

# IT Skill Sets of the Future

2012 Georgia Digital Government Summit

December 10-11 2012

Robert Orr, Ed.D

Chief Information Officer

Howard C. Woodard, Ed.D

Professor of Information Systems





# Agenda

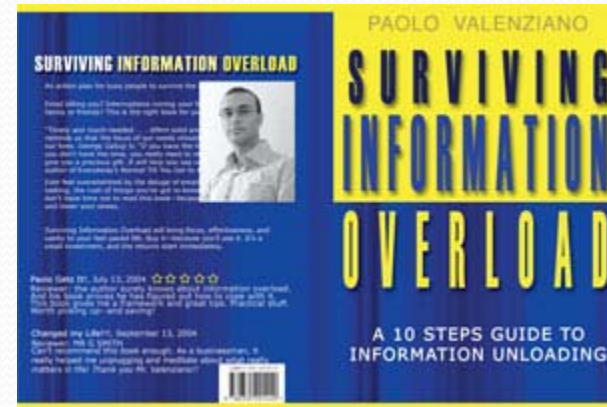
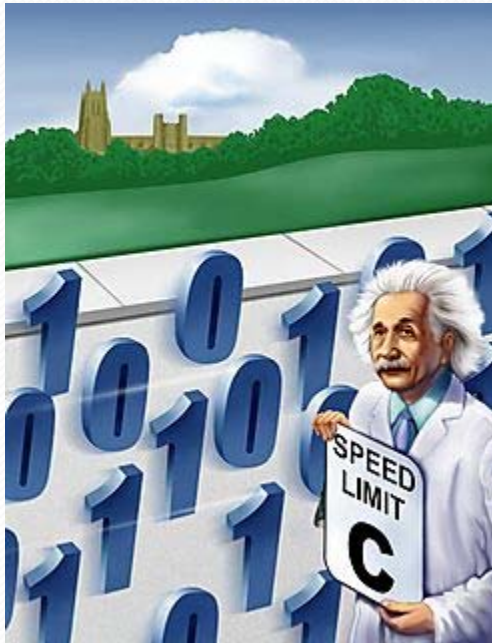
- Current environment
- What does that tell us about the future
- Skills needed for the future
- How to survive the Future



# **What is our current environment?**



# Signs of the Times



## Information Overload

# The Environment

- The Public expects Governments to:
  - Produce higher levels of service
  - Higher return on their Tax \$
  - Utilize the same or fewer resources



# The Environment

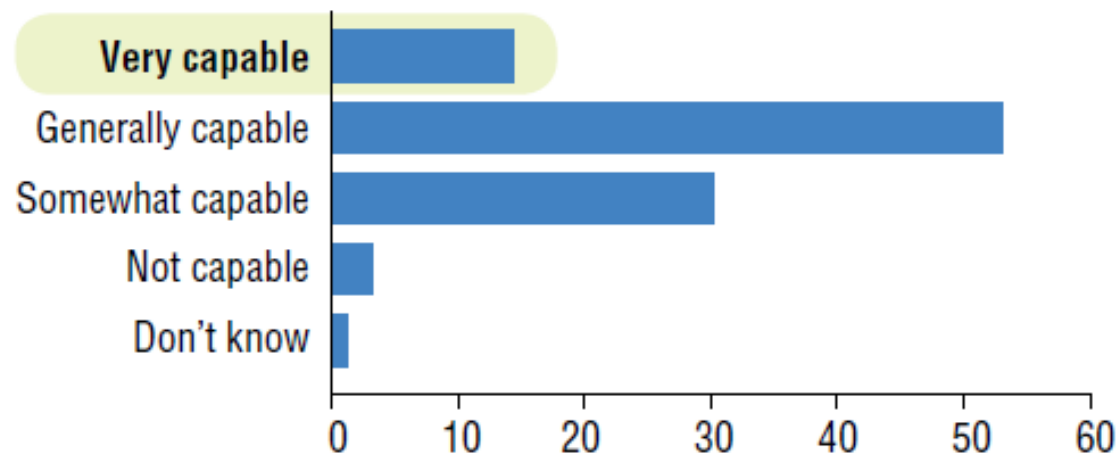
- The public expects technology to:
  - Handle customer-driven innovation
  - Provide for on-line communities
  - Maintaining their privacy & security
  - Allow customization of accounts and interfaces
  - Support customer interaction with mobile devices

# The Environment

- Which means that we all must:
  - Work smarter
    - Use technology to provide higher level and better services
    - Use the data we collect to make better decisions
  - Change
    - Adapt to the change of the environment

**Figure 2. How would you rate your workforce's ability to adapt to potential changes in the business environment?**

*(Percent)*

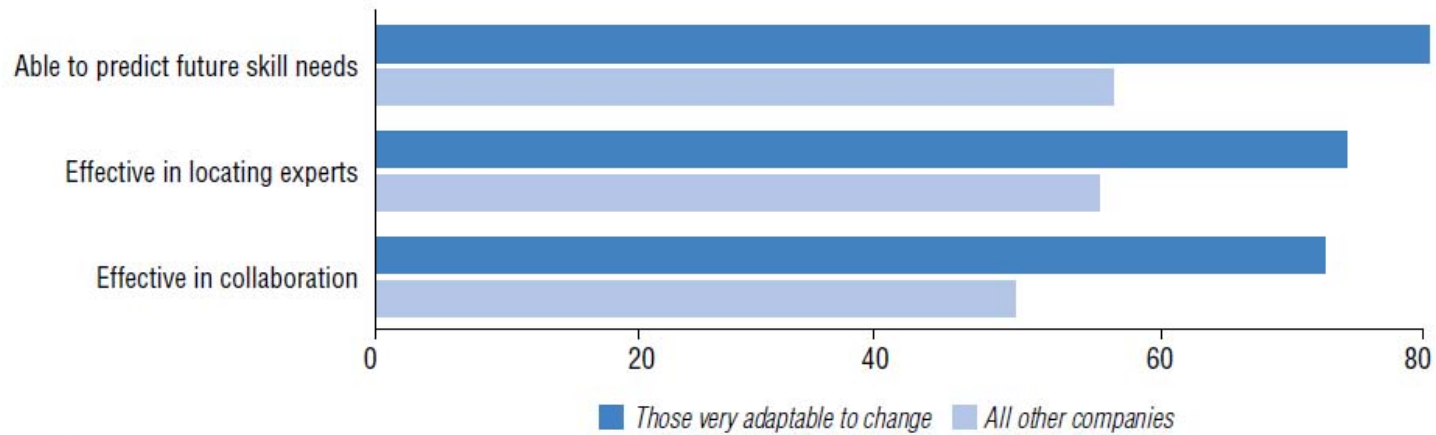


*Source: IBM Global Human Capital Study 2008.*



**Figure 3. Characteristics of companies indicating they are *very capable* of adapting to changing business conditions.**

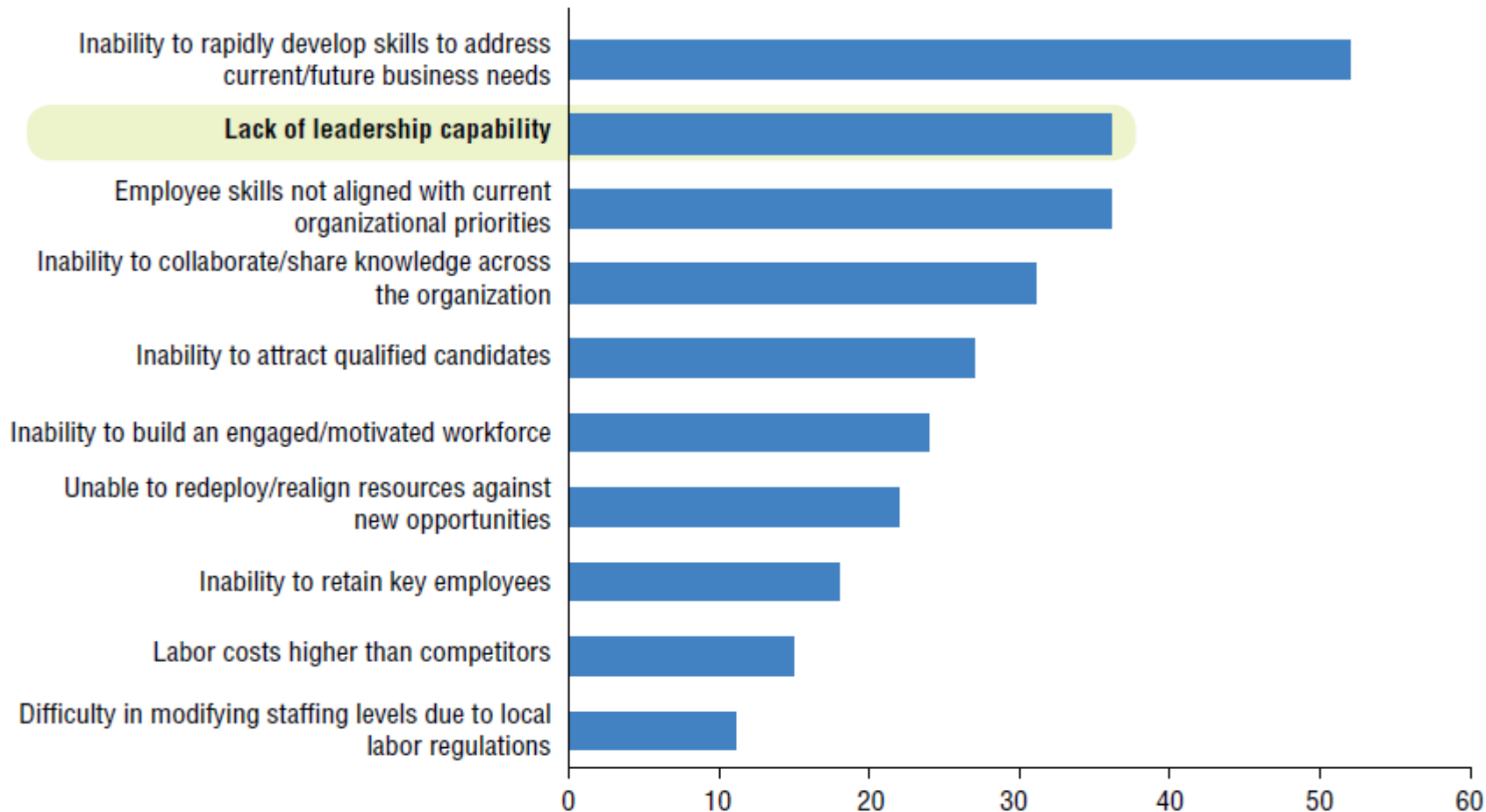
(Percent)



Source: IBM Global Human Capital Study 2008.

**Figure 6. What do you see as the primary workforce-related issues facing the organization?**

(Percent)



Source: IBM Global Human Capital Study 2008.

# Current Issues

- Not enough individuals to meet the work force needs
- Baby Boomers close to retirement
- New students not entering the field
- IT staff turn over is a major problem
- State and local governments are at a major disadvantage





**What does this tell us about the  
future?**



Our in-house IT skill needs will  
be different



# Skills needed for the future



# Three Group of Skills

- Technical skills
  - Technical knowledge, skills, abilities, attributes
  - Use of tools associated with a function or task
  - High level and vendor independent

# Three Group of Skills

- Employability or foundational Skills
  - Communication
  - Organizational
  - Team contribution and leadership



# Three Group of Skills

- Professionalism skills
  - Critical thinking and decision making
  - Customer relations
  - Self-directed & continuous learning





# Common Qualities Across All

- Project management
- Task Management
- Problem solving and troubleshooting
- Business analysis

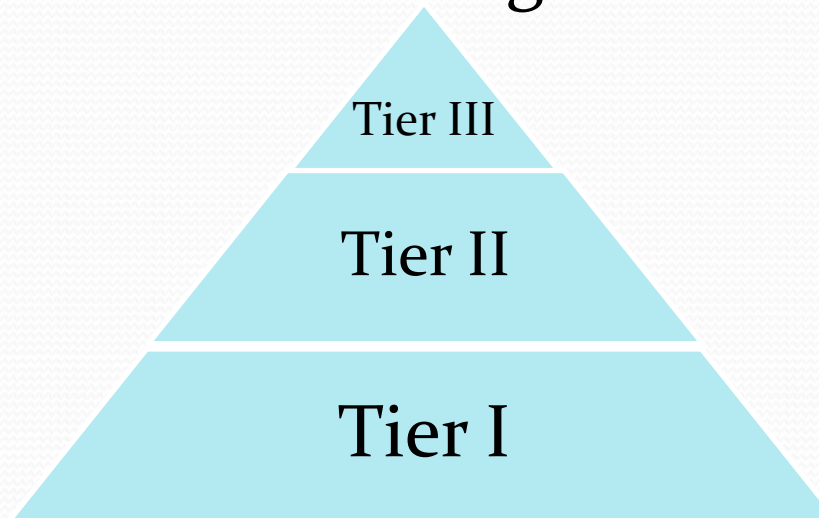


# Future Trends in IT Skills Needs

- E-Business & E-Commerce
- IT outsourcing, contracting, and consulting
- IT specialists versus generalists

# IT Skills Pyramid

- Tier I - Foundation & Employability Skills (Universal Skills)
- Tier II - Common Technical Skills
- Tier III - Industry Specific Technical Skills and Organizational Knowledge.





# Tier I Skills

- Foundation Skills
  - Basic Skills
  - Thinking Skills
  - Personal Qualities
- Workplace Competencies
  - Management of Time and Resources
  - Interpersonal Skills
  - Management and Use of Information
  - Understanding and Management of Systems
  - Use of Technology



## Tier II

- Proficient use of software and hardware tools
- Proficient use of Internet techniques
- Understanding of hardware & system architecture
- Troubleshooting of software and hardware problems





# Tier III

- Knowledge of and compliance with company practices and organization protocols
- Understanding and effective use of industry terminology
- Knowledge of and compliance with industry legal requirements
- Knowledge of and compliance with company and product standards



# Employers Want Employees Who Can

- Apply a systematic, methodical approach to solving a problem
- Research to see who else knows about the problem
- Develop a rational set of possible solutions
- Test the solutions cost-effectively and efficiently
- Verify that the problem is truly solved
- Document the solution for others



# How to Survive the Future



# **We Need a Roadmap**

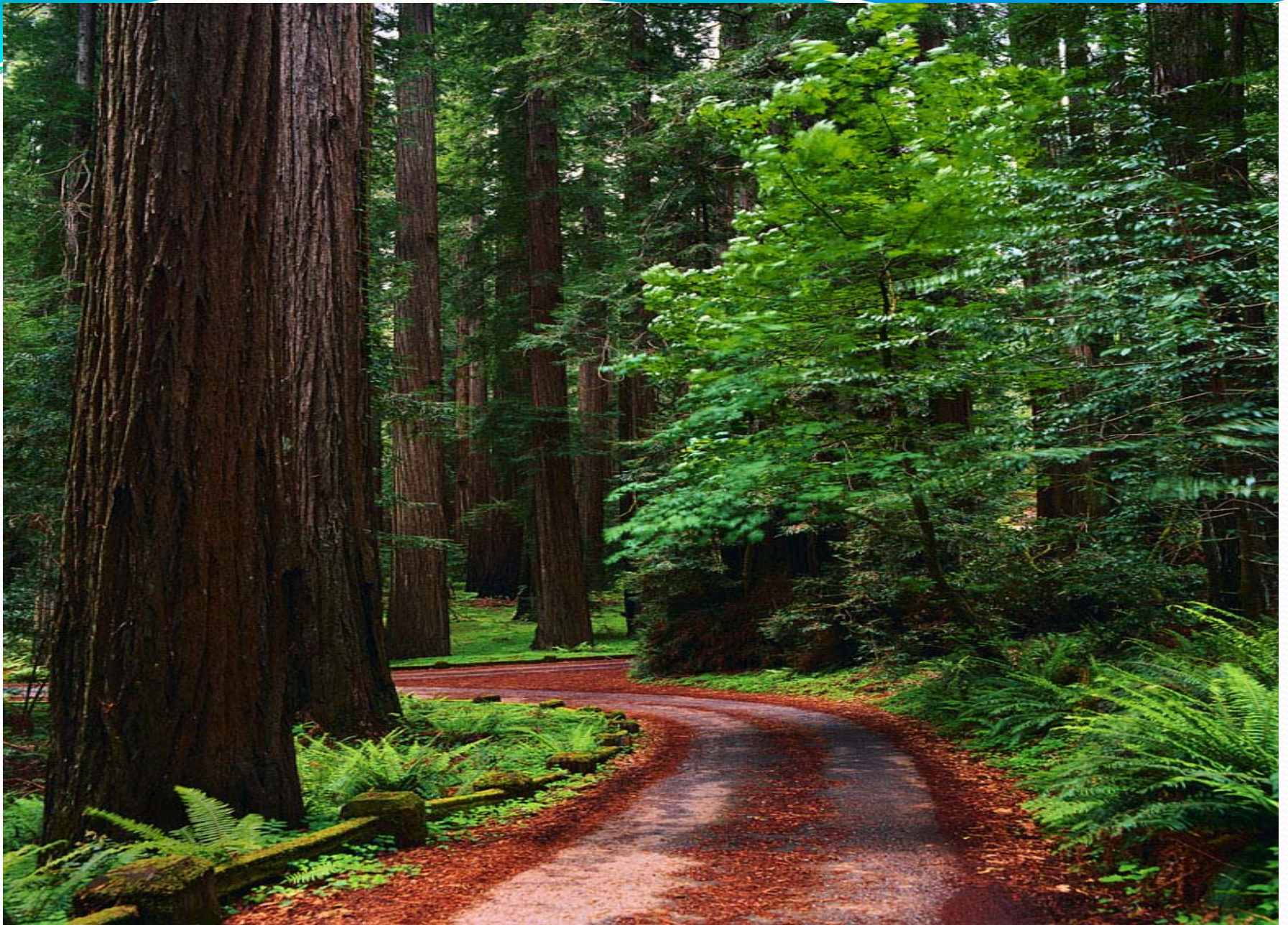










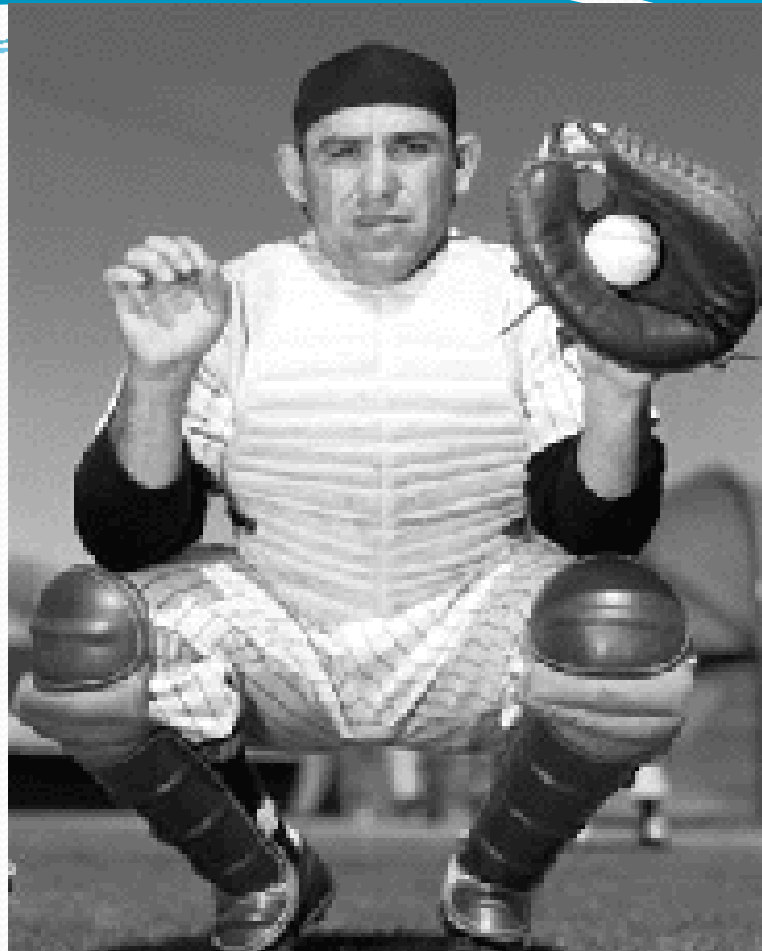












"You got to be careful if you don't  
know where you're going, because  
you might not get there."

-- Yogi Berra





“The best way to predict the future  
is to create it.” – Peter Drucker

# Solutions that you can influence

- Expand to use individuals not normally used by offering alternative working conditions.
  - Consider Baby Boomers who may have retired from their first job but doesn't want to quit working completely.
  - Physically challenged
- Work to keep the IT staff you have.
  - Give them time and resources to improve and keep up to date with their skills
  - Develop flexible work descriptions for flexible schedules



# Solutions (Cont)

- Check with local colleges (Academic & Technical) For staff help
  - Use internships
- Work with local colleges IT department for project and consulting assistance.
- Use the Internet to find lessons and webinars that your employees can use to continue enhancing their skills.
  - A number of these are free





# Remember

"The real problem is not whether machines think but whether men do." - B. F. Skinner

Think outside of the box for work force solutions. Be creative.



What Are Your Individual  
Solutions?



# References

Allison, D. H. (2010). The Future CIO: Critical Skills and Competencies. *ECAR Research Bulletin 15*.

Economist Intelligence Unit . (2008). *The Digital Company 2013: How technology will empower the customer*. London, England, UK: The Economist.

Evans, N. (2002). Information Technology Jobs and Skills Standards. In B. L. Hawkins, *Technology Everywhere: A campus Agenda for Education and Managing Workers in the Digital Age*. San Francisco, CA: Jossey-Bass, A Wiley Company.

IBM Global Services. (2008). *IBM Global Human Capital Study 2008*. Somers, NY: IBM Global Services.

Pender, L. (2011, 08 01). The Future of IT Skill: What you Need to Keep Your IT Career Alive. *Redmond*.



# Contact Information



Robert Orr, Ed.D  
Chief Information Officer  
Georgia College & State University  
Milledgeville, GA 31061  
Email: [robert.orr@gcsu.edu](mailto:robert.orr@gcsu.edu)

Howard C. Woodard, Ed.D, CCP  
Professor of Information Systems  
J Whitney Bunting College of Business  
Georgia College @ Robins AFB  
Robins AFB, GA 31098  
Email: [howard.woodard@gcsu.edu](mailto:howard.woodard@gcsu.edu)



Old Governor's Mansion



J Whitney Bunting College of Business



**THE END**