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United States: Industry Trends
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by Eli M. Noam

Electronic media industries in the United States have been evolving through three stages: first, the stage of limited media; now, multichannel media; and in the future, cyber-media. In the lengthy stage of limited media, the major segments of the sector were dominated by monopoly or oligopoly. In the early 1980s, ABC, CBS and NBC had collectively 92% of TV viewership; AT&T controlled 80% of local telephone service and almost 100% of the long distance market; and IBM accounted for 77% of the computer market.

The current stage, multichannel media, can be dated to about 1984. In that year, which literature had made synonymous with totalitarian mind control, media actually broke free from restrictiveness on several fronts. That year, cable TV was deregulated, the telecommunications monopolist AT&T was split up, and the government had just dropped its antitrust suit against IBM due to the firm's loss of domination. Less than a decade later, in 1996, the three major TV networks account for only 53% of TV viewership, AT&T serves 55% of the long distance market and has virtually no local customers, and no computer manufacturer supplies more than 12% of the vital microcomputer market.

But this is not the end of media evolution. The third stage, which we have now entered, is that of cyber-media. The delivery platforms for telecommunications, media, and computer data distribution are converging, Internet-style, and provide decentralized, high-capacity,

multipoint-to-multipoint communication. This will enable individuals, for example, to directly select the programming they wish to download from video and information servers. Mass media becomes individualized.

In the stage of limited media, various forms of government regulation were set into place to limit the market power of the few players. (These restrictions also often had the effect of protecting the exclusivity of those firms). Examples are limits on broadcast station ownership, rate regulation, and limits on phone company activities. As media moved to the multichannel phase, many of these restrictions were changed or lifted. The Telecommunications Act of 1996 is a major example. Underlying the discussion over public policy in this area is the concern that regulatory liberalization has not lead to openness and competition but to a new level of media concentration. And indeed, as US media has moved into the second stage, its structure has changed rapidly. Recent years have witnessed the expansion of large media firms in the United States. One form of such expansion were mergers and acquisitions. Examples are the combinations of Time & Warner & Turner; Viacom & Paramount & Blockbuster; Westinghouse & CBS; GE & NBC; Capital Cities & ABC & Disney; News Corp. & Triangle & 20th Century Fox & Metromedia TV; Gannett & Multimedia; AT&T & NCR & McCaw; SBC & Pacific Telesis; GTE & Contel; United Telecommunications & Sprint & Centel; etc. Other media companies have grown through expansion. As a result, a small group of very large media firms have emerged with revenues up to \$75 billion range (AT&T). For purposes of comparison, General Motors, the largest automaker and largest US firm has revenues of \$155 billion.

This development lead to concern whether American media are (or would be, if this trend continued), controlled by a mere handful of companies capable of affecting public opinion and

the national agenda. Are American media becoming more competitive or more concentrated? This is an important issue, because the answer suggests which regulatory measures are appropriate. Other countries, too, are watching the American media market closely, not only because of the global role of US media firms, but also because US tendencies are often indicators for future developments elsewhere. (It should be noted, however, that no one claims that any firm in the US exercises a domination and political linkage similar to the ones existing in Italy (Berlusconi's Fininvest), Mexico (Televisa), or Brazil (Globo).)

The reasons why the answer to the empirical question is not an obvious "yes," given the increasing size of firms, are several. First, the media market as a whole, defined as the market for broadcast, cable, print, and content, has grown rapidly, from \$151 billion in 1979 to \$367 billion in 1993 (21% growth in constant dollars). If the computer industry is also included, as it should, the market as a whole grew from \$168 billion in 1979 to 615 billion in 1993 (83.5% growth in constant dollars). Hence, while the fish in the pond may have grown in size, the pond did grow, too. In the past, electronic mass media were clearly separated from the telecommunications industry by law, and from the computer industry by practice. With "convergence" a much discussed tendency, firms have been crossing the lines that once divided the media, telecommunications, and computer industry: major cable TV companies are beginning to offer local and mobile phone services; the Bell and long distance companies are involved in several video strategies in both delivery and content; Hollywood producers are entering TV networking; software providers are creating multimedia platforms; and print publishers are providing electronic information products.

The extent of the concentration is an empirical issue. We will therefore look at the concentration

trends in the various sub-industries.

I. Distribution

1. Broadcasting

Concentration of ownership of radio stations nationwide, while not substantial, has increased. In 1995, there were 11,700 U.S. radio stations. Of these, the largest group, Jacor, owned 54 stations, which does not seem a large number. From 1987 to 1995, the percentage of the industry's revenue produced by stations owned by the top 4 group owners increased from 8.1% to 11.7%, as regulatory ceilings were loosened. Regulatory ownership limits for radio stations have been progressively raised from 7 AM and 7 FM stations in the 1940s, to 12 AM and 12 FM stations in 1985, 18 AM and 18 FM in 1992, and 20 AM & 20 FM stations as of 1994. In 1996, nationwide ownership limits for radio stations were eliminated. This will likely lead to significantly larger radio station groups. But the national market is still significantly unconcentrated. On the other hand, local ceilings on radio station ownership were increased from 1 AM and 1 FM station per market to 2 AM and 2 FM stations in 1970, to a total of up to 8 stations per market (with a maximum of 5 FM or 5 AM) in 1996.

Regulatory limits on TV station ownership were raised from 3 stations in the 1940s, to 5 stations in 1953, 12 stations with a maximum reach of 25% in 1984, and to any number of stations with a maximum reach of 35% in 1996. No entity is allowed to own more than a single TV station in a local market, or to own both a newspaper and a broadcast station in a single market (unless this ownership combination existed prior to 1975). These bans were designed to preserve source diversity and competition for local advertising.

With the loosening of the limitations, concentration of ownership of TV stations nationwide increased from 1983 to 1995. The percentage of industry revenues earned by the top 4 owner groups grew from 15.2% to 22.2%. With the acquisition of CBS by Westinghouse, this will increase to roughly 25.8%.

2. Cable Television Distribution

In 1992, only 1.5% of homes passed by cable had a choice of more than 1 cable operator. There are no restrictions on the number of cable systems a single entity may own. However, the three major TV networks are barred from owning cable systems so not to be able to use gatekeeper power against their competitor. Prior to 1996 Act, FCC rules prohibited an entity from controlling collocated cable systems and broadcast stations.

The percentage of cable homes served by the largest MSOs increased from 1970-1996, creating a fairly concentrated national market. The top three firms are also vertically integrated into program supply and would have partial ownership in each other.

After Congress deregulated cable rates in 1984 almost completely, prices rose and quality fell, leading Congress to re-regulate cable rates again in 1992. The 1996 Telecom Act is phasing these rate regulations out again.

Competition to cable by other Multichannel Delivery Systems is by multichannel microwave distribution service (MMDS), a tiny industry but one holding great interest to local telephone companies; by direct broadcasting satellites (DBS), now becoming a serious service; by satellite master antenna systems (SMATV) a declining industry; and by phone-company efforts in fiber as well as copper-wire-delivered video.

II. Programming Sources

a. Broadcasting

The early history of radio was dominated by three networks: one by CBS and two by NBC. In 1938, 341 out of 660 radio stations were network affiliates. The government forced NBC to divest one of these networks, which became ABC. Today, commercial radio networks as a whole have been losing listeners, while the largest radio networks have grown slightly. The share of the market leader, Westwood One (which had acquired NBC's radio network) in radio audiences increased from 6% in 1991 to 9% in 1995 as a result of acquisitions. ABC's and CBS's shares increased slightly to 11% and 4%. Public radio network market also became more competitive, due to a government funding policy change in 1985. This enabled the emergence of competitive public radio networks such as American Public Radio (APR). By 1993, APR had surpassed NPR in both hours of programming distributed weekly and number of affiliated stations.

In television, as a result of competition from cable networks and new broadcast networks, the prime time audience of the big 3 networks (ABC, CBS and NBC) dropped from 92% in 1976 to 74% in 1983, and to 53% in 1996. TV network advertising retained a 21-22% share of the advertising market through the 1980s and 1990s.

Three additional Hollywood studios launched broadcast TV networks: Fox (20th Century Fox, part of the Murdoch group) in 1986 and UPN (Paramount, part of Viacom) and WB (Warner Brothers, part of Time Warner) in 1995. The entry of new broadcast networks forced the major networks to compete for affiliates.

In 1995, the three major commercial networks gained the right to enter the entertainment program production and syndication markets.

b. Cable Networks

The diversity of programming available to households with cable has expanded greatly. In 1995 alone, 60 new channels were offered to cable networks, adding to the more than 50 channels that were already widely available. However, none of the cable networks individually attracts even 2% of the nationwide TV audience. Cumulatively, from 1991 to 1995 the viewership of the top 8 cable networks increased from 6.9% to 8.8%.

The capacity of cable TV systems has dramatically increased. In 1976, only 24% of cable systems carried 13 or more channels, By 1993, 38% of cable systems carried 54 or more channels and 97% of cable systems carried 30 or more channels. As channels capacity increases, so does the number of programming services that can be carried leading to a continuing diversification of programs, (though not necessarily of program sources).

III. TELECOMMUNICATIONS

a. Local Service

The American telecommunications industry was characterized for a century by AT&T's near-monopoly. AT&T held onto its monopoly until the 1960s when regulatory and

technological forces combined to promote competitive entry. Even after the breakups, the various local exchange carriers, most of them still without much competition, accounted for 97% of access revenues in 1993. Competitive access providers (CAPs) accounted for less than 1%, but their share has been increasing, especially among business customers, in those states that permitted competition. The Telecommunications Act of 1996 permits local competition in all states, accelerates interconnection requirements, unbundling, and portability. The local exchange market will likely be subject to further competition by long distance carriers, wireless providers, and resellers.

b. Long Distance Telephony

In the 1950s technological developments in microwave transmission created opportunities for entry into the long distance market. Beginning in the late 1960s, regulation liberalized the entry of competitive carriers. At the same time, the incumbent AT&T was subjected to fairly strict regulation to accomplish entry. For example, interconnection arrangements were mandated. Eventually, the government brought an antitrust suit against AT&T, leading to the break-up of the world's largest company.

AT&T's market share fell considerably from 90.1% in 1984 to 55.2% in 1994. MCI and Sprint have about a quarter of the market. 500 other companies, mostly small resellers, account for 17%.

In the past decade, consumer prices declined rapidly in the 1980s, and stabilized in the mid-1990s, with AT&T the price leader. The 1996 Telecommunications Act permits RBOCs to enter long distance, subject to opening of the local market. This, together with arbitrage by

resale and new technological approaches such as “Internet phone service,” is likely to drive prices further down and prevent oligopoly.

c. Mobile Service

The past regulatory system created a duopoly in mobile communications under which customers in each major U.S. service area have a choice of two licensed cellular providers, one operating as a unit of the local telephone company, and the other as an independent provider. Most of the second providers have been bought out by the major telephone companies, leading to a fairly concentrated industry. Since mobile telephony is categorized as a non-essential service, it is lightly regulated, which allows for oligopolistic pricing when only two companies exist. However, imminent entry by several PCS (personal communications services) providers in each market will soon introduce considerable additional competitive forces.

IV. COMPUTERS

IBM had a dominant influence on the development of the U.S. computer industry. In 1969, on the last day of the Johnson Administration, the government filed an antitrust case against the firm. IBM's market share at the time was over 70%. But in 1984, the Justice Department dropped the law suit, contending that IBM's dominance was being eroded by technology. And indeed, IBM was losing out rapidly. While it retained its traditional strength in mainframes, that market was being rapidly eclipsed by microcomputers and workstations. Ironically, IBM itself accelerated this trend by introducing the IBM Personal Computer. In the micro-computer market the top manufacturer in 1994 was Compaq with 12.8% of the market.

IBM's share was only 10.2%.

Concentration shifted to the operating system allows other applications to be used. Today, the major operating systems by far are those of Microsoft. Partly due to its strength in operating software, Microsoft was able to reach market leadership positions in several important applications software. This led to a government antitrust lawsuit, and to an ongoing debate over the potential of competition.

V. THE CONVERGING COMMUNICATIONS INDUSTRY

The increase in revenues generated by the major companies in the information industry during the 1980s might suggest that the industry is dominated by a few increasingly powerful firms. But a closer look at the corresponding market shares for the largest of the communications companies of 15 years ago (AT&T, IBM, CBS, ABC, and NBC) reveals that these companies are indeed bigger, but control less of the overall information industry. Despite its divestiture, AT&T revenues increased from \$40 billion in 1979 to over \$75 billion in 1994, (before its voluntary second divestiture) yet its share of the information industry dropped from 24.4% to 11%. IBM revenues grew from \$22.8 billion in 1979 to \$64 billion in 1994, yet IBM's share dropped 4.2 points from 13.6% to 9.4%. CBS, with revenues almost static at over \$3 billion, saw its market share drop from 1.9% to 0.5% in the 1979-1993 period.

This is explained by the fact that the information industry as a whole has exploded between 1979 and 1993, with most of the growth occurring in the cable TV and microcomputer industries which virtually invented themselves in this period. As new giants and small firms

have emerged in these industries, the larger pie has been divided among more participants.

Most top firms in the overall information industry are the telecommunications companies, including AT&T, the largest of the information companies, followed closely by several computer systems and services companies, including IBM, Digital, and Unisys. The largest entertainment companies, Disney, Time Warner, and Capital Cities/ABC were ranked in 1994 at 18, 20, and 21 on the table with market shares at around 1%. Even as these firms grow, their share remains small.

*Largest American Communication and Information Firms
Comparative Company Analysis--Operating Revenues:*

Company	Year								
	1994			1987			1979		
	Rank	Mil S	%	Rank	Mil S	%	Rank	Mil S	%
AT&T ¹	1	75094	11.0	2	51209	15.9	1	40993	24.4
IBM	2	64052	9.4	1	54217	16.8	2	22863	13.6
Hewlett-Packard	3	24991	3.6	12	8090	2.5	7	2361	1.4
GTE	4	19944	2.9	3	15421	4.8	3	8724	5.2
BellSouth	5	16845	2.5	4	12269	3.8	NA	NA	NA
Bell Atlantic ²	6	13791	2.0	6	10298	3.2	NA	NA	NA

¹ After AT&T's 1996 Divestiture of its computing and financing divisions, it has revenues of about \$49 billion (7% of the information services market).

² After the 1996 merger between Bell Atlantic and Nynex, the combined company will have revenues of \$27.1 billion.

Digital Equipment	7	13451	2.0	9	9389	2.9	8	1804	1.1
MCI	8	13338	1.9	17	3939	1.2	37	95	0.1
NYNEX ²	9	13307	1.9	5	12084	3.7	NA	NA	NA
Sprint	10	12661	1.8	NA	NA	NA	NA	NA	NA
Ameritech	11	12570	1.8	8	9536	3.0	NA	NA	NA
SBC ³	12	11619	1.7	13	8003	2.5	NA	NA	NA
U S West ⁴	13	10953	1.6	11	8445	2.6	NA	NA	NA
Compaq	14	10866	1.6	38	1224	0.4	NA	NA	NA
Pacific Telesis ³	15	9274	1.4	10	9131	2.8	NA	NA	NA
Apple	16	9189	1.3	23	2661	0.8	NA	NA	NA
Nortel	17	8874	1.3	14	4854	1.5	9	1268	0.8
Disney ⁵	18	8529	1.2	21	2877	0.9	14	797	0.5
Unisys	19	7400	1.1	7	9713	3.0	5	2786	1.7
Time Warner ⁶	20	7396	1.1	16	4193	1.3	6	1698	1.0
Cap Cities /ABC ⁵	21	6379	0.9	15	4440	1.4	27	368	0.2
TCI	22	4936	0.7	30	1709	0.5	40	64	0.0

³ After the 1996 merger of SBC and Pactel, the combined company will have revenues of \$20.9 billion (3.1 % of the information services market).

⁴After the 1996 merger with Continental Cablevision, the combined company will have revenues of \$12.1 billion.

⁵ After the 1996 merger of Disney with CapCities/ABC, the combined company will have revenues of \$14.9 billion (2.1% of the information services market).

⁶ After the merger of Time Warner and Turner Broadcasting Systems, the combined company will have revenues of \$9.3 billion (1.4% of the information services market).

Dun & Bradstreet	23	4896	0.7	18	3359	1.0	16	763	0.5
Donnelley	24	4889	0.7	24	2483	0.8	15	780	0.5
Sun Microsystems	25	4690	0.7	54	538	0.2	NA	NA	NA
Microsoft	26	4649	0.7	57	346	0.1	NA	NA	NA
Gannett	27	3825	0.6	20	3079	1.0	18	690	0.4
CBS ⁷	28	3712	0.5	22	2762	0.9	4	3242	1.9

VI. THE SCOPE OF CONCENTRATION

The advent of multichannel media has increased the diversity of delivery platforms and content available to users. As a result, competition is taking over the role that was formerly served by regulation. Nonetheless, market power persists in several markets.

Local media markets remain concentrated, because economies of scale exist which make entry difficult for additional telephone carriers, cable companies, and newspapers. Thus, 98.5% of homes have no choice in cable providers, until recently the only multichannel delivery medium generally available. Local telephone competition is emerging only now. There are few multi-newspaper towns; the percentage of one-newspaper cities has increased from 43% in 1910 to 87% in 1940, to 98% today. With the removal of cable/telephone company cross-ownership restrictions in the Telecommunications Act of 1996, it is likely that cable and telephone companies will begin to compete in one another's markets in many local areas, substituting

⁷ After the merger with Westinghouse, the combined company will have media revenues of \$5.7 billion (0.8% of the information services market).

economies of scope for economies of scale. In addition, wireless delivery services for voice and multichannel video are offering increasing competition in these markets. Electronic delivery will also compete as an advertising vehicle with local newspapers, but that will only raise entry barriers to other newspapers.

The market for computer operating system software also remains highly concentrated. This is a result of the need for a platform for software applications. This problem is likely to become a greater source of concern as the television and telephone will be based on computer "cybercommunication" networks. Domination of computer operating systems (and similarly of web browsing software and set top boxes) may lead to control over the bottleneck through which all media must pass to enter the homes of consumers. Whether such market power of Microsoft can be maintained over time, or whether it is overcome by alternative systems of direct access to application programs stored remotely is largely an empirical question which will require continuous observation in an extraordinarily dynamic technological environment.

The third area in which concentration has been a traditional point of concern is where vertically integrated firms are attempting to leverage market power in one market in order to dominate another market. In the cable TV industry, ownership of cable distribution systems is concentrated in the hands of a few companies which also have substantial interests in many cable programming networks. This problem is likely to become less important as the existence of competing delivery systems weakens these firms market power in the conduit market. Without market power in one market to leverage into another, extensive vertical integration rarely makes economic sense. While there is much discussion of the synergies created by vertical mergers, without market power at some stage of production these synergies tend to be illusory. Hence,

competitiveness in all segments of the communications industry is likely to reduce the economic logic for vertical integration, and lead to more focused firms.

Two regulatory approaches towards vertical integration have been attempted in the U.S.: structural and behavioral. In the limited media stage, Congress, the FCC, and the antitrust enforcement agencies engaged in structural regulation. The FCC enacted the financial interest and syndication rules, prohibiting networks from owning shares of the firms which provided their programming. The Justice Department instituted suits against AT&T and Paramount, reaching settlements which required the movie studios to divest themselves of movie theaters, and splitting AT&T into eight parts.

The second regulatory approach the US has taken towards vertical integration has been behavioral regulation. The existing structural regulation that prevented the big Hollywood movie studios to own theaters, and the three TV networks to own film production, have been repealed or allowed to expire. Rather than barring formation of vertical integration corporate structures, the 1992 Cable Act sought to limit its effect by providing availability of program channels to competing media, and access of broadcasters to cable delivery. The general approach of the 1996 Telecom Act, the regulatory capstone of the multichannel media stage, continues this trend of substituting behavioral regulation for a structural one.

Is this approach relevant to the cyber-media stage? In that stage, the lines between transmission systems will blur as telephone communications, mass media transmissions, and computer data exchanges are combined over an integrated, interconnected system of switched digital broadband networks linked to video servers. In such a context, to continue use of a regulatory system which places different functions in a discrete regulatory box and highlights the

distinctions between them with cross-ownership prohibitions and other differentiated treatment would be unworkable. It will also be largely unnecessary.

In the stage of limited media, regulation was justified by the principle of scarcity. When electronic media were so limited that only a few could gain access, regulation was required to ensure that those few served the needs of society and did not accrue undue benefit from their privileged position. In the stage of multichannel media, regulation was to ensure that those with control over the gateways to the multichannel delivery systems did not leverage this power by excluding competing providers from subscribers homes.

In the cyber-media future, scarcity and gatekeepers will be largely eliminated, as switched broadband transmission networks will enable any number of parties to connect to one another either to communicate or to transmit programming without the aid of an intermediary. The future will not be one of 5,000 channels. Rather, it might well be, in the extreme, a future of *one* channel, a personalized channel for each individual, composed of various content components, assembled by personal electronic agents seeking a favored constellation of programs. There will no longer be an economic rationale for mass audience channels once cyber-media enables advertising to be decoupled from content and targeted to specific viewers or classes of viewers.

In such an environment, it is unlikely that media conglomerates combining all aspects of media will be successful in the long term. Without focusing and divestment, different divisions of the same company would have competing objectives. To act with optimal efficiency in an open competitive environment, each segment of a company must be willing to buy, sell, or joint-venture with companies that compete with its parent company, if the rival offers better terms.

Some companies are likely to follow a "systems integration" approach, in which they do not own or operate the various activities of production and transmission, but rather select optimal elements in terms of price and performance, package them together, manage the bundles and offer it to the customer on a one-stop basis. This is something that does not require an actual physical presence at each stage or region; entry barriers are lower in consequence.

The primary rationale for regulation has been the need to compensate for the imbalance of power between huge monopoly suppliers and small and technically ignorant users. Regulation inserted the political and administrative process to alter market outcomes and, in return, protected the dominant firms from competition. In a converged environment with full choice, the imbalance will change. Full-service systems integrators, in order to compete with each other for customers, will act as users' agents, seeking to get users the best possible deal and thereby protecting them against carriers' under-performance and power. This will largely resolve traditional problems of price, quality, security, privacy, and content diversity. This does not mean an entirely libertarian system yet. Left for regulation, for some time, would be to create or ensure interconnection among networks, and to establish support mechanisms for universal connectivity. Since the media of the future will be more essential than ever to society -- not just for entertainment, but for information, education, social services, work and participation in society and the economy -- the value to society of having all its members connected will be more important than ever. Thus government is not likely to disappear from this area.

It is therefore naive to argue, as many Internet-enthusiasts do, that regulation becomes "impossible." True, determined users can undercut any system. But as Internet applications will create platforms for vast economic transaction, it seems highly unlikely that society will not

extend the scope of its controls, however wise or misguided they are, to the electronic medium, and to the major players serving or using that medium. The notion that one cannot control the Internet is ultimately deeply pessimistic, because it is one of technological determinism in which society is seen as helpless. This is incorrect empirically and objectionable politically. We should choose liberty because we want to, not because we have to. To do otherwise would substitute the power of business and government by the power of technology, and inevitably invite back government regulation in time.

The United States has invested, at considerable political cost and effort, in a diverse communications structure. Today, the results are a dynamic market with considerable technological, artistic, and business entrepreneurialism. Users have more choices and more tools for production, and the newest media system, the Internet, is a marvel of decentralization, democratic spirit, and entrepreneurialism. In that environment, traditional market structures are being eroded and recast. Major firms are trying to extend their activities vertically and horizontally. But as they grow they also overlap and compete. There is no evidence of dominance comparable to the old triumvirate of AT&T, IBM, and ABC/CBS/NBC. And should some dominance continue or be newly established, and not be contained by competitive market forces, the regulatory process will no doubt be invoked again.