

IT Skills & Salary Report

17th Edition | 2022



skillssoft 

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Table of Contents

OVERVIEW	3	PROFESSIONAL DEVELOPMENT	48
What did 2022 look like?	5	Training types	50
Primary findings	6	Virtual instructor-led training (VILT)	52
		What's in it for me?	53
		The importance of leadership training	55
SALARY	10	JOB SATISFACTION	56
Base salary	12	Job security	58
Responsibility level	13	Employee turnover	59
Career experience	14	Workplace challenges	61
Job function	15		
U.S. salaries	18	MANAGING DISRUPTION	62
Canadian salaries	20	The perfect storm of 2020-2022	63
European salaries	21	DEI efforts mature	64
Raises and bonuses	22	Post-pandemic changes	65
Received a bonus	24	What is the new normal?	67
CERTIFICATIONS	25	LOOKING FORWARD	68
Individual benefits of certification	27	The power of upskilling	69
Certification categories	28	How do you close skills gaps?	70
Top-paying certifications	30	Resources to help you	71
Most popular certifications held	34	Creating a learning environment	72
Most pursued certifications	34	Decreasing skills gaps by increasing diversity	73
CERTIFICATION RESOURCES	35	CONCLUSION	74
What is the future of certification?	36	Survey methodology	77
		Thanks to our partners	77
		Demographics	78
IT DECISION-MAKER INSIGHTS	37	ABOUT SKILLSOFT	81
Key challenges	38	Media inquiries	81
IT department budgets	39		
Top investment areas	40		
Skills gaps	43		
Skills gaps impact	45		
Skills gap response	46		
The dollar value of certifications	47		



Overview



Overview

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

Thank you for taking the time to read Skillsoft's 2022 IT Skills and Salary Report.

This all-encompassing report is entering its 17th year. In that time, it's become an invaluable resource on the state of the IT industry by providing a global view with input from both IT staff and IT decision-makers throughout North America, Latin America, EMEA, and Asia-Pacific.

This year is no different. We did a deep dive into the state of the industry, how professionals are feeling, what they're experiencing now, and what they're planning for the future. We looked at hot topics, including in-demand skills, growth areas, compensation, training, leadership positioning, and certifications. We also explored diversity, equity, and inclusion, and how the IT industry is managing in a post-pandemic world.

Inside, you'll find answers to big questions we asked IT professionals:

- Who's making what — which industries are paying well on regional and global levels?
- What certifications are the most popular — for employees and employers alike?
- How are certifications affecting salaries? What certifications are IT professionals pursuing?
- What challenges is the IT industry facing? How are recruitment and retention issues impacting the industry?
- Are skilling and upskilling working? What methods are most effective or sought after?
- What are the issues surrounding diversity, equity, and inclusion? Is the IT industry doing enough to make sure everyone is welcome?
- How did the pandemic change the IT industry — and will it ever go back to how it was?

The 2022 IT Skills & Salary Report provides valuable data, worldwide trends, historical analysis, and educated projections to better prepare you and your team for whatever lies ahead.



Overview

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

WHAT DID 2022 LOOK LIKE?

It was a year filled with change and uncertainty as the vast majority of us went into recovery mode in a post-pandemic world. Many were still figuring out the new normal, while others were creating it and forging ahead.

It was a time of growth. Skills gaps were shrinking (slightly), but by no means did this mean an end to issues surrounding recruiting and retaining skilled employees. Quite the opposite. Skilling and upskilling remain a necessary piece of the puzzle. Technology is ever evolving, and training needs to become and remain a priority.

Over the past decades, IT has matured from a supporting role to a strategic one. This has created unique opportunities for advancement. But is the industry prepared? Are IT professionals equipped with the leadership skills to take on new challenges?

It all comes down to learning. Innovation starts with transformation and change happens when diverse minds come together and shake things up.



Overview

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

PRIMARY FINDINGS

DATA REVEALS IN-DEMAND SKILLS

Our research found that there's increasing demand for certain skills, and consequently, IT professionals with those skills are earning higher salaries. Some examples include cloud, data science, and IT infrastructure, which all saw increases this year.

At the same time, IT decision-makers are having a more difficult time hiring for those skills, which relates to another trend. Hiring and retaining highly skilled talent continues to be a challenge.

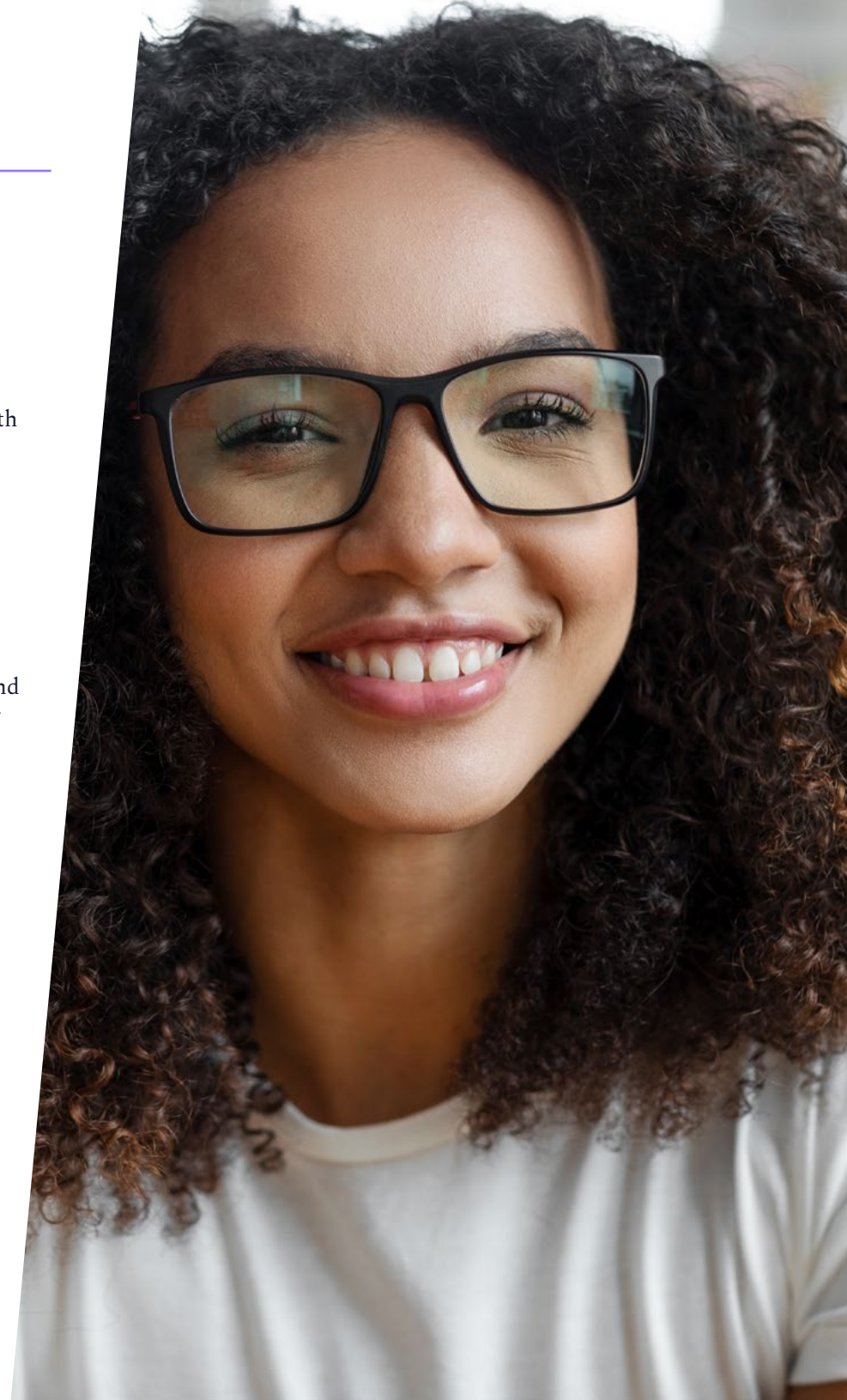
We found fluctuations in salaries reported from last year to this year. Last year, the primary responding audience was from the cybersecurity and auditing fields — fields, which in our research, have typically tracked with higher salaries. This year we had a preponderance of cloud and applications developers respond to our salary question. This had an impact on average salary figures. In addition, some functional areas saw increases and decreases in salary from last year, which was likely due to the current labor market, digital transformation, and other external factors.

EVERYONE CRAVES GROWTH

We're seeing a new social compact emerging between employer and employee. Continual learning and skilling are things employers must be able to provide employees. And, making the most of those opportunities is something employees need to deliver back to employers.

It all revolves around growth.

Employees want growth that leads to more enriching and rewarding careers. And by investing in the growth of their people, employers ensure they have what they need, which is a sustainable workforce, one that performs and adapts as the organization does — resulting in business growth. Both parties have to hold up their end of the bargain. And, when they do, there are positive, measurable outcomes for all involved.



Overview

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

THE EMERGENCE OF A NEW IT AND THE IMPORTANCE OF POWER SKILLS

IT is coming out of the backroom and emerging as a major player within organizations. There is an evolving, holistic role for which IT needs to be prepared — and ready to accept in order to succeed. Hard skills and basic knowledge derived from certifications and work experience have helped IT reach their current level. But, power skills, including leadership, effective and empathetic communication, teamwork, time management, motivation, and adaptability will prepare them for the next big thing. Organizations need to be proactive in creating opportunities for growth through continued learning in these non-traditional but extremely important areas.

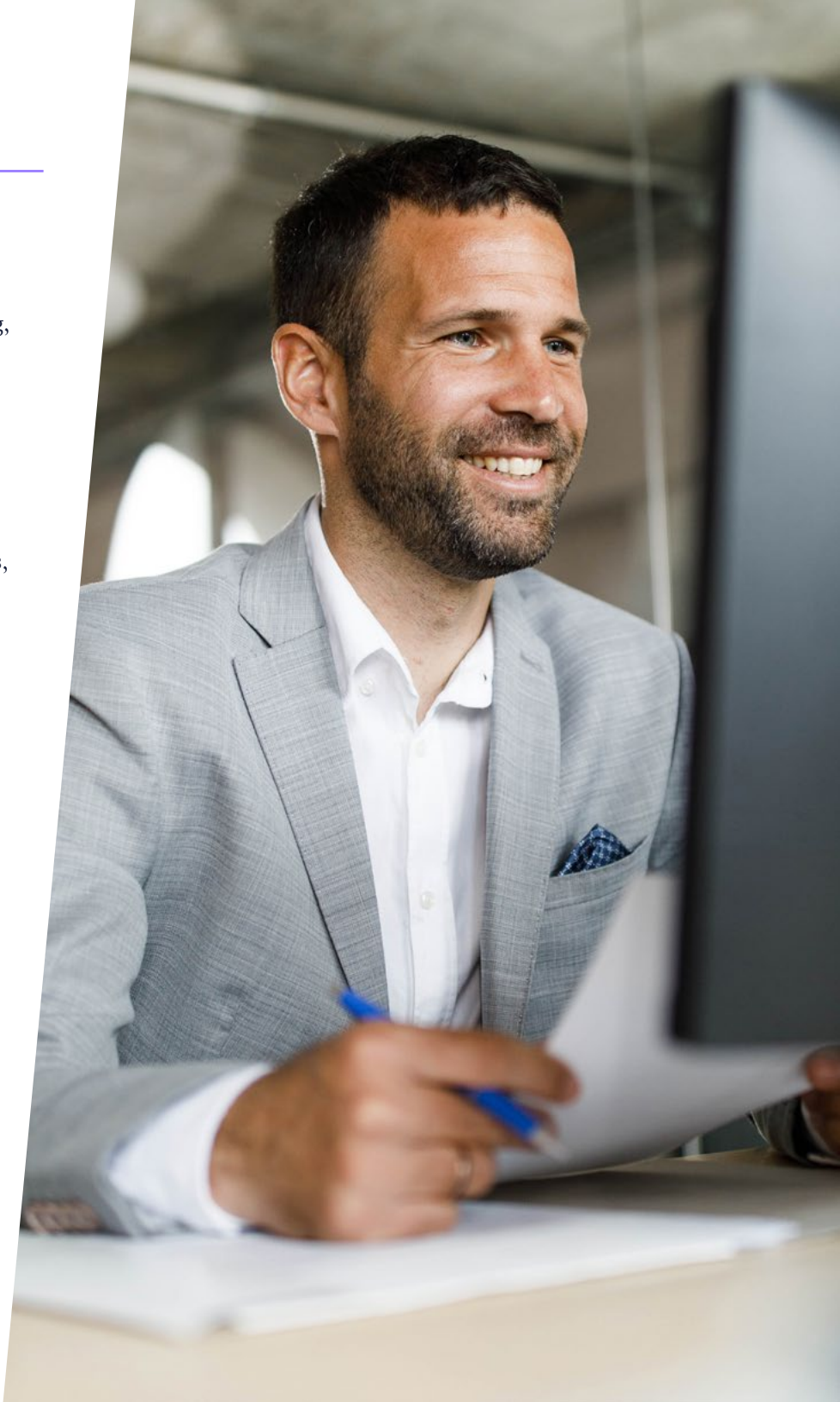
To drive this idea home, when we asked respondents what the single most important skill for IT leaders was, over 60% said team communication. Interpersonal communication was second. In fact, technical skills and critical thinking barely registered with less than 5%.

DIVERISTY, EQUITY, AND INCLUSION AREN'T JUST BUZZWORDS

Innovation is the very lifeblood of technology. Diverse thinking leads to innovation, and innovation leads to growth. But it can't happen in a vacuum. Organizations need to recruit, build, and develop stronger teams through diversity. The best way to do this is to start with opening the door to women, Black, indigenous, and people of color (BIPOC) communities, LGBTQIA+, people of different abilities, and other previously marginalized groups.

Over 50% of organizations report that their biggest DEI challenge is providing mentorship, coaching, or executive sponsorships. But that's exactly what is needed.

Ask yourself: How valuable does an employee feel when an executive-level mentor takes time to help them progress in their career? How valuable would that employee become to that organization?



Overview

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

SKILLS GAPS ARE SHRINKING, BUT...

It's true. The skills gap is narrowing.

That's good news. For some. But there's more to the story.

The fact is that employers aren't always aware of a skills gap until it's too late. Almost 10% of our IT decision-makers were unsure as to whether a skills gap existed in their organization, yet they listed talent retention and recruitment as their biggest challenges. However, many of these same decision-makers (63%) see skills gaps as only a medium-level risk within their organization. There's a disconnect somewhere in those responses.

To address skills gaps and today's recruitment and retention challenges, IT leaders must do three things:

- First: assess what they have. That presents a challenge because, for all the importance of putting skills at the heart of recruitment and reskilling, skills themselves have yet to be standardized.

Which is why we believe — as do many organizations, including the World Economic Forum — that there needs to be a universally understood skills taxonomy, a common language that can be used across industries and around the world. When we have a consistent vocabulary of common skills that is used by workers, employers, and learning providers, we all benefit. We all need to speak the same language.

- Second, once existing skills are defined and inventoried, leaders must determine how those skills match up to what they need. They can hire for it, although that approach is challenging and costly. Or they can solve for it sustainably through a build-or-bridge strategy, by creating learning paths that align with the skills you have today and the skills you need tomorrow.
- Third and finally, you want to find a way to measure success with credentials that are universally recognized and portable, like third-party or vendor-authorized certifications or digital badges.

In this way, leaders can build what they need and bridge skills gaps while minimizing the time, energy, cost, and uncertainty that come with skills-based hiring.



Overview

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

HYBRID IS THE OFFICE OF THE FUTURE

IT, like other departments and functions, is still in a state of flux in a post-pandemic world. Almost half of IT workers want to continue to work remotely, while a slight majority prefer a hybrid model. (Virtually no one stated they preferred to return to an office environment full-time.) Although a large percentage of respondents said they experienced no issues with remote or hybrid work, those that did have concerns mentioned three issues most often: team communication, interpersonal communication, and communication with leadership.

We've heard a lot about challenges around communication in this year's survey. And they need to be addressed. Now. Effective and empathetic communication, like any other skill, can be learned. And, once mastered, it can be the conduit for positive changes in productivity and output.

When employees are heard, they feel valued. When concerns are addressed by employers, you build loyalty. When ideas, thoughts, and actions are regularly shared, you create an organization that people seek out.

NOT ALL TRAINING IS CREATED EQUAL

Finally, employees don't always know there are opportunities for growth within their own organizations — even though 85% of decision-makers say they are actively training existing employees. Some IT staff are even leaving their current situation for better opportunities when what they want is right where they are — it just hasn't been communicated.

There's also the question of whether the right kind of training is being offered in the right way. Staff members must have access to learning experiences delivered on a flexible platform so they can learn when, where, and how it makes sense for them. Training must be customized, reaching them where they are today and directing them to where they want to be tomorrow.

The most effective learning experiences are absorbing, trusted, connected, and exponential. Otherwise, you're just wasting money.





Salary

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Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

In the fast-paced and highly competitive world of IT professionals, current and comprehensive salary information is of value to employers and employees alike. The Skillsoft 2022 IT Skills and Salary Report provides you with a snapshot of today's salary ranges across regions, skill sets, and experience levels.*

As in previous years, the data is informed by key factors that affect salaries, raises, and bonuses, including:

- Education
- Responsibility level
- Career experience
- Specific functional job role

You'll find information and insights into a number of selections addressing:

- Salary and overall compensation
- Certifications
- IT decision-maker perspectives
- Professional development
- Job satisfaction
- And what IT professionals can expect in the months ahead

* All salaries were converted into U.S. dollars during the survey to enable relevant comparisons.



Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

BASE SALARY

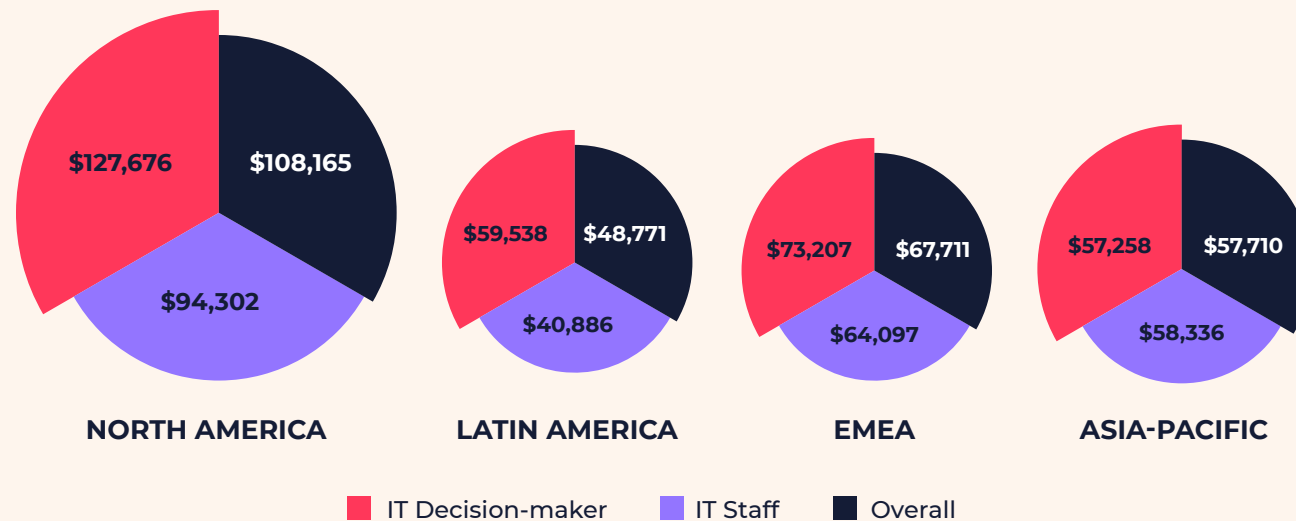
Once again, across all our respondents, North America led in overall base salaries with an average of \$108,165 annually.

The second highest average salary level was reported in EMEA at \$67,711. Asia-Pacific follows at \$57,710, and then Latin America with an average salary of \$48,771.

In 2021, most survey respondents worked in IT auditing or cybersecurity roles, which tend to command higher salaries. However this year, we saw higher numbers of respondents in other areas, which may have an impact on regional and global averages.

Globally, most IT decision-makers earn more than IT staff. However, once again, IT staff in Asia-Pacific make more (approximately \$1,100) than IT decision-makers.

REGIONAL SALARY BY LEVEL



Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

RESPONSIBILITY LEVEL

As in previous years, we sought to include salary data from a range of IT professionals, from non-management staff positions to decision-makers, directors, and executive-level.

Non-management IT staff (those who do not manage a team) represent 55% of the respondents for this report.

Common job roles:

- Cloud architect
- IT auditor
- Network engineer/technician
- Software engineer
- Technical support

Mid-level professionals (managers and team leads) represent 35% of our respondents.

Common job roles:

- Information security
- Infrastructure manager
- Solutions architect
- IT audit manager

Senior-level professionals (vice presidents, directors) account for 8% of our respondents.

Common job roles:

- Director, vice president
- Enterprise architect
- Security manager
- IT compliance manager

Executives (C-suite) account for 2% of our report.

Common job roles:

- Chief Executive Officer (CEO)
- Chief Information Officer (CIO)
- Chief Security Officer (CSO)/
Chief Information Security Officer (CISO)
- Chief Technology Officer (CTO)

To review number of responses by role and by region in more detail, please see the Methodology section at the end of this report.

SALARY BY RESPONSIBILITY LEVEL

	EXECUTIVE	COUNT	%	SENIOR	COUNT	%	MID	COUNT	%	NON-MANAGER	COUNT	%
NORTH AMERICA	\$163,239	46	2%	\$154,083	265	9%	\$117,694	865	31%	\$94,302	1,655	58%
LATIN AMERICA	\$83,374	30	5%	\$79,272	55	9%	\$49,700	183	29%	\$40,886	366	58%
EMEA	\$118,366	64	3%	\$89,737	142	6%	\$66,458	776	31%	\$64,097	1,493	60%
ASIA-PACIFIC	\$83,981	20	1%	\$87,280	134	8%	\$51,826	839	49%	\$58,336	716	42%

Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

CAREER EXPERIENCE

The bulk of survey participants for this year's report had one to five, or six to 10 years experience, followed closely by 11 to 15 years experience. Nearly three quarters of respondents had six or more years experience. Only 8% of respondents were in their first year.

As expected, and similar to other highly skilled and specialized professionals, IT staff and decision-makers earn more money as they accumulate more experience.

For example, IT professionals in North America can expect to surpass the \$100,000 mark with six to 10 years of experience. Once they have 16 to 20 years experience, the average salary increases to \$130,000 and beyond.

CAREER EXPERIENCE

YEARS	NORTH AMERICA		LATIN AMERICA		EMEA		ASIA-PACIFIC	
	Average	Percentage	Average	Percentage	Average	Percentage	Average	Percentage
< 1	\$46,113	14%	\$48,791	6%	\$40,318	5%	\$78,354*	4%
1-5	\$93,964	20%	\$31,073	18%	\$48,847	18%	\$41,973	20%
6-10	\$111,099	15%	\$46,237	17%	\$57,055	19%	\$39,705	24%
11-15	\$114,853	12%	\$55,463	20%	\$67,179	17%	\$51,273	24%
16-20	\$130,291	11%	\$46,611	17%	\$77,916	15%	\$71,138	15%
21-25	\$133,196	13%	\$57,135	13%	\$82,829	15%	\$82,915	9%
26+	\$137,875	16%	\$58,415	9%	\$91,645	11%	\$93,217	5%
Total	2,863		678		2,552		1,857	

Percentages are rounded to nearest whole number and serve as close approximations.

* In this table and throughout the report, whenever the number of survey responses didn't reach statistical minimum thresholds, we've indicated the data with an asterisk. Instances are presented here as anecdotal results and might be subject to fluctuation with more responses.

Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

JOB FUNCTION

Overall and as expected, the highest salaries reported were for IT executives. Other than these and other administrative functions (such as human resources, finance, and project management), the top three highest paid functions in 2022 by region are as follows:

- **North America**
 - Cloud (\$147,299)
 - IT architecture and design (\$138,310)
 - DevOps (\$134,215)
- **Latin America**
 - Business operations (\$60,327)
 - DevOps (\$57,337)
 - IT architecture and design (\$50,165)
- **EMEA**
 - IT architecture and design (\$83,191)
 - Cybersecurity/Information security (\$78,735)
 - Cloud (\$66,419)
- **Asia-Pacific**
 - Cybersecurity/IT security (\$65,524)
 - IT architecture and design (\$61,501)
 - Cloud (\$56,096)

As we reported last year, the service desk/IT support function remains the lowest paying job function across the regions. These roles often represent an entry point for IT professionals as they begin their careers.



Salary

The table below provides salary data for each region based on IT job function.

SALARY BY JOB ROLE

JOB FUNCTION	NORTH AMERICA		LATIN AMERICA		EMEA		ASIA-PACIFIC	
	Salary	Record Count	Salary	Record Count	Salary	Record Count	Salary	Record Count
Application Development, Programming	\$77,698	614	\$40,326	77	\$56,992	298	\$50,312	246
Business Analysis	\$104,871	88	\$16,106*	14	\$48,912	60	\$48,690	36
Business Operations	\$105,146	69	\$60,327*	9	\$57,756	38	\$68,426	11
Cloud	\$147,299	120	\$44,982	98	\$66,419	279	\$56,096	325
Cybersecurity, Information Security	\$129,031	291	\$49,600	46	\$78,735	206	\$65,524	109
Data Science, Analytics and Business Intelligence	\$124,773	124	\$49,268	44	\$64,305	117	\$50,968	146
DevOps	\$134,215	67	\$57,337	29	\$63,324	129	\$43,760	136
Executive	\$172,028	77	\$104,123	34	\$111,219	73	\$83,500	29
Human Resources, Learning and Development	\$102,679	33	\$35,000*	2	\$78,815*	18	\$63,785*	18
IT Architecture and Design	\$138,310	256	\$50,165	99	\$83,191	370	\$61,501	260
IT Auditing or Governance, Risk and Compliance	\$119,037	154	\$39,887	23	\$69,159	389	\$60,835	55
Infrastructure, Networking and Telecomms	\$105,096	372	\$42,290	121	\$57,172	426	\$48,820	236
Product, Project Management	\$130,161	130	\$37,385*	16	\$70,822	86	\$56,062	84
Sales and Marketing	\$126,197	33	\$69,187*	11	\$104,767	43	\$82,130	36
Service Desk and IT Support	\$71,365	278	\$26,776	27	\$44,531	178	\$43,424	74

* In this table and throughout the report, whenever the number of survey responses didn't reach statistical minimum thresholds, we've indicated the data with an asterisk. Instances are presented here as anecdotal results and might be subject to fluctuation with more responses.

On the following page, we've listed salary data for each region organized by industry.

Salary

SALARY BY INDUSTRY

FUNCTIONAL AREA	NORTH AMERICA		LATIN AMERICA		EMEA		ASIA-PACIFIC	
	Average	Record Count	Average	Record Count	Average	Record Count	Average	Record Count
Accounting, auditing, banking and finance	\$114,672	315	\$61,479	54	\$72,058	223	\$54,222	158
Aerospace or defense	\$142,067	63	\$57,649*	8	\$79,212	37	\$18,784	15
Automotive	\$49,409	342	\$40,454	38	\$44,655	97	\$65,810	21
Communications, public relations, advertising	\$92,244	43	\$41,555*	9	\$49,628	25	\$83,930*	14
Construction, architecture, and engineering	\$127,499	45	\$15,813*	4	\$53,077	27	\$78,697	15
Education services	\$90,207	196	\$64,772	26	\$55,656	117	\$64,232	69
Gov: Military and homeland security	\$107,701	103	—	—	\$68,364	24	\$83,356*	12
Gov: Non-defense, state, local	\$99,551	144	\$37,425*	10	\$62,694	86	\$77,829	25
Healthcare	\$113,758	156	\$48,508*	8	\$57,028	91	\$44,292	29
Hospitality, travel, and recreation	\$94,928	31	—	—	\$70,271*	14	\$52,961*	8
IT consulting	\$126,614	338	\$45,787	265	\$68,661	775	\$47,959	579
IT hardware	\$120,578	114	\$44,779	17	\$83,330	40	\$55,488	42
IT software	\$135,680	299	\$54,949	80	\$72,930	299	\$60,719	486
Insurance, real estate, and legal	\$126,063	105	\$44,910	8	\$65,977	48	\$72,260	21
Manufacturing: Consumer and industrial	\$111,453	87	\$37,726*	12	\$70,454	75	\$58,198	48
Media, film, music	\$122,173	26	\$41,631*	4	\$77,592	21	\$54,807	15
Natural resources: Agriculture, forestry, fishing	\$95,699*	8	\$40,610*	4	\$57,180*	10	\$80,417*	6
Natural resources: Mining, oil and gas	\$118,515	21	\$72,000*	6	\$65,536	26	\$45,372	13
Pharmaceutical, medical, biotech	\$96,075	28	—	—	\$86,031	21	\$40,508*	7
Professional business services	\$121,220	74	\$39,029	19	\$77,071	55	\$66,966	36
Retail	\$115,383	52	\$42,948*	10	\$69,676	47	\$65,197	34
System integrator and VAR integrator	\$140,575	40	\$44,530*	7	\$64,544	65	\$51,788	63
Telecommunications	\$115,879	66	\$46,465	64	\$59,667	178	\$50,302	75
Transportation or public utilities	\$111,676	72	\$34,511*	4	\$70,513	44	\$59,931*	14

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Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

U.S. SALARIES

IT professionals in the U.S. (including the 50 states, District of Columbia, Puerto Rico, and other U.S. territories) earn an average annual salary of \$110,765.33. Looking at the data state-by-state demonstrates that salaries vary by location, with cost of living and competition no doubt significant contributing factors. Although we've historically seen higher average salaries on the east and west coasts, in 2022, we saw increases in several inland states.

The list of states with the highest paying salaries saw some fluctuation since our last report. For example, New Hampshire was not in the top five in 2021, but leads the list this year with an average salary of \$164,853. And, three other states (Indiana, Minnesota, and Illinois) that did not appear in the top five have moved up the list as well.

States reporting the highest paying salaries:

- New Hampshire: \$164,853 with 16 respondents
- New Jersey: \$147,476 with 43 respondents
- Indiana: \$143,000 with 27 respondents
- Minnesota: \$140,523 with 35 respondents
- Illinois: \$135,448 with 106 respondents



Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

SALARY BY STATE

STATE	AVERAGE
Alabama	\$57,368
Alaska	\$96,967
Arizona	\$116,928
Arkansas	\$94,661
California	\$120,296
Colorado	\$135,072
Connecticut	\$96,712
Delaware	\$107,053
District of Columbia	\$94,434
Florida	\$104,729
Georgia	\$115,879
Hawaii	\$85,831
Idaho	\$105,095
Illinois	\$135,448
Indiana	\$143,000
Iowa	\$109,031
Kansas	\$84,077
Kentucky	\$99,792

STATE	AVERAGE
Louisiana	\$94,750
Maine	\$94,843*
Maryland	\$134,393
Massachusetts	\$130,978
Michigan	\$110,205
Minnesota	\$140,523
Mississippi	\$126,339
Missouri	\$106,121
Montana	\$93,250
Nebraska	\$102,970
Nevada	\$100,186
New Hampshire	\$164,853
New Jersey	\$147,476
New Mexico	\$89,250*
New York	\$130,561
North Carolina	\$114,447*
North Dakota	\$111,000
Ohio	\$115,041

STATE	AVERAGE
Oklahoma	\$102,313
Oregon	\$130,551
Pennsylvania	\$119,221
Puerto Rico (U.S. territory)	\$89,780*
Rhode Island	\$88,785
South Carolina	\$113,865
South Dakota	\$94,000*
Tennessee	\$120,086
Texas	\$116,772
Utah	\$116,835
Vermont	\$102,000*
Virginia	\$126,060
Washington	\$130,169
West Virginia	\$65,938*
Wisconsin	\$119,101
Wyoming	\$106,740*

* In this table and throughout the report, whenever the number of survey responses didn't reach statistical minimum thresholds, we've indicated the data with an asterisk. Instances are presented here as anecdotal results and might be subject to fluctuation with more responses.

Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

CANADIAN SALARIES

Across 13 provinces surveyed, the average annual salary of an IT professional in Canada is \$78,224.

Although Ontario had the highest average salary in 2021, this year Alberta and British Columbia surpassed it by 8% and 4% respectively. The top five average salaries in Canada were found in Alberta (\$99,876); British Columbia (\$96,759); Ontario (\$92,827); Nunavut (\$91,300); and Nova Scotia (\$91,014).

SALARY BY PROVINCE

PROVINCE	AVERAGE
Alberta	\$99,876
British Columbia	\$96,759
Manitoba	\$57,598
New Brunswick	\$69,840
Newfoundland	\$90,362*
Northwest Territories	\$37,500*
Nova Scotia	\$91,014*
Nunavut	\$91,300*
Ontario	\$92,827
Prince Edward Island	\$77,000*
Quebec	\$87,332
Saskatchewan	\$75,506*
Yukon	\$50,000*

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Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

EUROPEAN SALARIES

Switzerland leads European salaries for the fourth consecutive year. The average annual salary reported was \$142,429, up from last year by \$1,000.

At \$106,156, Norway was the only other country with a salary above \$100,000. Finland ranked third with \$94,444; Germany was fourth with \$90,653; and Ireland was fifth with \$88,341.

SALARY BY EUROPEAN COUNTRY

COUNTRY	AVERAGE
Belgium	\$72,509
Czech Republic	\$54,755
Finland	\$94,444
France	\$67,237
Germany	\$90,653
Greece	\$39,227
Hungary	\$42,311
Ireland	\$88,341
Italy	\$56,528
Netherlands	\$70,033
Norway	\$106,156
Poland	\$64,868
Portugal	\$48,671
Romania	\$49,920
Spain	\$53,422
Sweden	\$74,243
Switzerland	\$142,429
United Kingdom	\$84,012



Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

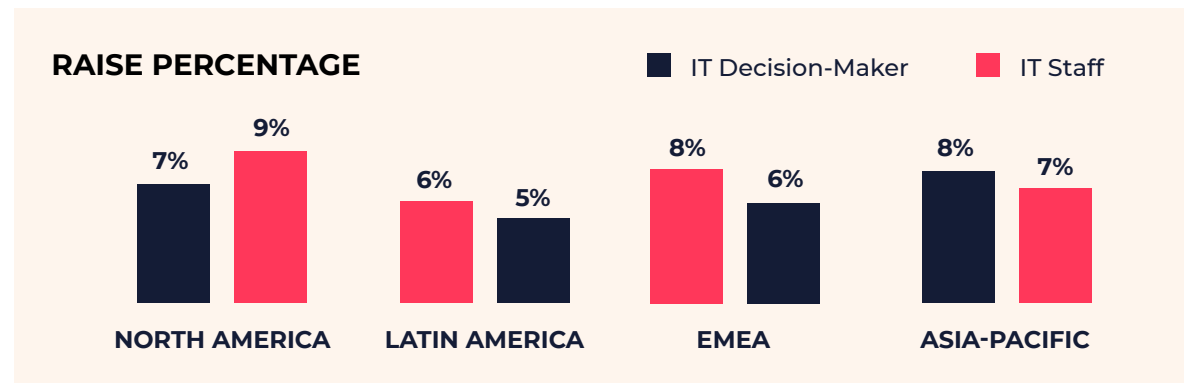
RAISES AND BONUSES

Once again, data suggests that through job performance and/or by learning new skills, employees can have a direct impact on salary increases. We also saw an uptick in raises attributed to added responsibilities and promotions.

In most regions, raise percentages increased year-over-year. For example, in 2021, we reported that raises in EMEA were just 2% for IT decision-makers and 3% for IT staff. This year, those percentages increased to 8% and 6% respectively. The lowest average raise cited was for IT staff in Latin America at 5%.

Overall increase percentages by region were as follows:

- North America: 8%
- Latin America: 6%
- EMEA: 7%
- Asia-Pacific: 7%



Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

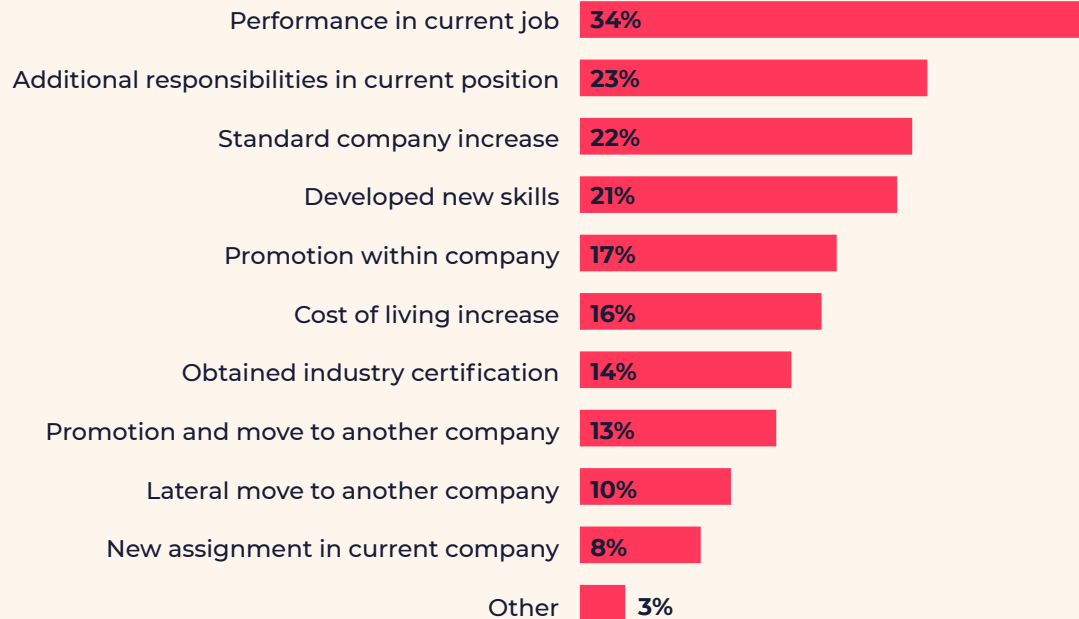
LOOKING FORWARD

CONCLUSION

REASONS FOR A RAISE

Once again, performance in their current job topped the list of factors that IT professionals attributed to increased salaries. However, additional responsibilities in their current position saw a significant increase; it tied for fourth place in 2021 but was in second place this year. This may be due to the tight labor market so many employers are experiencing. In addition, raises attributed to developing new skills also increased, demonstrating personal monetary advantage associated with training.

FACTORS FOR INCREASED SALARY



Salary

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

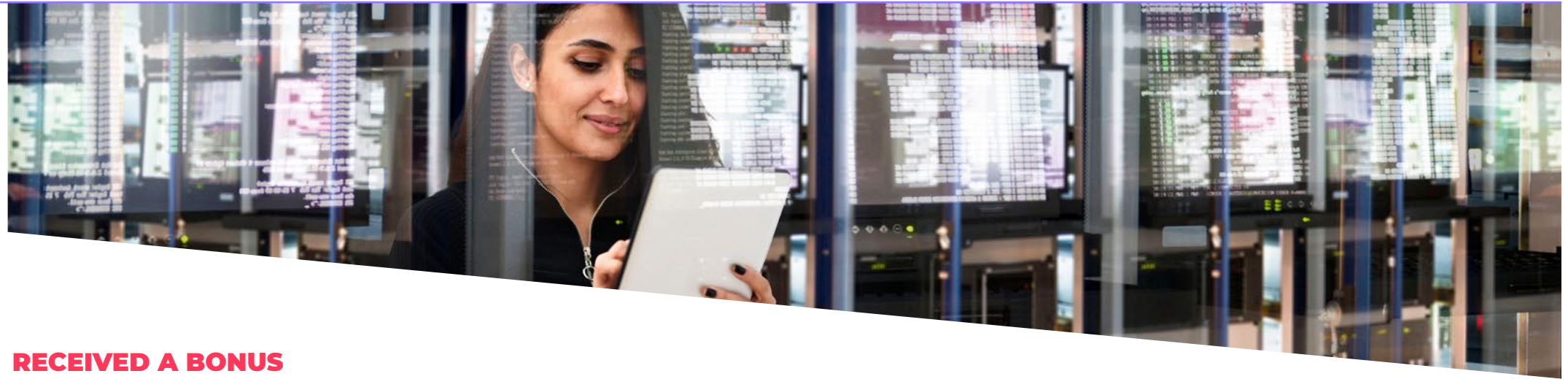
PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION



RECEIVED A BONUS

This year, we saw a decrease in bonuses earned overall. Worldwide, depending on region, in 2021, 57-69% of eligible decision-makers and 43-55% of eligible staff earned a bonus. In 2022, the numbers dropped slightly to 53-62% for decision-makers, but remained the same for staff.

STATUS OF BONUS	NORTH AMERICA	LATIN AMERICA	EMEA	ASIA-PACIFIC
Overall — Received Bonus	51%	53%	49%	59%
Overall — Did Not Receive Bonus	49%	57%	51%	41%
IT Decision-Maker — Received Bonus	62%	53%	57%	62%
IT Decision-Maker — Did Not Receive Bonus	38%	47%	43%	38%
IT Staff — Received Bonus	43%	53%	43%	55%
IT Staff — Did Not Receive Bonus	57%	47%	57%	45%



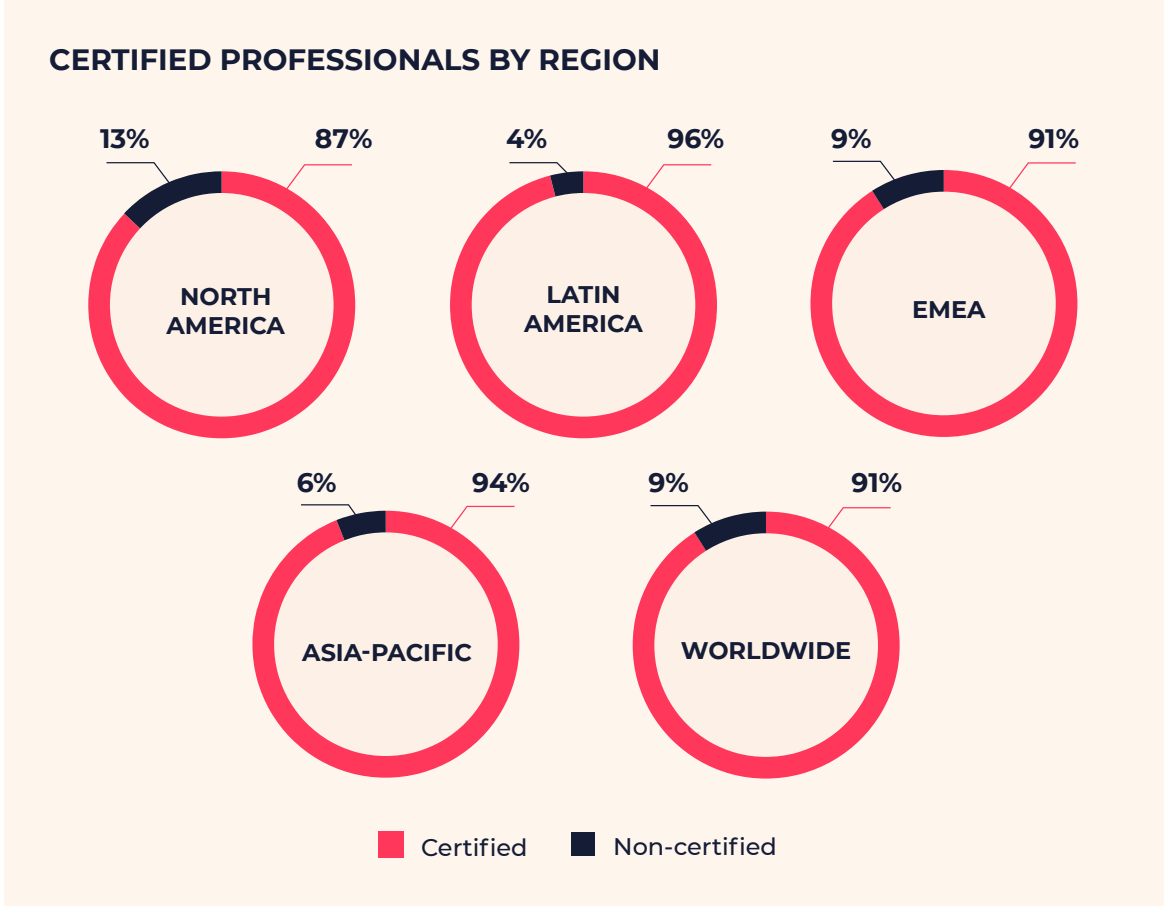
Certifications

Certifications

- OVERVIEW
- SALARY
- CERTIFICATIONS**
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION

IT professionals continue to see the importance of certifications. Matching results from last year, 91% hold at least one certification. In fact, respondents hold an average of four certifications in their field, with 41% of these earned in the last six months.

Latin America leads with the highest number of certified IT professionals for the fourth year in a row, followed by Asia-Pacific. North America is the only region to dip below the worldwide average.



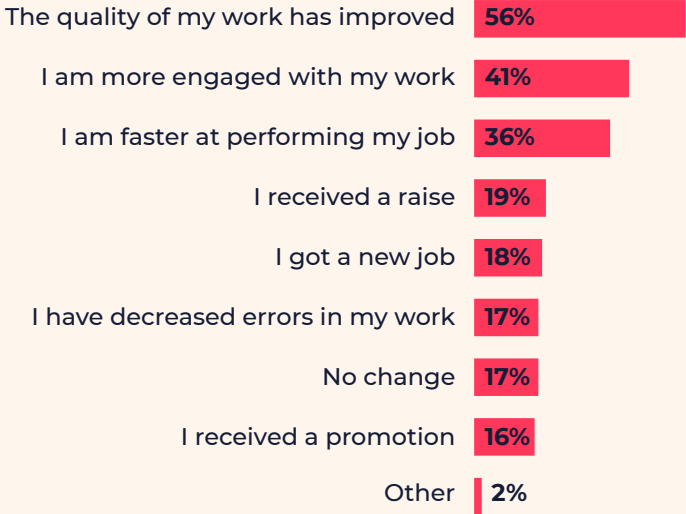
Certifications

- OVERVIEW
- SALARY
- CERTIFICATIONS**
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION

INDIVIDUAL BENEFITS OF CERTIFICATION

There's no denying that certifications pay off for employees and employers alike. Most respondents report that the quality of their work has improved. They also are more engaged at work (41%) and perform their job duties faster (36%). Other key benefits include: receiving a raise or promotion, getting a new job, and a decrease in errors on the job.

JOB EFFECTIVENESS AFTER TRAINING



Certifications

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

CERTIFICATION CATEGORIES

Let's dive deeper into how salaries are affected by certifications. The chart on the next page comprises participants who hold at least one certification in each category. The data gives the average salary for each category across the regions.

When looking at the data, consider that IT professionals typically receive certifications from various organizations. This practice of cross-certification results in a more knowledgeable, skilled, and able IT professional — and that increases their value. When an individual has experience within multi-vendor environments, develops domain expertise, and understands vendor-neutral or vendor-agnostic best practices, they possess what employers today are seeking and increase their demand in the job market.

When it comes to salaries on a worldwide average by certifications, professionals with cybersecurity certifications earn \$72,444, while non-cybersecurity certifications earn \$64,311.

Regionally, cybersecurity-certified professionals in North America are paid highest, with an average salary of \$123,370. Latin American professionals make less than half of that. And, non-cybersecurity-certified IT professionals in North America are also the highest paid in their category at \$108,488.



Certifications

- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION

SALARY BY CERTIFICATION CATEGORY

CERTIFICATION CATEGORY	NORTH AMERICA		LATIN AMERICA		EMEA		ASIA-PACIFIC	
	Average	Count	Average	Count	Average	Count	Average	Count
Amazon Web Services	\$128,467	455	\$55,042	166	\$77,895	393	\$57,447	475
App Development and Programming	\$111,819	161	\$79,437	30	\$71,147	110	\$49,027	72
Avaya	\$111,370	55	—	—	\$62,253	15	—	—
Blockchain	\$132,717	53	\$75,540*	7	\$92,701	19	\$72,559	21
Business Analysis	\$129,017	75	\$78,288*	8	\$87,691	54	\$67,725	28
Business Process	\$130,199	93	\$73,603*	8	\$86,557	58	\$67,403	29
Cisco	\$113,771	379	\$42,476	133	\$62,620	517	\$56,024	211
Citrix	\$117,836	46	\$41,277	12	\$73,220	75	\$58,713	14
Cloud Credential Council	\$113,471	17	—	—	\$86,900*	6	—	—
CompTIA	\$99,330	442	\$41,059	31	\$67,718	154	\$58,048	56
CWNP	\$111,647	17	—	—	\$92,232*	7	—	—
Data Center	\$117,659	32	\$44,469	15	\$83,379	41	\$83,357	26
Database	\$130,961	62	\$67,078	35	\$80,779	121	\$62,274	67
Dell	\$118,367	45	\$42,506	18	\$89,794	44	\$47,718	26
DevOps	\$130,776	26	\$90,053	17	\$65,942	66	\$55,969	49
Enterprise Architecture	\$163,205	45	\$56,525*	8	\$94,586	77	\$92,016	49
Google Cloud	\$84,973	590	\$50,777	232	\$64,942	501	\$55,213	823
Help Desk	\$94,266	93	\$43,649*	12	\$64,240	49	\$26,654	12
HP	\$115,011	70	\$68,300*	13	\$77,916	51	\$67,880	23
IBM	\$124,489	72	\$48,472	21	\$64,794	49	\$57,992	70
ITIL and ITSM	\$124,359	364	\$51,923	86	\$74,328	455	\$63,327	249
Juniper Networks	\$120,037	41	\$34,956*	9	\$66,044	44	\$47,971	31
Microsoft	\$119,672	602	\$46,147	277	\$68,650	1092	\$55,859	684
Nutanix	\$148,828	83	\$62,789	42	\$73,871	120	\$56,598	108
Project Management, Agile, Scrum	\$137,133	188	\$54,548	55	\$79,873	243	\$70,042	125
Red Hat / Linux	\$117,271	60	\$55,924	22	\$70,214	95	\$60,722	91
Veeam	\$125,244	29	\$40,404	20	\$67,748	51	\$81,093	17
VMware	\$133,481	143	\$54,612	52	\$74,755	235	\$57,226	139
Web Development	\$104,547	49	\$40,324*	10	\$73,762	27	—	—
Wireless	\$111,493	29	—	—	\$75,054	25	—	—
Wireshark	\$125,378	23	—	—	\$76,217	21	—	—

* In this table and throughout the report, whenever the number of survey responses didn't reach statistical minimum thresholds, we've indicated the data with an asterisk. Instances are presented here as anecdotal results and might be subject to fluctuation with more responses.

Certifications

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

TOP-PAYING CERTIFICATIONS

It's no surprise that there is great disparity in salaries across the regions we surveyed. And, as noted earlier, the majority of IT professionals hold more than one certification.

Our salary data takes into account a variety of factors, including relevant skills, job role, tenure, and geography.

NORTH AMERICA

In the United States and Canada, the certification associated with the highest salary in 2022 is CRISC — Certified in Risk and Information Systems Control. This certification garners an average salary of \$167,145, increasing from the fourth position last year. Following closely is AWS Certified Developer, which averages an annual salary of \$165,332. Both of these salaries are higher than the top certification last year, when Google's Certified Professional Cloud Architect earned \$160,961.

The top five highest salaries by certification are:

1. **CRISC — Certified in Risk and Information Systems Control**
2. **AWS Certified Developer**
3. **CISM — Certified Information Security Manager**
4. **AWS Certified Solutions Architect — Professional**
5. **Google Cloud — Professional Cloud Architect**



Certifications

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

TOP PAYING CERTIFICATIONS NORTH AMERICA

CERTIFICATION	NUMBER OF RESPONSES	SALARY
CRISC — Certified in Risk and Information Systems Control	52	\$167,145
AWS Certified Developer	54	\$165,333
CISM — Certified Information Security Manager	82	\$158,590
AWS Certified Solutions Architect - Professional	65	\$158,485
Google Cloud — Professional Cloud Architect	112	\$154,234
CISSP — Certified Information Systems Security Professional	137	\$154,186
Google Cloud — Professional Data Engineer	57	\$148,682
AWS Certified Solutions Architect - Associate	189	\$148,348
NCP-MCI — Nutanix Certified Professional - Multicloud Infrastructure (formerly NCP)	68	\$148,188
AWS Certified Security - Specialty	60	\$146,300
PMP®: Project Management Professional	97	\$145,290
CISA — Certified Information Systems Auditor	98	\$140,654
Google Cloud — Cloud Digital Leader	66	\$138,960
VCP-DCV — VMware Certified Professional — Data Center Virtualization	68	\$135,086
AWS Certified Big Data — Specialty	60	\$134,793

Certifications

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

LATIN AMERICA

The top earning certification in Latin America is AWS Certified SysOps Administrator — Associate at \$93,213.

TOP PAYING CERTIFICATIONS LATIN AMERICA

CERTIFICATION	NUMBER OF RESPONSES	SALARY
AWS Certified SysOps Administrator — Associate	15	\$93,213
AWS Certified Solutions Architect — Professional	17	\$77,514
AWS Certified DevOps Engineer — Professional	17	\$72,106
Microsoft Certified: Azure Database Administrator Associate	22	\$70,038
NCP-MCI — Nutanix Certified Professional - Multicloud Infrastructure (formerly NCP)	39	\$66,479
Google Cloud — Professional Cloud Architect	58	\$64,303
Microsoft Certified: Azure Data Engineer Associate	20	\$62,408
VCP-DCV 2020 — VMware Certified Professional — Data Center Virtualization 2020	29	\$59,664
CISA — Certified Information Systems Auditor	22	\$58,279
Microsoft Certified: Azure DevOps Engineer Expert	23	\$56,962



Certifications

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

EMEA AND ASIA-PACIFIC

CISSP – Certified Information Systems Security Professional holds the top spot in both the EMEA and Asia-Pacific, though the average annual salary varied between regions. IT professionals in EMEA earn \$104,863 with the CISSP certification, while those in Asia-Pacific are paid \$91,227 annually.

TOP PAYING CERTIFICATIONS EMEA

CERTIFICATION	NUMBER OF RESPONSES	SALARY
CISSP — Certified Information Systems Security Professional	80	\$104,863
AWS Certified Solutions Architect — Professional	58	\$100,719
CISM — Certified Information Security Manager	70	\$97,304
ITIL® Practitioner	56	\$94,428
CCDA Design	48	\$91,429
AWS Certified SysOps Administrator — Associate	51	\$87,541
Google Cloud — Professional Cloud Security Engineer	47	\$87,351
Microsoft Certified: Azure Data Scientist Associate	44	\$84,040
PRINCE2 Foundation	85	\$83,279
Google Cloud — Cloud Digital Leader	69	\$83,116

TOP PAYING CERTIFICATIONS ASIA-PACIFIC

CERTIFICATION	NUMBER OF RESPONSES	SALARY
CISSP — Certified Information Systems Security Professional	40	\$91,227
PMP®: Project Management Professional	49	\$84,700
CISA — Certified Information Systems Auditor	47	\$76,048
AWS Certified Solutions Architect — Professional	104	\$73,747
AWS Certified Security — Specialty	51	\$66,618
CCNP Routing and Switching	55	\$66,616
AWS Certified SysOps Administrator — Associate	65	\$65,310
Google Cloud — Professional Cloud Network Engineer	54	\$65,188
AWS Certified Developer — Associate	81	\$64,426
RHCE — Red Hat Certified Engineer	53	\$64,271

Certifications

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

MOST POPULAR CERTIFICATIONS HELD IN 2022

MOST WIDELY HELD NON-CYBERSECURITY CERTIFICATIONS WORLDWIDE FOR 2022:

1. Microsoft
2. Google Cloud
3. Amazon Web Services (AWS)
4. Cisco
5. ITIL and IT Service Management
6. CompTIA
7. Product Management, Agile and Scrum (PMP®, Scrum Master, Prince2)
8. VMware
9. Application Development and Programming
10. Nutanix

MOST WIDELY HELD SECURITY, GOVERNANCE, COMPLIANCE AND/OR PRIVACY-RELATED CERTIFICATIONS FOR 2022:

1. Microsoft
2. ISACA
3. CompTIA
4. Cisco
5. (ISC)²
6. Amazon Web Services (AWS)
7. Google Cloud
8. EC-Council
9. IBM Security
10. IAPP

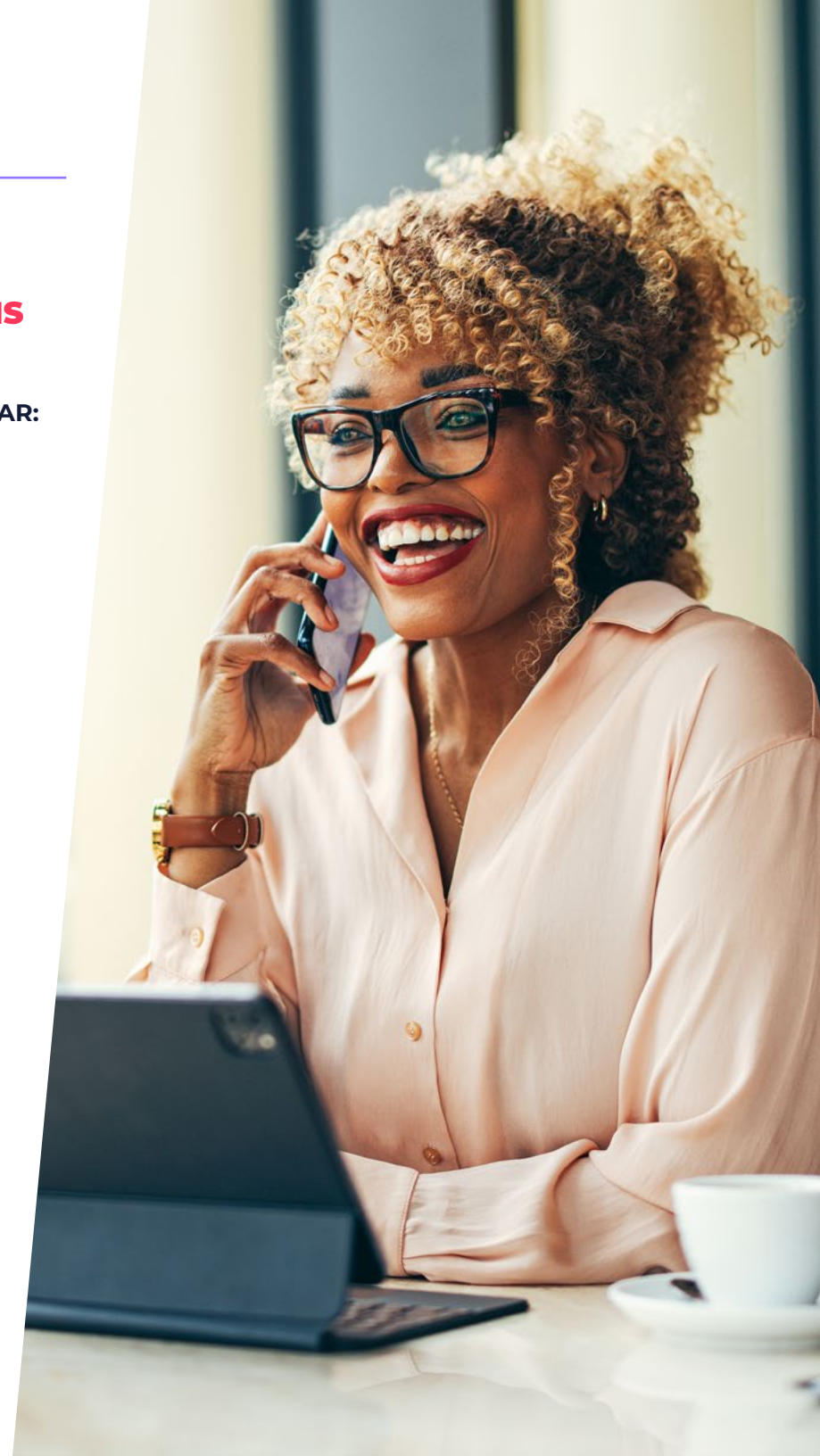
MOST PURSUED CERTIFICATIONS

TOP 10 NON-CYBERSECURITY CERTIFICATIONS BEING PURSUED THIS YEAR:

1. Microsoft
2. Amazon Web Services (AWS)
3. Google Cloud
4. Cisco
5. Business Analysis
6. ITIL and IT Service Management
7. Comp TIA
8. Project Management, Agile and Scrum (PMP®, Scrum Master, Prince2)
9. VMware
10. Application Development and Programming

TOP 10 SECURITY, GOVERNANCE, COMPLIANCE, AND/OR PRIVACY-RELATED CERTIFICATIONS BEING PURSUED:

1. Microsoft
2. (ISC)²
3. Amazon Web Services (AWS)
4. CompTIA
5. Cisco
6. Google Cloud
7. ISACA
8. EC-Council
9. CertNexus
10. Palo Alto Networks



Certification Resources

Certification Resources

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

WHAT IS THE FUTURE OF CERTIFICATION?

IT professionals continue to value certifications. Most (85%) are either pursuing certifications now or plan to in the year ahead. This is ambitious. It equates to nearly three certifications per person on average, which is nearly as many as people currently have. Only 15% of those surveyed told us that they are not pursuing now and don't plan to pursue in the future.

Have questions on the most efficient approach to certification? We can help with clear, concise, and relevant answers:

Where do I start?

Start with [How to Select the Right Certification for You](#). Then read *How to Help Your Team Build Cybersecurity Skills*.

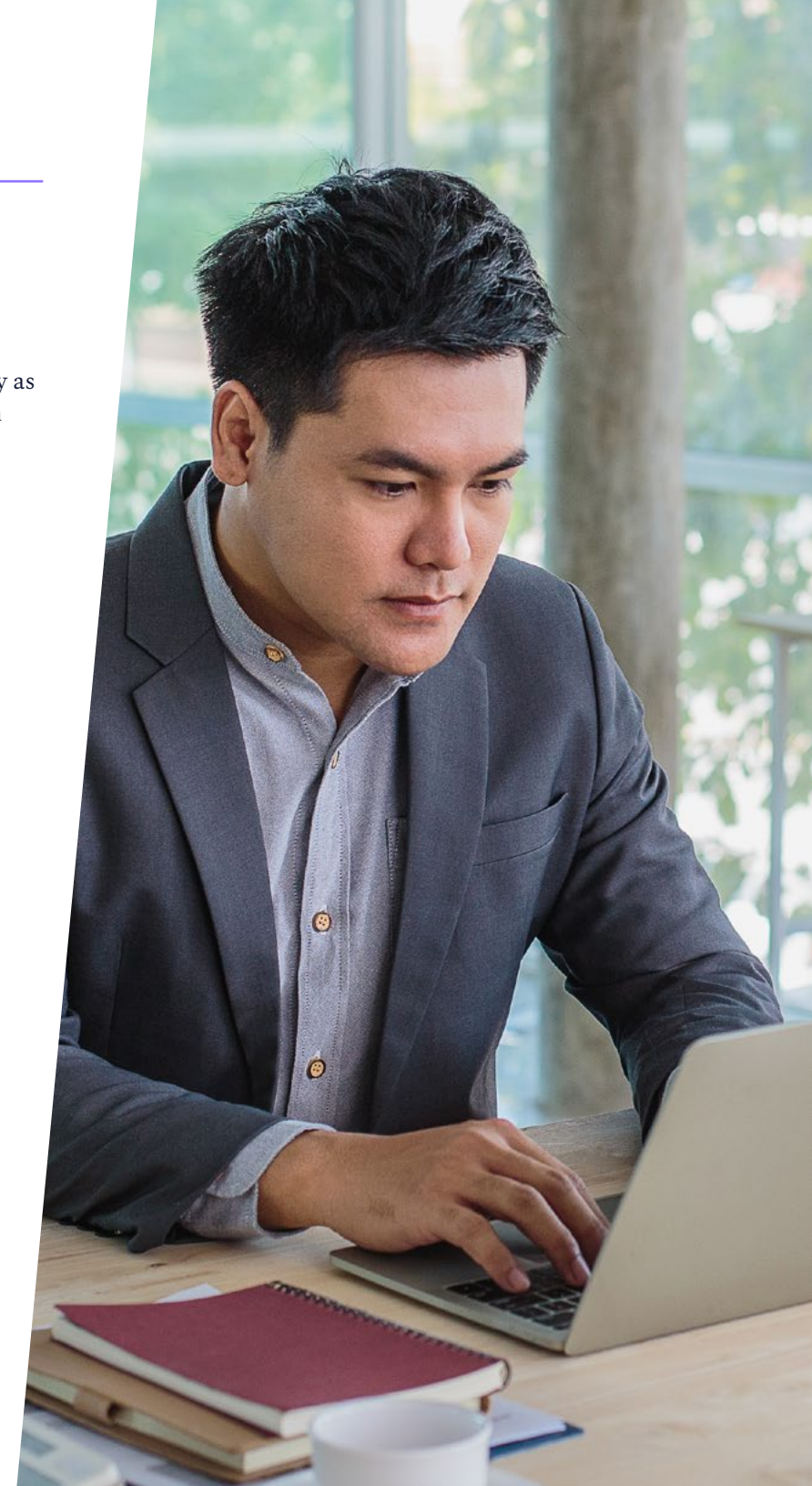
Which certification makes sense for me?

Check out [18 IT and Business Certifications Worth Having](#).

What does certification entail? Am I ready?

Get the facts on what to expect from courses, certification requirements, and exam prep available for the following certifications:

- [AWS](#)
- [Business Analysis](#)
- [Blockchain](#)
- [Cisco](#)
- [Citrix](#)
- [CompTIA](#)
- [Cybersecurity](#)
 - (ISC)2
 - EC-Council
 - F5
 - ISACA
 - Palo Alto Networks
 - SonicWall
 - and more
- [DevOps](#)
- [Google Cloud](#)
- [ITIL®](#)
- [Microsoft](#)
- [Nutanix](#)
- [Project Management](#)
- [Red Hat](#)
- [TOGAF®](#)
- [Veeam](#)
- [VMware](#)
- [Wireshark](#)





IT Decision-Maker Insights

IT Decision-Maker Insights

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

Nearly 45% of those responding to this year's IT Skills and Salary Report survey are decision-makers in their company, ranging from mid-level managers (78%) to senior-level managers (17%) and executive C-level (5%). Nearly 60% have worked in the field for 15 years or less, and most work in organizations with over 5,000 employees, although most manage a department of one to 10 employees. Nearly half manage the training budget for their department.

Regardless of the industry or size, IT is critical to any organization. Any disruption to the normal flow of business falls squarely back on IT management. And the decision-makers we spoke to feel that responsibility — and associated stress.

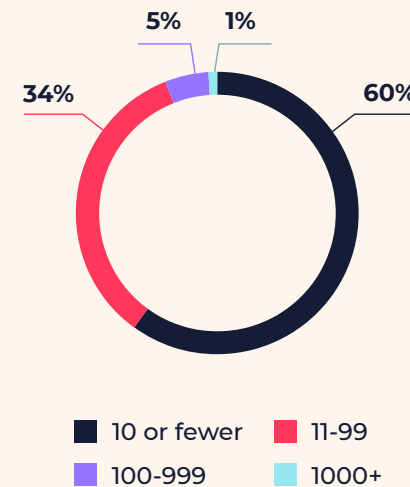
We asked respondents about the pressures relating to staffing, technology, budgets, skills development, and more. They had a lot to say about the challenges they face — and a lot of those challenges are being felt across the board.

KEY CHALLENGES

Two years ago, IT decision-makers were most concerned about talent recruitment and retention. Last year, those concerns took a backseat to managing workloads and budgets. Today, managers and executives, once again, worry about how they prevent skilled and talented people from leaving their organizations (33%) and how to attract qualified IT professionals to fill key staff positions (32%).

It's interesting to note that less than a quarter of the respondents felt that resources and budget constraints were a challenge, while over 25% struggle with workload and developing stronger teams. The latter challenges seem related to the prevalent worry about getting and keeping the right people to fill jobs.

NUMBER OF EMPLOYEES SUPPORTED



IT LEADER KEY CHALLENGES



IT Decision-Maker Insights

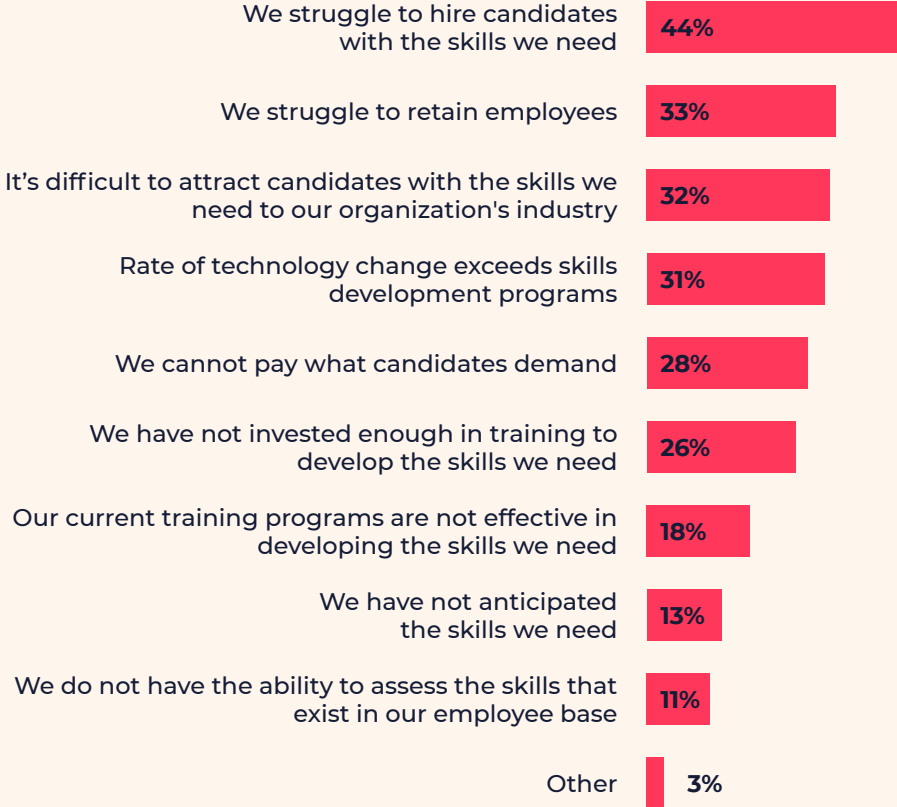
- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS**
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION

IT DEPARTMENT BUDGETS

There's some good news coming from IT decision-makers across the globe. More than half, 59% worldwide, enjoyed an increase in their budget. This is a dramatic change from last year, when only 35% globally saw an increase and this jump represents the highest percentage since prior to 2019. Only 8% saw a decrease in their budget in 2022.

Every region is reporting the same news. Seventy percent of Asia-Pacific saw an increase in their budgets. EMEA had a 57% increase over last year. Overall expectations for a decrease in budgets dropped significantly from last year when nine to 13% of managers experienced a decrease. This year, only 10% of North American decision-makers saw a decrease. And, only 6% of Latin America and Asia-Pacific experienced a decrease.

REASONS BEHIND SKILLS GAPS



FORECASTED IT BUDGET CHANGE

BUDGET WILL SEE	NORTH AMERICA			LATIN AMERICA			EMEA			ASIA-PACIFIC		
	2022	2021	2020	2022	2021	2020	2022	2021	2020	2022	2021	2020
Increase	52%	26%	39%	61%	43%	55%	57%	36%	49%	70%	44%	57%
Decrease	39%	28%	13%	33%	19%	9%	34%	20%	11%	25%	21%	9%
No Change	10%	46%	49%	6%	38%	37%	9%	43%	40%	6%	35%	34%

IT Decision-Maker Insights

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

**IT DECISION-MAKER
INSIGHTS**

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

TOP INVESTMENT AREAS

Worldwide, organizations continue to invest in certifications, but we're seeing a decrease in investments in specific skilled areas. They're also switching up where they're investing. Last year the number one area was in cybersecurity, with 50% listing this as their top focus. Number two was cloud computing (44%). In 2022, cloud computing is the top priority for 41% of decision-makers; cybersecurity falls to second place with 31%. (Note: In our experience, responses tend to fluctuate between cloud and cybersecurity each year. Clearly, both are priorities.)

Running almost neck and neck for the third and fourth positions are AI/machine learning and infrastructure/systems. Surprisingly, compliance dropped out of the top five areas for investing, with only 14% valuing it as a top priority, down from 37% in 2021.

This data suggests that IT managers are investing in upskilling their current staff to address skills gaps. They cite the hardest to fill positions in the same areas: cloud computing (30%), analytics/big data/data science (28%), and cybersecurity (25%).

The lowest priorities continue to be virtual reality, video, voice and telephony, and collaboration applications.



IT Decision-Maker Insights

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

TOP INVESTMENT AREAS	NORTH AMERICA	LATIN AMERICA	EMEA	ASIA-PACIFIC	WORLDWIDE
Cloud Computing	30%	48%	43%	50%	41%
Cybersecurity, Information Security	29%	30%	37%	28%	31%
AI and Machine Learning	26%	31%	30%	35%	30%
Infrastructure and Systems	27%	29%	30%	24%	27%
Data Analytics, Data Management, Data Science	24%	30%	24%	32%	27%
Internet of Things (IoT)	14%	18%	18%	20%	17%
Containers	10%	20%	16%	17%	15%
Governance, Risk, and Compliance	14%	15%	14%	12%	14%
Software Development	12%	14%	17%	12%	13%
Virtualization	10%	14%	14%	12%	12%
GDPR and Data Privacy	9%	14%	16%	10%	12%
Green Technology	8%	13%	15%	10%	11%
Networking and Wireless LAN	12%	14%	12%	6%	10%
Service Management	11%	13%	11%	7%	10%
Business Process Management	12%	6%	9%	7%	9%
Mobile App Development & Deployment	11%	5%	9%	8%	9%
Blockchain	7%	7%	7%	10%	8%
Mobility and Endpoint Management	9%	5%	9%	5%	7%
Augmented Reality	8%	8%	6%	7%	7%
Web Development	6%	8%	8%	7%	7%
None	8%	5%	6%	6%	7%
Customer Relationship Management (CRM)	9%	3%	6%	5%	6%
Enterprise Resource Management (ERM)	7%	5%	6%	5%	6%
Collaboration Application	6%	6%	6%	4%	5%
Video, Voice, and Telephony	5%	4%	6%	3%	5%
Virtual Reality	4%	4%	3%	5%	4%
Other	1%	3%	2%	2%	2%

IT Decision-Maker Insights

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

This year, Microsoft remains at the top of the list of vendors in which decision-makers plan to invest. AWS (41%) and Google Cloud (33%) follow much like last year. This investment plan is a top focus for all regions.

After the consistent investment strategy for Microsoft, AWS, and Google Cloud, shifts start to occur in investing plans. Docker climbed higher on the list. Red Hat and IBM also joined the global list. Making the top vendor list again were Cisco, VMware, and ServiceNow.

WORLDWIDE TOP FOCUS

AREAS	%
Microsoft	57%
AWS	41%
Google Cloud	33%
VMware	21%
Docker	19%
Cisco	19%
Red Hat	15%
IBM	13%
ServiceNow	12%
Splunk	11%

NORTH AMERICA TOP FOCUS

AREAS	%
Microsoft	49%
AWS	38%
Google Cloud	20%
VMware	19%
Cisco	18%
IBM	16%
ServiceNow	15%
Dell	14%
Apple	13%
Splunk	12%

LATIN AMERICA TOP FOCUS

AREAS	%
Microsoft	62%
AWS	41%
Google Cloud	35%
VMware	24%
Cisco	21%
Docker	21%
Red Hat	17%
Fortinet	16%
MongoDB	13%
SAP	12%

EMEA TOP FOCUS

AREAS	%
Microsoft	64%
AWS	34%
Google Cloud	28%
Cisco	25%
VMware	24%
Docker	22%
Fortinet	15%
Red Hat	15%
Oracle	12%
Veeam	12%

ASIA-PACIFIC TOP FOCUS

AREAS	%
Microsoft	57%
AWS	51%
Google Cloud	51%
Docker	26%
VMware	21%
Red Hat	19%
ServiceNow	15%
MongoDB	15%
Cisco	15%
IBM	13%



IT Decision-Maker Insights

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

**IT DECISION-MAKER
INSIGHTS**

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

SKILLS GAPS

There's more good news when it comes to skills gaps in the IT field. Last year 76% of worldwide decision-makers reported skills gaps. In 2022, that figure dropped to 66%. But before we celebrate a 10% drop, let's also consider that 9% of the decision-makers surveyed still report that they are unsure whether there is a skills gaps within their organization. This begs us to question how organizations map or assess skills. Being caught off-guard or making decisions without all the facts can be devastating to productivity and greatly affects forecasts and customer satisfaction.

However, since 2015, the percentage of companies reporting a skills gap has risen. New technology and unskilled workers contribute to this historical deficit of qualified skilled workers. That story hasn't changed for 2022. Close to 60% of IT decision-makers anticipate a skills gap in the next one to two years. The takeaway is clear. If you don't know what's around the corner, how do you prepare for it? Skill sets need to be developed, and companies need to invest in them.

WHAT'S CAUSING SKILLS GAPS?

The gap when it comes to filling skilled positions appears to have closed somewhat since last year. Worldwide, there is a 10% decrease in those organizations that report a skills gap. While that's good news, make no mistake — there is still a skills gaps issue in IT.

But, why? We asked our respondents and found there's no single answer.

For the majority, it boils down to the challenge of recruiting and retaining good, qualified candidates. Over 44% of decision-makers struggle to hire skilled candidates, while 33% have a hard time keeping the employees they do hire. Many also cite the rate of technology change vs. development programs as a chief contributing factor.



IT Decision-Maker Insights

- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS**
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION

Training also factors into organizations' abilities to fill skills gaps. A quarter of the decision-makers feel that their companies didn't invest in training, or training wasn't effective. They also respond that they didn't anticipate the skills they are now lacking, or they failed to assess skills within their own employee base.

Here's good news: this is a situation that can be remedied.

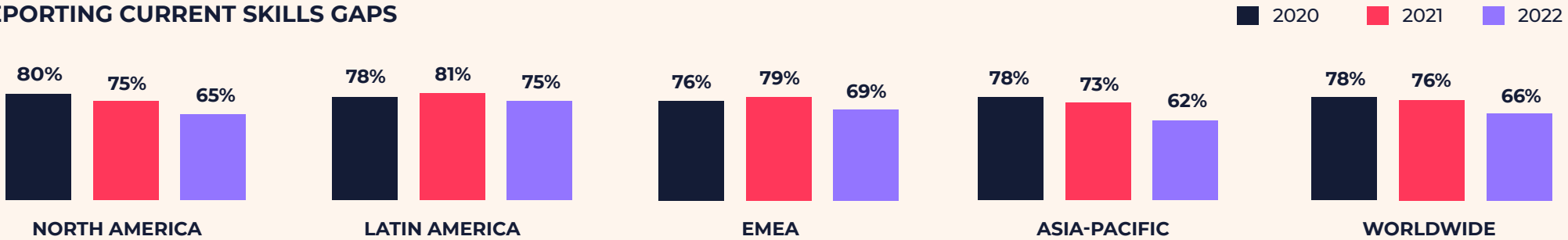
The answer boils down to investing in reskilling and upskilling. The results speak for themselves. Job seekers are looking for organizations that are open to developing skills. Employees value employers that are willing to invest in them. And, employers spend less time and money recruiting candidates to fill skills gaps and increase productivity when their workforce has the skills for their current job, as well as the next technological advancement. It's a win-win for all.

To learn more about identifying and closing skills gaps, watch the replay of our webinar, ["How to stay ahead of the majority and avoid the IT skills gap."](#)

REASONS BEHIND SKILLS GAPS



REPORTING CURRENT SKILLS GAPS



IT Decision-Maker Insights

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

**IT DECISION-MAKER
INSIGHTS**

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

SKILLS GAPS IMPACT

Increased stress, delays, talent acquisition costs, and operating costs. Decrease in productivity, customer satisfaction, and innovation. These are very real byproducts of skills gaps within an organization.

Close to 50% of IT decision-makers deal with rising stress levels from existing employees. Nearly 40% see slower resolution times on projects, and 34% witness a decreased ability to meet business objectives.

Simply put, this is no way to run a successful enterprise. Skills gaps must be addressed and the best ways to combat them are with investments in training, development, and certification.

IMPACT OF SKILLS GAPS ON THE ORGANIZATION



IT Decision-Maker Insights

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

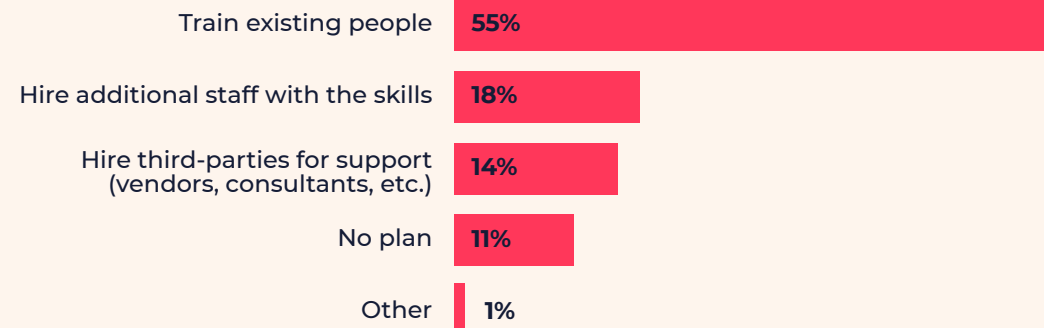
SKILLS GAPS RESPONSE

How do you put the squeeze on skills gaps? The irony is that most decision-makers who experience skills gaps already know the answer: training, upskilling, reskilling, development. Call it what you will, but continual learning is the one solution guaranteed to reduce skills gaps.

And, organizations are starting to react. Nearly 72% of decision-makers report that their companies provide formal training. Eighty-five percent have authorized training in the last 12 months. That's encouraging news.

More than 55% plan to train existing employees to close skills gaps. Eighteen percent will hire new staff with the skills they need, and 14% will hire third-party support.

HOW MANAGERS PLAN TO HANDLE SKILLS GAPS



IT Decision-Maker Insights

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

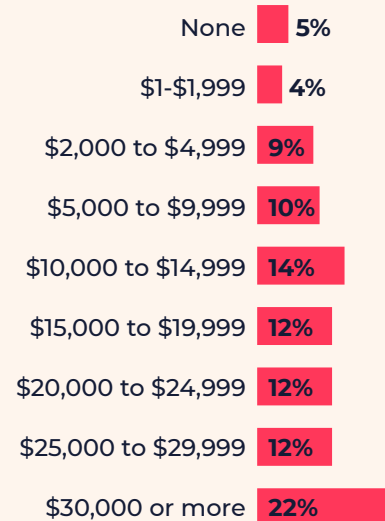
THE DOLLAR VALUE OF CERTIFICATIONS

More than 96% of IT managers believe that certified staff add value to their organization. Forty-five percent see a boost in productivity as a result. Forty-four percent say they are better able to meet client requirements, and 41% believe that certified staff are instrumental to closing skills gaps.

When asked to put a dollar figure on the value a certified employee adds to their organization, 22% estimate \$30,000 or more. This amount is up from last year's estimation.

To effectively close skills gaps, decision-makers need to look at the numbers and see the transferable value that increasing skill levels within their organizations can deliver to the bottom line.

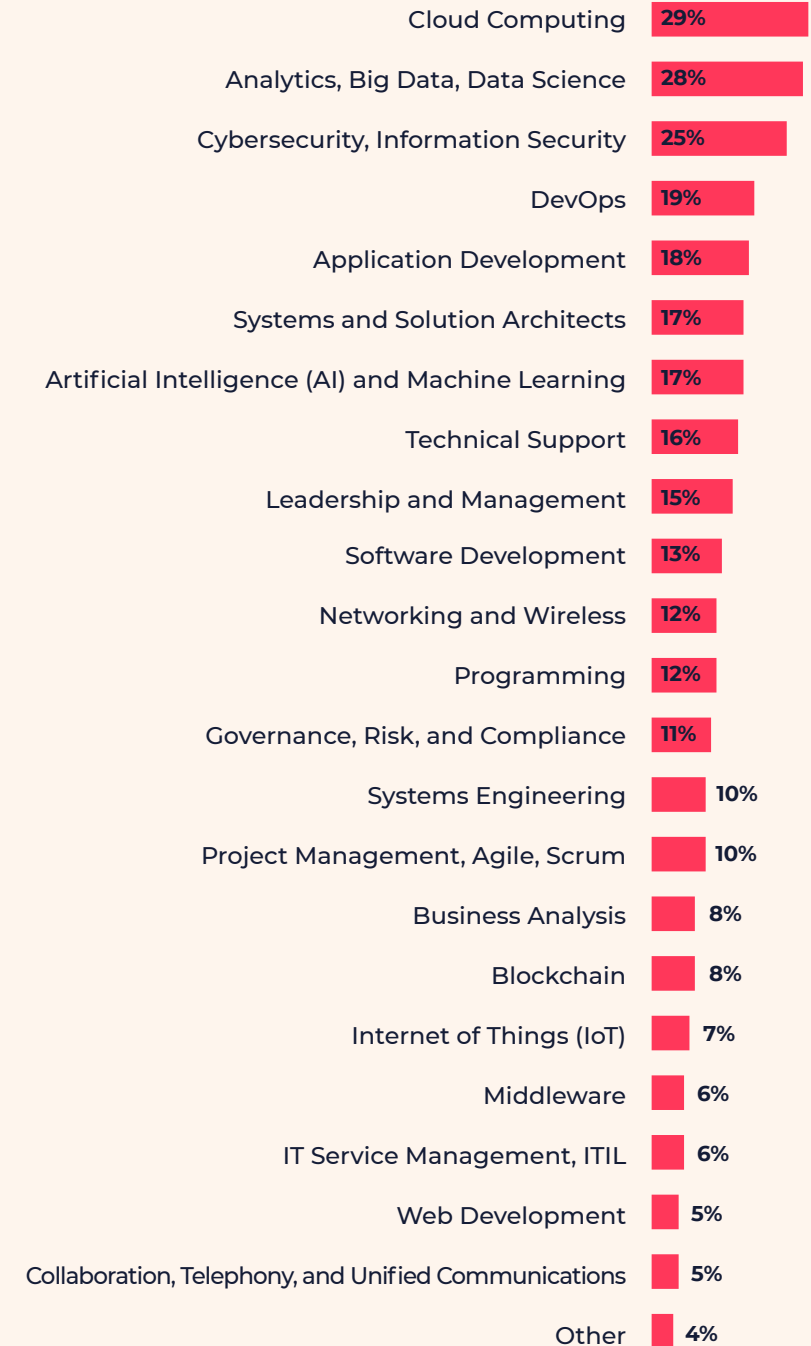
CERTIFIED EMPLOYEE ANNUAL ADDED VALUE



BENEFITS OF A CERTIFIED STAFF



AREAS WITH GREATEST DIFFICULTY FOR HIRING TALENT



Professional Development



Professional Development

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

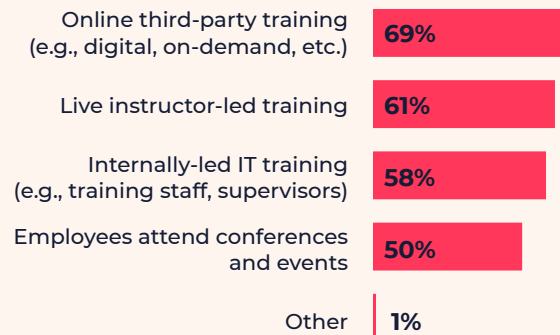
CONCLUSION

The business world moves fast. Some might argue that IT moves even faster; keeping up with ever-changing technology requires hyper speed. Slow down and change will pass you by — and that's no benefit to anyone, whether you're an employer or employee.

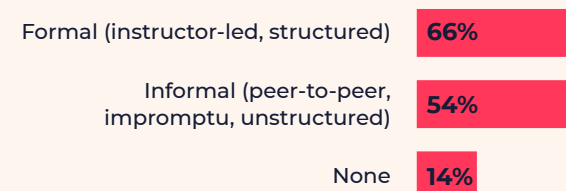
The good news is that opportunities for training and preparing for the next big thing are everywhere — and IT professionals take advantage of the availability. More than half avail themselves of free online learning tools. A significant number read content or attend webinars on pertinent topics. They download certification guides and white papers, attend seminars, join online groups, and engage with influencers. All this points in the same direction — IT professionals are hungry for knowledge.

More than half of those surveyed have participated in certification-focused IT training in the last 12 months. Slightly fewer have gone through some type of skills-based training. Even more promising is the fact that nearly a quarter of all respondents have received training in management competencies, reinforcing that the IT world recognizes and supports development of tech leadership skills.

FORMAL TRAINING OFFERED BY COMPANY



TYPES OF TRAINING OFFERED BY COMPANY



Professional Development

- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION

TRAINING TYPES

Given their choice, IT professionals prefer a formal, instructor-led approach as opposed to peer-to-peer training. And, when it comes to that formal approach, 72% of learners prefer online third-party training. Live, instructor-led training and internally led training also resonate, but to a lesser degree.

However, it's interesting to note that even though face-to-face options are opening more in a post-pandemic environment, the preference for this type of training is waning with only 18% opting for this method. Virtual learning is the new classroom of choice, with over 63% saying they prefer a web-based, on-demand, self-paced, subscription-based approach like Skillsoft's virtual instructor-led training (VILT).

Learn more about
Skillsoft's Global Knowledge
**VIRTUAL
INSTRUCTOR-LED
TRAINING**

TRAINING TYPES PARTICIPATED IN OR ATTENDED IN LAST 12 MONTHS

TRAINING TYPE	NORTH AMERICA	LATIN AMERICA	EMEA	ASIA-PACIFIC	WORLDWIDE
Web-based, on-demand session (self-paced, a digital learning environment, subscription-based)	59%	68%	64%	69%	63%
Live instructor-led online training	31%	42%	39%	40%	37%
Informal training session at work (impromptu, peer-to-peer)	29%	31%	26%	23%	26%
Classroom training (out-of-office)	15%	19%	22%	19%	18%
Formal training session at work (expert-led)	13%	16%	14%	14%	14%
None	21%	11%	12%	8%	14%
Other	1%	1%	1%	1%	1%

Professional Development

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

LEARNING RESOURCES USED IN LAST 12 MONTHS BY REGION

TRAINING TYPE	NORTH AMERICA	LATIN AMERICA	EMEA	ASIA-PACIFIC
Used free online learning tools (free trials, free subscriptions or accounts)	51%	63%	58%	60%
Books, textbooks, manuals	45%	59%	55%	44%
Downloaded certification prep guides	32%	48%	41%	41%
Attended webinars	42%	39%	46%	39%
Downloaded a white paper or technical guide	34%	39%	41%	34%
Attended a seminar, luncheon, or technical conference	30%	27%	30%	26%
Joined an online community (e.g., GitHub, Reddit, CNET)	24%	25%	25%	25%
Followed or engaged with influencers, groups, or my network on social media	21%	23%	23%	23%
Podcasts	19%	18%	17%	12%
Other	8%	9%	8%	7%
None	15%	8%	6%	5%

Professional Development

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

VIRTUAL INSTRUCTOR-LED TRAINING (VILT)

According to respondents, the two most effective methods for learning cited are formal, expert-led training sessions at work and live, instructor-led, online training sessions. In fact, roughly 70% of IT professionals who participated in these types of training found them to be very to extremely effective.

The popularity combined with the effectiveness of online instructor-led training has led to a surge in learning, with 54% of respondents having participated. It's a good solution for busy professionals who need to balance work and study. Participants feel that self-paced learning lets them "go at your own speed, giving you the ability to research and learn from many different resources."

The top five features that learners look for in subscription-based learning are:

1. **Quality of content (46%)**
2. **Opportunities for hands-on practice (41%)**
3. **Updated content (33%)**
4. **Multiple learning methods (24%)**

And in a tie ...

5. **Authorized content (19%)**
5. **12-month access to content (19%)**

When asked about barriers to online instructor-led training, over half of those who participated didn't experience any obstacles to learning. If there were roadblocks, they came from finding time or the right environment to train.



Professional Development

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

WHAT'S IN IT FOR ME? (OR WIIFM?)

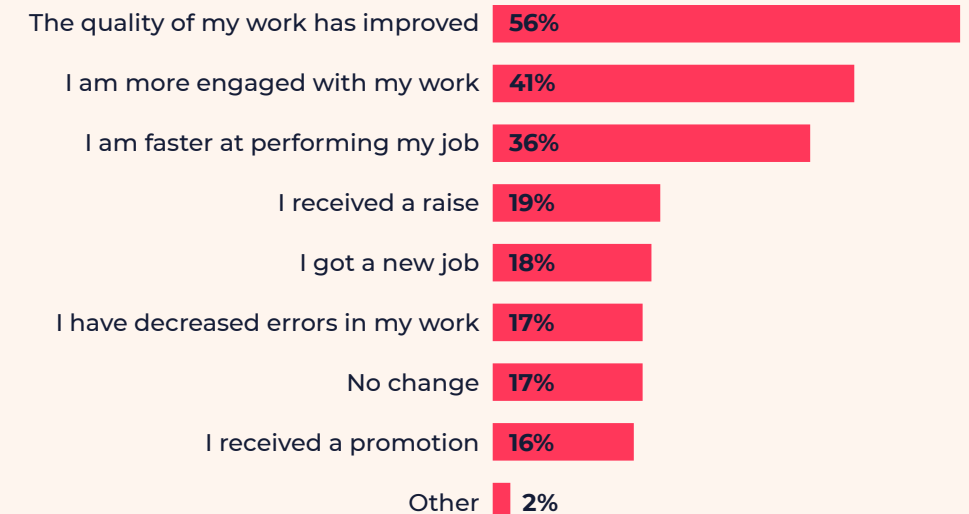
The most commonly cited driver for training is to prepare the organization for success, which is somewhat ironic because the main inhibitor to training cited is that management doesn't see a need for it. Organizations that don't place importance on training employees will find themselves struggling to recruit and retain ambitious individuals with valuable skills and/or certifications. This is short-sighted and will ultimately lead to a lack of qualified talent in their workforces.

But, companies that invest in their people will see value. Nearly 60% of IT professionals who have increased their certifications through training found that the quality of their work has improved. Other benefits include employees who are more engaged in their work (41%) and workers who have increased productivity (36%). On a more personal level, employees report salary increases (19%) and new jobs (18%). This data remains consistent from last year and is encouraging as it demonstrates that creating a learning culture is valuable and effective.

MAIN DRIVER FOR TRAINING



POST CERTIFICATION TRAINING CHANGE



Professional Development

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

**PROFESSIONAL
DEVELOPMENT**

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

TRAINING INHIBITORS



Professional Development

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

THE IMPORTANCE OF LEADERSHIP TRAINING

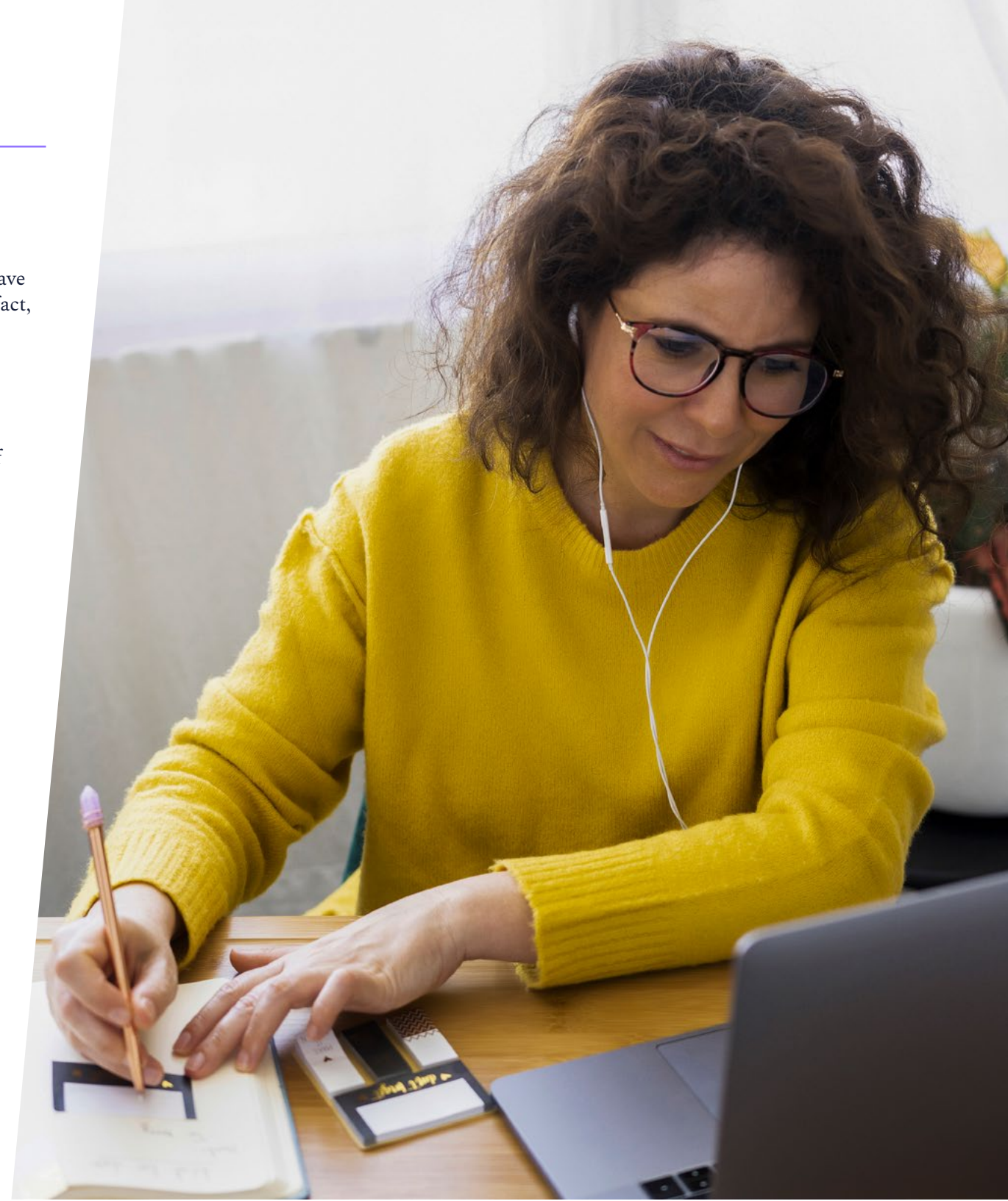
Organizations need to develop skilled leaders, but most IT professionals have no idea if their organization offers a leadership development program. In fact, only 17% report that they do.

But, when asked what skills are important for IT leaders, respondents had a lot to say. The number one response, that far outweighed all others, was team communication. This was followed by interpersonal communication. These skills were deemed as very important, so it seems counterintuitive if organizations aren't offering programs to develop these skills.

More than 90% of IT professionals report that their company offers compliance training. In addition, over 90% receive some type of training when their company makes an investment in new technology. Why then, wouldn't this same effort be put into training the leaders of an organization? It's a self-fulfilling prophecy; companies that don't invest in their people will find it difficult to create a culture where people feel valued, organizational goals are met, and skill sets remain cutting edge.



Learn more about
**LEADERSHIP &
POWER SKILLS**



Job Satisfaction



Job Satisfaction

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

Some good news coming out of our survey is that over 73% of IT professionals claim that they're satisfied in their chosen field. Only 24% changed employers in the last year.

While this is good news, it's not presenting the whole picture. IT decision-makers still face grave concerns when it comes to talent retention, with more than half of our respondents reporting that it is likely they will look for another position in the next 12 months.

The evidence in the accompanying chart clearly shows that employees who aren't appreciated will consider looking for new opportunities. This should serve as a wake-up call to employers and IT decision-makers that the need to invest in their most valuable asset — their employees — is paramount.

And, they need to do it sooner rather than later.



Job Satisfaction

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

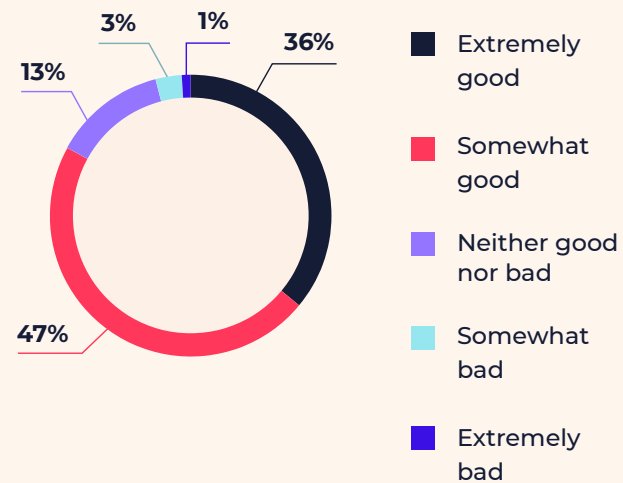
LOOKING FORWARD

CONCLUSION

JOB SECURITY

Most IT professionals feel secure in their current positions. Feelings about job security increased slightly since last year. About 37% say they feel extremely good about their job security. This is up slightly from last year when 33% reported feeling the same way. More than 84% are reporting they have a good feeling overall about their job security. Layoffs remain low and demand for skilled workers is increasing.

JOB SECURITY



Job Satisfaction

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

EMPLOYEE TURNOVER

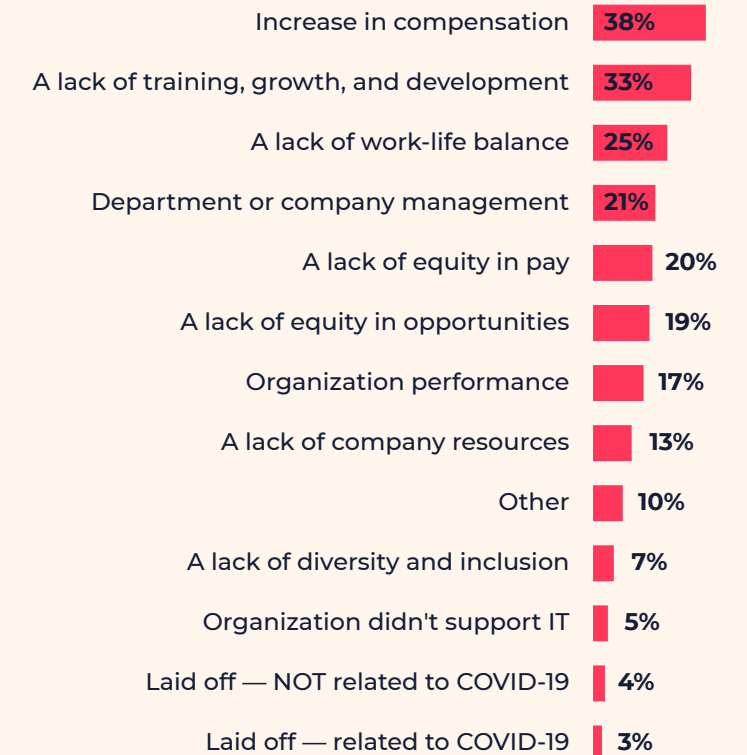
When it comes to switching positions, IT professionals were more likely to switch job roles (33%) in 2022 than switch employers (24%). That's encouraging for employers trying to retain skilled workers, but may make the challenge to recruit new workers more difficult.

Interestingly, for the past three years, IT professionals who changed employers did so to seek out new opportunities. Not so much in 2022. The number one reason for 38% of those making the switch to a new employer was for an increase in compensation. Participants also cited a lack of training, growth, and development to be key deciding factors.

Meanwhile, almost half of all IT professionals who changed job roles but stayed with the same employer did so for new growth and development opportunities. They also wanted to make better use of current skill sets and capabilities.

This is a key takeaway from this report: IT decision-makers and employers need to make IT professionals feel valued for their contributions and give them the opportunity to grow. A stagnant career path leads to a quick exit — and high turnover rates can be disastrous for an organization. Some respondents pointed out that management “sees IT as a commodity compared to other support functions,” and no one finds worth or satisfaction in this type of devaluation.

FACTORS FOR CHANGING EMPLOYERS



Job Satisfaction

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

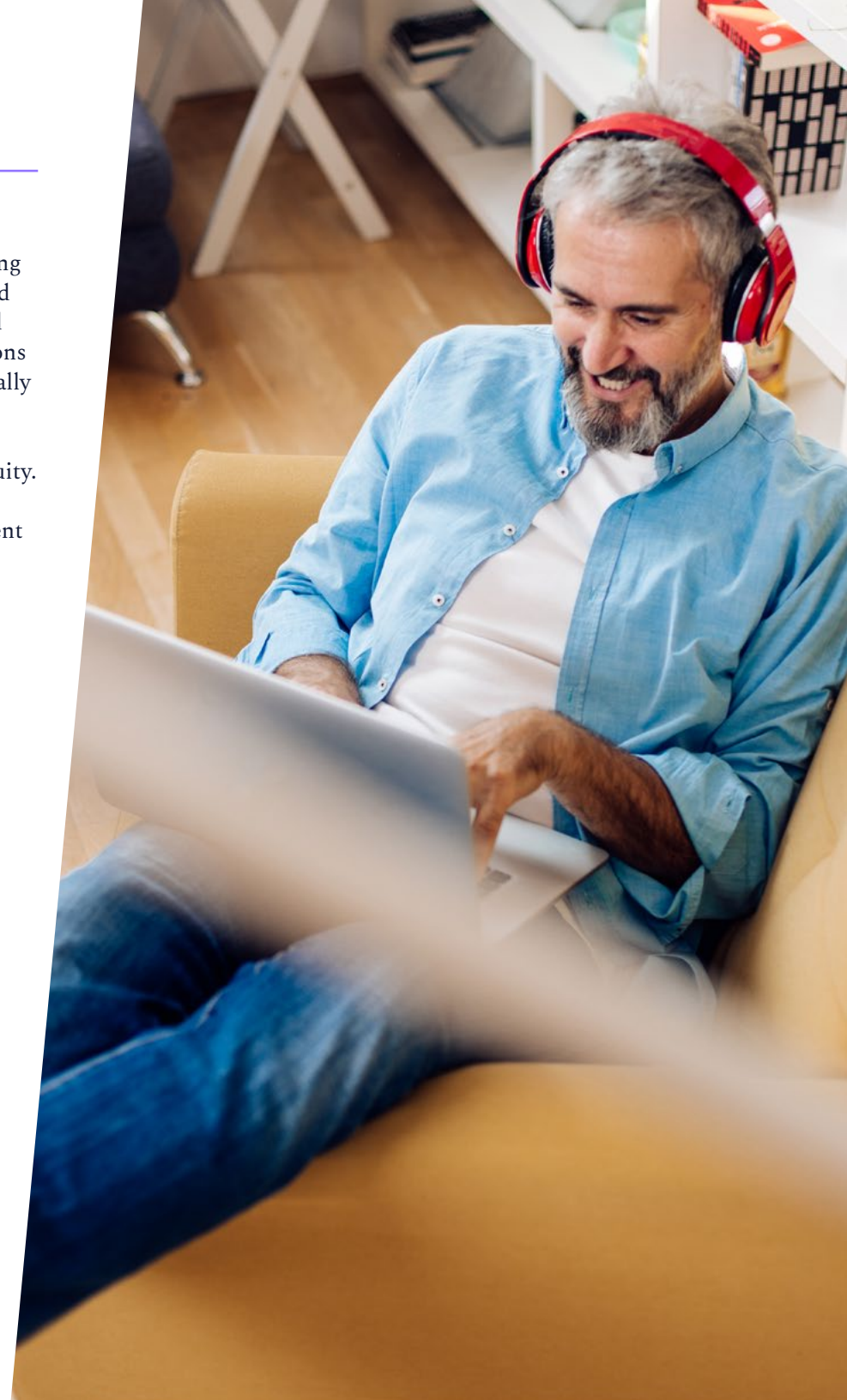
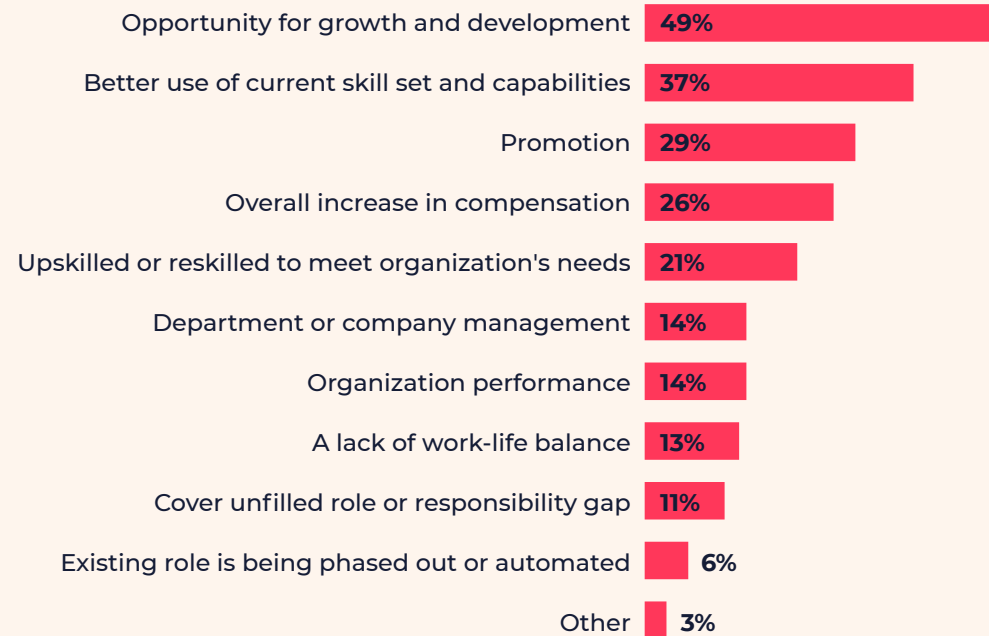
LOOKING FORWARD

CONCLUSION

Another interesting change from last year's report is that in 2022, just 13% of respondents reported switching job roles to improve work-life balance. Last year 31% saw this as a key determinant. This could be attributed to the fact that more employees are now working permanently from home, eliminating long commutes, and increasing their personal time. The majority of respondents prefer a hybrid work environment. Organizations that want to address work-life balances would be prudent to offer employees options for where they physically want to work.

Other factors that led to employee turnover were management, organization performance, and a lack of equity. This suggests strong leadership and keen management are important in the IT community. Respondents reported wrongly allocated resources, lack of training, and a lack of confidence in the IT staff as management issues they experienced.

FACTORS FOR CHANGING JOB ROLES



Job Satisfaction

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

WORKPLACE CHALLENGES

Finding the right person for the right job remains a challenge in IT. Talent retention (30%) and talent recruitment (24%) were cited as the two biggest issues facing the industry. To make matters worse, many organizations are consolidating roles, making it increasingly harder for decision-makers to fill key roles.

And as we saw in previous years, managing workload, filling skills gaps, career mentorship and training, managing budgets, and clearly identifying roles and responsibilities continue to be top of mind for IT professionals.

Addressing the lack of diversity, as well as harassment, also show up on the list of challenges this year. Companies need to be cognizant of inviting all to the table in a welcoming and inclusive environment. By embracing DEI, they build a culture centered around the needs of employees so they can learn, inspire, and do their best work, which directly translates to success throughout the organization.

And the business case for DEI is stronger than ever, [with diverse companies outperforming their less diverse peers](#). According to [McKinsey & Company](#), organizations in the top quartile for ethnic/cultural diversity among executives were 36% more likely to achieve above-average profitability.

CURRENT CHALLENGES IN YOUR WORKPLACE





Managing Disruption

<https://t.me/learningnets>

Managing Disruption

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

**MANAGING
DISRUPTION**

LOOKING FORWARD

CONCLUSION

It's been a bit of a global rollercoaster lately. The pandemic. Economic uncertainty. The Great Resignation. Worldwide calls for diversity, equity, and inclusion. These situations are affecting all parts of business and life in general.

The IT industry is no exception.

THE PERFECT STORM OF 2020-2022

In 2020, the pandemic changed how we work and, perhaps more importantly, how employees view their careers. Turnover, working from home, career changes, and creating new technology paths so that business could continue as normal (or at least the new normal), threw IT departments into a tailspin. If recruiting new hires to fill skills gaps was hard in 2019, it became a mountainous hurdle in 2020.

And in 2022, we're still facing those obstacles, plus new ones as well. From the possibility of a global recession and rising inflation (or shrinkflation), to international conflicts, and supply chain troubles, current headlines add to the uncertainty we've managed over the past two years.

Employees are demanding businesses operate more ethically, sustainably, transparently, and with greater diversity, equity, and inclusion. They want more from their employers — especially when it comes to their own development and opportunities to grow — and if they don't get it, they'll take their skills elsewhere.

IT feels this storm full force — and when it comes to skills gaps, maybe more than any other industry. At the same time, IT has to support the organization as it evolves and grows.

So how does the IT industry not only survive, but thrive? In a world of constant change, those who are proactive will come out ahead.

Creating value in your workforce is the first step. Reskilling and upskilling go a long way. Give your professionals a career path. Challenge their abilities. Train them for the next big thing.



Managing Disruption

- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION**
- LOOKING FORWARD
- CONCLUSION

DEI EFFORTS MATURE

There's some good news coming from the IT industry when it comes to companies creating a diverse and equal environment. They're succeeding — for the most part.

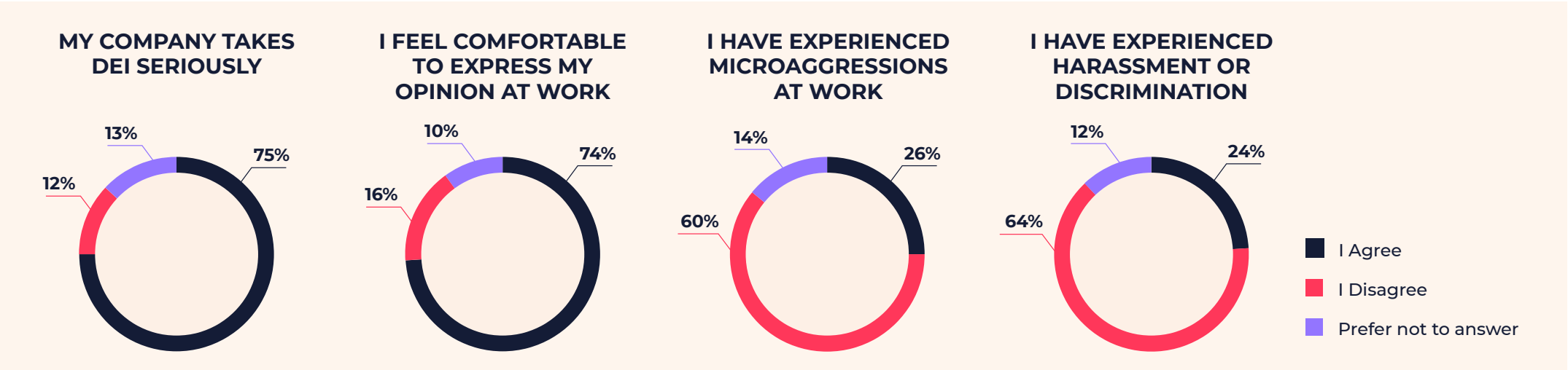
Most of our respondents feel that their company takes diversity, equity, and inclusion (DEI) seriously, and they are comfortable expressing opinions at work.

However, there is still a small percentage that do not have a positive equity experience — and even a small percentage is too much. Roughly 25% have experienced microaggressions, and some have experienced blatant harassment and/or discrimination in the workplace.

When we take a closer look at employee feelings about how management is addressing DEI challenges, we find a mixed bag. Forty-three percent of non-management staff feel their organization is recruiting diverse talent. But, only 19% see them setting and measuring DEI goals and objectives. Ranking even lower are providing mentorship, coaching, or executive sponsorship (17%), and DEI training and leadership development (12%). Ironically, IT decision-makers say these objectives are top priorities for them, which suggests they are either not communicating or their efforts aren't effective.

Until everyone feels represented and valued — at an equal level with their peers and with the same opportunities for development and advancement — there is still work to be done.

ADDRESSING DEI CHALLENGES



Managing Disruption

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

POST-PANDEMIC CHANGES

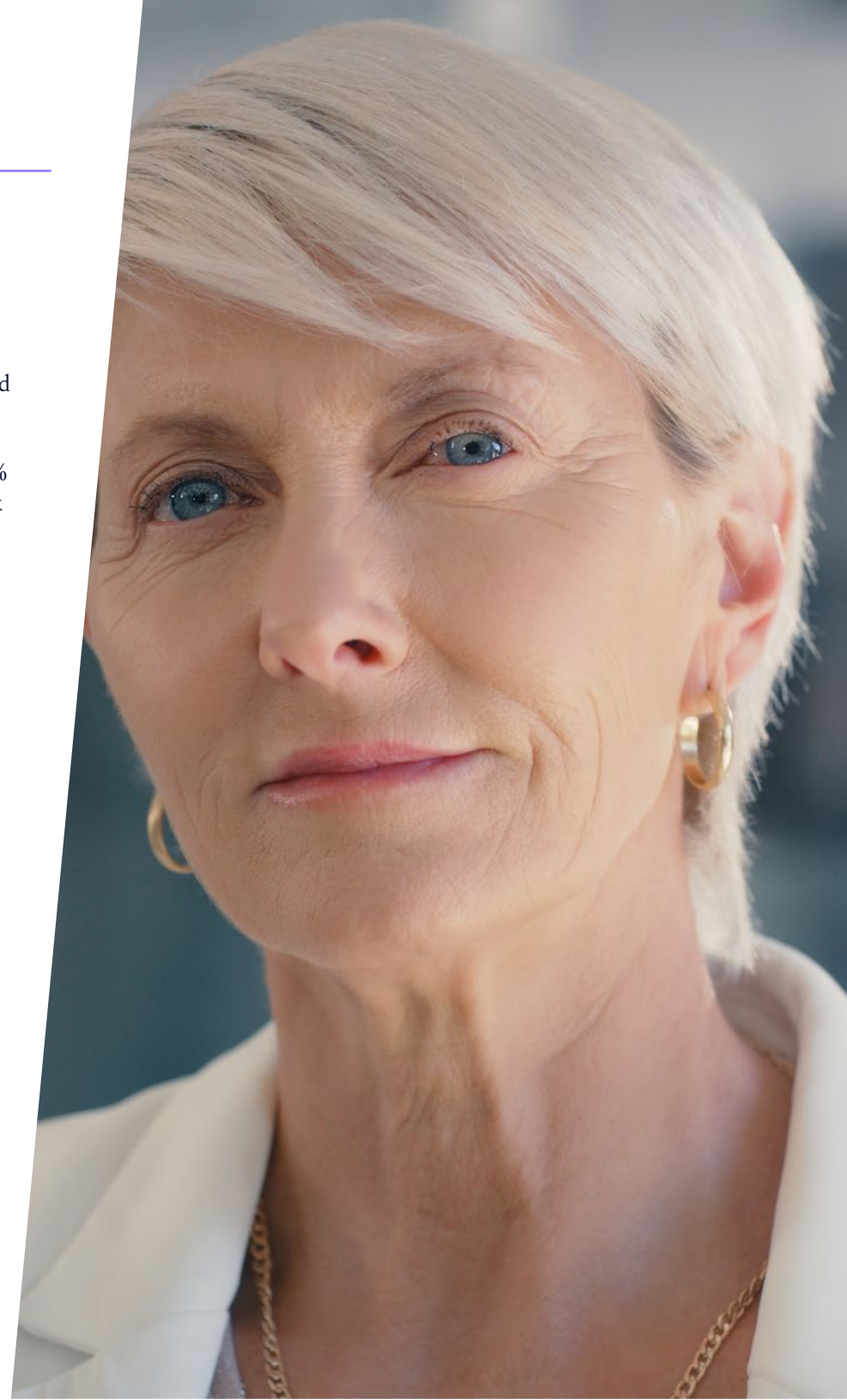
The pandemic had companies scrambling to set up employees for safe and effective remote work. Much of this effort — and related stress — fell on IT's shoulders as they figured out how to switch from in-person “business-as-usual” to work-from-home. And in many cases, this happened overnight. It was unprecedented and created shared business challenges, if not a global crisis.

Interestingly, for many in IT, the pandemic didn't change their personal physical work location. In fact, 73% of our respondents were already working from home pre-pandemic. Surprisingly, only 43% list remote work as their preferred location. Almost 50% want a hybrid work environment instead. Full-time, in-person work was the least favored at just 7%.

As for the future, most (nearly 60%) plan to work a hybrid schedule. Roughly 32% will continue to work from home, and 9% want to go to an office every day.

While most will choose to work a split schedule between home and the office, IT professionals recognize the challenges associated with this kind of work schedule. Their big concerns center around communication — or the lack thereof. Roughly 35% feel that team communication suffers. Another third believes their own interpersonal communication skills are a challenge and a quarter feel that communication with leadership is difficult.

Clearly, the ability to share thoughts, ideas, updates, or details freely and effectively needs to be addressed for hybrid work to be successful.



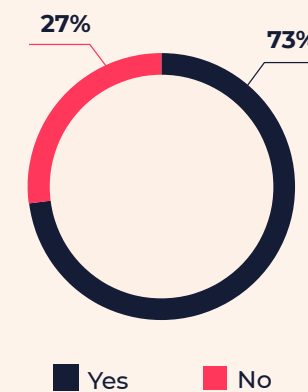
Managing Disruption

- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION**
- LOOKING FORWARD
- CONCLUSION

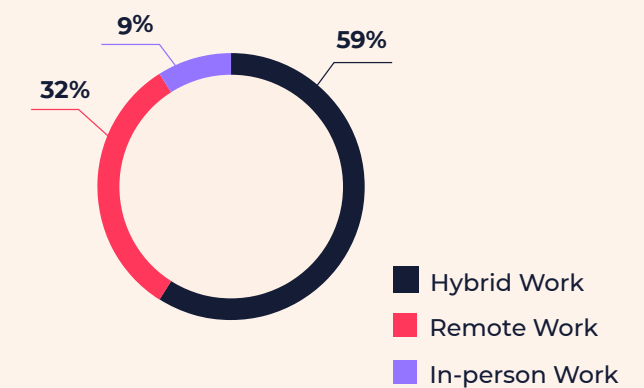
HYBRID WORK CHALLENGES



WORKED REMOTELY PRIOR TO PANDEMIC



PLANS FOR REMOTE, HYBRID, IN-PERSON WORK



Managing Disruption

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

**MANAGING
DISRUPTION**

LOOKING FORWARD

CONCLUSION

WHAT IS THE NEW NORMAL?

If we've learned anything from the past couple of years of volatility, it's that there is no new normal. The concept of status quo needs to become a thing of the past.

And IT needs to lead the charge.

Employees don't want to work in the same way they did pre-pandemic. And, employers need to proactively plan for the future. How do you stay current and relevant? You stay ahead of the curve.

Today, the best prepared organizations are being proactive so they can successfully be reactive — even when they don't necessarily know in advance exactly what they will need to react to.

The best laid plans will be resilient, agile, and adaptable. The best way to do this is to build, nurture, and retain the skills needed to ensure success. Learning and training no longer need to wait. Work has gone remote and so has the capacity for skilling, reskilling, and upskilling. Workforces need to be encouraged to develop a new set of power skills — and the good news is that's exactly what employees want.

Something for all industries to keep in mind is that as business evolves, people and the investments put into them will be as important as the technology we use, in some cases even more so.





Looking Forward

Looking Forward

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

As you have learned, there are issues facing the IT industry — but there's also a lot of good news to be gleaned from our 2022 report. The data we've collected can help you create a plan and impact meaningful change.

And, now is the time to do it.

THE POWER OF UPSKILLING

There's no denying that highly trained individuals generally have access to better jobs and higher salaries. And in a down-turning economy, this is particularly true. Employees who lack in-demand skills risk being overlooked for promotions or pay raises and will find growth opportunities in short supply. Conversely, employers who don't invest in upskilling or reskilling employees may face costly disruptions from high turnover rates, loss of productivity, higher prices for outsourcing, or unhappy customers.

It's critical that IT departments don't get stuck in the status quo. They must think about where they need to be and start preparing today. It's also important that the future doesn't mean just next year. Smart, agile companies are preparing by forecasting multiple years — and decades — into the future.



Looking Forward

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

HOW DO YOU CLOSE SKILLS GAPS?

As we've stated several times, skills gaps aren't foregone conclusions. There are steps you can take to close the space between unqualified workers and technological advancements — and it starts by answering some tough questions:

- Where do you want to take your organization? What is blocking you from starting (or completing) that journey?
- What skills do your employees need today to be successful? What about tomorrow?
- What certification tracks or learning paths will keep you ahead of the competition and attract new employees?
- How can you quickly and efficiently upskill your employees with minimal downtime?
- How will your organization attract new talent in a highly competitive market?
- What delivery format will be most successful for your organization? Will it involve hands-on labs, challenging scenarios, in-person or online learning?
- Who can you partner with to reach your goals?



Learn more about
**LEADERSHIP &
POWER SKILLS**



Looking Forward

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

HERE ARE RESOURCES TO HELP YOU

[TRAINING DAY: CLOSE THE IT SKILLS GAP WITH A WELL-SCRIPTED RESKILLING PLAN](#)

Download the IDG-Skillssoft white paper to see why 98% of CIOs say training and skills development are top priorities.

[SKILLSOFT 2021 LEAN INTO LEARNING REPORT](#)

Discover how other organizations are upskilling their talent to address skills gaps and prepare their workforces for the future.

[SKILLSOFT COACHING](#)

Learn more about our fully customizable, executive-quality coaching platform for building effective leaders at every level.

[WOMEN IN TECH REPORT](#)

Read the findings of an in-depth survey of 1,100 women working in the United States, Canada, France, and the United Kingdom.



Looking Forward

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

CREATE A LEARNING ENVIRONMENT

According to Apratim Purakayastha, Chief Technology Officer at Skillsoft, there are new and proven ways to provide IT professionals with transformative learning experiences, including the use of artificial intelligence, social and collaborative technologies, and seamless mobility.



“In the near term, AI will make more relevant recommendations based on learner preference, history, job data, peer usage data, and more. One can already see AI being used in modern learning technology in the form of digital assistants that are embedded directly into a learning experience platform (LXP).”

AI creates a hyper-personalized learning experience with the right content delivered at the right time based on skills gaps deduced from skills assessments.

Social technologies are, again, highly personalized with the use of badges, goals, and reminders, learning streaks, user-generated content, watch parties, integration with team-based tools, and other methods that entice participation.

Learning must also be made mobile via phones, tablets, TVs, and laptops so that skills can be mastered anywhere, at any time.



Looking Forward

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

DECREASE SKILLS GAPS BY INCREASING DIVERSITY

If the past tells us anything, it's that women have been undervalued and underutilized in the workforce. And while this is a global issue, some regions are impacted more than others based on outdated cultures or customs. There may be untapped resources in your own organization if you are ignoring the contributions made by women.

Organizations that invest in DEI programs help to simultaneously shrink the gender gap while narrowing the skills gap. Creating equal opportunities strengthens organizations. But only those who create a work environment where all employees can learn, grow, and contribute on equal footing will truly be on the right path.

The majority of women who participated in our survey responded positively about their experience on the job. But, for every question we asked, and across both manager and non-manager roles, their responses were slightly more negative than the overall averages. For example, for non-manager women, 67% feel comfortable expressing their opinion vs. 71% overall; 31% have experienced microaggressions vs. 21% overall; 55% are given equal opportunities vs. 62% overall; and 38% have experienced harassment vs. 23% overall.

Managers report a similar discrepancy in three of the four areas we probed. For women in manager roles, 71% feel comfortable expressing their opinion vs. 77% overall; and 55% are given equal opportunities vs. 62% overall; and 37% have experienced harassment vs. 26% overall.

Although a 3-15% variance may not seem significant, it becomes exponentially so when you consider that there are millions of women working in tech around the globe. Clearly, there is work to be done.



SKILLSOFT 2021 WOMEN IN TECH REPORT

See how women are
faring in the IT Industry





Conclusion

Conclusion

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION RESOURCES

IT DECISION-MAKER INSIGHTS

PROFESSIONAL DEVELOPMENT

JOB SATISFACTION

MANAGING DISRUPTION

LOOKING FORWARD

CONCLUSION

The IT industry in 2022 remains a strong, growing, evolving industry. Nearly 85% of our survey-takers reported that they felt good about their job security and nearly three-quarters reported having job satisfaction.

But there's no time to rest on laurels. To continue moving forward, IT professionals also need to continue to advance through training, skilling, and upskilling. Without continued learning, those in IT will:

- Fail to keep current on technology, decreasing productivity and output
- Struggle to retain current employees
- Experience increased difficulty recruiting qualified candidates

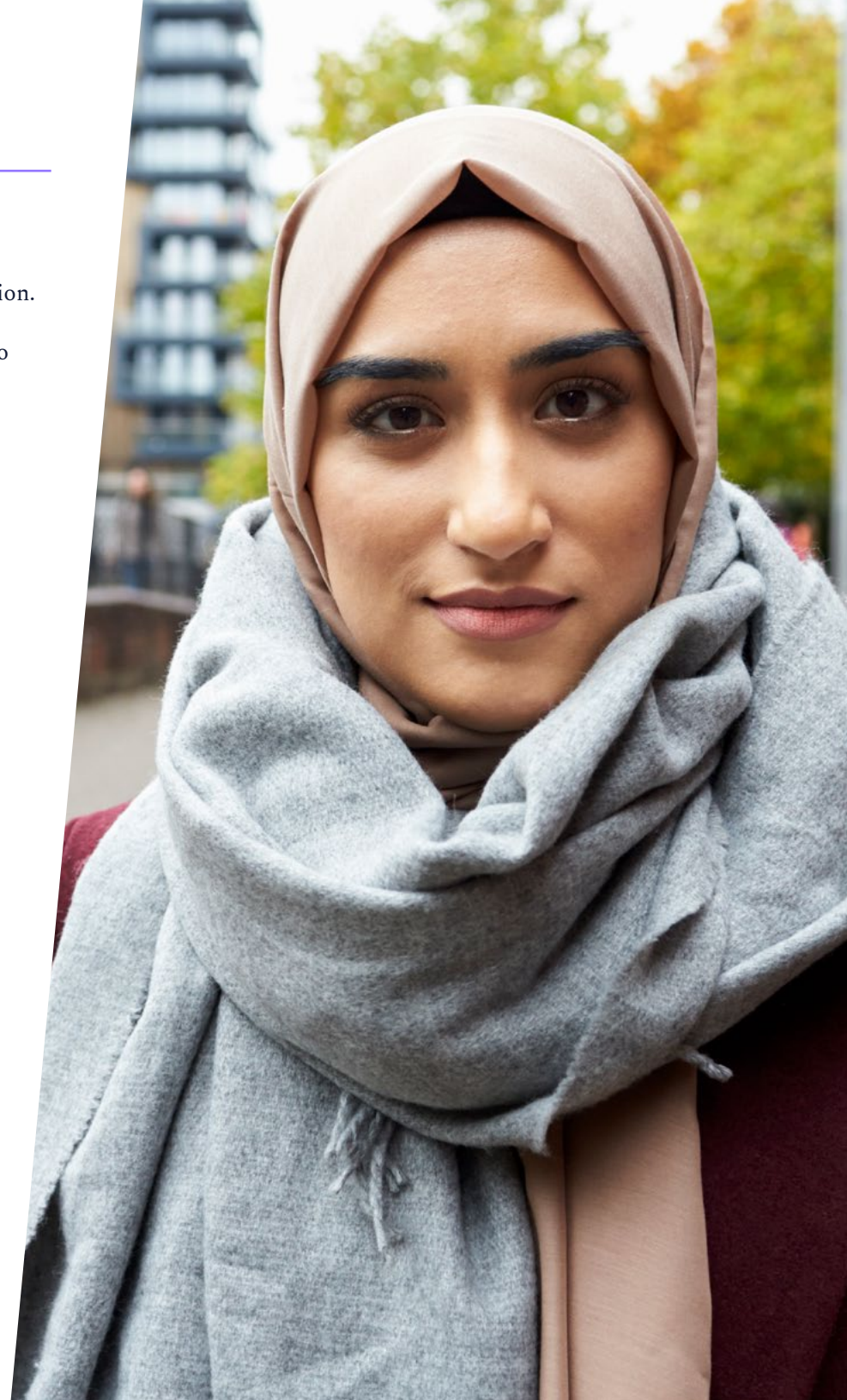
Most IT decision-makers in 2022 recognize this. For the first time since 2016, we are seeing a decrease in the skills gaps that we saw rise exponentially in the past.

That's good news. Really good news.

Organizations are prioritizing skilling and upskilling and planning for future technology advancements. We saw 72% of IT decision-makers say their organizations were providing formal training, up roughly 12% from last year. Eighty-five percent authorized training in the last 12 months, and a full 97% view certified staff as a value to their organization.

But more can be done.

Forty-five percent of employees feel that management does not see a need for investing in training. This last finding raises the question: if the majority of decision-makers say they are investing in skilling their employees, yet a significant number of employees feel that training isn't a priority, where is the discrepancy coming from?



Conclusion

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

The answer is communication.

Companies need to invest as much energy in communication training opportunities as they do in building the training programs themselves. They need to take stock of skills employees lack, and make sure that their training plans are effective, on target, and meet employee expectations. Continued learning needs to become part of the corporate culture, and it needs to be communicated.

IT has become more flexible in the post-pandemic world as employees seek greater work-life balance. And, employees still want more value to be placed on their efforts and contributions. Marginalized groups need to be heard — and for the most part, they felt they were in 2022. Employees must see a clear career path or, as we've reported this year and in years past, they'll look elsewhere.

Learning is where organizations have the power to effect lasting, meaningful change. Invest in your people. Invest in training them to tackle — and innovate — the next big thing. Invest in the future.

It's really as simple as that.



Conclusion

OVERVIEW

SALARY

CERTIFICATIONS

CERTIFICATION
RESOURCES

IT DECISION-MAKER
INSIGHTS

PROFESSIONAL
DEVELOPMENT

JOB SATISFACTION

MANAGING
DISRUPTION

LOOKING FORWARD

CONCLUSION

SURVEY METHODOLOGY

Skillsoft's 2022 IT Skills and Salary Survey was conducted online from May to August 2022 using the Qualtrics XM Platform. Skillsoft and technology companies distributed survey invitations to professionals around the world. The survey was made available in web articles, online newsletters, and social media. After cleaning the data, the survey yielded 7,952 complete responses from IT decision-makers and staff. The survey was tabulated using the Qualtrics XM Platform.

THANKS TO OUR PARTNERS

Skillsoft extends a special thank you to our partners for helping make this year's survey possible:

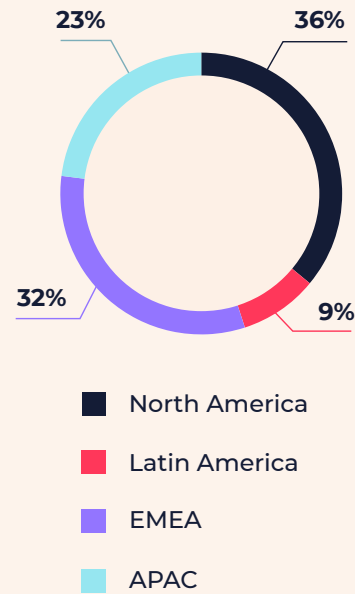


Conclusion

- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION**

DEMOGRAPHICS

RESIDING COUNTRY OR REGION



RESPONDENTS BY ROLE

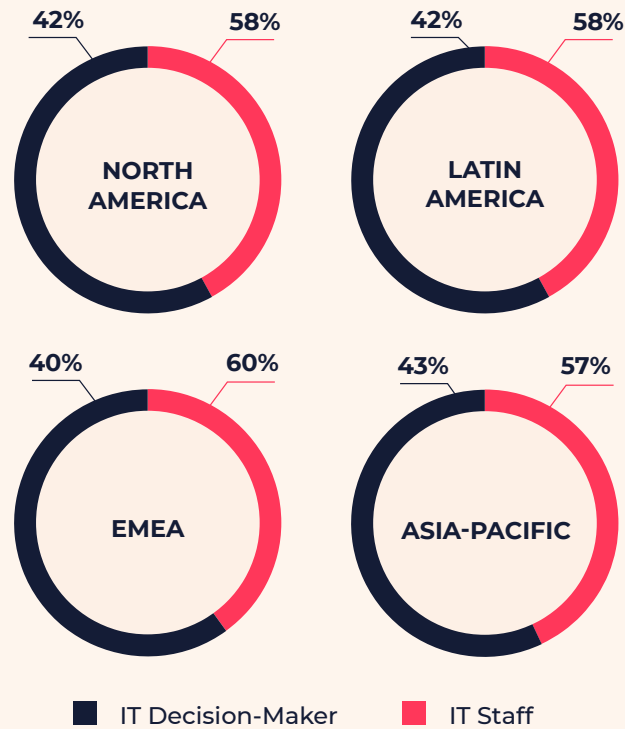
ROLE	PERCENTAGE	COUNT
Application Development, Programming	16%	1237
Infrastructure, Networking, and Telecommunications	15%	1155
IT Architecture and Design	12%	985
Cloud	10%	822
Cybersecurity, Information Security	8%	652
Service Desk and IT Support	7%	557
Data Science, Analytics, and Business Intelligence	5%	431
DevOps	5%	361
Other	4%	346
IT Auditing or Governance, Risk, and Compliance (GRC)	4%	321
Product / Project Management	4%	316
Executive (CEO, CIO, CISO, etc.)	3%	213
Business Analysis	2%	198
Business Operations	2%	127
Sales and Marketing	2%	123
Human Resources, Learning and Development	1%	71
Finance, Accounting	0%	21
Legal	0%	16

Conclusion

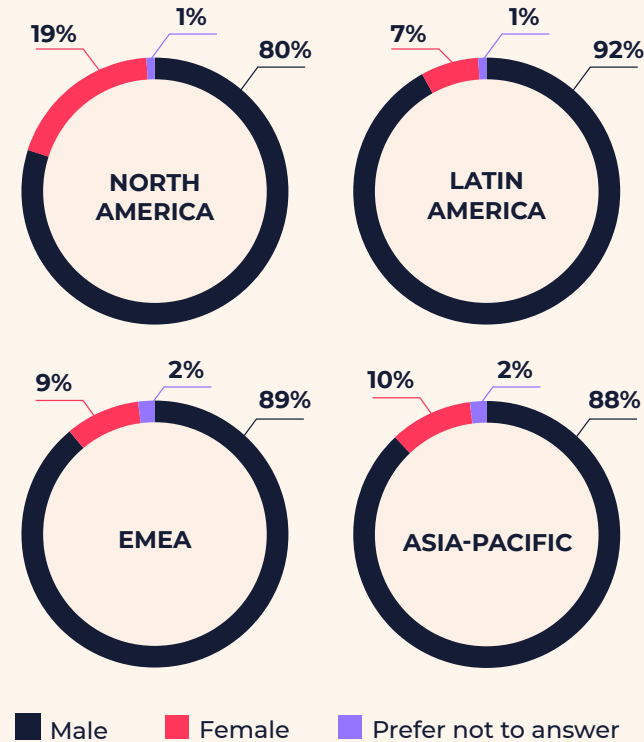
- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION**

DEMOGRAPHICS

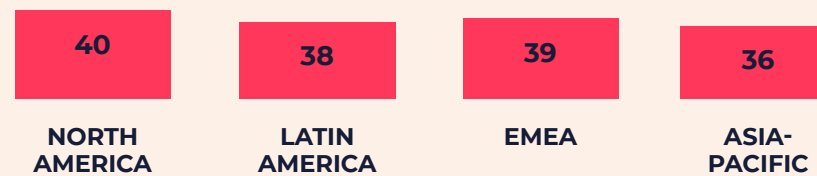
JOB ROLE



GENDER



AVERAGE AGE



In the survey, Skillsoft asks all participants whether they manage a team. If survey participants report managing a team, Skillsoft distinguishes them as IT decision-makers, who are then asked a series of questions that are not asked of all participants, including budget projections, training authorization, and more. Globally, 3,546 survey participants reported managing a team. In the report, we look at seniority, years of experience, and job roles to further qualify decision-makers.

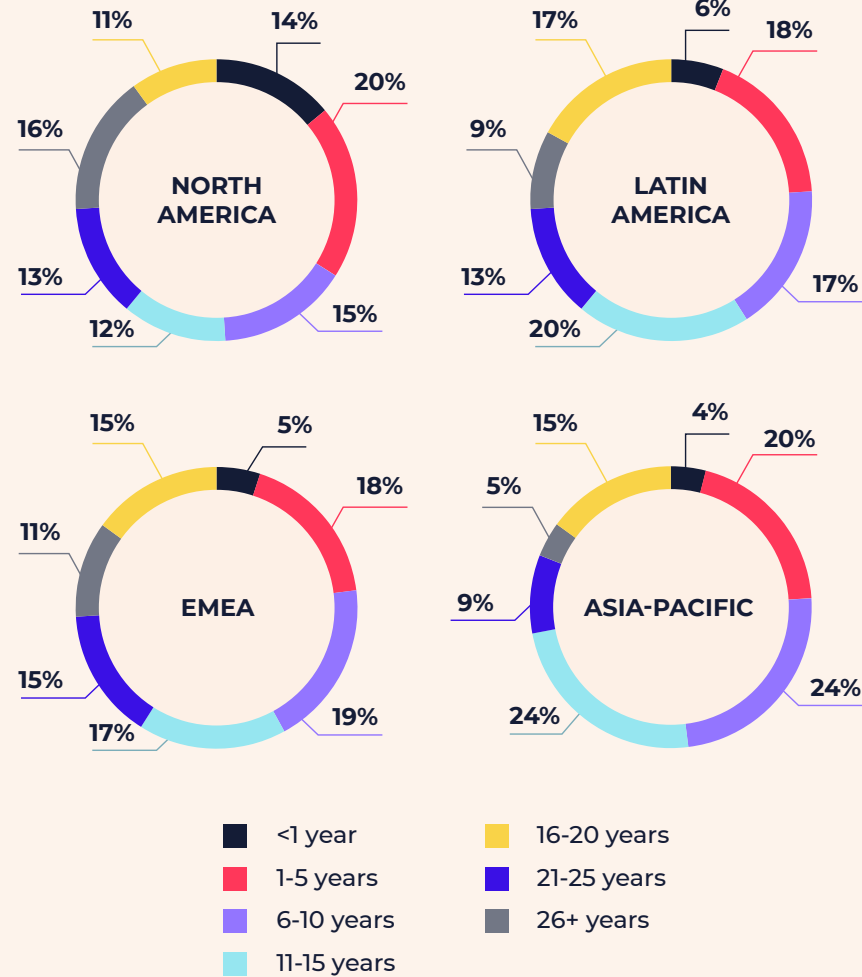


Conclusion

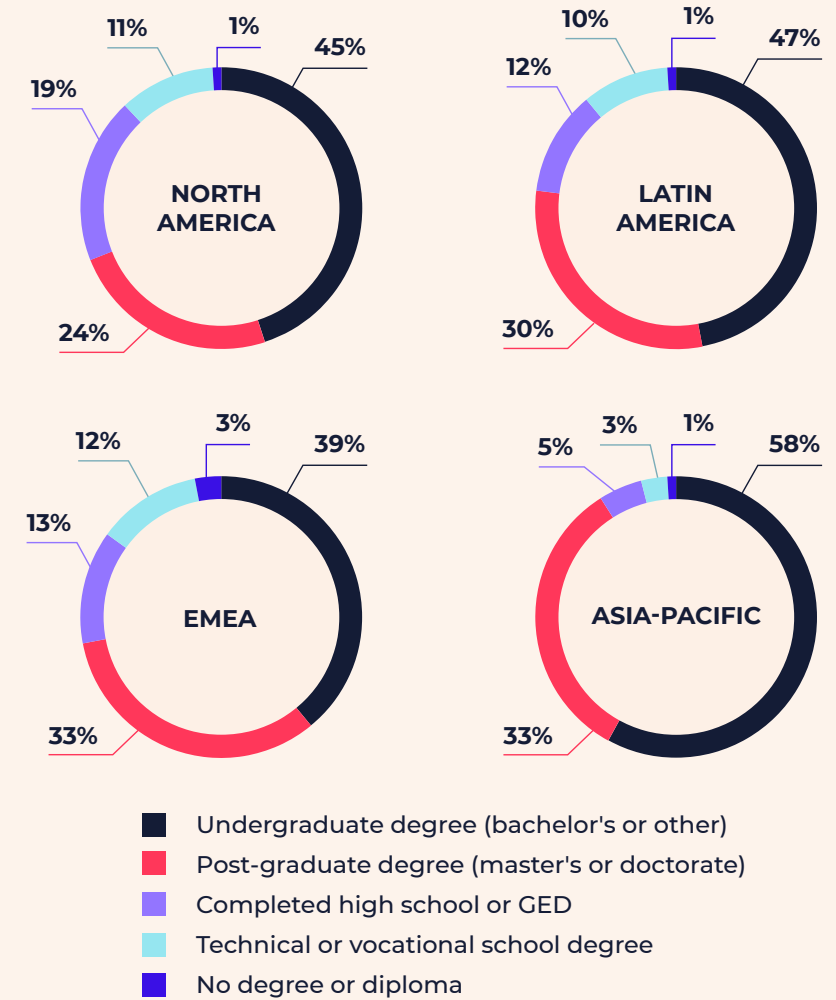
- OVERVIEW
- SALARY
- CERTIFICATIONS
- CERTIFICATION RESOURCES
- IT DECISION-MAKER INSIGHTS
- PROFESSIONAL DEVELOPMENT
- JOB SATISFACTION
- MANAGING DISRUPTION
- LOOKING FORWARD
- CONCLUSION**

DEMOGRAPHICS

CAREER EXPERIENCE



EDUCATION



About Skillsoft

Skillsoft (NYSE: SKIL) delivers transformative learning experiences that propel organizations and people to grow together. The Company partners with enterprise organizations and serves a global community of learners to prepare today's employees for tomorrow's economy. With Skillsoft, customers gain access to blended, multimodal learning experiences that do more than build skills, they grow a more capable, adaptive, and engaged workforce. Through a portfolio of best-in-class content, a platform that is personalized and connected to customer needs, world-class tech and a broad ecosystem of partners, Skillsoft drives continuous growth and performance for employees and their organizations by overcoming critical skill gaps and unlocking human potential.

Learn more at www.skillsoft.com.

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