



State of the Workforce

August 2007

Information Technology and the Workforce

For many of us, information technologies (IT) such as e-mail and the Internet have been easily integrated into our daily lives. Over the past decade these tools, along with a handful of software applications, have become our standard communication platform. However, this is not the case for everyone.

Since the mid-1990s, there has been a concern that certain groups and/or populations were being left on the “wrong” side of the digital divide, leaving them disconnected from the information age. Though the gap in information technology use continues to shrink, individuals who are least likely to use computers and access the internet regularly are still typically people with lower incomes, individuals over the age of 55, and people who have limited English proficiency. As we strive to maintain the current levels of economic success in our region, it is critical that all individuals in the workforce have some basic level of IT skills.

In this report, we explore the influence of IT on the economy, show that using a computer means higher earnings, highlight those who are least likely to have the computer skills they need to succeed in today’s workforce, and offer recommendations for ensuring that our workforce is adequately prepared for the jobs of today and the businesses of the future.

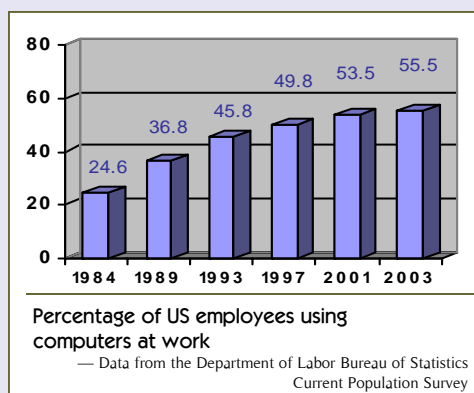
Economic Impact

It’s a given that people who spend their workweek at a desk need IT skills, however these days you are just as likely to find a company’s maintenance person using a laptop computer. Over the past 20 years, the number of workers using computers has more than doubled (25% in 1984 to 56% in 2003).

Increasingly, many jobs we might think of as “low-skill” or “non-tech” are becoming dependent on computer literacy. Application processes, work scheduling, managing benefits, staff training, and, of course, internal communications are all tied into a computer. This type of integration with IT is even more profound in our corner of the country.

Last year, University of Washington researchers showed that we use more computers in our local businesses than the national average. For example, 38% of all manufacturing employees across the U.S use computers in their workday—in Washington state the number is 58%.³

It is critical to our economic success that every member of the workforce has a basic level of IT skills so that they are able to successfully participate in the modern workplace. Otherwise, key jobs will go unfilled, forcing companies to search elsewhere for workers.



Key Facts

- More than half of today’s jobs require the use of a computer.
- 29% of the U.S. adult population still doesn’t use the Internet.
- According to Washington State’s *High Skills, High Wages* report “Workers in nearly every field have had to learn new skills as they incorporate computers into their jobs.”¹
- Immigrants are less likely to have access to a home computer than those who are native born—and this gap is widening.²
- Use a computer at work and earn almost \$500 more a month for the same job.

Information Technology and Wages

Jobs that don't require IT skills may still be plentiful, but, unlike in the past, they are less likely to offer a livable wage. The trend in the U.S. job market is that middle-income/low skill jobs are vanishing. In their place, employers are frequently hiring two types of employees: low-skill/low-wage workers and high-skilled/livable-wage workers. It makes sense to look at how the use of information technologies influences earnings.

Do people who use computers at work really earn more?

A 2006 study⁴ found that a person who uses a computer at work will earn about \$100 more per week than someone doing the same job and not using a computer. That premium jumps to an average of \$118 per week if a person also uses the internet and e-mail. The research even suggests that technology use at work boosts earnings *even more than increased education*.

Individuals with only a high school degree or less:

- ❖ Earn \$90 more per week if they use a computer vs. peers who do not
- ❖ Add internet use and it bumps up to an \$111 increase per week vs. peers who do not

Even for those individuals who are currently using computers at work, a pay raise might just be a few clicks away. Individuals who have taken on-line courses earn an additional \$39 per week. The earning differential is even greater for those with a high school education or less—\$63 per week.

Clearly, training in IT skills is worthwhile for boosting earnings, especially for those with low education levels. Also, research suggests that employers are requiring higher-level skills from employees in order to justify paying higher wages. Simply put, there is a premium on computer skills and a shrinking job market for those individuals without these skills.

Researchers at the University of Washington concluded that Seattle-King County's higher use of computers and the Internet at work is one of the reasons that we earn more on average than workers in other states. With Microsoft, Amazon and other computer-based companies centered here, it is no wonder that Washington state is ranked fourth in the Information Technology and Innovation Foundation's *2007 New Economy Index*. But in order to stay on top, we must be vigilant in keeping our workforce trained—and demographic trends are about to bring bigger challenges.

What is Being Done? Strategies That Work

Microsoft computer skills training at WorkSource

Microsoft designed its Unlimited Potential computer training courses to be donated to community centers for the public, especially those whose lack of computer skills is a barrier to work or self-sufficiency. The WDC worked with Microsoft to offer these courses at WorkSource centers here in Seattle-King County and across the state. The eight Unlimited Potential courses, which are available in nine languages, are a comprehensive overview of computer skills from the basics of working with a computer and the Office Product suite to understanding web design and digital media software. Lessons may be taught in a classroom setting, and are also available in a self-study format, so customers can study and practice at their own pace. Unlimited Potential also now includes Digital Literacy, a five-course curriculum for learners with little or no previous computer experience that culminates in a certificate.

Since July 2005, at least 3,000 WorkSource customers in King County have upgraded their computer skills through the Unlimited Potential courses.

BENEFIT Course

The Fluency with Information Technology (FIT) program is a free, on-line course offered by the University of Washington. The course is self-directed and may take three to six months to complete. It is designed to build a set of foundational skills so that individuals can keep pace with the ever-changing world of technology.

Seniors Training Seniors in Computer Basics

Computer literate senior volunteers (50+) are trained to teach others computer skills. Classes are held at community and senior centers in the City of Seattle. This program is sponsored by the Seattle Human Services Department and the Mayor's Office for Senior Citizens.

Who Lacks Basic IT Skills?

In Seattle-King County, the workforce is not only aging, it is growing more diverse each year with steady immigration from other countries. Unfortunately, it is also getting poorer. These demographic shifts mean that a greater percentage of our workforce will be made up of groups that are typically on the wrong side of the digital divide.

Low-Income Workers

With 20% of the population in King County considered “poor,” according to the Self-Sufficiency Standard for King County⁵, it is imperative that we look at various strategies and interventions to improve individual earnings.

Education and training, as everyone knows, can make the difference between poverty and self-sufficiency. As shown above, even a minimal investment in skills upgrades, especially IT skills, can have big returns.

For example, a “service runner” in a hotel typically earns \$9.50 an hour for responding to customer needs using a pager but no IT skills. With the addition of basic data entry, word processing and internet search skills, the same employee can earn \$12 to \$12.50 an hour in the job of “service agent.” The additional wages in this case would move a single adult across the self-sufficiency threshold.

People in poverty do understand the importance of skill upgrades, but cost, transportation, scheduling, and family needs are significant barriers to accessing training. We should focus on reducing these barriers to open opportunities.

Mature Workers

King County’s fastest growing age groups are 45 to 64, and 75 and older (*Communities Count*, 2005). It is projected that older workers (55-64) will become 16% of King County’s workforce by the year 2010.

As our workforce shifts, businesses will have fewer options for hiring young employees and will have to invest in the skills of older workers in order to remain competitive. Older workers who want to keep earning will need to keep upgrading their IT skills. Those in low-skilled jobs, especially, must gain and maintain basic IT skills in order to earn enough for self-sufficiency.

“We employ over 2,700 people in the Seattle area and have over 4,000 computers on campus. From employees working on the loading dock who input data into spreadsheets to the maintenance worker who re-balances the power supply to different departments via a laptop, each employee uses some type of information technology to support their work.”

— Han Nachtrieb
Director of Human Resources
Fred Hutchinson Cancer Research Center

Limited English Speaking/Immigrants

The *Tough Choices or Tough Times*⁶ report predicts that “through 2020, growth in the U.S. labor force will be fueled solely by the entry of immigrants to our shores and into our workplaces. In Washington State, the non-English speaking population more than doubled between 1990 and 2000. For King County, this means 15.4% of residents are immigrants (*Communities Count* 2005). With English proficiency being a “highly significant” factor in determining internet use, it is critical that IT courses are made available in a variety of languages as immigrants make up an ever-growing portion of our local workforce.

¹ Washington State Workforce Training and Education Coordinating Board. *High Skills, High Wages: Washington State*, 2006.

² Fairlie, R.W., London, R.A., Rosner, R., and Pastor, M. *Crossing the Divide: Immigrant Youth & Digital Disparity in California*. Center for Justice, Tolerance, and Community, 2006.

³ Fan, M., Dey, D., and Peng, G. *How Do Computers and Internet Affect Employee Compensation?* A report submitted to Harry Bridges Center for Labor Studies, 2006.

⁴ Mossberger, K., Tolbert, C.J., and McNeal, R. S. *Digital Citizenship: The Internet, Society, and Participation*. The MIT Press. (to be released November 2007).

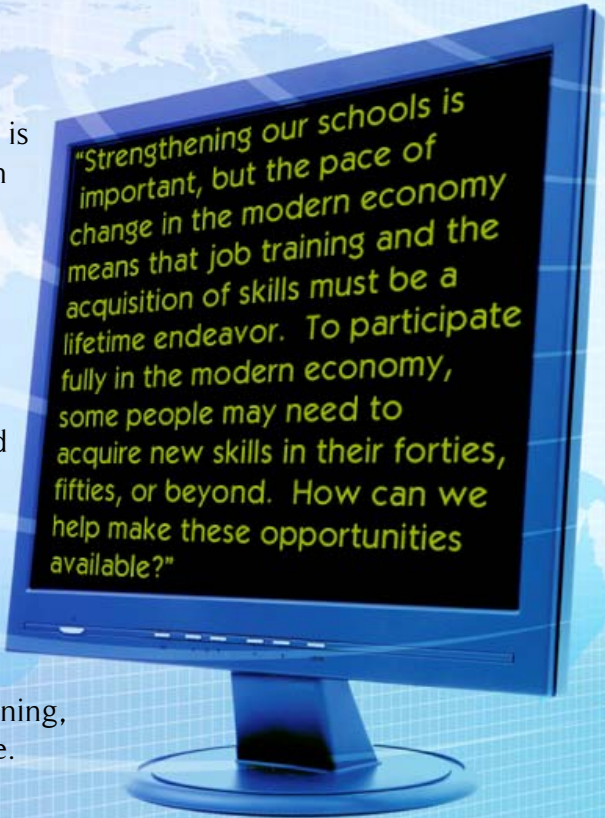
⁵ Pearce, D. M. *The Self-Sufficiency Standard for Washington State*. A report prepared for the Workforce Development Council of Seattle-King County, 2007.

⁶ National Center on Education and the Economy. *Tough Choices or Tough Times*. Jossey-Bass Publications, 2007.

Conclusion

An economy is only as strong as its workforce. Our economy is booming at the moment, but its continued success depends on making sure that we can supply skilled workers—at every level—to businesses. We are facing a widening gap between the skills workers have and the skills businesses need. Many job vacancies remain open for months due to an inadequate supply of qualified applicants.

Without action to increase skills among the most disconnected populations, we could see an increase in poverty and a slowdown in the economy, with businesses moving jobs to areas that can supply enough higher-skilled workers. Research shows that IT skills can be as essential to workplace success and adequate income as reading and writing. For the benefit of both our economy and our residents, IT skills should be integrated into all other skills training, and IT-specific training should be made accessible to everyone.



"Strengthening our schools is important, but the pace of change in the modern economy means that job training and the acquisition of skills must be a lifetime endeavor. To participate fully in the modern economy, some people may need to acquire new skills in their forties, fifties, or beyond. How can we help make these opportunities available?"

— quote from Ben S. Bernanke, Ph.D.
Chairman of the Federal Reserve Board

Next Steps

Policy Makers and Educators

- Encourage education and training programs to incorporate information technologies in all facets of learning
- Recognize that basic IT literacy is as critical to workforce development as basic language and math literacy
- Provide access to IT training instruction specifically dedicated to serving individuals currently in low-wage jobs, new immigrants, and mature workers

Employers

- Assess **all** employees' IT skills and training needs for their current job as well as skills needed for career advancement
- Provide Internet access and time for employees to take on-line courses so they can develop new IT skills
- Work with local colleges to design workplace-specific courses designed to upgrade IT skills across all levels of your workforce

Workforce Development Programs

- Assess all customers for basic IT literacy
- Inform customers of the potential financial benefits of IT skills in their job search and career plan
- Ensure that IT literacy courses are accessible to both employed and unemployed customers, those with limited English, and older workers

The WDC of Seattle-King County is a private, nonprofit organization that oversees employment-related programs for youth and adults; workforce services for businesses; and sector initiatives for economic development. For additional information, contact the WDC at operations@seakingwdc.org.

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