

Northeast Ohio Information Technology Workforce Assessment

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Background

Information Technology (IT) has been identified as a key industry “cluster” in its own right and also as an occupational cluster that cuts across and supports many other industries within the Northeast Ohio region. From this perspective, the vitality of IT is anticipated to have a large impact on the overall economic growth and stability of the region. As a profession, IT is in its infancy, making it necessary for employers to rely heavily on workforce development and training efforts in order to sustain a workforce. Adding to problems associated with a workforce that is in its early development stages, is the sudden and increasing demand in the U.S. and worldwide for information technology products and services. In sum, the IT industry as an entity itself faces high expectations that it will be a driving force in our regional economy; therefore, the workforce development systems to meet the “supply side” needs for labor must be in full gear in order to support this young economic cluster.

The Regional Cluster Initiative and the Jobs and Workforce Initiative at the Greater Cleveland Growth Association, in partnership with the Northeast Ohio Software Association (NEOSA), required information to inform and shape the regional workforce development and training efforts. Does the local IT industry have the workforce it requires to be successful? If not, what are the gaps and how should local workforce development and training initiatives be fine tuned to fill them?

To answer these questions, 7,882 employers were surveyed during July and August of 2000 using a mail questionnaire. Partial funding for the survey was provided through a grant received by the Jobs and Workforce Initiative from The Ford Foundation. The survey included two main types of employers: IT industry companies; and those companies that employ IT professionals as part of their product/service delivery. The overall objective of the survey was to see if the workforce needs of the IT industry were aligned with workforce supply by defining the size and type of the IT workforce in Northeast Ohio. About 10% of the surveys were returned, upon which the following findings were based.

The Findings

- Most IT companies in N.E. Ohio are still relatively small with 87% of them having fewer than 100 employees. Implied in that finding is that most companies have relatively small IT staffs. That is, most (91%) IT companies have fewer than 100 IT professionals. Of those companies that are not IT companies *per se*, three-in-four have IT staffs smaller than 100. This has implications for regional training initiatives in that companies are likely to seek training for only a few individuals at a time, in contrast to what is found in regions where companies typically have hundreds of IT workers. In these companies, specific programs can be designed to train dozens of workers at a time. Few companies in Northeast Ohio can use such strategies to train IT workers.
- While most IT companies in Northeast Ohio are small, IT occupations **represent a significant percentage of the workforce in Northeast Ohio**. Our study estimates that there are about 28,500 IT professionals working in IT companies, and there are about twice as many (45,000) IT professionals working in companies that do not consider IT their main product or service. **These 73,500 workers represent about 5% of the full-time workforce in Northeast Ohio. Additionally, two-thirds of those professionals work for companies that are not IT related but rather companies that are the traditional backbone of the industry in Northeast Ohio.**
- *Programmers* make up about one-third of the IT workforce in Northeast Ohio, followed by *Technical Support Representatives* (13%) and *Network Specialists* (12%).
- **IT companies saw tremendous growth in 1999**. Twenty percent of the IT jobs filled in these companies were “new positions.” However, “turnover” within these companies was relatively low, in that only an additional 7% of the IT professionals in these IT companies were hired as “replacements” for existing positions.
- Companies who employ IT professionals, but do not consider IT their main product or service, added almost no one to their IT employment rolls in 1999 either as additional or replacement positions.

- **Demand for IT professionals has continued into 2000.** At the time of this survey (July and August, 2000) there were an estimated 10,600 job openings for IT professionals in Northeast Ohio. A majority of these were with IT companies (60%). The specialties most in demand were *Programmers* (30% of the openings), *Network Specialists* (13%) and *Technical Sales Representatives* (11%).
- For the most part, IT companies required a bachelor's degree as a minimum educational level. Companies that do not have IT as the main product or service had more diverse educational requirements, having a good proportion of job openings at the high school, IT certificate and associate degree level.
- Companies reported having moderate to great difficulties in finding suitably trained and experienced IT professionals, for almost all types of IT professionals examined. As an industry, *Programmers* and *Software Engineers & Architects* were seen as the professionals most critical to the success of the IT companies in our region and were also viewed as among the most difficult to find and recruit. Among those companies that do not consider IT as their main product or service, *Programmers*, *Network Specialists*, and *Database Administrators* were viewed as the most difficult to find and are the most critical to companies' future success.
- Companies anticipate the need for trained IT professionals to remain strong. Collectively, these companies estimate the need to hire 20,000 IT professionals in the year 2001.
- Training of IT professionals in our region is most commonly done 'informally' and 'on-the-job.' Few companies (IT and otherwise) have staff dedicated to the training of staff IT professionals. The average percentage of payroll dedicated to IT professional staffing (1%-2%) is below national averages (2%) and well below the national benchmark for high performing companies (3%).

Conclusions

- While the IT industry, as a "cluster" industry within Northeast Ohio, is relatively small, the number of IT workers in Northeast Ohio is significant (5% of the region's employment base) and a majority of those workers are employed within traditional manufacturing industries. Therefore, any support lent to developing the IT workforce

in Northeast Ohio should not be viewed simply as a boost to that particular cluster, but rather as support of the larger backbone industries in our region (manufacturing, distribution, professional services, healthcare).

- Because of the size and nature of IT staffs within companies in Northeast Ohio, a “regional approach” is needed to train and develop our IT workforce. That is, we need to facilitate the process of bringing various companies together in order to provide training for their IT employees. This could be done through a “training clearinghouse” where employers are grouped by their IT training needs and matched with appropriate training providers.
- The IT industry has grown significantly in Northeast Ohio within the past year, and this growth is expected to continue in 2001. Although the current need for trained IT professionals is great, that demand will likely reach even more critical levels in the coming year. While in recent history, employers have not experienced high turnover among their IT workers, this will change if demand greatly exceeds supply. In this scenario, employers will face rising salary pressures and increased recruiting costs, as well as other human resource issues involved with turnover of employees.