government has an excellent opportunity to regain lost ground and allow phone company entry into the cable TV business to finance the fiber network, but with every delay the Pacific Rim and Europe stand to gain.

References

[1] J. Markoff, "Here comes the fiber-optic home," The New York

Times, Sec. 3, p. 1, Nov. 5, 1989. [2] P. W. Shumate, "Optical fibers reach into homes," *IEEE* Spectrum, p. 43, Feb. 1989.

[3] S. Weinstein, "Telecommunications in the coming decades," *IEEE Spectrum*, p. 64, Nov. 1987.

[4] R. K. Snelling, J. Chernak, and K. W. Kaplan, "Future fiber access needs and systems," IEEE Commun. Mag., p. 63, Apr. 1990. [5] C.N. Judice and D. LeGall, "Telematic services and terminals:

Are we ready?," IEEE Commun. Mag., vol. 25, p. 19, July 1987 [6] "Netting the future — Survey of telecommunications." *The Economist.* pp. 28-33, Mar. 10, 1990.

[7] D. Brenner, "These 'highways' are wide, underused," Los Angeles Times, p. B7, Feb., 5, 1990.
[8] T. Bell, "Technology '88 — Communications," IEEE Spectrum

[9] S. O. Johansson, "Optical communication and new services in Sweden - present and future," presented at European Conf. Optical Communication (ECOC), Gothenburg, Sweden, Sept. 1989, pap. MoPI-1

[10] C. Goudier, "La bataille du cable," *Challenges*, p. 24, Mar. 1991. [11] "Commerce Dept. rejects US West venture," *Wall Street J.*, p. A4, June 6, 1990; also M. Hosenbail, "Soviet cable plan spurs fight in U.S.," Washington Post, p. C1 and C8, Mar. 15, 1990.

[12] "Joint telecommunications ventures," Business in the USSR p. 37, Mar. 1991.

[13] G. Stix, "Whatever happened to videotex?," IEEE Spectrum p 16, Jan 1988; and C. Fletcher, "Videotex: return engagement," IEEE

Spectrum, p. 34, Oct. 1985.
[14] U.S. Congress, House Committee on Government Operations, Maintaining the network: rural telephone service and FCC actions, House Rep. 97-922, U.S. Government Printing Office, Washington,

[15] G. Stix, "Technology '90 - Data Communication," IEEE Spectrum, p. 37, Jan. 1990.

[16] U.S. Congress, Office of Technology Assessment, High Perfornance Computing and Networking for Science — Background Paper, OTA-BP-CIT-59, U.S. Government Printing Office, Washington, DC, Sept. 1989.

[17] D.J. Atkin and M. Starr, "The US Cable Communications Act reconsidered," *Telecomm. Pol.*, p. 315, Aug. 1990. [18] T. E. Bell, "Technical challenges to a decentralized phone

system," IEEE Spectrum, p. 32, Sept. 1990.



MUSHIN LEE

Social Responsibilities of the Telecommunications **Business**

Concerning corporate social responsibilities, K. Davis and W. C. Frederick wrote in [1, pp.41-

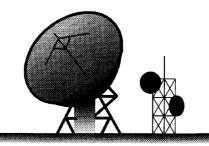
". . . society has pushed business to respond to its demands. For that reason, the emphasis has shifted toward corporate social responsiveness. In other words, what can business firms actually do to satisfy the insistent social demands?"

What are the social responsibilities of telecommunications corporations such as American Telephone and Telegraph, Korea Telecom Authority, and Nippon Telephone and Telegraph? Are there social issues that are appropriate for telecommunications corporations' involvement?

In [2, pp. 14-15], a content analysis of telecommunication corporation annual reports

The author is with the Korea Advanced Institute of Science and Technology, Taejon-shi, 30571, South Korea.

IEEE Technology and Society Magazine, Summer 1991



(from 1981-1983) was executed, and surveys inquiring about corporate social response activities were sent to 200 firms. The businesses studied indicated seven areas of concern. A list of these areas with comments follows.

▼ Environmental Concerns (pollution control, land reclamation)

The telecommunications business may be concerned comparatively less about environmental problems, as the telecommunications "technologies...are in harmony with nature...are environmentally sound, nonpolluting, and nondestructive of the ecology" [3, p. 3].

▼ Resource Conservation (efficient use, recycling)

Usual efforts towards resource conservation are not adequate for the telecommunications business. Post-industrial society calls for revolutionary improvement of productivity

0278-0097/91/0006-0029 \$01.00 @1991 IEEE

TELECOMMUNICATIONS BUSINESS

through computer and telecommunications technologies, hence research and development of such technologies in this direction is one of the primary responsibilities of telecommunications businesses.

▼ Employee Concerns (equal opportunity, health and safety, quality of work life)

"Job security," "employee participation," and "employee development" should be added to this category [1, p.15].

▼ Human Rights Concerns (minority development, urban renewal)

"Employee privacy" should be added to this category [1, p.15]. The telecommunications business must protect the privacy and ownership of information, and prevent illegal access to it.

- ▼ Consumerism (product safety, truth in advertising, fair credit practices)
- ▼ Community Concerns (enhancement of education, health care, the arts, recreation)

▼ Cooperation with Local, State and National Government

Consumerism, community concerns and cooperation with government are common to any business.

One important category is left out of the Smith-Hay categories: "global pressures, demands, and needs" [1, p. 17]. As noted in [1]: "business is a worldwide institution," and the telecommunications business is more so. Telecommunications corporations should do something for the world's poor, for those living "closer to the margin of existence." As noted in [1] "one way to help is to stimulate economic growth in the less developed regions." At the same time, these corporations should "...also show a sensitivity to...cultural traditions and social needs" of these regions [1, pp. 17-18].

Three of the issues raised in the discussion above are uniquely related to the telecommunications business. They are: 1) R&D in telecommunications technologies, 2) privacy protection and information security, and 3) global concerns.

R&D in Telecommunications Technologies

"It is technology that has created this dilemma, and yet the only way out of the dilemma is more technology" [3, p. 3]. The primary respon-

sibility of this "more technology" in information, computers and telecommunications rests on the telecommunications and computer businesses.

The telecommunications business should also respond to the social demand of helping educate elite scientists and engineers in telecommunications technologies. This is different from the "employee development" mentioned above, as the support would be mainly offered to educational institutions. It is also different from "enhancement of education" of Smith and Hay, as the support is not limited to near communities, and is in the rather narrow areas of related technologies.

Privacy Protection and Information Security

The privacy protection and information security issue has been called the problem of "human goldfish" [3, p.199]. The telecommunications business, whose mission is to store, process and carry information, has a primary responsibility with respect to this issue. The protection of information ownership and privacy against third parties is necessary, whether the third party is government, major institutions, political groups or criminals.

In this area, the development of business and private cryptographic methods and equipment is essential.

Global Concerns

Telecommunications technologies link people all over the world. Helping poor people around the globe is a moral imperative for the telecommunications business.

Economically, telecommunications companies should stimulate economic growth in the less developed countries through direct and/or indirect investment, purchase of their goods, and active cooperation with national/international organizations.

Socioculturally, they should respect cultural traditions of other peoples.

They should also realize that they are required to protect foreign peoples as well as their own people from destructive transborder information flow threatening national defense or violating fundamentally different values and cultures.

References

[1] K. Davis and W.C. Frederick, *Business and Society*, 5th ed. New York: McGraw-Hill, 1984.

[2] R.D. Hay, E.R. Gray, and P.H. Smith, *Business and Society* 3rd ed. Cincinnati, OH: South-Western, 1989.

[3] J. Martin, Telematic Society: A Challenge for Tomorrow, Englewood Cliffs, NJ: Prentice-Hall, 1981.