People with Disabilities and the Technology-Driven Workplace

Susanne M. Bruyère, Ph.D.
Program on Employment and Disability
Industrial and Labor Relations
Cornell University

and

Peggy R. Mastronianni, Associate Legal Counsel,
Equal Employment Opportunity Commission

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Presentation Overview

• Why an interest in IT and the HR process?
• Overview of two Cornell studies on Human Resources practices and IT
  – A review of selected e-recruiting websites
  – Survey of practitioners on accessible IT
• Implications
• Resources for future reference
Why Interest in IT and the HR Process?

• 1 in 6 people in U.S. have a disability
• As workforce ages, visual and hearing disabilities become more common
• Over half of U.S. households now own computers; people with disabilities are half as likely to have Internet Access as those without disabilities
E-HR and People with Disabilities

• As Internet access becomes more common, businesses are becoming network intensive

• Web applications can pose barriers for those with vision, hearing, or dexterity-related disabilities

• Most web sites are not designed to be accessible to people with disabilities
A Review of Selected E-Recruiting Websites

Sample
• 10 Highest Traffic Job Boards
• 31 Corporate E-Recruitment Sites
  – 14 “Best” E-Recruiting Sites (Cambria Consulting, 2000)
  – 17 Top Fortune 500 Companies
Web Pages Evaluated

Four Essential E-Recruitment pages:

- Corporate Home page
- Job Search page
- Sign up / Registration page
- “Resume Builder” page
Evaluation Methods

• Accessibility Evaluation Software:
  – Bobby v. 3.2 (priority one level)
• Simulated Process Evaluation
  Attempted to find and apply for a job using only:
  – Screen reader accessible information
  – Keyboard Navigation
  Home page, career page, job search, job application/resume builder
## Bobby Results

% of pages without major accessibility errors
(Bobby Priority 1 errors)

<table>
<thead>
<tr>
<th>Page Type</th>
<th>Job Boards (n=10)</th>
<th>Corporate Recruiting (n=31)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Page</td>
<td>0%</td>
<td>26%</td>
</tr>
<tr>
<td>Sign up Page</td>
<td>0%</td>
<td>10%</td>
</tr>
<tr>
<td>Job Search</td>
<td>0%</td>
<td>17%</td>
</tr>
<tr>
<td>Resume Builder</td>
<td>0/2</td>
<td>1/11</td>
</tr>
</tbody>
</table>
Simulated Process Evaluation

• Job Boards (9 sites)
  – One third navigable throughout the entire search & application process steps

• Corporate E-Recruitment Sites (12 sites)
  – One quarter navigable throughout the entire search & application process steps
Common Accessibility Issues

• Critical “submit” image buttons missing alternative text (alt text)
• Critical links missing alternative text
• Image maps lacking alternative text
• Auto submit “combo-boxes”
Conclusions

Majority of recruiting websites evaluated were not accessible.

However

Many of the issues can be easily corrected through the simple use of alt tags for buttons and links.
HR and IT Survey

- 433 private sector HR representatives interviewed
- SHRM members
- Had participated in a 1998 survey of employer practices in response to the ADA
Respondent Characteristics

- 24 percent were from large organizations (5000+ employees); 42 percent from organizations with fewer than 500 employees
- 41 percent from service industries, 21 percent manufacturing, 13 percent from finance/insurance organizations
Employee Computer Use

- More than 80 percent of employees in finance, high tech/telecomm, and insurance use computers more than half the workday.
- 60 percent of employees in service and public administration use computers more than half the day.
- About 40 percent of transportation/utilities and manufacturing employees use computers at this level.
## Use of Online Technology

### Figure 5: Organizations' Use of Online Technology

<table>
<thead>
<tr>
<th>Service Type</th>
<th>A great deal (1)</th>
<th>Some (2, 3, 4)</th>
<th>Not at all (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online employee training</td>
<td>4%</td>
<td>59%</td>
<td>37%</td>
</tr>
<tr>
<td>Online benefits self service</td>
<td>18%</td>
<td>39%</td>
<td>43%</td>
</tr>
<tr>
<td>Online benefits information dissemination</td>
<td>25%</td>
<td>57%</td>
<td>18%</td>
</tr>
<tr>
<td>Online job postings</td>
<td>44%</td>
<td>45%</td>
<td>11%</td>
</tr>
</tbody>
</table>

Note: Percent of all respondents (n=433) excluding "don't know/refused" responses.

October 2003
Bruyère
## Perceptions of IT as a Barrier

<table>
<thead>
<tr>
<th>Disability Type</th>
<th>Very significant barrier (1)</th>
<th>Somewhat a barrier (2, 3, 4)</th>
<th>Not a barrier at all (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheelchair users</td>
<td>2%</td>
<td>13%</td>
<td>86%</td>
</tr>
<tr>
<td>Deaf</td>
<td>7%</td>
<td>45%</td>
<td>48%</td>
</tr>
<tr>
<td>Cognitive/learning disabilities</td>
<td>14%</td>
<td>79%</td>
<td>6%</td>
</tr>
<tr>
<td>Fine motor limitations</td>
<td>18%</td>
<td>73%</td>
<td>10%</td>
</tr>
<tr>
<td>Visually Impaired</td>
<td>38%</td>
<td>52%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Note: Percent of all respondents (n=433) excluding "don't know/refused" responses.

## Familiarity with Assistive Technology

<table>
<thead>
<tr>
<th>Tool</th>
<th>Familiar (1,2)</th>
<th>Neither (3)</th>
<th>Unfamiliar (4,5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidelines for Web design</td>
<td>13%</td>
<td>14%</td>
<td>73%</td>
</tr>
<tr>
<td>Screen readers</td>
<td>16%</td>
<td>14%</td>
<td>70%</td>
</tr>
<tr>
<td>Braille readers</td>
<td>21%</td>
<td>19%</td>
<td>60%</td>
</tr>
<tr>
<td>Video captioning</td>
<td>25%</td>
<td>20%</td>
<td>55%</td>
</tr>
<tr>
<td>Speech recognition software</td>
<td>32%</td>
<td>23%</td>
<td>45%</td>
</tr>
<tr>
<td>Screen magnifiers</td>
<td>46%</td>
<td>22%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Note: Percent of all respondents (n=433) excluding "don't know/refused" responses. Source: Survey of SHRM Membership on IT Access in the Employment Process. Cornell University, 2003
## Familiarity with IT Access Resources

**Figure 14: Familiarity with IT Accessibility Resources**

<table>
<thead>
<tr>
<th>Resource</th>
<th>Familiar (1, 2)</th>
<th>Neither (3)</th>
<th>Unfamiliar (4, 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearinghouse for Information Technology</td>
<td>7%</td>
<td>11%</td>
<td>82%</td>
</tr>
<tr>
<td>Accessibility (CITA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Wide Web Consortium (W3C)</td>
<td>8%</td>
<td>14%</td>
<td>78%</td>
</tr>
<tr>
<td>Vendors of accessible computer software/hardware</td>
<td>16%</td>
<td>23%</td>
<td>62%</td>
</tr>
<tr>
<td>JAN (Job Accommodation Network)</td>
<td>20%</td>
<td>10%</td>
<td>70%</td>
</tr>
<tr>
<td>Disability specific organizations</td>
<td>39%</td>
<td>25%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Note: Percent of all respondents (n=433) excluding "don’t know/refused" responses.

Experience Providing IT Access

**Figure 12: Computer Adaptations Made for Employees with Disabilities**
(of those who made adaptations: n=180)

<table>
<thead>
<tr>
<th>Adaptation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Braille reader</td>
<td>6%</td>
</tr>
<tr>
<td>Screen reader</td>
<td>8%</td>
</tr>
<tr>
<td>Large screen</td>
<td>16%</td>
</tr>
<tr>
<td>Voice recognition</td>
<td>20%</td>
</tr>
<tr>
<td>Computer input (special mouse, keyboard etc.)</td>
<td>31%</td>
</tr>
<tr>
<td>Screen magnifier</td>
<td>41%</td>
</tr>
<tr>
<td>Workstation alteration</td>
<td>47%</td>
</tr>
</tbody>
</table>

Assessment of Web Site Accessibility

• Approximately 10 percent said their HR sites had been evaluated for accessibility.
• About 40 percent said their sites had not been evaluated.
• Slightly more than half were unsure of whether their HR site had been checked for accessibility.
Employee Training in Internet Accessibility

• Only 15 percent of respondents reported that any employees had been trained in Internet accessibility for persons with disabilities

• 31 percent reported some staff trained in making computers accessible
Helpfulness of Organizational Resources

• The employee with a disability him/herself was rated as the most helpful resource (84 percent)

• Health and safety/ergonomics staff rated helpful by 72 percent. Computer network services staff and disability management staff rated helpful by 66 percent.
## Helpfulness of Barrier Removal Aids

### Figure 16: Helpfulness in Removing Technology Barriers

<table>
<thead>
<tr>
<th>Feature</th>
<th>Helpful (1-2)</th>
<th>Neither (3)</th>
<th>Not Helpful (4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training purchasing or procurement specialists in Internet access issues for people with disabilities</td>
<td>55%</td>
<td>27%</td>
<td>18%</td>
</tr>
<tr>
<td>Print information on Internet accessibility</td>
<td>61%</td>
<td>25%</td>
<td>15%</td>
</tr>
<tr>
<td>Telephone or e-mail expert consultation on Internet accessibility</td>
<td>66%</td>
<td>21%</td>
<td>13%</td>
</tr>
<tr>
<td>Web based resource on Internet/computer accessibility</td>
<td>70%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Computer training for potential employees with disabilities</td>
<td>71%</td>
<td>13%</td>
<td>15%</td>
</tr>
<tr>
<td>Uniform guidelines to make Web-based employer processes accessible</td>
<td>73%</td>
<td>16%</td>
<td>12%</td>
</tr>
<tr>
<td>Trained technical staff within your organization</td>
<td>73%</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td>Specific expertise or technical assistance on technology accessibility issues in your organization</td>
<td>74%</td>
<td>16%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Note: Percent of all respondents (n=433) excluding "don't know/refused" responses.

Conclusions

• Results demonstrate the magnitude of computer use and computer related skills required throughout the labor force
• Need to raise awareness of IT access considerations for persons with disabilities
• Highlights the importance of computer training for potential employees with disabilities
Implications

• IT access an issue across the employment spectrum for persons with disabilities
• The HR practitioner is a key workplace contact for intervention
• Information services on web design considerations and accommodations are needed
• Knowledge of key resources is imperative
Additional Resources

- Disability and Information Technology Assistance Centers, 1-800-949-4232, [www.adata.org](http://www.adata.org)
- U.S. EEOC - [www.eeoc.gov/ada/adahandbook.html](http://www.eeoc.gov/ada/adahandbook.html)
- Section 508 - [www.section508.gov](http://www.section508.gov)
- World Wide Web Consortium - [http://www.w3.org/](http://www.w3.org/)
- ACCESSIT - [www.washington.edu/accessit/](http://www.washington.edu/accessit/)
- Cornell University
  Program on Employment and Disability
  ILR Extension, Ithaca, NY 14853
  (607)255-9536, [www.ilr.cornell.edu/ped/](http://www.ilr.cornell.edu/ped/)
Related Cornell University Research Reports


Copies of Cornell University reports on which this presentation is in part based, are available from the authors by email: Susanne M. Bruyére, smb23@cornell.edu & William A. Erickson, wae1@cornell.edu
Contact Information

Program on Employment and Disability
Cornell University
331 Ives Hall
Ithaca, NY 14853-3901

Phone: 607-255-9536
Fax: 607-255-2763
TTY: 607-255-2891

Email: ilr_ped@cornell.edu
Website: www.ilr.cornell.edu/ped