Full Report

Sourcing IT Talent – Challenges and Opportunities:

Key Findings from Northeast Ohio Employers

August 2020

Survey design and research provided by

Shanahan Resources, Inc.

This report along with the accompanying executive summary and underlying employer survey was made possible with support from the City of Akron, County of Summit, Greater Akron Chamber, and Greater Cleveland Partnership, including Greater Cleveland Partnership Tech and the CIO Forum, along with other regional partners. We are also grateful to the 65 companies that contributed their time and feedback by filling out the employer survey. Their insights help to further convey the important challenges and opportunities facing current and future IT talent workforce needs in Northeast Ohio.

Project Partners

ConxusNEO is a workforce intermediary in Summit County, Ohio, building capacity and improving the performance of the regional talent ecosystem. Through its leadership and facilitation of industry sector partnerships in healthcare, information technology and manufacturing, ConxusNEO helps the Northeast Ohio community understand, improve and navigate the talent ecosystem. Companies have access to the right talent, at the right time, and in the right place. Educators can better align curriculum with relevant skills and workforce programs can better understand and connect residents with opportunities. Our community is mobilized to overcome real-life barriers to good jobs that lead to shared prosperity.

RITE is a leading industry-driven IT workforce alliance in Northeast Ohio and the tech talent arm of the Greater Cleveland Partnership. As the unifying force for IT talent development in the region, RITE provides a sustainable structure for industry, education, and workforce and economic development to work together to advance employer-driven education and workforce strategies. Since its inception in 2009, RITE has engaged more than 125 regional employers, 29 strategic alliances and program partners that include eight higher education institutions, and over 209 high schools, impacting nearly 6,000 students across the region.

Survey design and analysis provided by:

Shanahan Resources, Inc., led by James Shanahan, Ph.D., brings higher education and public workforce systems into collaboration with industry for talent development. This includes training and technical assistance to client staff that aspire to become 'power users' of economic and labor market information systems as well as facilitating partnerships among higher education institutions, workforce systems, and employers that address skill gaps in local or regional job markets.

Report Overview and Purpose

This report distills four key findings from the survey sent to Northeast Ohio (NEO) employers of Information Technology workers during summer 2019. Our primary goal was to seek direct input from employers about current and forecasted IT projects, desired skills and hiring criteria from IT workforce, and channels and challenges to secure IT talent. This added insight lays out the ongoing challenges that NEO employers face when filling necessary and in-demand IT roles. Consequently, these findings present opportunities to evaluate and consider new and innovative approaches to address gaps in our regional IT talent workforce.

Survey Design and Distribution

The 2019 IT employer survey was designed to build upon what was already known from prior research initiatives co-funded by the partners of this report, informed by regional employers and educators, and other investigations into the demand and supply gaps for IT talent. Prior research initiatives have included the "Understanding the IT Skills Gap in Northeast Ohio" report (2017) and Team NEO's annually produced "Aligning Opportunities" report. The survey was distributed by this report's partners through an extended network across the NEO region, which included post-secondary institutions, industry associations and consortia, workforce development organizations, and local/regional government agencies.

COVID-19 Note: *The dissemination and analysis of survey results reflect employer responses prior to the COVID-19 pandemic and its subsequent impacts.*

Key Findings

Finding 1: While employers of IT workers in NEO represent a rich set of industries that depend on information and operational technologies to compete and prosper, the region lacks the quantity and quality of candidates to meet the demand for IT talent across the most in-demand roles.

Finding 2: On top of an already tight market for IT resources, disruptive technologies and techniques are growing more complex, making the attraction and retention of requisite skills for these investments even more difficult to accomplish.

Finding 3: Sourcing for qualified IT talent and skills largely focus on the existing talent pool with preference for four-year degree credentials.

Finding 4: The primary challenge for fulfilling diversity and inclusion efforts for IT talent is the limited candidate pool and pipeline in the region.

Application of Survey Findings

These key findings from employers of IT workers sharpen our understanding of NEO's skills gap for IT workers, how industry is using IT to support business success, and how this shapes demand for skills and IT workers. The full value of these findings to inform thinking and, more importantly, focused action can be realized through authentic and sustained engagement with IT leaders from industry and education. The partners for this report plan to use these new insights to focus and refine strategies and action that will better prepare individuals for a broad spectrum of in-demand IT jobs in the NEO region.

Respondent Profile

The NEO IT Employer Survey was sent out to employers of IT workers in the greater NEO region during summer 2019, targeting industries that would have a larger proportion of IT jobs and/or IT operations in the region. A total of 65 companies submitted responses, largely representing Manufacturing and IT Products and Services industries as identified by NAICS codes[1], accounting for 29% and 24%, respectively, of total respondents (see Figure 1). Followed closely were responses from companies in the Business and Financial Services industries representing 22% of respondents.

Location of IT operations and workers: Respondents represented companies with IT operations and workers based across eight NEO counties, with companies based in Cuyahoga and Summit Counties, representing 51% and 31%, respectively, of total respondents (see Figure 2).

Figure 1: Survey respondent by industry

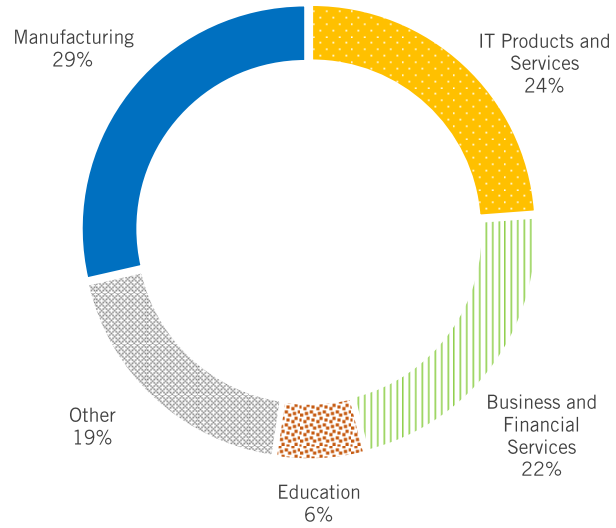
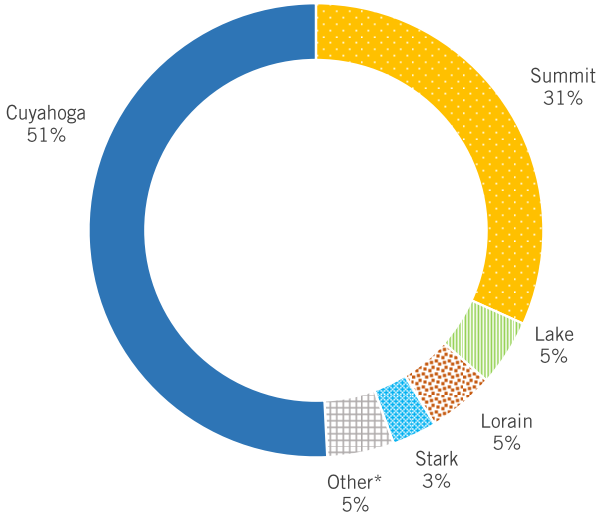


Figure 2: Survey respondent by NEO county



Size of company and years in operation: Well-established companies (greater than 16 years of operations) and larger-sized companies (with greater than 500 employees) led in survey submissions, accounting for 92% and 39%, respectively, of all respondents (see Figures 3 and 4).

Figure 3: Survey respondent by years in operation

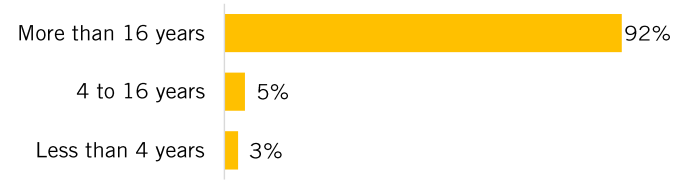
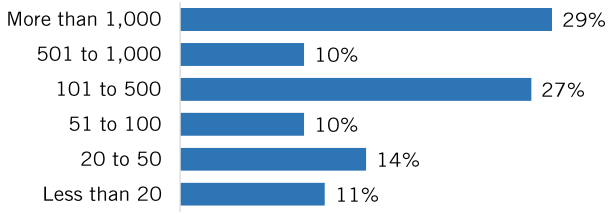


Figure 4: Survey respondent by number of employees



Survey response size

The 65 companies that responded to this survey represent about 12% of the total numbers of IT jobs in the region[2]. The industries represented in the survey are ones with significant use and need for information technology and demand for an array of IT skills and capabilities.

[1] The North American Industry Classification System (NAICS) is the standard used to classify business establishments by type of economic activity.
[2] Percentage calculated based on a 2018 estimate of 55,221 IT jobs in NEO. Total IT workforce numbers of 6,391 workers provided by survey respondents.

Finding 1

While employers of IT workers in NEO represent a rich set of industries that depend on information and operational technologies to compete and prosper, the region lacks the quantity and quality of candidates to meet the demand for IT talent across the most in-demand roles.

We asked companies to quantify their current IT workforce, recent hiring, and available positions across their overall IT workforce and 11 specific IT role categories, including *Leadership & Management* (see Table 1). Appendix A provides scope and common occupation titles for each of these role categories.

Out of 65 survey respondents, 33 (51%) companies submitted specific workforce data – incumbent and hiring. These 33 companies, predominantly from Manufacturing, IT Products and Services, and Business and Financial Services industries, represent nearly 6,400 IT roles in NEO (see Table 1). Although this is a segment of a larger IT workforce, based on the profile of respondents – e.g., industry, size, and operational history – we believe the results are representative of the region.

In-demand IT roles in NEO

While NEO employers of IT workers represent a rich set of industries and roles, the main concentration of IT workers fall within the following five role categories:

- Software Development & Engineering
- Computer & Network Systems and Security
- Leadership & Management
- IT Support
- Business Solutions

Table 1: IT Workforce (incumbent, new hires, and openings) by role

	Full-time Employees		Positions filled in 2018		2019 Openings	
IT Role Category	Total	% of Total	Total	% of Total	Total	% of Total
Overall IT Workforce	6,391	100.0%	1,160	100.0%	668	100.0%
Software Development/Engineering	1,421	22.2%	236	20.3%	98	14.7%
Computer & Network Systems and Security	1,093	17.1%	145	12.5%	74	11.1%
Leadership & Management	860	13.5%	62	5.3%	83	12.4%
IT Support	557	8.7%	83	7.2%	36	5.4%
Business Solutions	465	7.3%	87	7.5%	37	5.5%
Data Systems & Management	175	2.7%	26	2.2%	22	3.3%
Computer & Data Science	145	2.3%	39	3.4%	11	1.6%
Web Design & Development	164	2.6%	12	1.0%	11	1.6%
User Interaction & Experiences	53	0.8%	10	0.9%	2	0.3%
Digital Media	21	0.3%	2	0.2%	1	0.1%
Health IT	5	0.1%			7	1.0%
Other IT roles	1,432	22.4%	458	39.5%	286	42.8%

These five roles account for nearly 70% of all IT workforce reported from survey respondents, with *Software Development & Engineering* accounting for over one in five IT roles. Reported demand in recent hires and available openings (as of summer/fall 2019) across these five roles were 53% and 49%, respectively, of total reported. When extrapolating trends for companies with operations in Cuyahoga and Summit Counties, concentration of IT roles, recent hires, and available openings reflected similar trends.

Key challenges to hiring IT workers

In our previous report, "Understanding the IT Skills Gap in Northeast Ohio", we analyzed labor market demand, highlighting that employers of IT workers had difficulty filling demand entry- and mid-level positions. As a follow-up to this report, we took the opportunity in the 2019 IT employer survey to better understand the key hiring challenges they faced when seeking and securing IT talent, specifically across these 11 IT role categories and overall IT workforce.

Offering a selection of common hiring challenges (see Table 2), we asked employers to indicate their main barriers to finding needed talent.

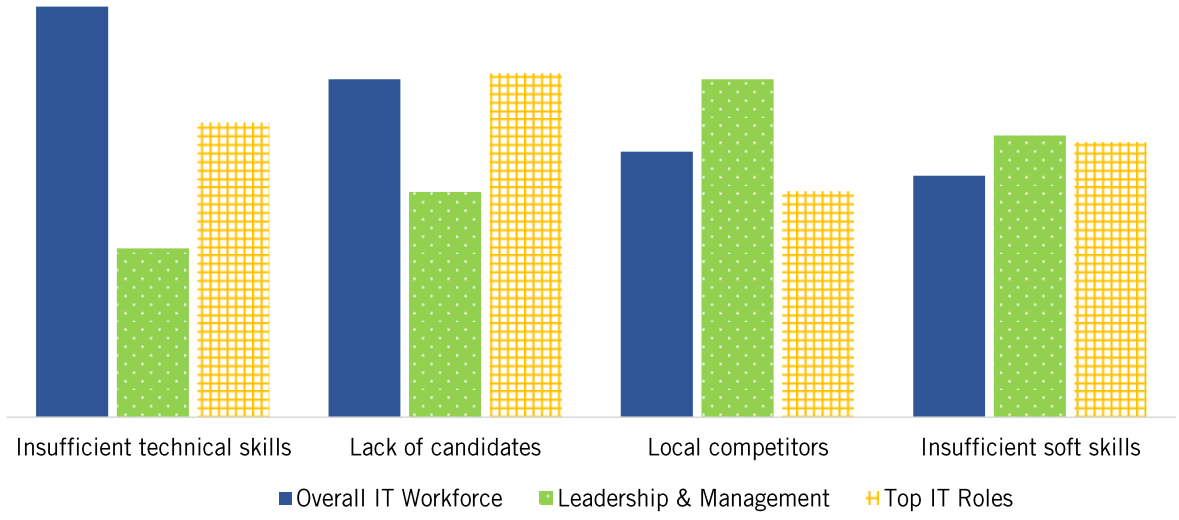
Table 2: Key hiring challenges

Expensive to relocate	Lack of required education
Insufficient technical skills	Lack of experience
Insufficient soft skills	Lack of company brand awareness
Lack of candidates	Local competitors

For overall IT workforce, employer responses indicated *Insufficient technical skills* and *Lack of candidates* as the leading challenges for securing needed talent (see Figure 5). For Leadership & Management roles, *Lack of candidates* and *Insufficient soft skills* were the top two challenges cited by survey respondents.

Across four other top in-demand roles (Software Development & Engineering, Computer & Network Systems and Security, IT Support, and Business Solutions), *Local competitors* was the primary challenge in securing talent followed closely by *Insufficient skills* – both technical and soft skills.

Figure 5: Key hiring challenges across IT workforce



Days to fill openings and outsourcing

We also asked employers to indicate the time it would take to fill openings across each of the IT role categories and for overall IT workforce. Responses indicate that, on average, it took employers over 60 days to fill IT roles (median: 60 days). When considering in-demand roles such as *Software Development/Engineering* and *Leadership & Management* roles, average hiring timelines decreased to 47 and 33 days, respectively. Responses show that hiring timeframes for *Computer & Network Systems and Security* positions, another in-demand role in the region, had a longer average hiring timeline of 60 days (median of 45 days).

Finding 2

On top of an already tight market for IT resources, disruptive technologies and techniques are growing more complex, making the attraction and retention of requisite skills for these investments even more difficult to accomplish.

We asked companies to indicate current and emerging IT projects to better understand current and forecasted talent needs (see Figure 6). Across 15 IT project areas, nearly all respondents indicated they were working on data and network security projects, especially in areas of *Cybersecurity* and *Data and IT asset security*. Second to these projects were operational improvement related projects such as *Business intelligence*, *Cloud migration*, and *Data warehousing and integrity*.

Customer relationship related projects such as *Social media*, *E-marketing*, and enhanced user interfaces including *Mobile applications* were also active projects from the majority of survey respondents. As expected, *Sensor-based applications (IoT)* and *Blockchain* were projects least being worked on and were projected to begin in the within the next five years.

Note: As survey responses were received and analyzed prior to the onset of the COVID-19 pandemic, we anticipate shifts in these IT project areas, including a potential acceleration in some of these focus areas to address critical business, operational, and talent needs.

Talent shortage to meet IT project demand

In addition to identifying IT projects, we asked companies to indicate if they had sufficient skilled workforce to fulfill these projects, now and in the future. With good indication of companies taking on standard IT infrastructure projects as well as tackling new and emerging solutions *Sensor-based IoT* and *Blockchain*, we wanted companies to evaluate their current abilities to deliver these projects based on the sufficiency of their IT workforce.

We asked respondents to share if they had *sufficient skilled workforce* or *lacked workforce* across all 15 project areas for current and/or forecasted needs. For more than 50% of the top seven projects currently being worked on, companies responded that they *lacked* sufficient IT skilled workforce to meet the demands of these projects (see Figure 7). According to respondents, 58% stated they *lacked* the sufficient skilled workforce to delivery *Cybersecurity* projects, followed by 59% of respondents stating they *lacked* the sufficient skilled talent to deliver *Business Intelligence* projects. Both of these project areas are within the top three of current most active projects from companies surveyed.

Figure 6: Current and forecasted IT projects in the next 1-5 years (number of respondents)

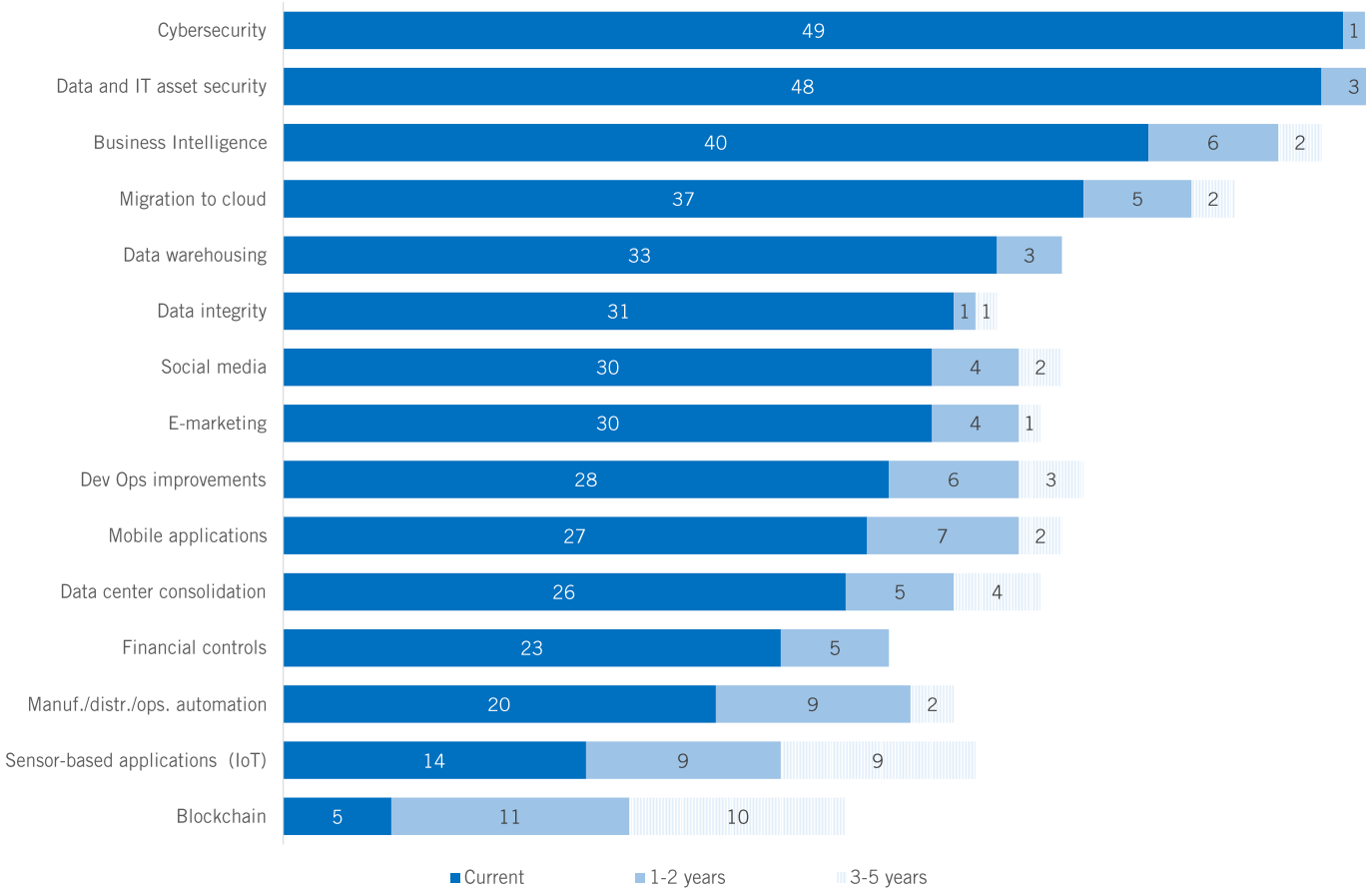
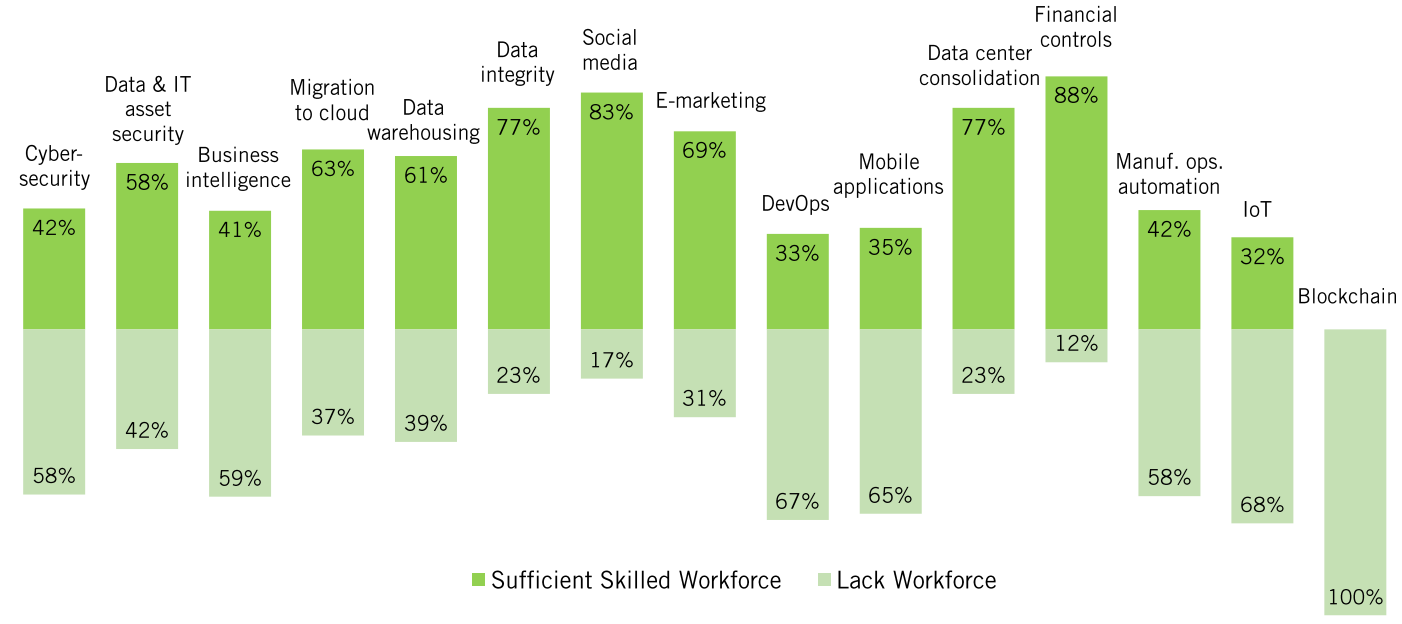


Figure 7: Skilled workforce sufficiency by IT project area (% of company respondents)



For longer-term and future projects, companies indicated a lack of sufficient IT skilled workforce for future projects, especially new and emerging solutions related to *DevOps improvement*, *Mobile applications*, *Sensor-based IoT*, and *Blockchain* technologies, the last of which no respondent indicated having sufficient workforce to address this area.

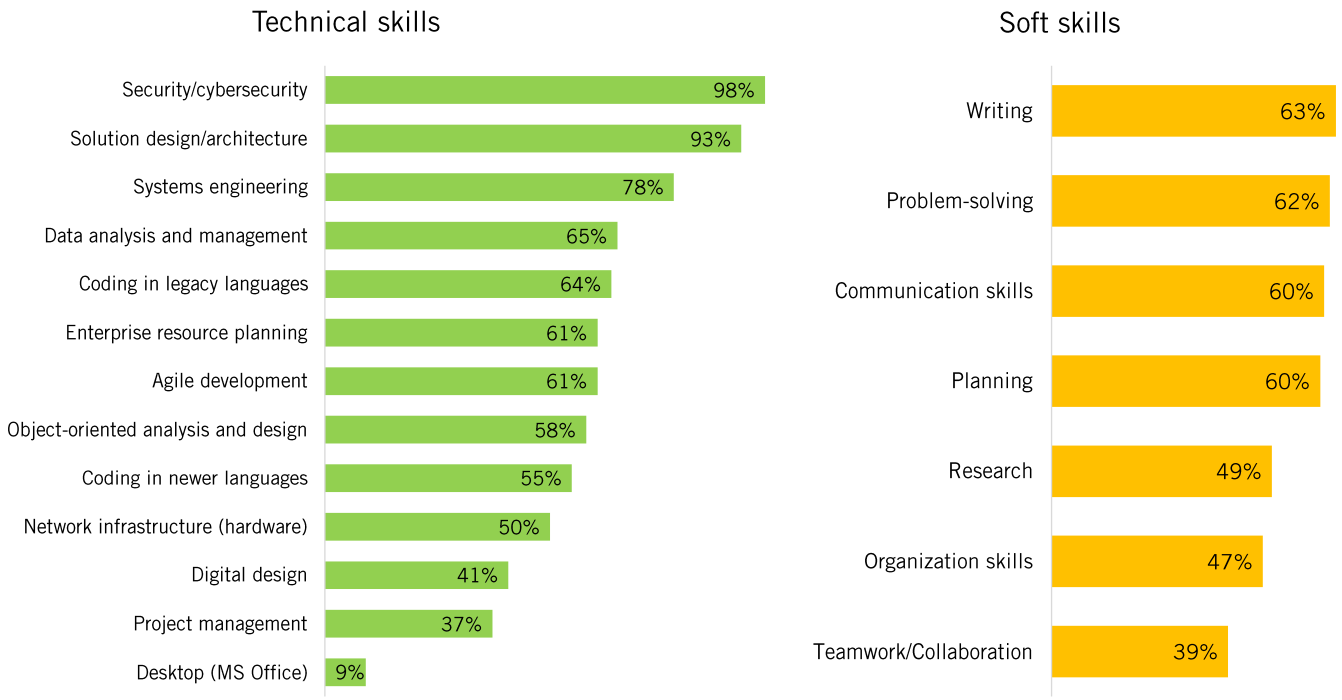
Difficulty in attracting candidates across technical and soft skill areas

Delving deeper into specific areas of technical and soft skills as they relate across IT positions, 77% of respondents provided feedback on the level of difficulty in attracting candidates across 13 technical and 7 soft skill areas. Companies were asked to indicate if candidates with a specific skill(s) were "*very difficult*", "*difficult*", or "*not difficult*" to attract. Respondents also had the option of indicating that a skill(s) was not required. Figure 8 shows the percentage of companies that found these skills were either "*very difficult*" or "*difficult*" to find in candidates.

For technical skill areas, *Security/cybersecurity* and *Solution design/architecture* was cited by 90% of respondents as difficult skills to find within the candidate pool. This finding falls in line with in-demand projects in the areas of cybersecurity, data warehousing and management that survey respondents were focused on at the time of this survey (shown previously in Figure 7). Least difficult technical skill area to find in candidates was with *Desktop (MS Office)* related programs and applications.

Across soft skills, *Writing* and *Problem-solving* skills were cited by over 60% of respondents as "*very difficult*" or "*difficult*" skills to find, followed by *Communication* and *Planning*. Responses by companies also indicated that they would weigh and consider soft and/or other professional skill competence of candidates rather than hiring a candidate solely for their technical capabilities.

Figure 8: Percentage of companies that cited "Very difficult" or "Difficult" in attracting candidates across technical and soft skill areas



Finding 3

Sourcing for qualified IT talent and skills largely focus on the existing talent pool with preference for four-year degree credentials.

Recognizing the challenges in seeking qualified IT talent, in the survey, we asked companies directly to share minimum education and work experience criteria, hiring and recruitment channels most frequently utilized, and work-based learning opportunities offered. Companies provided responses for their overall IT workforce and across the specific 11 IT role categories (as initially outlined in Finding 1).

Minimum desired education and training

For minimum education criteria, 33 of the 65 total survey respondents showed that while candidates with and/or in the pursuit of four-year degree continues to be important, they are willing to accept candidates with less than a four-degree credential in the majority of IT roles specified in this survey (see Table 3). For overall IT workforce, 36% of respondents indicated that they require a four-year degree as a minimum requirement with 54% willing to accept candidates with a high school and/or two-year degree and 18% for candidates with only an industry certification. Of note, for *IT Support* roles, a common entry-level role, a greater percentage of companies (42%) indicated that a high school credential was largely sufficient over other education credentials.

The roles in which a four-year degree was required at least equally or more compared to other education credentials were *Leadership & Management* (64%), *Software Development/ Engineering* (48%), *Data Systems & Management* (39%), and *Business Solutions* (36%).

Table 3: Minimum education credential and years of experience by IT role (% based on 33 of 65 respondents)

IT Role Category	High School	2-Year College	4-Year Degree	Industry Certification	Required Years of Experience (Average)
Leadership & Management	9%	12%	***64%***	9%	7
Software Development/ Engineering	24%	12%	***48%***	6%	4
Computer & Network Systems and Security	21%	24%	***42%***	21%	3
Data Systems & Management	15%	21%	***39%***	12%	3
Overall IT Workforce	36%	18%	***36%***	18%	
Computer & Data Science	21%	15%	***36%***	3%	3
Business Solutions	21%	12%	***36%***	6%	3
Web Design & Development	21%	21%	***30%***	6%	3
User Interaction & Experiences	27%	18%	***24%***	0%	1
IT Support	42%	24%	***24%***	12%	2
Digital Media	15%	21%	***21%***	3%	1
Health IT	12%	3%	***9%***	0%	1

In instances where a four-year degree was a minimum requirement, we asked employers to weigh the importance of candidates having degrees in *computer science*, *information technology*, and/or *computer engineering* versus other degrees. Overall, 80% of companies that responded indicated that a degree in these specific areas was either "*very important*" or "*somewhat important*", while 20% stated that it was "*not so important*" if the degree was specifically related in the computer science or IT fields. Other degrees cited included degrees within business and MIS majors, or other technical areas (unspecified).

In addition to minimum education requirements, companies also provided insight into years of experience they required across key IT roles, ranging from one to seven years (see Table 3). Note: The median years of work experience required across all IT roles are in line with the reported mean.

Primary sources for IT talent

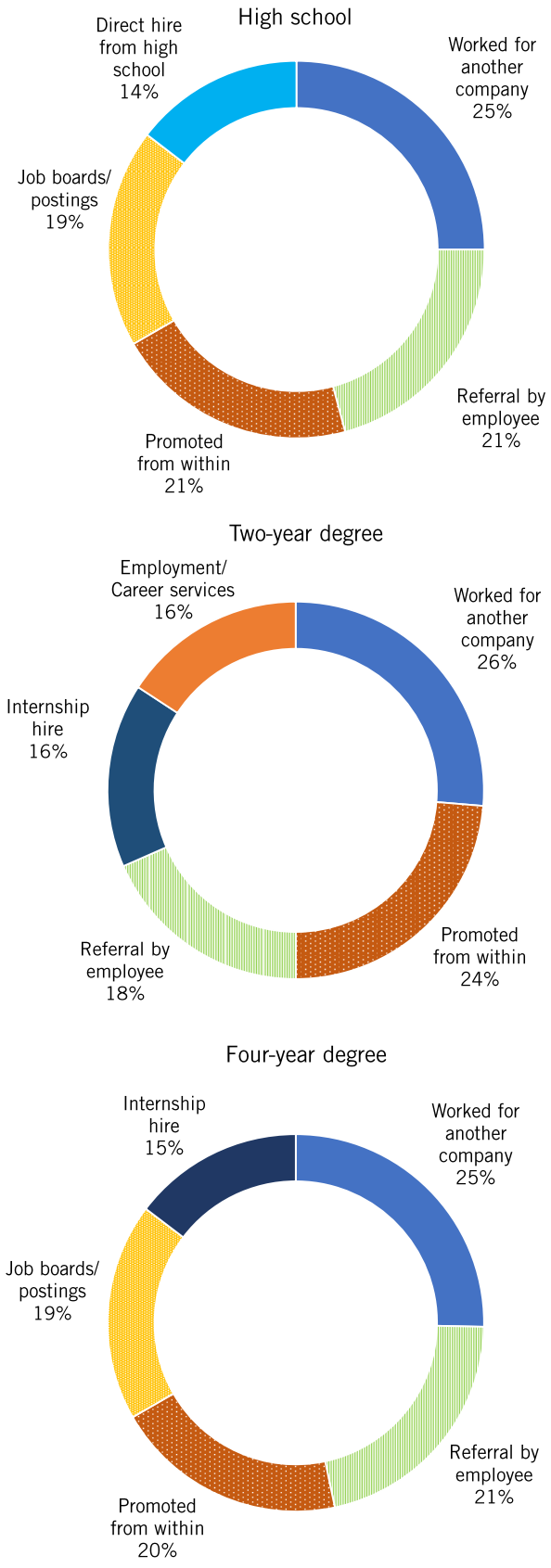
In understanding the key hiring challenges that companies face in securing IT talent, we asked respondents to provide their primary channels for sourcing talent by education credential (see Figure 9). From survey responses, regardless of the education requirement, companies sourced talent through three main channels, finding candidates that:

- worked for another company
- could be promoted from within, and/or
- were referred by current employees

While these sources are not mutually exclusive – i.e., a candidate who is working/worked for another company could have also been referred by an employee – they are largely sources where companies are 'familiar' with candidates and/or the source of the connection to potential talent.

Beyond these three primary channels, companies differed slightly in their approach to recruit talent depending on the education credential, although all utilizing a combination of job postings, employment and career services, and/or direct-to-hire from internship placements and institutions. Companies indicated greater recruitment activity for candidates with and/or pursuing four-year degrees, with nearly a third more respondents indicating sourcing channels over other non-four-year degree candidates. Less commonly utilized sourcing channels from survey respondents across all education requirements were job fairs, military/veterans' organizations, or OhioMeansJobs.

Figure 9: Top 5 sources for IT talent by education level



Workplace and experiential learning

While working directly with education and other workforce development programs were not cited as a high-frequency channel for sourcing new IT workers, employers do acknowledge having relationships with academic institutions throughout the region, especially when providing apprenticeships, co-ops, and internships, sometimes referred to as work-based and/or experiential learning opportunities. We asked companies to indicate if they offered these work-based learning opportunities across different education levels and IT role categories (see Table 4). Reported information is based on if companies provided at least one of these opportunities – apprenticeships, co-ops, and/or internships. A total of 24 companies (32% respondent rate) provided information.

Across all education levels, work-based learning opportunities were offered at a higher level to four-year degree candidates with 75% of respondents indicating offerings compared to all other education levels for overall IT workforce. Companies also did still offer some form of work-based learning opportunity to candidates with at least a high school and/or two-year degree, as indicated by 33% and 42% of respondents, respectively.

These differences in participation widen when looking across specific IT roles, where it appears that companies tend to offer more work-based learning opportunities to a greater number of four-year degree candidates nearly two times or more compared to candidates with other education levels. One exception to this trend was with *IT Support* roles, which companies do not generally require a four-year degree as a minimum criterion (as previously shared in Table 3).

What cannot be inferred is whether companies are choosing to select a certain candidate pool based on education criteria or if difference in offerings are related to other factors within the recruitment and talent sourcing process.

Table 4: Percentage of company respondents offering apprenticeships, co-ops, and/or internships

Primary IT Role	High School	2-Year College	4-Year Degree	Other Post-Secondary
Overall IT Workforce	33%	42%	***75%***	29%
Computer & Network Systems and Security	17%	25%	***54%***	8%
Software Development/ Engineering	8%	25%	***46%***	8%
Data Systems & Management	8%	17%	***46%***	4%
IT Support	29%	33%	***46%***	13%
Computer & Data Science	8%	17%	***42%***	13%
Business Solutions	8%	13%	***42%***	4%
User Interaction & Experiences	8%	17%	***38%***	4%
Web Design & Development	4%	17%	***33%***	4%
Leadership & Management			***29%***	8%
Digital Media	4%	8%	***25%***	4%
Health IT			***4%***	

Finding 4

The primary challenge for fulfilling diversity and inclusion efforts for IT talent is the limited candidate pool and pipeline in the region.

While there was wide agreement on the importance of increased diversity and inclusion efforts for recruiting and hiring IT workers, there was also acknowledgement that reliance on standard and traditional models of sourcing and recruiting talent was not enough. In this survey, in asking companies to identify challenges they faced when sourcing local IT talent, we also asked companies specifically about hiring challenges they faced when seeking female candidates and/or individuals from underrepresented race and/or ethnic groups.

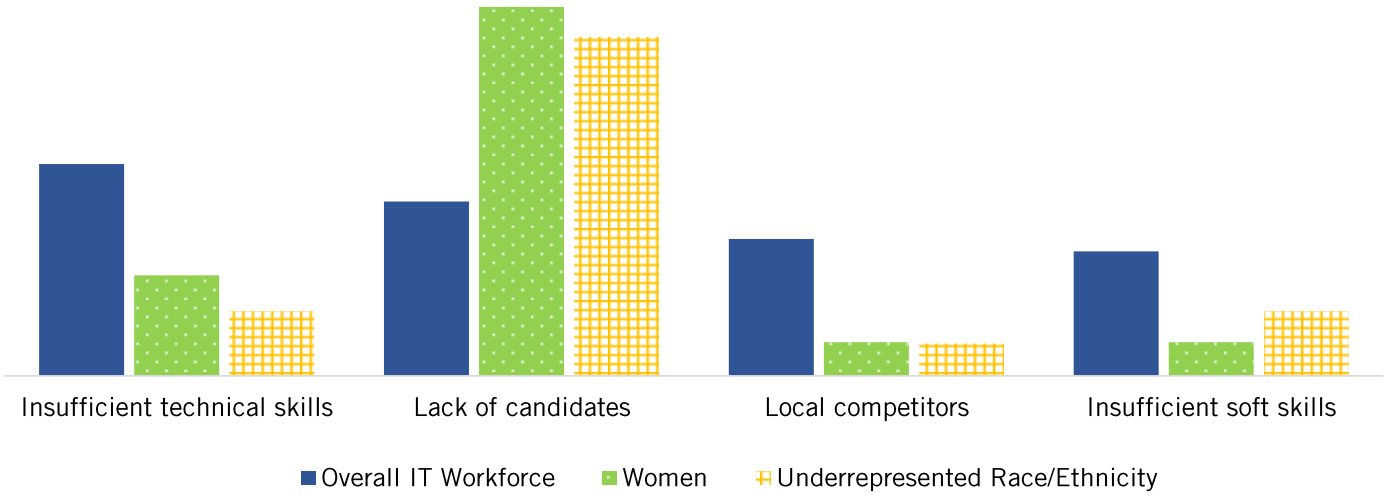
A total of 27 companies (out of 65) responded to this question, of which 80% cited *Lack of candidates* as the primary challenge, nearly four times more than other hiring factors.

Second to this was *Lack of Experience* for female candidates (19% of responses) and *Insufficient Technical Skills* for candidates from underrepresented race and/or ethnic groups (23% of responses). Figure 10 provides a comparison between the top four hiring challenges cited by survey respondents for overall IT workforce (as first shown in Figure 5) and the top challenges when seeking diverse candidates.

Diversity and inclusion strategies

For companies that indicated diversity and inclusion as a priority, we asked for specific strategies and practices they are utilizing to attract and/or source more diverse candidates. A small subset of respondents shared details of different strategies, including focused job and career fairs, specific processes for reviewing job descriptions to avoid bias, dedicated staff to diversity and inclusive recruitment efforts, and/or utilization of employee resource groups (ERGs) to identify opportunities to increase sourcing of diverse talent.

Figure 10: Key hiring challenges for women and candidates from underrepresented race/ethnicity groups compared with overall IT workforce hiring challenges from Finding 1



Appendix A

IT roles and common occupations

Business Solutions

Overview: Focuses on utilizing information technology to identify, trouble, implement systems and solutions to increase efficiency and/or effectiveness for organizations.

Sample of reported job titles: Business Analyst, Business Systems Analyst, Computer Analyst, Computer Systems Analyst, Systems Analyst

Computer and Data Science

Overview: Computer science is the study of computation and information, including the design of computer systems hardware and software, and their applications. Data science is an interdisciplinary field which utilizes scientific methods, algorithms, and systems to collect, organize, and synthesize data from a wide range of sources and communicate them in a way to support the goals of stakeholders.

Sample of reported job titles: Computer Programmer, Computer Scientist, Computer Specialist, Java Developer, Programmer, Research Scientist, Web Applications Programmer

Computer and Network Systems and Security

Overview: Occupations and roles in these areas mainly focus on the designing, building, installation, support, and security of computer networks and network systems, including local area networks (LAN), wide area networks (WAN), network segments, intranets, and other data communication systems.

Sample of reported job titles: Data Security Administrator, Information Analyst, Local Area Network (LAN) Administrator, Network Administrator, Network Analyst, Security Analyst, Solutions Architect, Systems Analyst

Data Systems and Management

Overview: Data systems and management comprises of collecting, keeping, managing, and using data securely, efficiently, and/or in a cost-effective way. The purpose of establishing data systems and data management is to optimize use of data for individuals, organizations, and connected conduits to make sound and informed decisions.

Sample of reported job titles: Data Architect, Database Administrator, Information Systems Manager, System Administrator

Digital Media

Overview: Digital media is focused on the design, development, and delivery of information, data, and/or content utilizing electronic devices, such as computers (desktops/laptops), mobile devices, tablets, and other devices utilizing digital signals. This is an area that blends technology and content, often utilizing a range of creative, artistic, editing, and/or production skills.

Sample of reported job titles: Animator, Artist, Creative Director, Creative Manager, Designer, Digital Artist, Graphic Artist/Designer, Multimedia Producer, Photographer, Web Administrator, Web Content Manager, Web Designer/Developer

Health Information Technology (IT)

Overview: Health IT is comprised of a range of technologies, including use of computer hardware, software, or infrastructure to collect, record, exchange, protect, store, and/or retrieve clinical, medical, and other health related data and information.

Sample of reported job titles: IT Desktop Technician, Project Manager, Provider Analyst, Product Architect, IT Specialist, Medical Records

and Health Information Technician, Software Engineer, Systems Analyst

Information Technology (IT) Support

Overview: IT support, also called technical (tech) support, maintains computer networks, providing support to individuals and/or organizations to help monitor, install/uninstall, configure, troubleshoot, and/or address other actions to ensure smooth flow of operations.

Sample of reported job titles: Computer Specialist, Computer Support Specialist, Computer Technician, Desktop Support Technician, Help Desk Technician, Technical Support Specialist

Software Development/Engineering

Overview: Software development and software engineering roles are involved in the development cycle of programs and operating information and systems used by a computer. Software development focuses mainly on the design, creation, and development of software; software engineering involves engaging with and managing the system to test, evaluate, and maintain software, potentially working across multiple functions.

Sample of reported job titles: Application(s) Developer, Application Integration Engineer, IT Analyst, Network Engineer, Software Architect, Software Developer, Software Engineer, Systems Engineer

User Interface and User Experience Design

Overview: User interaction design (UI) and user experience design (UX) involve the relationship and/or interactions between a product/process/thing and the user(s), whether it be an individual and/or organization. While there are distinctions, UI and UX complement each other. UX design comprises of different aspects of an end-user's interaction with something (e.g., company, product, service), regardless of the medium. UI design considers the look, feel, and interactivity of something, largely in the digital and technology space.

Sample of reported job titles: Experience Designer, Information Architect, Interaction Designers, Product Manager, UI/UX Designer, UI/UX Developer, UI/UX Engineer, UX Researcher, Visual Designer

Web Design and Development

Overview: Web design and development involves the creation, development, launch, and/or maintenance of a web site for the Internet or an intranet. Web design tends to refer to the aesthetics of the web site/platform and its usability and experience. Web development tends to focus on the backend (infra)structure and functionality to deliver the desired user interface and experience.

Sample of reported job titles: Designer, Content Manager, Front End Developer, Full Stack Developer, SEO Specialist, Web Administrator, UI/UX Designer, Web Architect, Web Developer, Web Site Manager, Webmaster

For more information regarding different occupations and roles related to Information Technology, please visit the U.S. Bureau of Labor Statistics, Occupational Outlook Handbook at https://www.bls.gov/ooh/computer-and-information-technology/home.htm.

For questions or more information, contact:

Sue Lacy
President, ConxusNEO
slacy@conxusneo.jobs
330.630.9967
www.conxusneo.jobs

Courtney DeOreo
Executive Director, RITE
Senior Director, Tech Talent
Greater Cleveland Partnership
cdeoreo@gcpartnership.com
216.592.2291
ohiorite.com

James L. Shanahan, Ph.D.
Shanahan Resources, Inc.
shanahan.jim.l@gmail.com
727-631-8262