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Employment Prospects in a Digital World

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Employment in the Digital Age

Problem: Workers with disabilities are typically
- older than other workers,
- work fewer hours per week,
- less likely to have a college degree,
- more likely in low-growth, low-wage occupations

The potential of the digital age often still seems distant for people with disabilities

Are new technologies bridges, barriers or a combination of both, to employment?
Georgia Tech explored employment possibilities of key digital technologies – called “vectors”: 

- Wireless communication platforms
- Social networks
- Immersive digital environments, including virtual worlds and tiered digital interactions, such as electronic games
- Open publishing
- Open source processes
Key Ideas: Human and Social Capital

- **Human capital**: the knowledge, abilities and skills of an individual (the “know-how”). People do better who are better educated, more intelligent, more attractive, more articulate, more skilled.

- **Social capital**: where people gain advantage because of their location in a social structure (the “know-who”). People do better who are better connected.

- The vectors are conduits to social capital, the connections among individuals.
Both finding and engaging in work depend on social capital, on networks of empowering relationships.

People with disabilities often lack this important element of social capital.

Digital technology and new media are changing how people access social capital, social networks, and the new employment environment.
Findings: Unemployment Problem - 1

- Networks may have greater value for people with disabilities than for general population
  - social capital that underpins networks weaker
  - matching between employer and potential employee less effective

- Exception: Young people with disabilities are more similar to the non-disabled in terms of internet access

- Above 30, people with disabilities less likely to socialize than general population. The young (18-29) actually socialize more than their counterparts with disabilities
Higher unemployment among people with disabilities assumed to be because of competitive disadvantage (= lack of human capital)

Need to look at ways that job opportunity and job seeker match (= social capital)

As knowledge generated largely through social interaction, social capital ("know-who") may become more significant than acquired knowledge ("know-how")
Areas of Employment Growth

- Employment potential of the information economy
- Vectors seen as avenues to work
- “Occupations of interest,” in areas of business and employment growth, include
  - mobile broadband,
  - social networking,
  - “serious gaming” and “tiered digital interaction” (aka electronic games), and
  - open or peer publishing
Interviews with industries operating in the vector areas

- How do the vectors affect the ability to do work as well as to create or to find work?

- Vectors seen primarily as work creators

- Disability community NOT seen as a viable market, and tech industry NOT adopting universal design principles
Work revolves around interpersonal relationships and trust

Individual has to be proactive in searching for or creating employment, and staying up to date

Challenge: the disability market is seen as “niche” or outside the mainstream, not substantial enough to justify development work

Characteristics of aging workers overlooked
User Studies - 1

- Explored perceptions and awareness of the vectors
- How vectors facilitate participation in the workplace, or potential for finding/creating work
- Three stages: (1) Focus Groups; (2) Online Social Network Groups; and (3) Delphi Study
Vectors seen differently according to disability and familiarity with a particular technology

Most familiar vector was wireless communication platforms, in particular, smartphones

Users felt strongly about telework

Vectors that allowed control of interactions or information (social media) or had reference utility (open publishing) seen as most useful
3 focus groups conducted between May and June 2010, with a total of 21 participants

A range of disabilities were represented

Smartphone most commonly referenced technology:

- Opportunities: Access to social networks with greater ease and mobility
- Barriers: Employer acceptance/workplace policies, learning curve, and cost
- Interface important but not a “deal breaker” (IPhone example)
Focus Groups - 2

- Technology that permits user control or makes information manageable (social media, wireless platforms) viewed favorably
- Communications utilities very helpful (e.g. instant messaging)
- Technologies with reference utility (open publishing) viewed as increasing workplace engagement and opportunity
- Less enthusiasm for immersive digital environments and open source
Online Social Network Groups

- Development of virtual communities on Facebook and LinkedIn, census of disability groups with employment focus
- Employment not prominent theme for social media groups, less than 1% on Facebook and LinkedIn
- Disability social network use patterns not dissimilar from general use
- Social media under exploited for educational, training, and informative uses in workplace
Iterative, 3-round study involving 30 participants
- Themes: 1) applicability of digital technologies to work, 2) awareness of tech, 3) affordability, 4) accessibility, and 5) adoption
- Belief that technology becoming critical for employment
- Belief that increased use of accessible digital technologies will increase employment opportunities for people with disabilities
Universal (inclusive) design viewed as way to achieve greater uptake in digital technologies

Employer issues (workplace technology policies, lack of organizational flexibility) viewed as barriers to the adoption of novel, accessible technologies

Strong support for social media’s potential in the workplace, especially for collaboration

Mixed support for immersive digital environments and open peer publishing applications in increasing employment opportunities
Finding 1. Necessity of education to increase awareness and technical skills

- **Recommendation 1:** Tackle core issues of education with key stakeholders at the federal, state and local level.

- **Recommendation 2:** Develop accessible online literacy curriculum aimed at people with intellectual disabilities in conjunction with family, self-advocate and service-provider groups.
Finding 2. There are significant barriers to making a dispersed workforce a reality.

- **Recommendation 3:** Address issues of Internet access as a critical component of the vectors.

- **Recommendation 4:** Explore industry partnerships to address cost, for example, by providing in-kind services, devices, or partnerships to minimize cost to the end-user.

- **Recommendation 5:** Monitor and contribute to federal and state legislative and regulatory language with regard to assistive technology (AT) and meta-design and develop a standardized instrument to measure AT outcomes.
Finding 3. The vectors may offer pathways to employment, enhancing proactive social interaction, building social capital, led by the young

Recommendation 6: Develop social-media campaigns directed at people with disabilities between ages 15 and 30

- an advisory board of the 15-30 target audience;
- collecting/disseminating success stories
- collecting/disseminating case studies of companies who employ people with disabilities as a resource; and
- collecting evidence-based best practices
Recommendation 7: Explore the possibilities of four national awards modeled after the Malcolm Baldridge National Quality Award.

- For creative use of the vectors and other digital technology in developing new employment opportunities
- To recognize employment creation
- A "Design for Ability" award, for a design management system with a commitment to universal design (UD) principles
- An "Entrepreneur with Disabilities", to recognize original developments of "computer-supported collaborative work"
Finding 4. The disability community needs to expand efforts to enhance awareness of the presence, capacities, and potential of people with disabilities.

- **Recommendation 8:** Advocate for people with disabilities as an untapped resource and as a market, using traditional as well as social-media channels.

- **Recommendation 9:** Create discussion forums focused on the potential of the market that people with disabilities represent.
Finding 5. Social, technological, attitudinal barriers exist to raising awareness of the potential of the new networked economy among people with disabilities

Recommendation 10: Educational/outreach campaign focused on the potential of information technologies to create new job opportunities

- The Department of Labor (ODEP) to lead an industry partnership featuring businesses involved in the vectors (such as Google, IBM, Facebook).
- Campaign to be centered on a major job fair, moving different major urban centers, focusing on the job potential of the networked economy
Finding 6. Encourage the adoption of meta-design approaches

- **Recommendation 11:** Conduct listening sessions with business and industry representatives

- **Recommendation 12:** The National Institute on Disability and Rehabilitation Research (NIDRR) to solicit input on the importance of research and development of meta-design applications as part of its focus on universal design for all government-funded projects.
Finding 7. Encourage development of communities of entrepreneurs with

- **Recommendation 13:** Explore programmatic initiatives to encourage **enhanced interagency coordination** and collaboration and to build outreach efforts.

- **Recommendation 14:** Develop field workshops among the research, policy, and advocacy communities to expand "community-level" input into public-sector processes that affect growth of communications channels.
The Power of Digital Inclusion

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