SECTOR RESEARCH BRIEF

WORKFORCE NEEDS OF SMALL BUSINESSES IN BIOTECH & LIFE SCIENCES

San Diego County

November 2015

Introduction

This research brief is one of the companion documents to *Workforce Needs of Small Businesses in San Diego*, a comprehensive labor market report developed and published in partnership between the San Diego and Imperial Counties (SDIC) Regional Consortium of Community Colleges representing the San Diego and Imperial Counties Community Colleges Association (SDICCCA), the Regional Center of Excellence for Labor Market Research (COE) and the San Diego Workforce Partnership (SDWP).[1] The comprehensive study examines the workforce needs of small business across San Diego County in general and specifically in priority and emergent sectors, including Advanced Manufacturing, Health Care, Advanced Transportation, Life Sciences/Biotechnology (Biotech), and Information and Communication Technologies (ICT). The study combines secondary data analysis and the findings from a survey of 347 small businesses across the sectors in the San Diego region.

This research brief summarizes survey findings for small businesses that operate within the Life Sciences/Biotechnology sector. It presents information about current and projected employment for these businesses, skills and education requirements, training preferences and other workforce-related topics.

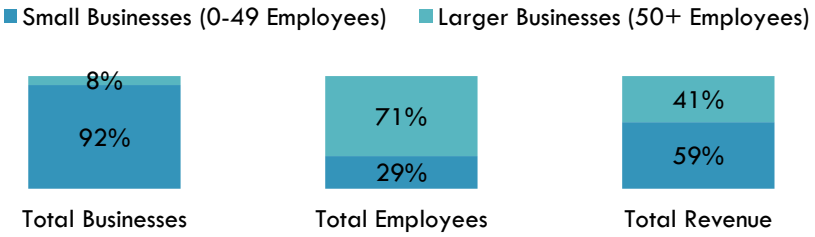
Impact of Small Businesses

There are an estimated 1,700 small businesses operating in the Biotech sector in the San Diego area, which is about 2 percent of all small businesses. These establishments play a key role in Biotech, accounting for a signification portion of businesses, employees and annual revenue.[2] As figure 1 demonstrates, 92 percent of all Biotech businesses are businesses with fewer than 50 employees. Small businesses in this sector also account for 29 percent of all employees and for 59 percent of all generated annual revenue.

[1] Full study report and other sector-specific research briefs can be accessed at workforce.org/reports.

[2] This is the COE estimate based on the analysis of NAICS codes, business database from Infogroup, and survey incidence rates.

Figure 1. Small Businesses in Biotech, by Business Count, Employment and Revenue

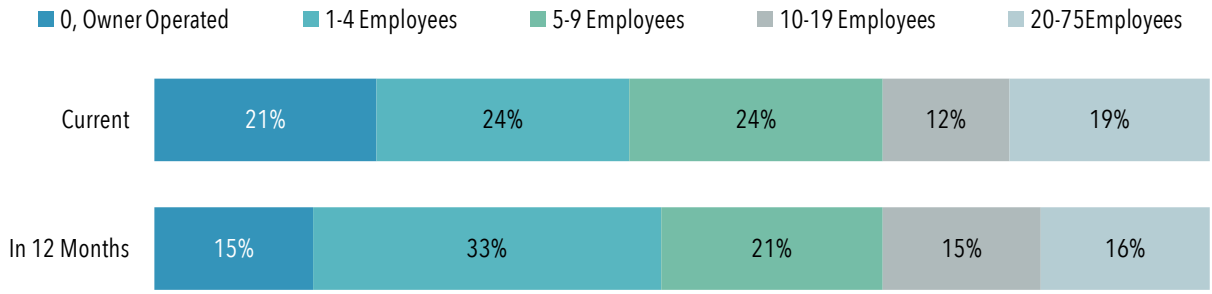


Current & Projected Employment

Of the 347 small businesses that participated in the survey, 33 were identified to be part of the Biotech sector based on their industry code.

Average employment for small businesses in Biotech was 10 workers per firm. Within the next 12 months, the average number of employees is expected to grow to 12. Employment growth is expected in the 1 to 4 and 10 to 19 employment size categories (Figure 2).

Figure 2. Biotech Small Businesses by Employment Size



In 2015, Biotech small businesses (including owner-operated firms) are estimated to employ approximately 10,300 workers. By 2016, total employment in small businesses is expected to grow by 16 percent, or 1,600 new positions (Table 1).

Table 1. Estimated Employment Projections for Biotech Small Businesses in San Diego into 2016

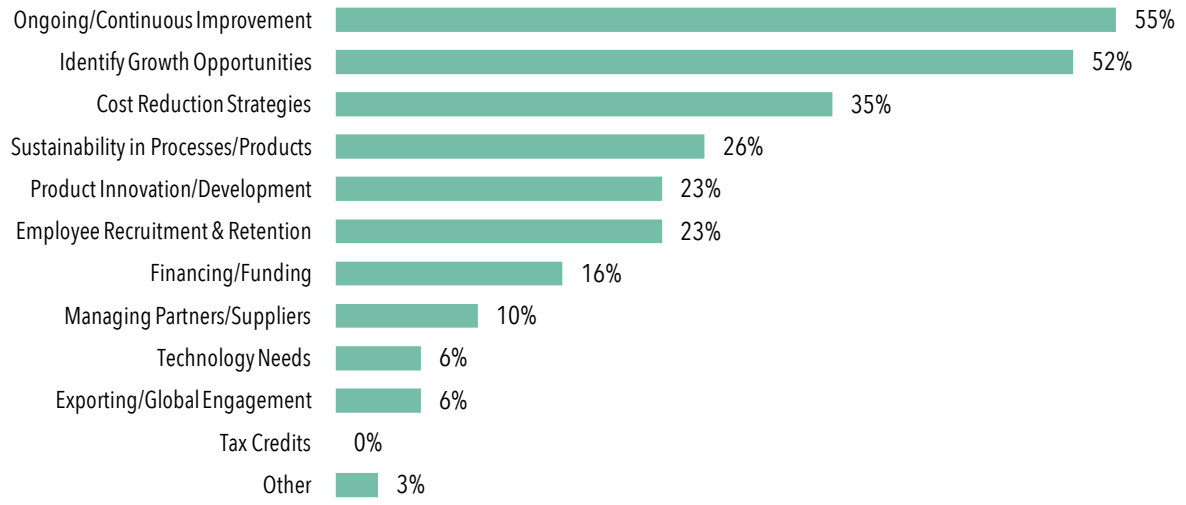
Size of Business	Current Employment	Employment in 12 Months	Change	% Change
0-4 Employees	1,900	2,500	600	31%
5-9 Employees	1,500	1,700	200	16%
10-19 Employees	2,200	2,500	600	12%
20-75 Employees	4,700	5,200	500	10%
Total	**10,300**	**11,900**	**1,600**	**16%**

As Table 1 indicates, Biotech small businesses with only 0-4 employees (including owner-operated businesses) are expected to grow at the fastest rate (31 percent), adding approximately 600 jobs in the next 12 months. Their initial small employment size attributes to this fast growth. For example, businesses with only one employee expecting to hire four new positions would see a 400 percent increase. The same increase would be only 20 percent for a business with 20 employees.[3] Biotech businesses in the 10-19 employee size category are projected to add the same number of new jobs as the smallest businesses – 600 positions.

Challenges for Small Business

The Biotech small businesses surveyed for this study anticipate that their top three challenges over the next one to two years will be ongoing/continuous improvement (55 percent), identifying growth opportunities (52 percent), and cost reduction strategies (35 percent). Biotech businesses are generally not concerned about tax credits, their technology needs, or global engagement (Figure 3).

Figure 3. Top Challenges of Small Businesses in Biotech (n=33)

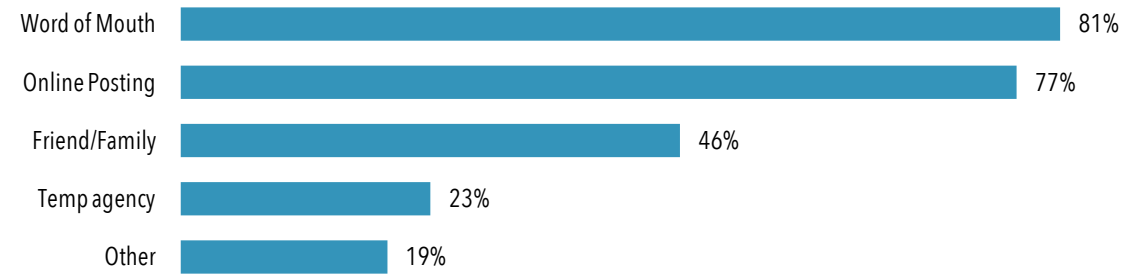


[3] The complete methodology for how these estimates were obtained is available in Appendix A of *Workforce Needs of Small Businesses in San Diego* report.

Hiring Practices and Difficulties

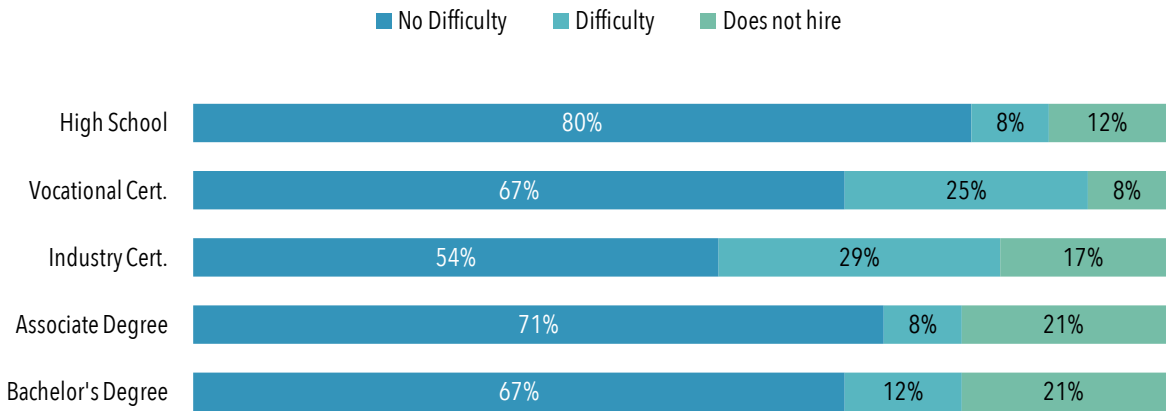
The most common method of recruiting utilized by Biotech companies was word-of-mouth networking followed by online job postings. These are the same recruiting methods as small businesses across all sectors utilize. Employers who selected "other" tended to use print media such as classified ads in newspapers and other local publications (Figure 4).

Figure 4. Methods of Seeking Qualified Job Applicants (n=33)



Overall, most small businesses in Biotech did not face difficulty when hiring individuals across educational backgrounds. They reported the most difficulty when recruiting employees with a relevant industry certificate, with 29 percent of Biotech small businesses reporting such difficulty (Figure 5).

Figure 5. Hiring Difficulty by Education Level (n=21)



Opportunities and Resources for Small Businesses

Biotech small business respondents were asked about the various resources that are available to small businesses and whether or not they access these resources. The majority of the small businesses in Biotech are unaware of the various resources available, with 20 of the small businesses surveyed not utilizing any of the resources listed (Table 2). The most commonly accessed resources were the Chambers of Commerce (5 businesses), U.S. Small Business Administration (4 businesses) and the Better Business Bureau (3 businesses).

Table 2. Number of Small Businesses Utilizing Available Resources[4]

Resource	Number of Businesses
Chambers of Commerce	5
U.S. Small Business Administration	4
Better Business Bureau	3
San Diego Center for International Trade	3
Industry Incubators	3
Small Business Development Council (SBDC)	3
San Diego Workforce Partnership or America's Job Center of California	2
Economic Develop Council/Corporations (EDC)	1
Asian Business Association	1
ACCION	0
Governor's Office of Business and Economic Development (Go-Biz)	0
None	20

Workforce Needs of Small Business

Biotech small businesses place the highest value on technical skills and previous work experience in the applicants they hire. This is based on the responses from employers who ranked the following attributes of job candidates in order of importance: technical skills, previous work experience, soft skills (e.g., written and oral communication) and post-secondary education (Table 3).

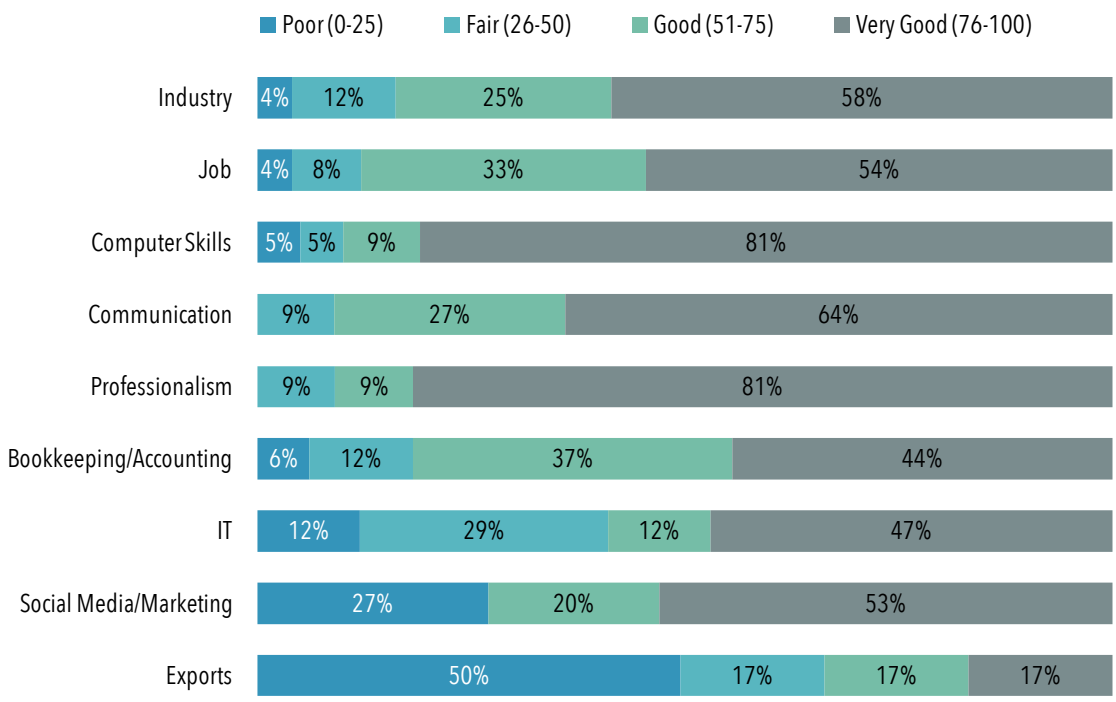
Table 3. Top Skills for New Hires

Rank	Skill
1	Technical Skills
2	Previous Work Experience
3	Soft Skills
4	Post-Secondary Education

Small business employers in Biotech also ranked the proficiency of their employees on various skills and knowledge areas. The skills were ranked from 0 to 100 (lowest to highest) where 0 to 25 is poor, 26 to 50 is fair, 51 to 75 is good and 76 to 100 is very good. Biotech small businesses felt their employees were proficient in their job and in the computer skills and professionalism areas. The areas they felt they could use improvement were social media/marketing and IT/technology which were ranked relatively low. Because small businesses have so few employees, workers tend to have to have knowledge, skills and abilities across multiple roles to help contribute to the business while keeping costs down (Figure 6).

[4] Because the highest number is 5, percentages were not as effective as showing the actual number of businesses

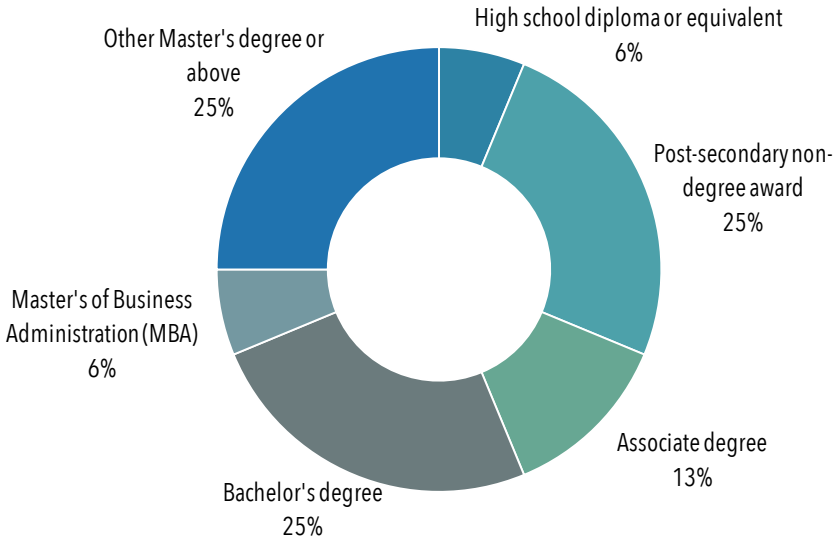
Figure 6. Average Scores of Employees' Skills (n=24)



Business Owner Education & Skills

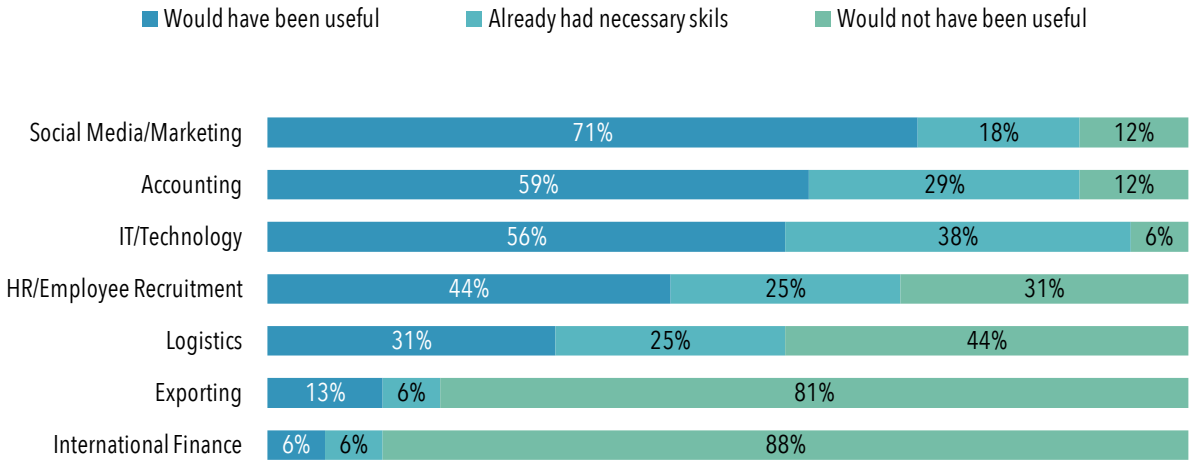
Among the Biotech small businesses owners surveyed, the majority were business owners who are highly educated. Twenty-five percent had Bachelor's degrees as the highest education level and 31 percent held graduate level degrees. There were also some business owners with Associate degrees and post-secondary non-degree awards, such as certificates (Figure 7).

Figure 7. Educational Attainment of Biotech Business Owners (n=16)



Biotech small business owners find that social media/marketing, accounting and IT/technology are the most useful knowledge areas for starting a business. IT/Technology was also a skill that many business owners already possessed (Figure 8). Just like for small businesses across all sectors, small businesses in Biotech require workers, including the owner, to have strong competencies across all fields to keep the business running.

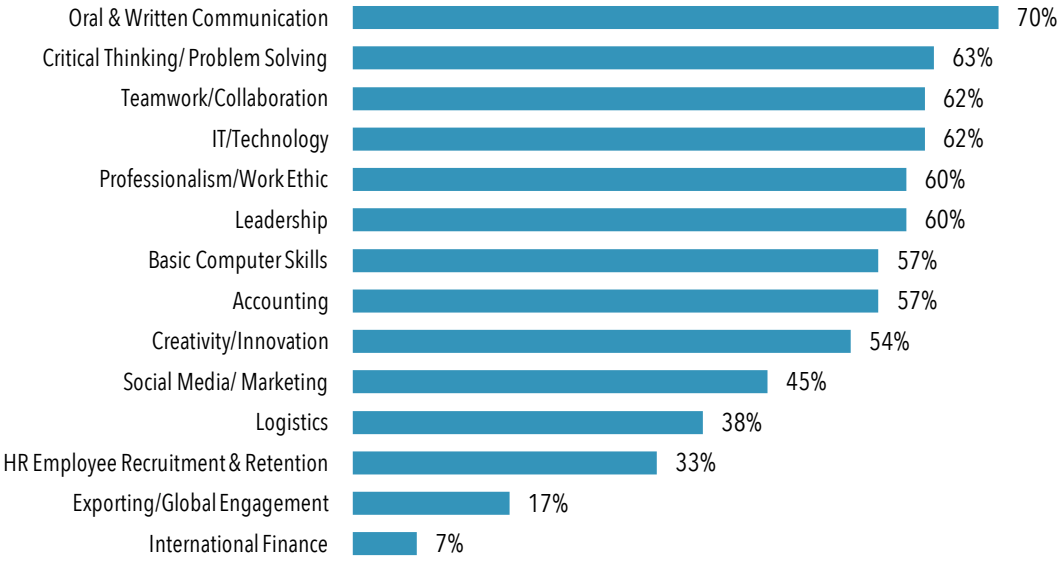
Figure 8. Usefulness of Skills when Starting a Business (n=17)



Training Needs

The top training themes that Biotech small businesses were interested in included oral and written communication (70 percent of business owners reported it as useful), and critical thinking/problem solving (63 percent), followed by teamwork/collaboration, IT/technology, professionalism/work ethic, and leadership. (Figure 9)

Figure 9. Useful Workshops for Biotech Small Business (n=33)



Since small businesses operating in Biotech industries generally show similar patterns in workforce and education/training needs, the same conclusions and recommendations as provided in the main report apply.[5]

[5] The Conclusion and Recommendations section can be found on pages 20-22 of the Workforce Needs of Small Businesses in San Diego report (workforce.org/reports).