

A8: Validation Interviews Summary

Interview Objectives:

- Conduct interviews among selected respondents to the *Skilled Trades Occupational Survey* to assure the accuracy of their answers
- Assess the ease/difficulty of completing the survey and identify areas for improvement
- Provide greater depth of understanding of the responses of selected firms
- Understand the workforce needs of these firms.
- Explore response to new occupational category *Manufacturing Technician*.
- Understand participants' skilled trades workforce needs over the next three years.

Method:

- Data verification was completed via face-to-face interviews with 11 selected manufacturers who completed the survey. (*Note: One participant retired between the date of the original survey and the validation survey. The employee hired in his place participated in the validation interview and verified the data collected in the original survey.*)
- Participants were recruited from a list generated because they had agreed at the end of the survey to be contacted for a follow-up interview.
- Participants re-answered a number of questions from the survey verbally to verify the accuracy of their original responses.
- Participants also discussed the following:
 - Ease of completing the survey and any areas of difficulty
 - Current workforce needs, projected workforce needs in the next three years, and the proposed occupational category *Manufacturing Technician*
 - Ways of addressing the issue of training workers for skilled trade positions
- Participants with the following job titles were represented in the research: President, Vice President, General Manager, Owner, Co-owner, Finance Manager and CFO
- Participants from the following labor workforce areas participated in the research: printers, paper packaging, metal fabricator, cabinet making, MRI automation, circuit board manufacturing, and large machinery parts.
- Companies ranged in size from two to 200 full-time employees.

Data Verification:

- About half said they had no difficulty reporting the information requested by the survey; the others said they had to estimate on a few of the questions:
 - The estimates cited were as follows: projections for growth and needs, the percentage of skilled and unskilled labor (Q. 15,17), and job descriptions ("because of overlap" in some position descriptions)
- Nearly all of survey responses were validated by participants with the exception of one or two questions; specific inconsistencies were as follows:
 - One participant assigned more than one occupational category to the same person ("because I didn't realize there was a printing category");
 - Another participant said she did not understand the difference between Q.11a (referring to *Machine Tool Operator*) and Q.12a (referring to *Machinist*) until she read further into the survey and determined the differences between occupational categories

Completing the Survey:

- Participants all said the survey was "not at all difficult" or "somewhat difficult;" no one indicated the survey was "very difficult":
 - Seven reported no difficulty participating in the survey.
 - Four reported having some difficulty answering the questions:
 - One or two had difficulty assigning a occupational category that appropriately fit their employees—particularly in smaller organizations, which had one or two people doing the jobs described in four or five different categories.
 - Another participant indicated the survey would have been easier if the occupational categories were listed at the beginning of the survey so they could determine in advance the category which best fit the duties of their employees.

- All participants said they would be “very likely” or “somewhat likely” to participate in a similar survey next year; no one said they would be “not at all likely” to participate:
 - Those who said they would be “somewhat likely” said they would likely participate as long as the survey was not longer or more complicated.

Workforce Hiring Experience:

- Nearly all indicated that less than 50% of applicants actually qualified for the skilled and unskilled positions they were seeking; more than half said that 15% or less of applicants qualified for skilled labor positions:
 - The few who indicated having less difficulty finding applicants with adequate skills were highly specialized organizations that interviewed and hired more formally educated professionals (e.g., engineers).
 - Specific skilled worker inadequacies mentioned included the following:
 - Machinist skills (“Title is too broad and the skills don't match my needs”).
 - Journeyman machinists (“These people are very hard to find”).
 - No printing background—no machine experience, insufficient math skills (“some can't even read a ruler”).
 - Past job experience is often not transferable to a different industry (e.g., “a navy [trained] machinist is different from the actual needs of my jobs”).
 - Participants said that unskilled workers generally had inadequate educations; specific inadequacies mentioned included:
 - Language skills.
 - Math skills.
 - Basic computer skills.
 - Communications skills (“I need someone who can produce as well as clearly communicate with professional clientele”).
- All participants said they would be “very likely” or “somewhat likely” to participate in a similar survey next year; no one said they would be “not at all likely” to participate:
- In spite of the low percentage of qualified applicants, most said the skilled workers hired in the past three years have been “good” or “fair”:
 - One or two said their workers were “very good” or “excellent.”
 - Only one or two said “very poor.”
- While participants said it was difficult finding the right workers, they also said they are selective in choosing new employees.
- Most said they recruited workers from referrals from other businesses, from the community colleges, and, to a lesser extent, from the military; almost no one used the newspaper.

Evaluation of the Skilled Workforce:

- Participants varied in their rating of their skilled work force in various areas:
 - *Soft skills.* Most rated the soft skills of their workers as adequate; However, a few commented that “employees lack a strong work ethic.”
 - *Measurable skills.* Most rated the measurable skills preparation as adequate; some specific inadequacies cited included reading skills, math skills, and communication skills.
 - *Basic manufacturing principles.* About half rated their workforce as fair or poor; Inadequacies cited included knowledge of lean manufacturing principles, no problem solving skills, general lack of manufacturing experience, lack of an understanding of business.

Manufacturing Technician:

- Slightly more than half said the definition of *Manufacturing Technician* was “somewhat comprehensive” and slightly less than half said the definition was “very comprehensive;” Only one said the definition was “not very comprehensive.”
- All but one said the new occupational category captured jobs “very well” that are not adequately represented in the traditional definition of skilled trades occupations:
 - A few indicated the definition may be too broad; one participant noted that the definition did not have any soft skill requirements.
- About half said they would support adding the new occupational category “strongly” or “somewhat;” the remainder said they would “neither oppose or support” it because the category did not directly effect their organization.

Manufacturing Education:

- Most participants indicated there is a need for additional need for technical education:
 - Specific suggestions included more vocational classes in high school and junior college, more emphasis on teaching basic math and reading skills high school students not going to college, and additional “hands-on” training for high school students.
- Participants also said that the image of manufacturing jobs needs to be improved:
 - One participant suggested emphasizing the benefits/pay of skilled trade jobs (“if you’re willing to get a little dirty”).

Standardized Skills Credentials:

- Participants were split on whether Virginia should have a standardized manufacturing skills credential system:
 - Four said they “strongly agree” or “somewhat agree.”
- They strongly believed it would improve the quality of workers:
 - Four said they “somewhat disagree.”
- Some were skeptical whether it would actually improve the quality of workers; one participant said, “it might eliminate someone with the talent to be trained on the job;” another said “it comes down to the motivation of the individual”:
 - Three said they “neither agree nor disagree.”
- One participant said their company currently has a certification process that has been unsuccessful because it is based on working a certain number of hours, not achieving a level of skill.

Skilled Trades Worker Training:

- Participants made the following suggestions for improving training:
 - “Create a partnership between education and industry.”
 - “Change the negative image of manufacturing—start in middle school.”
 - “Improve the technical education at the high school level”
 - “Develop an apprenticeship program.”
 - “Promote the many types of jobs available in the industry.”
 - “Provide summer internships for high school students.”
 - “Create a means to identify reasoning and comprehension skills, in addition to work ethic.”
 - “Encourage bright students to go into manufacturing—I need the top 50% of the class.”
 - “Teach soft skills to students in high school.”
 - “Involve local companies to participate in internships.”
 - “Create specific programs in community colleges.”
 - “Help small shops to provide employees with health insurance and benefits to attract valuable workers.”

¹ These figures are derived by taking the projected 2007 through 2010 cumulative openings detailed in Table 28 and dividing them by 3.5 (accounts for the fact that the survey was administered in the middle of 2007).

² Because *Manufacturing Technicians* is a job classification that was created for the purpose of the survey, no crosswalk currently exists for identifying the training programs associated with this occupation.

³ This figure differs slightly from the data presented in this table because it accounts for the fact that *Electronics Technicians and Repairers* is a composite of two Bureau of Labor Statistic’s defined occupations – *Electrical and Electronic Engineering Technicians* and *Electrical and Electronic Repairers, Commercial and Industrial Equipment*. According to VEC’s 2002 to 2012 occupational projection, the anticipated number of average annual openings for *Electrical and Electronic Engineering Technicians* was 175. Whereas, the educational pipeline for this occupation, according to U.S. Department of Education IPEDS data was approximately 678 per year. Indicating 100.0 percent of need met. The comparable data for *Electrical and Electronic Repairers, Commercial and Industrial Equipment* were 62 average annual openings and 7 qualified graduates, indicating 11.3 percent of need met. The 76.8 percent figure in Table 29 is a composite of these two percentages.