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ABSTRACT

Cable television (CATV) promises to have the characteristics of a significant technology that will influence all of us in our personal lives and business endeavors. It will provide program diversity and new (nonbroadcast) services to households throughout the country. It will enable the viewer to interact with the program source via telephone. CATV channels will be leased by such diverse groups as merchandisers, news agencies, investment houses, government organizations, and educational institutions. Another broad class of CATV services will be pay TV, used not only for sports events and first-run films but also for adult education, specialized programs, and cultural events. Pay TV will be an essential feature to create the consumer demand for CATV in major metropolitan areas, and it will provide the economic base to develop the market for other types of interrogation and response services such as remote merchandising, information retrieval, interactive education, and home security. A number of home communications experiments are planned for several communities. The two most pervasive impacts will be the substitution of communications for transportation and the increased use of the video medium for print. (JK)

THE GROWTH PROSPECTS FOR CATV

by

Robert W. Peters

I am pleased to have the opportunity to address the Information Industries Association, to discuss the growth prospects for CATV and to learn more about the interface between your industry and the CATV business.

Significant new technologies (like the automobile, the telephone, the computer, and television) tend to influence a society's life style and business activities in three successive phases: (1) the new technology provides a better way to perform existing activities; (2) once solidly entrenched, the new technology then provides a vehicle for performing new activities beyond the scope and capability of existing technologies; and (3) the new technology eventually allows the development of new life styles and new ways of conducting business.

Although we have seen only the genesis of CATV, it promises to have the characteristics of a significant technology that will influence all of us in our personal lives and business endeavors. During the 1950s, community antenna television--the predecessor to cable television--was a technique for improving the reception of existing television stations in mountainous areas of the United States. As network affiliates and independent television stations emerged in the major metropolitan areas during the 1950s and early 1960s, CATV also provided a means of bringing these stations into many smaller communities that did not have sufficient population to support an adequate number of TV broadcasters.

It was at this juncture that the TV broadcasting industry appealed to the FCC to halt the indiscriminate carriage of broadcast signals by CATV systems, because it envisioned that its viewing audiences would be fragmented by the influx of programming from distant markets and that its revenues and profits would suffer accordingly. After a series of va cillating regulatory policies pertaining to CATV by the FCC and a long series of court decisions, the U.S. Supreme Court decreed in June 1968 that the FCC had authority over CATV. In December 1968, the FCC restricted the carriage of TV signals from any top 100 TV markets into any CATV system operating within 35 miles of the center of any other top 100 TV markets. In Cable Television Report and Order issued on February 3 of this year and made effective on March 31, the so-called CATV freeze was lifted and CATV systems can now carry a modest number of distant signals.

As a carrier of imported TV broadcast signals, CATV is simply a supplement to broadcast television. It is a better way to provide programming diversity to households outside the 25 or so largest metropolitan areas in the United States. Looking at it quantitatively, a typical U.S. household can receive an average of five television stations off the air. If the nation were completely wired and CATV carried broadcast signals in accordance with the recent FCC ruling, the average number of TV signals would increase to eight. In the near future, the primary selling point of CATV will continue to be increased program diversity, namely access to more TV signals.

However, CATV has the characteristics and capacity to provide new services beyond the scope of broadcast television. The FCC has conveniently called these new features "nonbroadcast" services and is encouraging their development. The leading edge of these novel services is in evidence today in the form of automated information channels and local program origination.

As of mid-1971, almost 60 percent of the 2,600 CATV systems in the United States had some form of automated origination, including time and weather information, a news ticker, or a stock market ticker. More than 20 percent of the systems were scheduling 2 to 5 hours of local origination daily, including presentation of local live shows and prerecorded film and video tape material.

However, the industry as a whole has not yet aggressively pursued the development of nonbroadcast services. Three specific reasons for this reticence are: (1) most of the scarce resources of this industry have been devoted to constructing new cable distribution facilities, acquiring additional franchises, and attaining more favorable federal regulation; (2) there has been considerable uncertainty about CATV regulation, specifically regulation pertaining to local programming; and (3) there has been confusion about selection, cost, and operation of video production equipment resulting from a continuous stream of new, lower cost products. Perhaps most important, however, has been the pervasive sentiment that local origination was supposed to be like broadcast television.

Almost as if to demonstrate that local origination was a losing proposition, some operators pursued a thoroughly amateurish type of programming. Others invested far too much money in facilities and operations relative to the level of market acceptance. Also, most U.S. CATV system operators have made little or no attempt to sell advertising. As painful as these experiences were, they constituted an important ingredient in understanding the characteristics of local origination, and the industry is better off today as a result.

Local origination might best be described as "people to people" communications or "neighborhood broadcasting." The most significant attributes of CATV program origination are its ability to appeal to selective viewer interests and its ability to offer participation by the community.

The viewer can relate to and interact with the material being presented whether it is watching local news, a municipal government meeting, or a local school athletic event; learning how to shop for groceries economically or how to select appropriate investment opportunities; or even play a game such as bingo or betting on horse races.

Although this video programming involves the viewer more than broadcast television does, it still tends to be a one-way street. However, as the viewer becomes more comfortable with this new medium, he is expected to use the telephone as the return path to ask questions, to respond to questions, and otherwise interact with the program source. As two-way broadband cable distribution systems are installed, the program moderator will be able to elicit immediate reactions to the local issues being discussed and to immediately display the concensus of the viewers. In educational programming, the instructor will be able to ask pertinent questions and get immediate feedback to ascertain the progress of the geographically dispersed students.

The FCC has established a number of policies to ensure that this new medium develops in a manner consistent with the public interest in the largest 100 TV markets, where most of the population of this country lives. First, all systems must have a capacity of 20 channels. Second, for each TV broadcast channel carried, the system must make available an equivalent bandwidth for nonbroadcast uses. Third, the system must set aside a channel for public access and one each for local educational and municipal government use. Fourth, the remaining channels may be leased and additional channels will have to be made available as the market demand for such channels emerges. Finally, the operator must incorporate the potential for reverse direction signaling from subscribers which can be installed without a significant retrofit cost.

As CATV continues to develop, it is expected that the selection of program content will be separated from CATV system operation. Much of the programming, including entertainment, education, and information, will be developed and supplied by independent organizations and will be presented on channels leased from the CATV operator. Merchandisers will lease channels to present newly developed programs on such topics as fishing or sewing complete with unobtrusive advertising. News agencies and investment houses will lease channels to present up-to-the-minute news and investment data, respectively. Governmental organizations will lease channels to provide timely welfare, legal, and health information for selected socioeconomic groups. Educational institutions will lease channels to present programming for the preschooler and the high school dropout, as well as for those interested in continuing education or in attaining new skills. Finally, nonprofit foundations are likely to experiment with new forms of instructional programming.

One broad class of CATV services that is expected to develop during the 1970s is premium TV programming for which subscribers will pay an additional fee. Pay TV is a natural extension and upgrading of the programming currently available on commercial TV. First run feature films and spectator sporting events free of commercial interruptions will be offered at $2 to $3 per household per activity. This represents an attractive compromise between watching generalized TV programming at an indirect cost of about 20 cents per night or traveling to public places of entertainment at a direct cost of $3 to $10 per person. Much of the former movie audience--particularly people over the age of 30--is currently unavailable to the motion picture producer because of the cost and inconvenience of attending theatres.

The U.S. CATV industry has wisely de-emphasized the pay TV aspects of cable during the regulatory battle over the importation of distant signals. However, now that the basic ground rules regarding the

cariage of broadcast signals appear to have been settled, pay TV will soon emerge as a significant near term service of CATV.

Although pay TV will probably be promoted initially on the basis of first run motion pictures and spectator sporting events, once the incremental fee concept is accepted for mass audience programming, it is expected that more selective types of educational and entertainment programs such as tutorial courses, adult education, specialized programs for physicians and attorneys, and cultural events will be marketed. Pay TV programming in turn will lead an increasingly affluent consumer market to demand even greater title selectivity, which can be supplied only by video casettes in the home.

In the near term, pay TV services probably will be provided on a per channel access or subscription basis, which is a less costly approach from an investment standpoint because existing one-way systems can be used. In addition, this will probably be a more acceptable procedure to consumers than paying on a per program basis until the concept of pay TV becomes commonplace. However, several techniques are being developed so that a "blackbox" can be placed on the subscriber's TV set and he can insert a card or similar device to gain access to certain programs. This technique can also be accommodated in existing one-way distribution systems.

Although techniques exist for implementing a per program charge on a one-way system, the most efficient technique is to use a two-way cable distribution system with subscriber addressing capability. As CATV moves into the major metropolitan areas in the middle to late 1970s, it is likely that most systems will be constructed with two-way capability and that the subscribers will pay for premium programming on a per program basis.

Pay TV will be an essential feature to create the consumer demand for CATV in major metropolitan areas, and it will provide the economic

base to develop the market for other types of interrogation and response services such as remote merchandising, information retrieval, interactive education, and home security.

By the end of 1982, it is expected that there will be about 26 million CATV households which will represent about one-third of all U.S. households. In that same year, the industry revenues should be about $3.9 billion compared with about $360 million in 1971. This is a 25 percent average annual growth over the period. In 1982, only 60 percent of the industry revenues will come from conventional CATV services, and the remainder will be derived from advertising, premium TV, channel leasing, and program production provided by CATV system operators. Entertainment and information program suppliers could easily generate revenues of $400 million to $500 million from CATV by 1982. These projections appear reasonable in light of funds that consumers will have available for home entertainment and educational programming, the increase in leisure time, and the expected advertising expenditure in the early 1980s.

Although extensive interactive broadband communication services are not expected to be a "mass-market" phenomenon until the late 1970s or early 1980s, a considerable amount of system development, software preparation, and associated experimentation has to take place to have an appropriate mix of acceptable services available for market at that time. Although the technology associated with interactive services is no mystery, problems will be experienced as systems are actually installed. In addition, the financial and economic characteristics have been analyzed only on paper, and the questions of software, as well as of consumer acceptance and usage, have barely been touched.

A number of two-way interactive home communication experiments have already been conducted, and more are being planned for the future. Thus far, very small scale experiments have been conducted in Los Gatos,

California, by Teleprompter Corporation; in New York City by Sterling Manhattan Cable Television; in Overland Park, Kansas, by Telecable Corporation; and in Reston, Virginia, by Mitre Corporation.

Several more extensive home communications experiments are planned in the near future. Theta-Com, a joint venture of Teleprompter Corporation and Hughes Aircraft Company, will install a prototype home communication system in up to 1,000 homes in El Segundo, California, beginning this year. American Television & Communications plans to install interactive terminals in about 2,500 homes in their Orlando, Florida, system during the next year. A third company, LVO Cable, has announced that they will install a prototype security system in their systems in Carpentersville and Crystal Lake, Illinois. A fourth, but much smaller test, will be conducted in Jonathon, Minnesota (a planned community outside of St. Paul) using a system developed by General Electric Company. The U.S. Department of Housing and Urban Development is partially funding the experiments in Jonathon.

Although most people who have expressed an opinion on the future of broadband communication services will concede that software is the key to market penetration, little or no attempt has been made to integrate the various program suppliers into the planning phase. Let me suggest that you not wait for an invitation, but that you go out and lease CATV channels particularly in areas where your current products have a high penetration and that you experiment with existing video material and reformat it accordingly to be responsive to the characteristics of this new medium. Do not expect the CATV operator to bankroll your software activities; he has massive capital problems of his own. To reduce the risk exposure in this currently tenuous market and to test the consumer demand for a wider choice of experimental programming, consortiums of noncompetitive, complimentary software and hardware organizations should be formed. At this point in time, the primary objective should be to understand this new

medium, to formulate a programming strategy that will generate an audience, and, above all, to keep your options open for the future.

Two of the most promising types of experiments that we see in the near term concern interactive merchandising and educational programming. Both experiments could use CATV system facilities as they are now configured and could be expanded to include an interactive two-way capability as it becomes available.

The developments in CATV entertainment and information programming should not be viewed in a vacuum. A number of seemingly unrelated activities are occurring that will help to define the technology and to demonstrate the economics of a series of communication services which can then be transferred to the mass consumer market via CATV in the 1980s. These include the information-communication system installed at Walt Disney World by RCA and Ameco; Telemart, the ill-fated remote shopping venture in San Diego; Ticketron, the nationwide electronic box office; the General Electric intercity closed circuit television network; the showing of first run movies at a fee in hotels and motels; and the video system installed in the World Trade Center in New York.

With an increasingly hazy crystal ball, the third phase of the development of this new technology, namely changing life styles, can be envisioned for the middle to late 1980s. The two most pervasive impacts will be the substitution of communications for transportation and the increased use of the video medium in place of the printed medium. Historically, people have had no choice but to travel to interact and to read to be informed. Inactive broadband communications greatly expands the choices available to the individual. Like any new technology, however, the advent of broadband cable communications also possesses some real threats such as the invasion of privacy and the prospect of a society of urbanized and suburbanized hermits.

In conclusion, it should be recognized that the video medium has an insatiable appetite for novelty; and if this industry (including hardware suppliers, entertainment and information program producers, and broadband communication system operators) can deliver the goods at a price the consumer is willing and able to pay, the public interest will be served and the suppliers will prosper.