



IT Workforce: A Global Perspective

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Outline

- Defining an IT worker
- Categorizing IT workforce
- Long-Term strategies for increasing the supply of qualified IT labor: Training and Education
- Overview of IT workforce in USA, China, and Malaysia
- Tasks ahead

Defining an IT worker

- ❖ Who is an IT worker? (Definition based on what people do)
 - ❖ Persons who design, install, upgrade, or maintain and support IT hardware
 - ❖ Persons who design, author, adapt, test, implement, maintain, or support software or databases
 - ❖ Persons who install, configure, support, maintain, or utilize office systems and applications for use by those who interact directly with these systems for business purposes
 - ❖ Persons who design, develop, document or train on, or implement computer-based business solutions for clients

Defining an IT worker

- ❖ Who is an IT worker? (cont.)
 - ❖ Persons undertaking software-based enterprise resource planning or just-in-time inventory control and systems integration
 - ❖ Persons who write software code for embedded systems such as hand-held, palm-top devices or equipment controllers
 - ❖ Persons who develop design tools, simulation, and IT-intensive systems for the delivery of electronic content
 - ❖ Persons who are responsible for testing, documentation, or configuration management
 - ❖ Persons who directly manage IT workers

Categorizing IT workforce

- ✿ Job titles like system analyst, computer hardware engineer, web page designer, etc. are non-standard and evolving.
- ✿ The nature of IT work
 - ✦ Category 1: IT work that involves the development, creation, specification, design, and testing of an IT artifact, or the development of system-wide applications or services (it also involves IT research)
 - ✦ Category 2: IT work that primarily involves the application, adaptation, configuration, support, or implementation of IT products or services designed and developed by others

Categorizing IT workforce

- ❖ Two categories of IT workers
 - ❖ Category 1 and category 2 work are differentiated by the amount of formal education required, the degree to which conceptualization and invention apply to the core tasks, and the complexity of the tasks or the number of system components to be integrated.
- ❖ Category 1 workers are individuals whose responsibilities involve a greater amount of category 1 work relative to category 2 work.
- ❖ Category 2 workers are individuals whose responsibilities involve a greater amount of category 2 work relative to category 1 work.

Long-Term strategies for increasing the supply of qualified IT labor: Training and Education

- ❖ Formal education
 - ❖ Secondary education
 - ❖ Higher education
 - Baccalaureate, post- baccalaureate, and community colleges
 - ❖ Industry certification
 - ❖ Distance learning
- ❖ Training IT workers
 - ❖ Need for lifetime learning
 - ❖ Support and infrastructure for training
- ❖ Integrating work and learning

Overview of IT workforce in USA, China, and Malaysia

✿ IT workforce in USA

- ✿ Based on the judgment of the committee, category 1 workforce is in the range of 2.5 million
- ✿ Based on the judgment of the committee, category 2 workforce is in the range of 2.5 million
- ✿ Overall size of the IT workforce is 5.0 million
- ✿ Total US labor force is approx. 140 million
- ✿ IT workforce is 3.57 % of the total workforce
- ✿ Source: Building the workforce for information economy

Overview of IT workforce in USA, China, and Malaysia

- ✚ IT workforce in China (1998)
 - ✚ Total Population 1248.1 million
 - ✚ Number of employed persons 699.57 million
 - ✚ No IT sector data available
 - ✚ Source: National Bureau of Statistics

Overview of IT workforce in USA, China, and Malaysia

- ✚ IT workforce in Malaysia (2000)
 - ✚ Total Population: 23.27 million
 - ✚ Total labor force: 9.6561 million
 - ✚ Labor force survey 2001 will be complete by December 2001
 - ✚ Source: Department of Statistics, Malaysia

Tasks ahead

- ✚ Data collection
- ✚ Meetings with IT professionals from diverse sectors of economy
- ✚ Developing acceptable estimates for the
 - ✚ Existing IT workforce in the Kingdom
 - ✚ Growth rate in the IT workforce
- ✚ Developing recommendations to achieve the goals