Entering the New Age of
Transnational Networks

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We are Entering the New Age of Transnational Networks. Profound changes are occurring that will severely impact why and how we communicate globally. Most of the visible attention is being given to services and products aimed at the general public, particularly personal communication services and on-line information services such as CompuServe and Prodigy. Instead, this attention needs to be directed toward the global networks used by commerce and government. These networks are the global backbone, literally and figuratively, of not only all communication services, but all commerce and diplomacy. How geometrically increasing amounts of traffic flow over these public and private networks is a management, logistical and technical challenge now and in the decade ahead.

There are many reasons why we are Entering the New Age of Transnational Networks. The first is that the old way of doing things is wrong, as is the old way of conceptualizing communications. We need new definitions that bring together computers and networks, and in the not too distant future, television and telephones, into a global communication mechanism. In the past, these have been individual disciplines that are managed from separate facilities and with unique standards. Even the regulatory bodies have virtually nothing in common. If computers, networks, television and telephones are meshed together, the technology required to manage them as an integrated whole is clearly different than what would be required if they remain as individual devices. More importantly, the issue of optimizing use has yet to be addressed, particularly how to make computers and networks, much less television and telephones, work as a unified, global communication mechanism at a reasonable cost.

Secondly, the old regulatory structure is crumbling. Still, the self interests of nationalistic carriers are disappearing at far too slow a rate. Therefore, new regulatory structures are struggling to develop new definitions and procedures. Global agreements, such as those being formulated by the General Agreement on Tariffs and Trade, or GATT, and the ITU, show the extreme difficulties involved in getting agreement on even the most basic of issues. Whatever new regulatory structure emerges, it will have to rise above protectionist structures, permit open competition in the global marketplace and reward innovation and risk taking. This is a tall order as well as the opposite of what exists today.

Thirdly, the old guard needs to adapt rapidly to deregulation, privatization and global competition. Those of us who now run communications organizations are the old guard whether we like it or not. We have the experience to lead the way into the New Age of Transnational Networks. Do we have the motivation? I think we do. First, there's the carrot to motivate us. Communications as we know it today is embryonic in terms of the industry it will become. We can lead our organizations into the future and profit greatly. Second, there is the stick to prod us. If we do not sweep away the old ways of thinking and doing things, we will lose significant marketshare and credibility. Whether we respond to the carrot of profits or the stick of lost marketshare, we must respond now.

Finally, there is one especially compelling reason for why we are Entering a New Age of Transnational Networks. The new politics of global communications will create uncertainty

and opportunities that stress existing ways of doing business. The importance of communications in developing nations and driving global commerce means that we will no longer exist in a world where technology reigns. Our real customers will be politicians and diplomats who care little about the problem we have in operating our networks. Rather they will exert pressure to ensure that we provide transnational communication mechanisms that speed trade and commerce in their areas of special interests. Those providers who operate locally or regionally will be left out, or absorbed. National borders will be less significant as well. Most importantly, in the New Age of Transnational Networks, there will be little interest in the basic capacity to transport voice, data or video over distances. The interest will be in those who can turn voice, data and video into viable solutions. Those who deliver such solutions will succeed.

MANAGEMENT ISSUES

As we prepare to enter the New Age of Transnational Networks, there are a myriad of concerns about how we will manage these sophisticated communication highways.

One perspective is that of the purchaser of network capacity and services. Another is that of the provider of the network either as a third party, or internally. A third involves the technical management of a highly complex, global communication system. Finally, there's the management of people who are essential to all aspects of a transnational network. Each viewpoint needs to be fully addressed if the great potential of these communication mechanisms is to be fully exploited as soon as possible.

Another perspective is from the logistical side. Assembling, maintaining, upgrading and expanding a network that spans three to five continents is a daunting task. This goes beyond physical connectivity to include regulatory concerns, rates and rate setting, routing and redundancy. There are also human resources needs from not only the perspective of geographic presence, but also technical expertise and training, with qualified personnel in short supply for the immediate future and beyond.

Not to be ignored as well is the challenge of keeping up with the technology. The pace of change is obvious, as are the inherent risks of technological obsolescence. Conversely, making the right technological decisions at the proper time can provide tremendous advantages in terms of network performance, cost and reliability.

Today, there are three ways of meeting these complex management challenges. The first is to do as much as possible inhouse. However, the creation and continued use of global private networks is for a select few who have the resources to create what is essentially their own international telephone company. The second, and 180 degree opposite, is to totally turn the network over to a third party or parties. This outsourcing solution is a viable one for most. Third, there is the hybrid solution, which is appropriate in most every instance. The key is to maintain a proper balance delegating direct operational responsibility and retaining appropriate levels of accountability. This is becoming easier. In the foreseeable

future, most every nonpublic transnational network will be operated along the hybrid solution model.

PENDING ISSUES

The management issues surrounding transnational networks are well defined and structures exist that make them surmountable. Therefore, attention must be focused beyond this important, but everyday aspect of global communication. In order to make the New Age of Transnational Networks a reality as soon as possible, there are a number of difficult issues that have to be addressed:

- Transnational, not international. Corporate vision has not encompassed a true transnational structure and style of operations.

- Industry structure concerns. Creating a transnational network requires new and bold initiatives.

- Barriers to success. Progress is impeded, but not stopped, by regulatory mechanisms, lack of standards and capital needs.

- Ill-defined rewards and incentives. No masterplan or timetable exists to create transnational networks.

BECOMING TRANSNATIONAL

The fact is that few organizations are transnational. Instead, they are multinational at best and letting go of these old concepts and practices is difficult. Infonet is one of the few models today of a truly transnational company, particularly one with a more than 25 year history. Our goal, from the beginning, was to develop the first transnational company that delivers high level network services and managed networks worldwide. This meant our services and the network that carries them must be without a strong nationalistic identity in terms of origins, culture or ownership.

Before going further in defining transnational, let us look at what it means to be multinational. The multinational company has a headquarters in one country and subsidiaries outside its home country. The headquarters team in the home country manages the subsidiaries throughout the rest of the world. In contrast, Infonet is transnational. Although our North American headquarters is in California, around the world we're not an American company. In Germany, we're seen as a Germany company, just as in Hong Kong we're perceived as a Hong Kong company. We achieve this by alliances, affiliations and other working relationships that give top priority to customer needs and perceptions in the area where each operates. Who the customer is doing business with is important in terms of

Infonet being a well managed, strongly financed and growing organization. Whether or not the Infonet name is used locally is of little matter or value. What counts is that our people, when it comes to customers, speak their language, understand their culture, live and work in their community and develop meaningful relationships on both business and personal levels.

Another essential aspect of encompassing a true transnational structure and style of operations is ownership. When ownership is concentrated in one nation, the company has not only that country's identity, but too often its stereotypes. One reason why Infonet is such a good example of transnationalism is its ownership. The investors in Infonet are Australia's Telstra Corporation, Belgium's Belgacom, Germany's Deutsche Bundespost Telekom, France Telecom Transpac, Japan's KDD, PTT Telecom in The Netherlands, Sweden's Telia International, the Swiss PTT, and Spain's Telefonica Internacional. They provided the capital and share in the financial risks and rewards. We don't depend on them for our technology, for distribution or any other aspects of daily operations. This permits decision making, strategic planning and other aspects of both daily and future activities to be conducted without concern for our investor's nationalistic borders or individual agendas.

INDUSTRY STRUCTURE

Overcoming concerns about industry structure requires a number of bold and new initiatives. Earlier reference was made to changing the way communications is conceptualized in terms of the tools -- computers, networks, telephones and television. The next step is to reconceptualize industry structure. Today, telecommunications is structured around types of service (business or residential, long distance, or local), areas of operations (in-country, overseas) and type of signal (voice or data) to name but the most obvious. Tomorrow, the structure will center around what the service delivered means to the customer.

This means communications organizations will move away from being technology oriented and become marketing driven. Services will be sold in terms of customer benefits and face extensive competition from not only phone companies as we know them today, but cable television companies and hybrid organizations involved in everything from entertainment to manufacturing. The globe will be covered with fiber optic cable capable of carrying hundreds of times the amount of information that can be comfortably transmitted today. This bandwidth will be cheap as well. There will be few capacity or cost impediments to what transnational networks can deliver to the desktops and homes of world residents. The challenge will be to make the sale while also making a profit.

One attractive solution that is workable now is to create economies of scale. We are already seeing acquisitions, mergers and partnerships being formed. This will escalate with some successes and some failures. The objective is to create more efficient transnational communication organizations. This will enable the boldness required to formulate and execute initiatives with a market and customer focus as well as change corporate cultures embedded with outdated ways of doing things.

A second potential solution is to totally rethink the pricing of communication services. In the past, cost was rarely determined by the intrinsic value of the service to the consumer. Instead, the price was set by regulators who created subsidies for certain classes of services by over charging for others and ensured high operating margins. Particularly in monopolistic markets, pricing was totally irrational. In the future, such a vast variety of services will be available on a transnational network. Obviously, those services that are new and innovative will command a premium, but this edge will fade over time as competitors catch up. Therefore, a constant stream of better offerings will be required. Similarly, better marketing, advertising and promotion will be necessary to sell these new services. The consumer will determine the success or failure of many communication services, with pricing points often being an important part of the decision-making process.

SUCCESS BARRIERS

If the Transnational Network in the New Age is to be successful, a number of barriers are going to have to be removed as soon as possible. Specifically, these barriers exist in the areas of regulatory mechanisms, setting of standards and capital needs.

It is true that the old regulatory structure is crumbling, but not fast enough. What is of concern is that new regulatory structures are filling the voids created by the ones that are disappearing. It does little good to dissolve a PTT and replace it with another government agency that has even greater powers or vested interests in maintaining projectionist barriers against competition. There is the problem as well of downsizing many of the long established communication organizations. The decision to reduce jobs has implications of concern to politicians and governments of significance to economic stability and elections. While the regulators may see the imperative to create a lean organization, the state may overrule them. This circumstance will sort itself out over time, but until this occurs the progress to create transnational networks will be slowed.

The concern over standards setting is rapidly diminishing, but old ways die hard. The reason for this lower level of concern is an increasing lack of time for these bodies to complete the traditional and lengthy deliberative process. Instead, the marketplace is beginning to define de facto standards based on the size of the installed base. No better examples exist than Ethernet for local-area networks and Windows/DOS as a PC operating system. TCP/IP as a transport protocol is a third example and more unusual because it is nonproprietary. A problem with this "on-the-fly" approach to standards evolution is degrees of incompatibility can exist between different manufacturers of the same technology. This can be overcome and is more than offset by the time savings achieved by rapidly implementing new technology. Therefore, the transnational network will not be totally standards based, as is the international telephone system we have today. The impact will be minimal on the downside and on the plus side of the ledger will be newer services available sooner to greater numbers of customers.

The third barrier to success is capital needs. This issue will not be so easily resolved. Even

formulating a reasonable estimate of the cost of creating a transnational network is impossible. The reason is the extensive infrastructure that needs to be built in many areas of the world, particularly in the Asia Pacific, Africa, India subcontinent and, to some degree, South America. The type of infrastructure required, fiber optic cable, digital switches and high-tech control centers, is expensive and time consuming to install. Short cuts are possible and, in some instances, workable. Cellular telephone systems provide virtually immediate improvements in voice, particularly in areas where residential and business service is poor to nonexistent. Satellite, particularly VSAT, inexpensively brings data and voice to the rooftop of a factory, warehouse or office building in the most remote area in a matter of days. These interim solutions in no way address the essential economic issue facing countries without sufficient digital infrastructure. What needs to be addressed is how to create a communication network within the country that extends the full capabilities and resources of transnational networks to every potential user. When this is accomplished, the in-country network becomes the economic engine for growth. Commerce and investment are attracted that would otherwise go other places where better communication systems exist.

REWARDS AND INCENTIVES

Ill-defined rewards and incentives hamper the ability to attract the necessary capital to create not only a transnational network, but the in-country infrastructure to fully exploit it. In addition, no masterplan or timetable exists. Thus far, the risk/reward ratio has been attractive to investors. Whether or not this continues depends on leadership emerging from not only the providers of communications services, but also the providers of capital. In particular, international agencies such as the World Bank, UN and International Monetary Fund need to change their strategy. The emphasis has been to finance roads, bridges, airports and other such forms of visible infrastructure. The rationale is to attract outside investment and create economic growth. Investments in an "invisible" communication infrastructure is a far faster route.

This investment in invisible infrastructure is essential. Poor telecommunication infrastructures discourage economic growth, particularly investments by global enterprises. These widely varying regional disparities in digital telecommunication infrastructure will be harmful to global economic growth. It costs more to do business in regions without a digital infrastructure. Conversely, without economic growth, these disparities cannot be corrected. Fortunately, global telecommunication companies are shouldering some of the economic burden. We will obviously benefit from increased traffic in the areas where investments are made in digital infrastructure. Beneath this benefit is a second motivating factor. The competition among global network providers is just beginning. Those who pursue a transnational investment strategy will succeed. The stakes are high, but so are the rewards.

VISION NEEDED

For the world economy to begin to reap the rewards of Entering the New Age of Transnational Networks, all of us need to be looking ahead at a minimum to the start of the

next century. We need a vision of what benefits will accrue and what actions must be taken. I'm referring to more than strategic planning when I use the term "vision." Strategy most often relates to expected events. Vision means creating events that force others to formulate strategies.

To execute a vision, resources are needed. Implementing a vision is not a simple matter. The cost is high. In addition, revenues cannot be drained from existing operations to execute a vision. When we have this vision, the resources need to become available, meaningful progress occurs and everyone benefits.

A major element in any vision is defining the direction of the marketplace. Unfortunately, what's occurring now is taking place on the horizontal axis, More and more transmission companies are getting together with other transmission companies to form bigger transmission companies. These alliances bring no new products or services to the table. They simply alter the mechanisms for the delivery of existing services without pushing into any new frontiers. One result will be the commoditization of basic telecommunication transport services. In the long run, the transmission companies are doing little more than trying to postpone tomorrow.

While there is constant activity on the horizontal axis, very little is happening on the vertical axis. This is where we will address the challenge of Entering the New Age of Transnational Networks. A first step is to get together the content providers and packagers of services with the transmission providers. This is being done to a degree in the U.S. and UK, but the emphasis is on control rather than learning about marketplace dynamics. The result was some splashy failures of billion dollar mergers and acquisitions. Fortunately, there are a number of organizations exploring the vertical axis in innovative ways. Not surprisingly, few of them are telecommunications companies. Instead, they are from cable TV, movie making, software and even financial institutions. The result is a growing number of fascinating testbeds that are now underway or being planned on the vertical axis. The video dial tone is being tested, as is phone service over cable TV. Interactive shopping and banking systems are now operating. All are working toward developing vertical solutions that have marketplace viability.

What will make the New Age of Transnational Networks became a reality more rapidly is a return to the basic concept of value. The commoditization of basic telecommunication services, particularly bandwidth, is very nearly here. The amount of fiber optic cable being strung between countries will result in a glut of capacity. High speed switching and data compression will permit massive amounts of information to flow without great concern for transmission costs since less time will be required to send more information. The result will be an even faster move from concern with connectivity to searches for solutions. These solutions have to offer real advantages and value to customers. The New Age of Transnational Networks will accomplish this objective. We will accelerate the speed of change. The pace at which we overcome barriers and forge new frontiers will be faster than ever. Many things we think of today as impossible, or improbable, will have taken place.