



ICT/Digital Media Occupations

Central Valley/Mother Lode
Region
Center of Excellence



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Introduction

The Central Valley/Mother Lode Region Center of Excellence is releasing this report detailing the Information and Communication Technologies (ICT) and Digital Media sector as part of the Doing What Matters for Jobs and the Economy initiative from the California Community Colleges Chancellor's Office. While most sectors focus on industries, the ICT/Digital Media sector is unique in that it crosses all industries. Therefore, for this study, the focus is on six occupations that make up a large part of the sector:

- Computer user support specialists
- Computer network support specialists
- Network and computer systems administrators
- Computer systems analysts
- Digital media producers
- Information security analysts

For this study, a survey was conducted with 45 employers and two independent contractors in the Central Valley/Mother Lode region to gain insights into hiring trends and employer needs. Additionally, researchers conducted an analysis of historic data from Economic Modeling Specialists, Int'l and current job postings data from Labor Insight/Jobs Burning Glass for a more complete picture of the occupations studied.

The Central Valley/Mother Lode region is made up of Alpine, Amador, Calaveras, Fresno, Kern, Kings, Inyo, Mariposa, Madera, Merced, Mono, San Joaquin, Stanislaus, Tuolumne, and Tulare Counties, covering the following colleges: Merced College, San Joaquin Delta College, Modesto Junior College, Columbia College, Clovis College, Fresno City College, Reedley College, West Hills – Coalinga College, Bakersfield College, Cerro Coso College, Taft College, West Hills – Lemoore College, Porterville College, and College of the Sequoias.

This report includes an overview of the sector and occupations, as well as an analysis of the labor supply and demand for the Central Valley/Mother Lode region.

Sector Overview

ICT/Digital Media sector functions impact all businesses, regardless of industry type or size of employment. There are industries where ICT/Digital Media is the primary function and industries where ICT/Digital Media is merely a function that assists the business to operate.

In the information and knowledge economies of the 21st century, all kinds of organizations and individuals increasingly depend on technology for productivity and connectivity. With this growth in dependence on technology, ICT/Digital Media skills are escalating in demand.

The industries of the employers surveyed was a wide variety, from agriculture and manufacturing to retail, healthcare and professional services/consulting, and many more. Employers indicated that they provided technical services, computer networking and administration, software development, education, healthcare, and more. All industries require some type of ICT/Digital Media workers, meaning this sector crosses all industries. The top industries in this sector are listed below.

ICT/Digital Media Independent Contractors

A small part of ICT/Digital Media sector employment comes from independent contractors. They fall into the category of the ICT/Digital Media primary function. In 2017, 1,407 workers in the six ICT/Digital Media were considered self-employed or extended proprietors. This number is expected to increase by 50 in the next five years.

Two of these independent contractors responded to the employer survey, noting that the background of contractors varies greatly, in terms of education and work experience.

Figure 1. Top 10 Industries, for ICT/Digital Media Occupations (Staffing Patterns)

NAICS	Industry	Occupation Group Jobs in Industry (2017)	Occupation Group Jobs in Industry (2021)	% Change (2017 - 2021)
903611	Elementary and Secondary Schools (Local Government)	656	699	7%
903999	Local Government, Excluding Education and Hospitals	616	638	4%
551114	Corporate, Subsidiary, and Regional Managing Offices	499	481	-4%
903612	Colleges, Universities, and Professional Schools (Local Government)	409	421	3%
561320	Temporary Help Services	392	435	11%
622110	General Medical and Surgical Hospitals	318	342	8%
541512	Computer Systems Design Services	306	360	18%
902999	State Government, Excluding Education and Hospitals	301	359	19%
541511	Custom Computer Programming Services	274	266	-3%
517110	Wired Telecommunications Carriers	281	355	26%

Occupation Overview

The six occupations chosen for this study are some of the most in-demand in this sector. Below is a brief description for each occupation.

Computer user support specialists provide technical assistance to computer users, answer questions or resolve computer problems for clients in person, or via telephone or electronically.

Computer network support specialists analyze, test, troubleshoot, and evaluate existing network systems such as local area network, wide area network, and internet systems or a segment of a network system; and perform network maintenance to ensure networks operate correctly with minimal interruption.

Network and computer systems administrators install, configure, and support an organization’s local area network, wide area network, and internet systems or a segment of a network system; and monitor networks to ensure network availability to all system users and may perform necessary maintenance to support network availability.

Computer systems analysts analyze science, engineering, business and other data processing problems to implement and improve computer systems; analyze user requirement, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations; and may analyze or recommend commercially available software.

Digital media producers deliver digital media campaigns, such as email marketing campaigns, web content, social media, video production, and/or layouts for direct mail. In this study, they are referred to by the SOC Multimedia Artists and Animators.

Information security analysts plan, implement, upgrade, or monitor security measures for the protection of computer networks and information; and may ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure.

Occupational Growth

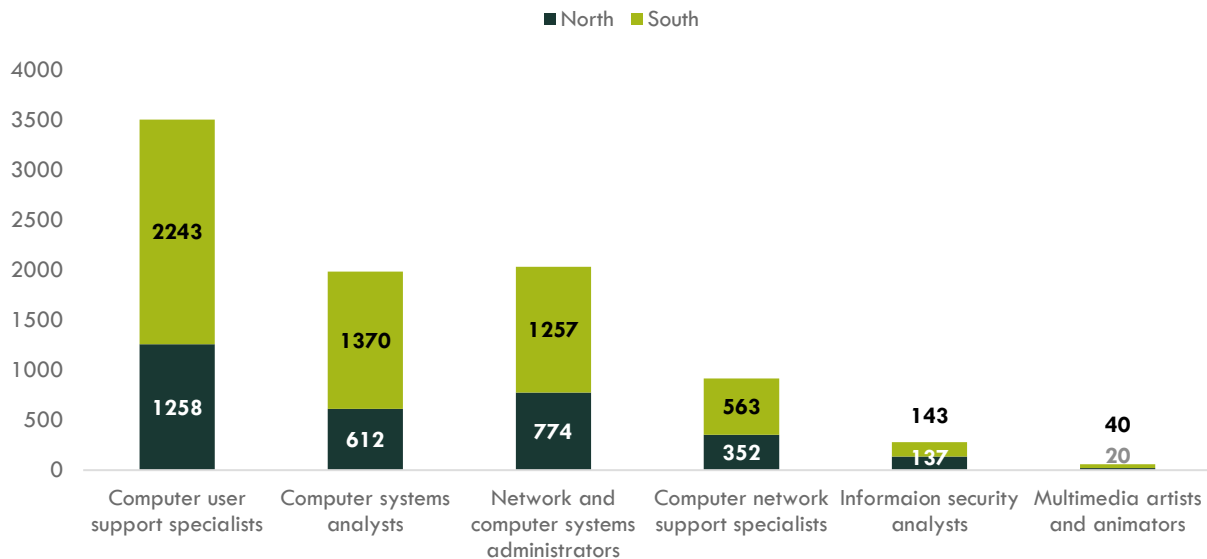
Over the next five years, ICT/Digital Media occupations in the Central Valley/Mother Lode region are projected to grow at an average rate of 7%, 655 new jobs. Additionally, there will be 478 replacement jobs due to workers leaving these occupations (e.g., retirement or career change).

Figure 2. Five-Year Projected Growth

SOC	Description	2017 Jobs	2021 Jobs	% Change	New Jobs	Replacement Jobs	Av. Annual Openings
15-1151	Computer user support specialists	3,500	3,753	7%	253	189	111
15-1121	Computer systems analysts	1,981	2,169	9%	188	108	74
15-1142	Network and computer systems administrators	2,031	2,145	6%	114	109	56
15-1152	Computer network support specialists	915	990	8%	75	50	31
15-1122	Information security analysts	280	299	7%	19	15	9
27-1014	Multimedia artists and animators	59	67	14%	8	4	3
Total		8,766	9,421	7%	655	478	283

Surveyed employers further confirmed this data, noting that on average, they would be increasing positions in these six occupations by 12 percent over the next 12 months, and 30 percent over the next three years, an average of 1.3 new jobs per company in one year plus three new jobs per company in next three years.

Figure 3. ICT Jobs by Subregion, 2017



North Central Valley/Northern Mother Lode subregion: Alpine, Amador, Calaveras, Mariposa, Merced, San Joaquin Stanislaus and Tuolumne Counties; South Central Valley/Southern Mother Lode subregion: Fresno, Kern, Kings, Inyo, Madera, Mono and Tulare Counties

These occupations at the subregional level are growing at a rate slightly higher than the region's average of 5 percent.

Entry-level for these occupations far exceed the region's average living wage for a single adult and median wages are also higher than the \$19.46 overall median wage for the region.

Figure 4. Percentile Hourly Earnings, 2016

SOC	Description	10 th	25 th	Median	75 th	90 th
15-1151	Computer user support specialists	\$14.16	\$17.46	\$22.30	\$27.70	\$33.33
15-1121	Computer systems analysts	\$23.95	\$29.22	\$36.20	\$43.57	\$53.49
15-1142	Network and computer systems administrators	\$22.36	\$28.03	\$36.35	\$45.64	\$55.57
15-1152	Computer network support specialists	\$17.23	\$22.71	\$30.35	\$38.61	\$45.66
15-1122	Information security analysts	\$27.58	\$33.42	\$42.22	\$51.12	\$60.72
27-1014	Multimedia artists and animators	\$17.40	\$20.37	\$23.55	\$27.63	\$32.47
Central Valley/ Mother Lode Region ICT Occupations		\$19.07	\$23.68	\$30.24	\$37.40	\$45.28

Job Openings and Job Postings

The projection for job openings is very strong for the region in these six ICT/Digital Media occupations. Recent job postings confirm these projections, which are based on historic trends. A total of 2,320 online job postings were found for the region in 2016.

Figure 5. EMSI annual projected job openings vs. Burning Glass job postings for the last 12 months

SOC	Description	Av. Annual Job Openings (2017-2021)	Job Postings (2016)
15-1151	Computer user support specialists	111	824
15-1121	Computer systems analysts	74	590
15-1142	Network and computer systems administrators	56	550
15-1152	Computer network support specialists	31	264
15-1122	Information security analysts	9	88
27-1014	Multimedia artists and animators	3	4
Total		283	2,320

Top titles for these postings include: systems administrator, systems analyst, network administrator, PC technician, computer technician, help desk technician, information technology specialist, desktop support, information systems security officer, security analyst, information technology auditor, and information systems analyst.

Education, Skills & Certifications

For those interested in these positions, it is imperative to meet employers' expectations for education, skills and certifications. Certifications in the ICT/Digital Media sector can show employers that applicants have the knowledge, skills, and abilities necessary to perform job functions properly. The following table shows the typical entry-level education across the nation for these occupations; however, it is important to also look at the information in job postings to truly understand employers' expectations for these positions.

Figure 6. Typical Entry-level Education

SOC	Description	Education Level
15-1151	Computer user support specialists	Some college, no degree
15-1121	Computer systems analysts	Bachelor's degree
15-1142	Network and computer systems administrators	Bachelor's degree
15-1152	Computer network support specialists	Associate degree
15-1122	Information security analysts	Bachelor's degree
27-1014	Multimedia artists and animators	Bachelor's degree

Surveyed employers indicated that they prefer Bachelor’s degrees (24%); however, the minimum education preferred is a high school diploma (9%), some college (24%), a postsecondary certificate (12%), or an associate degree (15%).

In addition to an associate or Bachelor’s degree, employers in the ICT/Digital Media sector place a strong emphasis on certifications. Below are the top five specialized skills, baseline skills, and software and programming skills for these occupations.

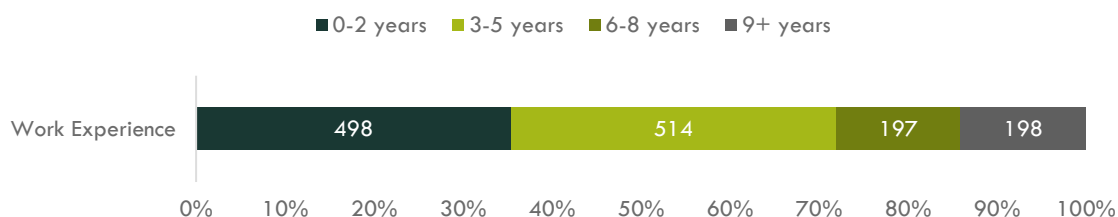
Figure 7. Top Skills

Specialized Skills	Baseline Skills	Software and Programming Skills
Technical support	Troubleshooting	Microsoft Office
System administration	Communication skills	Microsoft Windows/Operating Systems
Customer service	Problem solving	SQL
Information systems	Writing	Windows Server
Repair	Planning	LINUX

Employers listed top certificates that they prefer, including computer information systems (25%), network administration (16%), computer systems analyst and computer science (14% each), business technology (10%), digital media (6%), web development (5%), and marketing (3%). Employers prefer certificates for all six occupations, but more employers prefer a professional credential for computer network support specialists (72%), information security analysts (70%), and network and computer systems administrators (68%).

A majority of these job postings require less than five years of experience, with 35 percent requiring less than two years of experience – good news for workers just getting their start in the ICT/Digital Media sector.

Figure 8. Work experience requirements in Job Postings, 2016



Education Supply

The Central Valley/Mother Lode region has many educational programs that train for the six occupations studied in this report. For a full listing of these programs, see Appendix A. A summary of these programs is below.

Figure 9. TOP Codes & Completions

TOP Code	Title	Average Annual Completions, 2013-2016
070810	Computer Networking	181
070200	Computer Information Systems	113
070100	Information Technology, General	78
070210	Software Applications	62
070600	Computer Science	39
061430	Website Design and Development	31

Supply and Demand Gap Analysis

Looking at average supply and demand data from 2013-2016, there is a surplus of workers in this sector, meaning more students are completing coursework for these occupations than there are job openings available from regional employers. However, many workers may be training in these TOP codes for other occupations within the industry. Approximately half of surveyed employers reported difficulty finding qualified workers for each of these positions. The more difficult positions to fill are network and computer systems administrators, information security analysts, and computer systems analysts.

Figure 10. Supply and Demand Gap Analysis

SOC	Description	Av. Annual Openings	Av. Annual Completions	Surplus/Gap
15-1151 & 15-1152	Computer user support specialists & computer network support specialists	176	295	+119
15-1121	Computer systems analysts	95	39	-56
15-1142	Network and computer systems administrators	70	177	+107
15-1122	Information security analysts	12	8	-4
27-1014	Multimedia artists and animators	8	48	+40
All ICT/Digital Media Occupations		361	567	+206

Conclusion and Recommendations

Over the next five years, these six occupations are expected to grow at a pace stronger than the region's average, adding more than 500 new jobs to the region, and requiring nearly 500 replacement jobs. Typically, employers require an Associate or Bachelor's degree plus other certifications and some work experience.

While the supply/demand gap analysis shows a large oversupply of workers for three of the six occupations, the academic programs that train for these occupations cover additional occupations across the ICT/Digital Media sector; therefore, there may not be a true oversupply. More information and research is needed to determine exactly where workers from these training programs are finding employment and if those trained in these programs are truly prepared for the responsibilities of the occupations.

Appendix A: Academic Programs

Community colleges are denoted with green shading.

TOP Code	Title	Institution	Completions 3-year Average (2013-2016)
070810	Computer Networking	Total	181
		Institute of Technology Inc.	45
		ITT Tech – Clovis	34
		ITT Tech – Lathrop	45
		Reedley College	4
		Fresno City	22
		Modesto	8
		San Joaquin Delta	22
070200	Computer Information Systems	Total	113
		Reedley College	43
		Bakersfield	2
		Cerro Coso	12
		Fresno City	4

		Merced	4
		Modesto	2
		Porterville	11
		San Joaquin Delta	18
		Sequoias	11
		Clovis	4
		Columbia	3
070100	Information Technology, General	Total	78
		Heald College – Fresno	26
		Heald College – Stockton	35
		MTI Business College Inc.	1
		Santa Barbara Business College – Bakersfield	4
		Sequoias	11
070210	Software Applications	Total	62
		Modesto	2
		Taft	7
		West Hills Coalinga	13
		West Hills Lemoore	39
070600	Computer Science	Total	39
		Reedley College	5
		Bakersfield	2
		Cerro Coso	1
		Merced	7
		Modesto	20
		Clovis	3
061430	Website Design and Development	Total	31
		Institute of Technology Inc.	17
		Bakersfield	2
		Cerro Coso	6
		Fresno City	3
		Clovis	1
		Columbia	2
070820	Computer Support	Total	24
		San Joaquin Valley College – Visalia	16
		Santa Barbara Business College – Bakersfield	5
		Columbia	2
070800	Computer Infrastructure and Support	Total	13
		Fresno City	11
		Columbia	1
061460	Computer Graphics and Digital Imagery	Total	11
		Modesto	11
070710	Computer Programming	Total	8
		ITT Tech – Clovis	1
		Modesto	6
061400	Digital Media	Total	6

	Modesto	1
	Sequoias	1
	Columbia	3
070900	World Wide Web Administration	Total
		2
	Fresno City	2

Appendix B: Survey & Topline Results

A. In which county is your company physically located? n=47

1. Alpine	
2. Amador	
3. Calaveras	
4. Fresno	22
5. Inyo	
6. Kern	4
7. Kings	2
8. Madera	2
9. Mariposa	1
10. Merced	1
11. Mono	
12. San Joaquin	3
13. Stanislaus	6
14. Tulare	6
15. Tuolumne	
16. Other county	

B. Which of the following best describes your company's industry? [Please select one.] n=47

1. Agriculture	3
2. Manufacturing	4
3. Retail (grocery)	
4. Retail (non-grocery)	4
5. Wholesale Trade	
6. Hospitality	
7. Healthcare	3
8. Transportation and Warehousing	1
9. Professional Services/Consulting	10
10. Automotive	
11. Other	22

C. What is the primary function of your organization? n=47

1. Technology service provider	4
2. Computer systems designs	
3. Computer programming services	
4. Computer network and administration services	1
5. Technical support services	
6. Software development	2
7. Digital media	
8. Education	3

9. Healthcare	3
10. Other	34

D. How would you classify your organization? n=47

1. Independent Contractor (no employees)	2
2. Business	36
3. Non-profit	6
4. Association	
5. Government agency	2
6. Education Institution	1
7. Other	

E. Are you familiar with your company's hiring and workforce needs? n=45

1. Yes	45
2. No [TERMINATE]	

F. Now, we would like to ask about specific occupations you employ at your current location. The occupational titles we are using may differ from the specific position titles used in your organization. For these questions try to equate your organization's specific position titles with the more general ones we will use here.

Does your organization employ, at your location, individuals in positions matching the following general occupational titles/descriptions? n=45

		Yes	No
1	Computer User Support Specialist - Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically.	34	11
2	Computer Network Support Specialist - Analyze, test, troubleshoot, and evaluate existing network systems, such as local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Perform network maintenance to ensure networks operate correctly with minimal interruption.	30	15
3	Network and Computer Systems Administrator - Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability.	31	14
4	Computer Systems Analyst - Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.	21	24
5	Digital Media Producer - delivery of digital media campaigns, such as email marketing campaigns, web content, social media, video production, and/or layouts for direct mail.	20	25
6	Information Security Analyst - plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure.	26	19

SECTION 1 – Occupational Employment

INTRO. The next series of questions are regarding the following occupation(s) you currently employ at your location.

Please only assign one occupation to each employee. If an employee falls into more than one category, please assign them to the occupation in which they devote most of their time.

Q1. How many individuals that work at your current business location are currently employed either full-time or part-time for each occupation list below? Please exclude temporary, seasonal, and independent workers from these counts.

Occupation	n=	Mean
Computer User Support Specialists	19	1.8
Computer Network Support Specialists	18	2.1
Network and Computer Systems Administrators	19	2.2
Computer Systems Analysts	19	1.8
Digital Media Producers	15	1.3
Information Security Analysts	20	1.3

Q2. If you currently have (Q1 response) [insert Occupation] at your current business location, how many more or less [insert Occupation] do you expect to have at your location **12 months** from now? Please exclude temporary, seasonal, and independent workers from these counts.

Please enter the number "more" or number "fewer". For example, if you have currently have 5 employees and expect to have 3 more 12 months from now, you would enter 3 next to "more".

Occupation	More		Less		Same	Total Employees in 12 mos
	n=	mean	n=	mean	n=	mean
Computer User Support Specialists	3	1.3	0	0	16	2.1
Computer Network Support Specialists	4	1.5	0	0	14	2.4
Network and Computer Systems Administrators	2	1.5	0	0	17	2.4
Computer Systems Analysts	5	1.4	0	0	14	2.2
Digital Media Producers	1	2.0	0	0	14	1.4
Information Security Analysts	0	0.0	0	0	20	1.3

Q3. If you currently have (Q1) of [Occupation] at your current business location, how many more or less [Occupation] do you expect to have at your location **3 years** from now? Please exclude temporary, seasonal, and independent workers from these counts.

Occupation	More		Less		Same	Total Employees in 3 yrs
	n=	mean	n=	mean	n=	mean
Computer User Support Specialists	5	2.6	0	0	14	2.5
Computer Network Support Specialists	5	3.0	0	0	13	2.9
Network and Computer Systems Administrators	4	2.3	0	0	15	2.7
Computer Systems Analysts	4	2.0	0	0	15	2.3
Digital Media Producers	3	2.7	0	0	12	1.8
Information Security Analysts	4	1.3	0	0	16	1.5

SECTION 2 – Education and Experience

Q4. What is the minimum education requirement for the following occupations:

	Computer user support specialist	Computer network support specialist	Network and computer systems administrators	Computer systems analysts	Digital media producers	Information security analysts
n=	19	18	19	19	15	20
a. Less than High school	0	0	0	0	0	0
b. High school diploma or equivalent	1	0	3	1	3	2
c. Some college, no degree	6	5	4	3	4	4
d. Post-secondary Certificate	2	3	1	3	1	3
e. Associate's Degree	5	5	1	1	3	2
f. Bachelor's Degree	4	4	9	9	1	8
g. Master's Degree	0	0	0	0	0	0
h. Other: _____	1	1	1	1	0	0
i. Not Sure	0	0	0	1	3	1

Q5. Thinking about educational requirements, please rank which certificate or training you prefer for [OCCUPATION TITLE] in order of preference? Your preferred certificate or training would be your 1st choice, then 2nd choice, etc. If you only have a 1st choice, you can leave the 2nd and 3rd choice blank.

	Computer user support specialist	Computer network support specialist	Network and computer systems administrators	Computer systems analysts	Digital media producers	Information security analysts
n=	8	8	5	6	5	7
a. No preference	2				1	1
b. Computer Science	2	3	3	4		3
c. Computer Information Systems	6	8	4	3	1	4
d. Network Administration	3	6	3	2		3
e. Computer systems analyst	3	2	1	4	1	4
f. Database management	1	2				
g. Business Technology	2	2	4	1	1	1
h. Digital Media		1		1	4	1
i. Web Development				1	2	2
j. Marketing					3	
k. Other						

Q6. Thinking about educational requirements, please rank which degree you prefer for [OCCUPATION TITLE] in order of preference? Your preferred degree would be your 1st choice, then 2nd choice, etc. If you only have a 1st choice, you can leave the 2nd and 3rd choice blank.

	Computer user support specialist	Computer network support specialist	Network and computer systems administrators	Computer systems analysts	Digital media producers	Information security analysts
n=	9	9	10	10	4	10
a. No preference	1			1		2
b. Computer Science	4	2	4	4	1	3
c. Computer Information Systems	3	5	5	4	1	5
d. Network Administration	5	5	4	2		5
e. Computer system support	7	5	5	5		2
f. Computer systems analyst	2	4	5	7		5
g. Database management		2	3	2		2
h. Business Technology	2	3	2	1	1	2
i. Digital Media				1	3	
j. Web Development			1	1	2	
k. Marketing					3	
l. Other						

Q7. For open [OCCUPATION TITLE] positions, does your organization prefer applicants that have obtained a professional credential (such as A+ Certification)?

Occupation	Yes	No
Computer User Support Specialists	11	8
Computer Network Support Specialists	13	5
Network and Computer Systems Administrators	13	6
Computer Systems Analysts	12	7
Digital Media Producers	5	10
Information Security Analysts	14	6

Q8. Which certificates/credentials does your organization value for the following occupation(s)? Select all that apply for each occupation.

	Computer user support specialist	Computer network support specialist	Network and computer systems administrators	Computer systems analysts	Digital media producers	Information security analysts
n=	11	13	13	12	5	14
a. A+ Certification	7	11	5	6	4	9
b. Network+ Certification	7	10	5	5	2	6
c. Microsoft Certified Systems Engineer (MCSE)	4	6	5	5	2	6
d. Microsoft Certified Professional (MCP)	2	5	4	5	2	6
e. Cisco Certified Network Associate	2	5	4	4	1	4
f. Microsoft Certified Systems Administrator (MCSA)	1	4	4	4	1	4
g. Microsoft Certified IT Professional (MCITP)	1	4	3	2	1	4
h. CompTIA Security+ Certification	1	4	2	2	1	4
i. Linux+	0	1	0	2	1	1
j. Other (please specify): _____	0	0	0	1	0	0

Q9. What are the minimum work experience requirements for the following occupation(s)?

	Computer user support specialist	Computer network support specialist	Network and computer systems administrators	Computer systems analysts	Digital media producers	Information security analysts
n=	19	18	19	19	15	20
a. No work experience	2	1	0	1	1	1
b. Less than 12 months of related experience	7	3	1	0	4	0
c. 1 year of related experience	5	7	5	4	5	5
d. 2 years of related experience	2	6	8	6	1	4
e. 3 years of related experience	1	0	3	5	0	4
f. 4 or more years of related experience	2	1	2	2	0	5
g. Not Sure	0	0	0	1	4	1

SECTION 3 – Recruitment and Retention Challenges

We're interested in learning about some of the challenges facing your industry in finding qualified workers that meet your firm's hiring standards.

Q10. Please indicate whether your organization has no difficulty, moderate difficulty, or extreme difficulty recruiting and hiring qualified employees for each of the following occupation(s)?

	Computer user support specialist	Computer network support specialist	Network and computer systems administrators	Computer systems analysts	Digital media producers	Information security analysts
n=	19	18	19	19	15	20
a. No difficulty	10	9	4	8	7	7
b. Moderate difficulty	8	8	14	7	6	10
c. Extreme difficulty	1	1	1	4	2	3

Q11. Please indicate whether your organization has no difficulty, moderate difficulty, or extreme difficulty retaining the following occupations beyond one year of employment.

	Computer user support specialist	Computer network support specialist	Network and computer systems administrators	Computer systems analysts	Digital media producers	Information security analysts
n=	19	18	19	19	15	20
a. No difficulty	13	12	12	13	9	13
b. Moderate difficulty	6	6	7	5	5	6

c. Extreme difficulty	0	0	0	1	1	1
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SECTION 4 - Skill Requirements (Digital Media Producers only) n=15

Q12. When hiring someone to fill the position of Digital Media Producer, how necessary are each of the following skills? To answer please use the following scale:

- Must Have** – the applicant must have the skill otherwise he/she will not be considered for the position
- Prefer to Have** – you would prefer the applicant have the skill however you would consider an applicant if he/she didn't have the skill though it is not ideal
- Not Required** – this skill is not very important and is something that can be easily trained on the job
- Not Applicable** – the skill does not apply to the position

	Must Have	Prefer to Have	Not Required	N/A
Ability to design and edit online content using web-based content management system	5	8	2	0
Ability to design for desktop as well as mobile/tablet	5	7	3	0
Ability to design logos, graphics and infographics	6	7	2	0
Ability to design marketing materials from concept to completion	7	7	1	0
Ability to facilitate all aspects of video production	3	8	4	0
Ability to synthesize technical detail and communicate findings	2	9	4	0
Fluency with major social media platforms (Facebook, Twitter, Instagram, Tumblr)	9	4	1	1
Knowledge of marketing and advertising	4	6	4	1
Knowledge of multimedia and design	6	8	1	0
Knowledge of web authoring, publishing tools, and integrating third-party web programs	3	12	0	0
Knowledge of web standards and usability methods	4	9	1	1
Proficiency with Adobe Design software	4	8	3	0
Proficiency with relational database technology, such as SQL and Access	0	7	6	2
Proficiency with web development technologies and software, such as Drupal 7, HTML, and CSS	1	8	6	0
Skilled in web analytics tools, such as Google AdWords and Google Analytics	5	7	3	0

Q13. Are there any other technical skills not mentioned above that you require of Digital Media Producers?

SECTION 5 - Organization-related

Q14. How many permanent employees work at or from your current location?

of employees: Mean 49.1; Median 25.0

SECTION 6 – Independent Contractors

Q15. Please indicate your highest level of education: Please select one.

- a. Less than High school
- b. High school diploma or equivalent
- c. Some college, no degree
- d. Post-secondary Certificate
- e. Associate’s Degree
- f. Bachelor’s Degree - 1
- g. Master’s Degree
- h. Other: _____
- i. Not Sure - 1

Q17. How many years of related work experience did you have before becoming an independent contractor?

- a. Less than 12 months of related experience
- b. 1 - 3 years of related experience
- c. 4 – 6 years of related experience - 1
- d. 7 - 9 years of related experience
- e. 10 or more years of related experience
- f. No work experience
- g. Not Sure - 1

Q18. Have you obtained any professional credentials (such as A+ Certification)?

- a. Yes
- b. No - 2

Q20. In the last year, how busy have you been?

- a. Slow – not enough work/customers.
- b. Steady - just the right amount of work for my business. - 1
- c. Overly busy – hard to keep up. - 1

Q21. Have you had to turn away new contracts due to high levels of demand for your services?

- a. Yes
- b. No - 1

Q22. Are there any courses that you’d like the community colleges to offer in your area?

- a. Yes - 1
- b. No - 1

SECTION 7 - Wrap up Questions

Last few questions...thank you very much for your time thus far.

Q23. Please indicate whether you or your organization would have interest in any of the following community college partnership opportunities. n=47

	Yes
a. Providing work experience or internship opportunities to students	24
b. Providing technical expertise for curriculum development	15
c. Recruiting graduates from information communication technologies or digital media programs	15

Q24. Would you like to receive a report detailing the findings of this research?

- a) Yes
- b) No

Q25. Since it sometimes becomes necessary for the project manager to call back and confirm responses to certain questions, please provide us with your contact information.

- A. First Name _____
- B. Last Name _____
- C. Position _____
- D. Phone _____
- E. Email _____
- F. Company Name _____
- G. Company City _____

Those are all the questions I have. Thank you very much for your time.

- G. Date of Interview _____
- H. Time of Interview _____
- I. Name of Interviewer _____
- J. Employer Type _____
- K. Primary NAICS _____