



**GODBE RESEARCH**  
Gain Insight

BUSINESS AND PROFESSIONAL  
SERVICES INDUSTRY CLUSTER

Labor Market Survey 2004

Conducted for the Orange County Workforce Investment  
Board

January 2005

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## INTRODUCTION

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Godbe Research & Analysis (Godbe Research) is pleased to present the results of a labor market study conducted for the Orange County Workforce Investment Board (OCWIB). This particular report will focus on the Business and Professional Services (BSVC) cluster, which includes firms that provide a wide array of professional services to the business community including management, legal, information technology, sales, and architectural services. This report is organized into the following sections:

- The *Executive Summary* includes a summary of the *Research Findings* from the survey, *Conclusions & Recommendations* for OCWIB, as well as a short description of the survey methodology.
- The *Summary of Findings* section offers a question-by-question analysis of the survey. The discussion is organized into the following sections:
  - Business and Professional Services: Industry Analysis on page 5
  - Business and Professional Services: Occupational Analysis on page 16
  - Business and Professional Services: Education and Skill Occupational Assessment by Occupation on page 27
- *Appendix A* includes a complete description of the methods and procedures used to conduct this research.
- *Appendix B* provides the survey questionnaire.

## EXECUTIVE SUMMARY

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### Introduction

In July 2004, the Orange County Workforce Investment Board hired Godbe Research to conduct three industry cluster studies focusing on key industry sectors identified in *Orange County Workforce 2004: Where Do We Fit in a Global Marketplace*. The three industry clusters included: Biomedical, Business and Professional Services, and Computer Software. Each study included a quantitative survey component that gathered detailed information about the area's industries, firms, and occupations.

This particular report focuses on the Business and Professional Services cluster, which includes firms that provide a wide array of professional services to the business community including management, legal, information technology, sales, and architectural services.

### Survey Methodology

Table 1 briefly outlines the methodology used in this project. Using a database compiled from InfoUSA and Inside Prospects, firms with at least five employees in the Business and Professional Services cluster were called to complete either a phone survey interview or an Internet survey (n = 359), representing a total of 7,543 Business and Professional Services firms in Orange County. Interviews were conducted from August 26 through September 22, 2004 and each interview typically lasted 20 to 30 minutes.

Table 1 Summary of Survey Methodology

|                         |   |
|-------------------------|---|
| <b>Technique</b>        | Telephone Interviewing and Internet Survey  |
| <b>Universe</b>         | Firms from the Business and Professional Services cluster located in Orange County with at least five employees |
| <b>Field Dates</b>      | August 26 - September 22  |
| <b>Interview Length</b> | 20-30 minutes   |
| <b>Sample Size</b>      | 359 Business Services firms   |

Sample size was driven by the goal to interview as many firms in the Business and Professional Services cluster as was possible. For Business and Professional Services, the margin for error was at  $\pm 5.05\%$ . Because the number of firms employing individuals in each of the Business and Professional occupations was lower than the overall number of firms in the sample, the occupational data is less reliable than the data for the industry analysis.

For a more detailed description of the methodology please see Appendix A.

## Research Findings

Business and Professional Services is the broadest and most diverse cluster of the three examined in the 2004 study. It is comprised of firms that provide a wide array of professional services to the business community, including management, legal, architectural, information technology, and personnel supply services. Because of the diversity of firms and occupations within the cluster as well as the supporting role that this industry plays in the regional economy, the Business Services cluster has been used as a barometer for the regional economy and its workforce. Results of the survey reveal strong growth expectations for the cluster and the entire County.

Overall job growth for this industry is expected to increase by seven percent with even stronger growth prospects found in specific occupations.

A brief profile of the Business Services cluster in Orange County, include the following salient characteristics:

- Over one tenth of employees in this cluster are employed part-time (14%) with the corresponding proportion of full-time employment (86%). Thirteen percent of employees were employed on a temporary basis.
- Generally, employers in this cluster would prefer to recruit from outside to fill a non-entry level position (53%), rather than develop employees from within to fill a non-entry level position (31%). This is consistent with the findings that only one-third (33%) of Business Services employers had “Career development/Career ladders” at their firm and 34 percent offered “Tuition assistance at a college or university”.
- The workforce issues of primary concern for the cluster were recruiting both entry level and non-entry level candidates. More than half of Business Services employers indicated that they had at least of some difficulty, if not great difficulty, recruiting entry-level and non entry-level positions.
- Approximately half of Business Services employers, indicated that they recruit individuals outside of Orange County, but within Southern California, at least sometimes, if not frequently or always. However, only 15 percent of BSVC employers recruited at least sometimes outside of Southern California.

Results of the quantitative research reveal two occupational groups within the Business Services cluster that have strong growth expectations and employers having some difficulty recruiting qualified candidates. Any policies or strategies to better train and educate the region’s Business Services workforce should be directed at one or both of these occupational segments.

- **Information Technology Positions:** This group of occupations is made up those occupations that develop, use, and support information technology services, for the occupational assessment we evaluated, systems analysts and drafters and CAD. Both of these occupations are expected to grow in the County by at least 10 percent and both were in the top four, of the occupations evaluated, as being the most difficult in finding qualified applicants. These two positions were also the two most likely to be hired from outside the County.
- **Sales Agents and Representatives:** Of the occupations evaluated for this cluster, “Sales Representatives” were near the top in both the level difficulty in finding qualified candidates as well as the frequency of recruiting candidates

from outside the region. BSVC employers in other regions have indicated a need to increase the visibility of sales and sales related positions as a career path, particularly for students considering their educational options. Weber State University, in Ogden Utah, offers associate degrees and minors in sales within the Sales and Service technology department. This program could serve as a model for developing similar programs within the County.

## Conclusions & Recommendations

Just as the overall growth expectations for the Business Services cluster serve as a strong indicator for the entire County economy, the conclusions and recommendations for improving connectivity between employers and potential applicants for the Business Services cluster is also appropriate for all employers and potential applicants within the County.

- **Improve connections between Orange County employers and potential employees living in the County:** Survey results reveal that half of employers at least sometime recruit applicants from outside the County. These results provide an impetus to improve connectivity between Orange County employers and residents of the County who are potential employees. This can be done by increasing awareness among BSVC employers of potential candidates that exist within the County as well as developing information tools such a databases that connect local candidates with local employers.

**Expand training and educational opportunities for Sales Representatives and System Analysts:** Of the occupations evaluated for this cluster both Sales Representatives and Systems Analysts were in the top three for both “Difficulty finding qualified applicants” and “Frequency of recruiting applicants outside Orange County”. These two occupations also have strong doubled digit growth expectations for the next 12 months in Orange County. Below are specific recommendations for each occupation:

1. **System Analysts:** Have the highest educational requirements of the occupations evaluated for this cluster combined with growth expectations that are over 20 percent for the next 12 months. Education and training opportunities for this occupation should be focused on developing technical competence (67% of BSVC employers indicated this was the most important general skill set) while integrating the development of communication skills (30% of BSVC employers indicated that this was the most deficient general skill set, the highest of any skill set evaluated) appropriate for this occupation.
2. **Sales Representatives:** With lower educational requirements and a greater emphasis on communication skills any programs implemented to increase training and educational opportunities for Sales Representatives should focus on integrating communication skills with technical competence. Employers were most likely to indicate communication skills (36%) as the most important general skill set, whereas employers were most likely to indicate technical competence (20%) the skill set sales representatives were most deficient in.

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## BUSINESS AND PROFESSIONAL SERVICES: INDUSTRY ANALYSIS

The first five questions of the survey asked respondents about the nature of their workforce. In particular, respondents were asked how many permanent full- and part-time employees worked at their business location, how many of them were temporary or seasonal workers, and what they believed would be their expected growth in the next 12 months. In addition, respondents were asked to estimate the percentage of their current employees that plan to retire in the next three years.

|  |
|--|
| Q1. How many permanent full-time employees work at your business location?   |
| Q2. How many permanent part-time employees work from your business location?   |
| Q3. How many temporary and/or seasonal employees currently work at your business location?   |
| Q4. Including all full-time and part-time employees, how many <b>permanent</b> employees do you expect to have 12 months from now? |
| Q5. How many temporary and/or seasonal employees do you expect to have 12 months from now?   |
| Q9. In the next 3 years, what percentage of your current employees do you expect will retire?                                      |

As shown by Table 2, 87 percent of the Business and Professional Services employees worked full-time and 14 percent worked part-time. Approximately 13 percent of employees in this cluster were temporary. Looking out 12 months from the time the survey data were collected, BSVC firms expected an increase of 5,883 employees in Orange County, representing a seven percent growth rate. In addition, three percent of BSVC employees were expected to retire within the next three years, opening up an additional 2,022 potential positions over the next three years.

Table 2 Industry Employment Practices

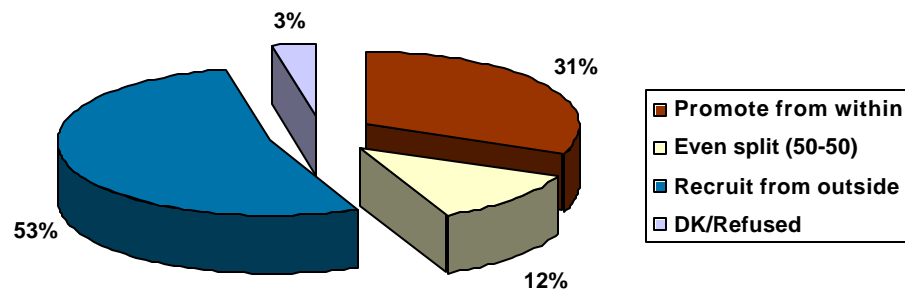
|             | Total Employees | Full-Time Employees | Part-Time Employees | Temporary Employees | Expected Growth in Employment Over 12 Months | Expected Retirement in Next 3 Years |
|-------------|-----------------|---------------------|---------------------|---------------------|--|-------------------------------------|
| <b>BSVC</b> | 80,982<br>9%    | 69,976<br>86%       | 11,006<br>14%       | 9,574<br>12%        | 5,883<br>7%                                  | 2,022<br>3%                         |

Next, respondents were asked a series of questions pertaining to their hiring practices. Specifically, Question 6 asked respondents about their hiring practices for non entry-level positions.

Q6. When a non entry-level position becomes available in your firm, do you more often hire from outside or promote from within the company?

As shown by Figure 1, 53 percent of Business and Professional Services firms reported that they typically recruit candidates from outside of the firm in order to fill non entry-level positions. Thirty-one percent of firms promote employees from within to fill their non entry-level positions, whereas 12 percent reported an even split between recruiting from outside of the company and promoting from within. Three percent of respondents either did not know or declined to reveal their hiring practices.

Figure 1 Hiring practices for Non Entry-Level Positions



Businesses were then asked about the frequency in which they recruit candidates from outside of Orange County and Southern California respectively.

Q7. How often does your business recruit individuals from outside the County but within the Southern California region for employment?

Q8. How often does your business recruit individuals from outside Southern California for employment?

Thirty-one percent of Orange County Business and Professional Services firms either “Always” (13%) or “Frequently” (17%) recruit candidates from outside of the County. Twenty percent of firms “Sometimes” recruit outside the County, while 48 percent reported that they “Rarely” (26%) or “Never” (22%) recruit individuals from outside of Orange County. Two percent declined to answer the question.

Figure 2 Frequency of Recruiting Outside of Orange County

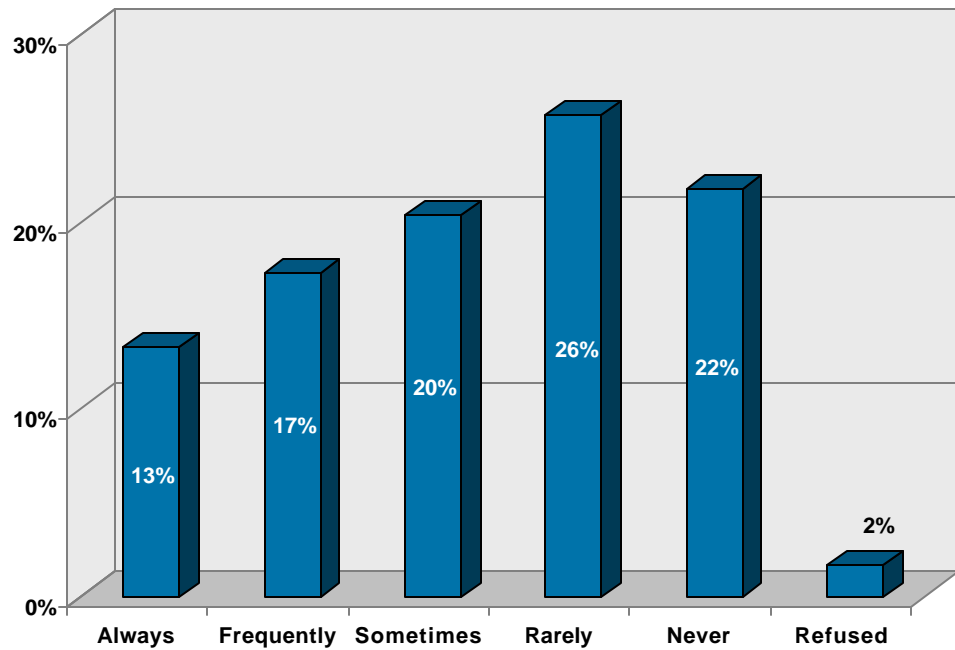
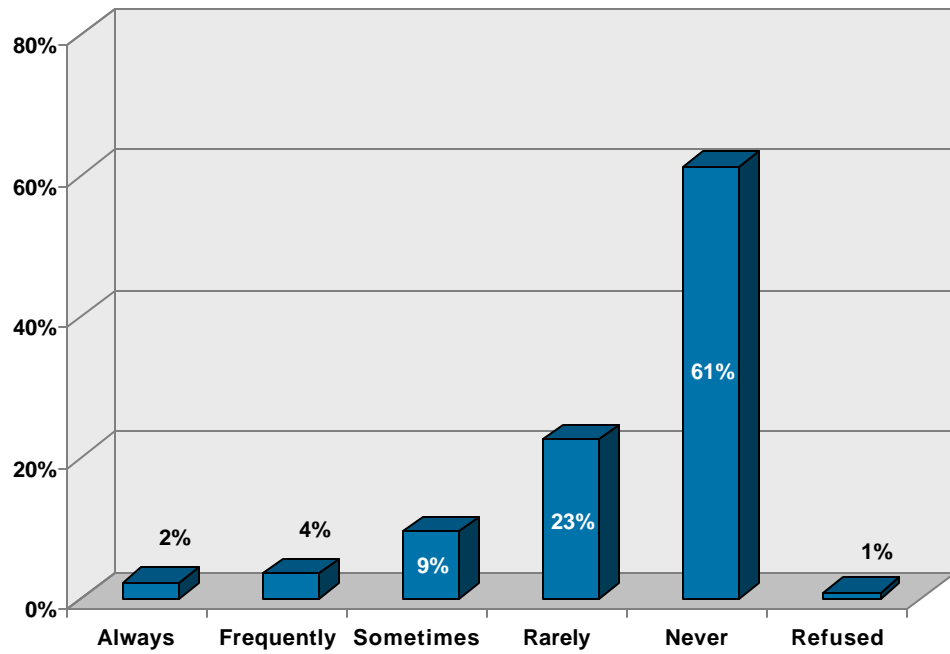


Figure 3 shows that Business and Professional Services firms rarely recruit individuals from outside the Southern California region. Sixty-one percent of firms reported that they “Never” recruit candidates from outside of Southern California and 24 percent “Rarely” go outside of the region. Nine percent “Sometimes” go outside the region to hire new employees, whereas only four percent of businesses “Frequently” recruit individuals who live outside of Southern California and two percent “Always” hire individuals from outside of Southern California. One percent of respondents did not state their opinion.

Figure 3 Frequency of Recruiting Outside of Southern California



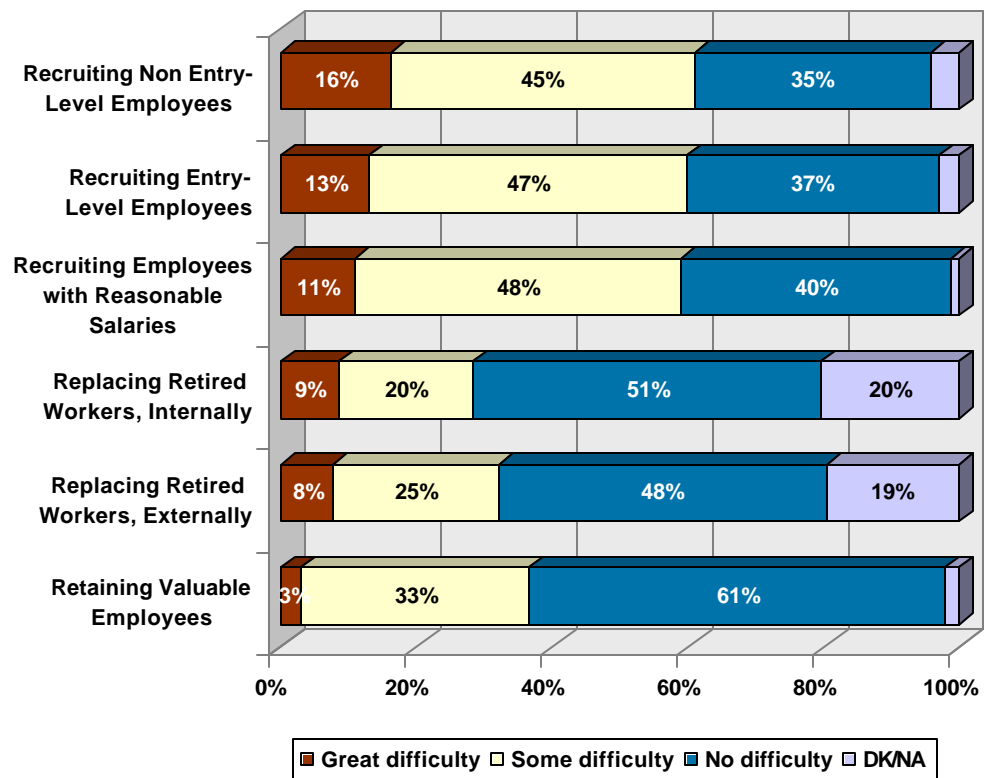
Question 10 asked respondents to anticipate the level of difficulty their businesses face in addressing a series of workforce issues related to recruitment and retention of employees in the next few years.

Q10. Next, I'm going to read a list of issues facing the region's workforce in the coming years. Please tell me how much difficulty your firm faces in addressing these workforce needs.

Here's the (first/next) one: \_\_\_\_\_. Please tell me whether your business has no difficulty, some difficulty, or great difficulty in dealing with this issue.

Over half of the firms in the Business and Professional Services cluster reported great or some difficulty with the recruitment of non entry-level and entry-level employees. Within the BSVC cluster, firms reported the most difficulty "Recruiting non entry-level employees with adequate skills and experience" (61% great or some difficulty), "Recruiting entry-level employees with adequate training and education" (60% great or some difficulty), and "Recruiting employees with reasonable salary requirements" (59% great or some difficulty). Sixty-one percent of firms reported no difficulty "Developing strategies to retain valuable employees."

Figure 4 Difficulties in Recruitment and Retention



The next set of questions asked respondents various questions pertaining to outsourcing, the process where companies move a division of their business to another location.

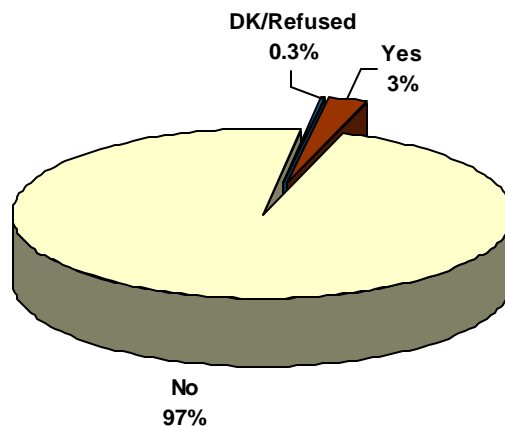
Q11. During the past two years, has your company relocated any of its business processes, including production and services, to a lower cost location outside of Orange County?

Q12. Which type of business process did your company relocate outside of the County? Did your company move its production or manufacturing processes, its services, or both?

Q13. Where did your company relocate to outside of the County?

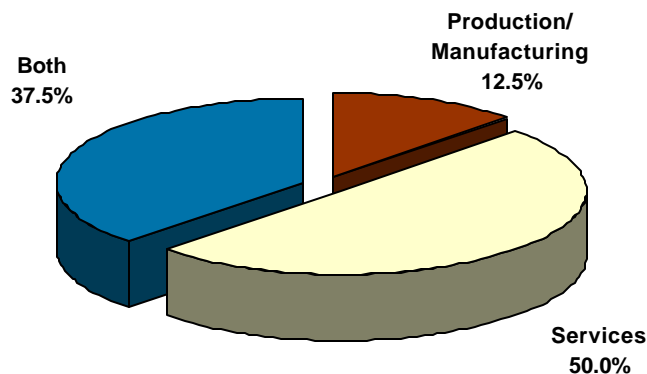
On the whole, Orange County Business and Professional Services firms have not outsourced their business processes to a location outside of the County during the past two years. Only nine out of the 359 companies (3%) indicated that they have outsourced a part of their business, whereas nearly all of the companies (97%) have not outsourced.

Figure 5 Outsourcing in Orange County



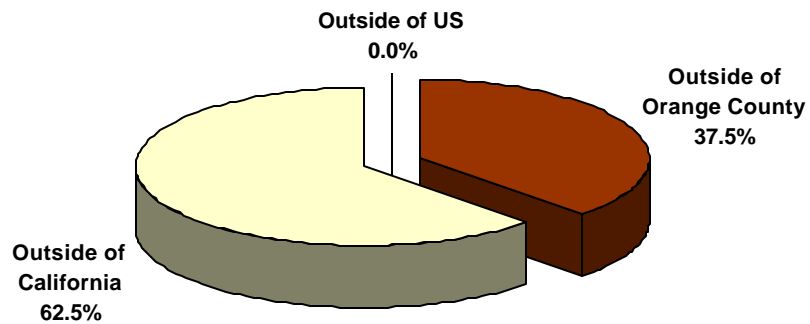
Only eight companies indicated what part of their business was moved outside of the County. Four reported that they outsourced divisions relating to “Services,” one moved its “Production or manufacturing processes,” and three moved both types of processes.

Figure 6 Type of Outsourcing (n = 8)



Five out of the eight companies reported that they moved part of their companies outside of California and three moved divisions outside of the County.

Figure 7 Location of Outsourcing (n = 8)

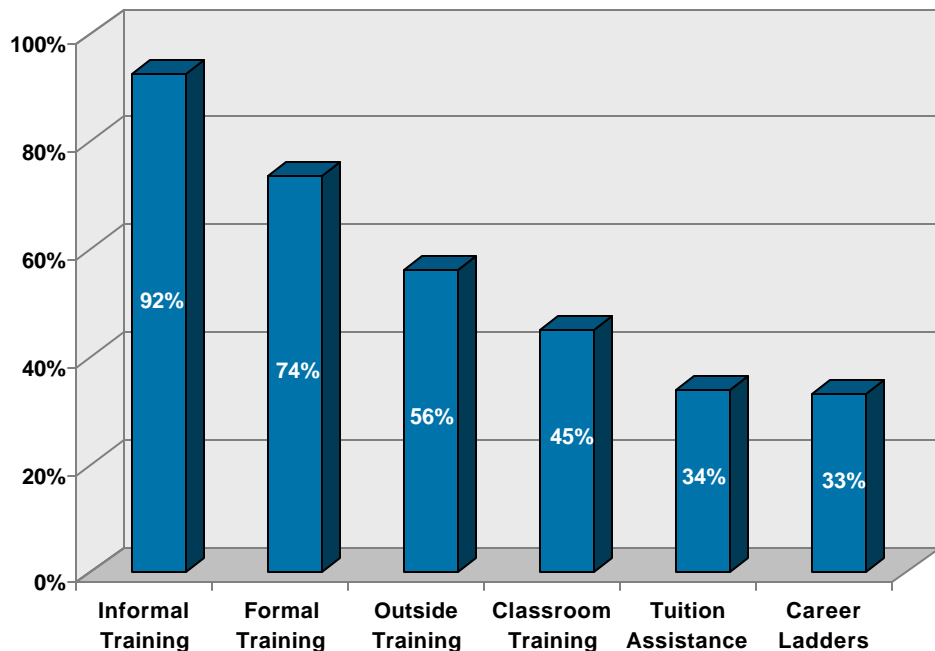


In order to identify areas where the Orange County Workforce Investment Board can assist businesses with employee development programs, Question 14 asked respondents to indicate which training programs they currently use.

Q14. Next, I'd like to ask you about employee development practices at your business location. As I read each of the following employee development practices, please indicate whether your business uses each practice.

As shown below, most firms in the Business and Professional Services cluster rely on "Informal on-the-job training" (92%) to develop their employees, followed by "Formal on-the-job training" (74%), "Employer-Paid outside training" (56%), and "In-House classroom training" (45%). Less BSVC firms reported offering "Tuition assistance at a college or university" (34%) and "Career Development/Career Ladders" (33%) for their employees.

Figure 8 Employee Development Practices



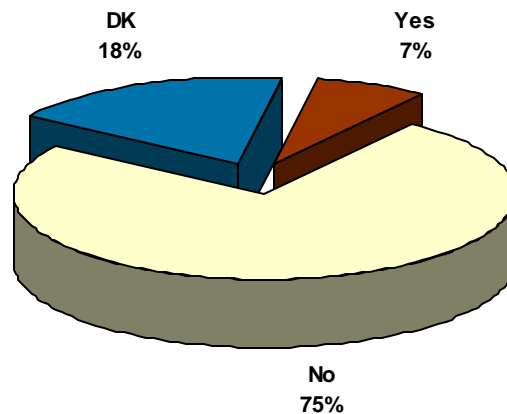
Questions 15 and 16 were designed to assess the need for GIS or geospatial technology training programs.

Q15. Does your firm use or have GIS or geospatial technology?

Q16. (IF YES TO Q15, ASK): Has your firm had any difficulty hiring or finding employees internally with GIS or geospatial technology skills? (IF YES) Is that some difficulty or great difficulty hiring or finding employees internally with GIS skills?

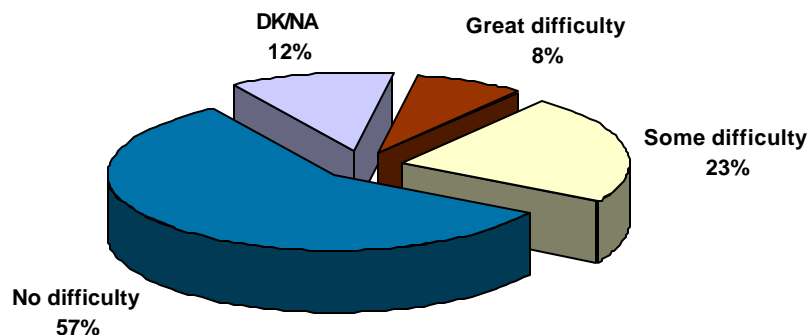
Figure 9 shows that most Business and Professional Services firms (75%) do not use GIS technology. Only seven percent reported that GIS technology is present in their companies. Furthermore, a sizable percentage of respondents (18%) were unaware if their companies used GIS technology.

Figure 9 Use of GIS Technology



While a majority Business and Professional Services firms (57%) who use GIS technology reported no difficulty in finding employees within the firm with the necessary GIS skills, nearly a third (31%) indicated that they had at least some difficulty in finding employees internally with GIS skills (“Great difficulty” 8%; “Some difficulty” 23%). Twelve percent of respondents did not know their level of difficulty in finding employees with GIS skills.

Figure 10 Difficulty Finding Employees with GIS Skills



## BUSINESS AND PROFESSIONAL SERVICES: OCCUPATIONAL ANALYSIS

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Twelve occupations were investigated in the Business and Professional Services cluster: Financial Managers, Accountants and Auditors, Account Collectors, Accounting Clerks, Administrative Services Managers, Employment Interviewers, Drafters and CAD, Systems Analysts, Paralegal Personnel, Legal Secretaries, Market and Survey Research Analysts, and Sales Representatives.

Respondents were first asked if their business employed individuals for any of the twelve occupations included in the survey. Respondents were then asked detailed, occupation-specific questions about four randomly selected occupations from among those present at their company.

Q16. As I read each of the following occupations, please tell me how many individuals at your business location are currently employed in the occupation.

Q17. How many of the \_\_\_\_\_, do you expect, will not be working at this company in the same position **12 months from now** ?

Q18. As I read each of the following occupations, please tell me how many total individuals you estimate will be employed in each of the occupations **12 months from now**.

Respondents in the Business and Professional Services cluster were asked about their expectations for occupational turnover and growth over the next 12 months. The results presented in Table 3 show that “Drafters and CAD” (29%) and “Administrative Services Managers” (19%) are expected to have the highest turnover rate in the next year. Conversely, BSVC firms estimated that “Account Collectors” would have the lowest turnover rate (4%).

“Systems Analysts” (27%), “Drafters and CAD” (14%), “Employment Interviewers” (14%), and “Legal Secretaries” (14%) had the highest 12-month expected growth rate among the BSVC occupations tested in the survey. On the other hand, “Financial Managers” (0%) were projected to have a flat growth rate over the next 12 months.

Based on the turnover and growth rates, we can project the number of openings that will become available in the next year. “Sales Representatives” (800), “Drafters and CAD” (612), “Administrative Services Managers” (524), and “Accountants and Auditors” (363) will have the most openings in the next 12 months.

Table 3 Occupational Retention and Turnover Over the Next 12 Months

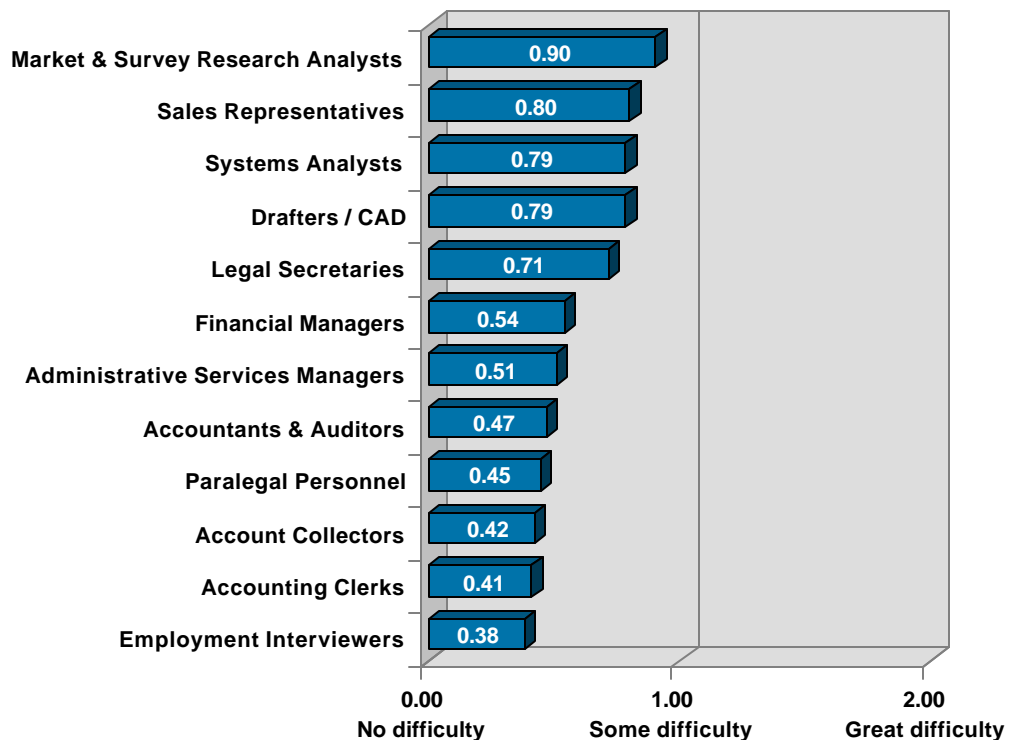
|  | Number Employed | % of Cluster Employment | Expected Turnover | Growth Rate | Openings |
|--|-----------------|-------------------------|-------------------|-------------|----------|
| <b>Sales Representatives</b>                 | 2,958           | 3.7%                    | 14%               | 13%         | 800      |
| <b>Accountants &amp; Auditors</b>            | 1,997           | 2.5%                    | 13%               | 5%          | 363      |
| <b>Administrative Services Managers</b>      | 1,775           | 2.2%                    | 19%               | 11%         | 524      |
| <b>Employment Interviewers</b>               | 1,620           | 2.0%                    | 5%                | 14%         | 316      |
| <b>Accounting Clerks</b>                     | 1,543           | 1.9%                    | 11%               | 3%          | 229      |
| <b>Drafters / CAD</b>                        | 1,425           | 1.8%                    | 29%               | 14%         | 612      |
| <b>Account Collectors</b>                    | 1,378           | 1.7%                    | 4%                | 5%          | 134      |
| <b>Legal Secretaries</b>                     | 1,271           | 1.6%                    | 8%                | 14%         | 282      |
| <b>Financial Managers</b>                    | 1,022           | 1.3%                    | 6%                | 0%          | 61       |
| <b>Systems Analysts</b>                      | 524             | 0.6%                    | 5%                | 27%         | 168      |
| <b>Paralegal Personnel</b>                   | 524             | 0.6%                    | 9%                | 8%          | 87       |
| <b>Market &amp; Survey Research Analysts</b> | 383             | 0.5%                    | 14%               | 11%         | 94       |
| <b>Cluster Total</b>                         | 80,982          | 100%                    |                   |             |          |

Respondents were subsequently asked whether they had “Great difficulty,” “Some difficulty,” or “No difficulty” finding qualified applicants for each of the Business and Professional Services occupations. To ease interpretation of the results, responses to this question were coded in the following manner: “Great difficulty” = +2, “Some difficulty” = +1, and “No difficulty” = 0. The aggregate responses to each item are presented below in the form of a mean, which is simply a summary statistic obtained by taking the overall average of the response codes for the entire sample. A mean of 1.00, for example, indicates that, overall, respondents felt that they had “Some difficulty” finding qualified candidates for that particular occupation.

Q21. For the same list of occupations, I'm interested in the level of difficulty your business has in finding applicants who meet the company's hiring standards. As I read each occupation, please tell me whether your business has no difficulty, some difficulty, or great difficulty finding applicants.

On average, firms did not report much difficulty finding applicants who meet their hiring standards, with the mean ratings falling between “No difficulty” and “Some difficulty” for each occupation. Firms indicated the most difficulty finding qualified “Market and Survey Research Analysts” (0.90), “Sales Representatives” (0.80), “Systems Analysts” (0.79), and “Drafters and CAD” (0.79). Comparatively, firms reported the lowest difficulty levels finding qualified “Employment Interviewers” (0.38), “Accounting Clerks” (0.41), and “Account Collectors” (0.42).

Figure 11 Mean Difficulty Finding Qualified Applicants

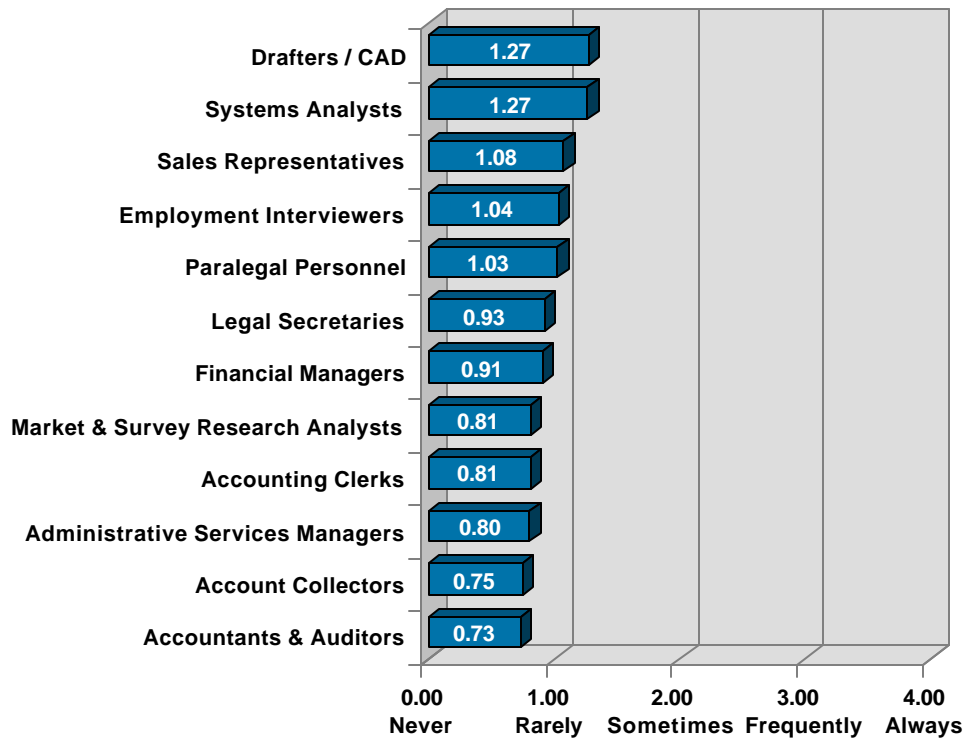


Next, respondents were asked how often they recruited candidates outside of Orange County for each occupation. Answers to this question were coded such that “Always” = +4, “Frequently” = +3, “Sometimes” = +2, “Rarely” = +1, and “Never” = 0.

Q22. We're interested in how often your business recruits individuals from outside of Orange County for an occupation. As I read each occupation, please indicate if you always, frequently, sometimes, rarely or never recruit individuals from outside of Orange County for that occupation.

For each occupation, a majority firms in the Business and Professional Services industry indicated that they “Never” or “Rarely” recruit individuals from outside of Orange County. Firms reported the highest frequency of recruiting outside the County for “Drafters and CAD” (1.27), “Systems Analysts” (1.27), “Sales Representatives” (1.08), “Employment Interviewers” (1.04), and “Paralegal Personnel” (1.03). Companies were least likely to seek “Accountants and Auditors” (0.73) and “Account Collectors” (0.75) from outside of the County.

Figure 12 Mean Frequency of Recruiting Outside of Orange County



Using the same frequency scale as the previous question, respondents were asked how often their businesses hire part-time and temporary workers, respectively. An average frequency score of 2.00 would indicate that the Business and Professional Services firms “Sometimes” hired part-time or temporary workers at their business location.

Q23. For the same list of occupations, we'd like to know how often your business hires **part-time** workers at your business location. As I read each occupation, please indicate whether your business always, frequently, sometimes, rarely or never hires **part-time** workers for that occupation.

Q24. Same question, only this time we're interested in **temporary workers**. As I read each occupation, please indicate whether your business always, frequently, sometimes, rarely or never hires **temporary workers** for that occupation.

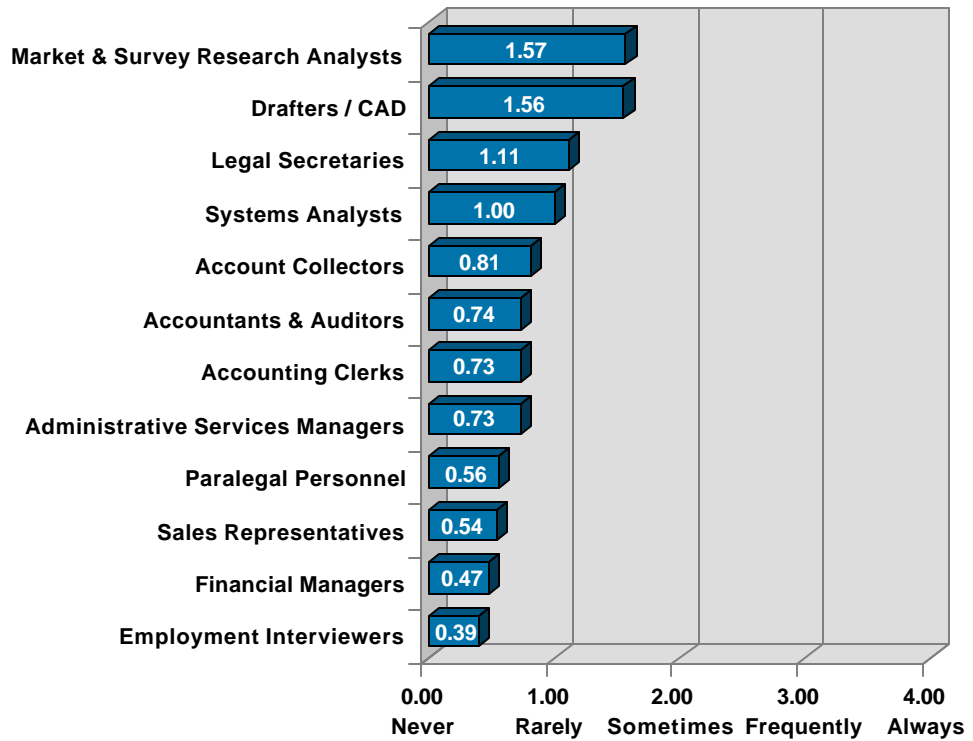
In general, Business and Professional Services firms hired “Legal Secretaries” (1.03), “Market and Survey Research Analysts” (1.00), “Drafters and CAD” (1.00), and “Accounting Clerks” (1.00) in part-time positions with greater frequency than they did for the other occupations. Even so, their frequency of hiring part-time position was closer to “Rarely” than “Sometimes.” Respondents were least likely to hire part-time “Systems Analysts” (0.41), “Employment Interviewers” (0.45), and “Financial Managers” (0.48).

Figure 13 Mean Frequency of Hiring Part-Time Employees



Within the Business and Professional Services cluster, the frequency of hiring temporary workers varied from one occupation to the other. Specifically, firms “Rarely” to “Sometimes” hired temporary “Market and Survey Research Analysts” (1.57), “Drafters and CAD” (1.56), “Legal Secretaries” (1.11), and “Systems Analysts” (1.00). Firms reported a very low frequency of hiring temporary “Employment Interviewers” (0.39) and “Financial Managers” (0.47).

Figure 14 Mean Frequency of Hiring Temporary Employees



## BUSINESS AND PROFESSIONAL SERVICES: OCCUPATIONAL WAGES

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Investigating wage data as part of an occupational survey can present specific challenges. Depending on the occupation, five to ten percent of respondents either refused to answer the typical pay range for each occupation or stated they did not know the range. Where the number of firms responding to an occupation is already relatively low, it can be particularly problematic to gather enough wage data to create a representative sample. For Business and Professional Services, however, only the Market and Survey Research Analysts received less than 30 responses for both low (entry-level) and high (experienced) wages.

For those respondents that did provide the occupational wage range information, the issue of strategic bias should be considered, particularly in the case where the wages seem to be lower than what might be expected. This bias occurs when a respondent acts strategically to affect the survey, in this case lowering the response for the typical wage for an occupation, with the thought that lower published wages will cause prospective employees to accept lower wages. In addition, we cannot discern whether the wages reported by the firm applies only to full-time employees, part-time employees, or both.

As shown in Table 4, Financial Managers had the highest median<sup>i</sup> low (entry-level) annual wage (\$45,000) as well as the highest median high (experienced) annual wage (\$63,700) of the Business and Professional Services occupations examined. Sales Representatives, Financial Managers, Systems Analysts, and Accountants & Auditors were the only occupations to receive more than \$60,000 as the high (experienced) mean<sup>ii</sup> wage. Of the 12 occupations tested, Account Collectors and Accounting Clerks had the lowest median and mean wages for both entry-level employees and experienced employees.

<sup>i</sup> The median wage represents the mid point in the range of responses if data points are put in sequential order. For Employment Interviewers the low (entry-level) median wage of \$30,000 means that half of the low wages given for Employment Interviewers lie above \$30,000 and the other half of Employment Interviewers low wages lie below \$30,000.

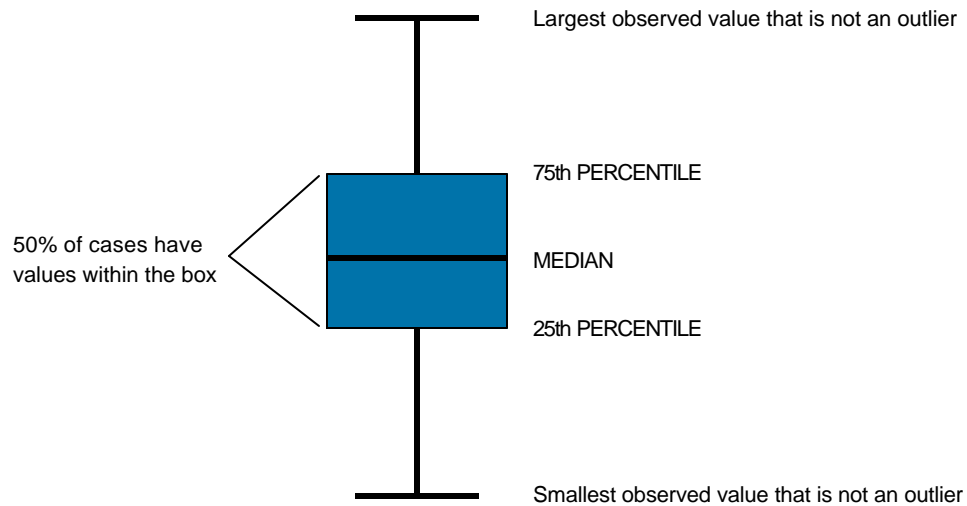
<sup>ii</sup> The mean wage can also be called the average wage and is derived by adding all the responses for wages and then dividing by the number of responses.

Table 4 Annual Wages for Entry-Level (Low) and Experienced (High) Employees by Occupation

|                                   |      | Median   | Mean     | N   |
|-----------------------------------|------|----------|----------|-----|
| Financial Managers                | Low  | \$45,000 | \$50,880 | 91  |
|                                   | High | \$63,700 | \$69,984 | 90  |
| Systems Analysts                  | Low  | \$40,000 | \$44,973 | 36  |
|                                   | High | \$60,000 | \$68,726 | 35  |
| Accountants & Auditors            | Low  | \$38,000 | \$39,675 | 102 |
|                                   | High | \$55,000 | \$60,827 | 103 |
| Legal Secretaries                 | Low  | \$35,000 | \$32,538 | 34  |
|                                   | High | \$50,000 | \$47,572 | 34  |
| Employment Interviewers           | Low  | \$33,280 | \$37,435 | 83  |
|                                   | High | \$50,000 | \$54,086 | 81  |
| Market & Survey Research Analysts | Low  | \$32,640 | \$34,085 | 26  |
|                                   | High | \$50,000 | \$53,074 | 26  |
| Paralegal Personnel               | Low  | \$32,000 | \$35,951 | 31  |
|                                   | High | \$56,000 | \$57,477 | 30  |
| Sales Representatives             | Low  | \$31,200 | \$38,426 | 105 |
|                                   | High | \$55,000 | \$73,111 | 103 |
| Drafters/CAD                      | Low  | \$31,200 | \$32,983 | 48  |
|                                   | High | \$50,000 | \$51,963 | 47  |
| Administrative Services Managers  | Low  | \$30,000 | \$33,142 | 121 |
|                                   | High | \$45,380 | \$50,011 | 118 |
| Account Collectors                | Low  | \$28,560 | \$28,085 | 72  |
|                                   | High | \$37,220 | \$38,883 | 72  |
| Accounting Clerks                 | Low  | \$25,000 | \$27,424 | 112 |
|                                   | High | \$37,440 | \$41,127 | 112 |

Data from Table 4 can be used to present each occupation's wage range in the form of boxplot diagrams for the low (entry-level) and high (experienced) annual wages (see Figures 10 and 11). Boxplot diagrams present a distribution of the wage information received for each occupation. Half of the wage responses fall within the shaded box: the middle line within the box represents the median wage, and the outside edges of the shaded box represent responses at the 25th percentile and 75th percentile. The horizontal lines outside of the shaded box indicate the smallest and largest wage responses that are not outliers<sup>iii</sup>. Therefore, the vertical line between the two horizontal ones captures the entire range of responses (excluding outliers) (see Figure 15 below).

Figure 15 Interpreting a Boxplot Diagram



<sup>iii</sup> Outliers in the context of the boxplot diagram are defined as those responses that are more than 1.5 shaded box lengths from the 25th or 75th percentile.

Financial Managers, Systems Analysts, Sales Representatives, and Accountants and Auditors had the largest wage ranges for entry-level (low) wages. In other words, these occupations had more variability in entry-level wages than for other Business and Professional Services occupations. Sales Representatives and Systems Analysts also had the most variability in their range of experienced (high) wages (see Figure 16 and Figure 17).

Figure 16 Distribution of Entry-Level (Low) Annual Wages

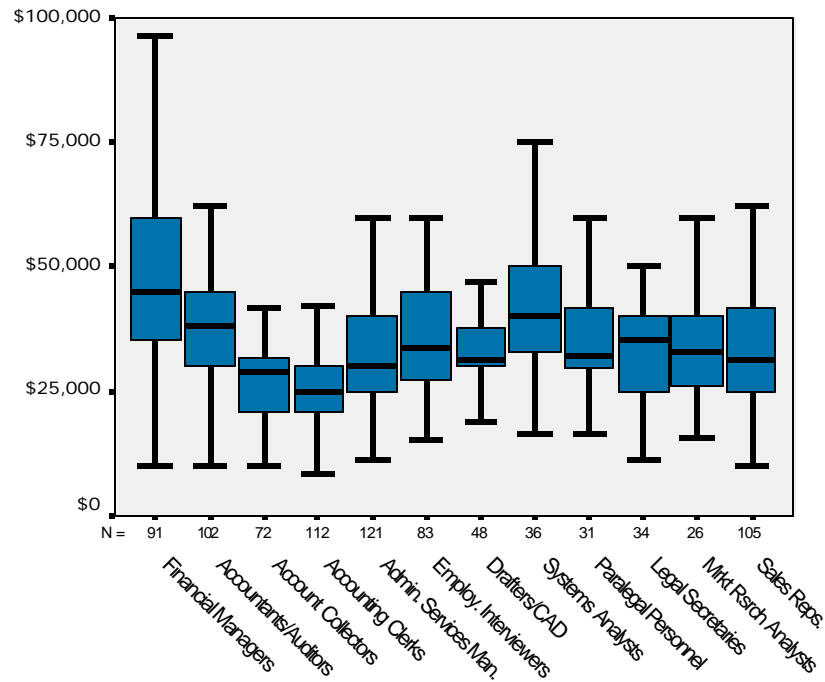
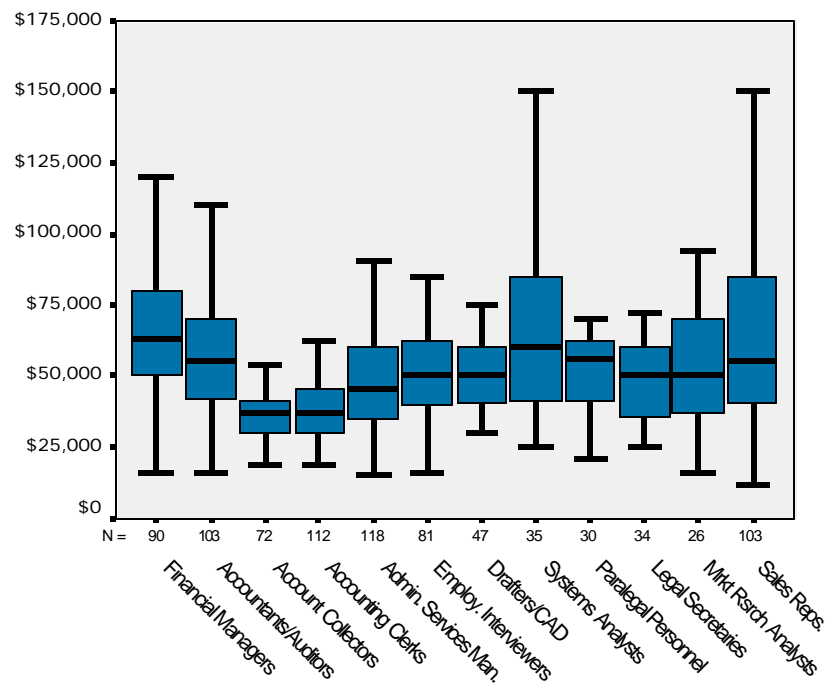


Figure 17 Distribution of Experienced (High) Annual Wages



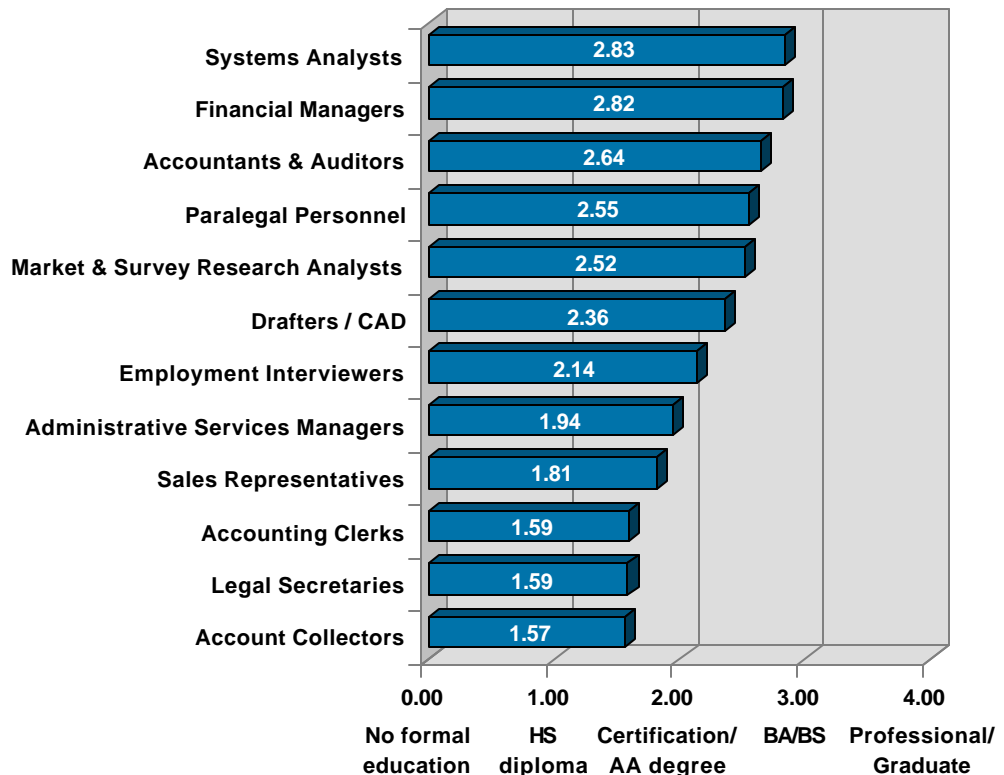
## BUSINESS AND PROFESSIONAL SERVICES: EDUCATION AND SKILL OCCUPATIONAL ASSESSMENT

To get an idea of the level of training needed for each of the occupations in the Business and Professional Services cluster, respondents were asked to indicate the *typical* education level required for successful applicants within each of the occupations. Responses to this question were coded according to the following education scale: “Professional or Graduate Degree” = +4, “Bachelor’s Degree” = +3, “Certification or Associate’s Degree” = +2, “Completion of High School or Equivalency” = +1, and “No formal education” = 0.

Q23. Next, for the same list of occupations, I'd like to know what are the **typical** education requirements for successful applicants within each occupation. The categories are: (INTERVIEWER READ OPTIONS). Okay, here's the (first/next) one: \_\_\_\_\_. What are the **typical** education requirements for successful applicants in this occupation at your business location?

“Systems Analysts” (2.83) had the highest average typical education requirements (between a Certification or Associate’s Degree and Bachelor’s Degree), followed by “Financial Managers” (2.82), “Accountants and Auditors” (2.64), “Paralegal Personnel” (2.55), and “Market and Survey Research Analysts” (2.52). Comparatively, “Account Collectors” (1.57) and “Legal Secretaries” (1.59) had the lowest typical educational requirements. Firms reported that, on average, successful applicants needed at least a high school diploma or its equivalency in all 12 BSVC occupations tested in the survey.

Figure 18 Mean Typical Education Requirements



In the last substantive section of the survey, respondents were read a list of general employment skills. Then they were asked to name the most important skill candidates should have when applying for a job with the company for each Business and Professional Services occupation. In addition, a follow-up question asked respondents which skill that their current employees in the occupation were most deficient in. These results are shown in Figure 19 through Figure 30

Q27. I'm going to read a list of general skills. Please tell me which one of these skills is **most important** when considering applicants for \_\_\_\_\_ (READ OCCUPATION).

Q28. I'm going to read the same list of general skills once more. Please tell me which of these skills your \_\_\_\_\_ (READ OCCUPATION) are currently **most deficient** in.

Of the skills tested, "Technical competence specific to the position" was the most important to respondents when hiring for eight out of the 12 Business and Professional Services occupations. Technical competence was particularly important for Systems Analysts (67%), Drafters and CAD (64%), Financial Managers (59%), Employment Interviewers (49%), and Accountants and Auditors (48%). "Interpersonal and communication skills" were also important to Business and Professional Services firms, ranking first in importance among the general skills for three of the 12 occupations. Respondents most frequently chose "Interpersonal and communication skills" as the most important skill set for Employment Interviewers (49%), Sales Representatives (36%), and Account Collectors (30%).

Across nearly all of the occupations, employers cited "Interpersonal and communication skills" as the skill set that their current workforce lacked the most. This was particularly worrisome for firms with occupations that required good communication skills. For example, communication skills were seen as the most important skill for Employment Interviewers and yet, 30 percent of BSVC firms believed that those employed in this position lacked these skills. Many respondents also seemed to be concerned about their employees' technical competency specific to their occupation, especially for occupations where technical competence ranked high in importance. In particular, large percentages of respondents indicated that their Accountants and Auditors (30%), Accounting Clerks (27%), Paralegal Personnel (24%), and Legal Secretaries (27%), and Market and Survey Research Analysts (27%) were deficient in their technical competence.

Figure 19 Occupation Skill Assessments: Financial Managers

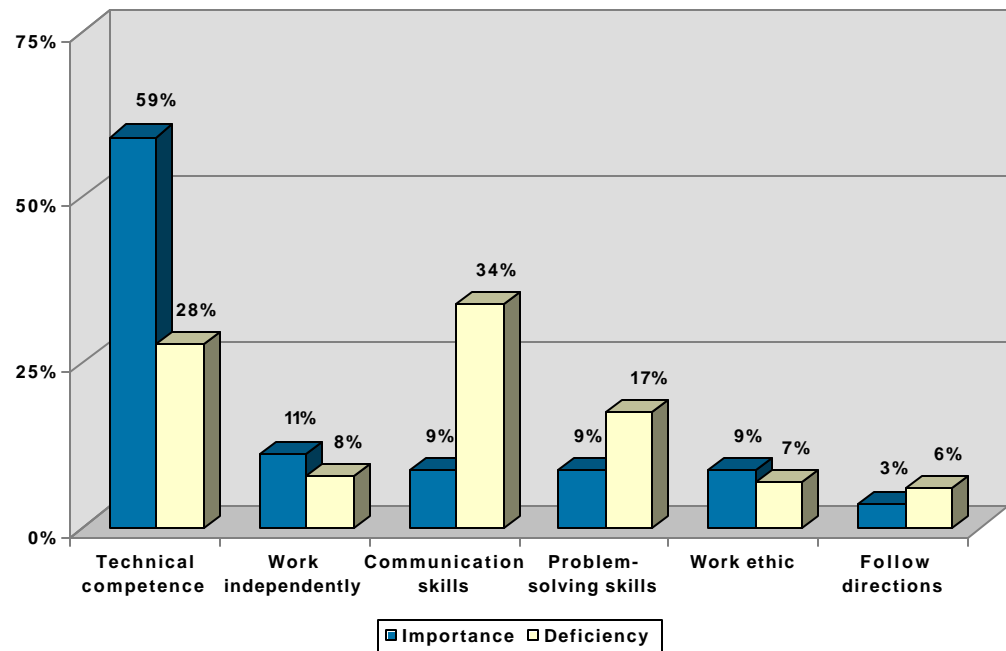


Figure 20 Occupation Skill Assessments: Accountants and Auditors

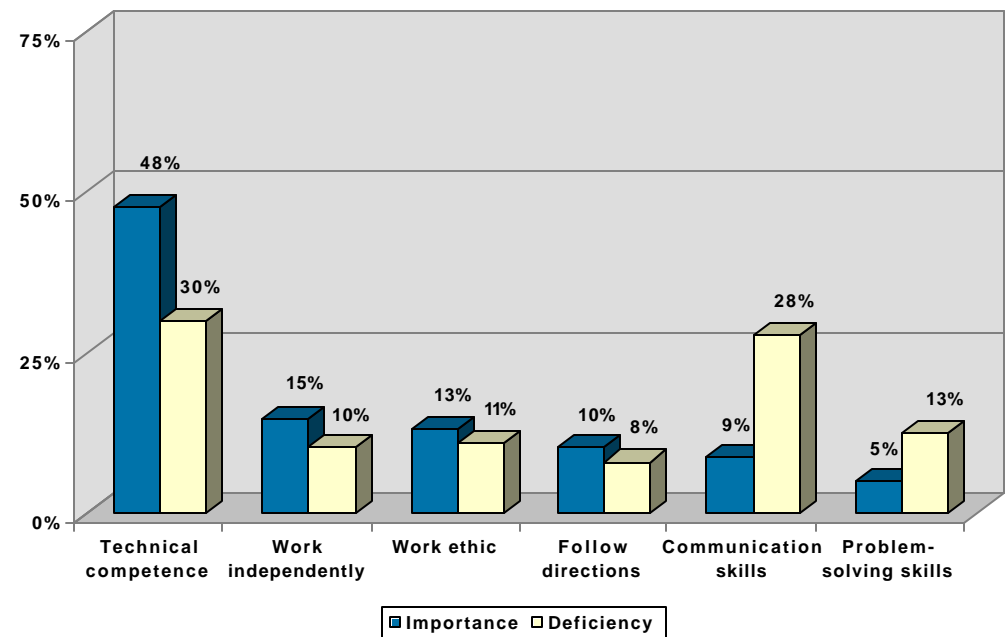


Figure 21 Occupation Skill Assessments: Account Collectors

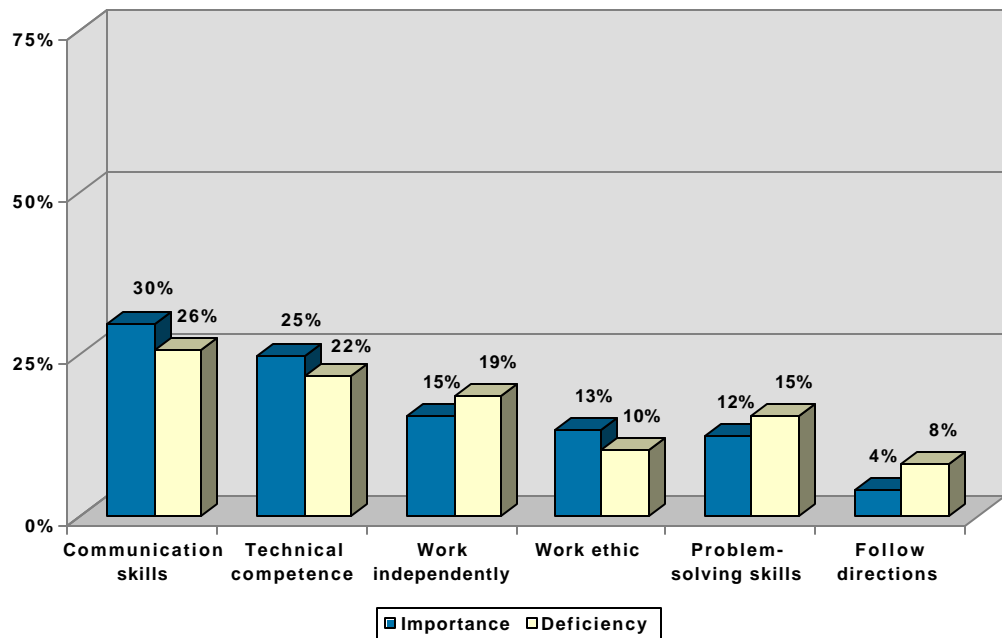


Figure 22 Occupation Skill Assessments: Accounting Clerks

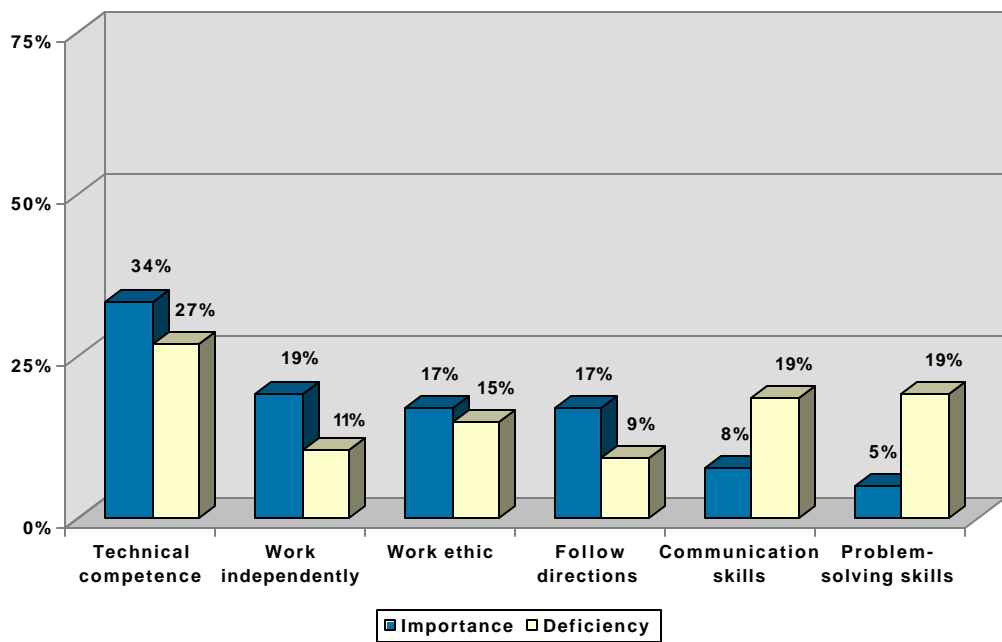


Figure 23 Occupation Skill Assessments: Administrative Services Managers

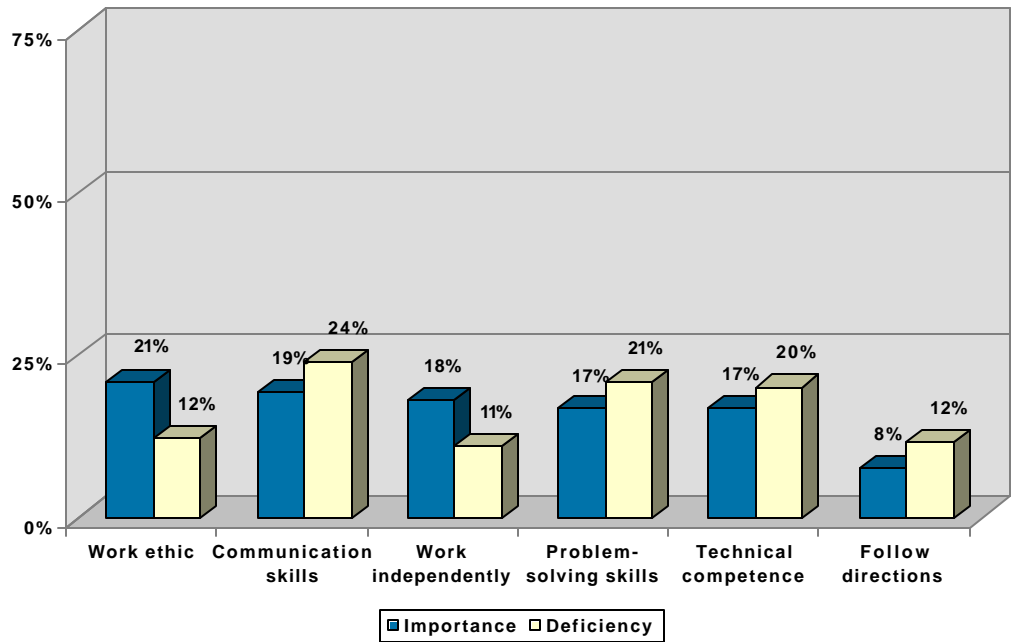


Figure 24 Occupation Skill Assessments: Employment Interviewers

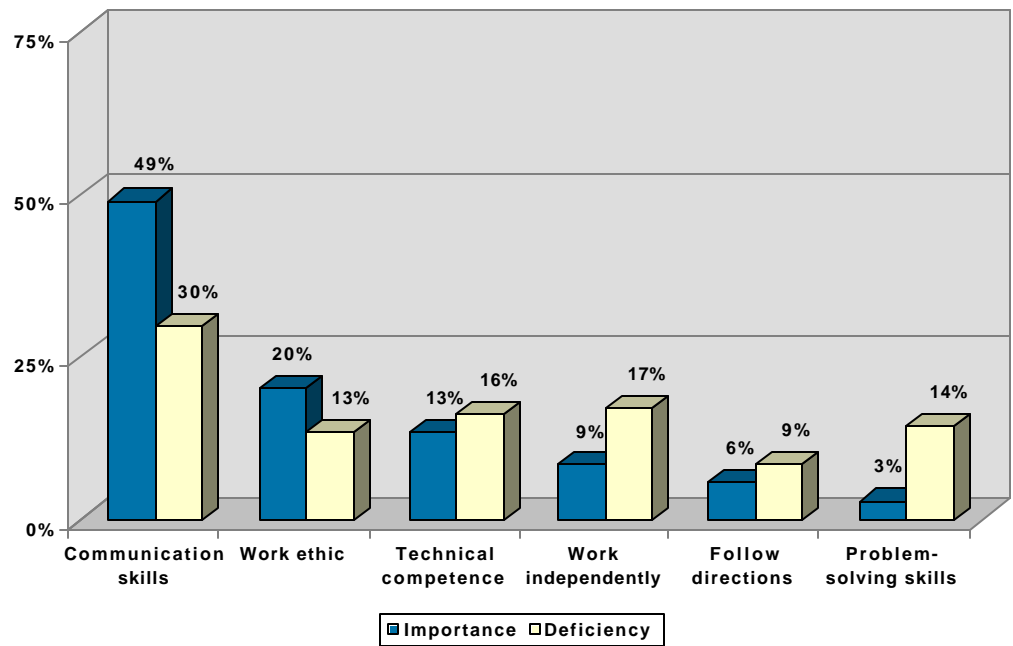


Figure 25 Occupation Skill Assessments: Drafters and CAD

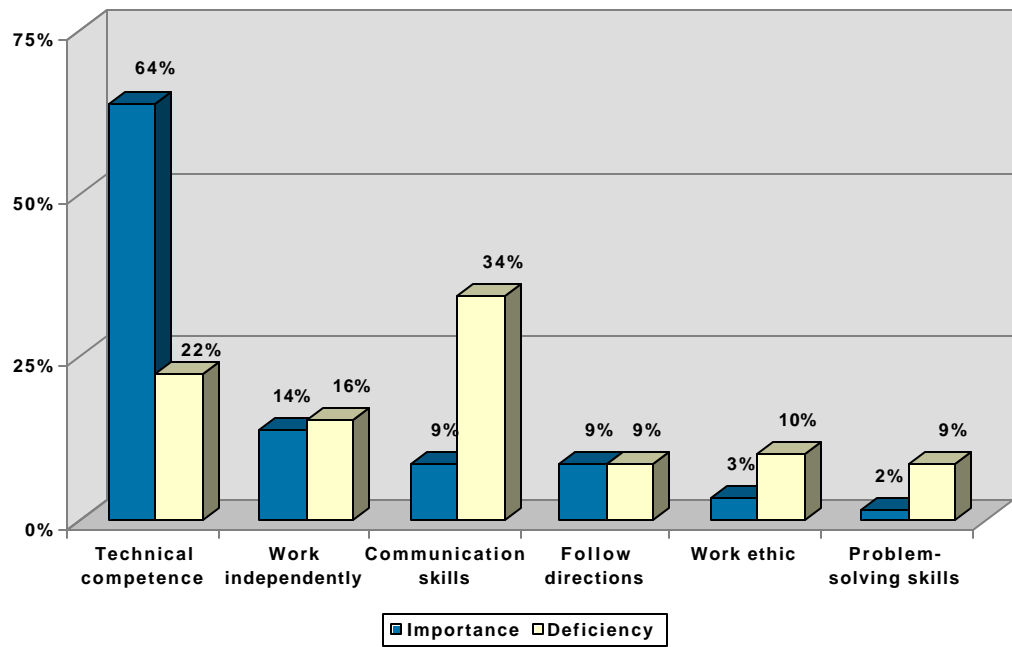


Figure 26 Occupation Skill Assessments: Systems Analysts

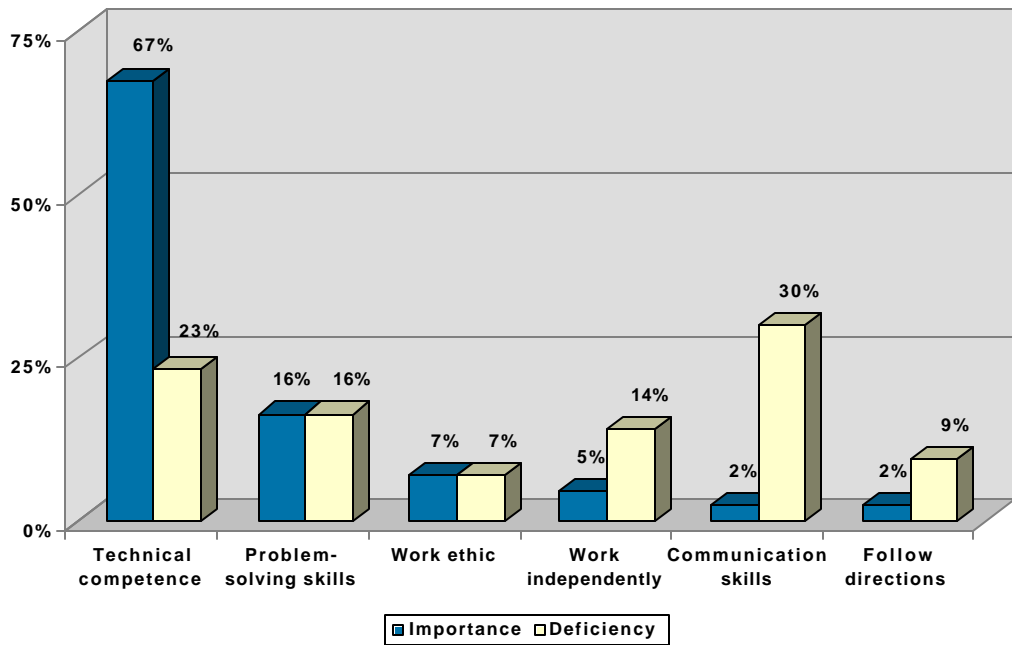


Figure 27 Occupation Skill Assessments: Paralegal Personnel

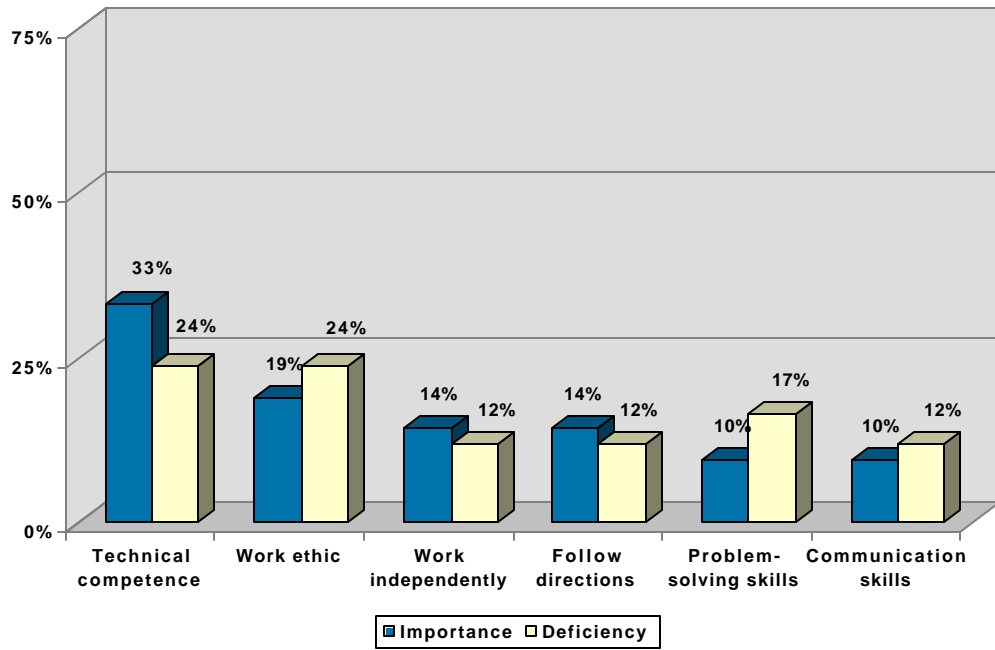


Figure 28 Occupation Skill Assessments: Legal Secretaries

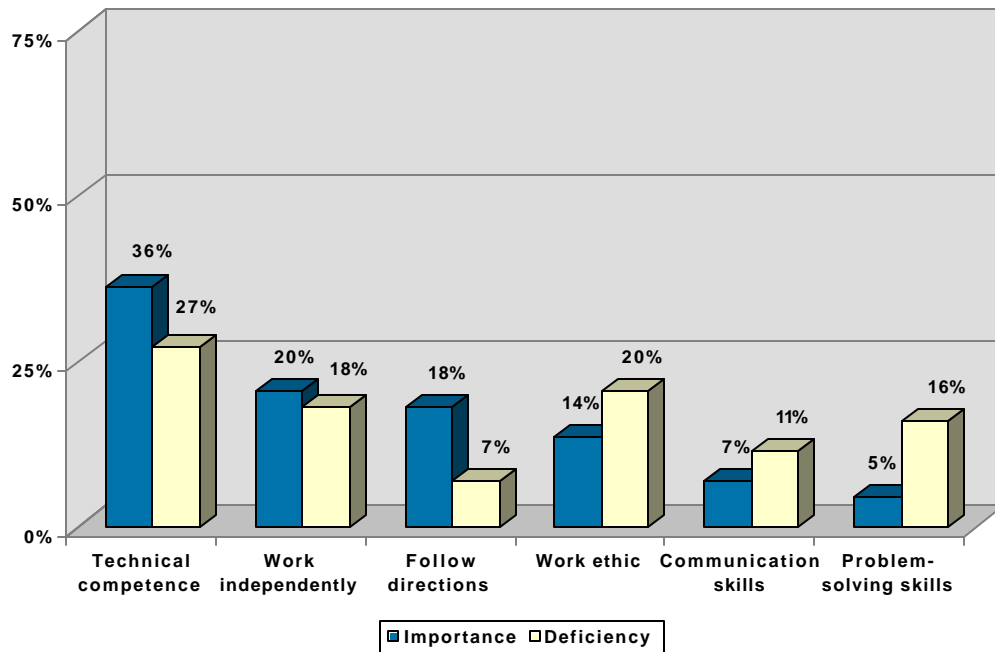


Figure 29 Occupation Skill Assessments: Market and Survey Research Analysts

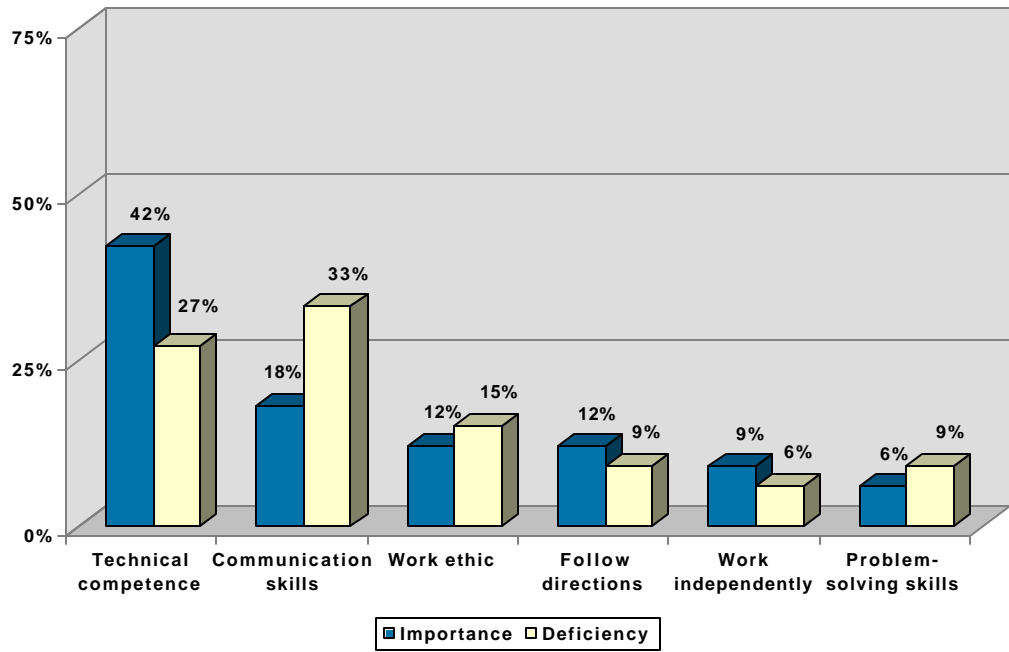
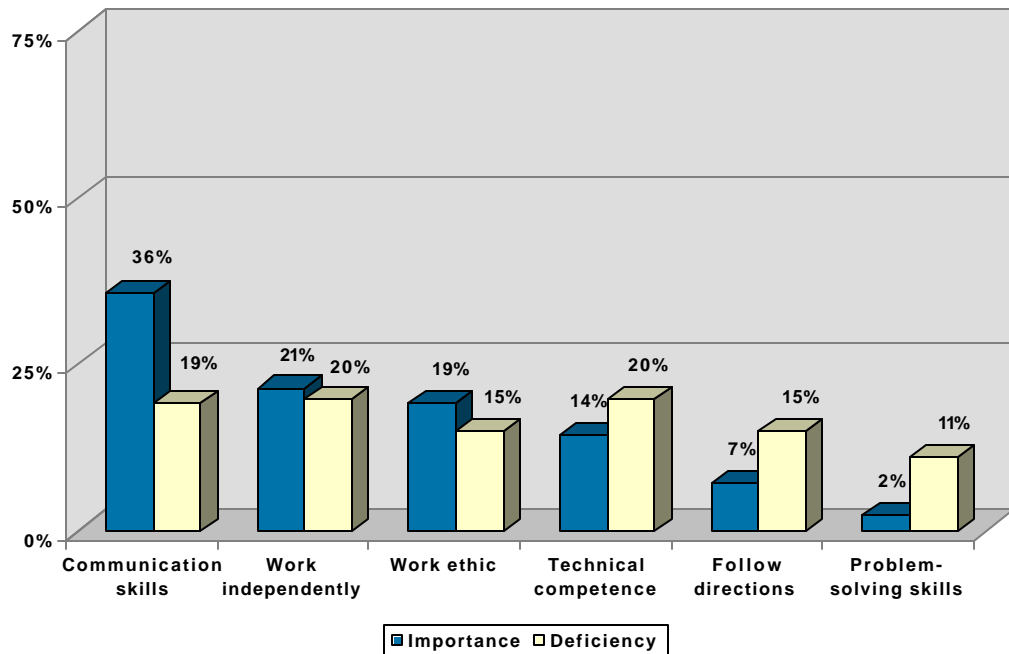


Figure 30 Occupation Skill Assessments: Sales Representatives



## APPENDIX A: METHODOLOGY

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Table 5 briefly outlines the methodology used in this project. Using a database compiled from InfoUSA and Inside Prospects, firms with at least five employees in the Business and Professional Services cluster were called to complete either a phone survey interview or an Internet survey (n = 359), representing a total of 7,543 Business and Professional Services firms in Orange County. Interviews were conducted from August 26 through September 22, 2004 and each interview typically lasted 20 to 30 minutes.

Table 5 Summary of Survey Methodology

|                         |   |
|-------------------------|---|
| <b>Technique</b>        | Telephone Interviewing and Internet Survey  |
| <b>Universe</b>         | Firms from the Business and Professional Services cluster located in Orange County with at least five employees |
| <b>Field Dates</b>      | August 26 - September 22  |
| <b>Interview Length</b> | 20-30 minutes   |
| <b>Sample Size</b>      | 359 Business Services firms   |

Sample size was driven by the goal to interview as many firms in the Business and Professional Services cluster as was possible. For Business and Professional Services, the margin for error was at  $\pm 5.05\%$ . Because the number of firms employing individuals in each of the Business Services occupations was lower than the overall number of firms in the sample, the occupational data is less reliable than the data for the industry analysis.

### Industry Description

Firms included in the Computer Software cluster were chosen based on the following North American Industry Classification System (NAICS) codes: 323110 Commercial lithographic printing, 323111 Commercial gravure printing, 323112 Commercial flexographic printing, 323113 Commercial screen printing, 323114 Quick printing, 323115 Digital printing, 323116 Manifold business forms printing, 323119 Other commercial printing, 323122 Prepress services, 511140 Directory and mailing list publishers, 532210 Consumer electronics and appliances rental, 532299 All other consumer goods rental, 532310 General rental centers, 532411 Transportation equipment rental and leasing, 532412 Other heavy machinery rental and leasing, 532420 Office equipment rental and leasing, 532490 Other machinery rental and leasing, 541110 Offices of lawyers, 541211 Offices of certified public accountants, 541214 Payroll services, 541219 Other accounting services, 541310 Architectural services, 541320 Landscape architectural services, 541330 Engineering services, 541360 Geophysical surveying and mapping services, 541370 Other surveying and mapping services, 541430 Graphic design services, 541611 Administrative management consulting services, 541612 Human resource consulting services, 541613 Marketing consulting services, 541614 Process and logistics consulting services, 541618 Other management consulting services, 541690 Other technical consulting services, 541810 Advertising agencies, 541820 Public relations agencies, 541830 Media buying agencies, 541840 Media representatives, 541850 Display

advertising, 541860 Direct mail advertising, 541870 Advertising material distribution services, 541890 Other services related to advertising, 541922 Commercial photography, 561110 Office administrative services, 561210 Facilities support services, 561310 Employment placement agencies, 561320 Temporary help services, 561330 Professional employer organizations, 561410 Document preparation services, 561439 Other business service centers, 561440 Collection agencies, 561450 Credit bureaus, 561492 Court reporting and stenotype services, 561621 Security systems services, except locksmiths, 611710 Educational support services.

## Occupation Descriptions

The table below gives the title, O\*NET – SOC code, and occupation description of the Business and Professional Services occupations used for this study. Further information about these occupations can be found at <http://online.onetcenter.org>.

Table 6 Occupation Descriptions

| Occupation   | Description  |
|--|--|
| Financial Managers<br>11-3031                          | Organize and direct the financial activities of an organization. Includes managers who negotiate policy with financial institutions, such as banks.  |
| Accountants & Auditors<br>13-2011                      | Analyze and interpret accounting records. Advise on systems of recording costs or other financial and budgetary data.  |
| Account Collectors<br>43-3011                          | Locate and notify customers of delinquent accounts to solicit payment. Also receive payments, update accounts, and prepare account statements.   |
| Accounting Clerks<br>43-3031                           | Compute, classify and record numerical data to keep financial records complete. Perform routine calculating, posting and verifying tasks for use in maintaining accounting records.  |
| Administrative Services Managers<br>11-3011            | Plan, organize and direct the supportive services department of a business. Includes property managers and contract administrators.  |
| Employment Interviewers<br>13-1071                     | Employment Interviewers - Search application files, interview job applicants and refer them to prospective employers.  |
| Drafters / CAD<br>17-3011                              | Prepare working plans and detail drawings for engineering or manufacturing purposes.   |
| Systems Analysts<br>15-1051                            | Analyze business, scientific and technical problems for electronic data processing systems. Develop computer programs.   |
| Paralegal Personnel<br>23-2011                         | Assist lawyers by researching law, investigating facts and preparing legal documents.  |
| Legal Secretaries<br>43-6012                           | Prepare legal papers and correspondence.   |
| Market & Survey Research Analysts<br>19-3020 (21 & 22) | Research market conditions in local, regional, or national areas to determine potential sales of a product or service. May gather information on competitors, prices, sales, and methods of marketing and distribution. May use survey results to create a marketing campaign based on regional preferences and buying habits. |
| Sales Representatives<br>41-4011                       | Sell selected business/professional services.  |

## Understanding the “Margin of Error”

Because a survey only contains responses from a limited number of firms, who are part of a larger population group, by mere chance alone there will almost always be some difference between a sample and the population from which it was drawn. For example, researchers might collect information from 100 companies in a town of 2,500 companies. Because not all firms in the population were surveyed, there are likely to be differences between the results obtained from interviewing the sample respondents and the results that would be obtained if all firms in the population were interviewed. These differences are known as “sampling error,” and they can be expected to occur regardless of how scientifically the sample has been selected. The advantage of using a scientifically drawn sample, however, is that the maximum amount of sampling error can be determined based on four factors: the size of the population, the chosen sample size, a confidence level, and the dispersion of responses to a survey question. Of the four factors, sample size is the most influential variable.

Table 7 shows the sampling variation that applies to various percentage results that might have been obtained through the survey. The table shows that if a sample of 359 firms is randomly drawn from the estimated 7,543 Business Services firms in Orange County, one can be 95 percent confident that the margin of error, due to sampling, will not vary by more than the indicated number of percentage points (plus or minus) from the result that would have been obtained if the interviews had been conducted with all people in the universe represented in the sample.

Table 7 Margin of Error

| <i>n</i>     | Distribution of Responses |           |           |           |           |
|--------------|---------------------------|-----------|-----------|-----------|-----------|
|              | 90% / 10%                 | 80% / 20% | 70% / 30% | 60% / 40% | 50% / 50% |
| <b>1,000</b> | 1.73%                     | 2.31%     | 2.65%     | 2.83%     | 2.89%     |
| <b>900</b>   | 1.84%                     | 2.45%     | 2.81%     | 3.00%     | 3.07%     |
| <b>800</b>   | 1.97%                     | 2.62%     | 3.00%     | 3.21%     | 3.28%     |
| <b>700</b>   | 2.12%                     | 2.82%     | 3.23%     | 3.46%     | 3.53%     |
| <b>600</b>   | 2.30%                     | 3.07%     | 3.52%     | 3.76%     | 3.84%     |
| <b>500</b>   | 2.54%                     | 3.39%     | 3.88%     | 4.15%     | 4.24%     |
| <b>400</b>   | 2.86%                     | 3.81%     | 4.37%     | 4.67%     | 4.77%     |
| <b>359</b>   | 3.03%                     | 4.04%     | 4.63%     | 4.95%     | 5.05%     |
| <b>300</b>   | 3.33%                     | 4.44%     | 5.08%     | 5.43%     | 5.54%     |
| <b>200</b>   | 4.10%                     | 5.47%     | 6.27%     | 6.70%     | 6.84%     |
| <b>100</b>   | 5.84%                     | 7.79%     | 8.92%     | 9.54%     | 9.74%     |

As the table indicates, the maximum margin of error for all aggregate responses is between 3.03 and 5.05 percent for the sample of 359 BSVC firms. This means that for a given question answered by all respondents, one can be 95 percent confident that the difference between the percentages reported here based on the responses of the sample population, and the percentages that would be calculated for responses from the total population, is no greater than 5.05 percent. The percent margin of error applies to both sides of the answer, so that for a question in which 50 percent of respondents said yes, one can be 95 percent confident that the actual percent of the population that would say yes is between 44.95 percent and 55.05 percent (see the last column of Table 7).

The actual margin of error for a given question in this survey depends on the distribution of the responses to the question. The 4.93 percent refers to dichotomous questions, such as a “Yes” or “No” question, where opinions were evenly split in the sample, with 50 percent of respondents saying “Yes” and 50 percent saying “No.” If that same question were to receive a response in which 10 percent of respondents said “Yes” and 90 percent said “No,” the margin of error would be no greater than 3.03 percent (see the first column of Table 7). As the number of respondents in a particular subgroup (e.g., occupation) is smaller than the number of total respondents, the margin of error associated with estimating a given subgroup's responses will be higher. For this reason Godbe Research cautions referencing subgroups with fewer than 25 responses.

## Questionnaire Design

### Randomization of Questions

To avoid the problem of systematic position bias -- where the order in which a series of questions is asked systematically influences the responses that participants give -- several questions in this survey were randomized such that respondents were not consistently given response options in the same order. The series of items within Questions 10, 14, and 27 were randomized for each interview.

### Occupation Selection for Questions

Due to the length of the occupational questions (questions 17 through 30) respondents were asked questions for as many as four occupations if the survey was completed over the phone and up to five occupations if the survey was completed online. If a firm indicated that they had more than four of the occupations being evaluated (or five for the online survey), the occupations that were used for questions 17 through 30 were initially determined randomly. After a few weeks of data collection, certain occupations that had a lower response rate were given a higher priority and were automatically included for questions 17 through 30, if that particular occupation was employed at the specific firm.

### Multiple Response Questions

Some questions within the survey were presented as a multiple response format. For this type of question, each respondent is given the opportunity to select more than one response option. For this reason, the response percentages will typically sum to more than 100 and represent the percentage of individuals that mentioned a particular response.

## Tables and Charts

The body of this report presents a wide variety of tables, charts, and analytical formats. This section of the Methodology describes the conventions underlying these analyses.

### Understanding a “Mean”

In addition to analysis of response percentages, many results will be discussed with respect to a descriptive “Mean.” To derive a mean, or average, that represents perceived difficulty in finding qualified applicants (Q21), for example, a number value is first assigned to each response category (e.g., “Great difficulty” = +2, “Some difficulty” = +1, “No difficulty” = 0). The answer of each respondent is then assigned the corresponding number (from 0 to +2, in this example). Finally, all respondents’ answers are averaged to produce a final number that reflects the average perceived

importance of the different issues. The resulting mean makes interpretation of the data considerably easier.

How to Read a “Means” Chart

In the charts for Questions 21 through 25 of the survey, the reader will find mean scores that represent answers given by respondents. The mean score represents the average response of each group. The following table shows the scales for each corresponding question. Responses of “Don’t know/No answer” are not included in calculating the means for any question.

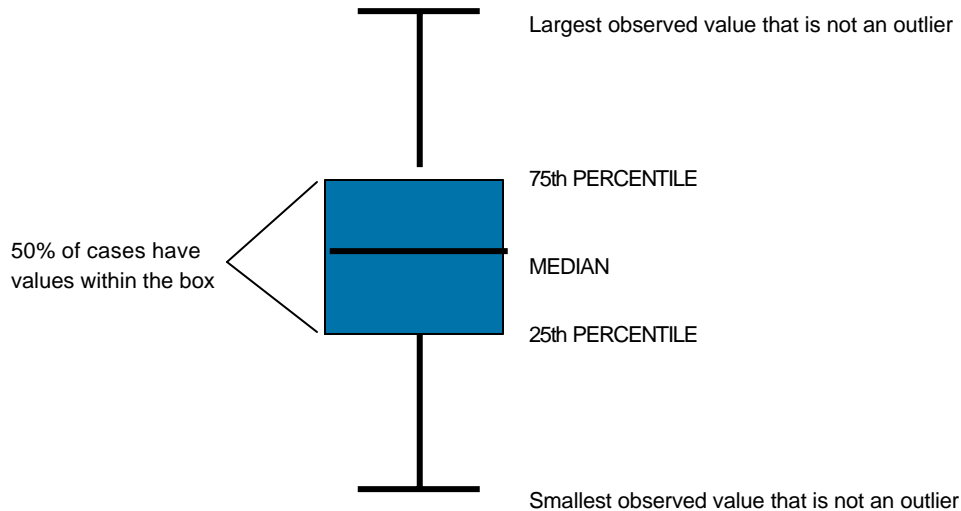
Table 8 Means Questions and Corresponding Scales

| Question   | Measure                  | Scale   | Values  |
|------------|--------------------------|---------|---|
| 21         | Difficulty Ratings       | 0 to +2 | +2 = Great difficulty<br>+1 = Some difficulty<br>0 = No difficulty  |
| 22, 23, 24 | Frequency                | 0 to +4 | +4 = Always<br>+3 = Frequently<br>+2 = Sometimes<br>+1 = Rarely<br>0 = Never  |
| 25         | Typical Education Levels | 0 to +4 | +4 = Graduate/Professional Degree<br>+3 = Bachelor's Degree<br>+2 = Certification/Associate's Degree<br>+1 = High school diploma/GED<br>0 = No formal education |

How to Interpret a Boxplot Chart

Used explicitly for the occupation wage data, boxplot diagrams present a distribution of the wage information received for each occupation. Half of the wage responses fall within the shaded box: the middle line within the box represents the median wage, and the outside edges of the shaded box represent responses at the 25th percentile and 75th percentile. The horizontal lines outside of the shaded box indicate the smallest and largest wage responses that are not outliers. Outliers were those data points that fell 1.5 boxes outside of the 25<sup>th</sup> and 75<sup>th</sup> percentiles. Therefore, the vertical line between the two horizontal ones captures the entire range of responses (excluding outliers) (see Figure 31 below).

Figure 31 Example of a Boxplot Diagram



A Note on “Rounding”

Conventional rounding rules are applied (i.e., numbers that include 0.5 or higher are rounded to the next highest whole number and numbers that include 0.4 or lower are rounded to the next lowest whole number). Because of rounding, the reader may notice that percentages in the discussion may not sum to 100 percent.

To display information relevant to a particular analysis in the most efficient manner possible, the sizing of table columns and fonts vary to fit the analytical needs.

APPENDIX B: SURVEY QUESTIONNAIRE

---

**Godbe Research & Analysis**  
**August 2004**  
**FINAL**

**Orange County Cluster Survey**  
**2004**

Hello, my name is \_\_\_\_\_. May I please speak to [name] or [the person handling human resource issues at [company]?)

Hello, my name is \_\_\_\_\_ and I'm calling on behalf of the Orange County Workforce Investment Board. I'm following up on a letter sent from **[Name of Cluster Signator]** asking you to participate in a survey that will address your future business needs for trained and educated employees.

As a token of appreciation, we will also enter participants who complete the survey into a drawing for a \$500 cash prize.

<< if needed>> The survey should take no more than ten minutes of your time. By answering this survey, you can help regional workforce agencies develop the appropriate type of training that will prepare the employees you will be looking for in the future.<<end of optional section 2>>

<< if needed>> The survey has been commissioned by the Orange County Workforce Investment Board, which is committed to developing the regional workforce. The survey is being conducted by Godbe Research, an independent research firm. <<end of optional section 3>>

(FOR THOSE WHO AGREE TO PARTICIPATE):

i. Do you have Internet access and e-mail at your work?

- Yes -----1 (Go to Qii)
- No -----2 (Go to Qiv)
- Don't Know/Refuse-----3 (Go to Qiv)

ii. The survey can be taken on the Internet. If you provide me with your e-mail address, I can send you an e-mail with a link to the survey. (GET E-MAIL ADDRESS AND CONFIRM THAT IT IS CORRECT. THANK THEM AND ENCOURAGE THEM TO PARTICIPATE WHEN THEY RECEIVE THE E-MAIL).

(IF NEEDED): Your email address will be confidential and will not be used for any other purpose.

(WAS CONFIDENTIAL EMAIL STATEMENT USED?):

Yes -----1  
No -----2

(IF RESPONDENT REFUSES TO PROVIDE E-MAIL ADDRESS, GO TO Qiii)

- iii. Ok, we can either conduct the interview over the phone or we can provide you with the website address and a unique number [PIN #], which you can use to participate online. (IF CHOOSES URL, MAKE SURE TO CONFIRM RESPONDENT HAS WRITTEN DOWN THE CORRECT ADDRESS AND PIN #. IF CHOOSES PHONE, GO TO Qiv)
- iv. (FOR RESPONDENTS WHO ANSWERED NO OR DON'T KNOW TO Qi) We can take your survey responses by phone right now. (IF THE RESPONDENT INDICATES THAT NOW IS NOT A GOOD TIME, TRY TO SCHEDULE A MORE CONVENIENT TIME FOR A CALLBACK).
- v. Record PIN #: \_\_\_\_\_. (FROM SAMPLE SHEET IF PHONE RECRUITED. IF CALLED 1-888 PHONE NUMBER, ASK THEM TO READ THE PIN FROM THE LETTER)

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First, I'd like to ask you a few general questions about your business.

- 1. How many permanent full-time employees work at your business location?  
Record # full-time: \_\_\_\_\_
- 2. How many permanent part-time employees work at your business location?  
Record # part-time: \_\_\_\_\_
- 3. How many temporary and/or seasonal employees currently work at your business location?  
Record # temporary: \_\_\_\_\_
- 4. Including all full-time and part-time employees, how many **permanent** employees do you expect to have 12 months from now?  
Record # employees: \_\_\_\_\_
- 5. How many temporary and/or seasonal employees do you expect to have 12 months from now?  
Record # temporary: \_\_\_\_\_

6. When a non entry-level position becomes available in your firm, do you more often hire from outside or promote from within the company?

- Promote from within-----1
- Even split (50-50 outside & promote) -----2
- Recruit from outside -----3
- (DON'T READ) Don't know-----4
- (DON'T READ) Refused -----5

7. How often does your business recruit individuals from outside the County but within the Southern California region for employment?

- Always -----1
- Frequently-----2
- Sometimes-----3
- Rarely-----4
- Never -----5
- (DON'T READ) Refused -----6

8. How often does your business recruit individuals from outside Southern California for employment?

- Always -----1
- Frequently-----2
- Sometimes-----3
- Rarely-----4
- Never -----5
- (DON'T READ) Refused -----6

9. In the next 3 years, what percentage of your current employees do you expect will retire?

Record % Retiring in next 3 years: \_\_\_\_\_

10. Next, I'm going to read a list of issues facing the region's workforce in the coming years, please tell me how much difficulty your firm faces in addressing these workforce needs.

Here's the (first/next) one: \_\_\_\_\_. Please tell me whether your business has no difficulty, some difficulty, or great difficulty in dealing with this issue.

**Randomize**

|  | <u>No<br/>difficulty</u> | <u>Some<br/>difficulty</u> | <u>Great<br/>difficulty</u> | <u>(DON'T<br/>READ)<br/>DK/NA</u> |
|--|--------------------------|----------------------------|-----------------------------|-----------------------------------|
| A. Replacing retired workers with qualified employees within the firm-----         | 1                        | 2                          | 3                           | 4                                 |
| B. Replacing retired workers with qualified candidates from outside the firm ----- | 1                        | 2                          | 3                           | 4                                 |
| C. Developing strategies to retain valuable employees-----                         | 1                        | 2                          | 3                           | 4                                 |
| D. Recruiting entry-level employees with adequate training and education -----     | 1                        | 2                          | 3                           | 4                                 |
| E. Recruiting non entry-level employees with adequate skills and experience -----  | 1                        | 2                          | 3                           | 4                                 |
| F. Recruiting employees with reasonable salary requirements-----                   | 1                        | 2                          | 3                           | 4                                 |

11. During the past two years, has your company relocated any of its business processes, including production and services, to a lower cost location outside of Orange County?

[NOTE IF ASKED: production includes software programming, research and development]

- Yes -----1 (CONTINUE)
- No -----2 (Skip to Q14)
- Don't know/Refused -----3 (Skip to Q14)

12. (IF RESPONDENT ANSWERED YES IN Q11, THEN ASK:) Which type of business process did your company relocate outside of the County? Did your company move its production or manufacturing processes, its services, or both?

- Production/Manufacturing-----1
- Services-----2
- Both -----3
- Other [Specify]-----4
- (DON'T READ) Don't know/Refused-----5

13. Where did your company relocate to outside of the County? [TRY AND GATHER CITY AND STATE OR IF OUTSIDE THE UNITED STATES GET COUNTRY AND CITY IF POSSIBLE]

Name of location -----  
 (DON'T READ) Refused -----98  
 (DON'T READ) Don't know-----99

14. Next, I'd like to ask you about employee development practices at your business location. As I read each of the following employee development practices, please indicate whether your business uses each practice.

**Randomize**

|  | <u>Yes</u> | <u>No</u> | <u>(Don't Read)<br/>DK/NA</u> |
|--|------------|-----------|-------------------------------|
| A. Formal on-the-job training -----                      | 1          | 2         | 3                             |
| B. Informal on-the-job training -----                    | 1          | 2         | 3                             |
| C. In-house classroom training -----                     | 1          | 2         | 3                             |
| D. Career development programs/<br>Career ladders -----  | 1          | 2         | 3                             |
| E. Employer-paid outside training -----                  | 1          | 2         | 3                             |
| F. Tuition assistance at a college or<br>university----- | 1          | 2         | 3                             |

15. Does your firm use or have GIS or geospatial technology?

Yes -----1  
 No -----2 [SKIP TO Q17]  
 (DON'T READ) Do not know GIS -----3 [SKIP TO Q17]  
 (DON'T READ) Refused -----4 [SKIP TO Q17]

16. Has your firm had any difficulty hiring or finding employees internally with GIS or Geospatial technology skills? (IF YES) Is that some difficulty or great difficulty hiring or finding employees internally with GIS skills.

No difficulty -----1  
 Some difficulty -----2  
 Great difficulty-----3  
 (DON'T READ) Don't know/Refused -----4

## Occupation - Related Questions

17. Now, I'm going to ask you about specific occupations within your business/company. The occupational titles we are using may differ from the specific position titles used in your company. For these questions, I would like you to try to equate your company's specific position titles with the more generic ones we will use here. Please tell me if your company employs, at your location, individuals in positions matching the following generic occupational titles:

Here's the (first/next) one: \_\_\_\_\_ (READ ITEM & BRIEF DEFINITION, THEN ASK): Do you have employees who fit this occupational description at your business location?

Occupational List <<number of occupations is dependent on cluster>>

- 1 (occupation 1 – brief definition)
- 2 (occupation 2 – brief definition)
- 3 (occupation 3 – brief definition)
- 4 (occupation 4 – brief definition)
- 5 (occupation 5 – brief definition)
- 6 (occupation 6 – brief definition)
- 7 (occupation 7 – brief definition)
- 8 (occupation 8 – brief definition)
- 9 (occupation 9 – brief definition)
- 10 (occupation 10 – brief definition)
- 11 (occupation 11 – brief definition)
- 12 (occupation 12 – brief definition)

(RANDOMLY SELECT UP TO 4 OF THE OCCUPATIONS THAT THE RESPONDENT INDICATED ARE REPRESENTED AT THEIR BUSINESS LOCATION IN Q6. ASK Q.'S 18-30 IN THE SELECTED BUSINESSES – FOR INTERNET SURVEY SELECT UP TO 5 OF THE OCCUPATIONS THAT THE RESPONDENT INDICATED ARE REPRESENTED AT THEIR BUSINESS LOCATION)

Next, I'm going to ask you a few questions about several of the occupations you mentioned.

18. As I read each of the following occupations, please tell me how many individuals at your business location are currently employed in the occupation. (READ ITEMS IN SEQUENCE).

- A. Occupation 1 ----- ### (3 digit number)
- B. Occupation 2 ----- ### (3 digit number)
- C. Occupation 3 ----- ### (3 digit number)
- D. Occupation 4 ----- ### (3 digit number)

19. How many of the current \_\_\_\_\_ [USE NUMBER FROM ABOVE & NAME OF OCCUPATION], do you expect, will **NOT** be working at this company in the same position **12 months from now**?

- A. Occupation 1 ----- ### (3 digit number)
- B. Occupation 2 ----- ### (3 digit number)
- C. Occupation 3 ----- ### (3 digit number)
- D. Occupation 4 ----- ### (3 digit number)

**[This number can not be larger than the number in Q18 for each occupation]**

20. As I read each of the occupations, please tell me how many total individuals you estimate will be employed in each of the occupations **12 months from now**.

- A. Occupation 1 ----- ### (3 digit number)
- B. Occupation 2 ----- ### (3 digit number)
- C. Occupation 3 ----- ### (3 digit number)
- D. Occupation 4 ----- ### (3 digit number)

21. For the same list of occupations, I'm interested in the level of difficulty your business has in finding applicants who meet the company's hiring standards. As I read each occupation, please tell me whether your business has no difficulty, some difficulty, or great difficulty finding applicants. (READ IN SEQUENCE)

|                        | <u>No</u><br><u>difficulty</u> | <u>Some</u><br><u>difficulty</u> | <u>Great</u><br><u>difficulty</u> | <u>(DON'T</u><br><u>READ)</u><br><u>DK/NA</u> |
|------------------------|--------------------------------|----------------------------------|-----------------------------------|---|
| G. Occupation #1 ----- | 1 -----                        | 2 -----                          | 3 -----                           | 4 -----                                       |
| H. Occupation #2 ----- | 1 -----                        | 2 -----                          | 3 -----                           | 4 -----                                       |
| I. Occupation #3 ----- | 1 -----                        | 2 -----                          | 3 -----                           | 4 -----                                       |
| J. Occupation #4 ----- | 1 -----                        | 2 -----                          | 3 -----                           | 4 -----                                       |

22. We're interested in how often your business recruits individuals from outside of Orange County for an occupation. As I read each occupation, please indicate if you always, frequently, sometimes, rarely or never recruit individuals from outside of Orange County for that occupation.

|                        | <u>Always</u> | <u>Frequently</u> | <u>Sometimes</u> | <u>Rarely</u> | <u>Never</u> | (DON'T<br>READ)<br>DK/NA |
|------------------------|---------------|-------------------|------------------|---------------|--------------|--------------------------|
| A. Occupation #1 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| B. Occupation #2 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| C. Occupation #3 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| D. Occupation #4 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |

23. (ASK Q23 ONLY IF Q2 IS GREATER THAN 0) For the same list of occupations, we'd like to know how often your business hires **part-time** workers at your business location. As I read each occupation, please indicate whether your business always, frequently, sometimes, rarely or never hires **part-time** workers for that occupation.

|                        | <u>Always</u> | <u>Frequently</u> | <u>Sometimes</u> | <u>Rarely</u> | <u>Never</u> | (DON'T<br>READ)<br>DK/NA |
|------------------------|---------------|-------------------|------------------|---------------|--------------|--------------------------|
| A. Occupation #1 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| B. Occupation #2 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| C. Occupation #3 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| D. Occupation #4 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |

24. (ASK Q24 ONLY IF Q5 IS GREATER THAN 0) Same question, only this time we're interested in **temporary workers**. As I read each occupation, please indicate whether your business always, frequently, sometimes, rarely or never hires **temporary workers** for that occupation.

|                        | <u>Always</u> | <u>Frequently</u> | <u>Sometimes</u> | <u>Rarely</u> | <u>Never</u> | (DON'T<br>READ)<br>DK/NA |
|------------------------|---------------|-------------------|------------------|---------------|--------------|--------------------------|
| A. Occupation #1 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| B. Occupation #2 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| C. Occupation #3 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |
| D. Occupation #4 ----- | 1             | 2                 | 3                | 4             | 5            | 6                        |

25. Next, for the same list of occupations, I'd like to know what are the **typical** education requirements for successful applicants within each occupation. The categories are: (INTERVIEWER READ OPTIONS). Ok, here's the first one: (READ ITEM A). What are the **typical** education requirements for successful applicants in this occupation at your business location? (CONTINUE UNTIL ALL ITEMS ARE READ).

- No formal education requirements -----1
- Completion of high school or equivalency-----2
- Certification or Associates Degree-----3
- Bachelor's Degree (B.A., B.S.)-----4
- Professional or Graduate Degree  
(M.S, Ph.D., J.D., MBA, P.E.)----- 5
- DK/NA (Don't Read) -----6

| Education Requirements | <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>6</u> |
|------------------------|----------|----------|----------|----------|----------|----------|
| A. Occupation #1 ----- | 1        | 2        | 3        | 4        | 5        | 6        |
| B. Occupation #2 ----- | 1        | 2        | 3        | 4        | 5        | 6        |
| C. Occupation #3 ----- | 1        | 2        | 3        | 4        | 5        | 6        |
| D. Occupation #4 ----- | 1        | 2        | 3        | 4        | 5        | 6        |

26. What is the typical pay range for each occupation, from entry level to most experienced employees in that occupation? [After each response to the pay range, please clarify whether the intended response was for hourly, monthly, or annual salary]

| <b>PAY RANGE</b> | <b><u>Low</u></b> | <b><u>High</u></b> | <b><u>Salary Type</u></b> |
|------------------|-------------------|--------------------|---------------------------|
| A. Occupation #1 | ###               | ###                | H, M, or A                |
| B. Occupation #2 | ###               | ###                | H, M, or A                |
| C. Occupation #3 | ###               | ###                | H, M, or A                |
| D. Occupation #4 | ###               | ###                | H, M, or A                |

+++++

**(Questions 27 and 28 are a loop to be repeated for each of the occupations selected for previous question set Q18-26)**

Ok, for the next few questions, please answer for the: \_\_\_\_\_ (READ OCCUPATION) occupation.

27. I'm going to read a list of general skills. Please tell me which one of these skills are **most important** when considering applicants for \_\_\_\_\_ (READ OCCUPATION)?

**Randomize**

- A. Technical competence specific to the position -----1
- B. Interpersonal and communication skills ----2
- C. Conscientious work ethic and positive attitude -----3
- D. Ability to work independently-----4
- E. Ability to follow directions -----5
- F. Creative problem-solving skills -----6

| Important Skills       | 1 | 2 | 3 | 4 | 5 | 6 |
|------------------------|---|---|---|---|---|---|
| A. Occupation #1 ----- | 1 | 2 | 3 | 4 | 5 | 6 |
| B. Occupation #2 ----- | 1 | 2 | 3 | 4 | 5 | 6 |
| C. Occupation #3 ----- | 1 | 2 | 3 | 4 | 5 | 6 |
| D. Occupation #4 ----- | 1 | 2 | 3 | 4 | 5 | 6 |

28. I'm going to read the same list of general skills once more. Please tell me which of these skills, your \_\_\_\_\_ (READ OCCUPATION) are currently **most deficient** in?

**Follow same order as given in Q27.**

- A. Technical competence specific to the position -----1
- B. Interpersonal and communication skills ----2
- C. Conscientious work ethic and positive attitude -----3
- D. Ability to work independently-----4
- E. Ability to follow directions -----5
- F. Creative problem-solving skills -----6

| Deficient Skills       | 1 | 2 | 3 | 4 | 5 | 6 |
|------------------------|---|---|---|---|---|---|
| A. Occupation #1 ----- | 1 | 2 | 3 | 4 | 5 | 6 |
| B. Occupation #2 ----- | 1 | 2 | 3 | 4 | 5 | 6 |
| C. Occupation #3 ----- | 1 | 2 | 3 | 4 | 5 | 6 |
| D. Occupation #4 ----- | 1 | 2 | 3 | 4 | 5 | 6 |

29. Lastly, we would like to know which occupations successful candidates for \_\_\_\_\_ (READ OCCUPATION) usually have before they become \_\_\_\_\_ (READ OCCUPATION) (INDICATE ALL THAT APPLY).

Occupations: -----  
(DON'T READ) Don't know-----98  
(DON'T READ) Refused -----99

30. And which occupations do current \_\_\_\_\_ (READ OCCUPATION) usually move onto after working successfully as a \_\_\_\_\_ (READ OCCUPATION) (INDICATE ALL THAT APPLY).

Occupations: -----  
(DON'T READ) Don't know-----98  
(DON'T READ) Refused -----99

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---

We've completed all the questions about occupations. Before we finish, I'd like to verify your contact information so we can enter you in the lottery.

Please verify for us your company information.

- D1a Company name \_\_\_\_\_
- D1b Company address (include City and Zip) \_\_\_\_\_
- D1c Web address \_\_\_\_\_
- D1d Fax number \_\_\_\_\_

Please verify for us your personal information, so we can enter you into the lottery for the \$1,000 cash prize.

- D2a Name \_\_\_\_\_
- D2b Title \_\_\_\_\_
- D2c E-Mail \_\_\_\_\_



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