

How to Create Disability Access to Technology

BEST PRACTICES IN ELECTRONIC
AND INFORMATION TECHNOLOGY
COMPANIES

Anthony Tusler

WORLD INSTITUTE ON DISABILITY

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Best Practices in Electronic and Information Technology Companies

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How to Create Disability Access to Technology:
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Information Technology Companies
by Anthony Tusler

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Introduction

This booklet is for you if:

- You want to make your technology company's products work better for people with disabilities, and you want to pick up the torch and become the company champion for creating accessible products and services.
- You want to create a position for such an Accessibility Champion at your company.
- Your company recognizes the disability market and wants to serve it.
- Your company wants to respond to regulatory incentives or pressures to create more disability access.

Chapter 1 presents the background and context that have led to publication of this guide to developing accessible technology. Chapters 2 through 7 are the "How To" chapters, offering insights and examples from technology industry accessibility experts. Chapter 8 profiles AOL, a company that the disability community recognizes as outstanding in its efforts to provide accessible technology, and Chapters 9 and 10 provide examples for disability advocates and a look to the future of accessibility.

This booklet will not tell you how to make individual products accessible. It is designed to help you transform your company into one that consistently produces accessible products and services.

Developing Accessibility Best Practices

Since the 1970s, the world—particularly the United States—has experienced a profound change. People with disabilities, who were once relegated to back rooms and second-class citizenship, are now visible and have secured basic civil rights. Although much work remains to be done, the built environment in particular has radically changed to include assistive listening devices, curb cuts, Braille, and more.

Meanwhile, the digital revolution has profoundly changed the ways we access information, services, and goods. People with vision, hearing, and mobility limitations once found computers moderately simple to use, making it easier for them to improve their lives through access to jobs, society, and citizenship. Unfortunately, that access is being eroded by inaccessible interfaces and software. Whether it is the increasing use of multimedia, which restricts people with visual or hearing limitations, or the miniaturization of buttons and displays on portable devices, which confounds people with dexterity limitations, gaining access is increasingly intimidating, difficult, or impossible. The resulting threat to disabled people's ability to earn a living, communicate, be citizens, and participate in society is disquieting.

Dedicated to promoting the civil rights and full societal inclusion of people with disabilities, the World Institute on Disability (WID) is a nonprofit public policy center and an international leader and advocate for increased accessibility to mainstream technology. In 2002, WID held structured interviews and conversations with knowledgeable industry and disability activist experts to discover how leading electronic and information technology (E&IT) companies are successfully making technology accessible, usable, and valuable for people with disabilities.

The study and this resulting WID publication, *How to Create Disability Access to Technology*, were funded by the California Consumer Protection Foundation. The report cites best practices distilled from the WID interviews and illustrates them with extensive, anonymous examples. It reveals the experiences and lessons learned by these technology industry experts, who are charged with being internal advocates for disability access and concerns. We call them Accessibility Champions. This review of best practices is intended to encourage the technology industry and others to continue providing accessible products and services. As the economic, social, and moral incentives for disability access develop and become known, more accessibility will be created.

One Accessibility Champion recommended that other Accessibility Champions “find true north and follow it.” There is social good and profit to be found by including people with disabilities in the design, testing, and marketing of electronic and information technology to ensure accessibility and usability. That is the true north of this report.

What Is Access?

Although disability, as an inclusive term, is valuable when describing the social condition of people with disabilities, “impairments” is a better term for explaining specific access needs. There are five general impairments that should be taken into account when designing accessible products and services: mobility and dexterity; deafness and hearing loss; blindness and low vision; perceptual and cognitive limitations; and speech and language.

A good explanation of creating disability access to E&IT can be found at the Web site of the Telecommunications Industry Association (see Resources, page 61). TIA’s “ACCESS—Resource Guide for Accessible Design of Consumer Electronics” (<http://www.tiaonline.org/access/guide.html>) explains accessible design:

The term *accessible design* refers to maximizing the number of potential customers who can readily use a product. While no product can be readily used by everyone, accessible design can impact market size and market share through consideration of the

functional needs of all consumers, including those who experience functional limitations as a result of aging or disabling conditions...

Accessible design also benefits individuals without functional limitations. Features that make products useful for people with disabilities and persons experiencing functional limitations normally make them convenient for everyone else. Curb cuts and volume controls on public telephones are examples of design features originally intended for people with disabilities but frequently used by everyone. Remote controls that can be operated without looking at them will be appealing to anyone who likes to watch movies in the dark, not just to the visually impaired.

Consider these examples of accessible E&IT product designs. A cell phone's visual display or other visual output is large enough, with enough contrast, so that people with low vision or in dim light could read the information. An ATM uses voice prompts, increased size of print, simple fonts, high contrast, labels with icons or graphics, and progress displays to make it easier to use for someone with a cognitive limitation.

Individuals with speech limitations may have difficulty using products that require voice communication, such as a telephone or other telecommunications systems. Designers of systems that require voice input should consider providing alternate methods of control.

An advocate explained, "Accessibility is another aspect of bringing the computer to the user—to anyone, at any time."

From the Disability Perspective

At the core of this study is the belief that the participation of those directly affected—that is, customers with disabilities—is essential to making products that are useful. When designing products, people often work from stereotypical and inaccurate beliefs about people with disabilities; they try to "help the handicapped" by alleviating the problems they imagine people with disabilities encounter. Unfortunately, such products often miss the mark because their

designs are based on unexamined assumptions. Inquiry into the true nature of accessibility needs must include the input of people with disabilities. Otherwise, the solution does not solve the problem, and the problem solvers contribute unwittingly to the loss of autonomy and civil rights for people with disabilities.

In addition, this WID study focuses on environmental solutions to accessibility issues. In the past, the more frequent approach to accessibility was to devise technological fixes specifically tailored to individual disabilities. A common example of this phenomenon is the problem of a wheelchair user confronted with stairs. Individual solutions generally cluster around either fixing the individual through surgery and prosthetics or inventing a stair-climbing wheelchair. By locating the problem in the limitations of people with disabilities, rather than in the environment, the solutions place heavy demands on the individual and are costly as well.

During the 1950s and 1960s, the individual approach was preeminent, and as a result, many disabled people were excluded from schools, jobs, and society in general because their disabilities were not easily corrected by technology or the solutions were prohibitively expensive. Even today, most people, including the experts, do not look beyond these individual solutions.

A more useful perspective defines the stairs (which prevent access to the environment) as the primary problem (see Resources, page 60). The environmental solution for a wheelchair user who cannot climb stairs is to build a ramp. Ultimately, this solution is more cost-effective and helps far more people, including parents with strollers, people with injuries from sports or other accidents, seniors, and delivery people.

Through the early 1970s, fixing the individual was the only solution offered to people with disabilities. That changed with the advent of the Independent Living Movement, also known as the Disability Rights Movement (see Resources, page 60). Increasingly, lack of access was defined as residing in the environment. From that shift in perspective

and from a new identity—seeing themselves as political activists rather than passive recipients of charity—people with disabilities began to look to the courts and the civil rights laws for assistance with environmental access. They began using the same tools used by other marginalized groups. The results have been the passage of the Americans with Disabilities Act, Section 255 of the 1996 Telecommunications Act, and Section 508 of the 1998 Rehabilitation Act, as well as lawsuits demanding access for people with disabilities (see Resources, pages 61 and 62, for explanations of Section 255 and Section 508).

This booklet highlights the environmental strategies used in the E&IT industry because they do the most good for the greatest number of people and have been the least documented.

What Is a Best Practice?

In one of the few best practices reports on disability, Timothy L. Jones noted in 1993,

The fundamental idea is to create an approach for meeting the [Americans with Disabilities Act (ADA)] requirements that does not compromise sound human resource policy but enhances it, that does not thwart productivity but unleashes it, that does not burden managers but empowers them. This is what characterizes best practices under the ADA (see Resources, page 61).

Jones's comments on the ADA and employment reinforce WID's belief that disability perspectives will make technology more usable and accessible to both the disabled and the nondisabled, and therefore more profitable for businesses.

For this research, we defined a best practice as a business

- Process,
- Procedure,
- System, or
- Perspective

that results in increased accessibility and usability of E&IT for people with disabilities (see Resources, pages 60 and 61).

Another criterion we used to validate a best practice was whether parallel practices in other fields have resulted in accessibility. We also investigated whether companies' practices and procedures included culturally competent disability perspectives, that is, the views of those directly affected—people with disabilities.

Accessibility Champions

To successfully bring accessibility to your company's products and services, a central person or unit in the company must articulate and advocate for disability access and inclusion across all its divisions and activities. The term *Accessibility Champion* is rarely used as an official title, but it is a useful descriptor for the person who has this pivotal role. One person WID interviewed for this study described himself as the Chief Accessibility Evangelist.

The Accessibility Champion's role is not to perform the work of other departments but to act as a resource, cheerleader, and goad, articulating the need to provide accessible solutions for all the company's offerings. He or she must provide one consistent voice and a clear vision for disability inclusion. Consistency and perseverance will effect change.

The Accessibility Champion (AC) serves as a common point of contact for accessibility issues, such as letters from customers regarding their satisfaction with the accessibility of products. The position should have high visibility and carry the authority to resolve accessibility questions and concerns.

One AC explained: "The group [accessibility unit] works with all areas to address concerns ranging from support networks to the availability of adaptive equipment to the development of emergency evacuation procedures. It is also a clearing house of information for people with all types of disabilities, including visual, hearing, and physical impairments."

One AC described his role as "empowering champions and infecting people."

The ultimate goal is to incorporate accessibility so deeply into all aspects of the company that there is no need for an AC, but until accessibility becomes second nature, such an advocate will be needed.

Find someone with passion to be the Accessibility Champion.

Seek someone who is thoroughly knowledgeable and passionate about accessibility to run the accessibility unit. One Accessibility Champion said, “If you need to bring in someone with passion and groom that person, plan and execute that transition.”

Another AC said, “When you bring on an Accessibility Champion, you need to hire someone with a disability so that person will bring competence with the disability community. The person also needs deep accessibility skills and a passion for access.”

Use the Accessibility Champion to coordinate work between the internal divisions and disability informants.

One Accessibility Champion said, “The Accessibility Champion has to have close contact with the progress of product groups. The champion knows when it is best to get them feedback from people with disabilities.” She went on to say, “The Accessibility Champion can also coordinate that involvement and know who would be appropriate to bring into a discussion.”

Use the Accessibility Champion as a mediator and translator between the advocacy groups and the company.

Frequently people in companies feel under siege when people with disabilities begin to advocate for increased access. The Accessibility Champion, by knowing the company and the disability communities, can be an effective translator to each group of the other’s concerns. By mediating between the two groups, the AC can help them reach effective solutions that meet the needs of both.

An AC cautioned, “If accessibility hinders the business, then it doesn’t work. Advocacy needs to flow with the business. Accessibility is about

collaboration. Both sides need to hear each other so that at the end there is only one side.”

The expression of anger often hinders listening. Company employees will resist making changes if they feel they are the target of anger and complaints. It helps if they understand why consumers might be angry, and the AC helps them not take the anger too personally.

Be open to help from others in the company.

One Accessibility Champion said, “Help comes from all kinds of places if your visibility is high enough.” It is often surprising who will be an ally within a company. Often it is an individual whose life has been touched by a friend or family member with a disability. More rarely, it is someone who can easily see the logic for providing increased accessibility.

Learn about disability.

Most of the Accessibility Champions mentioned their need, throughout their careers, to learn more about disability issues. A few of them found it invaluable to participate in local disability groups. Generally, they found that groups with political agendas rather than charitable ones were the most useful and interesting.

Use community-organizing strategies to create change.

During the past ten years, a number of best-selling business books have instructed managers about how to manage change and make their organizations more efficient, effective, and profitable. From *Who Moved My Cheese?* to *The One-Minute Manager*, there is a large body of literature (as well as many other resources) that presents ways to create change within organizations. However, the body of knowledge about community organizing is often ignored in corporations (see Resources, page 64). Although they address grass-roots causes, often with a social justice agenda, community-organizing theory and strategies can easily be adapted for use in business.

One of the key tenets of community organizing is that people with compelling ideas can create political change—it does not necessarily

take money. The use of coalitions to create changes in policy is a community-organizing strategy that translates to the company. Throughout the company are employees with disabilities or employees who understand the need to create accessible products. There might be an existing group for employees with disabilities or one can be formed. These groups can be the foundation for a powerful coalition to encourage policies in your company to create accessible products and services.

Value Disability and People with Disabilities

Most people—disabled and nondisabled—are somewhat disconcerted when they are asked to value disability, because disability is perceived to be tragic and negative. But people with disabilities often report that their lives have been enriched by their experience. They dislike the poverty, exclusion, and hassle, but recognize that disability is an inevitable aspect of being human and growing older.

They know, as playwright Neil Marcus says, “Disability is not a ‘brave struggle’ or ‘courage in the face of adversity.’ Disability is an art. It’s an ingenious way to live.” The challenge of being successful, while having a devalued identity, has led many people with disabilities to be skillful problem solvers and consumers—making them valuable assets for companies that wish to be successful.

Include people with disabilities at all stages of product life and at each step of the design process.

“Disabled people are important in the product life cycle,” said one Accessibility Champion, and this theme was repeated in many of the WID interviews. He explained, “Disabled people must be involved in every step in the design process for the product to be successful.”

Another AC added, “People with disabilities have been able to help people in the company understand the processes of creating access. They also reinforce the need for access.” Yet another stated, “It is plain suicide to go out without getting advice. You only have one chance to make a positive impression on a customer.”

In order to gain an accurate view of what your customers with disabilities need, make use of knowledgeable people with disabilities. Borrowing from the experiences of creating accessibility in the design phase of new buildings, for example, include the users' input at the beginning to avoid the unnecessary expense of redoing or adding on later.

Use internal employee groups and external advisory committees to understand the needs and concerns of the disability community.

Aware and knowledgeable people with disabilities—who can provide invaluable information about the needs and desires of people with disabilities—may be company employees, and they may be individuals connected with local independent living centers, colleges and universities, or local and national disability organizations, for example (see Resources, page 63).

The advantage of asking for employee help is that employees know the company and use its products. They have technology skills, are conveniently located, and they already work for your company, so nondisclosure and compensation issues have already been settled.

One Accessibility Champion commented, “The [internal] Task Force has been assertive and helpful. It has been able to help people in the company understand the processes of creating access. The Task Force also reinforces the need for access by its visibility. A structured approach was approved by management. The results were solid and could be implemented—they were practical and concrete. We were able to problem-solve with those who were doing the work.”

Forming an external advisory group of people with disabilities also has advantages. They can bring perspectives that you and the company may not have considered. If you choose representatives from large-membership disability organizations, they may later help publicize your accessibility efforts and your products to their members.

Use these groups effectively by making sure their tasks and goals are clear. An AC stated, “Companies should be more systematic in their use of informants/consultants from the disability communities.”

In addition to advisory groups and task forces, develop a pool of disabled people you can contact for advice and insights. Most people with disabilities are so pleased to know that accessibility is being taken seriously that they will willingly provide advice about improving product or service design.

The deeper your Rolodex®, the better you can help your company.

Be sophisticated about choosing your consultants and informants.

One Accessibility Champion mentioned a common mistake: “Many companies don’t know the difference between stakeholders and constituents. They’ll bring in advisors for policy and try to use them for product testing.”

People with disabilities vary in their skills and in their knowledge of both their specific impairments and the issues of the larger disability community. There is a relatively small group of disabled people who are knowledgeable about and skilled at analyzing policy and making recommendations to regulatory agencies and companies. They understand the broad issues of the disability community, although they may not be conversant with operating systems or the specifics of the computer/human interface. There is a larger group that understands the needs of people with disabilities, particularly in the use of accessible E&IT. Finally, there are people with disabilities who understand and can articulate their own needs. Each is useful for a given task, be it advisory committee work, concept review, or product testing.

As you begin to develop accessibility policies within your company, be sure your disabled advisors have the broad vision and expertise you need. Avoid people who represent themselves as disability experts but take an individual, limited approach to disability. This individual focus

hampers their ability to see the broader issues and potential strategies for minimizing the effects of the environment on accessibility.

You can increase the value of your advisory group of disabled employees by educating its members and yourself about the background and breadth of disability and accessibility.

One company brings in disabled trainers to teach all its employees about disability culture and disability issues. It believes that using presenters who identify themselves as people with disabilities makes for effective training. An AC at another company observed, “Knowing and working with disabled people helps. Prejudices tend to melt away.”

Guard against designing by mistaken assumption.

Many people harbor stereotypes and misconceptions about disability—including those in engineering and marketing. Generally, these are untested assumptions based on fears and myths about loss of function and disfigurement. If people’s incorrect assumptions did not influence the conception, design, testing, and marketing of products and services, there would be fewer problems. Unfortunately, because of these assumptions, ill-conceived designs targeted at people with disabilities are produced.

An accessibility futurist recommended using the design process that airplane manufacturers use for cockpits. “Cockpit design works,” he said. “The engineers are forced to listen to the pilots.” The pilots have information about how the instruments and controls actually work. They also understand their own functional limitations. He noted, “Pilots have the personal and political muscle to demand input into the designs. Pilots are also trained and become experts on what works. Pilots have been trained to be good observers and to report on their findings.” People with disabilities should be acknowledged as having the same level of expertise in their arena as pilots have in theirs. They should also receive training to help them effectively report their observations, just as pilots do.

The goal of including disabled people throughout all stages of product development is to create a deep understanding of the needs and concerns of disabled consumers, not to take product design and marketing out of the hands of experts. When one industry disability expert was asked how to ensure that the design process is successful, he observed that superior design is not easy. It requires both an understanding of the needs of people with disabilities and the skills to create a solution that works. He said, “The designer needs to learn from people with disabilities, but it is not always people with disabilities who come up with the final solutions.”

Include disability with other diversity efforts.

Most companies have units and initiatives dedicated to improving diversity, both in the companies’ employees and in their market share. Generally, diversity includes addressing the assets and needs of women and people of color. Frequently the lesbian, bisexual, gay, and transgender communities are included as a diversity topic. Rarely is disability included.

The global thinking of the Disability Rights Movement—or the Independent Living movement, as it is also called (see Resources, page 60)—has always supported self-determination, employment, community participation, and citizenship for people with disabilities. People in the contemporary Disability Rights Movement were inspired and taught by the other liberation movements of the 1960s and 1970s, such as the African-American, Chicano, women’s, and gay/lesbian efforts. The hardest concept to convey about disability is this civil rights perspective. Although some people’s outlook is changing, the thought that the problems of disability might also be due to systematic discrimination and exclusion is a difficult leap of logic for many.

Companies need to take a broader view of disability, going beyond accommodation and accessibility. They should examine what they do for other diverse groups and do the same for people with disabilities. For instance, if a company has a process for identifying people of color in its workforce, it should have a process to identify people

with disabilities. Currently, most companies identify employees with disabilities only when those employees ask for accommodations.

People with disabilities have legitimate fears about their employers' knowing they have an impairment or health condition. Nonetheless, many in the company workforce would, if guaranteed anonymity, identify themselves as people with disabilities. Because disability status remains hidden, the stigma attached to disability persists. When disability is viewed as an aspect of diversity, the models for valuing the contributions of diverse groups can be extended to disability.

One company's human resources department has a diversity unit that includes disability. The company has sponsored events supporting disability pride and conferences that include disability as a diversity issue. The driving force has been the Accessibility Champion, who is self-identified as a person with a disability and who has deep roots in the disability community.

An AC urged, "Use diversity staff to create and present a curriculum that includes disability. Employees need to be educated. The raising of awareness and sensitivity is important."

Finding curriculum materials that present disability as a diversity issue in the work setting is not easy. There are trainers who can assist in writing curriculum and training material, but this is still a new field. Ask your disability advisory group for recommendations for appropriate local resources.

Recognize the Disability Market

Three major factors are gathering momentum to create an unprecedented market force for making goods and services accessible for people with disabilities: the existing population of people with disabilities, an aging consumer and workforce base, and disability rights laws. The number of adult Americans with disabilities—currently more than 18 percent of us—is expected to grow. By 2020, 80 million people will be over 65 and an estimated 51% will have disabilities (see Resources, page 59).

The demographics of the Baby Boom generation will help drive access for decades to come. We know much of what will be needed. There is every reason to begin planning and providing accessibility and usability features today (AARP 2002; see Resources, page 59).

Too few businesses have recognized this emerging market, and awakening their companies to the profits to be had in producing accessible goods and services is one of the chief tasks of Accessibility Champions. Unfortunately, few ACs report that they are gathering statistics about their customers with disabilities. Such data is sorely needed. As one AC noted, “People with disabilities are not just somebody to help; they contribute to the bottom line.”

Identify current, accurate statistics to help define the disability market for your company.

The U.S. Census has increasingly accurate and useful information about the number of people with disabilities. Its 2002 American Community Survey (<http://www.census.gov/acs/www/>) is one of the better sources for general demographic information. The bureau has begun to tabulate disability within the last ten years and has a range of disability statistics. Also valuable are the annotated statistical resources in *Disability Data Resources—1999* at the U.S. Department

of Labor, Office of Disability Employment Policy (<http://www.dol.gov/odep/pubs/ek99/resources.htm>). Finally, the National Organization on Disability has a short Web section on resources for marketing to people with disabilities (<http://www.nod.org/marketing/index.cfm>) (see Resources, page 59).

Use current laws to motivate your company to create accessible goods or services.

Morality *can* be legislated. Many companies once considered accessibility the moral choice but not the wise choice. With the advent of Section 255 of the 1998 Telecommunications Act and Section 508 of the Rehabilitation Act, such companies can follow their values and make a profit. Many companies responded to Section 508 by hiring Accessibility Champions (see Resources, page 61).

One company had already started to make its product accessible when Section 255 went into effect. Even though its accessibility efforts were beyond those mandated by Section 255, the existence of the federal regulation helped the company implement the planned accessibility.

In another case, a company that had wanted to provide accessibility but was not able to make a business case for it found that Section 508 provided an opportunity to both make a profit and fulfill its corporate values. Those companies that had already begun to plan for accessibility had an advantage when Section 508 became a reality. At the same company, in the words of its AC, “Section 508 became the carrot—the promise of sales. It was a reward for doing the right thing.”

Finally, in a third software company, an AC explained, “Demand from customers for 508 compliance helped to get the accessibility started.”

Demonstrate the profitability of access.

“Volume and profit are the motivators,” stated one Accessibility Champion. Creating profit is the most effective best practice. For-profit companies exist to earn money for their owners and

stockholders, so for initiatives to be sustained within a company, they must contribute to the bottom line.

ACs must demonstrate that accessible products can lead to increased sales, a larger market, or relief from regulation and fines. The federal government is the biggest customer for many software and hardware manufacturers. When Section 508 required companies to make their communications, services, and products accessible to people with disabilities, the remarkable corporate response demonstrated how effective the economic incentive for creating access can be.

According to Gregg Vanderheiden of the Trace Center, “Only one factor, return on investment (or profit), results in [accessibility] in any widespread or consistent fashion over time. Moreover, the return on investment in accessibility must be perceived to be greater than other possible investment of the same resources.” (Vanderheiden and Vanderheiden 2002). The Trace Center at the University of Wisconsin–Madison was founded in 1971, and Trace has been a pioneer in the field of technology and disability (see Resources, page 60).

Tie access to mainstream product needs.

One Accessibility Champion noted, “The primary marketplace is the mainstream,” meaning that most companies need to sell a large volume of products to the broadly defined public to survive.

Although companies will readily concede the need for their products to be easy to use, many E&IT products and services are confusing and difficult to use. One tactic to improve accessibility for people with disabilities is to tie accessibility to usability. Usability is the concept that a product—computer, software, PDA, etc.—should be both useful and usable for the intended audience.

People in the company who want better usability are potential allies. Together you can argue, “If we have good usability, we sell more and have fewer returns and better customer satisfaction.”

“Good usability practices will make your products more usable for all,” remarked one AC.

Transform Your Company

The primary goal of everyone who wants to see his or her company succeed with the disability market is to make accessibility and disability awareness integral to all aspects of the company. As one Accessibility Champion urged, “Try to weave accessibility into the DNA of the company.” Whether it is in marketing, research and development, or product documentation, the needs of the disability community should be included.

Update the company’s mission, goals, and culture to include accessibility and disability. The vision and values of the company may implicitly include the needs of people with disabilities, but that’s not enough; make them explicit. Show senior management how accessibility supports the company mission. Educate them when the company’s mission statement mentions accessibility, but company practices do not reflect this commitment.

One school of thought believes it takes seven years of advocacy for social change to occur. To value disability and accessibility is a significant and profound change for a company. Some changes can come quickly, but to transform the whole company to support accessibility and disability diversity will take time and sustained effort. Be persistent and have a plan.

Develop a strategic plan for building awareness and implementing accessibility.

To help make your efforts successful, develop a plan showing the changes needed to build awareness and implement accessibility in your company. Strategic planning compels you to think about the work that must be done and recognize the obstacles and opportunities that lie ahead. Contemporary management literature has many planning models to choose from.

Modify your strategy to fit the company's culture, values, and structure.

Each company has its unique combination of values, ways of working, and world view. It is important to understand what motivates company leaders and middle managers and to make use of the way change is instituted and formalized in your company. Some companies closely follow written, formal guidelines, whereas others follow an informal, unspoken set of rules. Strategies that work in one setting can lead to resistance in another.

The environmental movement's phrase "Think globally, act locally" applies to this aspect of accessibility work too. A key to making goods and services accessible is to keep in mind the broadest view of the corporation while implementing specific strategies. The goal is to create sweeping change through strategic interventions.

The Web Accessibility Initiative (WAI) of the Web standards-setting organization World Wide Web Consortium (W3C) offers an example of this concept at work in creating accessibility to E&IT. It adopted the "Think globally, act locally" phrase in its recommendations for strategies to improve usability and accessibility of Web sites (<http://www.w3.org/QA/2003/07/LocalAction>). WAI's commitment to lead the Web to its full potential includes promoting a high degree of usability for people with disabilities (see Resources, page 61).

Involve senior management in accessibility efforts.

Many Accessibility Champions struggle to get support for accessibility. One asked, "How do you put accessibility in a sustainable way into the corporation? There has to be executive buy-in."

Senior management takes a longer view of the company's needs and often values new markets and understands regulatory pressures. All of these factors can lead senior managers to recognize the disability market. One AC said, "They have the personal experience and value good corporate stewardship... [and] are probably easier to sell than mid-level managers."

One company created a well-publicized policy that outlined the accessibility requirements for all its offerings. Upper management's signing off on the policy, and the resulting publicity, helped all employees see the importance of disability access.

Where a company's published goals state that "the customer comes first," and the employees consider themselves "here to serve society," the AC was able to get philosophical buy-in from upper management fairly easily.

Another company considers including accessibility in its products to be a smart strategic move. Because its products are designed to be usable, accessibility is just another aspect of usability. For this company, the accessibility and usability of its products in "eyes-busy-hands-busy" environments can be an advantage for all customers.

One AC noted, "The disabled athletes we sponsored indirectly influenced upper management." The senior management of the company likes sports and athletes. When they saw disabled athletes competing, it helped them see disability in a different way. The example of disabled people being successful in pursuits management valued encouraged upper management to continue supporting disability issues.

Address accessibility efforts to all divisions of the company.

Recognize that you may need to develop a variety of approaches to address accessibility needs in the different divisions of the company. For instance, the marketing and production divisions will have diverse goals and processes. Address each division's needs, assuring that personnel know their concerns have been heard. At the same time, state your core position clearly and accurately, making all your approaches consistent.

Pay particular attention to recruiting the marketing department.

In outlining the process for creating sustained accessibility at his company, one Accessibility Champion explained, “The biggest factor today is the marketing department. If they want accessibility, it happens.”

New software and hardware designs were once determined by engineers, but over time, as the E&IT environment has become more competitive, marketing departments have played an ever-larger role.

The challenge for ACs is to convince people in the marketing department that accessibility has sales potential. Because people with disabilities are mistakenly considered to be an insignificant market, this can be difficult. When senior management directives or government regulations are not in place, the most successful arguments are ease of use and universal design (see Chapter 6, page 27, and Resources, page 60).

Programmers and engineers are key.

Programmers and engineers also must understand accessibility. If they feel they do not have the skills to design and build accessible software or hardware, they can slow down or derail accessibility initiatives.

The accessibility task force at one company was able, in the words of the Accessibility Champion, to “reach the hearts of people creating access. One engineer went through all stages of disability—acceptance, understanding, and eventual internalizing of the issues. Disability is becoming part of the corporate culture.”

Another AC reported: “I got nondisabled individuals who had technical expertise, indoctrinated them in accessibility, and built momentum.”

Develop accessibility expertise across the company through education and training.

Begin by developing accessibility expertise with members of your accessibility team and other allies for accessibility. Provide training

in universal design and accessibility (see Chapter 6, page 29, and Resources, page 60). If key staff people are knowledgeable about disability access, they will be more credible when they argue for accessibility. One of the best resources to teach product design and accessibility teams about “how to create commercially practical and profitable products that are more accessible for people with disabilities, as well as more usable by everyone” is the Trace Center Training Program. Learn about it at <http://www.tracecenter.org/training/>.

Next, export accessibility into the core culture and business practices of all departments.

One company’s strategy was to send people from the accessibility unit into different groups in the company to help with accessibility issues. As the company has embraced accessibility and the different divisions have become comfortable and skilled with creating access, the access people act more and more as consultants to these groups.

Adapt the types and styles of training to the needs of the people you are trying to reach. One Accessibility Champion explained, “Training is specialized for different units—product development people receive different training than the administrative unit.”

Hire people with disabilities both in the accessibility unit and elsewhere.

An Accessibility Champion from a company with an admirable record of hiring people with disabilities said, “Having people with disabilities on staff can be very helpful. We have people on staff both in the accessibility unit and throughout the company. With the focus on making our product accessible, the company as a whole has become more aware. It is harder for HR people to avoid hiring a disabled person if they know the work invested in making our products accessible and the value placed on it.”

Use publicity and the court of public opinion to influence the company.

Both negative and positive publicity can influence a company to make short-term changes or implement a program. The long-term sustainability of the changes or the program will depend on whether or not they create profit or value. For example, a company values its reputation, and accessibility can enhance reputation.

Develop strategies to sustain accessibility.

Accessibility Champions have employed a variety of strategies to make accessibility and disability awareness important to their companies. One AC fostered competition between divisions to help integrate accessibility into his company's offerings by featuring its six products with good accessibility in a brochure. All the divisions wanted their products included in the next version, but to make that possible, they had to add accessibility features to their products.

One company has used its procurement process (similar to Section 508) to promote access in other companies and reinforce it in its own purchasing by making accessibility a component of contracts with outside vendors. The AC warned, "The other companies will scream to top management that they do not want accessibility to be a requirement." This creates another opportunity to explain and advocate to management for accessibility.

Another company used the need to create an internal Web site that was also accessible to educate staff about the access needs of people with disabilities. The AC said, "Talking about access isn't as helpful as seeing it."

Accessibility efforts can get lost during corporate reorganizations. One advocate has seen external disability advocates help maintain continuity during such a transition. She said, "We are the Zip drive for their institutional memory. Constituent groups can hold the institutional memory on accessibility in the midst of mergers, acquisitions, and reorganizations."

Incorporate Accessibility and Universal Design

The designed world should work for everyone, including people with disabilities. Design specifications for all new and revised E&IT products should include requirements that the product “be usable by all people to the greatest extent possible” (Mace 1997; see Resources, page 60). This phrase is the core of the universal design (UD) concept. According to North Carolina State University’s Center for Universal Design, “The intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities” (Mace 1997). The Trace Center, at the University of Wisconsin at Madison, has embraced UD for its work to make E&IT more accessible to people with disabilities (see Resources, page 60). Both centers have extensive resources on the UD concept and practical suggestions for its implementation.

UD is a powerful tool to convince people within your company to consider expanding the ease of use and accessibility of their products and services. It also provides concrete examples and guidelines that help ease the uncertainty of tackling a new subject.

A good example of UD implementation is Java. Java is a cross-platform programming language that can be used to create everything from a small animation on a Web site to a full-blown word processing application. The American Foundation for the Blind gave Sun Microsystems its Access Award in 2001 “for making accessibility an integral part of the Java platform. The Java Accessibility API software interface allows assistive technologies to communicate with programs

written in the Java programming language. This company guides its efforts by its universal design philosophy—addressing the accessibility needs of all people in the workplace.”

Create an implementation plan.

Surprisingly, many companies do not know where to start to make their products more accessible. Many feel that the process is too huge, too complicated, and filled with too many unknowns to be implemented. Create a task force to develop an implementation plan, using existing, proven models. Consider W3C’s WAI Web Accessibility Project Implementation Outline (http://lists.w3.org/Archives/Public/w3c-wai-eo/2001OctDec/att-0019/01-Implementation_plan.htm) (see Resources, page 61). Although primarily designed for making Web sites accessible, the strategies detailed at the site also apply to making any aspect of your company’s goods or services accessible.

Create clear documentation of accessibility features for programmers and engineers.

Provide developers with clear instructions about what to do. One Accessibility Champion suggested, “People want to do a good job, but you have to let them know how. Give them guidelines. If they don’t know what to do, it creates fear and inefficiency.”

An AC recommended: “Develop a set of guidelines specific to the company that can be used to create access at all stages of design implementation. The guidelines should include company policy, suggestions, applicable government regulations, and industry standards. Including examples, such as programming code, is helpful.”

Develop an internal argument for including accessibility.

One Accessibility Champion noted, “You need a standard internal list showing why access makes sense. This is for internal use. It keeps the access needs in front of the people designing and creating products and services.”

Integrate accessibility into the existing company practices.

To ensure that accessibility is included in the design of new products, use checkpoints. Find out where checkpoints exist for other requirements and work to have accessibility added. It is easier to piggyback onto existing requirements than to set up entirely new processes and personnel.

One Accessibility Champion's company uses "key success factors" with appropriate checkpoints, supported by the organization, "to ensure that accessibility and usability are built in."

Quality assurance procedures are one aspect of product review in many companies. Accessibility is a similar issue. A number of companies have added accessibility checks to their quality assurance measures. Some companies house their accessibility units in the quality assurance division because of the similarity of the work and processes.

Market, Market, Market

Creating access isn't enough. You must tell people about it. You must market the accessibility of your products and services to customers. Only as a result of effective marketing will accessible products and services contribute to your company's profitability.

Inform your customers and potential customers with disabilities about your accessibility efforts.

Forge an alliance with the marketing department and create a marketing plan to reach out to the disability market segment. People with disabilities make loyal customers for companies that meet their needs. According to Jim Tobias of Inclusive Technologies, a New Jersey organization that helps companies market to the disability community, "Average consumers tell two people about products they're satisfied with and five people about products they're dissatisfied with. For consumers with disabilities (not the typical ones, but opinion leaders), the corresponding numbers are four and nine" (personal correspondence, unpublished research performed by Inclusive Technologies, May 11, 2004).

Develop effective communication channels to reach people with disabilities. One company uses an email newsletter targeted to disabled customers and also reaches out through articles in its mainstream community newsletter. The same company's Accessibility Champion maintains personal contacts with advocacy groups. Most companies also use their advisory groups to spread the word about what they are doing to create improved access.

Many companies publicize the accessibility and usability of their products, particularly in the beginning, by having a presence at, or sponsoring, conferences that reach the various disability

constituencies, such as the National Federation of the Blind, the National Association of the Deaf, and the CSUN International Conference on Technology and People with Disabilities. Although the attendance at these events is minor by comparison with the broader market, the attendees are leaders in adopting products, setting trends, and influencing many others.

Give customers a way to provide direct feedback on accessibility needs and issues.

Customers are unhappy when they run into a glitch and have no avenue for comment. They may abandon your product or company forever, while satisfied customers will return. Always include a way for users to contact an appropriate, responsive unit in your company with comments, questions, and concerns about the accessible features of software, hardware, or services and about your company's Web site. It is valuable to hear directly from customers and to maintain a relationship with them by providing contact information.

Understand the disabled market.

Some people with disabilities do not identify themselves as disabled. The current marketing messages of "design for all," "technology for everyone," and "universal access," for instance, appeal to such people and to our desire for a world where disability will not be limiting. Other people with disabilities take pride in their disability status and see themselves as members of a civil rights group like any other. According to the National Organization on Disability (NOD), "Among the disabled population as a whole, 47% share a sense of common identity with people with disabilities" (see Resources, page 59). This group should be approached using disability pride messages.

One company has used its understanding of the political and social needs of marginalized communities to advance disability concerns. Its Web site and marketing materials explicitly address the disability community as a desirable market. By affirming the positive aspects of disability identity, this company encourages brand loyalty in its disabled customers.

Stick with core competencies when making accessibility-marketing choices.

One Accessibility Champion said, “Stick with your core competencies and take small, manageable steps.” His company supports sports as a corporate branding and promotion strategy. When the company was approached to support disability sports, it saw that this was a potential source of profit that would also generate a halo of goodwill.

According to the AC, “Because you only have one chance to get the company’s message across in advertising or [on] a Web site, the message must be the intended one.” Because the company stuck to its core competency of sports, “It saved us all kinds of heartache because sports are an arena we already know.”

Be careful with images.

One manufacturer was very proud of an E&IT device that could easily be used by wheelchair users. The photograph on the Web site and in printed material showed a person in a wheelchair using the product. The wheelchair was, unfortunately, a standard cheap hospital model—useful only for occasional use, not for day-to-day mobility. Although the equipment may have been accessible, the photo undermined the potential buyer’s belief in the company’s understanding of disability access and the needs of people with disabilities. Because the photo showed a lack of sophistication about people with disabilities and the disability market, it implied that the product might not be fully accessible. If a company does not have people with disabilities on staff or in a consultant role, this kind of error occurs all too often.

Use accessibility features as a selling point.

One technology company, aware of the aging workforce, markets the accessibility features of its products specifically to small businesses. These are businesses without full-time human resources or personnel support workers, who would have responsibility for accommodating a disabled worker and knowledge of how to do it. The company makes it easier for these businesses to retain their employees who have developed disabilities without having to bring in expensive

outside experts. Because many accommodations are low-cost and easy to use if the information is available, the company adds value to its product and provides a rationale for its continued use.

Use people with disabilities as your spokespersons on disability issues.

A person with a disability will have more credibility when talking about disability issues to external groups and in your marketing and advertising programs. Such a person can be particularly valuable within the company when someone must advocate for increased access efforts that must be accomplished by other departments and divisions. A nondisabled Accessibility Champion commented, “When a person with a disability argues for a better interface or changed features, that spokesperson is not as easily dismissed as a nondisabled one.”

Be sure the spokesperson with disabilities is comfortable with his or her public disability identity and skilled in the topic area. Putting someone into the role just because that person has a visible disability may harm your advocacy efforts. If you do not have a person with a disability to lead the charge, do it yourself; disclose your nondisabled status along with your commitment to accessibility. Often, nondisabled allies of disability issues are reluctant to disclose their identity, thinking it would be insensitive to people with disabilities. However, by doing so you make explicit that everyone needs to work together to make accessibility a reality.

Publicize accessibility efforts internally.

Many Accessibility Champions believe it is vital to regularly stimulate internal attention to accessibility issues to assure that access continues to be valued within the company. An AC urged, “Maintain a level of activity in the background that keeps the issue of accessibility in people’s minds.”

One AC’s successful strategy for regularly publicizing accessibility efforts includes regular employee bulletins highlighting efforts to increase disability access for customers and employees.

At a company with an elaborate intranet for keeping employees informed about internal activities, the AC uses the site to highlight accessibility efforts through regularly updated stories and recommendations about how to make products accessible. He urged, “Constantly update it and archive everything. List program milestones.”

Some of the best ways to deliver your message are simple and inexpensive. A wallet-sized card giving key accessibility guidelines has been very successful for one group. One advocate said, “You don’t have to be original. Distill, distill, repeat, repeat.”

Develop and use a simple message.

Advocate for your cause by having an “elevator talk” based on your accessibility unit’s mission statement, ready at all times. When people ask for a brief summary, or you talk to someone who has only seconds to hear what you have to say, you must have a succinct, clear, and compelling 15- to 30-second summary of your cause. This may make all the difference in the world if you find yourself in an elevator with the CEO of your company.

Develop plans and strategies that can maximize opportunities.

Be ready for opportunity. Crises, tragedies, lawsuits, or news stories can create opportunities for implementing change if internal advocates are prepared. For example, a *60 Minutes* feature on the need for access can make senior management receptive for a time. One Accessibility Champion has achieved success by being “opportunistic about internal publicity.”

Institute rewards for good work.

It is important to recognize the people who have worked to bring about better accessibility. The nature of the reward will depend on the culture of the company and the form that rewards take in other sectors. Public recognition for good work is almost always valued by the person being honored.

Document the progress of your accessibility efforts.

Accessibility Champions frequently mentioned the value of a checklist to measure the progress of accessibility efforts. If the company does not provide the tools, such as monthly or annual department reports, develop your own report to chart progress.

A frequent mistake is to focus only on the problems and on what needs fixing without also recognizing and building on successes. One AC said, “Have a list of accessibility program milestones that is easily found and seen by employees.” Another warned, “You need a list showing where you are, so you don’t backslide. Generate awareness and then maintain it.” He added, “Features get built in, but it’s easy to have them drop out of the next iteration if attention isn’t paid. That’s why this list is important.”

Another AC cautioned, “You can’t sustain lip service. We have internal accessibility scorecards to document our progress and problems. It’s how to go from superficial to real. You have something to report. It helps to reconcile executives and middle management.”

Yet another said, “Success is measured incrementally, version to version. Each new product should be more accessible than the one before.”

Case Study: AOL Leads by Example

AOL is generally regarded as doing an excellent job with its efforts to address accessibility of its services. AOL's story provides a helpful road map for how companies can provide access.

What Happened at AOL

Introduction

During WID's research of best practices in the technology industry AOL was often mentioned. People, particularly those in the disability communities, commented on the good job AOL was doing to make its offerings accessible to people with disabilities.

This case study is designed to show how a company became an exemplar for making its product work for people with disabilities. It is particularly noteworthy because, after the settlement of a lawsuit filed by the National Federation of the Blind (NFB) in 1999, there were no specific legal or regulatory pressures on AOL to make its services accessible. WID talked to Debbie Fletter, AOL's first Director of Accessibility, and her successor, Tom Wlodkowski, to see how the company made changes and gained the respect of the disability communities. We also sought out Curtis Chong, Director of Field Operations and Access Technology for the Iowa Department for the Blind and former Technology Director for the NFB, to find out his current opinion of AOL's accessibility.

AOL and the Blind

In 1996, Curtis Chong began to pay attention to AOL. Friends and colleagues with visual impairments were complaining about the AOL

interface and lack of access. The ubiquitous phrase “You’ve got mail!” alerted blind and low vision users to a new email message just like everyone else. Unfortunately, that was as far as those users could go; they could not access the service to read their mail.

AOL’s primary appeal was and continues to be its ease of use. While many members of the blind community are early technology adopters and very savvy when it comes to computers, the vast majority just desire an easy way to communicate online. However, the steep learning curve for a blind person to use screen reader software combined with the natural learning curve required to use mass-market products, such as Web browsers and email software, can often present a real challenge to a blind user.

For example, studies show that it takes the average blind computer user three times as long to make travel reservations via the Internet than an equally proficient sighted counterpart. With this in mind, it is essential that a collaborative effort exist between mainstream companies and screen reader developers to ensure usability is addressed to the best possible extent.

As AOL’s popularity soared, members of the NFB continued to approach Chong about the challenges blind users faced when trying to use the service. In 1998, Chong contacted Steve Case, then CEO of AOL, about the access issue and waited through 1999 without a response from the company. In November 1999, the NFB decided to file suit against AOL for lack of access, claiming that the company was not in compliance with the access requirements of the Americans with Disabilities Act.

The Beginnings of Accessibility

While the press did not always correctly understand the issues involved, the NFB lawsuit did receive widespread publicity and got AOL’s attention as well. According to Chong, AOL said to NFB, “We gotta talk.” Within six months, regular discussions were under way.

Meanwhile, AOL had been doing reconnaissance and preliminary work on accessibility. This work began in February of 1999, seven months before the NFB lawsuit was filed, and was spurred by an executive who had flagged the need to pay attention to accessibility. AOL realized that it did not have the internal resources required to make its service accessible, so it sought outside expertise. In May of 1999, AOL quietly approached the National Center for Accessible Media (NCAM), the research and development arm of the Media Access Group at WGBH, Boston, to review its software.

As AOL began to implement a strategy to address accessibility, AOL's partnership with NCAM quickly moved beyond software reviews to include meetings with senior executives, product managers, and software designers and developers. No better partner could have been found. NCAM, established in 1993, is an international leader in accessible technology and policy. Its goal is to assure that the United States media and technologies are fully accessible to people with disabilities. It is based at WGBH, which developed captioning for deaf and hard-of-hearing television viewers and video description for blind and visually impaired audiences.

During the summer of 1999, AOL and NCAM were working to make version 6.0 of AOL's software accessible. However, the companies chose to remain quiet about their work until they had a more cohesive accessibility plan in place for the launch of AOL 6.0. This silence unwittingly contributed to the NFB suit. Chong said that NFB might not have sued if someone from AOL had talked to his organization or if NFB had known that AOL and NCAM were already working to make 6.0 more accessible.

The Wake-Up Call

The NFB suit was a wake-up call to AOL. It no longer had the luxury of working on accessibility without outside scrutiny. Although there were no court decisions directing Internet companies to adhere to the ADA, AOL was committed to making its service as accessible as possible.

In July 2000, the lawsuit was settled before litigation. Part of the settlement required AOL to adopt a corporate accessibility policy that codified the company's commitment to accessibility. The AOL accessibility policy is founded on three fundamental principles—employee awareness, collaboration, and responsibility. According to Tom Wlodkowski, AOL's current Director of Accessibility, "Collaboration with the disability community has been, and continues to be, a critical component of AOL's approach."

A significant example of AOL's commitment is a link to the Accessibility Policy on the home pages of aol.com and the company's corporate Web site. The direct URL to AOL's Accessibility Policy is <http://www.corp.aol.com/accessibility/inclusiveness.html>.

AOL knew it needed advice and guidance from the outside. To that end, it convened a group of 45 people, who represented a cross section of disability groups, to provide guidance and strategic counsel from the disability community. The purpose of this initial meeting was to provide AOL management and staff with an opportunity to "meet and greet, provide a tour of the company, extend the hand, and listen." Groups represented in that initial committee included the NFB, the American Foundation for the Blind, National Association of the Deaf (NAD), Telecommunications for the Deaf, Easter Seals, and the American Association of People with Disabilities.

The outcome of this meeting was the formation of the Accessibility Advisory Committee (AAC), a cross-disability group comprising a dozen technology experts and nationally renowned disability advocates. One of the original members was Deborah Kaplan, WID's current executive director. The AAC held its first meeting in May 2001.

One of the AAC's key roles has been to answer the question, "How is AOL doing?" The group advises AOL on content and customer service and helps measure the accessibility impact of general changes made by AOL. AOL conducts annual in-person meetings with the AAC. In the initial AAC meetings, AOL would give an overview of the current state of accessibility at AOL and how it was working to develop new

solutions. The meetings have evolved over time to rely more heavily on input from committee members with regard to the specific technology needs of their own disability communities. AOL also set and established criteria and parameters for the group's activities, so the members know their roles and responsibilities.

People with disabilities have and continue to have a role in creating and maintaining accessibility to AOL's products and services. Fletter pointed out that the bulk of the AAC is made up of disabled people and that their expertise, knowledge, and experience bring more value to the group than any room full of PhDs. Additionally, one advantage of the face-to-face meetings is that AOL's senior management and product developers get to see passionate people with disabilities who are committed to helping AOL meet the needs of the disability communities.

By 2000, AOL had begun to establish credibility with the disability communities. One of its first actions was to establish a Director of Accessibility. The Director of Accessibility drives internal awareness, sets requirements for products in development, and is the point of contact for people with disabilities who have complaints or questions. Fletter explained, "If you don't have a point of contact, people don't get heard."

The liaison piece of this position is critical, particularly in large companies like AOL. In 2000, AOL concentrated its accessibility efforts on getting the service up to speed with standard accessibility requirements. After that, it was able to go out and tell its story. One channel was the AAC. Another was to sponsor and attend events in the disability communities, such as the annual conferences of the National Federation of the Blind and the National Association of the Deaf, and the CSUN International Conference on Technology and Persons with Disabilities.

Significant changes were made, and continue to be made, to AOL's software and service to make them accessible to all people with disabilities. Although the primary focus has been on access for people

with sensory impairments, AOL takes all disabilities into account. The legacy AOL client software is now significantly more usable with screen readers, select broadband content is now captioned, and new products are designed with accessibility in mind from the beginning. Chong notes, “They had a lot to learn and they learned fast.” And the process seems to be working to this day.

One of the reasons for AOL’s success is its openness. Chong said, “If AOL tells us something isn’t going to work, we’ll grumble, but it will be OK.” He appreciates that AOL “...levels with us.”

Employee awareness, a component of the corporate policy mentioned earlier, is also critical to the company’s success. AOL launched “New Sensations,” an ongoing initiative designed to help employees to understand their role in upholding corporate policy. The first internal campaign was basic. “Throw away your mouse, close your eyes, cover your ears.” As part of the campaign, art displays created by individuals with disabilities were exhibited throughout the AOL campus. There were also assistive technology exhibits that helped to demystify disability. One example was a foot mouse that was put on display. Employees were encouraged to play with it to see how it worked.

Recent campaigns have featured speakers, such as Erik Weihenmayer, the blind mountaineer who climbed Mount Everest, and disability advocate Ted Kennedy, Jr. The awareness campaigns use strong analogies to make the case for company employees to embrace accessibility. Leveraging Erik Weihenmayer’s involvement with the 2002 campaign, for example, inspirational tag lines were used like “If a man who is blind can get to the top of Mt. Everest, he should be able to get anywhere he wants on AOL.”

According to Wlodkowski, “Product developers are a critical group targeted by New Sensations. It’s essential they understand their role, so we can deliver on the commitments expressed in the company’s accessibility policy.”

The Right Person in the Right Job

Fletter, AOL's first Accessibility Director, started working in AOL's marketing department several years prior to the NFB lawsuit, managing the Welcome screen. By the time the Accessibility Director position was established, her tenure at AOL had made her well connected in the company, and she knew how to navigate through various departments to get pressing accessibility issues the attention they deserved. As Fletter explained, "Being internal helps." She had the internal knowledge, could call in favors, knew what buttons to push when, and was likable.

According to Wlodkowski, "Debbie's strong knowledge of the internal work environment and support from key executives were two critical factors to rapid progress early on." He noted that timing was important because the NFB lawsuit was pending. He said, "There needed to be someone in the director position who knew where to turn to put out the fires. Accessibility became established on many fronts." When explaining her role in turning around AOL's accessibility efforts, Fletter said that, although she hadn't lived the disability experience herself, she had a passion for the issues involved.

When asked, "Is there a critical point in the process where disabled people must be involved for accessibility to be successful?" Fletter answered: "Every step of the way." She believes, "Accessibility is about collaboration—both sides hearing each other so it becomes one side."

When Fletter decided to move on to another position at AOL, she urged Tom Wlodkowski, then a project manager at WGBH's NCAM to apply for the job. He was very knowledgeable about AOL through his role at NCAM during the project to make the AOL service more accessible. And he is blind. In the press release announcing his appointment, an AOL senior executive said, "For the last three years, he has played an integral role in helping make the AOL service easier to use, more relevant, and more integrated in the daily lives of all of our members." The press release went on to say, "Tom's experience has positioned him at the intersection of technology and disability issues,

and he is the perfect person to ensure the company continues to deliver on its commitment to accessibility.”

It is important to note that the June 2002 transition was from Fletter, a company insider whose passion for accessibility comes from recognition of the problems, to Wlodkowski, whose passion arises out of living with the problems and solutions. It is invaluable to have more people with disabilities working on the issues of the disability communities.

Wlodkowski noted that his disability identity is useful because he believes it is “easier for a person on the other side of the table to say no to you [about creating access] if you’re able-bodied.” He observed that, although it takes more than passion and a disability identity to be successful, having a “native understanding of it—the lived environment—is invaluable.”

AOL Today

AOL has made a complete turnaround in the opinion of the disability communities. Curtis Chong, who originally supported the lawsuit against AOL explained, “They promised a policy and they posted it. NFB agreed to drop suit. Then they organized the Advisory Committee. It wasn’t overnight, but over time, AOL became the complete opposite of what it was. Now, when they have something new they’ll come to us and get our opinion.”

When the Director of Accessibility position was established, it was, and still is, based in the Integrity Assurance department. The Integrity Assurance department works to ensure that AOL’s content and processes adhere to the company’s stated values. It made sense to add accessibility to the list of issues that Integrity Assurance considers, such as parental controls, kid safety, security, privacy, and advertising policies.

Wlodkowski is based in a department that has a consumer focus and an understanding of accessibility issues. Wlodkowski said, “We’re embedded in the company.” He explains that, as requirements for

new products are defined, he has an opportunity to offer input and introduce accessibility-specific requirements as well. He has easy access to the owners of the different AOL products. Wlodkowski explained, “It’s a fine balance. I don’t stop projects; I work to make sure that it’s always improving.” Both Fletter and Wlodkowski made the point, “If accessibility hinders the business then it doesn’t work.”

Curtis Chong, who is now Director of Field Operations and Access Technology for the Iowa Department for the Blind, commented on how far AOL has come. He said, “Tom’s working with NFB’s National Office to develop something that will work.” Chong emphasized Wlodkowski’s value to AOL: “Tom’s the best they could have picked. He has integrity and he’s knowledgeable.” Chong further explained, “Tom understands that it’s a give and take between AOL and screen reading software and the blind community, so that the blind get something that will work.”

Chong praised AOL “They have respect for their advisory committee, and they use its time wisely.” He is pleased with how AOL listens to the committee and its current level of accessibility. He noted, “AOL 9.0 is now out. It works with JAWS and Window-Eyes. To do so, AOL has had to change the way they format material they present.” He observed, “I’d love to have AOL just *work*, and they’re getting closer to that goal.”

Technology is constantly changing. To stay ahead of the issues that arise, Wlodkowski grapples with such questions as “How does accessibility work in such a fast-paced environment, with so many products in development and quick time to market?” “How do we really get our teeth into this thing and ingrain accessibility into the corporate culture?” and “How do we make it relevant to the key people?”

He noted, “The average disabled consumer may not know all that’s going on, but we’ve made some pretty impressive progress in five years.”

Examples for Disability Advocates

The preceding chapters are directed to companies that want to improve accessibility of their E&IT products and services. This chapter presents examples, many of them duplicates from those earlier chapters, that can help external advocates in their efforts to convince companies to improve.

Certainly, this report does not cover everything these advocates should consider. However, these suggestions, identified during WID's research and interviews, do provide perspectives on how external advocates for better E&IT accessibility can influence companies. The more advocates understand the forces supporting and impeding accessibility change within companies, the more successful they can be.

Use current, accurate statistics to make your case for accessibility.

Make the argument that the disability market is underserved and there is potential profit in serving it. Most companies do not realize the size of the disability community. The U.S. Census data includes increasingly accurate and useful information about the number of people with disabilities. Overall, as we have pointed out, 18.1% of adults in the United States (37.7 million) identify themselves as having a disability.

Learn the cultural norms and values of the group you are trying to influence.

Both disabled advocates and design staff need to learn how to communicate with each other. One experienced disability advocate warned, "Advocates need to realize that if they express anger too often—or in some cases ever—the design people will resist making changes. Advocates need to let design staff know why there are problems rather than just complaining."

If the opportunity arises, teach company employees why consumers with disabilities are angry and try to persuade them not to take the anger personally. Use the accessibility group as a mediator and coach for both sides to develop positive outcomes.

Praise and acknowledge companies that are doing good work.

The same advocate went on to say, “It also helps their [disability advocates’] cause to reward the positive things that companies do. Let them know what works, so they’ll continue with it.”

Capitalize on the values of the company.

Companies have values beyond their desire for profit. Sometimes such values are the way they differentiate themselves in a crowded, competitive industry. They can portray their products as innovative, useful, fashionable, or inexpensive. Whatever the value, there is usually a corollary accessibility argument. For instance, one Accessibility Champion was able to use the company’s commitment to serve society as a way to get management’s buy-in to accessibility. For your arguments for accessibility to be heard, tie them to the company’s professed values. Even if the company’s real values differ from its stated values, your argument will have more impact.

Research the outside forces—market, regulatory, buying patterns—that influence a company and use them to make your accessibility case.

The more you know about the forces affecting a company, the more successful you will be in creating an effective plan to implement change.

Develop plans and strategies that can maximize opportunities.

Be ready for opportunity. Crises, tragedies, lawsuits, or news stories can create opportunities for implementing change. Example: A *60 Minutes* feature on the need for accessibility can make senior management receptive for a short time.

Know the best point for intervention in the development process.

Companies follow specific processes when they develop or upgrade software and hardware. The exact process varies from company to company and from industry to industry, but it is always present in one form or another.

Because feedback is designed to be a part of the process, find the opportunities to provide your perspective on the need for disability access. One advocate took a class in the development cycle to better understand how the process works.

Learn the language of business.

Every business segment has its own jargon. If you understand and are familiar with the terms used in the E&IT industry, you will be able to participate in discussions more effectively and you may make business people a bit more comfortable with your perspectives on accessibility.

Ally with the Accessibility Champion.

Generally, a company's Accessibility Champion will have the same values and goals that you have. It is always valuable to have ACs as allies for your accessibility efforts. If they are skilled, they will find ways to use your advocacy efforts effectively.

ACs will often have different strategies from advocates outside the company. For maximum effectiveness, find ways to make your strategies and activities support those of the AC.

Document your progress in creating access.

When you are advocating for change, it is easy to focus on the next problem to be solved, barely remembering the last success or failure. Track the success of your advocacy efforts. Change is usually incremental and hard to see without taking a longer view.

Research the technology issues of your constituents.

The more you know about the problems your community faces, the more you can make your arguments relevant and effective. Sometimes

national disability groups do not know the difficulties people with disabilities face at the state and local levels and vice versa. It is important to find ways to stay current on national, regional, and local issues.

Learn about the industry you are trying to influence.

One advocate bemoaned the lack of attention paid to increasing technology accessibility when people advocate for increased disability civil rights. “We need more people with disabilities who have formal technical, management, and policy knowledge and experience so that technology [advocacy] policy does not scare them off.”

Form coalitions.

When advocating for increased accessibility, be aware of the needs of all people with disabilities to avoid working at cross-purposes with other disability groups. One danger arises when different disability groups argue for different accessibility solutions, because each is focusing on only one segment of the disabled population. Companies can get to the point where they do not know whom to believe. Some companies have used this lack of agreement as a rationale for inaction.

Advocacy is a political process that requires compromise and negotiation without losing sight of the goal. The more groups can act as a coalition with a single voice, the more effective the disability community will be at driving technology accessibility.

Educate your members about disability and how to represent disability needs effectively.

Too often disability advocates and the nondisabled mistakenly assume that all people with disabilities are skilled at presenting disability access needs to companies and public officials. Educate your group members about the breadth of disability needs and the social/cultural issues of disability.

Advocates and people recommended for spots on disability advisory committees should have a background in the broader issues of the disability communities in addition to their own areas of expertise.

Arguing for a large, multifaceted group of people is more effective in the long term than focusing on short-term fixes for a specific disability. It may take study and research, but it will pay off by making the spokesperson appear more believable and fair.

Train consumers in corporate culture and accessibility.

Train your group members to understand the accessibility issues that will be most compelling to a company, so they can make their arguments succinctly and effectively.

The challenge is to demonstrate to disability communities how technology can provide unprecedented access and how the barriers can be removed. A valuable resource on advocacy is *Speak Out About Inaccessible Information and Telecommunication Technology* from the Information Technology Technical Assistance and Training Center (<http://www.ittatc.org/news/displayArticle.cfm?articleID=1122>) (see Resources, page 62).

Continue to advocate for access during reorganizations, acquisitions, and mergers.

During reorganizations and mergers, access and disability issues can be pushed to a lower priority. Occasionally, key personnel and policies are lost, leaving the company without the desire or means to create and maintain accessible products and services.

“We are the Zip drive for their institutional memory,” said one advocate in explaining how disability groups can provide continuity for a company’s access issues.

In some instances, groups of people with disabilities have “held the institutional memory” long enough that when the company became sufficiently stable, accessibility issues could be addressed again with little loss of progress.

Consider disability to be another aspect of diversity.

Many companies recognize the potential of marketing to diverse groups; however, the disability market is rarely seen to have any similarities to African-American or Latino markets, for example.

Find opportunities to use the strategies and examples of other diversity groups to persuade companies to recognize people with disabilities as a potential market.

Develop and use a simple message with a simple vehicle.

One technique of advocating for your cause is to have an “elevator talk” ready at all times. The idea is that people will ask you for a brief summary, or you will talk to someone who has only seconds to hear what you have to say. You need to have a succinct, clear, and compelling 15- to 30-second summary of your cause. It could make all the difference in the world if you happened to be riding in an elevator with a potential ally in a company.

Persistence is the key.

Change takes time. Advocates need to have patience and determination just as Accessibility Champions do. To value disability and accessibility is a significant and profound change for a company. Some changes may come quickly, but persuading the whole company to support accessibility and disability diversity will take time and sustained effort.

The Future

What is the future of E&IT? If the past twenty years are any indication, it will be a future of profound change. We will rethink the role of technology and communication. It could be an exciting time of even more access and opportunity for people with disabilities. But the door to education, employment, and civic involvement could also slam shut if accessibility is not built into the core of the new technologies.

Just as we will rethink technology, we will see disability differently. As young people with disabilities gain employment and aging Baby Boomers delay retirement and acquire disabilities, they will challenge our conceptions of how a worker should look and act.

From the outset, Baby Boomers have demanded to be engaged and influential in shaping their world. There is every reason to think that they will continue to reshape the world to suit themselves as they gray and experience disability.

People with disabilities have already changed the world. Witness that mundane but important access feature, the curb cut. Curb cuts, or curb ramps, make everyone's life easier. All sorts of wheeled vehicles, from wheelchairs and baby strollers to rolling luggage and delivery hand trucks, go easily from the sidewalk to the street and back up again. All new construction includes curb cuts because they are required by federal and local laws. Lobbying and advocacy by disability groups forced the creation of these statutes because people with disabilities argued that their civil rights were being abridged by a lack of access. The unintended consequences of the creation of curb cuts everywhere are legion, including faster, more efficient deliveries and the use of rolling luggage. Curb cuts have also created a natural crossroads where able-bodied and disabled people meet.

“Electronic curb cuts” promise equally extraordinary value. The access that they give to the virtual world will mirror the access that curb cuts have made in the built environment. Everyone will benefit.

As people with disabilities gain their civil rights and their place in the work force, they are seen differently. Rather than being a liability, people with disabilities are recognized as assets to society and to the workplace. This will help people of the greater populace see themselves and their own limitations more positively. This will be a profound shift in a society inundated with images of thin, beautiful, young people.

As the E&IT industry matures, increased standardization of the interface is likely. After all, most of the world has a consistently assigned place for the brake, accelerator, and steering wheel. As standardization of controls becomes common in E&IT, the standard must be based in universal design to include a large percentage of consumers. It is critical that the MP3 player, fax machine, and the yet-to-be-invented gizmo have standardized buttons, switches, and displays that are accessible. E&IT needs to be easy to use for everyone, including people with disabilities.

Easy-to-use is the central idea of universal design (UD). Products and environments should be usable by all people, to the greatest extent possible, “without the need for adaptation or specialized design.” (See Resources, page 60.) Many designers create products for people like themselves. Because they are young, able-bodied engineers, their designs work for only a small subset of the general population. For years, women have joked and complained about the height of kitchen countertops, for example. Because the architects and contractors were generally men and generally taller than women, they designed and installed countertops that worked for them with little regard for the end user.

The ranks of designers and marketers need to include a more diverse group that will take into account the graying of America. E&IT companies need more designers with disabilities. The design cycle continues to be so focused on rushing new and revised products to

market that little or no time is spent developing thoughtful, effective interfaces. Apple's MP3 player, the iPod®, is a rare and encouraging exception. Its sleek industrial design and easy-to-use interface have catapulted the iPod into market dominance. But Apple's competitors are failing to leapfrog iPod's design to produce an even better interface.

The aging of America and the increase in disabilities will drive E&IT manufacturers to pay more attention to universal design and to insure ease of use for the greatest number of consumers. It will not work to design and market products specifically for people with disabilities. The marketing and distribution cost will be prohibitive.

The marketing departments of E&IT companies will demand ease-of-use from their engineers and designers. Marketing staff will develop strategies and campaigns to sell easy-to-use, accessible products to the broadest possible market—a market that includes the aging and people with disabilities.

After all, older people and people with disabilities buy and use products for the same reasons as young, able-bodied engineers do. The desire to communicate, create, and be entertained is universal. Companies that survive and prosper will pay attention to universal needs of all.

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Appendix

Methodology

It is hard to determine a best practice. The Interoperability Clearinghouse Glossary of Terms, <http://www.ichnet.org/glossary.htm>, has this to say: “Best practice—An activity or procedure that has produced outstanding results in another situation and could be adapted to improve effectiveness, efficiency, ecology, and/or innovativeness in another situation.” The difficulty lies in measuring “outstanding results.” For this report, the best practices are determined by an informal polling of industry thought leaders and advocates and by the interviewees. The term *best practice* continues to be used in business publications because it continues to be useful.

Interviews

Twelve Accessibility Champions from large E&IT companies were interviewed. They were selected from a longer list suggested by an advisory group made up of industry representatives and disability advocates. The advisory group suggested topics to investigate and provided background and counsel on the issues of access to technology for people with disabilities. Disability advocates were also interviewed to provide external validation for the opinions and insights of the Accessibility Champions.

An interview guide provided structure for the in-depth interviews. The material from all of the interviews was analyzed and grouped according to themes that emerged. Discrete best practices were determined from the recurring themes.

Resources

Statistics

People with Disabilities

The U.S. Census has increasingly accurate and useful information about the number of people with disabilities. Its 2002 American Community Survey (<http://www.census.gov/acs/www/>) is one of the better sources for general demographic information. The bureau has begun to tabulate disability within the last ten years and has a range of disability statistics (http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pageId=tp4_disability). September 26, 2004.

Also valuable are the annotated statistical resources in *Disability Data Resources—1999* at the U.S. Department of Labor, Office of Disability Employment Policy (<http://www.dol.gov/odep/pubs/ek99/resources.htm>).

Marketing to People with Disabilities

The National Organization on Disability has a short Web section on resources for marketing to people with disabilities (<http://www.nod.org/marketing/index.cfm>). September 26, 2004.

Accessible Technology Use

The Microsoft Corporation hired Forrester Research to do extensive research into the use of accessible technology. It is revealing to discover how many people use access features. “Accessible Technology in Computing—Examining Awareness, Use, and Future Potential” (<http://www.microsoft.com/enable/research/phase2.aspx>). September 23, 2004.

The Aging Workforce

Microsoft has also posted the complete paper and excerpts of “The Convergence of the Aging Workforce and Accessible Technology: The implications for commerce, business, and policy.” It has a broad review of relevant statistics (<http://www.microsoft.com/enable/aging/workforce.aspx>). September 23, 2004.

Individual and Environmental Approaches to Disability

The “New Paradigm” of Disability, Accessible Society (<http://www.accessiblesociety.org/topics/demographics-identity/newparadigm.htm>), has an article about a more inclusive and political definition of disability.

Disability Rights Movement or Independent Living Movement

Disability Social History

A timeline of disability history, which helps to explain the disability civil rights movement, can be found at the Disability Social History Web site (http://www.disabilityhistory.org/timeline_new.html).

Disability History Museum

The Disability History Museum (<http://www.DisabilityMuseum.org>) has an extensive collection in its library. Browse by subject and look at “Advocacy.”

The Disability Rights Movement, Smithsonian

The National Museum of American History at the Smithsonian mounted a first-ever exhibit of photographs and text commemorating the Disability Rights Movement. The online version can be found at <http://americanhistory.si.edu/disabilityrights/welcome.html>.

New Paradigm of Disability Bibliography

The author’s bibliography of books, publications, and electronic media that explain the social/cultural model of disability can be found on the Web site <http://www.AboutDisability.com/bib.html>.

Universal Design

The Center for Universal Design

An excellent overview of universal design principles can be found on The Center for Universal Design Web site (http://www.design.ncsu.edu:8120/cud/univ_design/princ_overview.htm).

Trace Center

The Trace Center at the University of Wisconsin has a rich and detailed Web site about technology and disability access. One of the components is a guide to universal design (http://www.tracecenter.org/world/gen_ud.html).

Telecommunications Industry Association

Telecommunications Industry Association's (TIA) "ACCESS—Resource Guide for Accessible Design of Consumer Electronics" (<http://www.tiaonline.org/access/guide.html>) explains accessible design.

W3C, Web Accessibility Initiative

The World Wide Web Consortium (W3C) develops common standards to help bring uniformity to the Web. The Web Accessibility Initiative (WAI) at W3C works to make the Web accessible and usable by people with disabilities (<http://www.W3.org/WAI>).

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) prohibits discrimination on the basis of disability in employment, state and local government, public accommodations, commercial facilities, transportation, and telecommunications. The Department of Justice has the law, guides, and other information about the ADA (<http://www.usdoj.gov/crt/ada/adahom1.htm>).

Section 508 of the 1998 Rehabilitation Act

Section 508 is a procurement requirement for federal agencies. It requires that new purchases of information technology be accessible. According to the Section 508 Web page, <http://www.section508.gov>:

In 1998, Congress amended the Rehabilitation Act to require federal agencies to make their electronic and information technology accessible to people with disabilities. Inaccessible technology interferes with an individual's ability to obtain and use information quickly and easily. Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The law applies to all federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C. 794d), agencies must give disabled employees and members of the public access to information that is comparable to the access available to others.

Section 508 creates an economic incentive for companies to make their communications, services, and products accessible to people with disabilities. It has been successful because the economic impact of not adhering to its standards is so easily seen. The federal government is the biggest customer for many software and hardware manufacturers. If these companies were prohibited from selling to the government, the impact would be quickly seen in their quarterly earnings statements.

The federal government has an extensive Web site devoted to Section 508 (<http://www.Section508.gov>).

Section 255 of the 1996 Telecommunications Act

Section 255 of the 1996 Telecommunications Act recommends that companies include people with disabilities to identify barriers to accessibility and usability. According to the FCC Web site “Where the company conducts market research, product design, testing, pilot demonstrations and product trials, it should include individuals with disabilities in target populations of such activities.” (Section 255, 2002)

It goes on to say, “Companies should work cooperatively with disability-related organizations.” As a means to understanding your customer, this is a key recommendation. Not only will the individual with a disability be able to help your product become successful in a significant market segment, but that person’s advice will also improve usability for all.

Section 255: Telecommunications Access for People with Disabilities (2002). Retrieved May 3, 2004, from Federal Communications Commission Web site: <http://www.fcc.gov/cgb/consumerfacts/section255.html>.

Advocacy for E&IT Access

Speak Out

Information Technology Technical Assistance and Training Center (ITTATC) has produced a guide to E&IT advocacy, *Speak Out*. The manual has extensive resources and citations for the disability advocate. It can be found at the Web site http://www.ittatc.org/technical/speakout/sp_print/index.html.

Disability Organizations

American Association of People with Disabilities

AAPD is a national membership organization of people with disabilities. It is becoming increasingly committed to technology access (<http://www.AAPD.com>).

Consortium for Citizens with Disabilities

The CCD has a member Web page with a fairly complete list of national disability organizations (<http://www.c-c-d.org/members.htm>).

National Council of Independent Living

NCIL is the national membership organization of independent living centers (<http://www.ncil.org>). There is a directory of its members at <http://www.virtualcil.net/cils/>.

National disability organizations with specific technology expertise

The Alliance for Technology Access

A national group of centers, companies, and individuals supporting the use of technology by people with disabilities (<http://www.ATAAccess.org>).

Gallaudet University

This Washington, DC university has lent its expertise to a number of companies that want to make their products usable by people who are deaf or hard of hearing (<http://www.Gallaudet.edu>).

RERCs

The National Institute on Disability Rehabilitation and Research funds Rehabilitation Engineering Research Centers (RERCs), many of which have expertise with electronic and information technology (<http://www.ncddr.org/rpp/techaf/techdfdw/lerc/>).

World Institute on Disability

WID, the sponsor of this report, is a nonprofit public policy center, dedicated to promoting the civil rights and full societal inclusion of people with disabilities. WID (<http://www.WID.org>) has been at the forefront of advocating for technology access for people with disabilities. Its efforts led to enacting Sections 255 and 508.

Planning

The Amherst H. Wilder Foundation has a diverse selection of publications aimed at nonprofits. Its text, *The Wilder Nonprofit Field Guide to Crafting Effective Mission and Vision Statements*, by Emil Angelica, is a useful planning guide for advocacy organizations. Wilder Foundation, 919 Lafond Ave., Saint Paul, MN 55104-2198, (651) 642-4000 (www.wilder.org/pubs/).

Community Organizing

Comm-Org

Comm-Org has an extensive Web site on community organizing. In addition to a moderated listserv, there are also resources and historical papers (<http://comm-org.utoledo.edu/index.html>).

Study Circles Resource Center

This Web site (<http://www.studyircles.org>) has resources and guides for engaging community dialogue and problem solving to address social and political issues.

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