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## The United States

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## The United States

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## *Chapter 1*

# **United States**

Jeffrey H. Keefe and Rosemary Batt

The U.S. telecommunications industry is in turmoil as formerly separate industries converge on the global information superhighway. As a multi-media market place emerges, market boundaries are eroding among diverse information service suppliers that include the publishers of newspapers, periodicals, and books; studios that produce movies and television programs; video game makers and software developers; data and information services; and burglar alarm and security firms. New wireless and cable transmission technologies are changing the relative economic and technical advantages among the common carriers in local and long distance telephone services, cellular communications, broadcast television and radio, and cable television. New digital technologies create the potential for a myriad of interactive multimedia products as they simultaneously destroy the value of traditional telephone and television transmission networks. State and federal regulatory regimes are being dismantled to eliminate cross-subsidies in rate structures and to promote innovation and market incentives, sometimes through competitive markets but more often through unregulated oligopoly, duopoly, and even monopoly market structures. In response to this changing environment, telecommunications firms are restructuring, vertically and horizontally integrating and disaggregating, allying with former competitors, competing with former allies, and vigorously lobbying and litigating for market

advantage. For investors, uncertainty and risk have replaced stability and guaranteed rates of return.

This chapter examines the tumultuous restructuring of the U.S. telecommunications common carriers as they escape from rate and entry regulation and compete in traditionally monopoly markets. The first section discusses changes in product markets and technology; the second, business strategy and structure and union strategy; the third, labor-management relations; and the fourth, work reorganization and internal labor markets. In the first section, we argue that the chief cost advantages in the long distance, local telephone, cable TV, and wireless telecommunications markets derive from the integration of their network systems. Network integration can still generate substantial economies of scale and scope that produce lower unit costs; and consumers prefer integrated service delivery. While new technologies have a centralizing thrust, however, the ultimate structure of the industry is uncertain, and depends also on the outcomes of current political and economic battles over market deregulation and reregulation. In the second section, we discuss the business strategies of major telecommunications companies which have led them to restructure their organizations. They are consolidating and centralizing their network operations and customer service organizations to achieve scale economies at the same time that they are developing segmented marketing strategies. This organizational structure creates a basic tension between productivity-enhancing centralization and market-responsive decentralization.

These recent organizational and technical consolidations have resulted in substantial employee displacement in an industry that formerly guaranteed employment security through carefully managed human resource planning, which we analyze in the third section of this chapter. Since its 1984 divestiture, AT&T has eliminated nearly 150,000 union-represented jobs, accounting for 60 percent of its union-represented work force. Between 1984 and 1992, the regional Bell companies reduced employment in their regulated telephone subsidiaries by 28 percent, eliminating 158,281 jobs. As the deregulation of local telephone and cable television services continues in the wake of the 1996 Telecommunications Act, the seven regional Bells and GTE have announced plans to eliminate over 100,000 jobs, approximately 20 percent of local telephone service employment, including the first layoffs at some of these companies since the Great Depression. Downsizing has led to the demoralization of the survivor work forces. In response, employment security has become the major concern in collective bargaining, which remains relatively centralized.

In the fourth section, we analyze more closely the ways in which companies have reorganized work and the implications for internal labor markets. Specifically, we argue that two competing approaches to work reorganization have significantly changed the internal labor market rules for managerial and nonmanagerial employees alike. The first approach relies on employee participation and labor-management partnerships to improve service quality through the redesign of jobs and human resource practices. The logic of this approach is that employees will provide better service if they have the opportunity to offer innovative solutions (employee participation), if they have the autonomy to meet customer needs (job redesign), and if they have the appropriate skills (education and training) and incentives (career opportunities, employment security, compensation) to make a commitment to the company. This approach implies that commitment is a two-way street: if the company shows its commitment to enhancing employees' jobs and careers, then they in turn will increase their efforts to make the company competitive. This approach has a decentralizing thrust because it relies on the talent and creativity of employees at the point of customer contact.

The second approach focuses on realizing scale economies and cutting costs through consolidations, new applications of technology, reengineering, and downsizing. It begins at the macro organizational level and relies on top management, consultants, and engineers to develop system-wide innovations. This approach relies on centralized decision making rather than decentralized discretion. Because changes in the design of jobs and human resource practices flow *as a consequence* of new technologies and organizational restructuring, companies do not make prior commitments to job enhancement or employment security. The two approaches are, therefore, in conflict. As the statistics on widespread downsizing suggest, at AT&T and the regional Bell companies, the second approach has dominated, and often undermined, the first. This turbulent employment environment stands in sharp contrast to the stability that most incumbent employees came to expect from their employers.

### **AT&T Divestiture, Deregulation, and Industrial Restructuring**

Throughout most of the twentieth century the telephone service industry was regulated as a natural monopoly in a two-tiered federal and state regulatory system. Under regulation, AT&T's Bell System achieved the goal of universal telephone service for Americans before any other telephone system in the world. Competition was largely repudiated as an

effective public policy tool. Competition in an earlier period (1894–1907) had produced an unnecessary duplication of telephone plant facilities in urban areas and was thought to have slowed the diffusion of telephone service by raising the cost of capital and by preventing the realization of system economies, both of which allowed for lower prices for basic service. Regulation rather than state ownership was a uniquely American solution to the problems raised by competitive productive inefficiencies or the natural monopoly problem.

Regulators sought to achieve efficiency, reliability, and universal service. Efficiency was principally realized through network scale economies, the nonduplication of telephone facilities, regulatory review of costs, and regulated pricing. Reliable high quality service was provided through a highly integrated network and a service-oriented workforce subject to regulatory review and sanction. Universal service was accomplished by subsidizing the price of basic telephone service and rate averaging, which reduced the rates for residential and rural customers.

Under Federal Communications Commission (FCC) regulation, AT&T functioned as the public network manager (Stone 1989). It provided all local companies access to the long distance network. The Communications Act of 1934 required local operating companies to serve everyone within their region. Federal and state regulators established a fair and reasonable rate of return and prevented entry into the market. Under this system 92 percent of American homes had telephones, and most Americans were satisfied with their service.

#### *Cross-Subsidy Problems and Strategic Entry*

The cross-subsidies in the rate structure, however, made the Bell System vulnerable to competitive entry. Long distance service and business equipment rental rates were deliberately set above their costs. The revenue surpluses were used to reduce the price of basic telephone service below its cost. This cross-subsidized rate structure, designed to promote universal service, also created strong incentives for outside firms to devise ways to enter the high-priced subsidy-generating markets. It also stimulated large consumers of the high-priced services to seek alternative sources of supply. Specifically, a concentrated group of large businesses in financial and computer services increasingly subsidized local rates for residential users. These large users became well organized into political action groups that supported MCI's challenge to the Bell System's long distance monopoly and blocked AT&T's efforts at Congressional reform of the federal Communications Act.

During the post-World War II period, long distance rates increasingly

cross-subsidized local service; this increasing subsidy was largely disguised by the rapid productivity gains in the long distance network. By the mid-1970s, long distance rates paid for one-third of the local plant costs, while long distance service accounted for less than 8 percent of local plant usage; by 1980, long distance rates contributed two dollars to the cross-subsidy for each dollar it cost to operate the long distance network. Largely as a result of the subsidy, the inflation-adjusted average monthly local telephone bill fell by 29 percent during the 1970s (Teske 1990). At the same time, the increasing subsidies stiffened the resolve of major corporate long distance users to escape from the Bell System monopoly and the cross-subsidized rate structure.

Over the objections of the FCC and AT&T, MCI gained entry to the publicly switched long distance market through a federal court ruling in 1978. Once MCI entered this market, the cross-subsidy rate structure was doomed. Between 1982 and 1992, as the cross-subsidies were eliminated, prices for long distance telephone service declined by 40 percent and long distance calling volume more than doubled, while basic local residential service rates increased by more than 60 percent from \$11.58 to \$18.66.<sup>1</sup> Deregulation led to substantial economic gains for concentrated large corporate interests that are major users of the long distance network and widespread losses for residential consumers and former Bell System employees (Teske 1990). Not surprisingly, public opinion polls at the time of AT&T divestiture indicated that over 70 percent of telephone customers opposed the Bell System breakup.

The AT&T divestiture and telephone deregulation eliminated cross-subsidies in long distance and telecommunications markets, while it is eroding the cross-subsidized rate structure in local service. Consequently, the principal beneficiaries of deregulation have been large corporate telephone consumers. The elimination of the progressive cross-subsidization of telephone service has redistributed income away from residential consumers to large corporations. Residential consumers pay relatively more for their telephone service than they would have under regulation; however, telephone rates continue to increase at a rate considerably below the rate of inflation. In the period 1982 to 1992 the average annual price increase in telephone service was 2.6 percent—considerably below the 4.7 percent average annual rate of increase for the Consumer Price Index (FCC 1994, table 8.2, p. 302).

1. However, telephone service has expanded to 93.8% of U.S. households and remains relatively fixed at 2% of consumer expenditures.

*The Integrated System of Telecommunications Services Production*

The production of telecommunications is inherently systemic in nature. The more participants in the telecommunication system, the more communications opportunities are afforded any participant. By providing universal communications services, a telecommunications network greatly enhances its value to all subscribers. However, to build such a network requires considerable technological integration and compatibility among all its elements (Rosenberg 1994). Each service innovation only becomes feasible when it can be technically integrated into the existing network in an economical way.

By continuously achieving new economies of system, the telecommunications services industry has led all service industries in productivity growth in the post-World War II period. During the Bell System era, between 1950 and 1984, labor productivity growth in telecommunications services averaged 6 percent annually, and during the last decade of the Bell System the annual rate of productivity growth rose to 6.9 percent. Pre-divestiture econometric studies consistently demonstrated overall economies of scale in the network, specific output economies of scale, single supplier cost advantages, and economies of scope at AT&T and Bell of Canada (Kiss and Lefebvre 1987), each contributing to lower unit costs and declining real prices of telephone services. Since 1935 prices for telephone service rose at half the annual rate of consumer prices (2.1% compared to 4.2%).

Since divestiture, however, productivity growth has significantly fallen below its postwar trend in telecommunication services. Using three different output measures, alternative calculations show that annual labor productivity growth has fallen from 6.9 percent annually to 3.5 to 4 percent annually (Keefe and Boroff 1994). The drop in the industry's productivity growth rate was due, we believe, to a loss of system economies and a substantial increase in marketing costs, both unintended consequences of competition, and was not simply a result of the disruption caused by restructuring.

Underlying the Justice Department's insistence on the AT&T divestiture was the belief that long distance service deregulation would usher in an era of competition utilizing relatively inexpensive and decentralizing technologies based on satellite and microwave transmission networks (Rosenberg 1994). Microwave network technology, however, was obsolete by the time the AT&T divestiture was implemented; and satellite communications have been since relegated to a secondary technology primarily used for communicating with remote areas of the world.



Divestiture, instead, accelerated the deployment of new digital switches, fiber optic network technologies, and cellular services. The "systemness" of these technologies demands even higher levels of network integration and interoperability than prior network technologies. Consequently, the new digital network systems exhibit greater economies of scale and scope than the analog network they have replaced. These economies, however, could not be fully realized because of the market separations contained in the 1983 AT&T Consent Decree and the resulting triplication of long distance network facilities, which has spawned over 500 companies that resell the services of the big three (AT&T, MCI, and Sprint). The current long distance oligopoly market structure has produced considerable excess capacity with sufficient facilities to serve many times the total needs of American consumers. For example, although AT&T accounts for 60 percent of the long distance traffic, AT&T's competitors alone could readily serve the entire nation's long distance demand (Allen 1993). In addition, the new competitive marketplace requires that long distance carriers devote an increasing proportion of their resources to advertising programs (over \$3 billion in 1994) for "True Voice," "Friends and Family," and "The Most."

During the last decade digitalization of network switching and transmission has revolutionized telecommunication services. As network software replaces hardware as the principal source of value added, the telecommunications networks gain an increasing capability to offer a wide range of services and customization features. Common carriers working with manufacturers have created software-defined networks and software capable of delivering customized services for "intelligent networks." Advanced Intelligent Networks (AIN) will ultimately provide information suppliers with the flexibility to design their own service networks. New switching software will redefine interactive communications by delivering interactive voice, video, data, and imaging services simultaneously over a fully digital network. The new digital network systems have also created an exploding demand for software and software programmers to support flexible multi-product networks. Digital switches are designed with basic operating systems and software platforms that can be readily expanded. Each year new software upgrades are available to enhance digital switching capabilities, often allowing new services to be offered without making any hardware changes. Sales of system software upgrades to the regional Bells exceeded \$1.2 billion in 1992.

A second technological revolution is underway in transmission systems. All major common carriers are transforming their analog transmission systems into broadband integrated services digital networks (ISDN).

ISDN is an engineering concept, not a technology; it signifies a digitally switched network that can simultaneously carry digitized video, voice, data, and imaging transmissions, and it requires a broad transmission band. Fiber optics is the preferred broadband medium for digital transmission. Light waves pulsed through an optical fiber can carry voice, data, imaging, and video transmissions simultaneously over the same strand (integrated broadband) without any electrical distortion or "noise." Fiber may make existing cable TV and telephone networks technically obsolete. It is currently deployed on most long distance and toll routes with growing application as local exchange feeder cable. About 90 percent of the potential circuit usage of fiber, however, is in the local loop, or what is referred to in the industry as the "last mile" (Bolter 1990:173). It is this last mile that represents the single largest obstacle to a national digital broadband network.

In the near term, the Regional Bells have opted for a less expensive broadband solution. It relies on a mixed system of fiber optic cable run from the central office to a local access point, where the lightwaves are converted into both digital and analog electrical impulses, which are carried to the home over coaxial cable. Lucent Technologies (formerly AT&T Transmissions Systems) has solved several technical problems that will permit the transmission of interactive communications over coaxial cable. The cost of this new mixed system is slightly more than half of a fully fiber optic system. This mixed system, however, has a narrower band width than a fully fiber system, which could potentially limit multimedia applications.<sup>2</sup> The regional Bells continue to scale back their plans for broadband deployment, as they devote more resources to wireless technologies.

Cellular telephone, an analog technology, grew from no subscribers in 1981 to 35 million in 1995. The next generation of wireless communications, personal communication services (PCS), a digital network technology, should substantially reduce the costs of mobile communications services and greatly accelerate the use of wireless communications for voice, data, and fax. Depending on technical innovations and economic

2. Several companies are also committed to fiber optic trials in the local loop. US West, for example, has undertaken a test in Omaha. It costs \$1,500 to hook up a fiber optic subscriber compared to \$1,200 to connect a regular telephone customer; however, projections indicate that the cost for fiber optic loops should fall to \$1,000 within a few years as the technology advances with practical service experience. In addition, the major cable television interests, such as Tele-Communications, Inc., Time Warner, and major competitive access provider companies (such as Teleport and Metropolitan Fiber Systems), are battling to become major local ISDN suppliers.

feasibility, digital wireless technologies could account for half of all local access calling within ten years.

These new wire-based and wireless digital broadband network technologies, make obsolete entire sets of worker skills, while creating demands for computer and software diagnostic capabilities. At the same time, they permit companies to restructure operations by creating the opportunity to consolidate organizations into mega-centers for operations, repair, and customer service. The diffusion of these new technologies will create more opportunities for further integration that achieve even greater system economies of scope and scale; however, the pace of technological development and choice will be ultimately determined by market demand and by the economic feasibility of the new services. Optimistic projections about exploding demand for new integrated services in interactive video, data, voice, and imaging often lead to predictions about industrial convergence among computer hardware and software, entertainment, information, educational services, telephone equipment, telephony, cable and broadcast television, wireless, and other ancillary industries.

#### *Is There a Convergence in Telecommunications Services Markets?*

Forecasts of industry convergences, however, often tend to be premature. Convergence is often thought to arise solely from converging technologies. Regulatory, managerial, and economic constraints, however, greatly shape the viability of service market convergence. For example, at the time of the AT&T divestiture, the business press confidently predicted the imminent merger of the computer and telephone industries. In 1982, within hours of the AT&T divestiture agreement, the Justice Department also dropped its antitrust suit against IBM in part because AT&T was expected to become a major rival of IBM in the computer market. Additionally, industry analysts predicted that IBM would become a strong challenger to AT&T in telecommunications. IBM purchased a stake in Rolm, the business premises equipment company, then entered into an agreement with MCI, leveraging IBM's ownership stake in Comsat. These two industry leaders were supposed to tear down the wall between computers and telephony. AT&T lost millions on its investment in personal computers, however, and finally merged its operation into its acquisition, NCR, which it has now spun off as a separate company. IBM retreated from the telephone industry to focus on its imploding computer business. Although convergence between the telephone and computer industries is still likely, it remains a vision.

More recently, for a brief period in 1993, merger talks between the

major cable TV companies and the regional Bells created the impression that the two industries would quickly converge through corporate mergers. Bell Atlantic's merger with TCI soon failed, followed by the collapse of the Southwestern and Cox cable merger plans, and by the renegotiation of deals between BellSouth and Prime, and Bell Canada and Jones Intercable. Although Southwestern Bell had already bought Hauser TV in suburban Washington D.C., it subsequently explored selling its interest. Only US West, which acquired Continental Cablevision in 1996 and owns 25.5 percent of Time Warner's stock, remains committed to convergence through corporate merger, although it has been embroiled in a bitter dispute with Time Warner over its acquisition of Turner Broadcasting.

At the time of the passage of the Telecommunications Act of 1996, the telecommunications services industry was divided into five major market segments: long distance, within state toll calls, local exchange service, cable TV, and wireless communications. The Telecommunications Act will unleash competition in the long distance and toll markets and will foster competition among the local access providers. In 1995, U.S. telephone service was supplied by over 160 million wire-based telephone access lines; the seven regional Bell companies and GTE provided 95 percent of the nation's local telephone access service through state-regulated monopolies. Cable TV supplied television signals to more than 60 million homes through local franchised monopolies. Between 1984 and 1993 cable TV operated without any regulatory oversight, allowing the companies to generate equity values four times their replacement costs. The Cable Act of 1992 brought cable TV under federal regulation, which will expire in 1999 under the new Telecommunications Act. The fastest growing local access providers are wireless communications companies that in 1996 supplied cellular services to 35 million customers through duopoly markets dominated by AT&T, Sprint, GTE, and the regional Bells.

As each type of local access service converts to a digital broadband technology, the providers plan to compete for customers with services currently offered by another existing technology. For example, modernization of the traditional telephone access lines will permit telephone companies to offer cable TV; digital upgrades in the cable TV network will permit internet access and voice communications; and new wireless technologies will improve voice quality and permit fax and data transmissions that will compete with telephone wire-based services. Each wire-based and wireless access service plans to create new interactive forms of communications. The Telecommunications Act anticipates that

these new technologies will create a competitive market for local access services, progressively eliminating the basis for natural monopolies and the need for traditional regulatory oversight. Corporate planners, however, face increasing difficulty in forecasting market growth and potential competitive losses or gains to any of the alternative technologies, making investment choices in this capital-intensive industry very risky and expensive.

In 1995, long distance was the only developed marketplace in telecommunications services. AT&T (60 percent share), MCI (20 percent share), and Sprint (10 percent share) effectively divided the long distance market. By 1995 the long distance carriers had already gained the right to compete in 35 state area toll service markets. This allowed the long distance carriers to enter another market that historically subsidized local service and to compete directly with the regional Bells and GTE for market share. The Telecommunications Act of 1996 opened up the remaining intrastate toll markets to the long distance carriers, but at a substantial cost. The Act gives the regional Bells immediate entry into long distance markets outside their service areas and the regional Bells will likely gain the right to enter the long distance markets within their regions by 1999.

Although long distance market shares began to stabilize in 1992, as calling volume and profitability continued to grow, the entry of the regional Bells and GTE into this lucrative market recreates instability in the domestic industry. The major long distance carriers, thought to be the big losers in the Telecommunications Act of 1996, face several major issues beyond direct competition with the regional Bells and GTE. The first concerns the long distance access charges paid to local exchange carriers to guarantee universal service. In 1996, long distance carriers still paid 45 percent of their long distance revenues to GTE and the regional Bell companies for access and interconnection to the local exchange network, and these charges still subsidized basic telephone service rates. In 1995, AT&T, MCI, and Sprint were exploring options to enter local telephone service through alliances with cable TV companies, cellular carriers, and competitive access providers to drive down local access charges and deprive the regional Bells of a major revenue source. The Telecommunications Act of 1996 created a Federal-State Joint Board on Universal Service to define the scope of universal service and to propose mechanisms for federal support of universal service. The FCC will not decide the future of access charges and other mechanisms for supporting universal service until 1998 at the earliest; however, the future of access charges and other cross subsidies will significantly affect the financial health of

long distance carriers and local access providers, as well as the cost to the consumer of basic telephone service.

Second, the Telecommunications Act of 1996 requires that local telephone exchange providers make available access lines at wholesale prices for resale. In theory, long distance carriers can lease these lines, which will provide them direct access to their customers. This direct access allows them to provide a comprehensive set of telecommunications services (one-stop-shopping) for their important clients. In an initial experiment AT&T leased lines from Rochester Telephone at a 5 percent discount, which AT&T found unprofitable, and then abandoned the experiment. Under the new Act, the state commissions will set wholesale prices. However, they confront a basic problem. The unsubsidized cost of a local access line is higher than the price charged to the consumer. The commissions confront a difficult issue in a cross-subsidized environment: what is the appropriate wholesale price, when the retail price is below both marginal and average costs? Depending on how local access wholesale prices are set, the long distance carriers may or may not be able to offer seamless comprehensive services, which they view as critical to their survival and growth.

Third, each major carrier is building international alliances with foreign long distance carriers. British Telecom has purchased 20 percent of MCI; German and French Telecom have jointly purchased 20 percent of Sprint. AT&T, while maintaining 70 percent of U.S. originated international revenues, is building its "World Partners" network; it already has ten participating telecommunications companies in Europe and Asia, who will market AT&T services. Each major U.S. long distance carrier is participating in the formation of a global oligopoly in telecommunications services. Will competition from the regional Bells upset the domestic and emerging international oligopoly market structure by creating more excess capacity in the network and shifting potential alliances?

Even before its enactment, the Telecommunications Act of 1996 produced corporate restructuring, once its basic elements became known. In September 1995, AT&T announced its divestiture into the new AT&T, a telecommunications services company; Lucent Technologies, a telecommunications manufacturer and equipment supplier; and NCR, the former computer division of AT&T. The disaggregation of AT&T was largely propelled by a fundamental conflict between marketing telecommunications services and network equipment. As the Network Services Group within AT&T had escalated its direct competition with the regional Bells, the Network Equipment Group's largest customers, the same regional Bells became increasingly uncomfortable about buying their telecommu-

nications equipment from their largest competitor. Equipment orders were canceled. Organizational walls were then built at AT&T between services and equipment to insure that information obtained in supplying equipment would not be used by the service divisions to compete with equipment customers. The advantages of vertical integration thus disappeared, leaving only its liabilities. In addition, the acquisition of NCR had failed to stop a decade of losses for AT&T in the computer business.

Within months of the AT&T divestiture announcement and weeks after the Telecommunications Act of 1996 was signed into law, the number of regional Bells decreased from seven to five. Southwestern Bell Corporation announced plans to acquire Pacific Telesis, and Bell Atlantic announced its intention to merge with NYNEX. Both aggregations permit further system economies of corporate staff, network control operations, and customer service centers, while laying the financial basis to build stronger brand names both regionally and nationally.

The prospective deployment of digital cellular induced rapid changes in ownership of corporate assets that are symptomatic of future restructurings among local access providers. In 1994, AT&T merged with McCaw Cellular, the largest U.S. cellular company, putting AT&T into the local service business. McCaw was a highly leveraged company unable to undertake digital modernization of its network, and it was poorly positioned to acquire new PCS licenses. AT&T's massive financial resources instantly solved both of these problems. Additionally, McCaw's incipient national cellular network, Cellular One, gained instant visibility with the AT&T brand name. In response, US West's cellular subsidiary and Air Touch (the divested Pacific Telesis cellular company) merged. NYNEX and Bell Atlantic also merged their cellular operations. The latter four companies, then, formed a partnership that bid on the new PCS licenses. They also plan to collaborate on developing a national cellular network with brand name marketing to compete with AT&T's Cellular One. Sprint's joint venture with three major cable TV companies also bid on new wireless licenses, but encountered substantial internal problems.

Current trends strongly suggest that the local cellular wireless markets that are duopolies will restructure into a national oligopoly marketplace with well recognized brand name providers capable of supplying mobile voice and data services anywhere in the country. Over the next five years, all the major telecommunications companies plan to make substantial investments building digital PCS networks. The anticipated explosive growth of digital wireless, however, complicates the modernization of their wire-based networks. Telephone providers have difficulty forecasting how many wire-based customers they may lose to wireless services,

particularly if cross subsidies for wire-based local access are phased out. Consequently, investment in cable modernization for residential service has slowed significantly.

The most anticipated restructuring in local services, however, still involves the local telephone and cable TV companies. The regional Bell companies are eager to enter cable TV markets, but they lack television broadcast experience. Several regional Bells have sought to gain this experience through their international investments. For example, NYNEX has made investments in Great Britain in order to offer both cable TV and local telephone service over its network in direct competition with British Telecom. The cable TV companies probably lack the financial resources necessary to compete with the regional Bells in interactive video or telephone. The highly leveraged cable TV industry earned revenues of \$22 billion in 1993 compared to the \$85 billion earned by local telephone service providers. Each of the major long distance carriers, however, has entered into discussions with cable TV interests as they seek to bypass the regional Bells and the cable TV companies seek investment to upgrade their networks to offer interactive switched services.

To upgrade their facilities for interactive media, the regional Bells will need to make massive investments. Their financial performance has been strong since divestiture, greatly assisted by lower interest rates and the 1986 changes in federal tax laws. Since divestiture shareholder wealth (share price plus reinvested dividends) has grown by more than 50 percent at each RBOC. Providing basic local service remains the regional Bells' single largest source of revenue (\$40 billion), followed by the \$19 billion paid by the long distance carriers in access charges to complete long distance calls. The intrastate toll service is the third largest source of revenue for the RBOCs, accounting for approximately 13 percent of their revenue. The regional Bells are also expanding into new unregulated businesses through fully-owned subsidiaries. These new businesses now account for 20 percent of the RBOCs' total revenues and are steadily growing in importance. The regional Bells' fastest growing new businesses are their cellular services and international operations.

Any excitement about an interactive global information highway, however, needs to be tempered. There are only a few new services that are in demand by residential consumers. Only a small segment of the consuming public may be interested in the new multimedia services that are being promoted to support the information highway. According to a 1991 AT&T study, for example, almost 40 percent of American households still use a rotary-dial telephone. In addition, although it is available to 90 percent of homes, less than two-thirds of American households



purchase cable TV service. On the other hand, second lines for internet access have rapidly grown, producing a significant revenue source for the regional Bells.

*Market Structure: A Matter of Legislative and Regulatory Uncertainty*

In the post-AT&T divestiture period, the FCC and state regulatory commissions established very different levels and types of regulations for each telecommunications service market. In fact, regulatory oversight underwent a revolution during the last decade. Similar to the long distance market, state regulators eliminated some cross subsidies for regional Bell companies through rate reform and provisions for competitive entry in local markets. Incentive regulation, price caps on bundles of services, and deregulation virtually replaced all traditional rate-of-return regulation. Under incentive regulation, larger-than-targeted cost reductions can be kept by the local company, thus rewarding efficiencies by enhancing their profitability. Incentive regulation, however, may also reward companies for reducing the quality of service to improve earnings. A number of state commissions have held hearings and fined local companies for failing to provide adequate levels of service. One state, Oregon, abandoned its incentive regulation experiment to return to traditional rate and entry regulation to solve its service problems with US West. Also, bucking the trend toward deregulation, the cable TV companies, which had operated as local monopolies without regulatory oversight since 1984, were brought under FCC regulation in 1992; the FCC implemented two rate rollbacks, reducing cable TV revenue by an estimated \$2 billion annually by 1995.

To implement the Telecommunications Act of 1996, federal and state regulators must develop rules to accomplish its intention to promote competition, to preserve universal service, and to support the development of innovative services. The Act does not mean the end of regulation; instead it will change the nature of regulation, shifting more responsibility toward the federal level and away from the states. Regulatory activity has increased to historically high levels and should remain high during the initial rule-making period under the Act, which should end by 1999.

### **Business Strategy and Structure**

Given the turmoil and uncertainty created by new telecommunications markets and technologies, it is not surprising that organizational restructuring has occurred in fits and starts, with contradictory approaches and outcomes. Equally important in shaping business restructuring, however,

are differences in the inherited positions of AT&T and the regional Bell companies. The interplay between market deregulation and institutional constraints on actors is the subject of the next section, which briefly outlines AT&T's and then the RBOCs' approaches to change.

*AT&T: Global Telecommunications Systems*

At divestiture in 1984, AT&T retained AT&T Long Lines, its long distance service provider; Western Electric, its equipment subsidiary; and Bell Labs, its research laboratories. The new AT&T employed approximately one-third of the former Bell System workforce at divestiture. The bulk of the service operations and two-thirds of the employees from the former Bell System remained with the local telephone companies, placed under the direction of the seven regional Bells. This division of labor has had some important consequences for business strategy. First, the "natural" extension of the long distance and the network equipment businesses has been international. Just as in the early part of the century, AT&T's strategy was to use its control over long distance service and network equipment to gain control over local service and create an integrated system, AT&T's post-divestiture strategy was to leverage its competitive advantage in long distance service and equipment manufacturing to become a dominant player in global networks. AT&T's strategy, first and foremost, was to reshape itself as a global corporation. And because so many global customers are multinational businesses, global service means providing an integrated set of voice, data, and video services through a seamless global network. Politically, AT&T has also been at the forefront of efforts to reduce international barriers to global communications and to push for deregulation of the public monopolies that have controlled most national telecommunications systems around the globe. While the regional Bell operating companies have also had international aspirations, they have entered international markets primarily by taking over or forming joint partnerships with national governments to improve basic domestic services within a country or by competitively entering cellular and cable TV markets.

Within the United States, the division of labor created at divestiture between AT&T and the RBOCs means that AT&T has only indirect contact—long distance service through access to the local phone companies—to the massive customer base. The local phone companies, by contrast, have had a direct and ongoing relationship with customers and are the ones responsible for maintaining the network infrastructure that provides basic service. While AT&T continues to be regulated by the FCC, the Bell operating companies continue mainly under the jurisdic-

tion of state authorities. They have retained a regional embeddedness that constrains their behavior in ways that AT&T does not encounter. Their service base is geographically tied, their political orientation is to state authorities, their ability to restructure or move operations is limited to the states in which they currently operate. AT&T, by contrast, covers the entire country, and has taken advantage of this opportunity to consolidate operations and move them to whatever location offers the most economical choice.

A third difference is that AT&T began dealing with competition in long distance and equipment manufacturing prior to divestiture. It has responded rapidly and followed practices that rely on economies of scale and cost cutting, with labor costs a priority. In 1984, for the first time since the depression, AT&T employment fell. Post-divestiture AT&T eliminated over a third of its domestic workforce between 1984 and 1990, equal to its percentage of depression-era layoffs between 1929 and 1935 (Danielian 1939: 208). In the 1980s, network, manufacturing, and service workers bore the brunt of the layoffs: the nonmanagerial workforce dropped by 48.5 percent, while the managerial workforce rose by 4 percent. Additionally, to be competitive with MCI and Sprint, AT&T reconstructed its long distance network with fiber optic cable and invested heavily in new digital switching systems—technologies that have more capacity and provide better service and also need less maintenance. It cut costs and labor in part by consolidating operator and customer service offices to a handful of mega-centers nationwide. This meant not only fear of job loss and demoralization, but repeated forced moves for survivors, an issue we discuss more fully in the next section of this chapter.

To deal with its antiquated organization of functional silos—AT&T was historically organized into departmental specialties and subspecialties such as network construction, installation, and repair; operator services; accounting, and so on—the company created a “decentralized” and “cross-functional” structure of twenty-two strategic business units based on national or international market segments. At the same time it committed itself to a focus on the communications business. Each business unit is largely responsible for all functions, from strategy and operations to marketing and human resources. It also expanded rapidly into new areas, partnering with Olivetti and then purchasing NCR as a computer subsidiary, creating AT&T Universal Card (financial services), acquiring McCaw Cellular, and investing heavily in global communications.

As AT&T lost the battle to keep the regional Bells out of the long

distance market, until local service markets were opened and access charges eliminated, it launched an aggressive strategy to enter all service market segments with a comprehensive package of telecommunications services. This strategy made every service provider a potential competitor, which had immediate adverse consequences for its equipment business. As a supplier of network equipment and software, AT&T must have access to proprietary information of its customers to effectively support and update the network. As more customers came to see AT&T as a service competitor, they cancelled their contracts for AT&T equipment. For example, Sprint and MCI have never purchased an AT&T switch. The economies of scope were once again changing. In September 1995, AT&T announced that it would divide itself into three new companies. The telecommunications services company would retain the name AT&T and seek new integration and scale opportunities within the services markets; it accounts for two-thirds of AT&T's revenue, 80 percent of its profits, but less than 40 percent of its total former workforce. The AT&T telecommunications equipment company, formerly Western Electric, now Lucent Technologies, is one of the world's largest telecommunications equipment manufacturers, seeking to take market share from the crippled Alcatel. Finally, after losing billions of dollars in computers since 1984, AT&T spunoff the remnants of its ailing computer business as it once again exits the personal computer business.

#### *Bell Operating Companies: Regional Services*

The regional Bell companies have carefully watched and learned from AT&T's response to deregulation. They have moved more slowly largely because competition did not begin entering local markets in a serious way until the late 1980s. They are following a set of strategies similar to those of AT&T, but with somewhat different timing: slower entry of the regional Bells into new markets, slower restructuring and consolidation into business units, workforce reductions through attrition and early retirement buyouts spread over longer periods so that displacement and demoralization are less severe. Nonetheless, the workforce in the regulated telephone business of the regional Bells dropped by an average of 28 percent between 1984 and 1992. In the meantime, they began investing in those unregulated markets allowed by modifications in the divestiture agreement, such as information services or cellular, and international services. Deregulation in local services accelerated in the late 1980s as local access carriers such as MFS and Teleport were able to construct local fiber loops in metropolitan areas and skim the cream of the market by serving the more lucrative business customers. And cable companies,

with coaxial cable access available to over 90 percent of the households nationally, may enter some local residential market as soon as legislative changes take place.

Under these circumstances the regional Bell companies began serious efforts in the late 1980s and early 1990s to cut costs and downsize, on the one hand, while trying to introduce workplace reforms to enhance the quality of service, on the other. It is this juggling of multiple reform agendas that has created tensions and conflicts because the agenda appears contradictory to employees.

Changes in strategy and structure among the regional Bell companies may be summarized as follows. First, they are shifting from being a regulated utility driven by a public service and an "engineering" mentality to a partially regulated private corporation driven by finance and marketing. Their financial decisions are now shaped much more by Wall Street than by federal and state regulators. Second, they have pushed for changes in state-regulated rate structures to allow "incentive" structures—structures that allow them to make a larger profit if they improve efficiency or productivity beyond a certain level.

Third, the Bells have shifted from a standardized high volume product market (voice) to a differentiated product market (voice, enhanced services such as voice messaging, data, video, image). To support this shift they have invested in fiber optic cable and integrated services digital networks (ISDN) to allow them to carry high speed data, voice, video, and imaging and remain technologically competitive. Similarly, they have used the cash generated in the regulated markets to expand in lucrative nonregulated markets such as information services, cellular, and international services. Regulated and nonregulated activities are carried out under separate subsidiaries.

Fourth, they have recognized that given new low cost entrants (competitors using the latest low-maintenance technology and lower cost, nonunion labor) they must cut costs; shedding labor has become a primary goal. While at AT&T nonmanagerial workers have borne the brunt of workforce reductions, the regional Bells appear to be reducing roughly proportionate numbers of managers and nonmanagers. For managers, this means the elimination of at least one level of management, and more importantly, significant increases in their span of control. But the RBOCs also realize that they cannot compete on cost alone—that their competitive advantage is in trying to hold on to and build their large customer base by improving quality and service. The cost of gaining back a customer who has left is four times that of keeping the customer in the first place, according to one company estimate (U.S. Congress 1993: 38). As a

company executive noted, "We will be extremely sensitive to our existing customers because we know that our greatest strength lies in holding onto our \$8 billion revenue stream" (Tom Bystrycki, Vice President, Mass Markets and Operations, US West Communications, in U.S. Congress 1993: 37). To accomplish this business strategy, they are attempting simultaneously to implement cost-cutting and performance-enhancing strategies—on the one hand radically reducing size through workforce reductions and reengineering, on the other hand implementing total quality and employee participation and self-management programs that call on the commitment and discretionary effort of all employees to enhance service quality. This mixed strategy creates contradictory incentives for employees and the outcomes are unclear. The underlying theme is to shift from a public service culture to an "enterprise culture." While these contradictions have also existed at AT&T, the timing has been different: AT&T downsized substantially before trying to enlist the good will of employees. The RBOCs, by contrast, began with participatory approaches but subsequently embraced widescale downsizing.

Fifth, the RBOCs are restructuring their organizations in ways that centralize some functions while decentralizing others. On the one hand, strategic decision making has been centralized at the regional corporate level. Companies have then taken advantage of economies of scale by consolidating functions, offices, and staff from the state-level telephone company to the regional corporate entity. This centralization has required further standardization of most technological, organizational, and management practices. At the same time, to pursue differentiated product market strategies, the companies have moved network and customer service operational decision making from the state level (where it was traditionally located) to newly-created regional business units defined by market segment. These "customer-driven" entities are to include most functions necessary to meet customers' needs. In the past, by contrast, the state president of the telephone company was the key decisionmaker because the interface with the state public utility commission dominated operational decisions (for example, service standards). Departmental units (network operations, "traffic" or operator services, and customer service) were independent silos with local actors reporting up parallel chains of command to their counterparts at the state level.

At the same time that this centralization is occurring, companies are attempting to decentralize other areas of management decision making to the local or "district" level (the analogy in manufacturing would be the plant level)—in keeping with the recommendations of quality and excellence theorists that "empowering" managers to "get close to the

customer” is the key to continuous improvement in service quality. The idea is to free up middle managers to be “entrepreneurs” and encourage greater cross-functional behavior to solve problems and improve quality and customer service. Part of the change also involves breaking down the command-and-control management style of prior eras and replacing it with a more participatory one of “coaching”—to “empower” workers to have more discretion in handling customer requests and problems. The direction of change, then, is to hollow out the old state organizations, with key operational decisions shifting either up to the regional business unit or down to the “district” or local managerial level. Responsibilities of frontline supervisors are in turn shifted to workers in self-managed teams. This is the vision of new work organization that firms are trying to implement. Table 1.1 outlines the shift in models of business strategy and structure under the old and new systems.

Restructuring, however, has also undermined the strong sense of moral purpose within these organizations. Since 1907 the Bell System promoted

**TABLE 1.1.** Telecommunications services: business strategy and production organization

Components	Old system	New system
Capital market	Regulated by FCC, State PUCs	Partially regulated: sensitive to stock market
Pricing mechanism	Regulated: Cross-subsidized (local/long distance) (resident/business)	Partially regulated: More competitive “Incentive-based” “Cost-based”
Product market	Standardized: Voice	Differentiated: Voice, data, video, image
Technology	Cable twisted pair copper transmission; Electric, analog, mechanical switching	Fiber optic transmission; digital switching
Competitive advantage	Low cost, scale economies	Cost, quality, customer service
Business strategy	Universal public service, “engineering driven”	Segmented service markets, “market driven”
Management structure	Vertical Bureaucratic Centralized	Horizontal Entrepreneurial Dual: corporate/business unit regional/local
HR/IR	Centralized	Dual: corporate/business unit regional/local

universal and reliable service as a public mission among its employees (Barnard 1938). The organizations instilled a “spirit of service” that created a powerful moral culture throughout the Bell System companies. The new financial and market-based decision making often collides with the deeply ingrained spirit of service. Although each of the major companies is grappling with a new moral purpose promoted through culture change programs, these new efforts do not resonate among employees, who still believe the traditional service culture is morally superior to the new culture of “greed” as it is often characterized. The loss of moral purpose has contributed greatly to the demoralization of former Bell System employees, a theme we discuss in more detail in the next section.

### **Labor-Management Relations after Divestiture**

AT&T’s business restructuring broke its historic social contract with labor on employment security. As indicated in the previous section, union-represented employment at AT&T declined from 250,000 at divestiture to 103,000 workers in 1994, representing a 59 percent reduction in union jobs. As downsizing continues, bargaining unit employment fell below 100,000 full-time jobs in 1995 (a 60% job reduction). If this trend of eliminating 1,000 jobs per month is not disrupted the bargaining unit will disappear at AT&T by 2004. By contrast, while the RBOCs downsized through attrition and voluntary separations until 1991, they have since announced workforce reductions of over 100,000; they project employment in 1996 to be 70 percent of their 1990 levels. As a result, it is appropriate to review the consequences of AT&T’s downsizing strategy on workforce morale, productivity, and labor-management relations, the subject of this section.

As a consequence of AT&T’s restructuring, employees became demoralized over the course of the 1980s and early 1990s. The October 1991 *AT&T Employment Security* survey, for example, found that bargaining unit employees had become profoundly pessimistic about their future employment prospects at AT&T.<sup>3</sup> In 1981, a Bell System survey found that 68 percent of nonmanagement employees felt that the company was providing job security and only 8 percent did not; by 1991 the numbers at AT&T had more than reversed themselves, with over 73 percent feeling

3. In 1991, we undertook an employee survey at AT&T to evaluate the effectiveness of the negotiated employment security programs. The survey was mailed on 24 September 1991 by AT&T Transtech to a stratified random sample of 8,100 AT&T bargaining unit employees. A total of 3,160 employees responded to the single mailing, yielding a response rate of 39%.



that there was little job security. In some business units, less than 4 percent of the nonmanagement employees felt there was any job security. Less than 20 percent of the employees surveyed had confidence in management's ability to lead and solve the corporation's competitive problems. Over two-thirds felt they were unable to influence events that affect their employment at AT&T. And, almost one-half of the employees surveyed had been surplused (had their jobs abolished) at least once. On average, the surplused employee group had been surplused two and one-half times.

When compared with attitude data collected at other traumatized organizations, the intensity of the pessimism of AT&T employees goes beyond the negative attitudes found in many of those organizations. There are probably five reasons for these catastrophic-like responses. First, many employees chose to work at AT&T because of the Bell System's commitment to employment security, and now they face chronic insecurity. Second, downsizing has been a protracted ordeal that started in 1984 and continued over a decade later. Third, the average worker who survived downsizing is immobile with family commitments; he or she is white, forty-three years old, married with children at home, a homeowner, a high school graduate with some college, and a CWA member who has eighteen years of AT&T service and annually earns \$26,000 with good benefits. Some 87 percent of the survey respondents wanted to keep their current jobs until they retire, but less than 10 percent of them believed that there were any opportunities for advancement at AT&T. Although AT&T provides severance pay and on occasion inducements for early retirements, few of the remaining workers can afford to leave. Fourth, AT&T employees use the former Bell System employment standards, which until recently have remained largely intact at the regional Bell operating companies, to judge the new AT&T's employment practices. Fifth, AT&T conducts a continuous public relations campaign emphasizing the strengths of the corporation; the campaign permeates all corporate activities and appointments. In fact, the executive vice president for human resources has a background in public relations, not labor relations or human resource management. AT&T is widely recognized as a progressive, innovative employer for its retraining, out-placement assistance, employee participation, and family leave programs. Many employees have found it difficult to reconcile AT&T's positive public image with their recent personal experiences. Also, this positive image enables corporate executives to engage in denial about the human consequences of their downsizing decisions. Employees systematically underestimate

(by 60%) the amount of downsizing that has occurred at AT&T (Boroff and Keefe 1992).

Following divestiture, downsizing became an increasingly routine part of business operations. As a result, layoffs rather than voluntary separations have represented an increasing proportion of the terminations. For example, during the first two years of post-divestiture operations, AT&T reduced its overall head count by 56,000. This included 43,928 bargaining unit employees and 12,072 managers. The first downsizing, however, resulted in layoffs for only one-quarter of the total surplus population. The remainder left through attrition, voluntary severance, and early retirement programs, transfers within AT&T, or retreats back to the regional Bell operating companies. Between 1984 and 1992, a total of 107,291 AT&T union-represented employees were downsized (Internal AT&T document). Approximately 58 percent were laid-off, while 42 percent accepted "voluntary" severance packages. An additional 25,709 jobs were reduced by normal turnover. On January 2, 1996, AT&T announced that 40,000 jobs would be eliminated as part of trivestiture, most through layoffs. This announcement, which generated a huge public outcry, departed from prior downsizing at AT&T since it primarily targeted managers. Some 24,000 jobs to be eliminated in trivestiture are managerial, whereas 16,000 are union represented.

As part of the process to become more competitive, AT&T has been transforming itself from a predominantly unionized employer (67% organized) into a nonunion employer (42% organized in the U.S.). AT&T has acquired and launched nonunion businesses while downsizing its unionized core operations. AT&T developed two new major nonunion businesses, American Transtech, the largest U.S. telemarketing service, and AT&T Universal Card, the second largest credit card company. AT&T has also acquired two antiunion equipment manufacturers: Paradyne (data communications equipment) and, more recently, NCR. NCR is the sixth largest computer company with 1,300 locations in 130 countries. In 1990, AT&T classified 147,563 employees as nonmanagement; 97,206 were represented by CWA (66%) and 24,402 were represented by the IBEW (16%), which yields an 82 percent union density for the union-eligible workforce. The decline in union coverage at AT&T to only 42 percent of total employees, however, cannot be explained by the growth of new nonunion hourly employment nor the depopulation of traditionally unionized jobs.

Primarily, deunionization is occurring at the upper boundary of the bargaining unit, as management has expanded the scope of supervisory and managerial job titles and employment. Over 50 percent of AT&T

employees are now classified as either managerial or supervisory, compared to 29 percent in 1980. This trend is facilitated by U.S. labor law which excludes from protected activity supervisors, managerial employees, managers, and professionals who participate in the hiring or evaluations of their peers.

### *Industry Employment and Unionization*

Although AT&T has aggressively downsized its workforce, employment in the telecommunications service industry declined in the first decade after divestiture by only 10 percent. In 1992, the industry employed 872,000 employees, down from its peak of 965,000 in 1983. Nonsupervisory employment fell to 649,000 a 7 percent decline since 1983. Slightly more than one-half of the employees in the industry are female, a proportion that has remained relatively constant over the last decade. Between 1984 and 1993 the RBOCs, the major employers in the industry, reduced their net employment by 12 percent or by approximately 72,000 jobs, employment in the regulated core businesses dropped by 28 percent, approximately 158,000 jobs, while employment in the nonregulated businesses expanded by over 300 percent.

Unionization has remained stable at the RBOCs, with two-thirds of all employees covered by collective bargaining agreements, although most of the new RBOC subsidiaries operate on a nonunion basis. Union coverage, however, in the overall telecommunications service industry fell from 67 percent in 1984 to 48.5 percent in 1994 (Spalter-Roth and Hartmann 1995). The 40,000 jobs generated by the growth of the nonunion long distance carriers, MCI and Sprint, is one major cause of declining union coverage in the industry. Also, the entry of 500 relatively small firms that resell long distance services and hundreds of firms that install customer premise equipment further erodes union coverage.

The convergence of cable TV and local telephone service creates some serious problems for both the IBEW and CWA. Although some local cable TV companies are unionized, CWA estimates that of the 108,700 union-eligible cable TV workers, only 5 percent are union members. The largest cable operator, TCI, is aggressively antiunion. Since 1990, TCI has sponsored six decertification elections—successfully decertifying CWA in four units. The substantial pay discrepancies between unionized telephone workers and nonunion cable employees creates the potential for whipsawing as the unionized employers compete for future cable modernization work.

The union/nonunion telecommunications wage gap increased from 8 percent to 20 percent between 1990 and 1995 (Spalter-Roth and Hart-

mann 1995). In sum, an antiunion environment increasingly surrounds the core of unionized telephone work. Management has steadily expanded its nonunion jurisdiction from above. New competitors, such as MCI and Sprint, have vigorously resisted unionization; competitive access providers Teleport and MFS remain nonunion; the cellular providers, even the AT&T and Bell subsidiaries, have kept union influence to a minimum; and cable TV operators remain solidly antiunion. In this environment, the unions have looked to build new relationships with traditionally unionized employers.

#### *A New Relationship at AT&T*

In 1992, AT&T stock soared by 30 percent, adding \$17 billion in market value. The company's financial success reflected major improvements in its operating performance. Starting in 1991, AT&T stabilized its long distance market share, earning \$30 billion in revenue on domestic long distance and \$10 billion on its rapidly growing international service. AT&T also won three Malcolm Baldrige National Quality Awards, awarded to AT&T Universal Card, AT&T Transmission Systems, and AT&T Consumer Communications Services. AT&T's \$12.6 billion purchase of McCaw Cellular, the nation's largest cellular company, put AT&T in the leading position in the cellular market with McCaw's Cellular One network. Strategically AT&T has defined itself as a networking company, where all lines of business must add value to the network and create value for the shareholders. AT&T's top strategic objective is to transform itself into a global corporation. To become a global competitor, the corporation planned to generate 50 percent of its earnings from international sales by the year 2000, up from essentially nothing at divestiture. AT&T employs 53,000 people or 17 percent of its workforce overseas.

During 1992, the relationships between AT&T and its two unions improved. They negotiated a three-year agreement that created a new framework for labor-management relations, called Workplace of the Future. The structure permits the unions to participate in Business Unit Planning Councils, and the contract requires that the unions select bargaining unit participants for the program. Through this involvement, the unions hope to develop plans to increase employees' discretion to provide quality service to the customer, influence restructuring and downsizing, and shape the structure and format for participative teams. If a Planning Council's program conflicts with existing contract language, it can apply for an exemption through the national Constructive Relationship Council. On 8 March 1993, the CWA and AT&T held a conference for one

thousand managers and union representatives to kick off Workplace of the Future. An enthusiastic Secretary of Labor, Robert Reich, in his keynote speech commended the parties for their shared vision. AT&T and the IBEW held a similar conference in June 1993.

Other developments further encouraged the union leadership that AT&T was reversing its nonunion direction. Contract provisions negotiated in 1992 allow union members to transfer to nonunion subsidiaries—except NCR (renamed AT&T Global Information Solutions). The union also gained neutrality and card check provisions at some subsidiaries, and disputes over neutrality are arbitrable. In 1995, the company and unions negotiated contractual language that addresses union values.

Opponents of Workplace of the Future, however, remain in powerful positions at both unions and AT&T. As of 1996, four members of the CWA Executive Board continued to oppose the union's participation in the program. At AT&T, engineering and finance managers created labor-management instability through their ongoing commitment to major cost reductions, further downsizing, part-timing, and subcontracting of bargaining unit work.

Although negotiated in 1992, the Workplace of the Future process has diffused fully in only one business unit, the Network Services Division, the organization responsible for running the long distance network, where the union retains considerable strength. Union success in this joint program rests on the same foundation as successful collective bargaining, and that is bargaining power. Where the union is weak, labor participation in business decision making is often ephemeral or takes the form of post-decision-making consultations. For the union, decades of centralized collective bargaining have not prepared the secondary levels of leadership to participate in business decision making, because historically those issues were addressed at the top levels of the union.

Most importantly, however, when the CWA successfully organized a majority of potential members at American Transtech to sign union recognition cards, the company's neutrality pledge evaporated. Ignoring the neutrality provisions of the collective bargaining agreement, the president of American Transtech hired a law firm to engage in a full-fledged union suppression campaign and the union lost the representation election in 1995, souring the new relationship.

#### *CWA's Strategic Responses to Industry Restructuring*

The Communications Workers of America has been heralded as a union that engages in strategic planning (Dunlop 1990). Prior to divestiture, under the leadership of President Glenn Watts, CWA engaged in a

systematic strategic planning process through the Committee on the Future, created in July 1981. In March 1983, a special convention adopted ten resolutions and two constitutional amendments proposed by the committee.<sup>4</sup> The administrative reforms improved the union's internal operations. In 1986 and 1987, to improve its operating effectiveness, CWA further streamlined its governing structure.

In the legislative arena, the CWA joined the RBOCs in promoting legislation that would allow them to enter the domestic equipment manufacturing business and long distance service—reforms that AT&T opposed. The CWA and the IBEW also supported the RBOCs effort to supply cable TV and information services. In addition, Morton Bahr, president of the CWA, sits on the national Democratic party's leadership committee and serves on Vice President Gore's influential council on the national information infrastructure.

At the state level, CWA policies on deregulation have varied by district. In the South, CWA District 3 supported deregulation, while in the Northeast, CWA Districts 1 and 2 opposed telephone deregulation. Since 1995, however, the CWA and the IBEW have been working together to form a coalition with consumer groups to contain the most damaging effects of deregulation, based on the twin goals of preserving union jobs and universal telephone service at reasonable rates.

CWA's major strategic goal is "Wall-to-Wall" unionization in the information industry. Since divestiture, CWA has added 85,000 new members in the telecommunications industry, primarily through mergers. Mergers with several Telephone Independent Unions after the divestiture announcement added 40,000 members. In 1987, CWA merged with the International Typographical Union, as America's oldest union (founded in 1852) grappled with declining membership as a result of the diffusion of computerized typesetting. In 1993, CWA merged with the National Association of Broadcast Employees and Technicians with members in the broadcast and cable TV industries; and in 1995 it merged with the Newspaper Guild.

Since divestiture CWA has organized 5,000 AT&T employees under neutrality provisions. CWA has been organizing at NCR and American Transtech, both AT&T subsidiaries. At NCR the CWA is organizing field engineers at twenty locations. For this national campaign the CWA set

4. However, the union's analysis of the changing environment was wrong. Following AT&T's lead, the CWA leadership thought that the newly competitive AT&T would be the dynamic growth area for employment and union membership, while the Bell operating companies would be relatively stagnant with declining employment and membership.

up the National Association of NCR Employees (NANE). By early 1994, approximately 400 field engineers had joined. The union runs an electronic bulletin board to keep members and organizers informed and to allow them to communicate with each other. CWA has also undertaken a corporate campaign to press AT&T for neutrality and access rights. NCR has vigorously resisted the organizing drive, hiring Jackson and Lewis, the well-known union-busting law firm, to organize their response.

By contrast, under the neutrality provisions contained in the 1992 collective bargaining agreement, CWA began organizing at Transtech. Transtech employs 1,500 managers, 600 regular workers, and 3,500 temporary employees. The Transtech Employees Association seeks to represent both the 600 regular Transtech employees and the 3,500 temporary employees at Transtech that are contracted through eight employment agencies. The temporary employees earn about eight dollars an hour with no benefits. They move from project to project for employment at Transtech. The union was demanding that these workers be made regular AT&T employees. Under the neutrality provisions of the AT&T collective bargaining agreement, the union thought it had gained managerial neutrality and access to non-work areas. Yet, as discussed above, once the election campaign began, Transtech management conducted an aggressive antiunion campaign, defeating the union in the election and poisoning the labor-management relationship.

Although the CWA and the IBEW have developed two sophisticated organizing departments, they have had little success in organizing the new aggressively antiunion competitors, such as MCI and Sprint, although the CWA has mounted another campaign at Sprint. At the local level, the two unions have organized some cable TV franchises, but the major cable corporations have maintained an aggressive antiunion posture. The growth of this nonunion sector has the potential to destabilize collective bargaining in the unionized core.

In collective bargaining, the CWA has sought to maintain a loose pattern on major economic issues and has generally succeeded. The union particularly wants to prevent any substandard agreements in the industry, which could then set patterns for other contracts. The CWA has been successful in keeping a pattern together. To advance its interest, the union has engaged in strikes, developed a member mobilization program, and used workplace campaigns. In 1983, 1986, and 1989 the CWA undertook strikes to oppose concessions in health insurance. Concessions are difficult to sell to the membership, particularly when the companies are earning higher profits than ever possible under the regulated Bell System.

The growth of nonunion competition in virtually every market segment, however, is putting downward pressure on wages and benefits.

In August 1988, CWA launched its Mobilization Program in preparation for 1989 bargaining. Mobilization is grass roots organizing that involves members in one-on-one communication on important issues at the work site. The program's basic aim is to involve all union members in actively representing their collective interest. The campaigns are designed to connect "the bonds of worker solidarity" through collective action. Mobilization tactics include petitions; one-on-one postcard messages; wearing common colors; expressing solidarity through rallies, arm bands, and stand-ups; work-to-rule campaigns; organizing nonmembers; on-site and electronic picket lines; community support activities; and strikes.

The mobilization programs have steadily improved in effectiveness since 1988 and were particularly useful in 1992 bargaining. Rather than strike, CWA continued to bargain after the contract expirations at AT&T, Bell Atlantic, Pacific Telesis, and US West. The membership mobilized to support the union's bargaining objectives. Electronic town meetings, conference calls, and taped telephone messages kept members involved and informed about bargaining progress. At AT&T the unions threatened an electronic picket line by getting all their supporters to pledge to switch their long distance phone service to another carrier until a contract was signed. Some CWA locals demonstrated their mastery of information technologies in getting the union's story out to their members and to management. CWA has also developed its in-workplace strategies. The union believes that these tactics will grow in power as employers rely more and more on a committed and involved workforce to provide high quality customer service.

In 1995, the union once again extended contract expiration dates and was able to achieve contracts without any strikes. At Bell Atlantic, however, the parties reached an agreement five months after the contract expiration date. The union won base wage increases of either 10.9 percent or 11 percent in each of the major contracts. Retiree health insurance will continue to be paid by the companies during the life of the agreement. Except for the NYNEX agreement negotiated in 1994 which limited layoffs, the other contracts did not limit the force reductions that the companies are undertaking. Most, however, improved transfer rights and/or severance benefits.

The industry-wide force reductions have serious implications for the stability of the CWA's internal governing coalition. The telephone installation and central office crafts have been the main pillar of political



power within the union, often in coalition with operators. Each of these groups has experienced massive downsizing. Historically, local, district, and national leaders in the CWA came from the ranks of telephone installation and central office crafts, with one major exception, the president of the union. Joseph Beirne worked in Western Electric sales in New Jersey and New York; Glenn Watts started out representing the C&P Commercial Department in Washington, D.C.; and Morton Bahr began with the independent MacKay Radio, in ship-to-shore radio on Long Island. Because each of these leaders began in groups with little influence over union affairs, each became effective coalition builders. With the decline of the traditional union power bases, a new female leadership is emerging at the local, district, and national level. Secretary-Treasurer Barbara Easterling and District Vice Presidents Sue Pisha (District 7—US West) and Janice Wood (District 9—Pacific Telesis) are indicators of the changes underway inside CWA.

### *Local Unions*

Grievance administration remains the primary function of the local unions in the telephone industry. The local unions' representation provides a buffer for workers who can easily be caught between the formal bureaucratic control system and the informal, but widely followed, work practices. Research evidence indicates that effective grievance representation, particularly winning grievances, remains the single most important activity in building the membership's commitment to the local union. Employee participation and other work innovation which reduce traditional methods of bureaucratic control and legitimize informal practices also have the potential to build the local union. Research also suggests that union participation in work reform improves member loyalty and does not undermine the union (Eaton, Gordon, and Keefe 1992; Vallas 1993).

### *The Post-Divestiture Collective Bargaining Process and Structure*

Prior to divestiture, AT&T and its Bell operating companies bargained at two levels. At the first level, called "national bargaining," system-wide agreements covered wages, benefits, and employment security. As a result, a telephone technician working in New York City received the same relative wage increases whether he or she worked for the local operating company, New York Telephone, or for AT&T. The cents-per-hour component of the cost of living escalator tended to compress the wage structure throughout the Bell System (Keefe 1989). In a similar manner, vacations, pension benefits, health care coverage, and insurance benefits

became more standardized across the system, regardless of the employing Bell company. This standardization aided human resource planning and force adjustments by facilitating personnel movement among the companies. At the second level of bargaining, "local" bargaining, the individual Bell operating companies bargained with local union leadership over work administration and work rules. Local bargaining issues included overtime policy, posting of schedules, steps in the grievance process, health and safety, and absence pay. Local bargainers, however, could not address issues that were on the national bargaining table.

With divestiture came a restructuring of labor relations. Shortly after divestiture, AT&T successfully removed itself from the common expiration dates established in telephone bargaining. AT&T and its unions renegotiated the termination date of its 1983 contract from 9 August to 31 May 1986. This removed AT&T from the contract termination deadline of 9 August 1986, faced by the RBOCs. As a result, cross-company comparisons would not be made, and the pressure to conform to a potentially more expensive RBOC pattern would be lessened.

Since the core business of the regional Bells had remained relatively unchanged, the expectations about bargaining were similarly unchanged. Initially, CWA sought to maintain a national bargaining structure (Koch, Lewin, and Sockell 1988). When the companies rejected that proposal, CWA pressed for continuance of the two-tier structure, with the first tier at the regional Bell-level and the second tier remaining at the local operating company level. Eventually, all the regional Bells opted for this two-tier structure, except for Ameritech which continued to negotiate at the local company level through 1992. Bargaining has taken place in this new structure in 1986, 1989, 1992, and 1995. Some companies, however, including BellSouth, US West, and NYNEX, expanded the scope of regional bargaining and standardized contract provisions across the local companies to improve operating efficiency.

With the restructuring of the RBOCs away from regulated state organizations toward market oriented businesses, pressures are building to change the two-tier bargaining structure. As former Bell companies reorganize along their lines of business (as discussed in the last section), we anticipate they will emulate AT&T and push for a new two-tier structure: one at the regional corporate level and the second organized around regional business units rather than local geography. AT&T's Workplace of the Future represents an interim step in a similar process, where the CWA and IBEW representatives meet with business unit executives in business unit planning councils to discuss workplace programs. US West and CWA already developed a separate agreement for its customer service

division, Home and Personal Services Division in 1992; and in 1995, Ameritech bargained in a two-tier structure for the first time, agreeing to centralize bargaining at the regional level in exchange for union acceptance of local bargaining with business unit organizations. While local structures may continue to change, we believe that economic issues will remain relatively centralized in regional bargaining for the regional Bells and in national bargaining for AT&T.

### *Pressures for Pattern Bargaining*

CWA maintains a loose pattern bargain across the industry on economic issues, receiving considerable assistance from AT&T and the regional Bells. Although the newly competitive AT&T was permitted to escape the common expiration date starting in 1986, it not only remains a participant in the loose pattern, but on some issues has become a pattern setter for the RBOCs, for example, on wages. Only NYNEX negotiations in 1989, 1991, and 1994 produced pattern-breaking agreements. AT&T and the regional Bells, however, faced different problems in the 1980s and early 1990s. Employment security has been the most difficult bargaining issue at AT&T, whereas health insurance has been a strike issue at four regional Bells. With state incentive regulation, employment security has become central to RBOC bargaining as well.

Because of increasingly stringent financial scrutiny by Wall Street and regulators, strategic economic issues have exerted a centralizing influence on the industry's post-divestiture bargaining structure. Deferred wage increases have averaged 2.78 percent annually, COLAs have been either eliminated or highly restricted, and each company has obtained some form of contingent pay, most commonly profit sharing. In either 1986 or 1989 all companies but NYNEX adopted preferred provider organizations to deliver their basic health insurance, a change that limits employees' choice of health care options. Most agreements contain expanded transfer rights, retraining, early retirement incentives, and severance pay enhancements to address employment security. Only Pacific Telesis and Southwest Bell, however, made no layoff commitments during this period. In 1994, NYNEX extended a new no-layoff commitment as part of its massive downsizing package, which is to be accomplished with voluntary separations.

In contrast, union institutional security and work administration issues arising from business reorganizations, new technologies, nonunion competition, and work restructuring exert a decentralizing influence on local bargaining structures. A 1992 CWA survey found that there were over thirty different local participative programs in operation at AT&T, the

content of which we take up more fully in the fourth part of this chapter. Some of these programs had union participation and others did not. In the former Bell System companies, Quality of Work Life (QWL) became known as a "labor" program, since it was negotiated by labor relations. QWL always had union involvement, while Total Quality is often viewed as a management participative program, because it is not negotiated and rarely had union involvement (Batt 1993). All the regional Bells and AT&T have adopted workplace reforms such as QWL, quality teams, and self-managed teams; however, they have varied significantly in their degree of corporate commitment, on the one hand, and union involvement, on the other. The latest generation of joint involvement programs focuses most often upon continuously improving customer service. Strategically for the unions, retaining the loyalty of the embedded customer base is essential to preserving jobs in the newly competitive markets. CWA District 3 and BellSouth have been leaders in these joint labor-management, workplace redesign, and participative programs (see Batt 1993). Next to NYNEX (see below), BellSouth has agreed to the most far-reaching union security provisions in the industry, including broader bargaining unit recognition and accretion. Corporate commitments to union institutional security, employment security, and union and worker participation to improve performance are tied closely together in the industry. Security is exchanged for participation in improving performance (Batt 1993).

#### *NYNEX Departs from the Pattern*

NYNEX, the regional Bell operating company for New York and New England, appeared to be emphasizing a narrowly cost-cutting path in response to local competitors such as Teleport and MFS, until an historic turnaround in 1991. NYNEX has a history of the worst labor-management relations in the industry. The CWA waged a bitter seven-month strike at New York Telephone in 1971 over wages and union security; and in 1989, the CWA and the IBEW joined forces to win a four-month strike against NYNEX to maintain their health benefits. (NYNEX is the only former Bell company that has maintained its traditional health insurance coverage). As a result of the strike, NYNEX hired James Dowdall from AT&T to change its relationship with the unions; Dowdall's experience at AT&T provided him with considerable credibility with the unions. The subsequent round of negotiations covering 57,000 workers led to a new labor agreement eleven months early, settling in September 1991. The four-year agreement provided 4 percent annual wage increases

over the life of the agreement, more than any other contract in the industry.

NYNEX has continued this new approach to labor-management relations even in the wake of announced downsizing. In 1991 and 1992, negotiated provisions for enhanced early retirement led 7,300 nonmanagement employees to take voluntary settlement packages, while some 3,400 managers were laid off. Similarly, in December 1993, the *Wall Street Journal* reported that NYNEX would reduce its workforce by 22,200 jobs over the next three years. Shortly thereafter, NYNEX entered into negotiations with the CWA, and the parties reached an agreement in March 1994, which extends the existing contract through August 1998. Contract provisions under the 1994 agreement contain the most far-reaching employment security framework in the industry. They include a special retirement incentive that adds six years to both service and age and a 30 percent social security supplement until age 62 or a \$500 annual bonus, whichever is greater. The company estimated that the incentive program would lead to the voluntary elimination of 16,800 jobs at NYNEX at a cost of over \$2 billion or \$77,000 per participating employee.

While a major thrust of this program is to induce workers to leave the company voluntarily, other components seek to create a future for the surviving workforce. No worker can be laid off from NYNEX due to changes in organization, work process, or new technology. Layoffs are permitted only in response to volume reductions. A major innovation is the creation of a two-year associate's degree program in telecommunications technology, which is to open to all nonmanagement workers. The employees work four days a week and go to school the fifth day on company time during the academic year. The company pays all educational expenses. Employees begin receiving top craft pay upon entering the program. Upon graduation, employees receive an additional \$50 a week increase. NYNEX recognizes that it is a high labor cost employer and hopes to offset this cost disadvantage with a highly educated, flexible, and productive work force.

In addition, all NYNEX employees with five years of service are eligible to take a two-year educational leave. They can receive up to \$10,000 per year for educational expenses while retaining full benefits, seniority, and a guaranteed job when they return. The contract also creates a job bank and a new job-sharing provision. Union workers are guaranteed access to all new NYNEX ventures in the information industry. New subsidiaries start by offering union workers the opportunity to bid into the new jobs. Neutrality and card-check recognition apply in any non-

union NYNEX entity. Wage increases are 4 percent in 1994 and in 1995, 3.5 percent in 1996, and 3 percent in 1997, with an additional 3.23 percent in stock and cash bonuses over the term. Cost of living protection kicks in if inflation exceeds 8 percent. The fully paid medical plan continues for the life of the agreement.

While maintaining a traditional arms-length labor-management relationship, NYNEX and the CWA have created a framework that can dramatically turn around their relationship. Notably, it is not based on employee or union participation in productivity-enhancing partnership, but on creating a high-skilled future for the incumbent work force while humanely reducing employment. Through this formula, the parties hope to avoid the decade of employee trauma that AT&T has experienced.

### **Reorganizing Work and Internal Labor Markets**

In the first section of this chapter we argued that the digitalization of the network has enhanced scale and scope economies, creating new opportunities for consolidation and centralization. At the same time market deregulation has led to market segmentation and fragmentation, a trend that lends itself to decentralized market-responsive strategies. We then outlined how these competing logics of centralization and decentralization have played out with respect to business strategy and structure and labor-management relations. This final section continues these themes at the level of distinct occupational groups in the Bell system. We show how the two competing approaches to restructuring have significantly altered the internal labor market rules that shape the jobs and careers of network craft workers, customer service representatives, operators, and managers of these groups.

Specifically, the first approach to reform uses union and employee participation to improve service quality through the redesign of jobs and human resource practices. According to this logic, employees provide better service if they have the opportunity to offer innovative solutions (employee participation), if they have the autonomy to meet customer needs (job redesign), and if they have the appropriate skills (education and training) and incentives (career opportunities, employment security, compensation) to make a commitment to the company. In this view, commitment is a two-way street; if the company shows its commitment to enhancing the jobs and careers of employees, then employees will commit themselves to making the company competitive. This approach has a decentralizing thrust because it relies on the talent and creativity of employees at the point of contact with the customer.

The second approach focuses on realizing scale economies and cutting costs through consolidations, new applications of technology, reengineering, and downsizing. It begins at the macro organizational level and relies on top management, consultants, and engineers to develop system-wide innovations. The approach relies on centralized decision making rather than decentralized discretion. Changes in the design of jobs and human resource practices flow *as a consequence* of new technologies and organizational restructuring. Because of this logic, companies do not make prior commitments to job enhancement or employment security. The two approaches are, therefore, in conflict.

At AT&T and the regional Bell companies, the second approach has dominated, and often undermined, the first. In 1984, AT&T began with the macro approach, and as indicated above, shed 60 percent of its domestic unionized workforce. It unilaterally introduced experiments with participation and teams in the late 1980s; but it was not until 1992 that it developed a joint union-management approach to job redesign which builds on the logic of decentralized participation. The regional Bells, by contrast, experimented more fully with participatory approaches in the 1980s, but by the early 1990s as local deregulation approached, they shifted gears, halted some of these experiments, and focused more fully on consolidation and reengineering.

While the shape of jobs and careers in the post-divestiture era is still uncertain, the evidence suggests that companies have chosen to focus on the benefits of scale economies and system integration. Two explanations are plausible, and both are probably at work. First, in the deregulated environment, the low-wage, nonunion option is available for the first time, and companies have taken advantage of what is a quick-fix solution to competitiveness—lowering costs and improving shareholder dividends at the expense of a weakened labor movement. Second, the integrated nature, or “systemness” of telecommunications services means that companies can continue to reap tremendous scale economies, particularly given the centralizing nature of new technologies, as discussed in the first section of this chapter. Both of these industry dynamics put at risk the participatory and job enhancing approach to quality service that total quality theorists and others advocate.

This section is divided into three parts. The first part briefly describes the pre-divestiture system of work organization and internal labor markets in the Bell System. The second part reviews trends in job redesign and shows how the competing logics of cost cutting versus job enhancement have played out for each of four occupational groups: network crafts, customer services, operators, and managers of these occupational

groups. The third part outlines the new internal labor markets that are emerging.

*Pre-Divestiture Work Organization and Internal Labor Markets*

The stability of the AT&T work system prior to divestiture was one of its most salient characteristics. Its framework was largely set in place before World War I when AT&T used its control of patents and long distance service to purchase controlling interest in local operating companies around the country. Through license contracts with the operating companies, AT&T required the use of standardized technology (AT&T's equipment manufactured at its wholly-owned subsidiary, Western Electric, since 1881) as well as standard operating procedures—the Bell System Practices. AT&T's control created a functionally specialized, top-down, command-and-control organization early on. Corporate paternalism and implicit long-term employment relations also date to this period, when the company introduced the “American Plan” of benefits to build loyalty and long-term commitment to the firm. From World War I to 1937, AT&T successfully launched company unions as an alternative to independent trade unionism, and embraced the human relations movement, offering its Western Electric Hawthorne plant for Elton Mayo and F. J. Roethlisberger's experiments in industrial psychology (Roethlisberger and Dickson 1939). In the meantime, Chester Barnard, at that time president of New Jersey Bell, completed his theory of cooperative industrial organization—the corporation as a cooperative system with a moral purpose—based on his experience at New Jersey Bell (1938). Throughout this period, AT&T provided high and steady dividends to shareholders, and was minimally regulated by state and federal authorities.

In the post-World War II period, state and federal regulators put increasing pressure on the Bell System both to keep rates down and to expand universal service. AT&T developed two managerial strategies. First, to minimize costs and reap scale economies, it sought to apply new technologies that reduced the labor content of jobs. This strategy met with mixed success because some jobs (operator services) lent themselves to Taylorism more than others (customer services and network craft). The result was a very mixed production system that varied by occupational group, as we describe in greater detail below. Second, where technology did not pace labor, AT&T adopted a strategy of “management by numbers” to increase productivity and meet the monitoring requirements of regulators. The result was a phenomenal growth in bureaucracy as the managerial staff swelled from 13.5 percent to 29 percent of the workforce (AT&T 1982).



The functional organization of AT&T in 1980 closely resembled the company's framework in 1945 or in 1910. Both AT&T and the Bell operating companies had three basic components: Plant (network), Traffic (operator services), and Commercial (business office/customer service). Additionally, the General Department provided administrative support functions that included Accounting, Legal, Regulatory, and Personnel.

Each functional division, or occupational specialty, had a unique production logic. Network may best be compared to a continuous process industry in which highly skilled craft workers maintained the switching and transmission equipment needed for the continuous flow of dial tone (for a detailed discussion, see Keefe 1995). They did not produce a commodity, but maintained the infrastructure needed to transmit telephone communications, just as workers in oil refinery or chemical processing build and maintain the infrastructure through which liquids flow. Because of the nature of the work, throughout the post-World War II period, these jobs continued to require high skill, completion of a whole task (craft-like), and considerable autonomy for crews maintaining a highly geographically-dispersed infrastructure.

On the service side, customer services consisted of thousands of local business offices in which "universal" service representatives answered all questions and concerns of customers. Until the 1980s, jobs were quite varied and required considerable skill, and may best be thought of as providing highly personalized or specialized business services.

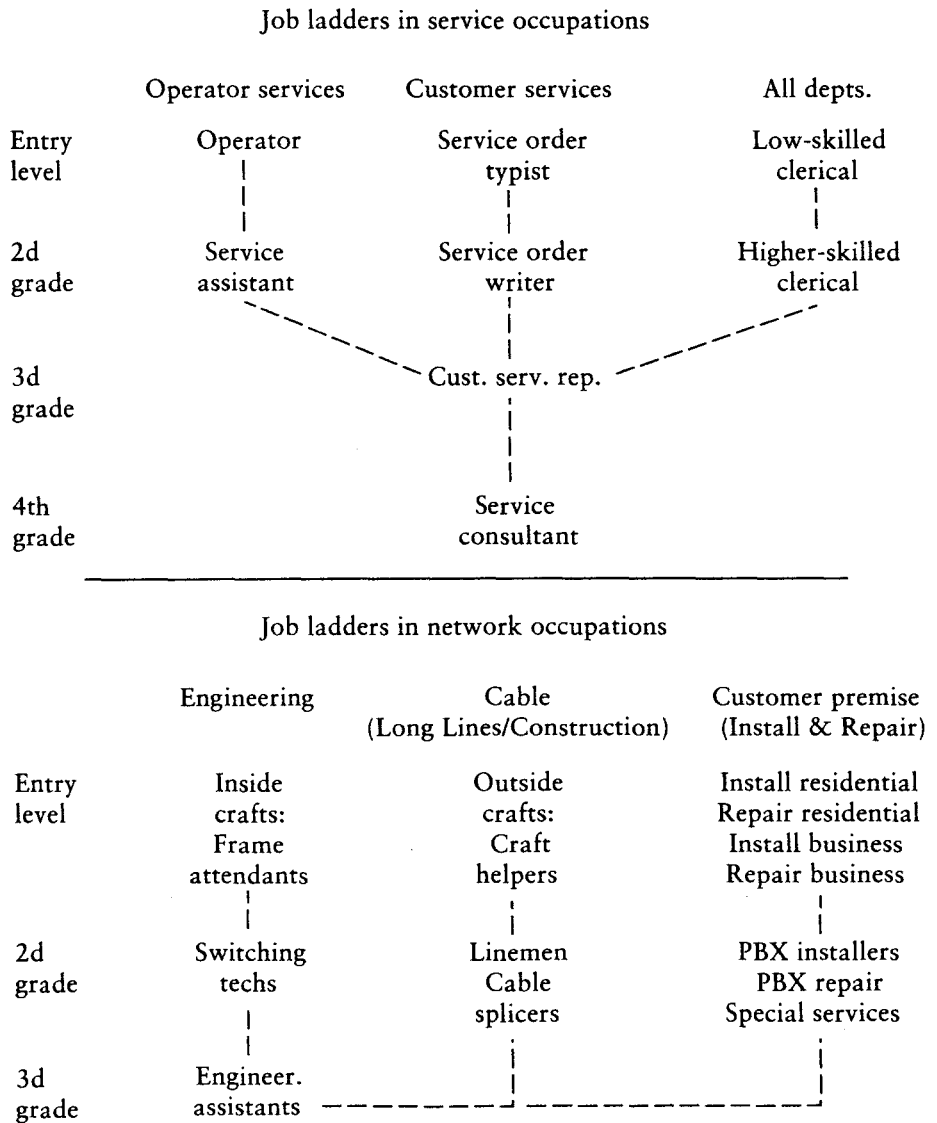
In contrast to network and customer services, operator services began as a mass production operation, with AT&T applying scientific management (Taylorism) to operator jobs by the turn of the century (Norwood 1990: 33-40). It was also unique because it was part of both network and services: operators were the "human switch" in the continuous process industry, making connections where machines could not; they were also the human face of the telephone company—the most frequent customer contact point in providing assistance or information. While operators' jobs were organized along industrial lines, however, they were classified as female service jobs for purposes of pay and promotion.

Changing employment levels of these occupational groups reflect differences in work organization. With the growth of the Bell System, the numbers of skilled workers in network and customer services steadily increased between 1950 and 1980—from 24 to 44 percent of the workforce (network) and from 5.3 to 11.1 percent (customer services). By contrast, the number of operators fell by fifty percent between 1950, when they comprised 47 percent of the workforce, and 1980, when they dropped to 16 percent (AT&T 1982).

Consistent with this unequal application of Taylorism to different occupational groups are trends in the ratio of supervisors to workers across departments. In operator services, the ratio increased from 1:6 in 1910 to 1:20 in 1980 as electronic monitoring absorbed supervisory functions. By contrast, the ratio in network craft occupations in 1980 was 1:6, and in customer service occupations, 1:10.

Within each functional division, the Bell system created additional subdivisions with occupational specialties and short job ladders (usually two steps in network and three in services). These functional divisions and job ladders are outlined in Figure 1.1. For female-dominated service jobs,

FIGURE 1.1.



low-level clerical or operator positions were the two ports of entry. From there, women could advance to skilled clerical work in different departments or to customer service jobs. The business office and repair service bureaus had three-tiered job ladders from entry clerical to customer service positions. The top job in the business office paid less than an entry level craft job.

In Network, subdivisions included Engineering, Construction (Long Lines at AT&T and Cable Construction and Maintenance at the operating companies), Central Office (switching and transmission equipment), and Installation and Repair (I&R) of customer premise equipment (CPE). Engineering consisted primarily of engineers who designed the network infrastructure, aided by the highest-paid craft job, engineering assistants, who usually came from the top crafts in construction or I&R. AT&T Long Lines built and maintained the long distance "trunk lines" connecting Central Office switches in different geographic locations to a long distance network controlled by toll switches. Operating company construction departments built and maintained the cables between the Central Office switches and the customer premises. Within Long Lines, there also were inside and outside crafts. Inside crafts consisted of entry-level frame attendants who ran wiring for each telephone number and installation and the higher-skilled central office switching technicians who maintained the electromechanical switches. Outside crafts included cable splicers' helpers (until the 1960s), higher-skilled linemen (line gangs) who built the pole lines and placed the cable, and higher-skilled cable splicers who spliced and repaired telephone cable. Installation and repair also had two grades: I&R (or service technicians) who placed and repaired the service wires and telephone sets on customer premises and PBX (private branch exchanges) or special services technicians, who installed and repaired PBX equipment in businesses and other special services such as data lines or fire alarms. Particularly in urban areas, companies further divided jobs within pay grades, with junior workers getting the less skilled and more difficult manual or "dirty work." Switching technicians specialized in particular switches; linemen would specialize in aerial, underground, or buried cable. The hierarchy of I&R service technician jobs was: residential installation, residential repair, business installation, business repair.

Historically, strong occupational subcultures emerged in these functional departments due to corporate policies of occupational segregation. John Schacht notes, "white-collar workers in the accounting and commercial departments looked down on both the traffic operator and the 'greasy plant man out there climbing poles, with creosote all over him.'

. . . In the commercial departments, particularly, insularity was encouraged by the company practice of paying monthly or bimonthly salaries, as distinguished from weekly wages in the other departments. Along with this practice went messages designed to nourished feelings of elitism, messages . . . that 'you [customer services] are the telephone company in the eyes of the public' and therefore 'the elite' " (Schacht 1985: 22). Network craft cultures also split along white collar (inside craft) and blue collar (outside craft) lines. Historically, network craft and operators organized separate union locals, while business and accounting resisted unionization. These subcultures continue to be robust. While the 1970s Equal Employment Opportunity Commission (EEOC) law suit against AT&T forced the opening of some craft jobs for women (for example, I&R jobs), occupational segregation has been quite resilient. At an early date AT&T also created a largely native white workforce, segregated from immigrants and Afro-Americans, through the high educational requirements and the entrance examinations for entry-level jobs. As early as the 1920s and 1930s, the median number of school years for operators was 11.8, compared to 10.8 for all U.S. female workers; comparable figures for AT&T network craft workers were 10.5 years versus 8.7 years for all U.S. males (Schacht 1985: 23–24).

Internal labor markets resembled the classic industrial markets described by Peter Doeringer and Michael Piore (1971). While the overwhelming majority of workers never rose beyond craft levels, they enjoyed lifetime jobs. Moreover, an important minority reached middle management positions during the growth years of the 1950s through 1970s. Paternalistic employment practices dated to 1913, when AT&T started introducing benefits policies (company-paid pensions, sickness and disability benefits, employee stock options, and an organization of retired and long-service employees); from the 1920s on, the company had seniority-based benefits and career ladders filled almost exclusively from within (Schacht 1985: 35–36).

The Bell System recruited first level supervisors either from the rank and file or from the external labor market. By the 1950s, those hired from the outside were usually college-educated; and until the 1960s or so, they were often placed in nonmanagement jobs for a year to learn the business. First level supervisors received considerable management training, primarily designed to separate managers from workers; and this was particularly true for workers promoted from within, who were encouraged to break all social ties with former coworkers. The advantage of promoting from within is that as former workers, supervisors had an intimate knowledge of the technology and job requirements.

The six levels of management above first level were filled exclusively from within. Informal sponsorship was extremely important for ensuring upward mobility; many also used the company's generous tuition-aid program to complete college courses and qualify for middle level positions. Bell companies encouraged college-educated hires to climb to higher levels of management, and they selected an elite group to be "fast-tracked" and groomed for top management. In a longitudinal study of managers at AT&T from 1956 to 1976, Ann Howard and Douglas Bray found that the modal level of achievement for non-college-educated managers was a level two management position, while that of college-educated managers was level three; while 5 to 10 percent of non-college-educated workers received promotions annually, 15 to 25 percent of college-educated managers did so (Howard and Bray 1988: 128–29).

In summary, the system clearly created middle-class jobs and management opportunities that otherwise would not have been available for a population dispersed in small towns, cities, and rural areas across the country. The AT&T internal labor market created a system of lifetime employment security unlike that provided by other large corporations because AT&T was guaranteed a rate of return by regulators and did not face business cycle fluctuations.

### *The Changing Nature of Jobs: Pre- and Post-Divestiture*

If we consider the two competing approaches to work reform that have dominated post-divestiture efforts in the Bell System companies—job enhancement versus consolidation through technology and reengineering—the first approach is a break from the past, while the second represents a continuation. Moreover, while companies have undertaken job enhancement experiments in most occupations, they have occurred in "pockets" and affected only a minority of workers. New technologies and reengineering, by contrast, have affected the entire workforce in particular occupations, and therefore, have been more widely felt.

Job enhancement strategies since the 1980s are of four types: (a) those that involve workers in "off-line" problem-solving groups (Quality of Worklife committees, labor-management committees, quality improvement teams); (b) those that absorb supervisory tasks (task assignments, scheduling, monitoring, reporting), such as self-managed teams; (c) those that broaden jobs (job rotation, multitasking, job enlargement); and (d) those that deepen jobs (multiskilling, added quality control, and problem solving). By far the most common efforts have been of the first two varieties—both of which are directed at the problem of bureaucracy rather than, for example, the excesses of Taylorism. Early experiments in off-

line groups focused on changing the style of management from a top-down military style to a more participative one. Later experiments in self-managed teams push this logic further, allowing workers to absorb supervisory tasks and firms to cut their indirect labor costs substantially. Workers and unions have supported self-managed teams as a way of reducing the excesses of heavy supervision, even though the teams must often absorb more work without additional time allocated to do it.

In contrast to these experiments which increase worker discretion, firms have expanded the labor-displacing technologies and the logic of mass production into new areas. In contrast to job redesign theories that emphasize the benefits of breadth and multiskilling, Bell companies have continued the pre-divestiture strategy of narrowing jobs and applying technologies that reduce the content of labor. In operator services, new software technologies or "expert systems" have *accelerated* labor-displacement and job fragmentation. In customer services, as a direct result of deregulation, companies have created detailed divisions of labor to separate out the sales function from other service functions; they have also introduced automatic call distribution and expert systems to pace work. Network digitalization has both decreased the demand for and changed the skill content of some network craft jobs; and new handheld computers represent the first introduction of electronic monitoring into outside crafts. The following section reviews these changes.

### *Network Crafts*

As indicated above, by 1980, AT&T had created highly functionally-specialized occupations in network, but the jobs themselves remained craft-like. The jobs required electromechanical skills and the completion of a whole task; geographic dispersion reinforced autonomy. AT&T tried to compensate for its inability to control outside crafts by a management strategy of heavy supervision and individual responsibility for detailed quantitative performance measures (tasks or jobs per day). Job discipline based on these measures was an ongoing source of labor-management conflict.

It was not until the late 1970s and early 1980s that new technologies—particularly the digitalization of the network—began to reduce employment levels and change the skill content of network craft jobs.<sup>5</sup> The demand for skill has shifted from electromechanical to computer-based

5. AT&T has been four to five years ahead of the RBOCs in introducing these technologies. It introduced the first electronic switches that switched analog transmissions in the late 1960s. It introduced the first fully digital switches in 1983.

skills; the overall demand for labor decreased because systems needed less maintenance. This change was particularly significant because it represents the first time in the network's history that increases in productivity were not accompanied by increases in employment; instead, the relationship has reversed.

In the central offices, for example, switching technicians in the past had hand-wired and manually repaired the relays and switches. Failures were electrical and mechanical in nature. With electronic switches, by contrast, switching technicians use computers to test switches via remote work stations and write up orders for other technicians in the central offices to carry out. More recently, new advances in software programming make digital switches both self-diagnosing and "self-healing," further reducing the demand for traditional electromechanical skills of craft workers. A similar trend has occurred with the digitalization of PBX and other customer premise equipment, which may now be remotely tested and repaired.

The net effect of these changes on the demand for skill is mixed. On the one hand, some of the repair work formerly done by top craft workers is now done by clerks monitoring computers. For example, companies have created computer-based inventories of network specifications—information that used to be contained in blueprints. Engineering assistants who created blueprints of high-level circuit order layout designs have been replaced by clerks who do the same work at computers at roughly 60 percent of the craft pay. Similarly, historically "testmen" would manually test the line to identify the source of faulty transmission. In the late 1970s and early 1980s, the Bell System replaced testmen with "maintenance administrators," clerks who use computer systems to identify the problem. On the other hand, while the change eliminated a top craft job, clerks learned new software skills and were upgraded to a job at 80 percent of testmen's wages. In addition, companies have created a relatively small number of systems analyst and computer programming jobs.

The introduction of fiber optic cable in the short run has increased the demand for construction crews to replace copper wire, but in the long run reduces the demand for cable splicers because it is relatively maintenance-free. While AT&T and the RBOCs have substantially replaced their trunk lines and feeder cables with fiber, the "last mile" (the 90 percent of the network connecting the distribution cables in streets to the customer premise) continues to be copper.

Other changes in network crafts are the introduction of handheld computers which allow workers to input work reports as they finish them, a

system which workers complain allows the company to monitor them electronically for the first time. Another dimension of change concerns the attempt of companies to turn network craft workers into a supplementary sales force. In Total Quality training, network craft workers are encouraged to use every opportunity to "meet customers needs," or sell. Craft workers have tended to resist this change, and its diffusion is relatively minimal because network craft workers consider sales to be demeaning, unskilled work.

AT&T and the regional Bell companies have also experimented with self-managed teams in network crafts, and generally find that workers successfully make the transition because they already have considerable autonomy and discretion. Self-management, according to some, formalizes preexisting informal arrangements. This is particularly true in rural areas, where large distances made heavy supervision infeasible, and workers retained not only greater autonomy but more varied skills. The evidence from interviews with teams, however, shows that the shift to formal self-managed teams changes the responsibilities of even the more autonomous rural workers, who absorb both the internal administrative duties of supervisors and the external duties of interacting with customers as well as other activities to get the job done. This includes ordering supplies, bringing in jobs, negotiating with parties over turf responsibilities, answering customer complaints, and working with engineers in the pre-survey stage. Craft workers now assume these responsibilities. In the language of quality consultants, craft workers interaction with both internal and external customers has grown.

Survey evidence supports these qualitative reports. A comparison of matched pairs of self-managed and traditionally supervised work groups in network crafts found that they differ significantly along a series of dimensions. Workers in the self-managed groups consistently showed higher levels of autonomy in their control over work assignments, tools, and pace of work; scheduling; and quality and safety inspections. They also show significantly higher levels of internal group learning and problem solving as well as more frequent cross-functional problem solving with managers and professionals outside of the group. While workers report consistently higher levels of job satisfaction and work group quality, they absorb the work previously done by supervisors in 25 to 30 percent less time, leading to dramatic savings in indirect labor costs for companies. The result is that this innovation has the support of the union and top management alike because it provides mutual gains—more rewarding jobs for workers, workforce reductions among managers rather than workers, and cost savings for management. As discussed in greater



detail below, supervisors and middle managers suffer job loss under this model, but those who remain often experience job enhancement because they are relieved of mundane reporting and monitoring responsibilities (Batt 1995).

### *Customer Service*

Customer service representatives (CSRs) are frontline employees who deal directly with customers over a range of issues, including sales, service orders, questions on service or billing, and collections on overdue accounts. Historically, telephone companies had “universal” service representatives who handled all customer requests and problems. Over the past decade, the companies and unions have debated the content of the service representative job, and the future is still uncertain. As a direct response to deregulation and the desire to increase revenues, Bell operating companies subdivided the service representative job into sales (CSRs) on the one hand, and services (collections representatives or credit consultants) on the other. The logic of the split job titles was to separate out interactions with customers that are “positive” from those that are “negative,” thereby allowing CSRs to sell more. The split title allows companies to pay a lower hourly rate to the collections representatives (about 90 percent of what CSRs receive). On the billing side, some companies have further divided the job into those who handle active bills versus past-due bills.

According to workers, the split job functions confuse customers who want to get all of their business done with one call. It also has negative cost implications because CSRs feel pressured to meet their sales quotas and may sell to people who are poor credit risks. Collections representatives then find themselves dealing with repeat offenders.<sup>6</sup>

Companies have also divided service representative jobs by market segment—between those handling residential customers, small business, and large business accounts. While the first two job categories are narrower and involve only phone sales, account executives for large business provide one-stop-shopping for their clients. According to customer service workers, AT&T has developed an automated system that distributes incoming customer calls by their call volume, with high-end users forwarded to an account executive and mid-level users to a service representative, and low-end users to a recording and voice mail.

6. US West, for example, found that uncollectible payments, or net bad debt, had tripled in the five years after it split the titles, and this led them to create yet another job classification of customer credit approval (U.S. Congress 1993: 413).

In addition to the split titles in customer services, telephone companies have added telemarketing departments which handle only high-volume outgoing sales solicitation, usually follow-up calls to ad campaigns. Traditionally, telephone sales occurred primarily through incoming customer calls, handled by universal service representatives. To maximize sales, companies have dramatically increased their marketing budgets. Telemarketing jobs usually rely on a secondary, or low wage, high turn-over workforce often under lease or subcontracting arrangements. The jobs resemble those of operators in terms of their low cycle time and repetitiveness, and use of expert computer systems to control the timing and script of calls.<sup>7</sup>

The job of CSR has also become more pressured, more specialized, and increasingly complex as telephone companies have developed differentiated products—a variety of enhanced services—to add value in saturated telephone markets. Most industry practitioners agree that service representatives have the most stressful jobs in the industry. Companies measure CSR performance by sales volume and/or achievement of sales quotas. Top sellers receive awards of cash or prizes. In many cases, companies also discipline CSRs who fail to meet adherence standards—schedules of 15 minute increments that indicate when CSRs are to be taking calls, on rest break, or at lunch.

To increase efficiency, companies have adopted new policies, both to reduce the amount of time that service representatives take between calls and to spread the distribution of calls more evenly. First, companies have introduced “automated call distribution” systems that pace work as well as expert systems that instantly supply customer background information, help identify selling opportunities, and electronically monitor the service representative. Second, they have shifted call distribution from a local level to a state level or beyond. While in the past, customers received specialized service from a local service representative whom they could come to know personally, automatic distribution systems now route calls to service representatives in consolidated offices around a state or region. For CSRs, this means they have a constant call-load, rather than a pace of work that varies over the course of a day. A third strategy has been to distribute calls over a longer period of the day—to establish 24-hour service with workers divided into three shifts for the first time.

7. Recently, at least two companies—US West and BellSouth—decided that they could improve quality by bringing telemarketing work in-house, and negotiated with their unions to “accrete” the telemarketing workers to the bargaining unit. In these companies, telemarketing jobs are now full-time with benefits.

At the same time that companies have introduced new systems that reduce CSRs' control over work, they have also tried experiments in "empowerment," in self-managed teams, and in job redesign to return to the "universal" approach. An example of the "empowerment" approach comes from total quality concepts initiated in several companies to give service representatives greater discretion to make nonroutine billing adjustments, a decision formerly made by supervisors.

In experiments with self-managed teams, service representatives absorb both the administrative tasks for the work group and the job of interfacing with "subject matter experts" in other departments to find out answers to nonroutine questions or problems that arise. This change requires managerial staff in other departments to give to workers the respect and credibility normally reserved for professional and managerial employees. Team members report that they enjoy the independence, the greater respect from managers, and the internal group cooperation that comes from working as a team. Group members also share knowledge in areas such as improving sales revenues, solving complicated billing problems, or handling difficult customers.

Quantitative analysis of survey and objective productivity data indicates that team membership significantly improves workers' job satisfaction as well as sales revenues. Multivariate analysis of sales data shows that members of self-managed teams achieve 17 percent higher monthly sales revenues, after controlling for variation in technology, markets, human resource practices, and demographic characteristics of workers (Batt 1995). As in the network teams described above, use of teams in customer services appears to produce mutual gains for workers and unions as well as management.

These findings are particularly surprising because self-managed teams are more difficult to establish in office settings. As already noted, automatic call distributors set the pace of work. Software technology allows companies to set call-loads at the state level or larger geographic region so that not even lower or middle level managers have discretion over scheduling and assignments. To give these workers the time away from the board needed to absorb supervisory tasks, supervisors may have to reduce the workload or call-load of the teams; many supervisors are unable or unwilling to do this either because they don't have discretion over call-loads, because workloads are already too heavy as a result of downsizing, or because giving "special treatment" to self-managed groups creates resentment from other workers.

In addition to self-managed teams, a number of companies have been rethinking the specialized job titles in customer services; and some have

made the decision to return to the concept of “universal service representative” or “one-stop shopping.” The push for change has come largely from workers who seek relief from monotonous jobs. The most extensive experiment was a two-year joint labor-management job redesign effort for 5,000 service workers at US West in 1992 and 1993. The job redesign, piloted in Phoenix, put an end to sales quotas. It envisioned a center for customer service that reintegrated sales, credit verification, billing, and collections, and ultimately, dispatch and repair services as well. Employees would be cross-trained in different functions and work as a team, rotating jobs and gaining some choice in task-assignments. Additionally, rather than using an automatic call distributor, the design called for an “interactive work distributor” which would allow service representatives to log on and choose the types of calls they would receive during a given work period. The job redesign, however, was never implemented because the company halted implementation in 1993 when it announced a company-wide consolidation (U.S. Congress 1993). Other companies, such as AT&T, have piloted experiments in broader job design for service consultants serving small business clients; but by 1996, widescale implementation had not occurred.

### *Operators*

Historically, the Traffic Department consisted of hundreds of thousands of operators tied to switchboards with supervisors or “service assistants” walking around behind them: operators were heavily monitored, both physically and electronically. They were the “human switch,” manually making the connections between lines that would later be made by electromechanical switching systems, and currently, digital switching systems. The jobs were also complex and multiskilled—both physically and mentally demanding, requiring intense concentration to respond to signal lights, converse with customers and other operators, plug in cords and time and record long distance calls (Schacht 1985: 31–32). Operator jobs are the female counterpart to auto assembly line work, providing low discretion and high demands, an archetype of high stress work.

Major technological displacement of operators occurred in the 1920s and 1930s as dial tone (mechanical switching) made it possible for customers to dial their own local calls, and again in the 1950s, when switches made it possible to direct dial long distance calls.<sup>8</sup> Digital sys-

8. One switchboard operator did the work of six manual operators, leading to the displacement of some 50,000 operators in the 1930s (Danielian 1939: 210–12).

tems further eliminated operator work by letting customers use credit cards to direct dial. The new technologies also reduced the variety in operator jobs: eliminating the physical side of the job, reducing the types of calls, and eliminating the diagnostic work of identifying faulty telephone circuits (Kohl 1993:104). Companies first introduced automatic call distribution systems in operator services to increase the pace of work.

In the post-divestiture period, several changes have continued to displace and fragment operator jobs. First, using customer systems with enlarged computing power, "automated response systems" split long distance call-handling between two operators: the first punches in the numbers and goes on to another call while the computer makes the connection. The second operator comes on the line to ask if the collect call will be accepted. This "split" call-handling saves several seconds in an operator's handling of each call, and saves companies millions of dollars each year (Kohl 1993:105). These systems reduce call cycle time, increasing the repetitiveness and tedium of jobs. By the mid-1990s, directory assistance operators were handling approximately 1,000 calls per day.

Consistent with new technologies are new work procedures that limit the time operators spend with customers. Companies restrict operators, for example, from giving out more than two numbers at a time. According to one experienced operator, new work rules instruct operators to be more forceful in turning back callers and telling them to dial direct or to use a credit card.

Another change is the now widespread use of computer-generated voice messages, primitive voice recognition systems or "robot operators," which instruct callers to enter a series of numbers in order to place a call or obtain billing or other information. Another automated procedure is automatic calls to customers to remind them their bill is overdue. Companies continue to develop and test ever more sophisticated voice recognition software designed to reduce the labor content of operator services. This technology allows computers to recognize key words and to handle a greater variety of calls (collect, person to person, third party billing) as well as to recognize different languages.

In contrast to the thrust of new technologies and work methods which reduce the discretion of operators, companies have also experimented with self-managed teams or "team-centered management" in operator services. AT&T's Eastern Region of Consumer Customer Services (formerly Operator Services) introduced self-managed teams in 1988, and the program subsequently expanded throughout the region. "Teams" of twelve to twenty-five operators would meet on a monthly basis to discuss performance objectives, results, and appraisals. In addition, smaller

teams of six to ten employees would absorb the administrative tasks previously handled by managers and take responsibility for problem solving and conflict resolution. Multiple purposes of the effort include reducing management ranks and increasing their span of control, improving employee morale and involvement in decision making, and improving labor-management trust. The new system covered 5,000 employees, before it began to unravel in 1994 as a result of another round of downsizing in operator services coupled with the departure of the top manager, Dana Becker Dunn, who had spearheaded the team-based system.

### *Managers*

In the pre-divestiture period, managerial jobs in the Bell System were highly regimented and functionally specialized—resembling much more the Taylorism of industrial labor markets (Doeringer and Piore 1971) than the breadth commonly associated with managerial markets (Osterman 1988).<sup>9</sup> Managers rose in functional silos through seven layers of management leading up to officers in the Bell System; those groomed for top management were rotated across departments. Observers described the AT&T system as a military one: “A traffic manager in the smallest of Bell offices reports to the traffic manager directly above him in the next largest office area to district to regional to operating company and ultimately to 195 Broadway [AT&T’s ‘Pentagon’]—just as an Army G-1 officer has counterpart from battalion level all the way up to the Defense Department” (Goulden 1968:17).

The primary role of supervisors and managers was to meet productivity goals. AT&T embraced the 1960s fad of management by objectives. And because the Bell System measured the performance of managers as the aggregate of the performance of workers under them, the system provided incentives for heavy monitoring of workers and enforcement of work discipline. If top management demanded better numbers, middle and lower managers felt squeezed, and in turn, pressured workers. Standard operating procedures set at the top, however, often made the jobs of responsible managers more difficult: they had to act as if they were following orders while working around them to get the job done. The system of functionally-specific measures reinforced separation and “turf” competition between managers in different departments. Maximizing efficiencies in one department, however, often undermined efficiencies in another. Maximizing tasks per day, for example, creates incentives to

9. This section summarizes the more detailed analysis of changing managerial jobs and careers found in Batt (1996).

find quick fixes to problems, which may result in repeat repair calls for repair technicians, or long-term network deterioration requiring replacement.

In the post-divestiture period, changes in managerial jobs have drawn on ideas of employee participation and total quality, beginning with "participatory management" to change the military-style command-and-control nature of managerial jobs. The changes for managers stressed new *behaviors* rather than new *skills* in the narrower sense of the term. Management training emphasized a "softer" approach of listening more than dictating. Middle and lower level managers had to learn to discuss ongoing problems with union leaders, rather than only in the context of grievances. The use of self-managed teams, still in its infancy, is a logical extension of this approach; and where teams have been introduced, they particularly change the jobs of first-line supervisors, who become "coaches." Coaches are supposed to "lead rather than command, inspire rather than demand obedience," according to industry practitioners and consultants.

The effects on first-line supervisors of the shift to teams appears to be complex. One multivariate analysis of the determinants of the work attitudes of supervisors found that supervising self-managed teams had a significant negative effect on supervisors' job satisfaction, but a significant positive effect on their organizational commitment. These findings are consistent with qualitative evidence from the same study: supervisors noted that the shift to self-managed teams was necessary for the company to streamline management ranks and increase the span of control of supervisors (from a traditional ratio of 1:6 to 1:20 or more) (Batt 1995). In effect, while supervisors felt threatened by the changes, they signaled their commitment to the company by supporting an innovation that they viewed as necessary for competitiveness.

The response of supervisors also appears to be contingent upon how management redesigns the job responsibilities of supervisors. As companies attempt to increase the span of control of supervisors, the supervisors will simply experience greater workloads unless they are relieved of some of their prior responsibilities. By shifting the more mundane reporting and monitoring responsibilities to workers while increasing the coordinating and developmental functions of supervisors, their jobs may actually be enhanced.

According to one company-sponsored survey of network supervisors, two-thirds of the supervisors were dissatisfied with their traditional job responsibilities; one-third said they would return to craft (nonmanagement) jobs if given the opportunity. The company found that traditional

supervisors spent 60 percent of their time doing administrative work and less than 10 percent of their time in the field monitoring or training workers. The company subsequently used the experience from self-managed teams to develop a new supervisor job description. Under the piloted job redesign, coaches spend fifty percent of their time in the field—a dramatic improvement from the perspective of the supervisors who express dislike for “paperwork.”

For middle level managers responsible for local or district level operations (responsible for a county or portion of a city, the equivalent of a plant manager in manufacturing), companies have also applied total quality concepts to decentralize responsibility and create “ownership.” The idea is to create small business units in large organizations.

In one company, for example, to break from the past when local managers had little discretion and reported through department hierarchies to state operations managers, the company created cross-departmental “district operations councils” for integrated problem solving at the local level. The district councils, local geographic units established at divestiture and made up of local managers from different departments, had functioned in the 1980s primarily as vehicles for public relations, employee involvement in community affairs, and the telephone company’s interface with the regulatory environment. Local managers maintained departmental turf and interacted little beyond monthly council meetings. Under the total quality program, the new role for the district operations councils was to improve service quality, maximize revenues, and control costs. Legislative and regulatory duties became secondary; coordination of community activities was discontinued. Councils took responsibility for initiating quality action teams to solve particular problems or initiate workplace innovations such as self-managed teams. Newly revised customer service reports provided data at the local level, rather than at the state level as had previously occurred.

Conceptually this reform represents a change not only from centralized to decentralized, and functional to more collaborative ways of operating, but from a focus on *public* service to *individual customer* sales, from actions such as community service that present the collective face of the company, to actions designed to maximize sales. For middle managers, this requires a shift in skills: away from the regulatory environment and toward business, marketing, and human resource management. More importantly, it represents a break from the moral purpose of the organization as put forth by Barnard (1938)—and many workers and managers alike resent this change as a violation of their ethical standards. From the viewpoint of the customer, the effects of this change are unclear. To the



extent that employees focus on improving customer service, the public indeed will benefit. To the extent that companies pressure employees to meet demanding sales quotas, customers may be negatively effected. They may face heavy-handed marketing, or as has occurred in at least three states (Florida, Pennsylvania, and California), employees may feel pressured to engage in questionable sales practices such as assuming levels of enhanced services for customers without their full knowledge or explicit agreement.

Finally, companies have initiated changes in human resource policies that uniquely affect managers. Whereas workers are covered by collective bargaining contracts and unions to date have successfully avoided major restructuring of compensation systems or benefit plans (with the exception of co-payment plans in health care), companies have unilaterally introduced changes in performance appraisals, compensation, and benefit plans for managers.

A representative example comes from one regional Bell company that has reclassified jobs and introduced new measurement and compensation systems in order to increase competitive behavior. To match jobs more closely with the external market, managerial job classifications dropped from 3,600 to 2,000, largely by eliminating departmental distinctions and creating short descriptions of broad responsibilities. The new job classifications drive changes in performance measurement and compensation, and link pay scales more closely to the external market. A forced distribution system to promote pay-for-performance has replaced across-the-board pay raises. Under the new system, managers receive between 80 percent and 120 percent of their grade, but a forced distribution means that superiors must differentiate more between high and low performers among their subordinates. An additional 10 percent of salary is at risk (an innovation since divestiture), with group payouts dependent upon firm performance. Additionally, the company has altered its promotion policies to allow external recruitment to "fill skill gaps." The question for current managers is what constitute skill gaps and to what extent they will be allowed to train and skill up in new areas before external recruits are added.

#### *Post-Divestiture Internal Labor Markets*

The most significant change for workers and managers alike under the new internal labor market rules is the break in the historic commitment to long-term employment contracts. Companies have continued with relatively high wages and benefits, education and training opportunities remain above average, and companies have increased opportunities for

retraining in some cases. Use of two-tier wage structures or part-time and contingent workers remains relatively marginal; however, subcontracting has expanded. The commitment to downsize has at least three significant effects. First, in the absence of successful reengineering projects, employees have simply absorbed the work that was previously done by a larger number of people. One survey of employees at a regional Bell company found that 69 percent of workers and 93 percent of managers said their workload had increased over the last two years. Forty-eight percent of workers and 60 percent of managers said they were always or quite frequently understaffed. Sixty-three percent of all managers (68% of network and 52% of customer services) said they worked ten hours or more each day, and over 60 percent said they had more overtime or take-home work than they wanted. For managers, these higher workloads are reflected in increased spans of control. Seventy-two percent of all managers say that their span of control has increased, with a significantly greater percentage (82%) in customer services than in network (67%). Almost 40 percent of those with larger spans of control now supervise three to five additional workers; another 37 percent manage between six and fifteen additional workers (Batt 1995; Batt 1996).

Downsizing has also reduced overall mobility throughout the workforce. In most cases, job ladders created under the old Bell System continue in place; but mobility has virtually ceased. In the same survey, 83 percent of workers and 89 percent of managers indicated that opportunities for promotion had declined; 72 percent of workers and 78 percent of managers said opportunities for lateral transfer had declined.<sup>10</sup> Only 5 percent of managers at the company were promoted to higher pay grades in 1990, a fraction of what existed during the 1950s through 1970s when the Howard and Bray study (1988) was conducted. Moreover, approximately the same number of managers received promotions in 1990 as in 1991 through 1993. A large minority of managers (38%) said they had had to relocate in the past three years as a result of organizational restructuring (Batt 1995; Batt 1996).

Third, the ongoing downsizing undermines morale. The upheaval and dislocation is reflected in employee dissatisfaction over particular aspects

10. Interviews with managers indicate that downsizing also reduces requests for lateral transfers: managers don't want to risk losing their "sponsorship" and joining a new department where they will be the new person, a relative unknown to a new supervisor who will evaluate them. Interviewees also related stories of managers reluctant to take advantage of opportunities for mid-career educational programs or international experience for fear that ("out of sight, out of mind") their departments would have learned that they were dispensable.

of their jobs that have been most affected and of corporate leadership more generally. Whereas Keefe's study found widespread demoralization at AT&T as we discussed in the second section above, Batt's study finds growing discontent at an RBOC. The RBOC study found that 86 percent of workers and 92 percent of managers said job security had decreased in the last two years. Whereas over two-thirds of workers were satisfied with their jobs, benefits, and pay, only 14 percent were satisfied with their opportunities for promotion and 27 percent were satisfied with their job security. The pattern was similar among managers: whereas 70 percent or more were satisfied with their jobs, pay, and benefits, less than 20 percent were satisfied with their employment security or opportunities for advancement. In sum, employees continue to like the work they do and the skills they use and have very low absentee rates. Most score high on commitment measures such as their willingness to work harder for the company, their pride in working for the company, and the loyalty they feel. But they are critical of top management's commitment to them: to employment security and advancement, to providing adequate resources for getting the job done, and to taking into consideration the interests of employees when making technological and organizational decisions (Batt 1996).

### *Conclusions*

The ultimate outcome of industrial restructuring in U.S. telecommunications is still uncertain and likely to remain so for several years. Several patterns, however, emerge from our analysis. First, at the level of the industry, the centralizing thrust of network technologies compete with decentralizing market strategies. Changes in productivity growth reflect this mismatch. The rate of productivity growth has declined in the 1980s because of the overcapacity generated by multiple players. More significantly, the historic positive relationship between productivity growth and employment growth has reversed itself in this decade. The extensive activity of mergers, acquisitions, joint ventures, and deal-making has netted few new permanent or productive alliances.

At the firm level, companies have created cross-functional business units that do away with the worst information problems associated with functional silos. This restructuring enhances the managerial jobs that remain, but downsizing increases workloads and spans of control. While these reforms reduce bureaucracy, they do not attack Taylorism or functional specialization at the nonmanagement level, which has, in fact, accelerated. Pockets of innovative experiments in self-management or multiskilled teams have been overshadowed by cost-cutting benefits asso-

ciated with reengineering and the application of new software technologies such as automated call distribution systems for service workers. Companies in this sense have continued to implement labor-displacing and deskilling technologies that are much more consistent with pre-divestiture past practices than not. As a result, the tensions, disagreements, and lack of trust between labor and management have increased in an industry historically known for cooperation between the parties. Ironically, this shift is occurring in a period in which most management and industrial relations scholars alike call for reduced adversarialism if U.S. firms are to be globally competitive. While it is surprising that corporate restructuring to date has not produced more outright conflict, it appears that unions have accepted at least some labor displacement as an inevitable outcome of deregulation and have made the strategic decision to negotiate generous severance packages, retirement buyouts, and retraining-replacement programs as the best alternative for members' welfare. What remains unclear is whether companies can continue to pay the generous settlements that have bought labor peace and whether continued downsizing will erode the embedded skill base that historically provided high productivity growth for these companies.