

Chapter 10

The Twelve Commandments of the Communications Megahighway

Like all massive construction projects, highways take years to build and place extraordinary demands on their creators. The communications megahighway is no exception. It is a vast and complex undertaking — much more so than originally anticipated — that will ultimately consume hundreds of billions of dollars and have a significant impact on the development of the global economy. There is much that can go wrong along the way, however. And not every company with a current stake in the initiative will be around at the time of completion. The good news, though, is that there are important lessons to be learned along the way. I've tried to shed some light on them during the course of this book. Because they are so critical to the outcome of the enterprise under way, I've decided to encapsulate them in the following 12 points. You might call them the Twelve Communications Commandments on the road to making the long-promised digital dream a reality.

■ FIRST COMMANDMENT

Instead of targeting their best customers to determine future network opportunities, telecom companies should zero in on innovators who use their networks in different and unique ways.

This will represent a major shift in thinking for an industry that has traditionally relied on the biggest and most advanced customers to steer it to promising new product and service opportunities for the long term. More often than not, this approach has resulted in incremental change. Incremental change, however, will fall woefully short of the mark in an industry that is traveling at warp speed. To stay ahead of aggressive, fleet-footed new competitors that are determined to leapfrog the industry, service providers must be prepared for massive change that will move them appreciably closer to where they want to be in another 3, 5, or even 10 years.

Communications service providers can accomplish this feat by learning to identify and work closely with innovators who use their services—or other services like them—in novel new ways. These innovators may have made the network more robust by adding intelligent applications, for instance, or by upgrading the computer interface. The important point is that these leading-edge users are often better equipped than even the best and brightest customers to provide valuable input and revealing insights into future network needs and cost-effective ways to meet them. Imagine the rewards that could accrue to that telecom carrier that demands of its sales people, “Give me a list of all the new and exciting ways in which your customers are using our network.” Indeed, by drawing a distinction between customers and innovators and learning to focus heavily on the latter, communications service providers will be taking a big step toward optimizing their future network opportunities.

■ SECOND COMMANDMENT

Realize that intelligent applications on the network represent the next major development stage, and communications service providers that continue to dwell on content will find themselves left behind in the competitive dust.

Under the new paradigm, the network will do more than just transmit and offer up entertainment and information content to customers. It will become an intelligent, interactive partner that *listens* to their requests, then searches for and brings back information from the best available source. Clearly, the most profitable and dynamic opportunities for communications service providers in the period ahead will lie not in the area of content, but in marrying intelligent services and applications to their network infrastructure.

Given the extraordinary potential, telecom companies should make every effort, I firmly believe, to take control of these software-driven applications rather than hastily hand them off to Internet service providers or others who proceed to build intelligent systems around their networks. Some companies have already gotten the message. Qwest Communications and KPMG, for example, have formed an alliance aimed at putting a host of key applications into the hands of on-the-go executives via the Internet. Strategic alliances will often be critical to unlocking the full potential of the intelligent network—and ensuring that the communications industry and its providers are fully prepared for the next major step after content.

■ THIRD COMMANDMENT

If the traditional communications service providers are going to survive, they will have to turn their business model upside-down, even if that means going at loggerheads with their shareholders.

It's clear that the winners in the new world of communications will be those companies that can think outside the box. More to the point, it will be those service providers that are fully prepared for and able to accommodate quantum change in virtually every aspect of their business, from planning to hiring to customer service to pricing (i.e., they must be able to make decisions on new pricing in a matter of days, not over a period of months, as in the past). This is not a matter of just restructuring their business, but of creating an entirely new business model that thrusts them for the first time into the role of growth companies rather than value (or earnings) entities.

Change of this magnitude, particularly in the case of the traditional carriers, will not sit well with many stockholders, whose dependence on regular dividends makes them intrinsically opposed to any sudden or wholesale change. That is a roadblock the traditional telcos will have to surmount, in my opinion, if they expect to survive and be meaningful players going forward. The consequences of a static corporate culture are easy to see: traditional Bell companies like U S West taken over by hard-charging upstarts like Qwest Communications International whose shareholders are not focused on the quarterly dividend, but on the quarterly growth curve. The survivors and winners will truly be those companies that can successfully make the transition to imaginative, forward-looking enterprise. Perhaps the best advice for the industry is this: Don't be afraid to take a radically different position. The market will ultimately recognize and reward you.

■ FOURTH COMMANDMENT

Companies that spend billions of dollars building out their networks will be successful only if they have the appropriate operating support systems (OSS) and business support systems (BSS) in place to leverage that investment.

This will require a huge commitment by the telcos to bring those systems up to speed—a commitment that few companies have thus far been willing to make. However, they must rethink and reprioritize their systems support capability if they hope to fully capitalize on their network investment. New emphasis must be attached to what have traditionally been thought of as back-office systems that drive billing, service initiation, and a host of other functions and activities. Fact is, these systems are moving steadily to the forefront and today offer customers direct access to information like account status and service scheduling over the Internet. They have also enabled robust, high-impact initiatives like MCI WorldCom's Friends & Family—which was essentially a billing program—to reshape the long-distance marketplace. The faster their operating and business support systems can be put into place, the better equipped carriers will be to roll out new network services and applications that can begin providing a solid return on their investment. OSS and BSS will also furnish the engine for customer-managed, the radical new way of responding to customer needs discussed in Chapter 6. In short, these critical systems can provide an important strategic advantage to communications service providers anxious to leave their imprint on the marketplace. But first the telecom industry must not only give these systems the respect and credit they deserve, but unleash the funding necessary to ensure that they are prepared to handle the network challenges that lie ahead.

■ FIFTH COMMANDMENT

Instead of developing proprietary applications, embrace open architecture as the bedrock for the evolving communications network.

Carriers' ability to compete will depend on the openness and flexibility of their networks—in other words, the

extent to which they can seamlessly link with other networks to allow their customers to reach anyone, anywhere, anytime. Historically, much of the focus has been on standards when discussing the interface between different communications technologies and systems. But in the future, standards will be replaced by architecture as the driving force and true enabler behind network integration. Companies that fail to adapt their approach accordingly will find themselves sorely out of sync with the industry. Architecture will impact more than just the network interface, however; it will affect how different communications technologies—such as wireline, wireless, and satellite—link with one another. Once again, companies that can accommodate this convergence through flexible, open architectures stand to realize the biggest gains in the competitive marketplace.

■ SIXTH COMMANDMENT

The U.S. telecom industry has a tremendous opportunity to succeed on the global stage, but it must make sure it is pursuing the right competitive business model, or risk losing the advantage it already enjoys.

Because the United States was the first major country to entertain deregulation of the telecommunications industry, its long-distance carriers are already market savvy. They have learned how to take risks, make investments, and win customers through bright new product and service offerings. The global telecom industry, on the other hand, is still in the early throes of deregulation as a result of the World Trade Organization (WTO) Telecommunications Agreement of 1997, signed by 69 countries.

This global disparity puts U.S. telecom in a unique role: Its players are powerfully positioned to continue their expansion not only at home, but also on the world stage, where the opportunities for growth are even more extraor-

dinary in light of the loosening regulatory reins. But to take full advantage, U.S. companies must make sure their energies and resources are focused on the right competitive process. A number of models have emerged, including joint venture partnerships involving the creation of separate companies to penetrate worldwide markets (e.g., Global One), and strategic alliances consisting of a limited number of partners who integrate their resources and capabilities, rather than hand them off to a new and totally distinct entity (e.g., AT&T and British Telecom). For the reasons spelled out in Chapter 2, I believe the integrated model is best equipped to open up the vast global telecommunications highway for its members. When properly executed, these strategic alliances have the ability to complement and build on their members' strengths, rather than overshadow or even compete with their established businesses.

■ SEVENTH COMMANDMENT

Understand the forces beyond the direct control of the telecom industry that can pose a massive roadblock to construction of the communications megahighway.

Because these forces could ultimately threaten the viability of their multibillion-dollar network investment, service providers have an obligation to understand and, wherever possible, get actively involved with and attempt to influence these potential hot spots. One such area is education and learning. The sad truth is that there is a severe shortage of trained technicians in the communications field who understand emerging technologies like IP and who can handle network integration and complex system migration. The industry must realize that without a significant pool of technical talent to undertake projects now and down the road, the network of the future could well run into a stone wall.

There are some promising signs. Aware of the gravity of the situation, Cisco Systems has created a Networking Academy to begin developing a new generation of network specialists. In addition, Motorola University has established academic partnerships with institutions around the world as it delivers the advanced courses and continuing education its employees need to prepare them for the technical challenges of the new communications era. The International Engineering Council (IEC) has also stepped up to the plate, providing through its Information Industry University Program timely instruction in the network sciences to professors and their students. This is certainly a start, but it's obvious that many more companies and professional organizations will have to come to grips with the serious talent shortage that exists in the communications field, and put their resources and reputations behind developing responsible solutions.

Another potential impediment for the network of the future is so elementary that few people have paid it any notice: energy. As the network exerts a growing impact on our daily lives in ways that range from work to pleasure, a sudden power outage takes on new and much more ominous overtones. It could shut down businesses as well as the countless devices and systems around the home that feed off the network. To be sure, the public utility companies will come under intense pressure to ensure the near-faultless reliability of their systems. In the new wired world taking shape, *any* system downtime will be totally unacceptable, not to mention potentially disastrous to the economy. The onus will be on the utilities to not only guarantee uninterrupted performance, but to meet the additional volume demands for power resulting from the soaring number of network applications. Are the public utilities up to this daunting challenge? Experience indicates that there is room for serious doubt. This, in turn, raises an interesting question: Are we far from the day when AT&T and MCI WorldCom will have to become power generators?

■ EIGHTH COMMANDMENT

The virtually unlimited demand for network-based applications in the foreseeable future should continue to encourage significant industry investment in increased capacity, along with new and better services.

The fears in some industry quarters of overcapacity are, I believe, ill-founded. I'm basing that on the following logic: as increased network speed and capacity continue to drive down the cost of providing services, resulting price decreases will continue to drive up utilization by customers. Bonocore's hypothesis, discussed in Chapter 4, puts this into sharper focus. The hypothesis maintains that for every 1% decrease in the price of providing telecommunications services to customers, there will be an accompanying 3% increase in the demand for network capacity. With technology advances continuing to curb costs and prices, and groundswell movements like the Internet and online shopping continuing to goose network demand, I see capacity being gobbled up by consumers in the years ahead. Thus, for forward-looking telecom carriers, the main issue will not be "Should I or shouldn't I build?" but rather, "How fast can I get my plant up and running?"

■ NINTH COMMANDMENT

The extra mile within the home is moving from a telecommuting to a teleliving space, and this transition brings with it a new world of opportunities for communications service providers.

No longer will the home environment be geared mainly to work-at-home applications, like voice mail and interconnectability. A much broader framework for at-home applications known as teleliving is taking hold, and it embraces everything from business to entertainment to Internet access to home maintenance. At the center of this

enterprise is the emerging home area network—a local area network with the ability to interconnect a proliferation of digital devices, including computers, home entertainment theaters, and heating and electrical systems. Above all, it will enable computers throughout the home to share Internet access, eliminating the need for costly multiple telephone lines. The industry has been so riveted by ongoing battles over the last mile leading up to the home, however, that it has generally failed to recognize the extraordinary product and service opportunities that extend beyond the front door.

Actually, the extra mile embraces not only home-based teleliving applications, but the extension of that environment outside the living quarters. It encompasses students who want to get their homework from their college professors while they're at work, for example, or to homeowners who want to remotely turn on their air conditioning via the Internet an hour before their scheduled return. The message is clear: Service providers who can't see past the front door will be losing out on some of the most attractive opportunities the telecommunications revolution has to offer.

■ TENTH COMMANDMENT

For the full potential of the network to be realized, regulators should respond—but not react too early—to issues that are still evolving in the marketplace.

A good example is the current battle over open access. If the government attempted to regulate broadband access at this early stage, it could have a chilling effect on private investment, possibly setting network development back by years. A more prudent strategy—which the FCC in fact seems to be following—is to stand back and see what impact competing technologies will eventually exert on open access. In the longer run, the government may have to step

in and apply strong national guidelines, particularly in light of the escalating number of communities like Portland, Oregon, and Broward County, Florida, that are imposing their own open access standards. But at least any such FCC ruling would be founded on a widening base of knowledge and experience, rather than mere supposition.

At the same time, a more proactive stance by the government would be extremely welcome in other important areas. They include universal service, where a national framework to replace the current morass of rules and regulations wrought by 50 different state jurisdictions would be a vast improvement. They also include the FCC's reviewing antiquated sets of standards that apply to various parts of the communications sector (such as cable and telephone), seeking to improve uniformity and fairness within a rapidly converging industry.

■ ELEVENTH COMMANDMENT

Embrace customer-managed as the new service paradigm for the twenty-first century.

Customer-managed represents a giant leap from the reactionary customer-care model that guides the major long-distance carriers today. For the telecom industry and its players, customer-managed means letting the customer define the relationship, then reengineering the business so it can respond promptly and convincingly to their needs.

Customer-managed will require enormous changes in the way service providers operate their businesses. For starters, it will oblige them to throw out all the old rules, and start with a blank sheet of paper. No longer will individual products and services dictate the customer relationship. Instead, integrated solutions and enterprisewide customers will become the new operating standards, with every division and every function playing a direct role in perfecting the customer relationship. Although customer-

managed will represent an extremely difficult challenge for the industry – currently no company even comes close to making the grade – it is a challenge well worth tackling. Customer-managed will simultaneously take the client relationship to an exciting new level and provide carriers with the most substantive competitive advantage available to them in the fiercely contested telecom space.

■ TWELFTH COMMANDMENT

If network-based intelligent services represent the real future for communications service companies, then strategic alliances are the vehicle that will speed them to that destination.

The big winners going forward will clearly be those companies that are nimble players in the intelligent network space. The question facing telcos at this stage is not whether they should undertake that journey, but how they can most effectively get there. Do they go it alone, or partner with others? Except in rare cases, strategic alliances will provide the inescapable answer. This is why companies must start thinking now about the types of partners they should choose, and the market segments in which they should compete.

As the optimal partners for the communications industry, software, portal, and systems integration firms are beginning to overshadow hardware vendors. That makes eminent sense, given that software is becoming increasingly integrated with the network and will provide the requisite intelligence to drive a new generation of advanced applications. On the market side, service providers must realize they can't be all things to all customers, and carefully choose those segments where they feel they can have the greatest impact, along with their alliance partners. They may decide to focus on providing intelligent services to middle-market companies or to high-usage residential cus-

tomers, for example, or to industries like banking where security and redundancy are critical requirements.

There are two important points to remember. First, with the right strategic partners, even small telecom players can be significant winners in the emerging world of intelligent network applications. It's extremely important, though—and here's the second point—that they act quickly, because the pool of available alliance partners is fast dwindling.