

AT&T: A Natural Monopoly Worth Preserving or Destroying?

The saga of the rise and fall of AT&T in America is a story of ever adjusting social and political attitudes toward the economic and social benefits of a monopolistic telephone service. Its history is created due to the uniqueness of communication networks and their network effects. Policy makers understood (as did AT&T) that the network with the highest quality and largest number of users would continue to grow and become more valuable to the consumer and smaller companies would not be able to offer the same benefits – in fact by drawing customers away from the primary network they may lessen its value. However, natural monopolies that hinder the development of innovation or adversely affect the consumer via price gouging or limiting consumer choice are also not favorable, and the history of AT&T illustrates the changing approach federal regulators took to maintaining a balance between a high quality, efficient telephone network and a monopolist AT&T regime.

The distribution and adoption of the telephone within America was subject to a variety of factors that are unique to network industries. This paper will outline the characteristics of network industries and how the telephone industry can be analyzed in relation to established economic features of networks. The features that will be discussed include: network effects, economies of scale and scope, barriers to entry, natural monopolies as well as the effects that regulation and standards can have on network technology adoption.

The telephone system is a point to point network with a hierarchical structure with customer calls going from the equipment within the customer's home to a local hub which switches those call made within the local calling area into a national network. Initially, from the invention of the telephone in 1876, telephone customers were connected via the Bell Company local networks, but after the Bell patents expired in 1894, new providers entered the market to provide equipment and services. In 1885, the American Telephone and Telegraphy company (AT&T) was created to provide intercity and international connection. To make a call on the phone system in

the early part of the century, the sender and receiver needed to be on the same system. This meant that without inter-connection agreements in the post Bell monopoly environment, businesses needed to subscribe to all the telephone systems in order to reach all local phones. And companies who were interested in offering telephone services and connections had to overcome large barriers to entry. Potential customers are interested in joining the network with the most interconnection and services (the company with the largest economies of scope), and networks that were limited in scope due to the Bell Company's lack of interconnection suffered. However, with its first mover advantage fascened by its patent ownership, Bell was able to offer customers a more valuable network, and as more customers signed up for Bell telephone service, the began to grow in value exponentially.

Bell quickly realized that any weakness within the system would reduce the expansion of the network, lower the quality and hinder it's widespread use and acceptance. Bell moved quickly to establish a monopoly for all component pieces of the network either trough becoming the universal provider for interconnection equipment and customer equipment or establishing exclusive licensing agreements.

The one market not occupied by the Bell Company was the local areas and many of the new systems were built by local municipalities or locally organized cooperatives (Longstaff, 2000: ¹56) Bell refused to connect with new competitors or the many rural systems that were not its direct competitors which required that customers who wanted long distance service to subscribe to the Bell system.

Competition that leads to enhanced customer services historically has been encouraged and natural monopolies like the Bell system that hampers customer choice and stifles competition that would lead to enhanced service became questioned and in 1910 the Mann-Elkins Act gave the Interstate Commerce Commission control over the fixed tariffs for the telegraph, telephone and cable companies and re-labeled them as "public utilities" in an attempt to gain greater public

¹ Longstaff, P.H. 2000. *Networked Industries: Patterns in Development, Operation and Regulation*. Center for Information Policy Research: Harvard University, Cambridge, MA.

regulation over the telecommunications market.² Additionally, the Public Transportation Act of 1920 confirmed the authority of the ICC over the transmission of information. The state public service commissions then allowed the Bell system to take end-to-end responsibility for the network that assured lower prices for the customers as well as maintained the quality of the network. Contingent upon their end-to-end responsibility, Bell gained control over the standards of the network and the components and hardware that could be added onto the network.

To avoid anti- problems, Bell became more cooperative with the independent local exchanges and began to buy and merge competitors into the Bell system. By 1913 26 states had passed interconnection regulations and Bell was agreed to the "Kingsbury Commitment" which forced to them to sell Western Union, stop buying competing phone systems and allow interconnection with the inter-exchange and long-distance phone services. When the Postmaster General was given control of the phone system during World War I to manage and coordinate military communications, interconnection became the norm. In the post WWI world, companies began to see the value in utilizing radio for broadcasting signals rather than point-to-point communication, and AT&T's research labs began to look at radio as way to extent the signal of long distance telephony. In January of 1922 AT&T announced that it would open and operate a radio station where it would lease the stations and transmission technologies but not produce original content. AT&T was attacked for attempting to expand its monopoly and when it tried to assert its patent rights gain radio station infringing on it s broadcasting transmitter rights, legislative and executive attacks on the telephone monopoly intensified and AT&T tried to sell its radio stations to RCA. (39)³

In 1921 Congress passed the Willis-Graham Act, which permitted ICC to approve mergers between telephone companies in spite of anti-trust laws. This regulation allowed the Bell system

² Pg. 3 Carpentier, M., Farnoux-Toporkoff, s., Garric, C. 1992. Telecommunications in Transition. Wiley Publishers. New York

³ Stone, A. 1997. How American Got On-Line. M.E.Shape Publishers: Armonk, NY.

to buy more local systems and increase its market share along with encouraging compatibility and cooperative systems, which increased the system's efficiency and customer ease of use.⁴

The 1934 Communication Act established rules that regulated the phone system until 1980. IT specified the rights and duties of "common carriers" which compelled them to create an effective, universal service that covered the entire country and connected to the outside world at a reasonable price. This act also created the Federal Communications Commission (FCC), which combined the regulatory functions of the Federal Regulatory Commission and the ICC into a unified agency to regulate interstate and foreign communication services by wire.

In 1949 the Department of Justice criticized AT&T for its vertically integrated monopoly that included not only services but also the manufacturing and maintenance of telephone equipment. The issue was resolved in 1956 by the Consent Decree, which allowed AT&T to maintain its vertically integrated structure as long as it didn't enter the emerging computing market. AT&T was also obligated to make its patents available to its competitors free of charge.⁵ It also called for AT&T to divest its holdings in Western Electric and begin to acquire its equipment through competitive bidding, and Western Electric had to sell 50% of its share of Bell Labs back to AT&T.

In 1957 the "Hush-a-Phone" decision forbid AT&T from further requiring its customers from only using equipment provided by AT&T.

IN 1978 AT&T accused MCI of moving into other switched intercity service marketing without the expressed agreement of the FCC. After the FCC ruling, and its annulment by the Court of Appeals, the FCC changed its decision in favor of MCI allowing them to provide the same switched inter-city service as AT&T.

⁴ Longstaff

⁵ Carpintero, 1992: 5

The Justice Department became involved in investigating AT&T's anti-trust practices when it became concerned that the monopolist would use its power to subsidize below-cost predatory pricing that would create an insurmountable barrier to competition, or it would use its unregulated equipment supplier to overcharge captive customers or that it would deny interconnections with the hubs to competitors attempting to enter the market.⁶

Even after more than 50 years of regulations aimed at increasing competition in the telephone services market, AT&T still held a monopolist role in the local-service and long-distance service markets as well as the equipment manufacturing market (through its subsidiary Western Electric) and the research market with its Bell Laboratories.

As a result of an anti-trust action filed against AT&T, the system was broken up in 1982 by a Consent Decree. On January 1, 1984, AT&T was obligated to relinquish all interests in local traffic services (its 22 Bell Operating Companies), which were grouped into seven independent regional holding companies that had quasi-monopolies over the local telecommunications services in their territories.⁷ AT&T was able to hold on to Western Electric and begins to develop in fields outside of telecommunications (the computing sector) and in overseas markets. The seven regional bell holding companies (RBHC) were regulated by the state and the local services provided by the independent companies were also regulated on the state level. Excluding the two largest (and the result of mergers) companies (GTE and United Telephone System) the independent phone companies only represented 10% of the total number of lines.⁸ This structure created a local monopolist regime for the phone company leaving the subscriber with the choice of telephone service imposed upon him/her due to geographic locality.

⁶ Faulhaber, Gerald. 1987. *Telecommunications in Turmoil: Technology and Public Policy*. Ballinger Publishing Company: Cambridge, MA. 15

⁷ Carpentier, 1992: 19

⁸ Carpentier, 25

In 1984 Bellcore (Bell Communications Research) was created to maintain that the phone system functioned as a whole quality network. It served as a research company for the seven RBOCs (regional bell operating companies) and served as a coordination center for national security communications and emergency services. It also served as a point for the standardization of methods and hardware.

In 1989 the FCC changed the accounting methods for regulating AT&T 's rates. The transition released them from "rate of return" restrictions that limited the rate of the return of the total business of the carrier (fixed at 12.75%). This old accounting method gave AT&T an advantage for launching new services and discouraged the carrier from improving network productivity since any gain in profitability had to be directly passed onto the customers. The FCC adjusted the tariff to be created by a "price cap" that was set to 3% less than the inflation rate. Each of three types of services (general public service, business service, and 800 numbers) was limited to individually 5 points above the "price cap". Additionally, price changes only had to be submitted to the FCC 14 days in advance versus the 45 days previously. This action is representative of the FCC's acknowledgement that AT&T was no longer an insurmountable competitor and a relaxation of regulations within the market would not turn AT&T into a de facto monopoly. This price cap was implemented to provide economic incentives that encouraged economic activity that would lead to product improvements and cost reductions while protecting the public from price gouging.

Between 1930 to 1947 Supreme Court and FCC rulings regulated rates to a station-to-station basis that included the cost of moving traffic from the sender to receiver (including local costs) within the long-distance rate. It also mandated that more long distance revenues were to be directed to local carriers to take advantage of economies of scale and scope telephone companies when through multiple mergers and acquisitions in the late 1990s.

“An entrenched monopolist is in a position not only to raise price well above cost (where cost is defined to include a normal return or profit) and benefit excessively at the expense of the public, but also to deny the public the benefits of technological advances that might have been commercialized by competitors in a free market”⁹

During the 1960s AT&T decided to become involved in satellite communications as an extension of its commitment to provide end-to-end connectivity. Having been barred from the broadcast market, AT&T soon found its arguments that privately owned satellites interfered with microwave facilities fell on deaf ears, and in 1969 AT&T stopped trying to oppose television network's operation of private satellite systems. In 1968 the FCC decided to put an end to the telephone and radio company's existing interconnection regulations and tariffs. Determining that customers were allowed to use an interconnection device just as long as the interconnection did not adversely affect the telephone company's operations or the telephone system's utility for others. Whereas AT&T's dominance of the telephone network had largely been unquestionable, the entry of MCI into the marketplace changed the competitive environment. In order to provide its interconnection services, MCI need cooperation from AT&T in order to serve markets not being served by the bell system¹⁰ they argued that with the advance of data communications, no firm could successfully serve the large market created by data transmission. Due to MCI's (and other new firms) portray of their actions as representing the public interest, the FCC became protective toward their efforts to enter the marketplace.

⁹ McNamara, J. 1991. *The Economics of Innovation in the Telecommunications Industry*. Quorum Books: New York. 75

¹⁰ Stone, 61.

