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## *Competency Models In Action:*

# **Missouri Develops Target Industry Competency Models Based on Building Blocks**

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### Introduction

The Missouri Economic Research and Information Center (MERIC) is using the Employment and Training Administration's (ETA) [Building Blocks](#) and national models as the foundation for Missouri Target Industry Competency Models. These customized models will serve as frameworks for aligning education and workforce programs with the future talent development needs of companies.

In cooperation with industrial organizational psychologists, ETA developed the Building Blocks to serve as the foundation and framework for building industry competency models. ETA assists industry partners in customizing the Building Blocks to create national models that reflect industry's workforce needs. In turn, local, state, and regional partners can customize the Building Blocks or the national models to address their unique workforce challenges.

So far, MERIC has developed and validated customized models for Information Technology, Transportation, the Life Sciences, and Energy. In this *Competency Models In Action*, we will describe the collaborative process MERIC is using to develop competency models for Missouri's target industries.

### Missouri's Workforce Need

Missouri considers its ability to offer businesses an available and sustainable pipeline of skilled workers an important asset for promoting economic growth and high quality job opportunities. Using employer feedback collected by the Missouri Job Vacancy Survey (JVS), MERIC released a skills gap report in October 2008. This report indicated that Missouri employers view soft skills as crucial to work readiness, but found soft skills deficiencies in the available workforce.

Missouri is using the industry cluster concept as a framework for guiding workforce development initiatives designed to address these skill gaps. An industry cluster is a group of economically interdependent businesses that may have common supply chains, labor needs, technologies, and markets. Identification of target industry clusters enables policy makers to direct resources to the most viable parts of the economy. Based on previous research, existing initiatives, industry strength, and future growth potential, MERIC identified eight target industries:

- Agribusiness
- Automotive
- Defense & National Security
- Energy
- Finance
- Information Technology
- Life Sciences
- Transportation

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## Solution: Development of the Missouri Target Industry Competency Models

Among their workforce initiatives, MERIC is building competency models for the target industries using the Building Blocks and ETA national models as foundations. The Building Blocks use a system of tiers to divide competencies into foundation, industry, and occupational groupings. Since a similar process was used to develop all of MERIC's completed models, here we will examine how MERIC developed its first model, Information Technology.

### **Tiers 1-3 Foundation Tiers**

MERIC began by researching best practices and reviewing state and national reports about the skill needs of the Information Technology industry. To create Tiers 1 and 2, MERIC developed an industry survey using the knowledge, skills, and abilities from the Building Blocks. The survey was administered to professionals in the region with face-to-face and telephone interviews. The results confirmed that employers value not only academic and technical

knowledge, but also soft skills in the workplace. In addition, MERIC found that these conversations effectively provided employers with an open forum to voice their concerns, giving business leaders the flexibility to add competencies outside the survey questions.



The survey results were mapped against [O\\*NET](#)<sup>1</sup> and [Career Clusters](#)<sup>2</sup> data and compared with the national models to determine areas of overlap as well as skill needs unique to Missouri. The Tier 3 competencies were derived separately from the Building Blocks and Career Clusters data.

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<sup>1</sup> The Occupational Information Network (O\*NET) database is an interactive application for exploring and searching occupations. Developed under the sponsorship of the U.S. Department of Labor - Employment and Training Administration (DOL-ETA), it contains information on hundreds of standardized and occupation-specific descriptors.

<sup>2</sup> The States' Career Clusters Initiative (SCCI) was established under the National Career Technical Education Foundation (NCTEF) to provide Career Clusters as a tool for seamless transition from education to career in this era of changing workplace demands. SCCI helps states as they connect career technical education (CTE) to education, workforce preparation, and economic development.

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## Tiers 4-5 Industry Related Tiers

Each industry has a unique set of technical competencies. For Information Technology, MERIC used focus groups to collect data for these technical competencies. A panel of business leaders, managers, and education and training providers served as the subject matter experts (SME's). Participants began the process by brainstorming critical industry and sector competencies. Then they used affinity diagrams<sup>3</sup> as a tool to organize, revise, categorize, and prioritize the competencies.

During the sessions, MERIC and the panel recognized the highly segmented nature of the Information Technology field – most of Missouri's IT workers are employed within Healthcare Services, Financial Services, and Homeland Security. For this reason, MERIC and the SMEs felt it was critical to add these industries to the model in the form of Tier 5 IT sectors. To create Tier 5, the SME panel vetted the sectors and identified sector specific knowledge areas. As a final step for Tiers 4 and 5, MERIC compared all the session's results with the national [Information Technology Competency Model](#).

## Tiers 6-9 Occupation Related Tiers

The Missouri IT model identifies 12 target occupations. The Tier 6 content for the model was derived from the O\*NET Occupational Knowledge Areas associated with these occupations. Tier 7 was based on O\*NET Tools and Technology data, and Tier 8 comprises [Classification of Instructional Programs](#) (CIP) Titles aligned to occupations using information from the [National Crosswalk Service Center](#). Tier 9, management competencies, was based on content from the Building Blocks.

## Using the Models

The Target Industry Competency Models were created to provide a framework for aligning education and workforce programs with the skill needs of Missouri employers. The models will serve as a resource for educators and advisors developing curriculum and Programs of Study. The models can help identify courses and course sequences that reinforce the need for supportive skills, such as business, technology, and communication, and will enable curriculum developers to close skill gaps and meet current and future business needs. Employers are also using the models in support of human resources functions.

MERIC and its partners continue to develop competency models and support other workforce development initiatives. Through these efforts, Missouri is creating the sustainable pipeline of skilled workers critical to attracting and supporting businesses that provide high quality jobs.

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<sup>3</sup> An affinity diagram is a group decision-making technique designed to sort a large number of ideas, process variables, concepts, and opinions into naturally related groups.

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## **Related Links**

Industry Studies, Missouri Economic Research and Information Center (MERIC)

<http://www.missourieconomy.org/industry/index.stm>

Missouri Target Industry Competency Model - Information Technology

[http://www.missourieconomy.org/industry/target\\_comp\\_model\\_it.htm](http://www.missourieconomy.org/industry/target_comp_model_it.htm)

Missouri Target Industry Competency Model - Transportation

[http://www.missourieconomy.org/industry/target\\_comp\\_model\\_trans.stm](http://www.missourieconomy.org/industry/target_comp_model_trans.stm)

Missouri Target Industry Competency Model - Life Sciences

[http://www.missourieconomy.org/industry/competency\\_life\\_science\\_model.stm](http://www.missourieconomy.org/industry/competency_life_science_model.stm)

Missouri Target Industry Competency Model - Energy

[http://www.missourieconomy.org/industry/competency\\_energy\\_model.stm](http://www.missourieconomy.org/industry/competency_energy_model.stm)

Competency Model Clearinghouse

<http://www.careeronestop.org/competencymodel/default.aspx>