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Competitive strategies in the U.S. long-distance telephone market

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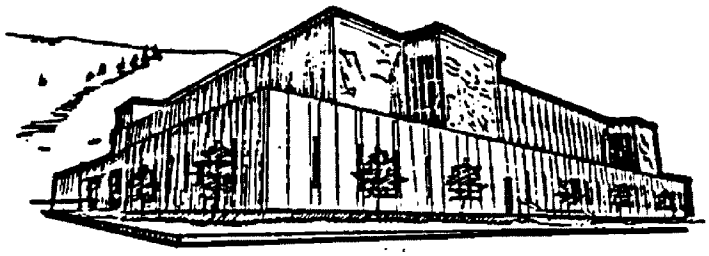

COMPETITIVE STRATEGIES

IN THE

U.S. LONG-DISTANCE TELEPHONE MARKET

by

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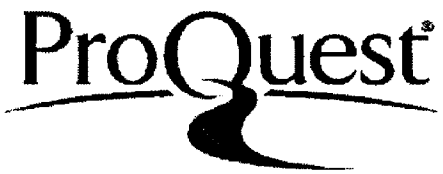

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Competitive Strategies in the U.S. Long-Distance Telephone Market (55 pp.)

Director: Nader H. Shooshtari Nader H. Shooshtari

The competitive strategies employed by the major U.S. long-distance telephone carriers within the past three years (1990-92) are the focus of this study. Using secondary data, it examines the ways in which past technological developments and governmental regulation have shaped the industry's present configuration. It analyzes the key elements of market structure as they appear in the current long-distance telephone market, as well as the marketing strategies and tools that are characteristic of the industry.

Until the 1970s, the American Telephone and Telegraph Company (AT&T) held the position of a regulated monopoly because (1) the firm successfully promoted the idea that universal service and economic efficiency could best be provided by a monopoly supplier, and (2) that existing capital barriers to entry were significantly high due to expensive technology. The development of innovative and relatively inexpensive technology, such as microwave radio, opened the market to competition.

Today's long-distance telephone industry is characterized as an oligopoly, with three major carriers; AT&T, Microwave Communications, Inc. (MCI), and U.S. Sprint. Product differentiation is achieved by differences in packaging the services and by segmentation of the market into customer subsegments. Economies of scale are obtained by increasing network size or calling volume. Unlike the segment of voice transmission, which consists especially of price-sensitive residential customers and experiences growth rates of only 3 to 5 percent, the segment of data transmission, consisting especially of business customers, shows growth rates in the double digit range. Service quality and technology are the selective factors in the business customer segment.

The analysis of competitive strategies suggests that marketing represents the key issue and promotional differences are the major source of differentiation. In order to achieve differential advantage and to grow carriers need to (1) constantly seek creative innovations, (2) expand internationally, thus increasing their share in the ever more global telecommunications market, and (3) develop successful tactics in the face of a new type of competition that stirs from cable-TV companies.

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CHAPTER I:

INTRODUCTION

The transition from monopoly to competition in the long-distance telephone market represents the greatest change within the U.S. telecommunications industry. Since the break-up of the American Telephone and Telegraph Company (AT&T) the long-distance telephone market has changed, driven by innovative technology and the entrance of new competitors. AT&T has lost its monopoly position previously sanctioned by the government. Today control of the market is largely held by three companies: AT&T, MCI Communications, and U.S. Sprint.

The strategies used by the long-distance phone companies over the past three years, in fierce competition for a bigger share of the market, reflect their attempts to differentiate themselves. With telephone services becoming largely a commodity product, differentiation will be even more difficult to obtain. Innovative marketing tools, such as cash incentives, promotional tie-ins, and discount calling plans, are essentially benefitting consumers and business customers. New competition from around the globe, entering the $55 billion U.S. long-distance market, represents an additional challenge to the three major domestic carriers.

Purpose of the paper

The purpose of the paper is to describe the competitive market structure that has emerged since the 1984 AT&T divestiture in the long-distance telephone business. Furthermore, it analyzes the competitive strategies employed by the three major long-distance carriers.

Contributions of the paper

In giving a comprehensive picture of the competitive strategies used by the respective major long-distance carriers, this study provides a perspective that existing literature is still lacking. This paper should contribute to an understanding of the competitive practices employed in the current long-distance telephone market.

In the face of deregulation of telecommunications in Europe, this study will be of interest especially to marketing executives of European telephone companies. The competitive structure and current status of the U.S. long-distance telephone market may be an indication of what the European companies will face in the near future.

Justification of the study

The telecommunications industry plays an important role in the U.S. economy, since virtually every business activity involves the use of telecommunications. This key industry is providing the nation with an infrastructure essential for assuring technological and economic progress. Gross long-distance, or "interexchange" revenues totaled $52.1 billion in 1990, making long-distance the second largest segment of the telecommunications business. Since the breakup of AT&T, long-distance calling volume has increased at a rate averaging over 12 percent per year. With the expansion of global data transmission opportunities, the market for data transmission is growing rapidly.

Research methodology

This study involves a description of the present structure of the U.S. long-distance telephone market, with particular attention to the competitive environment. Based on this analysis together with the historical background given in the second chapter, the strategies of the major long-distance carriers are examined. The study focuses on the strategies

that these companies employ in order to gain competitive advantage. Given the availability and thoroughness of already existing literature in the studied area, the analysis is based on secondary data. Information has been derived from existing academic literature about the telecommunications industry, as well as about other regulated industries. In addition, articles from current newspapers and magazines have been used.

CHAPTER II:

HISTORY OF THE U.S. TELECOMMUNICATIONS INDUSTRY

The present structure of the U.S. telecommunications industry is the result of governmental regulation, the introduction of competition, and new technological developments. All of these factors play an interdependent role.

Before looking at the current market structure it is important to get an understanding of how those factors have shaped the industry's configuration, and have led from monopoly to regulated competition. This review is focused on developments affecting competition in the long-distance telephone market.

From monopoly to competition

The evolution of competition in the telecommunications industry goes back to the 1890s when most of the American Bell Telephone Company's basic patents on the technology of voice transmission and on the necessary devices expired. Until then, American Bell had used its patents to establish a monopoly in most every aspect of the telephone business, including the local and the long-distance business. In 1900, the American Telephone and Telegraph Company (AT&T), which was established in 1885 as a subsidiary to operate the long-distance network, was transformed into a holding company and became the parent company of the Bell system. As such, AT&T now also owned and controlled the Western Electric Company, which was purchased

by American Bell in 1881, and which served as the monopoly supplier for equipment to the Bell System.

The expiration of Bell's patents caused a rush of new entrants into the industry. However, the new competition was limited to the local telephone exchange, because the independent local telephone companies did not have access to AT&T's long-distance network that would have enabled them to offer nationwide telephone services. The Bell System prohibited its licensee companies from interconnecting with the independent companies for long-distance calls. Despite these restraints, AT&T began to loose market share to the independent telephone companies. Thus, AT&T engaged in a practice of aggressively acquiring competing companies to regain control over the telephone business (Evans, 1983). In the face of a potential antitrust suit, AT&T, in the so-called Kingsbury Commitment (1913), agreed (1) to refrain from acquiring direct competitors; (2) to divest its holdings in Western Union, then the dominant telegraph company; and (3) to give the independent local telephone companies access to its long-distance network.

Unlike the telephone systems in most European countries, which had been nationalized by 1912, the telephone industry in this country had been able to withstand nationalization. Although prohibited by the Kingsbury Commitment to purchase directly competing independents, AT&T continued its consolidation activities by acquiring noncompeting companies.

The new strategy guiding the Bell System was to establish a telephone system that was "universal, interdependent and intercommunicating." Theodore N. Vail, president of AT&T from 1907 to 1919, argued that such universality cannot be accomplished by independently controlled systems or unrestrained competition. Thus, by embracing public regulation, AT&T was able to encourage favorable actions on the part of the state regulators, promoting the company's further consolidation and control over the telephone business (Adie, 1989). Finally, the Willis-Graham Act of 1921 freed AT&T of the restrictions stipulated in the Kingsbury Agreement, and it now was permitted to acquire independent telephone companies with which it was in direct competition.

The 1934 Communications Act transferred the regulation of interstate telephone service from the Interstate Commerce Commission (ICC) to the Federal Communications Commission (FCC). The main regulatory objectives of the act have been (1) to control market power in the interstate telephone business, especially by re-enacting the prohibition of mergers in section 314 of the act; and (2) to promote the establishment of a universal service. Section one of the Communications Act states this objective as follows: "... to make available, so far as possible, to all people of the United States a rapid, efficient, nation-wide and worldwide wire and radio communication service with adequate facilities at reasonable charges."

In 1938, Commissioner Paul A. Walker, chief of the FCC's Telephone Division, studied the price structure of Western Electric. In his report, called the Walker Report, he argued that Western Electric was overcharging the Bell System for its telephone equipment, thus driving up the rates charged to consumers (Adie, 1989). Walker called for regulating Western Electric's prices and profits, and forcing AT&T to allow the Bell operating companies to purchase their equipment through competitive bidding in which independent manufacturers would participate (Goulden, 1968).

The process resulted in the government's first antitrust suit (1949) against AT&T, charging the company with monopolizing the market for telecommunications equipment. This suit led to a consent decree in 1956, restricting AT&T to the provision of regulated telecommunications services, but allowing the company to keep Western Electric. AT&T remained a regulated monopoly.

Regulated competition

In 1959 the FCC permitted long-distance transmission via private point-to-point microwave on frequencies above 890 megacycles. This decision is known as the "above 890 decision." Thereafter, many large firms, foremost Microwave Communications, Inc. (MCI), began to develop microwave facilities to provide their own long-distance communications

services, or to sell these services to smaller firms. Finally, by ordering the Bell Operating Companies to allow for interconnection of their local network with the private systems, the FCC virtually legalized the first long-distance competitors (Shooshan, 1984). In 1971, the FCC gave MCI permission to offer long-distance microwave communications services between St. Louis and Chicago, despite AT&T's opposition and accusing MCI of creamskimming. Encouraged by this decision, hundreds of other companies entered the long-distance market with their own private microwave systems, providing so-called specialized common carrier services.

AT&T's aggressive response to this new competition led to several inquiries by the FCC, finally resulting in the 1974 antitrust suit, filed by the Justice Department. It charged AT&T with monopolizing the market for telecommunications services and products. On January 8, 1982, AT&T agreed to the divestiture of Western Electric and to the proposed restructuring of the Bell system. AT&T agreed to divest from the twenty-two local operating companies, which it had used as leverage to prevent competitors' access to local networks. Thereafter, the Justice Department required the divested operating companies to provide equal access to all long-distance carriers for interexchange. In return, AT&T was permitted to enter unregulated markets, such as the computer business and the telephone equipment market. It was also permitted to keep Western Electric and the Bell Laboratories.

Although new competitors entered the industry and began to generate substantial revenues, by 1984, AT&T still controlled about 95 percent of the long-distance market. Thus, the FCC has continued to regulate AT&T, in order to promote the industry's further transition into a fully competitive market.

CHAPTER III:

INDUSTRY STRUCTURE

Richard Caves (1977, p.17) has defined market structure as "the economically significant features of a market which affect the behavior of firms in the industry supplying that market." The main elements of market structure observed by Caves (1977, p.17) are:

1. Seller concentration.
2. Production differentiation.
3. Barriers to the entry of new firms.
4. Buyer concentration.
5. Height of fixed costs.
6. Growth rate of market demand.

Following the outlined framework, this chapter examines these key elements of market structure as they appear in the long-distance telephone market.

1. Market concentration

Market concentration is defined as "the share of an industry or product accounted for by the largest firms in the industry or producing the product" (Mason, 1964, p.17). The commonly used measure for market concentration is the concentration ratio, which adds up the industry's percentage of sales or revenues for the largest firms. It is usually published for

the largest 4, or largest 8 in an industry. Since the U.S. long-distance telephone market is dominated by only three companies, the concentration ratio is calculated for the three largest firms, for the purpose of this study.

TABLE 1: Long-distance market share percentage by total revenue

	1984	1985	1986	1987	1988	1989	1990
AT&T	90.1	86.3	81.9	78.6	74.6	67.5	65.0
MCI	4.5	5.5	7.6	8.8	10.3	12.1	14.2
U.S. Sprint	2.7	2.6	4.3	5.8	7.2	8.4	9.7
Number of carriers (as of December)	N/A	N/A	533	540	510	514	448

Source: Federal Communications Commission.

TABLE 2: Concentration ratios

	1984	1985	1986	1987	1988	1989	1990
Largest three	97.3	94.4	93.8	93.2	92.1	88.0	88.9

Source: Derived by author from data in Table 1.

Given the data in Table 1, the concentration ratio for the long-distance market in 1990 is 88.9 for the largest three companies; AT&T, MCI Communications, and U.S. Sprint (see Table 2). Although there were 448 long-distance carriers in

the U.S. in 1990, the market is controlled by its three largest firms. As a consequence, the industry is best described as oligopolistic.

In the past few years, the industry experienced a trend toward consolidation. Through mergers and acquisitions, mid-size and small long-distance carriers were able to gather more calling volume in order to maintain profitability. These companies benefitted not only from a growing market as a whole, but also from capturing some of AT&T's market share. The erosion of AT&T's market share has resulted in a decline in the concentration ratio for the three largest companies, although MCI and U.S. Sprint, whose shares contribute to the ratio, have gained a significant portion of the market.

The industry's largest acquisition occurred in August 1990, when MCI Communications, the second-largest long-distance provider, purchased Telecom USA, Inc., then the fourth-largest carrier. Interestingly, Telecom USA itself emerged only about two years earlier through the merger of Southern Net and Teleconnet Co. However, with no more relatively large companies holding more than one percent of the market left, mergers with a similarly significant impact on the overall level of competition are not likely to occur again (Standard & Poor's Industry Surveys: Telecommunications, 1992).

2. Product differentiation

The two basic strategies for product differentiation on the part of sellers are in the form of physical differences or advertising, and market segmentation. The telephone companies' attempts to differentiate their products through physical differences are largely based upon innovative technology and the bundling of different types of services into calling plans or other products, such as calling cards.

U.S. Sprint's all-digital fiber-optic network, for example, provides such a high quality of transmission that its voice traffic lines would be capable of transmitting digital data if the data lines broke down (Coy, 1991). Back-office computer systems and a centralized billing system made it possible for MCI Communications to offer its "Friends & Family" calling program, which gives residential customers a 20 percent discount on long-distance calls when calling other MCI customers subscribing to that plan. Only through centralization of the billing system, the company was able to identify the receiving party as a "Friends & Family" subscriber, thus giving the caller a 20 percent discount on these calls.

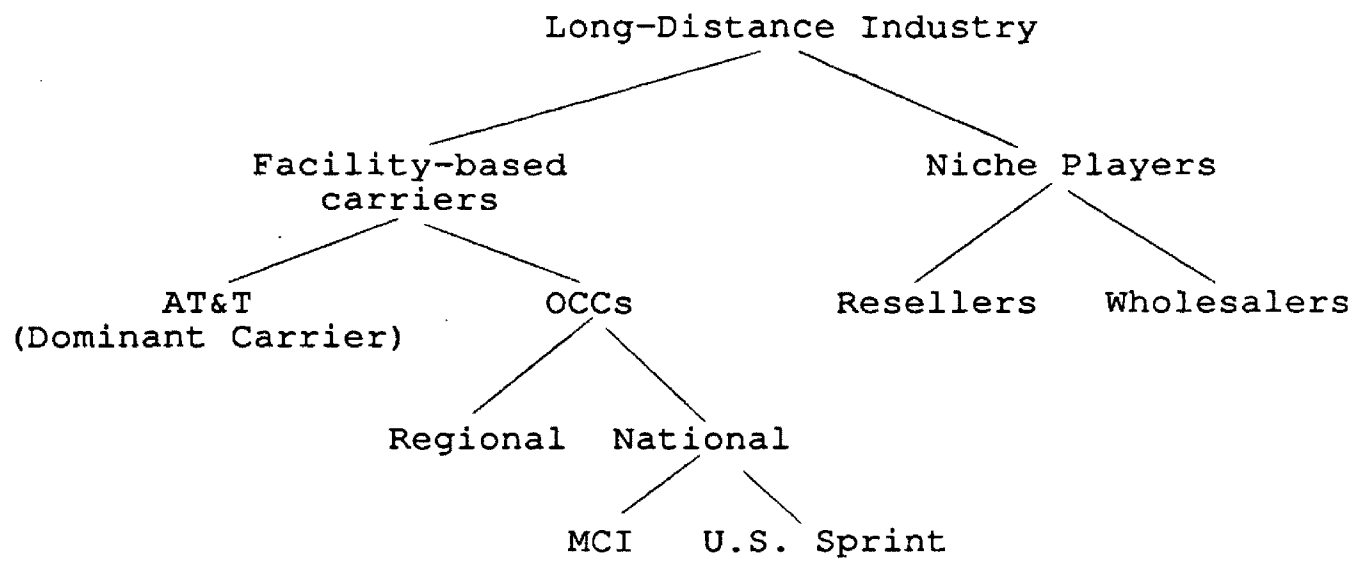
MCI also offers a calling card that provides more card features than any of AT&T's or U.S. Sprint's cards. When MCI's calling card first was introduced, it included information capabilities, such as up-to-date news, sports, weather and

stock quote information, which were not offered by competing cards at that time. Besides stressing these differences, the telephone companies engage in advertising campaigns in order to promote a unique company image focusing on quality, reliability, service, innovation, and price.

Through market segmentation, the other basic strategy, the long-distance telephone companies divide the market into homogeneous segments, either based on types of customers or on calling areas. Customer-based segmentation breaks the total long-distance telephone market into the two segments of residential customers and business customers. Business customers segment is in turn further divided into small, mid-size, and large business customers. While the main carriers AT&T, MCI Communications, and U.S. Sprint serve both residential and business customers, many small carriers serve only some specific segments, such as small and mid-size business customers.

The classification of long-distance companies provides some useful examples for market segmentation. Because of AT&T's large market share and its powerful size, it is regarded by the FCC, the Justice Department, and the U.S. Courts as the industry's "dominant" carrier (Standard & Poor's Industry Surveys: Telecommunications, 1992). As such AT&T must file tariffs with the FCC, while its competitors, including MCI and U.S. Sprint, which are referred to as Other Common Carriers (OCCs), have no such restraints.

TABLE 3: Classification of long-distance telephone companies



Source: Standard & Poor's Industry Surveys: Telecommunications, January 23, 1992, p. T 38.

Those long-distance carriers which operate their own networks are also known as "facility-based carriers." While the major three carriers offer both domestic and international long-distance services, many OCCs are limited in scope, serving only specific regional segments. Such companies are known as "regional carriers."

Aside from facility-based carriers, there are the so-called "niche players," which have built long-distance networks and lease these transmission facilities to other long-distance companies, or to large business customers. As their service

represents largely a commodity-type service, competition among these wholesalers and resellers is foremost a function of price.

An especially controversial phenomenon in the long-distance market is known as "traffic aggregation." This technique emerged in 1988, and since then has represented a severe competitive threat primarily to traditional long-distance resellers. Entrepreneurs purchase large blocks of long-distance time from major carriers, which they in turn resell to their customers. By grouping together small companies these aggregators are able to qualify for volume discounts that AT&T and other carriers give to big customers. That gives even small-volume users the opportunity to receive discounts leaving them better off than if they dealt directly with a long-distance carrier (Mims, 1990).

3. Barriers to entry

Barriers to entry generally refer to the difficulties a potential competitor faces in entering a market. The following discussion will concentrate on the three most common barriers to entry: scale-economy barriers, product-differentiation barriers, and absolute-cost barriers.

3.1. Scale-economy barriers to entry

The economies of scale that exist due to the size of a telecommunications network are best described by comparing the two fundamental techniques of providing telephone services. A telephone call between two subscribers could be supplied by providing a direct connection between the users. The problem involved in this technique is the "multiplicity of lines required for direct connection between subscribers," as outlined by Page (1941). In order to directly connect only two users, one line is sufficient; direct connection for three users requires three lines; for five users it takes 10 lines; for 100 users, 4,950 lines; and for 1,000 users almost half a million lines (Page, 1941).

In contrast, "circuit-switching," the other basic technique, takes advantage of economies of scale and reduces the number of lines necessary to provide connections among various subscribers. Switching networks economize on links by bundling together calls that are aimed at the same end nodes. Such calls are concentrated for bulk transmission over high-capacity lines, such as fiber-optic cables or communications satellite lines. As a result, a long-distance telephone company enjoys economies of scale due to the size of its network, as measured by the number of telephone subscribers. Furthermore, economies of scale can be achieved by an increase in calling volume, which thereby increases the utilization of

the network. In exploring telecommunications cost functions Mitchell and Vogelsang (1991, p.14) point out, that:

> "In telecommunications, large increases in volume in a single market may permit production with a higher-capacity technology and the achievement of scale economies. Over smaller ranges of output capacity is indivisible and output cannot be stored, leading to very low shortrun marginal costs whenever there is more than sufficient capacity to serve demand."

Finally, they conclude: "Telecommunications cost functions appear to possess economies of scale and scope over at least initial levels of output" (Mitchell and Vogelsang, 1991, p.14). Given the fact that within a long-distance network diverse technologies are used side-by-side, such a network exploits "economies of scale at different volumes of transport" (Mitchell and Vogelsang, 1991, p.10). Differing volumes of demand on different network links enable a company to employ the one technology of transmission which ensures economies of scale on the respective link. This may be fiber-optics for high volumes of transport on a given network link, or microwave radio transmission for transport in less populated areas with high-cost terrain (Mitchell and Vogelsang, 1991).

However, the emergence of long-distance firms that offer their services using leased bulk-transmission facilities, indicates that scale economies in production do not represent very high barriers to entry. Of comparatively higher significance are scale economies in marketing, which are discussed below.

3.2. Product-differentiation barriers

Product-differentiation barriers are concerned with the marketing costs that a new firm has to spend to enter the industry. In the face of the tremendously high media budgets of the three major long-distance telephone carriers, it its relatively difficult for a new entrant to market his services, not to mention to obtain at least some attention. AT&T's total media spending amounted to $374.1 million for the first nine months in 1990, U.S. Sprint spent $61.5 million, and MCI spent $40.6 million (Cray, 1991). Thus, it is very unlikely that a new entrant will be able to start with a comparable media budget. Even if a new entrant spends the same amount of money, he still faces the barrier of already established company images and consumer-known brands.

However, potential entrants still experience considerable chances of achieving a differential advantage. Unlike the large business customers and the data traffic market in general, where decisions of what long-distance carrier to choose are primarily based upon considerations of reliability and trust, the residential and the voice traffic market are characterized by high price elasticities of demand and little brand loyalty. Thus, serving those segments that are price-sensitive rather than those that are quality-sensitive represents more promising chances. Another question, of course, is whether a new firm is able to undercut or at least

meet the going prices offered by the three dominating long-distance carriers in the long run. Since the networks of many carriers do not extend to all calling areas, barriers of entry are likely to be lower in selected geographic segments that are not served adequately by the established carriers.

3.3. Absolute-cost barriers

Absolute-cost barriers to entry refer to factors that make the cost curve of a new entrant lie above that of an established company (Caves, 1977). In the case of the telecommunications industry the primary source of absolute-cost barriers to entry is the cost of capital to a new firm. Unless the new entrant has sufficient supply of capital, the firm is forced to raise money in the capital markets. Capital can be raised either in the form of debt or equity capital. In the case of debt capital the firm borrows money at the current interest- rates in the debt market. In the other case, when a firm finances its entrance through equity capital, the firm has to issue securities, such as stocks or bonds, in exchange for capital.

In general, the cost of capital describes the terms under which a firm is able to raise money in the capital markets. It is determined by the value that the market attaches to the projects undertaken by the new firm, and by the firm's prospective stream of returns (Evans, 1983). The future

profits a firm expects to earn from its investment projects are expressed in the projected rate of return on investment (ROI). Thus, the cost of capital largely depends on the ability of a new firm, as viewed by potential investors, to achieve ROIs in the range of the industry average. While data on the long-distance telephone industry's average ROI was not available to the author, at the high end of the scale, AT&T achieved a 16.01 percent return on investment in 1990 (FCC, Statistics of Communications Common Carriers, 1990-91), and MCI had a return on investment of about 11 percent (Estimate: Goldman, Sachs, 1992).

Unlike absolute-cost barriers, the first two described barriers, scale-economy and product-differentiation barriers, represent only moderate obstacles. The best indication that entry into the long-distance telecommunications industry is relatively easy, is the rapid growth of many OCCs, including MCI and U.S. Sprint, into very large corporations (Wenders, 1987).

4. Buyer concentration

Unlike the market on the part of the sellers, which has been characterized as oligopolistic, the concentration levels on the part of the buyers are not significant. However, contracts

signed with large companies in the business-customer market account for a very large portion of a given long-distance carrier's revenues. Corporations in information-intensive industries, such as in the financial services industry, operate voice and data networks, often global in scope, linking together their numerous subsidiaries and affiliates. The contracts to provide such customized network services usually are in the multimillion dollar range. As a result, these customers hold considerable bargaining power that enables them to obtain substantial discounts. Examples of major contracts signed in the past few years are: MCI's four year contract with Citicorp, worth about $ 250 million, to consolidate its regional networks, and a $ 864 million contract from the Federal Aviation Administration (Lewyn, 1992). Another important buyer of long-distance telephone services is the government, which in 1988 awarded its so-called Federal Telecommunications Systems (FTS) 2000 contract jointly to AT&T and U.S. Sprint. The contract was estimated at about $25 billion, and was designed for a period of 10 years.

With discounts being based on calling volume, some companies tend to consolidate many of their telecommunications needs with a single carrier. Although dealing with at least two different carriers enables a firm to switch its operations in the case of a service outage to the other carrier in almost no time, for some companies the cost savings through consolidation are of higher value. Costs on long-distance

calls were cut as much as 25 to 30 percent in many cases. BankOne Corporation, for example, which previously had contracts with five different long-distance carriers, has saved more than $10 million, according to company sources, by consolidating many of its telecommunications services with MCI Communications in June 1990 (Alexander, 1990).

5. Height of fixed costs

The major outlay involved in providing long-distance telephone services for a facilities-based carrier is the cost of laying a national cable network. These costs include securing rights of way, preparing trenches to lay the cable, and finally purchasing the cable itself. AT&T spent billions on building its first telecommunications network, which at that time consisted of copper wires.

Since the mid-1980s, AT&T, MCI and U.S. Sprint use fiber-optic cables for new installations. Such cables provide a capacity that is 250,000 times the capacity of standard copper telephone cables (Elmer-Dewitt, 1993).

Although these new fiber-optic cables cost a lot less, the capital investments for establishing a long-distance network with this technology are still enormous. Other alternatively used technologies of transmission include microwave systems and communications satellites.

The second most important expense involved in providing long-distance telephone services is carrier access charges. The long-distance carriers rely on interconnection with the local-exchange network in order to provide a link between two users. Local networks are operated by Local Exchange Carriers (LECs), which hold a monopoly position regulated by a state commission. The long-distance telephone companies are required to pay a carrier access charge to these local-exchange companies in order to connect their long-distance network with the local-exchange network (Mitchell and Vogelsang, 1991). These access charges can account for as much as half of a carrier's total expenses.

In the past few years all three major carriers have spent billions building and upgrading their nationwide networks (see Table 4). The focus has been on digitalization and on improving transmission speeds. The investments made include state-of-the-art fiber-optic cables, high-tech switching equipment and advanced computer systems. Investments in computerization has become more and more important since many key functions such as creative billing and customer-service require modern information processing systems. In addition, computers perform switching functions in order to economize on links between the large number of nodes within a long-distance network. They also enhance further automation.

TABLE 4: Capital investment (in millions of dollars)

	1987	1988	1989	1990	e1991
AT&T 1)	2,700	3,000	2,900	2,700	2,800
MCI	619	896	1,052	1,283	1,200
U.S. Sprint	4,315	4,624	4,657	4,822	4,800

e: Estimated
1) Communications services only.

Source: Standard & Poor's Industry Surveys: Telecommunications, January 23, 1992, p. T 40. Data derived from company reports.

While the fixed costs involved in establishing a company-owned long-distance network are extremely high, new entrants can circumvent these expenses by leasing transmission facilities from other carriers. A considerable amount of fixed costs can be avoided, while at the same time eliminating the risk involved in owning facilities which may have little salvage value in the case of business failure or technological advancements.

6. Growth rate of market demand

The U.S. long-distance industry has experienced growth rates above general economic activity. Paine Webber, Inc. has estimated this growth rate at 6 to 7 percent for 1992, which is about three times the long-term growth of the Gross National Product (GNP).

While residential long-distance calls grew only about 2 percent in the third quarter of 1992, business calls experienced a 10 percent growth, and 800 services grew by 15 percent. The rapid growth in the business-customer market is due to the fact that many businesses have turned to using computer lines, facsimiles, 800-numbers, and international calls. While, in 1990, the voice traffic growth rate was only 3 to 5 percent, long-distance data transmission grew at 35 percent. This high growth rate is expected to continue in anticipation of an economic recovery. International calls, although still accounting for less than one percent of telephone traffic in the U.S., are expected to grow at about 14 percent in 1993, and to remain in the double-digits for the next few years.

CHAPTER IV:

COMPETITIVE STRATEGIES

This chapter analyzes the marketing strategies used by the three major long-distance telephone carriers: AT&T, MCI, and U.S. Sprint. The strategies are examined based on the four variables: product, price, place or distribution, and promotion. The marketing tools that are characteristic for the long-distance telephone industry and that have been employed by the major carriers since the past few years are described.

1. Product strategies

Product strategies involve the manipulation of one or more aspects of the product. Important aspects of product strategy include the nature of the product, product features, product quality, and customer service.

1.1 Nature of the product

The basic service produced by the long-distance telecommunications industry is telephone connections for the transmission of voice or data between two or more (in the case of conference-calling) geographical locations. As such, telecommunications services are intangible and fall within the classification of services. They also compete with other forms

of information exchange, such as face-to-face contact or letters. But because these forms of contact involve much higher costs, such as travelling expenses, and because they require much more time, as in the case of postal delivery, telephone services enjoy significant cost advantages. Another characteristic of telecommunications services is that its output, namely the provision of capacity, cannot be stored during times of demand below production in order to serve demand during peak hours (Mitchell and Vogelsang, 1991).

1.2 Product features

AT&T alone provides approximately 68,000 services (Standard & Poor's Industry Surveys: Telecommunications, 1992). However, services offered by long-distance telephone companies do not differ from each other in the sense that they are all primarily based upon provision of telephone connection between users. It is the software, the computer systems and electronic equipment controlling and operating the long-distance network, which represent the major means of altering this basic service. Computers make it possible to bill 800-number calls to the receiving party, in contrast to regular or 900-number calls. Calls can be forwarded to other locations, messages can be recorded and stored in order to be transmitted at a later time, specified by the caller or as soon as the receiving party answers. Other ways used by telephone carriers to add

value to the basic service include operator-assisted calls and translation services which provide live translation by interpreters.

In the face of stiff competition with existing products, the long-distance companies are constantly striving to find new sources of profit by introducing new products. The driving factor of such product innovations is advancements in computer technology. Many features that had been thought of in the past were simply not possible because of lacking or too costly technology.

Two principal movements with regard to the introduction of new services or features can be identified: duplication of services newly introduced by a competitor, and transfer of successful programs into other customer segments. New introduced service features are almost always promptly duplicated by competitors, because otherwise they would forgo the opportunity to earn additional profits.

In April 1992, for example, MCI launched a new long-distance discount plan, called "Friends of the Firm" aimed at small business customers. Business owners could provide the carrier with a list of up to 20 frequently called customers who all must be MCI users. Calls made to these customers were discounted at a rate 20 percent off the basic rate. One week later, AT&T responded with a similar plan, called "Partners in Business," offering the same kinds of discounts. Finally, U.S. Sprint followed these moves by offering its "Business Clout"

discount plan. Although this plan was slightly different in its conditions for getting discounts, it was also targeted at small business users. Unlike the other two companies, U.S. Sprint gave discounts to groups of small businesses that are located in the same area. Thus, the customers had to bundle their usage together in order to get better rates.

MCI's program "Friends of the Firm" is also a good example for transferring successful calling plans to other customer segments. This plan is similar in most aspects to the company's "Family and Friends" discount plan, except that the latter has been offered to residential customers. While the basic ideas about what service features are offered do not differ much among the three major long-distance carriers, the firms use different approaches to market these services in order to reach a larger customer base and to increase their market share.

Telephone credit cards represent a useful example for such different approaches. Such cards are a combination of long-distance calling cards and traditional credit cards. AT&T launched its own credit card business in March 1990, issuing the "Universal Card," which could be used as a regular credit card and which was affiliated with either Visa or MasterCard. The company handles all associated financial services itself. Unlike AT&T neither MCI nor U.S. Sprint issued credit cards themselves. MCI with its "VisaPhone" and U.S. Sprint with its "SprintVisa" enable customers to make long-distance calls with

Visa cards issued by regular banks. The companies have also arrangements with MasterCard and American Express. This scheme has the advantage that long-distance services of MCI or U.S. Sprint are available immediately to the millions of Visa or MasterCard holders without any waiting period involved in applying for a calling card. Like frequent-caller discount plans, telephone credit cards are designed to increase customer loyalty and to tie them to one long-distance carrier.

1.3 Quality

Quality issues, such as call setup speed, quality of transmission, availability, and reliability of service are generally of less importance to customers in the voice-traffic market. These customers are primarily price-sensitive, thus the marketing of long-distance telephone companies does not stress quality in this segment. However, when entering the market, U.S. Sprint advertised that with its digital fiber-optic network it could provide such a quality of transmission that even a pin drop on the other end of the line could be heard. Rather than promoting the quality of its network, the company , in the first place, intended to establish an image as an innovative firm at the edge of technology.

Quality issues are of much greater importance to the customer in the data market. When it comes to choosing a long-distance carrier for handling the data transmission needs of

a large business, issues such as transmission speeds, bit-error rates, network synchronization capabilities, and reliability are among the key factors influencing the decision. In the 1992 "DATA COMM User Survey" on long-distance carriers (Johnson, 1992) business customers were asked to rate the carriers in terms of different quality, technology, and service criteria. Although AT&T scored higher than MCI and U.S. Sprint in most quality-related criteria, the gap between the three major carriers was relatively small. This is a result of both MCI's and U.S. Sprint's heavy investments in upgrading their networks during the past few years in order to compete head-on with AT&T in terms of quality. The key factor in providing high-speed data transmission is digital transmission facilities, such as microwave or fiber-optic links. Sprint uses fiber-optic cables for its entire cable network. While by August 1990 about 70 percent of MCI's network was capable of high-speed data transmission (Anthes, 1990), AT&T planned that by 1992 about 94 percent of its network would consist of fiber-optic cables (Labich, 1989).

1.4 Customer service

Customer service is an important variable within the product strategy of a long-distance telephone company. Respondents of the 1991 "DATA COMM User Survey" on long-distance telephone carriers weighted service as accounting for 48 percent of

their purchase decision, with technology accounting for the remaining 52 percent (Johnson, 1991). Service categories, such as troubleshooting skills, timeliness of installation and repairs, assistance in planning, and billing accuracy and format are of critical concern to business customers (Johnson, 1992).

Since the divestiture of AT&T in 1984, the company eliminated more than a fourth of its workforce and decentralized and downsized many of its operating units in order to cut costs. Due to cutbacks of employees working in the long-distance service, AT&T has begun to draw more and more complaints (Keller, 1992). These complaints were primarily related to the shortage of service people and to the practice of subcontracting in remote areas. Many subscribers argued that AT&T often contracted technicians for maintenance work who were inexperienced with working on AT&T's systems and equipment. However, according to New York's Public Service Commission AT&T had 0.29 complaints per 100,000 customers in the city in 1991, versus 1.82 complaints against MCI, and 1.18 against U.S. Sprint (Keller, 1992). Despite drawing more complaints than AT&T, in terms of service quality and customer support, MCI scored the highest rating in the "DATA COMM User Survey" on long-distance carriers (Johnson, 1992). Customers especially value MCI's creative billing made possible by the company's advanced back-office computing. More and more business customers demand telephone bills that are tailored to

their needs in terms of format and billing cycle. They demand bills that combine calls from all company locations and that are customized to the firm's and not the telephone carrier's billing cycle (Coy and Lewyn, 1991). In the face of the ever narrowing gap in technology between the three major long-distance carriers, customer services is becoming a key competitive issue particularly in the business customer market.

2. Pricing Strategies

Pricing in the telecommunications industry represents a combination of a number of factors. These factors include regulatory considerations, cost, and competition, as well as market considerations such as level and price elasticity of demand.

2.1 Telecommunications pricing before divestiture

Prior to the development of innovative and inexpensive technology such as microwave radio, ratemaking in the U.S. telephone industry was based on principles of average-cost pricing. In this scheme customers in densely populated areas subsidized the provision of services to customers in less

populated regions. Furthermore, a considerable amount of the high fixed costs involved in providing local services was shifted to the long-distance sector. "Thus evolved an industry where neither the price nor the reported cost of long-distance service had anything to do with economic reality" (Standard & Poor's Industry Surveys: Telecommunications, 1992, p. T 40).

Before the equal access ruling, as part of the divestiture in 1984, AT&T's competitors were given significant discounts on access charges, because they faced some disadvantages. One example was technical limitations, which required customers of long-distance carriers other than AT&T to dial 11 additional digits to place a call. Those discounts on access charges, which in turn could account for as much as half of a long-distance carrier's total costs, enabled the OCCs to undercut AT&T's prices in some cases by as much as 40 percent (Standard & Poor's Industry Surveys: Telecommunications, 1992). This price differential gave the OCCs a considerable competitive advantage over AT&T.

2.2 Pricing after divestiture

As the industry's dominant carrier, AT&T was limited by the FCC to earn a specific maximum rate of return on investment. In addition, AT&T had to file new or changed tariffs with the FCC. Since its competitors had no such restrictions, they were able to respond more quickly to changes in the market via

adjustments in price (Labich, 1989). Since 1989, this rate-of-return regulation has been replaced by a price cap regulation that eliminated the restrictions on AT&T's profits. The company was allowed to earn a certain level of revenues, thus giving the company a greater incentive to maximize profits through increased efficiency. The price cap regulation divides AT&T's numerous services into three "baskets" of services: residential and small business services, the 800-services, and all other business services. "Within each basket, prices of individual services can go up or down at AT&T's discretion - within certain limits - as long as the cap on the basket is not exceeded" (Standard & Poor's Industry Surveys: Telecommunications, 1992, p.T43).

Three basic elements determine the rate charged for a given long-distance telephone call: distance, duration, and the time of the day and the day of the week during which the call is made. The longer the distance the more intermediate switching becomes necessary, thus driving up marginal costs. However, over the past few years a reduction in rates has occurred due to lower marginal costs made possible by using high capacity transmission systems, such as fiber-optics. Also, with increased distance, price elasticities of demand become higher (Mitchell and Vogelsang, 1991).

As far as the duration of the call is concerned, costs in the form of opportunity costs result from the usage of transmission and switching facilities. Another cost portion

occurs as fixed costs associated with setting up and billing the call. Charging by time of the day and the day of the week during which the call is made reflects differentials in traffic volume between peak and off-peak periods (Mitchell and Vogelsang, 1991).

The rate structure used in the discount calling plans offered by the competing carriers differs in the sense that each carrier sets their own periods, such as evening and night, for which discounts from the day rates are given. As a result, discounts for calls made during the night may start at different times depending on which long-distance carrier has been chosen. When looking at the basic rates, "only pennies separate the carriers," according to Ken McEldowney, executive director of Consumer Action in San Francisco (Leuchter, 1990). As a consequence, individual calling volume and time of usage primarily determine which of the competing long-distance calling plans offers optimal savings for the residential customer.

In the past few years, price cuts in basic rates made by AT&T have almost always promptly been followed by its main competitors MCI and U.S. Sprint. Thus, AT&T has operated as the price leader, moving the prices downward in the long-distance telephone industry.

3. Promotion

The promotion of services represents a key competitive issue for the long-distance telephone carriers. Factors such as advertising, promotional tools, and selling efforts are of critical concern to these companies in order to target customers.

3.1 Advertising

AT&T spent $ 374 million on advertising in the first nine months of 1990, as shown in Table 5; U.S. Sprint's spending amounted to $ 61.5 million during the same period, and MCI's spending was about $ 40.6 million (Cray, 1991). The largest increase by category has occurred in spendings on cable TV. Between January and September, 1990, AT&T spent more than double the amount of money on cable TV than in the same period in the year before. U.S. Sprint quadrupled its cable TV spending, whereas MCI spent nearly twice as much as in 1989. This trend reflects the carriers' strategy to place ads in a media that better focuses on specific target audiences (Cray, 1991). As shown in Table 5, all of the three carriers have cut magazine spending, and Sprint completely dropped buying advertising space in Sunday magazines.

TABLE 5: Long-distance advertising spending for first nine months, 1990 vs. 1989 (Figures for 1989 in parentheses).

	AT&T		U.S. Sprint		MCI	
Media Total	374.1	(236.3)	61.5	(45.7)	40.6	(37.7)
Magazines	42.5	(53.0)	2.2	(2.5)	5.7	(6.3)
Sunday Magazines	4.6	(3.7)	---	(---)	0.2	(0.3)
Papers	34.4	(31.6)	0.06	(0.6)	1.8	(0.5)
Outdoor	0.2	(0.2)	0.1	(0.2)	0.02	(0.04)
Net TV	189.7	(97.5)	48.9	(32.2)	24.0	(25.6)
Spot TV	56.2	(30.0)	5.0	(4.0)	6.6	(4.0)
Syndicated TV	14.1	(3.9)	3.7	(6.9)	0.2	(---)
Cable TV	10.8	(4.5)	1.2	(0.3)	1.8	(1.0)

(All figures in $ millions)

Source: Cray, Dan: "Hold the line," Mediaweek, March 25, 1991, p. 23.

In the face of AT&T's huge advertising budget its two main competitors find it hard to keep up and to succeed in the media. In order to compete with AT&T, both MCI and U.S. Sprint have partially engaged in niche strategies. An example is U.S. Sprint's exclusive presence on airline ticket jackets early on. However, the two other carriers followed soon thereafter and entered the market initially held as a niche by U.S. Sprint (Cray, 1991).

Temporary niches are found either in yet untapped media, as seen above, or in certain customer subsegments defined by age, lifestyle or interest. Examples for such customer subsegments that have been targeted by long-distance telephone carriers are the college market, and people who are unintimidated by computers and high-tech, the so-called "early adapters."

Price-oriented TV spots and ads and those promoting a certain company image are among the tactics most often used by long-distance telephone companies. In the past, comparative advertisements have been chosen to win customers by attacking competitors' rates and discrediting their programs. MCI's ads, for example, targeted AT&T alone and never mentioned U.S. Sprint, thus trying to put customers in an either-or situation. With their advertising each of the three long-distance telephone carriers attempts to position itself as the most innovative, cutting-edge and high-tech firm providing comprehensive communications services in the global market.

3.2 Promotional tools

During the summer of 1992, the three major carriers used different promotional tools. AT&T used primarily cash offers as an incentive for customers to switch. It mailed checks for as much as $ 50 that could be cashed by any of the competitors' customer who switched to AT&T. In addition, the company continued its TV ad campaign which attacked MCI's

discount calling program (Fitzgerald, 1992). MCI's emphasis has been on promotional tie-ins with other companies, thus encouraging sampling of its telephone services. For using Universal Product Codes on Frito-Lay products or for flying with American Airlines or Northwest, customers were given as much as two free hours of long-distance calling with MCI. New "Friends & Family" customers were also offered a free subscription to the magazine "Family Circle." U.S. Sprint's key tactic has been aggressively promoting its new frequent-calling discount program called "The Most." Advertising stressed price and more long-term savings over competitors' programs. Furthermore, U.S. Sprint used a joint promotion offering up to two hours of free long-distance calling time with the purchase of a Sony phone product (Ridge, 1992).

3.3 Selling efforts

AT&T enjoys a significant advantage over its rivals: the company has a huge sales force and "a giant telemarketing organization that many experts regard as one of the most efficient and responsive to customers" (Keller, 1993). However, the three major long-distance telephone carriers market their residential calling plans in a similar manner, using a combination of well coordinated and timed methods. Media advertising, telemarketing and direct-mail efforts are linked together in order to effectively target new and potential customers (Fitzgerald, 1992).

The marketing of new offers usually starts with advertising on national TV and print media, followed by radio spots and outdoor advertising. Thereafter, phone marketers contact potential customers explaining the new program and eventually offering special deals, such as free tryouts or a limited time of free long-distance calling. The campaign continues in the form of direct-mail efforts in order to further target and follow up on individual customers.

Although MCI does not have a large marketing organization like AT&T, this company has been able to make effective use of database marketing. Given the specific design of the "Friends & Family" discount program customers were willing to provide MCI with the names and numbers of their friends and family members, because they felt they could help them to get better savings. By offering strong incentives to customers MCI has been able to partially shift the function of recruiting new subscribers to its own customers (Coy and Lewyn, 1991). As a consequence, not only has MCI's unique "Friends & Family" discount scheme expanded the firm's market share to 17 percent in 1992 - an increase worth $ 1.5 billion - (Lewyn, 1993), but it also brought about valuable synergetic impacts on the company's marketing performance. Through database marketing MCI has been able to segment and target customers more effectively than its competitors AT&T or U.S. Sprint.

With regard to the fast growing 800-number market, MCI has launched an internal contest among its employees called

"Project 800, Track & Attack." The company offers incentives to employees who provide its sales representatives with the most AT&T 800 numbers to contact. Thus, not only has MCI aimed its ads at AT&T alone, but with that internal contest it has also focused its employees on a single rival (Lewyn, 1993).

4. Distribution

Given the characteristics of telecommunications services, channels of distribution differ significantly from those for tangible goods. Since telephone services are delivered by networks, they are distributed like other utility services, such as electric energy. Telephone networks are located based on the geographic positions of final consumers (Mitchell and Vogelsang, 1991). As a consequence the producer of telephone services has no choice of which channels of distribution to select in order to deliver his services. The only variable is the technology of transmission. Yet, in most cases that is determined by the geographical conditions and by territory costs. With wide availability of telephone services as a central objective of regulation, the subsidy of two particular consumer groups has been promoted by the FCC: consumers in costly locations, such as in remote rural areas, and consumers with incomes below the national average.

Following the divestiture of AT&T local calling rates had risen. As a consequence, poor consumers suffered financial hardship. In December 1985, the FCC introduced the "Lifeline" program, under which the FCC would match the monthly state-provided discounts to lower income households. The "Lifeline" program was tied to a state subsidy.

Under a second program, called "Link-up America" and established in April 1987, the long-distance carriers would pay one-half of the connection charges for low-income households (Mitchell and Vogelsang, 1991). As a result, state and federally-provided subsidies programs contribute to the universal access goal, thus making services at least nearly equally affordable to anyone, regardless of income level. While in the past providing telephone services to rural areas required high capital costs for laying wires, these services have become affordable due to the implementation of microwave radio and satellite systems (Shooshan, 1984).

CHAPTER V:

CONCLUSIONS

The principal forces which have been shaping the structure of the U.S. long-distance telephone industry are advancements in technology and regulation of AT&T by the FCC. The development of innovative technology has substantially lowered the capital barriers to entry. In addition, AT&T has been regulated by the FCC as the industry's dominant carrier. As a consequence, its competitors have enjoyed a cost advantage, which they have passed on to customers in the form of lower prices. Under the protection of the FCC competitors have successfully managed to grow stronger and capture significant portions of the market at the expense of AT&T. Although regulation has been eased in the ever more competitive market, AT&T still faces restrictions, thus competing with one hand tied behind its back. Unless every long-distance telephone carrier is left on its own to freely compete in the marketplace without the influence of the FCC, the industry cannot be considered fully competitive.

The industry has been characterized as oligopolistic with the three companies AT&T, MCI, and U.S. Sprint holding the major portion of the entire market. While the trend toward consolidation is observed, the overall level of competition is not likely to lessen, because all remaining potential acquisition targets have less than one percent of the market. AT&T's two main competitors, MCI and U.S. Sprint, have managed to increase their market share at the expense of AT&T. As a consequence of increased competition marketing has become the

key competitive issue. While in the price-sensitive residential market price competition is likely to continue, marketing in the business market focuses on the promotion of customer service and technology.

Since successful tactics are usually promptly duplicated by competitors, the long-distance telephone companies are forced to continue to seek creative innovations and to capitalize on their differential advantage, found for example in temporary niches. With the ever more diminishing differential in technology between the companies, survival in the industry primarily depends on a carrier's promotional performance. As quoted by Lewyn, Timothy F. Price, president of MCI's business markets division states that "there is a recognition that technology, while underpinning of everything we do, can eventually be matched. So our success or failure will largely be judged on our marketing skills" (Lewyn, 1993, p.84).

Technological advancements continue to bring about new applications in the telecommunications market. The two most important trends in the business market are virtualization and globalization. "Virtualization simply refers to developing telecommunications products and services based on software, not hardware. By 1995, for example, virtualization would mean replacing dedicated physical T1 networks with high-speed circuit-switching services created in software" (Bernstein and Leinfuss, 1991, p.77). With ever more global markets the

telephone carriers will continue to expand internationally in order to provide worldwide services.

In the residential market recent technological developments, foremost the compression of video signals for the transmission through fiber-optic cables, made possible a "merger of video, telephones and computers" (Elmer-Dewitt, 1993, p.51). Residential customers will be provided with sophisticated video and information offerings, such as movies on demand, databank services and interactive shopping channels. As a result, telephone companies are already competing with the major cable operators (Elmer-Dewitt, 1993).

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