media Catalog

This 32-page, full-color catalog features more than 40 management development video and interactive CD-ROM programs.

Harvard Business School Press

This latest full-color catalog features books for the fast-paced business world where you live and work.

Harvard Business School Publishing Catalog of Best-Selling Teaching Materials

This collection of teaching materials contains those items most requested by our customers.

Harvard Business School Publishing Catalog of New Teaching Materials

Designed for individuals looking for the latest materials in case method teaching.