



High Technology and Low-Income Communities: Prospects for the Positive Use of Advanced Information Technology

edited by Donald A. Schön, Bish Sanyal, and William J. Mitchell (Boston: Massachusetts Institute of Technology) 1999. 411 pages.

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The rapid advancement of high technology – especially information technology — has changed the way many Americans live, work, and learn. But not all of us have benefited equally. The goal of *High Technology and Low-Income Communities* is to shed light on the gap between the technology haves and have-nots. This compendium of sixteen articles by academics and practitioners is the product of a colloquium series sponsored by the Department of Urban Studies and Planning at the Massachusetts Institute of Technology in the spring of 1996. Beginning with clear and well-organized introductory notes, the book divides the articles into three parts: Setting the Context (containing 5 chapters); Strategies of Action (10 chapters); and Conclusions (the final chapter). The book is at once cohesive, informative, often insightful, and at points, inspiring.

The introductory section (Preface and Introduction) lays a solid foundation for the remainder of the book. Two distinct groups provided the initiative for the colloquium: faculty and students with an interest in the use of information technology and planning; and those concerned with central cities of the U.S. The introduction successfully links both these two groups and their contributions together by describing the basic elements of the discourse and providing a brief synopsis of the readings.

The five articles in Part I: Setting the Context provide the major portion of the theoretical framework for the book as a whole. Both Manuel Castells' and Peter Hall's articles direct our attention to the role that information technology and employment in this sector play in integrating elites in upscale areas, while increasingly marginalizing those with low-incomes to undesirable locations. While elites with similar interests can easily discover one another via the internet, even across large distances, marginalized people find themselves even more locked out than ever because of the high barriers to entry to high-tech careers. With access to the best high-tech jobs, elites colonize prime space, both in the city and in the suburbs, along with the networks that connect the two areas, leaving the poor further isolated. Echoing these concerns, Julian Wolpert suggests that several familiar and persistent culprits, such as unequal access to transportation, education, work readiness and computer skills, all contribute to lack of access to the high-tech world by non-elites. Taking a more optimistic view of technology, William Mitchell suggests that access to information and technology can help ameliorate the adverse effects of marginalization without suggesting that this utopian view of technology will occur automatically. Using past precedent with other technologies as an indicator, Leo Marx cautions against expecting information technology to change the social and economic disparities that are part and parcel of modern life. As a group, these five articles offer a pessimistic view of the prospects for marginalized people in a society that is becoming ever more dependent on informa-

tion technology, and in so doing, provide a justification for discussion of the subject.

The second part of the book describes Strategies of Action designed to side-step the worst-case scenarios envisioned by critics of the digital society. Most of the articles in this group describe case studies in which direct interventions with people in marginalized communities have produced positive results. This round of article begins with William Mitchell's call for digital access in schools, community centers, and libraries throughout the country. The following article, by Joseph Ferreira, makes the important point that in order to have an impact on their communities, neighborhood groups must have access to information about their communities. Because of this, it is crucial that government agencies organize databases in a way that allows non-experts to understand them. Similarly, Michael Shiffer discusses alternative strategies (including the involvement of a human facilitator) to enable average and marginalized citizens to communicate their ideas using information technology.

In chapter 9, Alice Amsden and Jon Collins Clark ask the question, "Could Bill Gates have succeeded if he were black or impoverished?" They provide evidence that in spite of relatively low economic barriers to entry for software developers in terms of start-up capital, the very high barriers to entry in terms of education and human capital make it unlikely that a member of any group that is marginalized will be able to strike it rich in the information technology field.

But this does not mean that there cannot be successes. The final set of articles in the book provides a series of case studies demonstrating that computers can make a difference. In essence, these articles provide anecdotal evidence to support William Mitchell's contention in chapter 4 that access to information technology can help to ameliorate the negative consequences of marginalization. Jeanne Bamberger describes how disadvantaged children in the Boston area used computer design programs to facilitate their learning at a specialized lab. Michael Resnick, Natalie Rusk, and Stina Cooke described a computer clubhouse, in which children and young people used computers to express themselves fluently with the new technology. Integral to the clubhouse's strategy and success were openness to alternative, collaborative models of learning in which learners became both designers and creators (rather than merely consumers) of computer-based products. Bruno Tardieu recounted his experience as the co-creator of a "street library" that included a traveling

computer — carried in the back of a car, or on the subway, and drawing its electricity through a long extension cord plugged into the outlet of a member of the neighborhood hosting the computer. Similarly, Alan and Michelle Shaw tell how neighbors used a community network system to join together to benefit themselves, each other, and the neighborhood itself. Sherry Turkle brings a philosophical view to the case studies in Part II, emphasizing the importance of putting information into the hands of the people. Rounding up this section, Anne Beamish provides a discussion of the various models of community computing, along with consideration of their relative advantages and disadvantages.

The final chapter in the book, by Bish Sanyal and Donald A. Schon, provides a summary and review of the readings. This chapter draws out a variety of important themes that the readings covered, and suggests directions for the future of information technology in low-income communities.

Both academics and planning practitioners will find value in this book. The fact that it brings together both groups to address the role of high technology in low-income communities is significant in and of itself. The introductory chapters provide some important insights related to the theoretical issues underlying the impact of information technology on marginalized people. The case studies are informative, and at times, even inspiring, both in the Herculean efforts made to introduce information technology where it had previously been unavailable, as well as in the impressive individual successes that sometimes resulted. The lesson here is that information technology can make a difference. One is left, however, with the realization that these differences will most likely be made one case at a time, and the wish that there were enough facilitators to introduce information technology to marginalized people wherever they are.

Reviewer Biography

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