

EMPLOYER DEMAND FOR BUSINESS INFORMATION (BIW 2) WORKERS IN CALIFORNIA



2016

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EXECUTIVE SUMMARY



The Center of Excellence collaborated with Davis Research to conduct a study assessing the potential for employers to hire business information worker (BIW 2) candidates trained by community colleges. The BIW pathway prepares students for entry-level and mid-level jobs and offers training in areas such as computer office applications, social media support, and customer relations.

More than 400 employers statewide participated in the study, which addressed a number of areas: employer characteristics, areas of need, preferred skills, education requirements, and difficulty hiring.

Key findings are summarized below:

- **Industries:** Half of all employers who participated in the survey belong to the Health Care and Social Assistance industry or the Professional, Scientific, and Technical Services industry.
- **Tasks:** More than 90% of employers have workers who perform tasks related to office applications, accounting support, and document and file management.
- **Preferred Computer Programs & Tools:** Employers prefer that employees have the ability to use Microsoft Word, Excel, and Outlook. The ability to use database tools such as Google Docs, Google Drive, and Dropbox, were highly valued by employers. In the area of social media support, employers identified the ability to use Facebook and Constant Contact as preferred skills. Photoshop, YouTube and Google Analytics also were tools employers said qualified applicants should have the ability to use.
- **Skills:** Employers identified three top skills for middle-skilled applicants: knowledge of marketing and advertising, fluency with social media platforms, and knowledge of web standards and usability methods.
- **Education:** Employers said the majority of skills they would like qualified applicants to have require at least some college education. Examples of skills requiring some education include customer relationship management, project management support, email marketing support, and design and graphics support.
- **Hiring Challenges:** Accounting support and office applications are areas that pose hiring challenges to employers. Other areas of difficulty include project management support and database support, particularly Microsoft Access.

The study also asked employers what kind of hourly wage they would offer BIW 2 candidates and how many hours a week they would provide employment. Half of employers were willing to pay \$15/hour or more. More than a third of employers said they could offer a full-time job, i.e. 40 or more hours per week, while another 17% said they could offer 30-39 hours per week.

The Centers of Excellence for Labor Market Research (CoE) and the Sector Navigator (SN) for Information Communications Technologies/Digital Media (ICT/DM) commissioned Davis Research to conduct a survey of California businesses to determine the potential for community college training for business information worker (BIW 2) candidates.

Finally, the report presents findings related to two fundamental questions: Will employers hire these well-qualified students from community colleges? And are they willing to provide enough hours and a living wage for these positions?



EMPLOYER CHARACTERISTICS

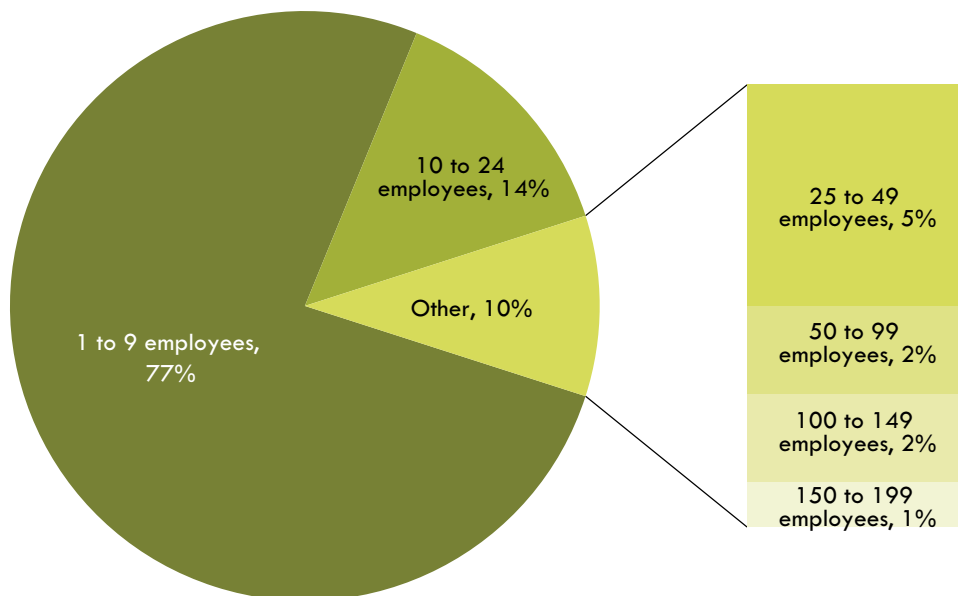
Across California, 400 businesses provided responses to survey questions concerning BIW 2 candidates. Employers in the Los Angeles/Orange County region provided the greatest number of responses followed by the North/Far North region and the Bay Area. Exhibit 1 provides the distribution of responses by the California Community College (CCC) macro-regions.

Exhibit 1 – Number of Employer Respondents by Region

CCC Regions	# of Respondents
Los Angeles/Orange County	92
North/Far North	72
Bay Area	69
Central	41
South Central	37
Greater Sacramento	33
San Diego/Imperial	30
Desert/Inland Empire	26
Total	400

The majority of survey participants were small businesses (Exhibit 2). About three out of four respondents, or 77%, were businesses that employ between one and nine employees while 14% of respondents employ between 10 and 24 employees. Combined, 91% of respondents represented businesses with fewer than 25 employees. Medium and large businesses were not well represented in the data; only 5% of respondents had more than 50 employees.

Exhibit 2 – Size of Surveyed Firms, by Number of Employees (n=400)



Industry representation among respondents to the survey included 22% in Health Care and Social Assistance and 14% in Professional, Scientific, and Technical Services (Exhibit 3).

Industries that also had a high representation of respondents, comparatively, were Finance and Insurance (11%), and Real Estate & Rental and Leasing Services (8%).

Approximately 28% of employers self-identified as "Other," not finding their business-type in the industry list provided.

Exhibit 3 – Employer Industry Sector Self-Identification

NAICS Code	Industry	# of Responses	% of Total Responses
31-33	Manufacturing	6	2%
44-45	Retail	11	3%
48-49	Transportation & Warehousing	9	2%
51	Information	7	2%
52	Finance & Insurance	42	11%
53	Real Estate & Rental and Leasing Services	33	8%
54	Professional, Scientific, and Technical Services	56	14%
55	Management of Companies and Enterprises	5	1%
56	Administrative and Support Services & Waste Management and Remediation Services	5	1%
62	Health Care and Social Assistance	89	22%
71	Arts, Entertainment, and Recreation	22	6%
72	Accommodation & Food Services	4	1%
	“Other”	111	28%
	Total	400	100%

To further understand the industry representation of the employers surveyed, the write-in responses for the “Other” category were analyzed and categorized into existing North American Industry Classification System (NAICS) definitions.

With the re-distribution of the “Other” responses, the number represented in Health Care and Social Assistance increased from 89 to 104, and Professional, Scientific, and Technical Services increased from 56 to 103.

The revised totals revealed that half of all survey respondents were employers in these two industry sectors.

The NAICS breakdown of the 111 “Other” responses is presented in Exhibit 4.²

Exhibit 4 – Industry Description of “Other”

NAICS Code	Industry	# of Responses
31-33	Manufacturing	1
48-49	Transportation & Warehousing	4
51	Information	8
52	Finance & Insurance	2
53	Real Estate & Rental and Leasing Services	9
54	Professional, Scientific, and Technical Services	47
56	Administrative and Support Services & Waste Management and Remediation Services	21
62	Health Care and Social Assistance	15
71	Arts, Entertainment, and Recreation	4
	Total	111

² The categorization of survey responses was based on InfoGroup data.

Employer Areas of Need

Employers were asked to identify whether they employ or outsource 15 unique tasks related to BIW training.

A large majority of firms have employees or outsource workers that to perform office applications (such as the use of Microsoft Office suite), accounting support, and tasks pertaining to document and file management.

Conversely, a majority of employers do not employ workers who perform tasks in the areas of customer relationship management or video creation support. See Exhibit 5 for detailed responses.

Exhibit 5 – Employer Need for 15 Tasks Related to BIW 2 Training

Task	Firm has employees who perform this task	Firm outsources this task	No employees perform this task
Office Applications	97%	1%	2%
Accounting Support	82%	12%	6%
Document and File Management	73%	16%	12%
Database Support	69%	11%	20%
Programming Support	38%	39%	23%
Project Management Support	70%	3%	28%
Design and Graphics Support	44%	28%	28%
Travel and Expense Reports	60%	4%	37%
Social Media Support	53%	10%	37%
Email Marketing Support	47%	14%	40%
Presentations Support	56%	4%	40%
Content Management System Support	46%	14%	41%
Web Analytics Support	29%	25%	46%
Customer Relationship Management	45%	5%	50%
Video Creation Support	18%	17%	65%



BUSINESS INFORMATION WORKER CHARACTERISTICS

In-Demand BIW 2 Characteristics

To better understand employer needs, the 15 tasks introduced above were divided into four clusters: 1) desktop applications, 2) database tools, 3) online resources, and 4) multimedia programs.

The survey also sought to gauge which computer software programs and tools employers prefer candidates have the ability to use. Employers were asked how necessary it was for someone in a middle-skilled position to use the specific programs or applications within the four task clusters. Only the employer preferences for “must have” and “prefer to have” are reported; not applicable and not required responses have been excluded from the analysis.

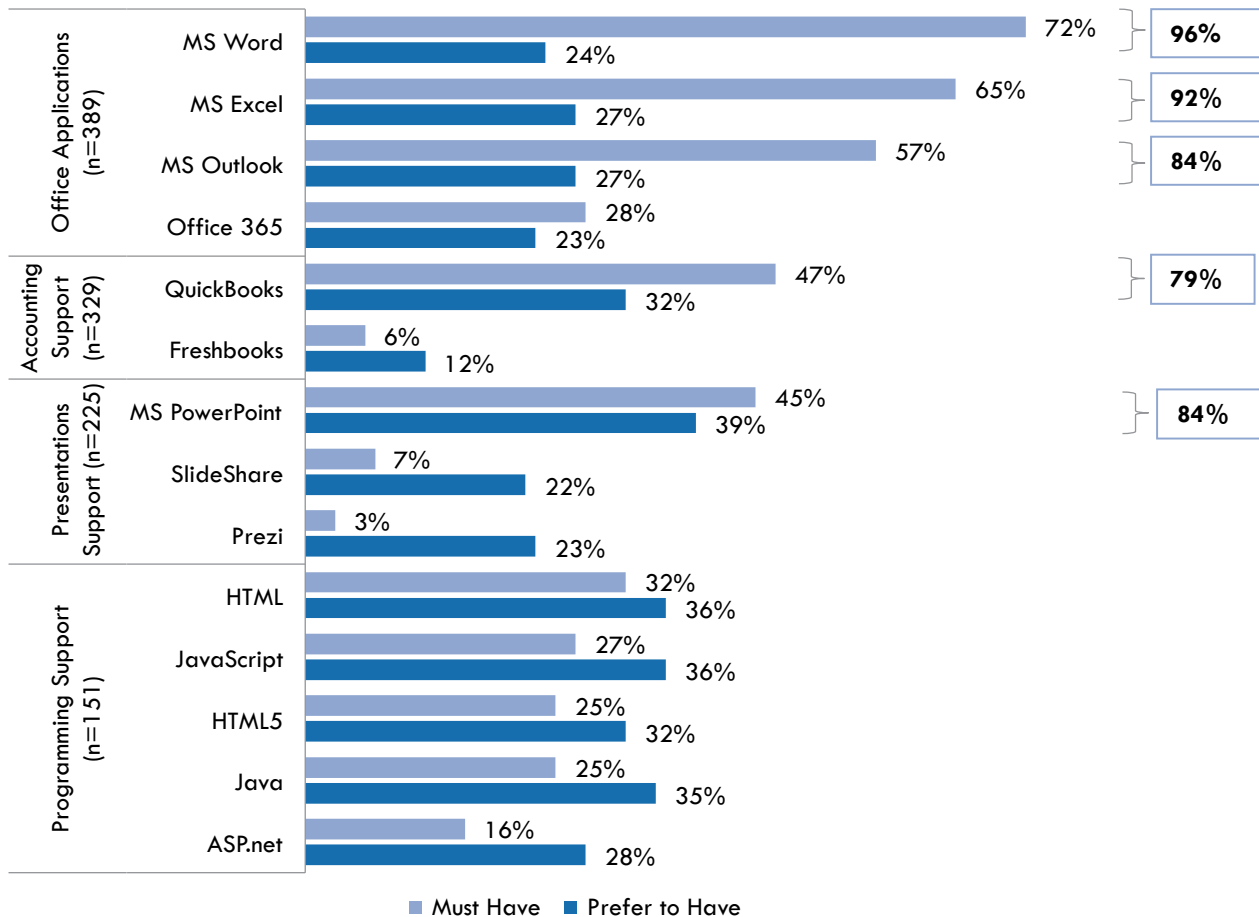
In the section that follows, employer responses were analyzed by cluster.

Preferred Programs and Tools

In the desktop applications cluster, employer responses indicated that 96% consider proficiency with Microsoft Word a “must have” or “prefer to have” skill for middle-skilled employees (Exhibit 6).

Similarly, 92% of employers consider Microsoft Excel a desirable skill, versus 84% for Microsoft Outlook. Other “must have” or “prefer to have” skills for middle-skilled positions were Microsoft PowerPoint, selected by 84% of respondents, for presentations and QuickBooks, selected by 79%, for accounting support.

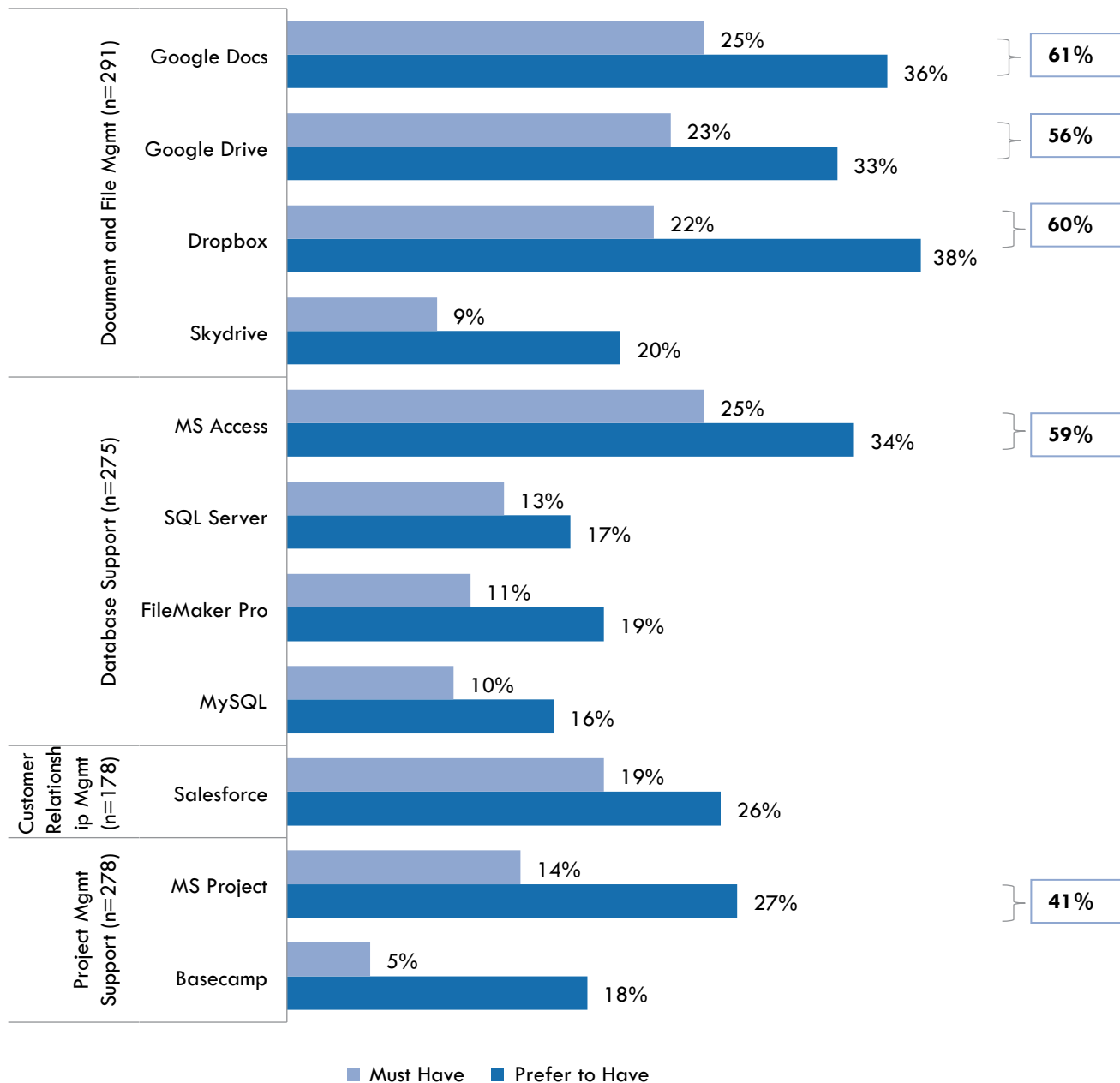
Exhibit 6 – Employer Preference for Desktop Applications Proficiency



Employers were asked their preference for 11 database tools grouped within four areas: Document and File Management, Database Support, Customer Relationship Management, and Project Management Support. Employers were asked whether the tools were “must have” or “prefer to have” skills.

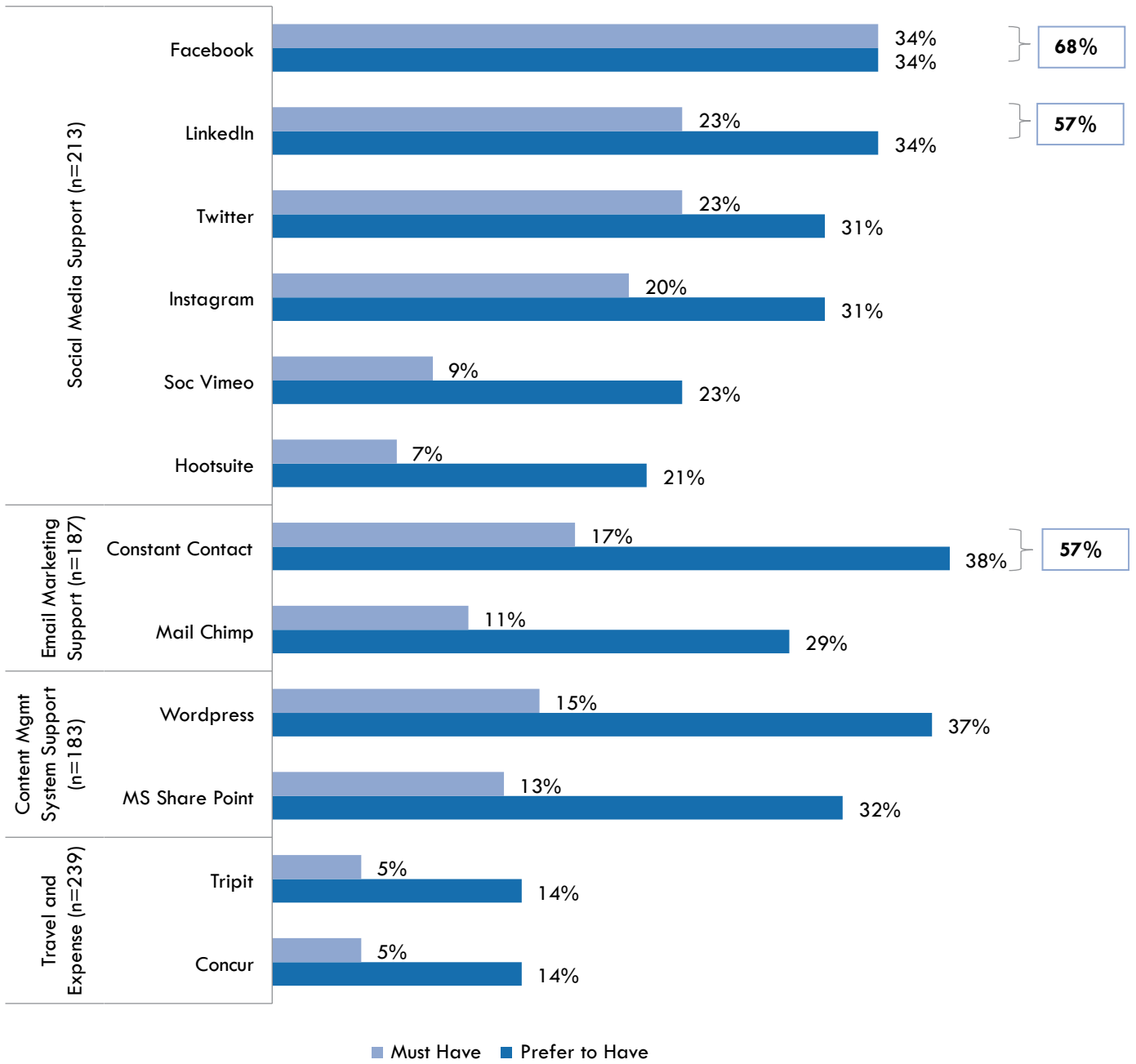
Of the 400 respondents, 59% indicated a preference for Microsoft Access for database support, and 41% selected Microsoft Project for project management support (Exhibit 7). Google Docs, Dropbox, and Google Drive are database tools strongly valued by employers for document and file management, with employer preferences ranging from 56% to 61%.

Exhibit 7 – Employer Preferences for Database Tools Proficiency



Employers were asked how necessary it was for an applicant to possess skills related to online resources. Nearly 70% of employers identified Facebook as a preferred skill, while 57% selected LinkedIn as valued for social media support (Exhibit 8). More than half (55%) chose Constant Contact as a “must have” or “prefer to have” skill for email marketing support.

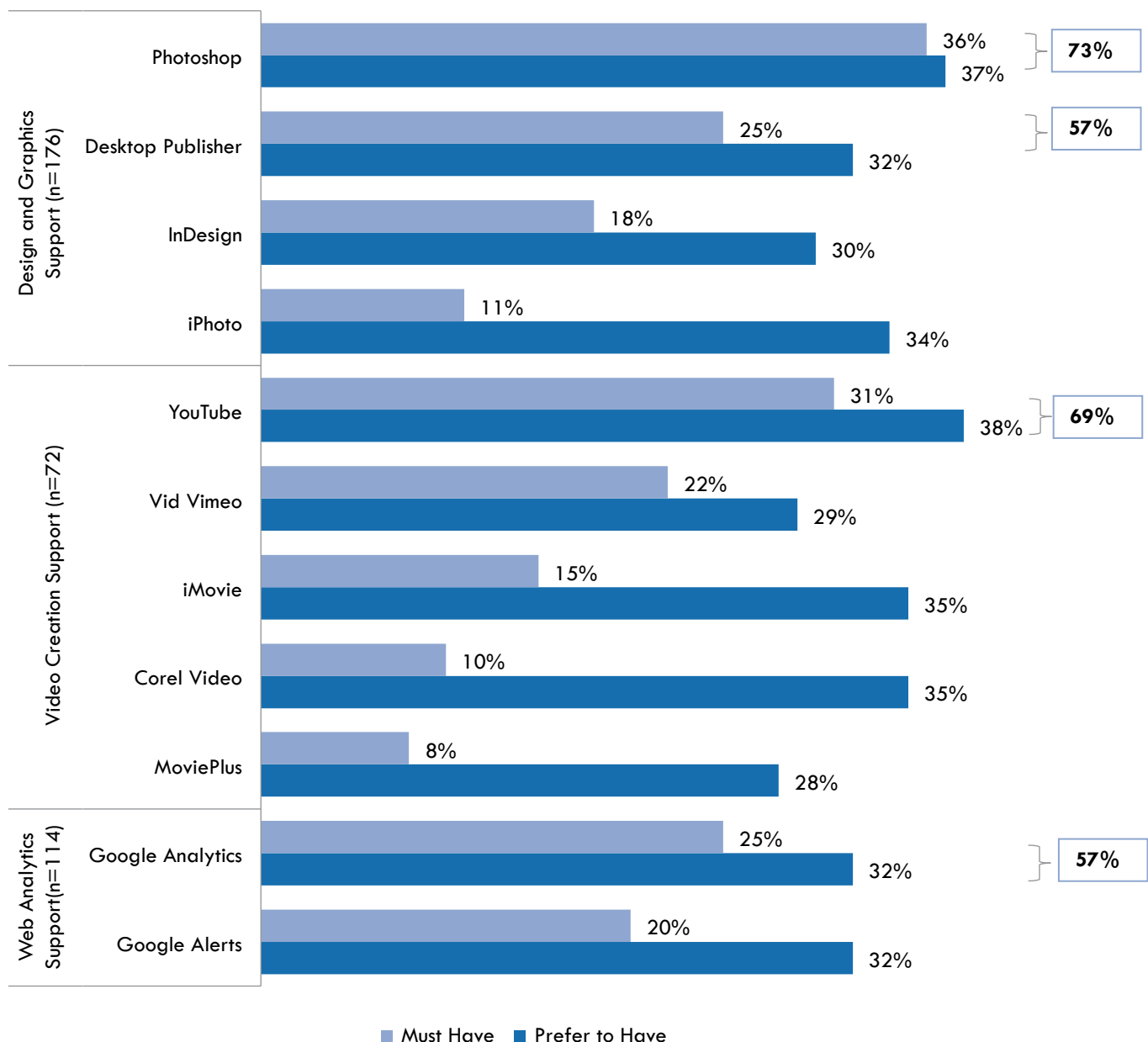
Exhibit 8 – Employer Preferences for Online Resources Proficiency



Finally, the survey addressed multimedia programs, such as Photoshop, YouTube, and Google Analytics. Employers were asked how important 11 multimedia programs were for qualified applicants.

Of those surveyed, 73% selected Photoshop and 69% identified YouTube as necessary program areas for skilled applicants working in design and graphics support and video creation support (Exhibit 9). Employers equally valued applicants with proficiency in Desktop Publisher and Google Analytics, with 57% of respondents selecting these areas as “must have” or “prefer to have.”

Exhibit 9 – Employer Preferences for Multimedia Programs Proficiency



Preferred Skills for BIW 2 Applicants

Employers were asked to identify the necessary skills for a **middle-skilled** position applicant. Overall, there were no skills that employers felt were necessarily “must have” as compared to “prefer to have.” Of the skills that employers require applicants possess, strong favorites include:

- Knowledge of marketing and advertising – **59%** of respondents
- Fluency with major social media platforms – **58%** of respondents
- Knowledge of web standards and usability methods – **55%** of respondents

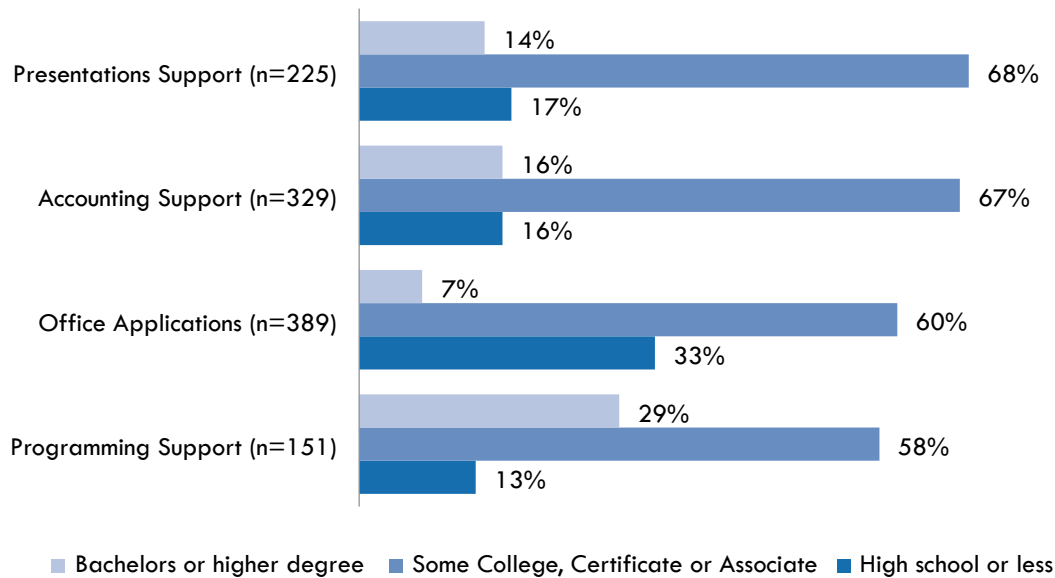
Exhibit 10 – Top Skills Needed by Employers

Skills (n=400)	Must Have	Prefer to Have	Demand (must have + prefer to have)	Not Required/ Not Applicable
Knowledge of marketing and advertising	15%	44%	59%	42%
Fluency with major social media platforms	18%	40%	58%	43%
Knowledge of web standards and usability methods	16%	39%	55%	45%
Ability to synthesize technical detail and communicate findings	19%	32%	51%	49%
Ability to design marketing materials from concept to completion	14%	35%	49%	52%
Ability to design and edit online content using web-based content management systems	11%	37%	48%	53%
Knowledge of multimedia and design		35%	46%	55%
Proficiency with Adobe Design software	13%	30%	43%	58%
Ability to design logos, graphics, and infographics		30%	39%	61%
Ability to design for desktop as well as mobile/tablet	12%	26%	38%	63%
Knowledge of web authoring, publishing tools, and integrating third-party web programs	8%	30%	38%	62%
Skilled in web analytics tools, such as Google AdWords and Google Analytics	8%	26%	34%	67%
Proficiency with relational database technology such as MySQL and Access	6%	27%	33%	67%
Proficiency with web development technologies and software, such as Drupal, HTML, and CSS	8%	23%	31%	69%
Ability to facilitate all aspects of video production	4%	16%	20%	80%

Preferred Education

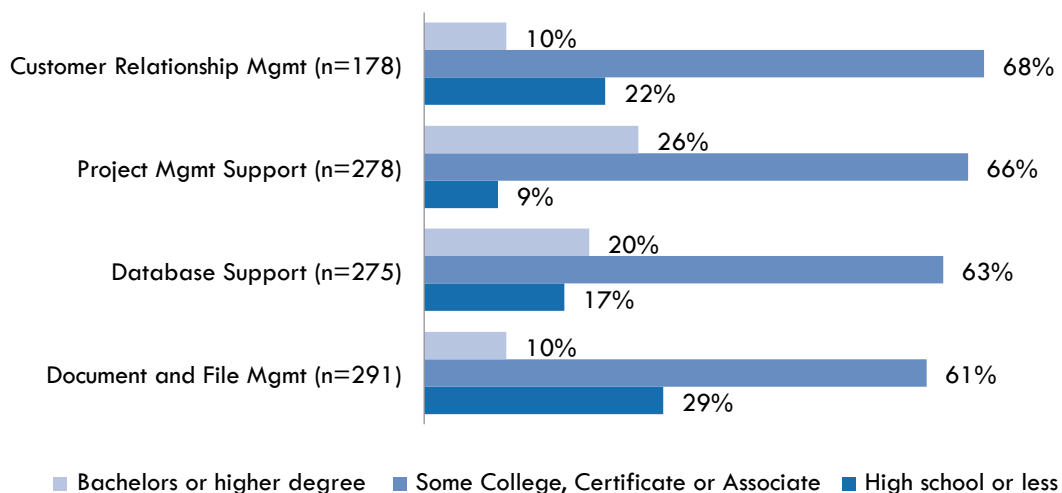
At least two-thirds of employers surveyed said middle-skilled positions, at minimum, require “some college” education to perform the tasks noted in Exhibits 11-14. For tasks in the desktop applications cluster, 68% of employers indicated knowledge of presentation support applications required “some college” education, such as a certificate or associate degree (Exhibit 11). Similarly, 67% said accounting support required “some college” education.

Exhibit 11 – Required Education by Task: Desktop Applications



In exploring preferred educational levels for tasks in the database tools cluster, it was revealed that the majority of respondents desired, at minimum, “some college” education for all four categories. Nearly 70% of employers require “some college” for customer relationship management, and 66% require “some education” for project management support (Exhibit 12).

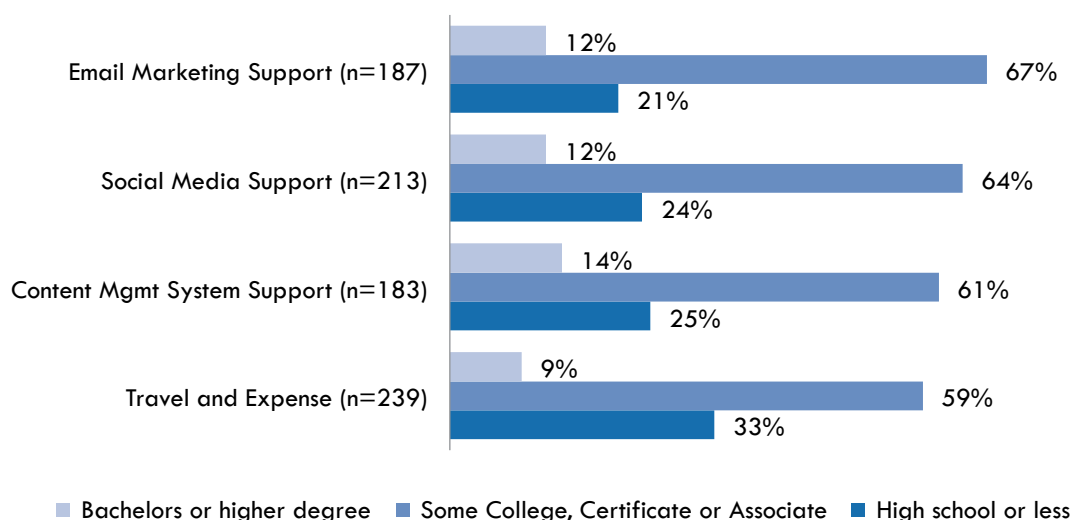
Exhibit 12 – Required Education by Task: Database Tools





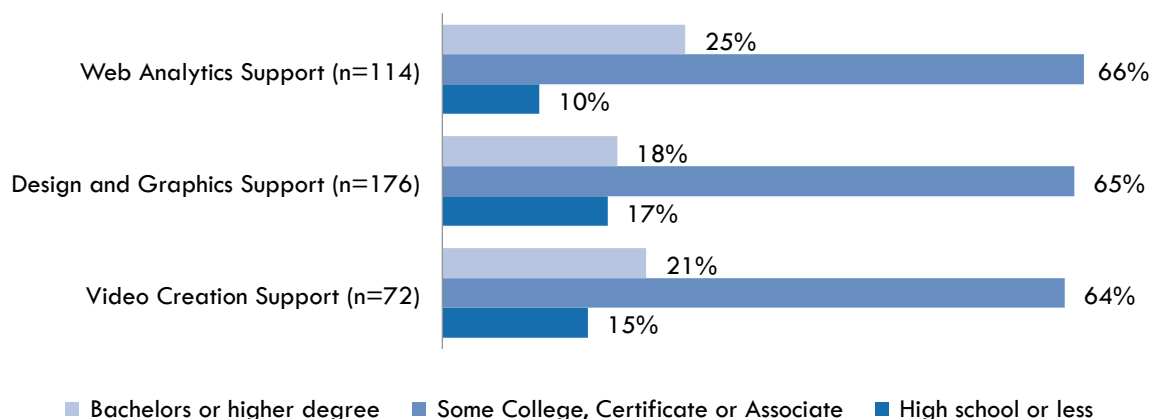
Additionally, the majority of employers (67%) noted they prefer their middle-skilled positions to have “some college” education in email marketing support (Exhibit 13).

Exhibit 13 – Required Education by Task: Online Resources



“Some education” is required by nearly two-thirds of employers surveyed for all three categories related to Multimedia (Exhibit 14). Overall, 66% of those surveyed said “some college” education was needed to conduct web analytics support, and 65% said “some college” was necessary for design and graphics support.

Exhibit 14 – Required Education by Task: Multimedia



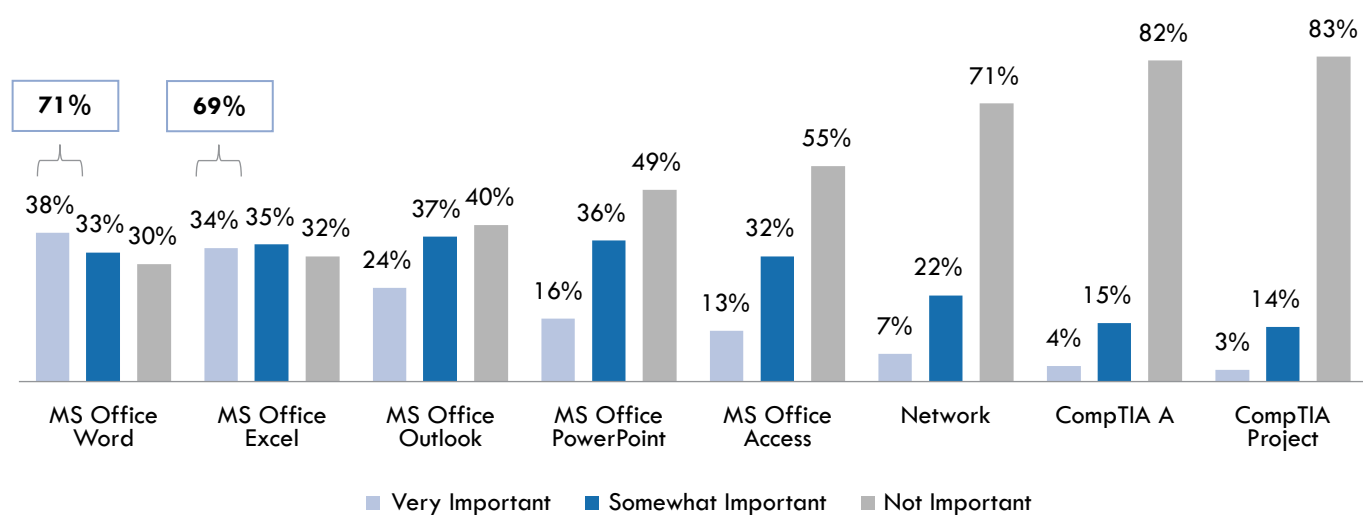
Preferred Certificates/Credentials

Employers were asked to rate the importance of eight certificates/credentials for middle-skilled job candidates. Most employers indicated that it was important (“very important” or “somewhat important”) for middle-skilled workers to have certificates or credentials for the Microsoft Office Suite of applications.

For example, 71% of employers consider credentialing in Microsoft Office Word to be important, while 69% feel similarly about Microsoft Office Excel. Of the eight certificates/credentials, Word and Excel were the most highly valued applications selected by employers.

Exhibit 15 provides a detailed snapshot of employer preferences regarding the eight certifications/credentials included in the survey.

Exhibit 15 – Employer-valued Certificates or Credentials



EMPLOYER HIRING CHALLENGES

The survey asked employers to report on the difficulties they experience in hiring qualified middle-skilled workers. Specifically, the survey explored difficulty hiring with respect to tasks, certificates/credentials, and employee type. This section examines employer hiring challenges.

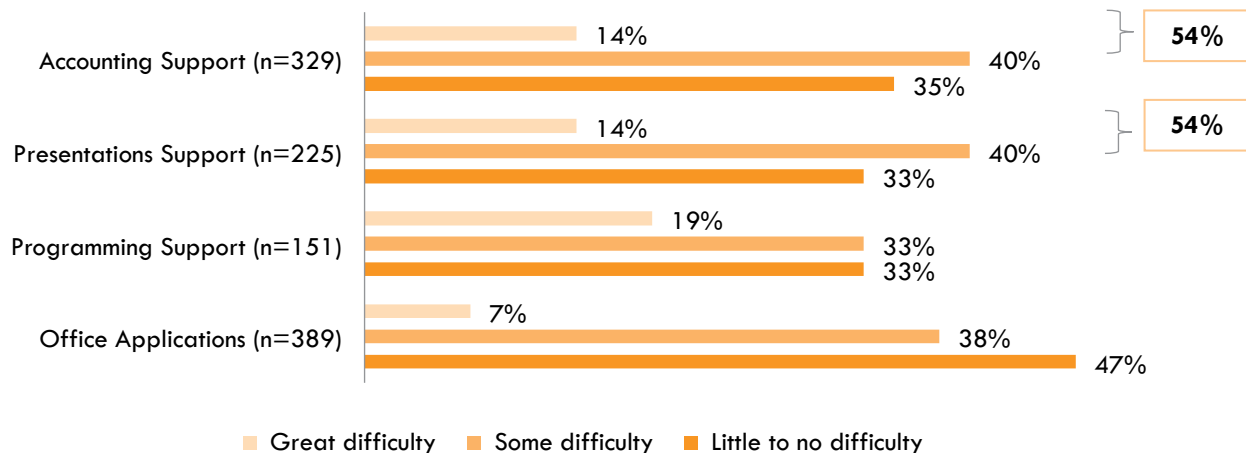
Tasks

Employers were surveyed about difficulty hiring candidates who are skilled in four different task areas: desktop applications, database tools, online resources, and multimedia. Respondents could select “great difficulty,” “some difficulty,” or “little to no difficulty” to describe their hiring challenges.

Regarding desktop applications, employers reported the most difficulty finding qualified candidates who possess skills in accounting support and presentation support. For each of these

categories, 54% of respondents said they experience either “some difficulty” or “great difficulty.” See Exhibit 16 for more detailed information.

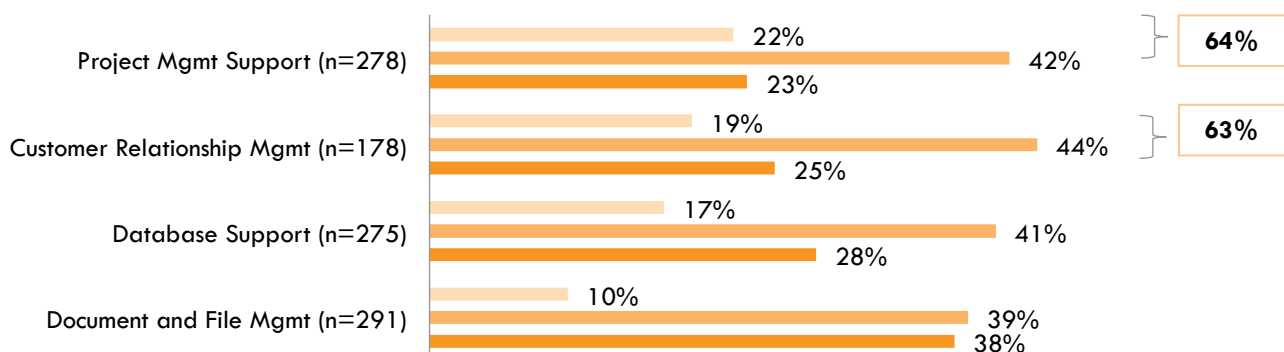
Exhibit 16 – Difficulty Finding Qualified Candidates: Desktop Applications



Within the database tools cluster, 64% of employers reported difficulty hiring workers skilled in project management support, and 63% said they have encountered difficulty hiring for customer relationship management (Exhibit 17).

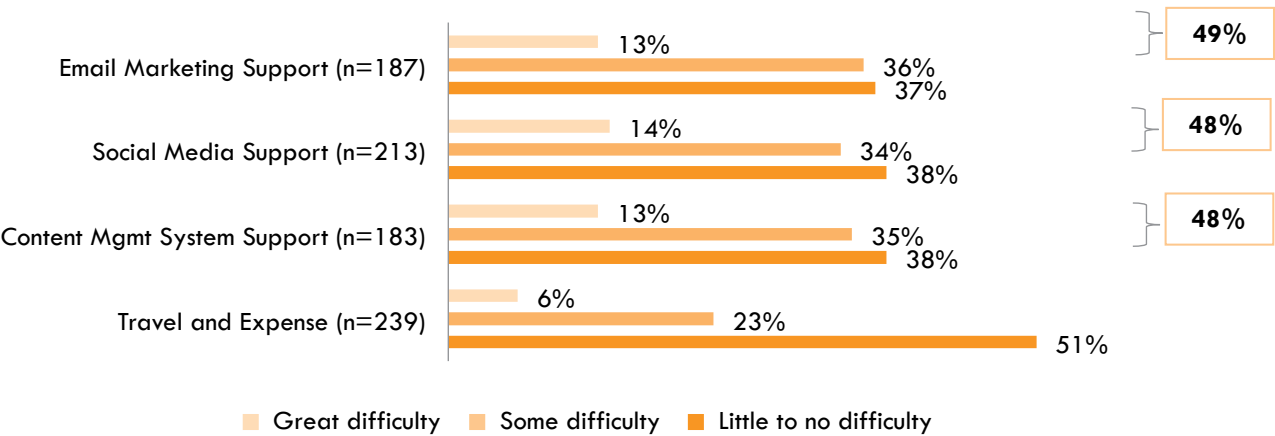
Of the four categories, these were the most difficult for employers to find qualified candidates.

Exhibit 17 – Difficulty Finding Qualified Candidates: Database Tools



Half of employers surveyed experienced difficulty hiring qualified candidates with email marketing support skills. Similarly, candidates with social media support and content management system support skills were difficult to find in the labor market. See Exhibit 18 for more details.

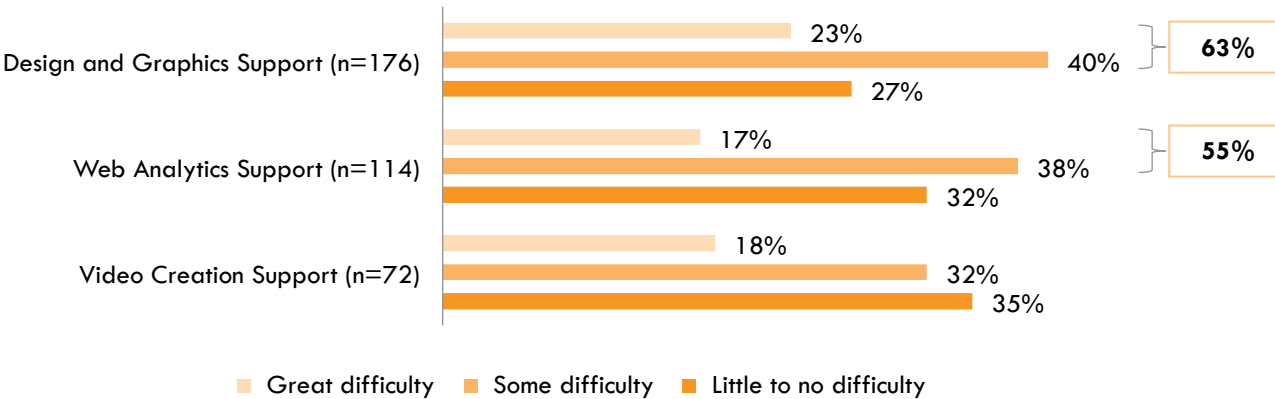
Exhibit 18 – Difficulty Finding Qualified Candidates: Online Resources



An examination of the multimedia cluster shows employer difficulty in hiring qualified candidates who possess skills in design and graphics support.

More than 60% of employers reported some or great difficulty hiring in this area (Exhibit 19). And more than half of employers said they experienced difficulty in the area of web analytics support.

Exhibit 19 – Difficulty Finding Qualified Candidates: Multimedia





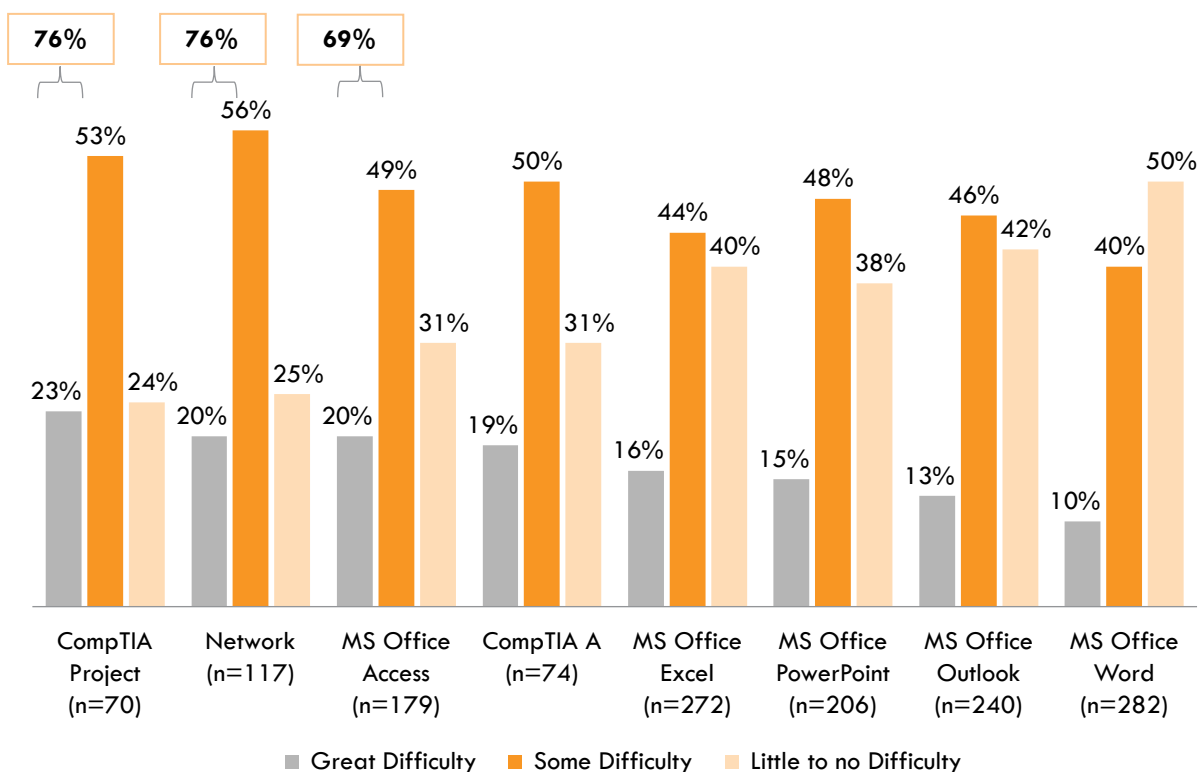
Certificate/Credential

The survey also addressed the scarcity of qualified candidates who possess specific credentials or certificates. Employers were asked about difficulty hiring for eight certificates related to computer programming and Microsoft Office.

Seventy-six percent of employers reported “some” to “great difficulty” finding mid-level office workers with Computing Technology Industry Association (CompTIA) Project and Network certification (Exhibit 20).

Nearly 70% said they encountered challenges hiring candidates with certificates in Microsoft Access.

Exhibit 20 – Difficulty Finding Qualified Candidates with a Specific Certificate/Credential

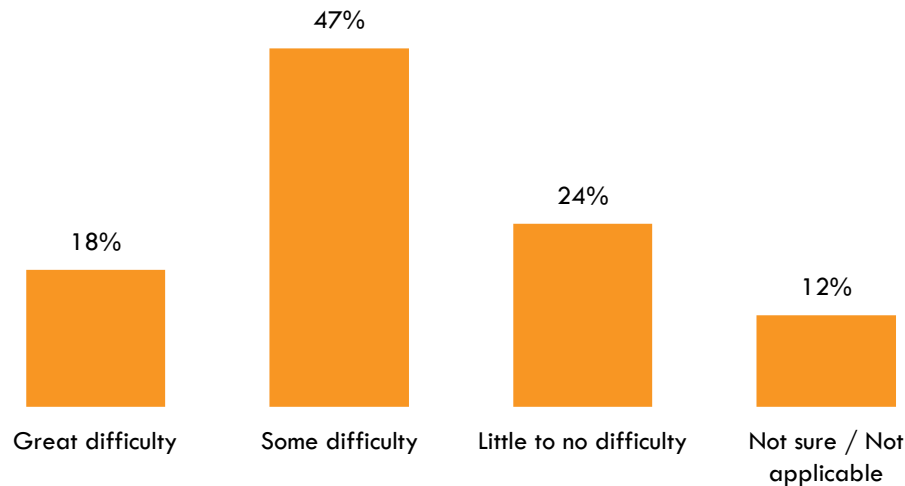


Level of Employee

Nearly two-thirds (65%) of respondents indicated they had difficulty (either “great difficulty” or “some difficulty”) finding qualified **entry-level** applicants who met their organization’s hiring standards (Exhibit 21).

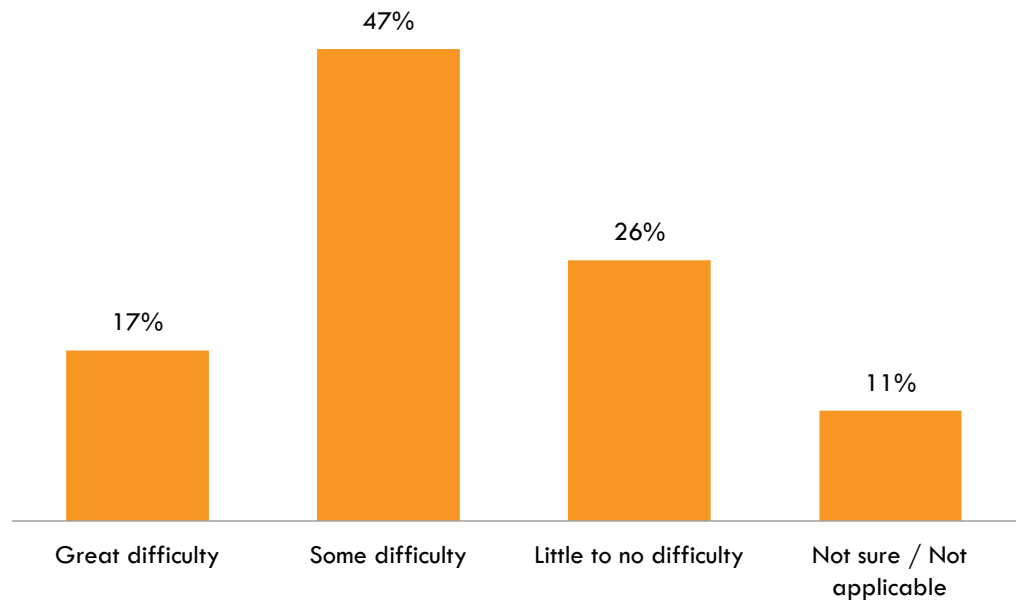
However, the data were insufficient to identify what specific organizational hiring standards the respondents were referencing for entry-level applicants.

Exhibit 21 – Difficulty Finding Entry-level Employees



Almost two-thirds (64%) of the surveyed employers indicated difficulty in finding **non-entry level/middle-skilled** applicants. However, the data were insufficient to identify what specific organizational hiring standards the respondents were referencing for non-entry level/middle skilled applicants.

Exhibit 22 – Difficulty Finding Non-Entry Level Employees

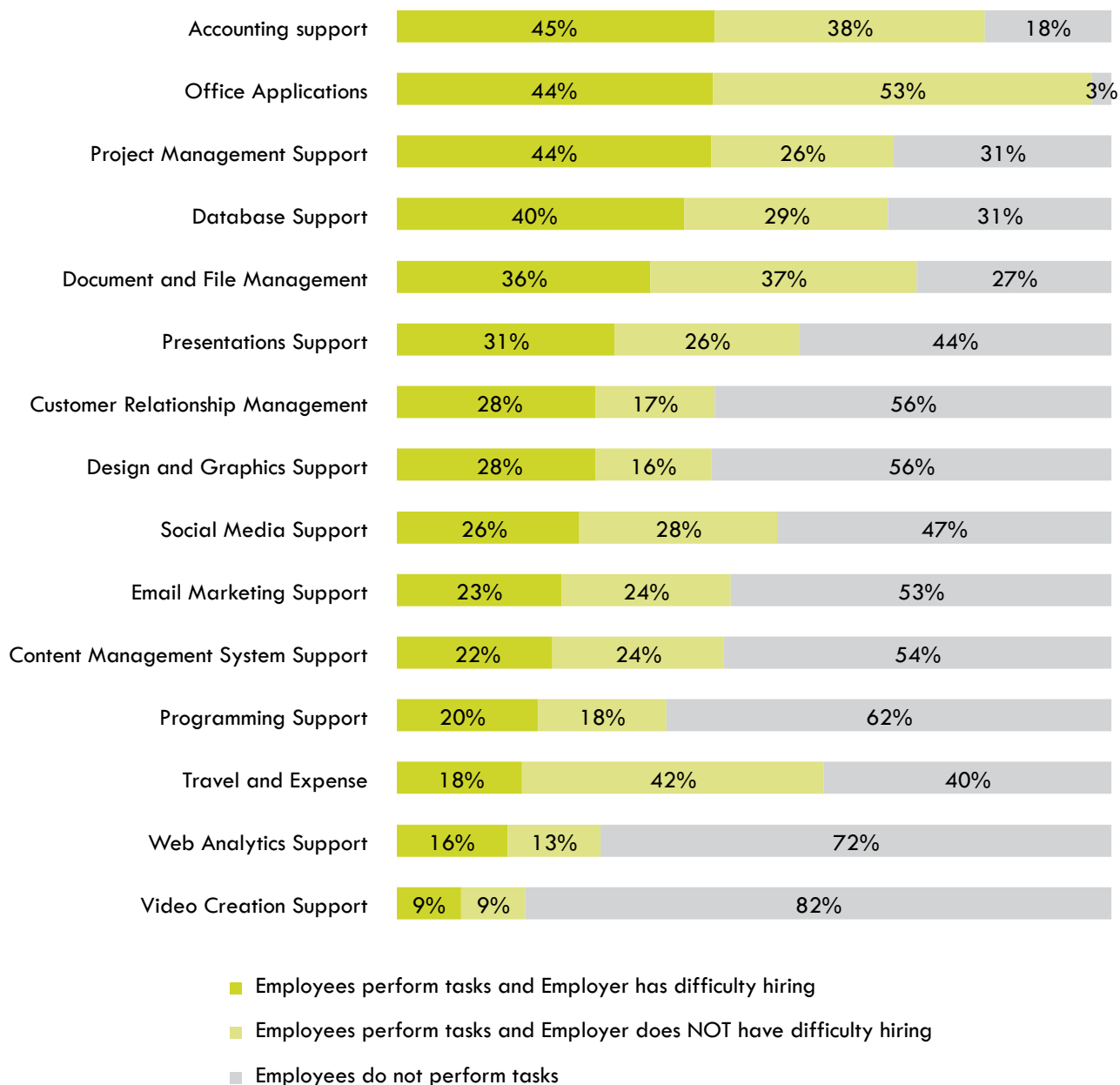


CONCLUSION

The goal of this employer survey was to identify relevant second-level business skills and tasks for middle-skilled workers. Employers were presented with 15 different “tasks” – such as office applications, customer relationship management, accounting support and social media support – and then were asked to indicate if they had employees who performed these tasks and their level of difficulty hiring qualified workers adept at these tasks.

Employers identified accounting support and office applications as tasks that are necessary to their business but for which they have trouble finding qualified candidates (Exhibit 23).

Exhibit 23 – Percent of Employers Requiring Task and Difficulty Hiring



In the accounting support cluster, 79% of employers said QuickBooks was the most preferred program. Of the respondents who employ workers to perform accounting support functions, 54% reported some to great difficulty finding qualified candidates.

Regarding the office applications cluster, employers indicated the programs most in demand (the combination of “must have” and “prefer to have”) were Microsoft Word, which was selected by 96% of respondents, Microsoft Excel, selected by 92%, and Microsoft Outlook, selected by 84%. Despite high demand for job candidates skilled in these office applications, only 45% of employers reported “some difficulty” to “great difficulty” finding qualified candidates with knowledge of these programs.

Employers who have staff in the project management support cluster indicated a preference for Microsoft Project, with 41% choosing this category. When asked about difficulty finding qualified candidates, 64% of respondents indicated experiencing either some difficulty or great difficulty.

The most preferred program in database support was Microsoft Access, which was selected by 59% of employers. In terms of difficulty finding qualified candidates in this area, 58% of respondents reported encountering challenges in hiring.

In the document and file management skills area, 61% of respondents indicated a preference for middle-skilled workers who possess proficiency using Google Docs, 60% reported a need for Dropbox knowledge, and 56% prefer a candidate with Google Drive skills.

When looking at these same five tasks for the education level required by employers we find that for all of them, the majority of employers require education that is aligned with what community colleges offer. For many of the tasks, either some college, a certificate or an associate degree is required by employers:

Office Applications (91%)³
Accounting Support (84%)
Document and File Management (90%)
Database Support (80%)
Project management Support (74%)

When asked about BIW 2-related skills (see Exhibit 10, page 13), employers said the top three “must have” and “prefer to have” skills were:

Knowledge of marketing and advertising – 59% of employers
Fluency with major social media platforms – 58% of employers
Knowledge of web standards and usability methods – 55% of employers

While these skills are clearly valued by employers, ultimately colleges must ask a very important and fundamental question: Will employers hire these well qualified community college students and provide them with enough hours of employment per week and a living wage that makes the job viable and attractive to program graduates?

³ Combines “high school or less” and “some college, certificate or Associate” responses.



To better understand this, employers were asked these exact two questions. The responses shed light on the challenges of small businesses in the state.

One out of three employers (34%) said they would offer a candidate who possesses BIW 2 skills 40 or more hours per week. Conversely, 12% of employers indicated they could not offer a candidate with this skill set any work hours. Another 17% said they would offer a candidate 30-39 hours per week. Nearly a quarter of employers said they could offer a part-time job with at least 20 hours per week.

Exhibit 24 – Estimated Hours per Week for BIW 2 Candidates

Range of Hours:	% of Respondents
0	12%
1–10	11%
11–19	2%
20–29	24%
30–39	17%
40+	34%

When asked about the hourly rate for a BIW 2 candidate with these skills, the employer data show that half the employers surveyed are willing to pay \$15 per hour or more for a qualified candidate (Exhibit 25). However, 40% of employers may have a challenge in providing these BIW 2 candidates with enough hours and sufficient pay to make the job viable for the BIW 2 candidate.

Exhibit 25 – Estimated Hourly Wages per Week for BIW 2 Candidates

Wages	% of Responses
\$9	3%
\$10	8%
\$11	3%
\$12	11%
\$13	7%
\$14	8%
\$15	21%
\$16	5%
\$17	4%
\$18	6%

Wages	% of Responses
\$19	1%
\$20	13%
\$21	0%
\$22	1%
\$23	0%
\$24	1%
\$25	3%
\$30 or more	1%
Not Sure	8%

MORE ABOUT THE CENTERS OF EXCELLENCE

The Centers of Excellence (COE), in partnership with business and industry, deliver regional workforce research customized for community college decision making and resource development. This information has proven valuable to colleges in beginning, revising, or updating economic development and Career Technical Education (CTE) programs, strengthening grant applications, assisting in the accreditation process, and in supporting strategic planning efforts.

The Centers of Excellence Initiative is funded in part by the Chancellor's Office, California Community Colleges, Economic and Workforce Development Program. The Centers aspire to be the premier source of regional economic and workforce information and insight for California's community colleges. More information about the Centers of Excellence is available at www.coeccc.net.

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