

**U.S. Department of Labor and America's Job Bank Transactions Consortium:  
Development of a new occupational information system to replace the current  
*Dictionary of Occupational Titles*, and continuing development of  
new applications of O\*NET**

**Start - Completion Date (Status):** 1994 – 2007 (continuing)

### Intended Results

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Department of Labor Goals:

Rapid changes in the American economy, business, and workforce have led to dramatic changes in the nature of work. The current occupation information was neither current nor very useful. In order to capture these changes and to provide accurate occupational information to employees and employers, a new occupational classification system was needed. The main purposes of this new occupational system:

- Describe present and future jobs along numerous dimensions such as abilities, skills, work context, and labor market conditions.
- These dimensions can then be used to classify jobs, compare jobs, and create person-job profiles.
- Enable employers and job seekers to more efficiently achieve rapid job searches resulting in better person-job fit.

### Achieved Results

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American Institutes for Research was the prime contractor and PDRI, a subcontractor, played a major role in the development and implementation of the new occupational information system prototype (O\*NET).

PDRI achieved the following results:

#### **Development of a Content Model**

After conducting a thorough literature review, five content areas related to the description of jobs were identified:

- *worker attributes* (e.g., abilities, skills, interests, education, personality etc.),
- *work content* (e.g., generalized work activities),
- *work context* (e.g., physical working conditions, communication, and job demands),
- *organizational context* (e.g., organization size, structure, goal setting, and human resources systems), and
- *labor market characteristics* (e.g., labor demands and supply).

Within each content area, a hierarchical taxonomy of constructs was developed and measurement descriptors were identified.

- Over 1,000 organizations were surveyed to refine and modify the content model, ensuring the most representative sample (over 10% of all jobs in the US labor market) of the US World of Work.

- The data analysis verified that the content model and job descriptors demonstrated high reliability and strong construct validity.

## Ongoing Efforts

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O\*NET is now a comprehensive, dynamic database of occupational information. Sponsored by the U.S. Department of Labor, O\*NET replaces the Dictionary of Occupational Titles (DOT) as the nation's primary source of occupational information. O\*NET is one of the first automated systems to identify and compare skill requirements across occupations in the U.S. economy. The Department of Labor and its associated partner, the State of Utah (who runs the O\*NET/ America's Job Bank Transactions Consortium), has engaged PDRI in an ongoing series of projects (as a subcontractor to Aguirre International) designed to ensure that O\*NET remains a useful, state-of-the-art system over time. PDRI's efforts have included:

- Examining issues associated with the use of multiple methods and sources to populate the O\*NET database. We developed a score adjustment procedure (based on the logic of test equating) that could be applied to increase the similarity of data from job incumbents and expert analysts when combining the two sources in a single dataset.
- Exploring the potential uses of transactional data for updating O\*NET datasets (including job postings, online job board entries, job applications, etc.) Transactional data can be used in a number of ways, including the direct use of transactional data to fill or update the O\*NET database, and the indirect use of transactional data (e.g., as a sensing mechanism to identify the need for updates in data for specific occupations). PDRI developed a model for the use of transactional data to identify emerging occupations, and is exploring issues associated with the use of transactional data.
- Working with special interest communities to demonstrate how O\*NET can be used and by their constituencies and how O\*NET can be customized to accommodate the specific needs of these communities. PDRI's continuing efforts in this area include:

The development of a composite "strength" measure from O\*NET descriptors. The DOT strength factor has been used extensively by practitioners in several professions, including occupational therapy and vocational rehabilitation, in determining the potential match between physical requirements of jobs and the capabilities of clients with physical disabilities.

PDRI identified a set of 14 O\*NET descriptors that can be used to classify O\*NET occupations into DOT strength categories. These O\*NET descriptors could form the basis for an O\*NET strength measure analogous to the DOT strength factor.

Identifying Information Technology (IT) occupations to consider adding to O\*NET, using focus groups to ensure that O\*NET meets the needs of persons in the IT industry and of students interested in IT careers.

Creating pilot applications for career path exploration using O\*NET data to establish career paths for specific occupational groups and presenting these data to job seekers in an easy-to-use, intuitive career exploration web tool.