



# Understanding the Worker Needs of Manufacturers:



## The 2007 Skills Gap Survey



Minnesota Technology

positively  
*Minnesota* Department of Employment  
and Economic Development

 padilla speer beardsley

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Minnesota  
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## **Introduction**

Manufacturing matters. The sector accounts for 13 percent of Minnesota jobs and 14 percent of our economy. Output continues to grow, and changes in technology and operations make higher-skilled jobs key to the future success of this industry.

Businesses agree. A “high-performance workforce” is the number one factor for firm success, according to 74 percent of U.S. manufacturers that responded to a 2005 survey by the National Association of Manufacturing (NAM) and Deloitte. A 2007 survey of Minnesota manufacturers with 250 employees or less found that 66 percent of respondents agreed.

Because the workforce environment for manufacturing is changing, both in Minnesota and across the country, several Minnesota partners launched the survey research project to better understand manufacturers’ workforce needs. Partners include:

- Minnesota Department of Employment and Economic Development (DEED),
- Minnesota Manufacturers Coalition,
- Minnesota Precision Manufacturing Association (MPMA),
- Minnesota State Colleges and Universities (MNSCU),
- Minnesota Technology, Inc. (MTI) and
- Padilla Speer Beardsley.

The information on workforce trends and the availability of qualified workers gained from this survey will help the State of Minnesota, local governments, the educational system and other service providers align and prioritize services and support to Minnesota manufacturers. The survey results are presented for businesses statewide, segmented by business size and Minnesota Planning Region, and compared to national data from the NAM study.

Surveys were sent to stratified random samples of businesses in three size groups: businesses with fewer than 20 employees (very small), businesses with 20 to 74 employees (small) and businesses with 75 to 250 employees (medium). A total of 704 businesses responded, out of 2,370 surveys sent, a response rate of 29.4 percent (31.7 percent when adjusting for returns and business changes). Overall, the survey has a margin of error of +/- 3.6 percent.

In the overall results, very small businesses (less than 20 employees) were under-represented, indicating that the results were more representative of the workforce needs of small (20 to 74 employees) and medium-sized (75 to 250 employees) businesses. Businesses with more than 250 employees were not included in the survey. Additional detail on survey methodology is included at the end of this report. A copy of the survey instrument and detailed survey results (segmented by business size and by region) are available online at [www.positivelyminnesota.com/facts/MfgWorkerNeeds.htm](http://www.positivelyminnesota.com/facts/MfgWorkerNeeds.htm).

## Insights from Survey Results

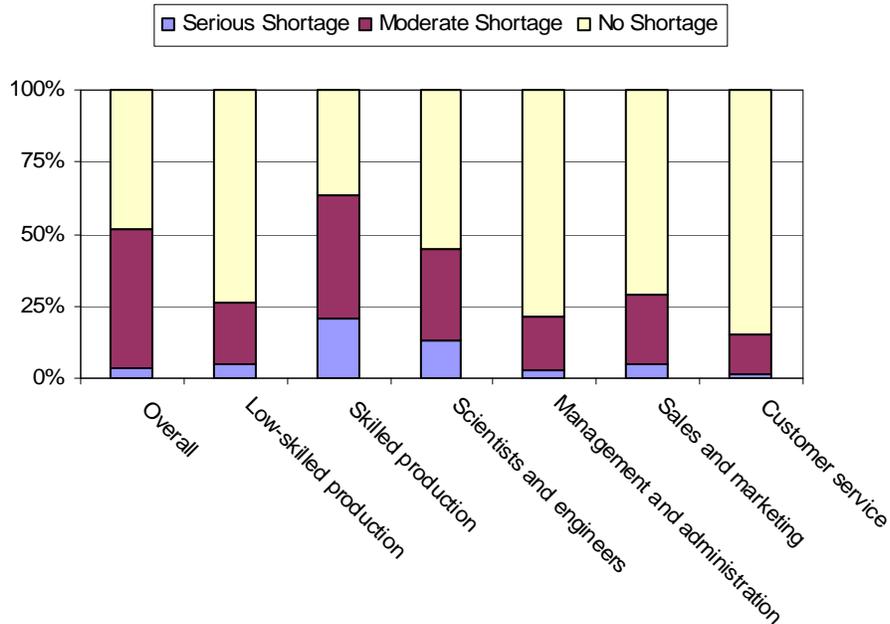
**A high-performing workforce is key to the success of manufacturing businesses in Minnesota.** In fact, a high performing workforce was the number one factor for future business success over the next three years, according to 65.5 percent of respondents. Low cost producer status (42.5 percent) and new product innovation (39.9 percent) were the next highest rated success factors for manufacturers. In this environment, maintaining an adequate supply of workers with appropriate skills is critical.

### ➤ Workforce Shortages

**Workforce shortages are a potential cause for concern for Minnesota businesses.** Over half of respondents (52.0 percent) had positions that were unfilled due to lack of qualified applicants, including 25.3 percent with 5 percent of jobs or more unfilled.

Respondents were also asked to rate the severity of any current shortage for selected occupational groups (on the scale of serious, moderate or no shortage). Overall, 51.5 percent of respondents indicated moderate or serious shortage. The current shortage appeared strongest in skilled production, where 63.5 percent of respondents indicated moderate or serious shortage. No other occupational group reached 50 percent. The current shortage appeared lower for low-skilled production (26.0 percent), management and administration (21.0 percent), and customer service (15.1 percent). See Figure 1 for full results on current shortages.

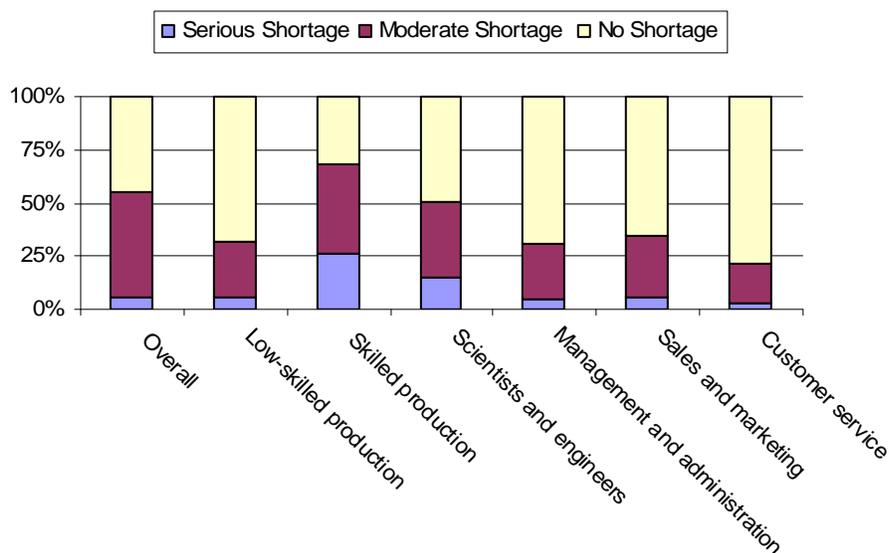
**Figure 1**  
**Current Workforce Shortages by Occupational Group**



Source: "Understanding the Worker Needs of Manufacturers," survey results, Minnesota Department of Employment and Economic Development, 2007.

Respondents expected the shortage to increase three years from now, with 55.5 percent of respondents predicting moderate or serious shortages. By occupational group, the shortage will continue to be most severe in skilled production, where 68.5 percent of respondents predicted moderate or serious shortages. Shortages were also expected to increase for scientists and engineers (50.9 percent). Relative to other occupational groups, the shortage was expected to remain low for low-skilled production (31.8 percent), management and administration (30.8 percent), and customer service (21.9 percent). See Figure 2 for full results of expected shortages in three years.

**Figure 2**  
**Workforce Shortages in Three Years, by Occupational Group**



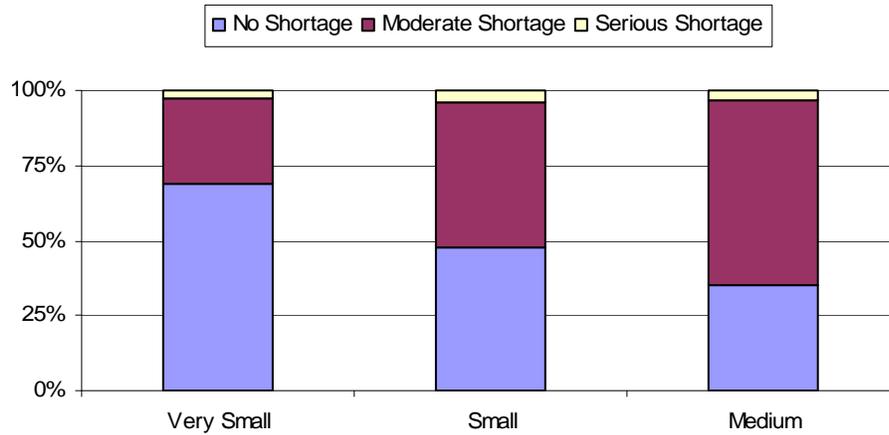
Source: “Understanding the Worker Needs of Manufacturers,” survey results, Minnesota Department of Employment and Economic Development, 2007.

The impact of workforce shortages was reported in several different ways, with the primary impact on a company’s ability to maintain production levels consistent with customer demand (43.0 percent of respondents). Other frequently cited impacts included achieving productivity targets (30.0 percent) and achieving/maintaining target levels of customer service and satisfaction (23.7 percent). However, a substantial number of respondents indicated that their company had experienced no impact from workforce shortages (24.1 percent).

**Workforce shortages have a larger impact on medium-sized companies.** Survey results show a distinct pattern among the size groups in questions related to current and future workforce shortages. In general, workforce shortages were most pronounced for medium companies and least pronounced for very small companies, while small companies tended to be closer to the overall average. For example, 70.8 percent of very small companies indicated that no jobs were unfilled due to a lack of qualified applicants, compared to 33.2 percent for medium companies, 45.1 percent for small companies and 48.0 percent overall.

Nearly all occupational groups followed a similar pattern in which medium companies were more affected by current overall shortages than very small companies. Medium companies had 61.7 percent of respondents indicate a moderate shortage, compared to 28.3 percent for very small companies and 48.2 percent overall. Very small companies were much more likely to indicate no shortage, with 69.0 percent of respondents, compared to 34.9 percent for medium companies and 48.5 percent overall. See Figure 3 for results.

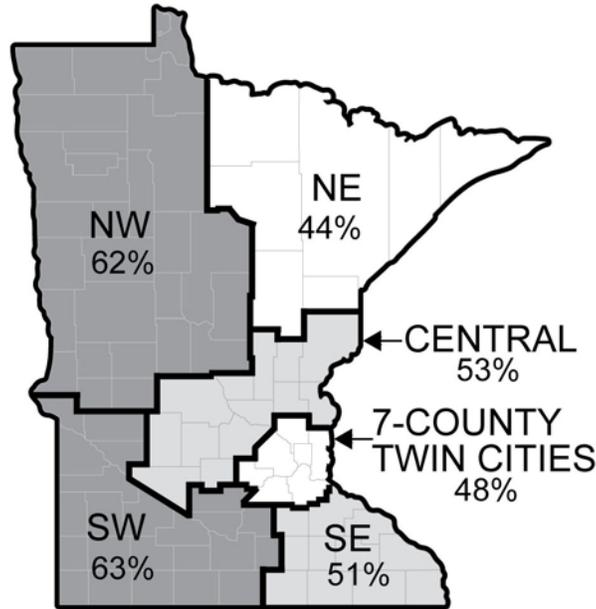
**Figure 3**  
**Overall Current Workforce Shortages by Business Size**



Results continued to follow the pattern for expected shortages in three years. For the overall occupational group, 60.4 percent of medium companies indicated a moderate shortage, compared to 34.9 percent for very small companies and 49.6 percent overall. Very small companies were much more likely to indicate no shortage, with 60.3 percent of respondents, compared to 32.7 percent for medium companies and 44.5 percent overall.

**The Southwest and Northwest were most impacted by workforce shortages.** Overall, 8.5 percent of respondents from Southwest indicated a serious workforce shortage, compared to 3.3 percent statewide. No other region was higher than 4.2 percent. The Northwest region had more respondents indicate a moderate shortage. As a result, these two regions had the lowest share of respondents indicating no shortage, 37.3 percent in Southwest and 38.1 percent in Northwest, compared to 48.5 percent statewide. See Figure 4 for more detail.

**Figure 4**  
**Percent of Respondents Indicating Moderate or Serious Workforce Shortage, by Region**



Source: "Understanding the Worker Needs of Manufacturers," survey results, Minnesota Department of Employment and Economic Development, 2007.

A similar pattern emerged from regional responses for most occupational groups. Southwest had a substantially larger than average share of respondents that indicated serious current workforce shortage for skilled production, scientists and engineers, sales and marketing, and customer service. Northwest respondents indicated relatively larger shortages for skilled production and scientists and engineers than the statewide average.

Responses for workforce shortages three years from now followed similar patterns. Respondents in Southwest expect larger than average shortages overall and in nearly all occupational groups, and respondents in the Northwest expect some larger than average shortages.

It is important to gain some perspective on workforce shortages in Northwest and Southwest Minnesota. Examining average wage data shows that these two regions pay the lowest average wages in manufacturing industries. Skilled workers are able to choose where to work, whether within Minnesota or even nationally and globally. Lower than average wages makes it difficult to attract and retain an effective manufacturing workforce. See Figure 5 for more information.

**Figure 5**  
**Average Weekly Wage in Manufacturing, by Region, 2006**

| Region      | Average Weekly Wage |
|-------------|---------------------|
| Minnesota   | \$967               |
| Central     | \$785               |
| Northeast   | \$835               |
| Northwest   | \$691               |
| Southeast   | \$892               |
| Southwest   | \$684               |
| Twin Cities | \$1,131             |

Source: QCEW, Minnesota Department of Employment and Economic Development.

DEED's Job Vacancy Survey provides additional perspective on the many facets of workforce shortages. In the second quarter of 2007, job vacancy rates were highest in Central (3 percent), followed by Southwest (2 percent). These two regions also had the lowest median wage for job vacancies. On the other hand, the Twin Cities were close behind in job vacancy rate (1.9 percent) but had the highest median wage. See Figure 6 for more information. However, it is difficult to definitively state how job vacancies and workforce shortages are related because job vacancies may indicate vibrant growth creating new positions or may indicate workforce shortages resulting in vacancies not being filled.

**Figure 6**  
**Job Vacancy Rate and Median Wage of Vacancies, by Region, Second Quarter, 2007**

| Region      | Manufacturing Job Vacancy Rate | Median Wage of Vacancies |
|-------------|--------------------------------|--------------------------|
| Central     | 3.0%                           | \$9.00                   |
| Northeast   | 1.4%                           | \$16.00                  |
| Northwest   | 1.5%                           | \$10.50                  |
| Southeast   | 1.0%                           | \$12.02                  |
| Southwest   | 2.0%                           | \$9.20                   |
| Twin Cities | 1.9%                           | \$18.00                  |
| Minnesota   | 1.9%                           | \$12.00                  |

Source: Job Vacancy Survey, Minnesota Department of Employment and Economic Development.

➤ **Business Responses**

**Businesses use a variety of tools to respond to workforce shortages.** By far the most common tactic was retaining current employees (80.0 percent of respondents). Other top responses included temporary or contract work arrangements (30.1 percent), hiring younger workers (19.2 percent), and hiring older/experienced workers (16.9 percent).

Respondents were also asked about the types of practices that had been most successful in retaining current employees and recruiting new employees. Figure 7 shows the top 5 practices for retention and recruitment. Four of the five most-used practices on each list were the same, but in different order: increase wages, healthcare benefits, 401(k) and other retirement plans, and flexible work arrangements. Improving organizational culture was considered important for retention, while incentives for employee referrals were also important for recruitment.

**Figure 7  
Top 5 Most Successful Practices to Retain and Recruit Employees**

| Retain Current Employees |                                   |       | Recruit New Employees             |       |
|--------------------------|-----------------------------------|-------|-----------------------------------|-------|
| 1                        | Increased wages                   | 54.0% | Healthcare benefits               | 40.6% |
| 2                        | Healthcare benefits               | 43.2% | Increased wages                   | 39.1% |
| 3                        | 401(k) and other retirement plans | 33.9% | 401(k) and other retirement plans | 28.6% |
| 4                        | Flexible work arrangements        | 32.7% | Flexible work arrangements        | 17.8% |
| 5                        | Improving organizational culture  | 19.5% | Incentives for employee referrals | 10.8% |

Source: "Understanding the Worker Needs of Manufacturers," survey results, Minnesota Department of Employment and Economic Development, 2007.

Placement services play a key role in helping businesses recruit and hire new employees. Respondents were asked whether they used a variety of placement services, and if used, how useful the services were. By far the most used source of placement services was newspapers and other periodic publications, with 79.8 percent of respondents indicating usage. Users considered these services generally useful, with 54.8 percent of users rating them in the top half of the four-point scale for usefulness. Also highly used and highly rated were private employment/recruiting agencies, with 56.9 percent usage and 61.1 percent of users rating them in the top half of the scale for usefulness. Community or technical colleges and public/government agencies scored highly for usage (54.7 percent and 54.9 percent, respectively), although they were moderately rated for usefulness (36.9 percent and 40.1 percent, respectively). Overall, large numbers of respondents have not used public and private placement services.

**Business responses to workforce issues differed, with very small companies and medium companies** on opposite sides of average. Small companies tended to be similar to average. Very small companies were more likely to offer flexible work arrangements as a strategy to retain workers, while medium companies put relatively more emphasis on improving organizational culture. In terms of strategies to recruit workers, medium companies tended to use an array of tools including placement services more than very small companies.

**The practices used to retain and recruit workers differed by region.** Respondents in Northeast and Northwest were substantially more likely to increase wages to retain workers than respondents in other regions, while respondents in Southwest were more likely to use 401(k) and other retirement plans to retain workers than respondents in other regions. Respondents in Southwest rated retaining current employees more highly as a tactic than respondents elsewhere. Respondents in Northwest were more likely to hire older/experienced workers than their counterparts in other regions.

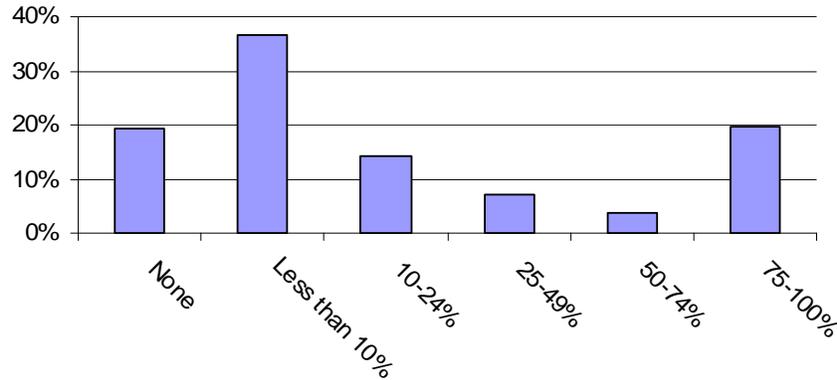
Respondents in the Central and Southwest regions were more likely to have used public/government agencies' placement services and also rated these services more highly for usefulness than respondents in other regions. Newspapers and other periodic publications' placement services were more highly rated in Northwest and Southwest than elsewhere.

### ➤ Training

**Training is a key response for dealing with workforce shortages and skills gaps.** Survey respondents were asked a variety of questions related to training. The majority of respondents (63.8 percent) had training budgets of less than 3 percent of payroll. Investing at least 3 percent of payroll in employee training is one of the 15 Best Practices of small and medium-sized manufacturers, according to "The Future Success of Small and Medium Manufacturers: Challenges and Policy Issues," by RSM McGladrey and The Manufacturing Institute. Most respondents either maintained (34.2 percent) or increased (36.4 percent) their training budget compared to three years ago, though a sizeable number had no training budget (26.5 percent).

Companies varied widely on their approaches to company-paid formal training. The largest share of respondents (35.1 percent) indicated that 10 percent or less of employees received training each year. Otherwise, responses are clustered at either extreme with no employees receiving training each year (18.5 percent) or 75 to 100 percent of employees received training each year (18.8 percent). See Figure 8 for more information.

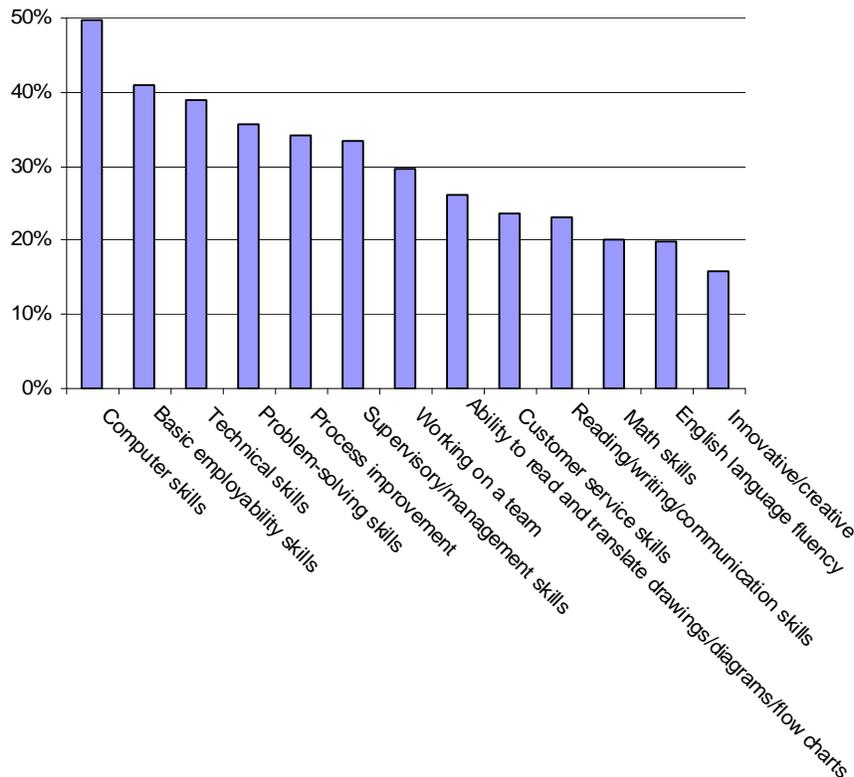
**Figure 8**  
**Percentage of Employees Receiving Company-Paid Formal Training**



Source: "Understanding the Worker Needs of Manufacturers," survey results, Minnesota Department of Employment and Economic Development, 2007.

When asked about the skill areas in which employees will need more training, respondents focused on several skills. Computer skills (49.7 percent) and basic employability skills (41.1 percent) were the only skills selected by more than 40 percent of respondents. Technical skills, problem solving skills, process improvement and supervisory/management skills were selected by more than 30 percent of respondents. More data is included in Figure 9.

**Figure 9**  
**Skills in Which Employees Need Training in Next Three Years**



Source: "Understanding the Worker Needs of Manufacturers," survey results, Minnesota Department of Employment and Economic Development, 2007.

Respondents were asked about two specific programs, one that would certify work readiness and another that would certify metal-forming skills for production workers. Respondents reacted much more favorably to the idea of a work readiness certification program, with 78.2 percent of respondents indicating that the program would be somewhat useful, useful or essential. On the other hand, only 45.0 percent of respondents indicated that a potential metal-forming certification would be somewhat useful, useful or essential.

Of six competency areas respondents were asked to select (tooling skills; work planning and job control skills; handling of materials and related fluids skills; operation of metal-forming equipment; inspection and quality assurance skills; and adherence to EPA and OSHA guidelines), two stood out as being most essential—adherence to EPA and OSHA guidelines (55.3 percent of respondents) and inspection and quality assurance skills (54.1 percent). Typically, 40 to 60 percent of respondents indicated workers were usually qualified in these competency areas. In nearly all skill areas, if the skill was considered essential, the employer provided training.

Businesses rated training providers on the most effective education and training. Employers were most likely to turn to technical and vocational schools, selected by 66.6 percent of respondents. The next highest responses included business/industry associations (27.1 percent), universities (22.9 percent), and community colleges (22.3 percent).

Respondents rated the usefulness of community and technical colleges for training students in skills for business needs and in training or upgrading skills of current workers. Respondents ranked colleges higher for training students in skills for business needs (with 71.8 percent in the top half of the four-point scale) than for training or upgrading skills of current workers (61.5 percent in the top half). However, respondents rated both services higher than they did placement services using the same scale.

**Medium companies had substantially greater training resources than very small companies.** For example, 21.8 percent of very small companies had no training budget, compared to 0.4 percent of medium companies and 6.8 percent overall. Compared to three years ago, 46.9 percent of medium companies increased their training budget, compared to 19.7 percent of very small companies and 36.4 percent overall. The trend continued as 41.9 percent of very small companies responded that no employees receive company-paid formal training each year, compared to 5.7 percent of medium companies and 18.5 percent overall. On the other hand, 26.8 percent of medium companies indicated that 75 to 100 percent of employees receive training, compared to 11.2 percent of very small companies and 18.8 percent overall. The pattern continued for other training-related questions, with very small companies making less investment in training and medium companies making more investment in training.

**The role training played for a business also differed by region.** Respondents in Northeast were less likely to have increased the training budget and more likely to have kept it the same than their counterparts elsewhere. Respondents in Southwest tended to have a larger percentage of all employees who receive training each year than respondents in other regions.

As for skills training needed over the next three years, respondents in the metro area were more likely and respondents in Northeast and Northwest were less likely to need English language fluency or English as a Second Language (ESL) training. Respondents in Northeast indicated a greater need for technical skills than respondents in other regions. In Northwest, respondents indicated relatively more need for supervisory/management skills, while process improvement skills were more needed in Central.

As for the source of training, respondents in Northeast and Southeast were more likely than respondents elsewhere to favor community colleges, while respondents in Southeast also favored technical/vocational schools more than in other regions. Respondents in Southwest rated local community and technical colleges higher than respondents in other regions for training students in skills for business needs and in training or upgrading skills of current workers.

Overall, respondents in Central were more receptive to either a work readiness certification or a metal-forming skills certification. As a result, education institutions should study demand for such programs in this region.

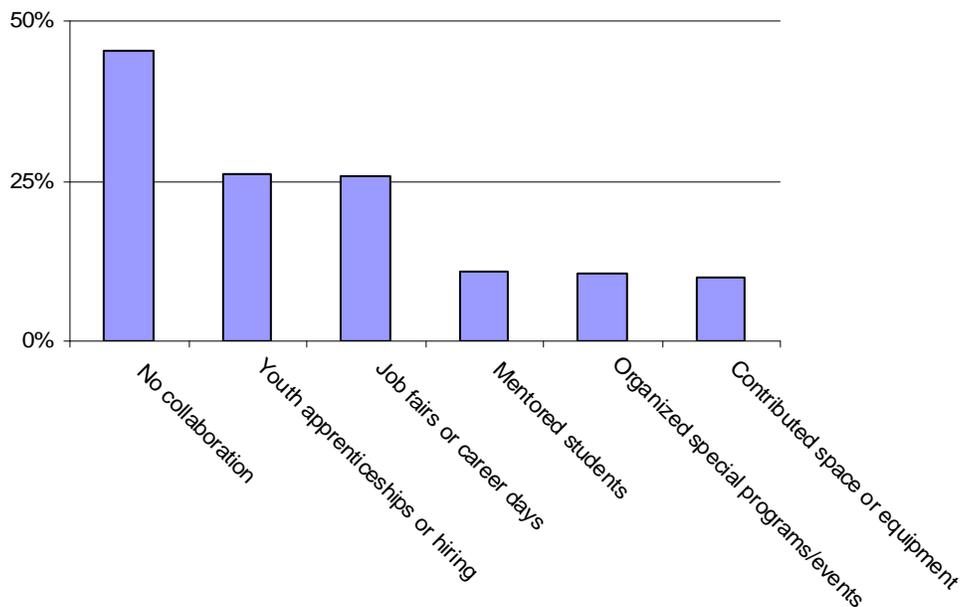
Respondents were asked about six competency areas (tooling skills; work planning and job control skills; handling of materials and related fluids skills; operation of metal-forming equipment; inspection and quality assurance skills; and adherence to EPA and OSHA guidelines), with little variation by region in terms of whether the skills were essential and whether the employer provides training. However, when asked whether workers were usually qualified in each competency area, a distinct pattern emerged. In all six areas, substantially fewer respondents in Northeast and Northwest indicated that workers were qualified. On the other hand, the number of respondents in Southwest indicating that workers were usually qualified was greater than the statewide average in five of the six competency areas.

### ➤ **Collaboration with Education System**

**Companies collaborated with local secondary and post-secondary schools for three main reasons.** First, businesses were interested in promoting the industry to students, teachers and parents (23.2 percent). Second, companies wanted to recruit students to become employees (22.9 percent). Third, it was part of the company's community outreach and citizenship activities (21.4 percent).

However, 45.5 percent of respondents had not attempted to engage local schools to address workforce issues. Among the remaining respondents who had collaborated, popular activities included youth apprenticeships, internships, or hiring (26.0 percent) and job fairs or career days (25.7 percent). Figure 10 includes additional forms of business-education collaboration.

**Figure 10**  
**Forms of Company Collaboration with Education System**



Note: Only responses greater than 10 percent included.

Source: "Understanding the Worker Needs of Manufacturers," survey results, Minnesota Department of Employment and Economic Development, 2007.

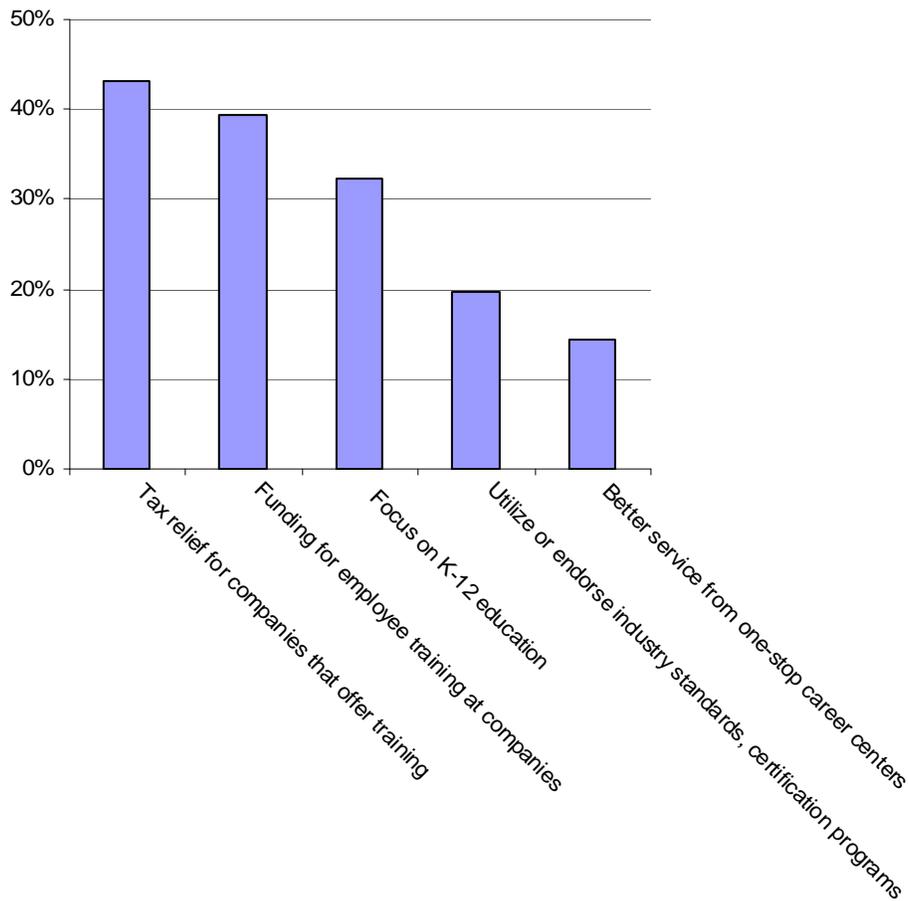
**Fewer very small companies participated and collaborated with the education system than small or medium companies**, with 54.6 percent indicating no collaboration, compared to the overall average of 45.5 percent. Very small companies were particularly low in the proportion of respondents who had participated in job fairs or career days with 13.5 percent, compared to 37.4 percent of medium companies and 25.7 percent overall.

**Regional differences for business collaboration with educational institutions were striking.** Every region had substantial differences from statewide results. For example, 45.5 percent of respondents statewide indicated no collaboration. However, 55.3 percent of respondents in the Metro and 54.3 percent of respondents in Northeast indicated no collaboration. On the other hand, fewer respondents indicated no collaboration in Central (37.5 percent), Northwest (32.4 percent), Southeast (31.2 percent), and Southwest (32.3 percent). Respondents in Central, Northwest, and Southwest were more likely to have participated in job fairs or career days. Respondents in Central, Southeast, and Southwest were more likely to have conducted youth apprenticeship programs. Respondents in Southeast and Southwest were more likely to have mentored students.

➤ **Government Involvement**

**Companies desire at least moderate government involvement in attracting and retaining an effective workforce.** A large share of respondents (43.0 percent) believed the state should have moderate involvement in assisting manufacturers to attract and retain a highly effective workforce. More than 27.5 percent of respondents preferred significant state involvement, 22.7 percent preferred minor state involvement, and only 6.7 percent preferred no state involvement. Types of involvement preferred by respondents varied, as reported in Figure 11. Most respondents preferred either tax relief (43.2 percent) or direct funding (39.5 percent) for companies to train employees. One-third of respondents (32.4 percent) recommended that the State focus on K-12 education to address manufacturing workforce needs.

**Figure 11**  
**Preferred Forms of State Support for Manufacturing Workforce Development**



Source: "Understanding the Worker Needs of Manufacturers," survey results, Minnesota Department of Employment and Economic Development, 2007.

**Very small companies tended to be less supportive of State efforts to assist manufacturers.**

In particular, only 28.1 percent of very small companies supported providing funds for employee training at companies, compared to 49.8 percent for medium companies and 39.5 percent overall. Very small companies also had less awareness prior to the survey of the State of Minnesota's workforce and placement services, with 77.9 percent indicating awareness of state programs, compared to 95.3 percent of medium companies and 86.6 percent overall.

**Respondents in Southwest were substantially more likely to favor significant or moderate involvement by the State in assisting manufacturers to meet workforce needs.** Respondents in Southwest and Central favored funding for employee training at companies more than their counterparts, while respondents in Southeast favored focusing on K-12 education more than in other regions. Respondents in Central and Southwest indicated greater awareness of the State of Minnesota's workforce and placement services. Northeast had substantially lower than average awareness.

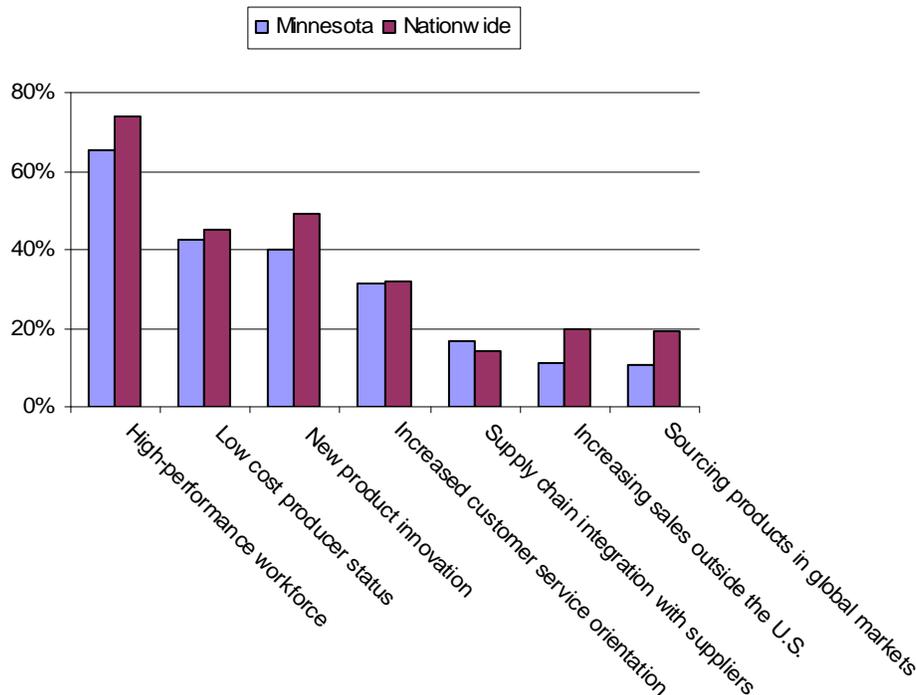
## Comparisons to 2005 NAM Survey Results

Some of the questions included in the survey instrument were drawn from the 2005 study conducted by Deloitte, NAM and the Manufacturing Institute. For questions included in both surveys, this section compares results, highlighting any differences. It is important to take care in drawing conclusions because the NAM study included very large manufacturers (though the majority of respondents had less than 500 employees). In any case, it is useful to analyze these differences in order to better understand the needs of Minnesota manufacturers.

### ➤ Most Important Factors for Business Success

Both surveys asked the same question about the most important factors for business success. Overall, results were similar. In nearly all cases, the proportion of Minnesota firms selecting a response was lower than the proportion of firms nationally. The only exception was that slightly more respondents in Minnesota chose “supply chain integration with suppliers” as an important success factor than those who participated in the national survey. In terms of relative priority, “low cost producer status” ranked third nationally, while it ranked second in Minnesota. See Figure 12 for more detail.

**Figure 12**  
**Minnesota and Nationwide Responses—Factors for Business Success**

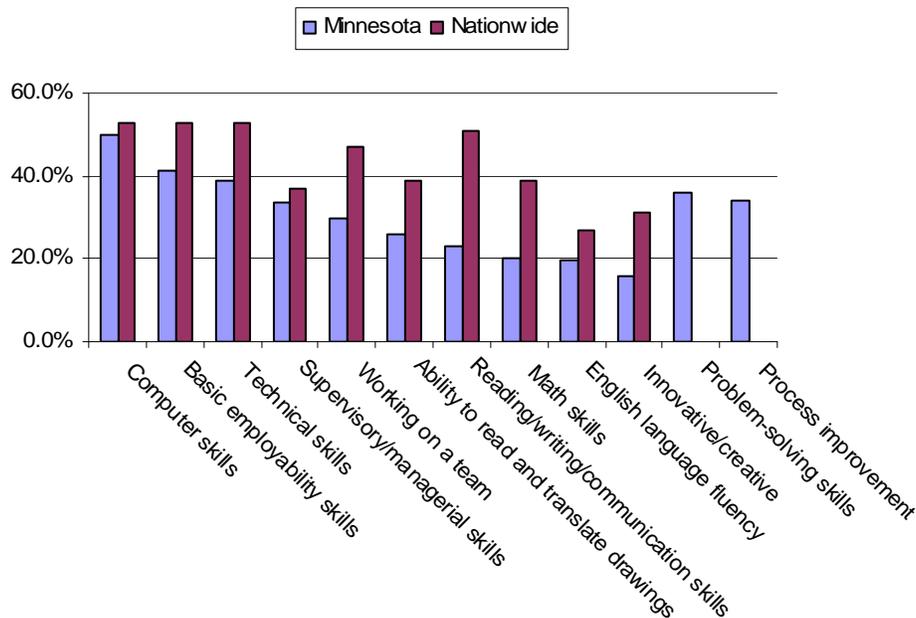


Sources: “Understanding the Worker Needs of Manufacturers,” survey results, Minnesota Department of Employment and Economic Development, 2007.  
“2005 Skills Gap Report,” Deloitte, National Association of Manufacturers, and The Manufacturing Institute.

➤ **Skills Employees Will Need More of Over the Next Three Years**

Greater difference existed between national and Minnesota results in terms of demand for worker skills over the next three years. In relative terms, Minnesota businesses placed more emphasis on computer skills and supervisory/managerial skills than those who answered the national survey. Minnesota businesses placed less emphasis on reading/writing/communication skills. Minnesota’s survey also included additional skills not included in the national survey. These included problem-solving skills (ranking fourth among Minnesota respondents at 35.8 percent) and process improvement (ranking fifth at 34.1 percent). Comparisons are included in Figure 13.

**Figure 13**  
**Minnesota and Nationwide Responses—Skills Needed**



Note: Problem-solving skills and process improvements were included in the Minnesota survey, but not in the NAM survey.

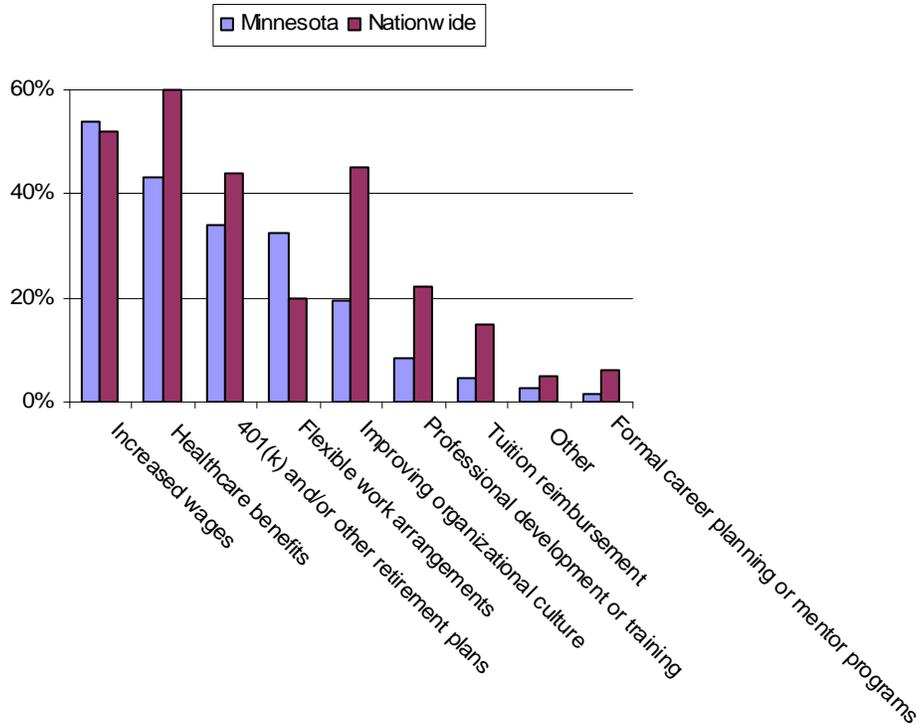
Sources: “Understanding the Worker Needs of Manufacturers,” survey results, Minnesota Department of Employment and Economic Development, 2007.

“2005 Skills Gap Report,” Deloitte, National Association of Manufacturers, and The Manufacturing Institute.

➤ **Current Tactics to Retain Workers**

Overall, Minnesota businesses focused more on flexible work arrangements to retain workers. There were a variety of worker retention factors that rated lower in Minnesota than nationally, most prominently improving organizational culture. Figure 14 provides the full detail.

**Figure 14**  
**Minnesota and Nationwide Responses—Current Practices Used to Retain Workers**

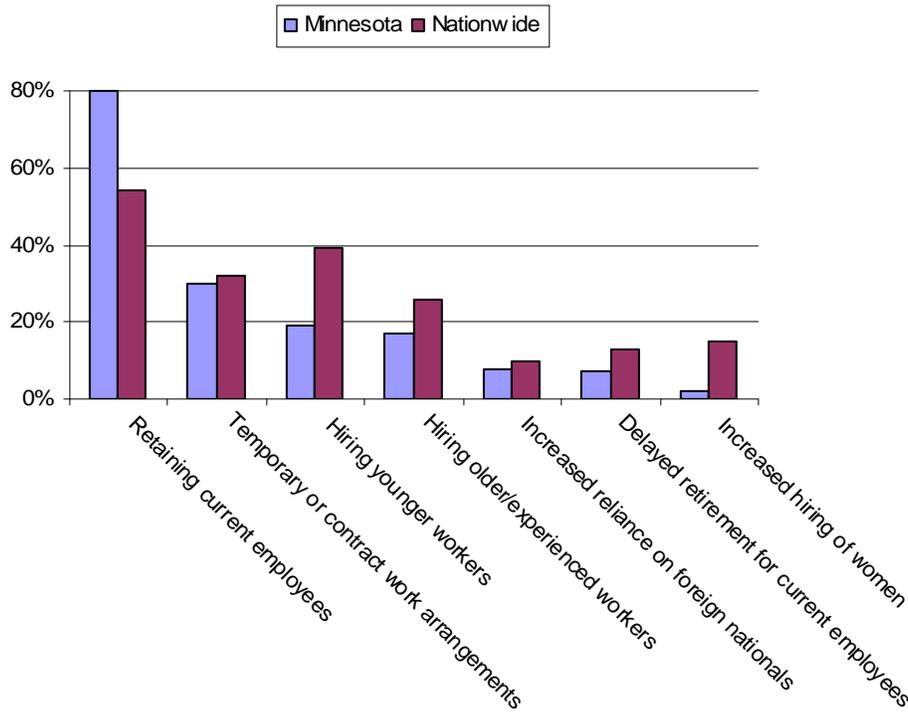


Sources: “Understanding the Worker Needs of Manufacturers,” survey results, Minnesota Department of Employment and Economic Development, 2007.  
“2005 Skills Gap Report,” Deloitte, National Association of Manufacturers, and The Manufacturing Institute.

➤ **Future Tactics to Attract and Retain Workers**

Minnesota businesses reported a much stronger focus on reducing turnover among current employees than nationwide. On the other hand, Minnesota businesses had relatively less focus on hiring younger workers and increased hiring of women. The Minnesota survey omitted one popular option from the national study, with 46 percent of nationwide respondents choosing “efforts to change attitudes about manufacturing jobs.” Figure 15 compares Minnesota and nationwide results.

**Figure 15**  
**Minnesota and Nationwide Responses—Future Tactics to Attract and Retain Workers**

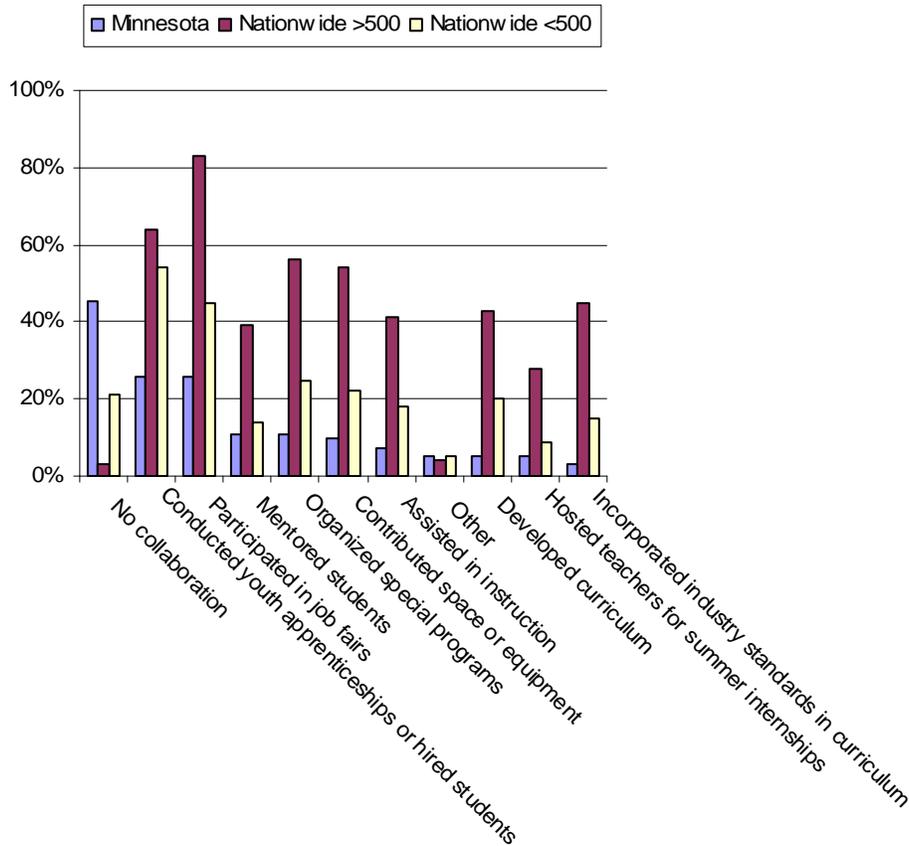


Sources: “Understanding the Worker Needs of Manufacturers,” survey results, Minnesota Department of Employment and Economic Development, 2007.  
 “2005 Skills Gap Report,” Deloitte, National Association of Manufacturers, and The Manufacturing Institute.

➤ **Participation in Education System**

In collaborating with schools, the major difference between Minnesota respondents and respondents to the NAM study was the lack of participation in any activities by a large proportion of Minnesota respondents, compared to variety of activities by national respondents. This difference may be partially attributable to the size of company, as the national study included larger businesses than the Minnesota sample. See Figure 16 for more information.

**Figure 16**  
**Minnesota and Nationwide Responses—Collaboration with Education**



Sources: “Understanding the Worker Needs of Manufacturers,” survey results, Minnesota Department of Employment and Economic Development, 2007.  
 “2005 Skills Gap Report,” Deloitte, National Association of Manufacturers, and The Manufacturing Institute.

## Conclusions

The 2005 NAM study concluded with the following recommendations:

- Employers must understand the importance of human capital as a business investment.
- Employers must implement new and non-traditional approaches to dealing with skills retention challenges.
- Employers must help the general public and public sector to understand what companies need.
- Educators must produce graduates familiar with the world of work and the skills needed to be effective in it.
- Education and workforce policies must reflect the need for lifelong learning.
- Individuals must take responsibility for their employability.

These recommendations are also applicable for this follow-up survey on the workforce needs of Minnesota's manufacturers. However, specific opportunities for improvement include:

- Public and private placement service providers could consider how to improve their perceived and actual value to more effectively serve Minnesota manufacturers.
- Employers could evaluate whether their current levels of investment in educating and training incumbent workers are adequate compared to their peer competitors and to the best practice level of 3% of payroll.
- Employers could prioritize their time to include greater collaboration with local schools.
- Educational and training institutions serving Central Minnesota could study demand for skill and/or work-readiness certification to better meet expressed needs in that region.
- Manufacturers and the groups that advocate for them could consider whether to propose policy changes for investments made in training and educating new and incumbent workers.

Overall, these survey results present both a significant challenge and a substantial opportunity for the State of Minnesota, local governments, the educational system and other service providers to align and prioritize services and support to Minnesota manufacturers. There are also opportunities for manufacturers to proactively build a workforce to sustain their business and the overall industry.

Because results vary by geographic location and size of business, workforce development professionals need to customize their approach to businesses based on the need for the service and the willingness of the businesses to be active partners in delivering services to workers. Businesses and the workforce development system must collaborate and secure a sustainable workforce for this important sector of Minnesota's economy.

## **Methodology**

Surveys were sent to 2,370 manufacturing companies with 250 employees or less. These business establishments comprise about 97 percent of all manufacturing establishments in Minnesota, according to U.S. Census Bureau data. Businesses with more than 250 employees were not included in the survey. Surveys were sent to 920 Group 1 (less than 20 employees) businesses, 800 Group 2 (20 to 74 employees) businesses and 650 Group 3 (75 to 250 employees) businesses. Figure 17 and Figure 18 summarize the survey response. In the overall results, Group 1 was under-represented, indicating that the results were more representative of the workforce needs of Group 2 and Group 3.

**Figure 17**  
**Summary of Responses, Response Rates, and Margin of Error, by Group**

|                  | Number of Responses | Response Rate | Margin of Error |
|------------------|---------------------|---------------|-----------------|
| Group 1 (<20)    | 185                 | 20.1%         | +/-7.1%         |
| Group 2 (20-74)  | 284                 | 35.5%         | +/-5.4%         |
| Group 3 (75-250) | 235                 | 36.1%         | +/-5.3%         |
| All Respondents  | 704                 | 29.4%         | +/-3.6%         |

**Figure 18**  
**Summary of Responses, Response Rates, and Margin of Error, by Region**

| Region      | Number of Responses | Response Rate | Margin of Error |
|-------------|---------------------|---------------|-----------------|
| Central     | 104                 | 36.5%         | +/-7.7%         |
| Northeast   | 46                  | 25.1%         | +/-4.6%         |
| Northwest   | 74                  | 36.5%         | +/-11.6%        |
| Southeast   | 77                  | 33.5%         | +/-9.3%         |
| Southwest   | 65                  | 35.2%         | +/-9.0%         |
| Twin Cities | 338                 | 37.6%         | +/-9.6%         |

This survey was undertaken as a follow-up to NAM's 2005 survey. The ability to compare Minnesota businesses' experiences to national results was an important criterion. However, the survey development group did not maintain rigid conformity with the NAM survey. There were some modifications and/or omissions in the questions asked and the response options included based on the survey development group's knowledge of Minnesota businesses and feedback received from partners. For more information on the NAM survey and results, go to [www.nam.org/2005skillsgap](http://www.nam.org/2005skillsgap) for more information.

Additional Appendices Available Online at  
[www.positivelyminnesota.com/facts/mfgworkerneeds.htm](http://www.positivelyminnesota.com/facts/mfgworkerneeds.htm)

- Executive Summary
- Survey Instrument
- Results by Size Group
- Results by Region
- PowerPoint Summary of Results



The Minnesota Department of Employment and Economic Development (DEED) is the state's principal economic development agency, with programs promoting business recruitment, expansion, and retention; workforce development; international trade; and community development. The agency's mission is to support the economic success of individuals, businesses, and communities by improving opportunities for growth. For more information, go to [www.positivelyminnesota.com](http://www.positivelyminnesota.com).