Pearson VUE

2021 Value of IT Certification Report

A biennial look at the motivations for and impacts of IT certification on individuals and organizations around the globe.

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Facing adversity.
Adapting to change.
Confidently looking forward.

In a year unlike any in recent memory, the world learned much about dealing with uncertainty. About cultivating patience, working through challenges, and coping with adversity. We learned how interconnected we all are. And we struggled, frequently, to fill the empty hours with something positive.

In the early days of the global pandemic, technology proved invaluable. It informed, educated, connected, entertained, and enabled us. Organizations stood up remote teams within days. Schools went online. Everyone learned to video conference.

And almost immediately, the IT community began looking forward.

Beneath that canopy of dread and within those seemingly endless stretches of idle time, members of the IT community were observing, planning, studying, and achieving.

There were pivots. Stretch goals. Certifications aplenty. Accomplishments. Wins.

Some learned new technologies. Others revisited lesser-known areas. Several upskilled to fill résumé gaps. And many did it entirely on their own, without financial support from their employers.*

When we analyzed the data from this year's Value of IT Certification survey, we discovered a clear and common thread running through the results: one that showed the value individuals place on IT certification and credentialing, and the sustained efforts most put into attaining their goals.

Ultimately, it tells a story of personal and professional resiliency, of looking to the future, and of a lifelong commitment to learning.

We couldn't be more delighted by the results of this year's report. Read on to discover why.

It's a story of personal and professional resiliency, of looking to the future, and of a lifelong commitment to learning.

* We suspect this will change in the coming years, as employers discover how certifications can benefit their organizations. Stay tuned for our upcoming report exploring this side of the certification story.

Overview

Throughout 2020, Pearson VUE delivered millions of IT certification exams to candidates around the world. In our latest survey on the value of these coveted industry recognitions, we tapped into that pool of candidates, investigating both the motivations for pursuing and benefits of attaining certifications. The data helped us understand why candidates earn IT certifications, what they do to prepare for exams, and most importantly, how certification benefits them personally and professionally.

The resulting **2021 Value of IT Certification Report** summarizes the insights gleaned from more than 29,000 candidates who prepared for and earned IT certifications during the previous 12 months. It explores the motivations for seeking certification and the outcomes experienced as a result. This report builds upon six previously published reports and provides a current view of the value of certification from the candidate's perspective. Those candidates hail from North America, Latin America, Middle East and Africa (MEA), India, Greater China, Japan, and the rest of Asia Pacific (APAC). We know you'll enjoy hearing their stories and the insights we gained from them.

Insights from more than

29,000
CANDIDATES
who prepared for and earned IT certifications during the previous 12 months

Key findings

1. The demand for IT certification is growing.

The number of IT certification exams we delivered to candidates in 2020 reflects a 16% increase over the

16% INCREASE
in delivered exams from last year

previous year—and most of that was thanks to the candidates themselves. Survey data showed that employers were less likely to cover costs for training and certification, so candidates put in their own time, money, and effort to obtain credentials.

2. IT credentialing is a lifelong pursuit.

Although most candidates don't consider IT certification until after starting their careers, the number of certifications achieved accumulates over time. The average number of certifications held by candidates under 24 years old is four, while those over 55 years old have 10 certifications. Of candidates who earned certifications in

86% OF CANDIDATES
plan to pursue additional certifications

2020, 86% plan to pursue additional certifications over the next 12 months.

3. The top motivation behind IT certification is a desire to upskill.

Keeping up with advances in technology proved to be a strong

73% OF CANDIDATES
pursued IT certifications to obtain necessary skills

motivator, as 73% of candidates pursued IT certification to obtain necessary skills and enhance job

performance. The increased reliance on technology caused by the COVID-19 pandemic created a sense of urgency for IT skills and drove an additional 30% of candidates to pursue certification.

4. IT certification generates significant ROI for certification earners and their employers.

7 out of **10**
candidates met their goals

Seven out of 10 candidates met their goals for certification and would recommend certification

to someone seeking to start or advance a career in IT. As a result, many attained new jobs (36%), pay raises (28%), and job promotions (21%). Their employers felt a direct and favorable impact as well, experiencing benefits such as increased quality of work, productivity, efficiency, and the employee's ability to mentor others.

Why do people pursue IT certifications?

A DESIRE TO UPSKILL **73%**

Most candidates—73% of our respondents—cited the need to obtain particular skills, knowledge, or competencies as their reason for earning an IT certification. Many explained that upskilling was a priority because they needed specific skills to perform at work, or that they felt it was necessary in order to keep abreast of evolving technologies.

Global Knowledge's *2020 IT Skills and Salary Report* points out the inadequacy of development programs alone to properly skill companies: "The rate of technology change exceeding skills development programs is a leading cause of organizational skill gaps."

TO ENHANCE PROFESSIONAL PROFILES **56%**

The second-most important motivation respondents gave was to enhance their professional profiles. More than half (56%) believed that adding IT credentials updated and strengthened the impact of their résumés.

"I have been chasing a promotion for quite some time. I decided to better myself and attain my Blueprint certification and I believe this was part of the reason that I was promoted during a hard time for any business during COVID."

– Facebook Blueprint Business Skills certification holder, Australia

TO ADVANCE AND BE PROMOTED **56%**

Another 56% of candidates earned IT certifications to increase their chances of advancing and being promoted in their current roles, by acquiring new skills and knowledge.

TO PURSUE OTHER EMPLOYMENT OPPORTUNITIES **26%**

Some certification candidates (26%) were thinking even bigger, seeking an entirely new career. This was mentioned more often in India, the Middle East and Africa, and North America than in other countries where we surveyed.

Additionally, 13% of candidates considered themselves to be under-employed or were currently out of work. Those seeking to find better job opportunities through certification were significantly higher in the Middle East and Africa.

Interest in moving into specific IT roles was highest in Greater China (53%) and the Middle East and Africa (40%).

Dynamics in Japan deviated most from the global average, where desire for job change was low (14%) and the need to comply with job requirements high (22%).

What prompted you to pursue an IT certification?

Top Motivation	Global	N. America	L. America	MEA	India	G. China	Japan	Rest of APAC
Obtain skills, knowledge, or competence	**72.5%**	67.6%	75.6%	75.5%	73.0%	67.1%	73.6%	74.8%
Enhance professional profile and résumé	**56.8%**	59.4%	68.2%	63.0%	61.0%	51.7%	29.5%	63.6%
Advance or be promoted in my current job	**56.2%**	50.1%	64.7%	53.7%	60.7%	61.7%	43.1%	59.3%
Obtain a specific IT role	**32.4%**	25.3%	24.4%	40.0%	33.6%	52.5%	16.9%	34.8%
Make a job change	**26.2%**	30.8%	25.0%	31.6%	30.6%	22.7%	14.0%	27.9%
Fulfill a work or school requirement	**19.7%**	23.0%	15.5%	15.2%	12.2%	30.7%	22.7%	19.8%
Find work (I was/am under or unemployed)	**13.4%**	15.9%	8.1%	21.8%	16.2%	13.8%	4.4%	13.5%
Supplement my application for program or college admittance	**5.6%**	4.5%	6.4%	7.2%	7.9%	5.8%	0.9%	6.5%

Was COVID-19 a motivating factor?

When asked whether the COVID-19 pandemic influenced their decision to earn a certification, 30% said that it had. Many candidates found themselves with more time on their hands due to COVID-19 lockdowns. Others voiced concerns about job security. Additionally, an increased reliance on technology for remote working and learning created an urgency for candidates to gain skills in related areas.

Did the COVID-19 pandemic influence your interest in obtaining an IT certification?

	Global	*N. America*	*L. America*	*MEA*	*India*	*G. China*	*Japan*	*Rest of APAC*
Yes	**30.4%**	23.7%	30.1%	34.6%	38.6%	18.4%	31.0%	39.2%
No	**69.6%**	76.3%	69.9%	65.4%	61.4%	81.6%	69.9%	60.8%

Note: includes candidates who took exams between March and October 2020.

"Working from home during COVID-19 gave me the upper hand to focus on my certification and work on skills. I utilized my time and completed my certification."

– Cisco certification holder, India

Benefits for test-takers

Though earning new certifications is an accomplishment in and of itself, for many survey respondents, certifications were the means to a different end. These respondents set ambitious primary goals and most reported realizing a variety of benefits from their certification(s). From tangible accomplishments like pay raises and promotions, to more personal achievements such as increased respect from peers and higher job satisfaction, these primary goals were usually deliberate but certifications delivered unexpected benefits as well.
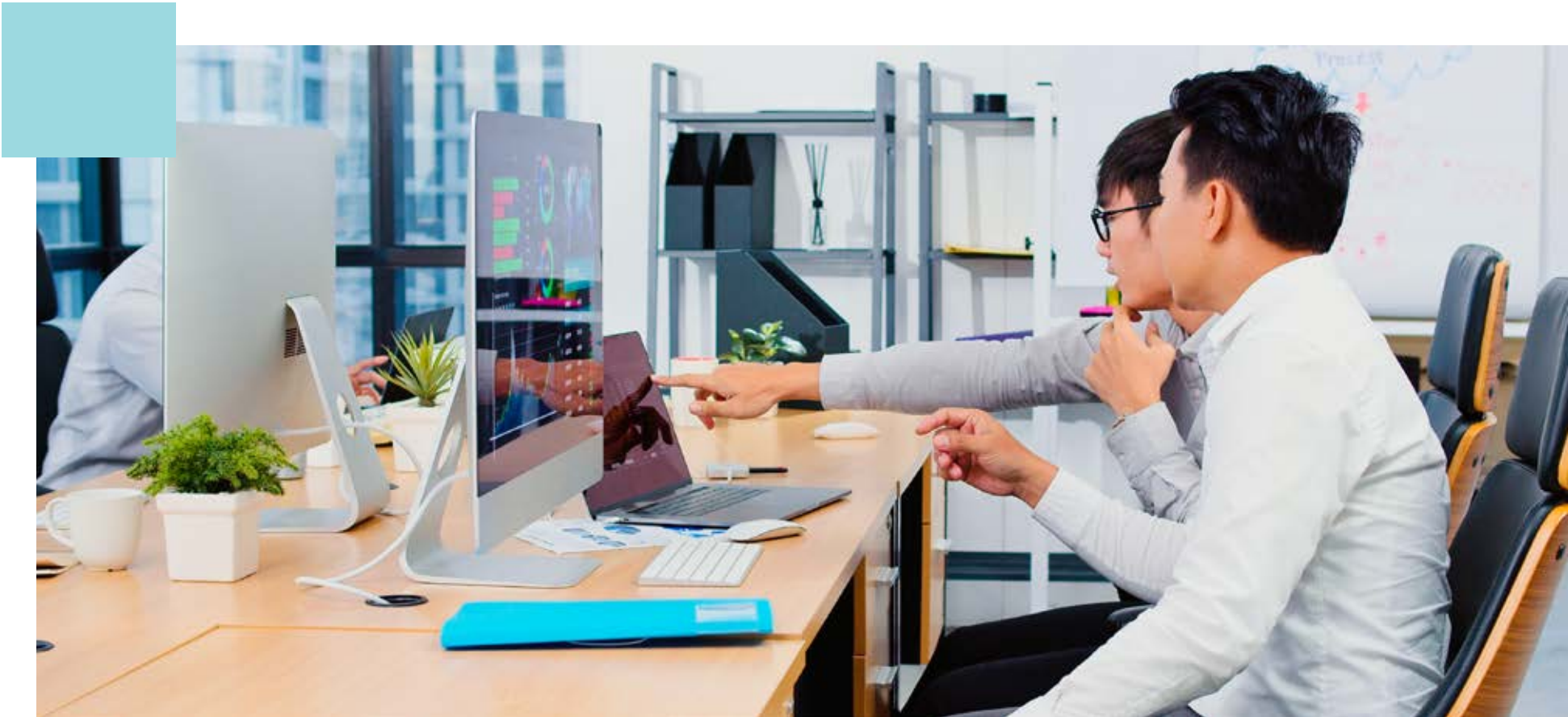
Monetary benefit of certification

For some candidates, earning more money was their ultimate payoff. And many were successful, with 28% receiving a salary or wage increase after earning a certification. This represents a 7% decrease from our previous report, which may be a result of more frugal business practices during the pandemic. Another 42% had not yet seen a pay raise at the time of the survey but were hopeful.

> *"The major benefit I received after the Architect certification was a promotion and salary hike. Aside from this, I have received respect on my projects among my peers and with management as well."*
>
> – Dell certification holder, India

Of those who earned a pay increase,

55%
WERE REWARDED

within **three months** of earning their credential. Within six months that jumped to

77%

- Fewer candidates received pay increases this year compared to our previous survey; COVID-19 likely played a role in this.

- Candidates in Greater China, India, the rest of APAC (except Japan), and Latin America were more likely to receive salary or wage increases, as well as those earning credentials in certain specialties (e.g., 3D modeling, Extended Reality, DevOps, Open Source, and Collaboration).

- 50% of candidates received a pay increase of between 6% to 20%, which is significantly higher than the average 2020 salary increase of 2.5% (ECA International's *2020-2021 Salary Trends Report*).

Scale of increase
28% of candidates received a pay increase. The amount of those increases broke down as follows:

Amount of pay increase	Percentage of recipients
50%+	7%
31-50%	9%
21-30%	13%
11-20%	23%
6-10%	27%
Less than 5%	22%

Global salary and wage increases

28% — Yes

30% — No

42% — Not yet but still hoping to
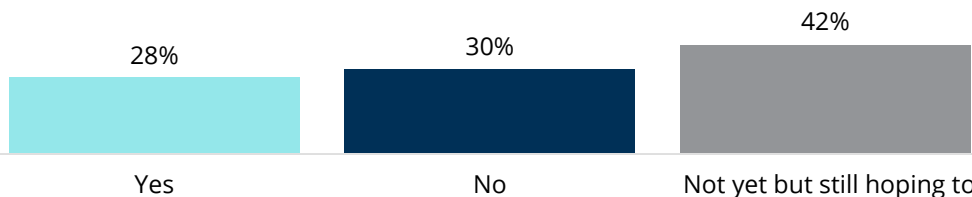
Regional salary and wage increases

Legend:
- Yes
- Not yet but still hoping to
- Significantly higher or lower than global average

Region	Yes	Not yet but still hoping to
N. America	24% ▼	40% ▼
L. America	33% ▲	40% ▼
Middle East & Africa	24% ▼	52% ▲
India	36% ▲	43%
Japan	17% ▼	32% ▼
G.China	35% ▲	44%
Rest of APAC	31% ▲	42%
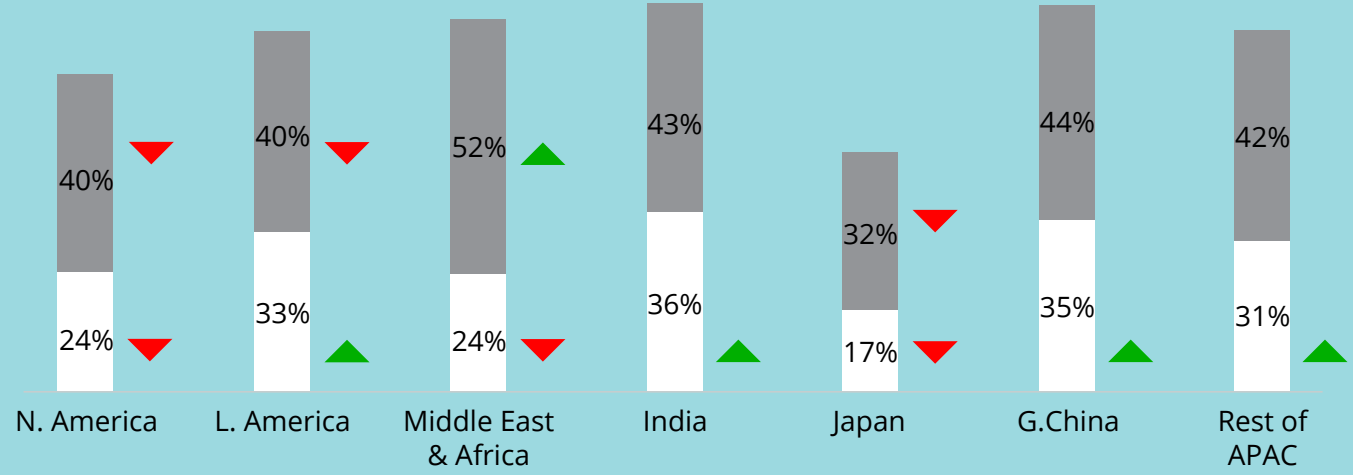
Wage increases by specialty area

Legend:
- Yes
- Not yet but still hoping to

Specialty	Yes	Not yet but still hoping to
3D Modeling /CAD	55%	9%
Extended Reality (VR, AR, MR)	45%	0%
DevOps	40%	36%
Open Source	38%	34%
Collaboration, Telephony, and Video/Web Conferencing	37%	39%
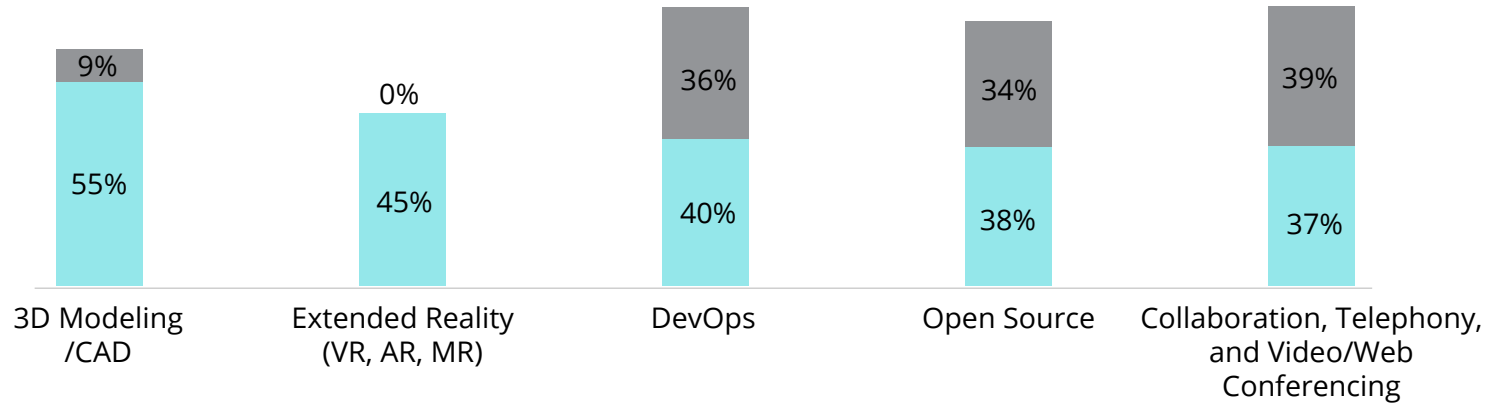
Time until pay increase received

(cumulative progression)

Immediately	15%
Within 1 month	28%
Within 3 months	55%
Within 6 months	77%
Within 1 year	93%
More than 1 year	100%
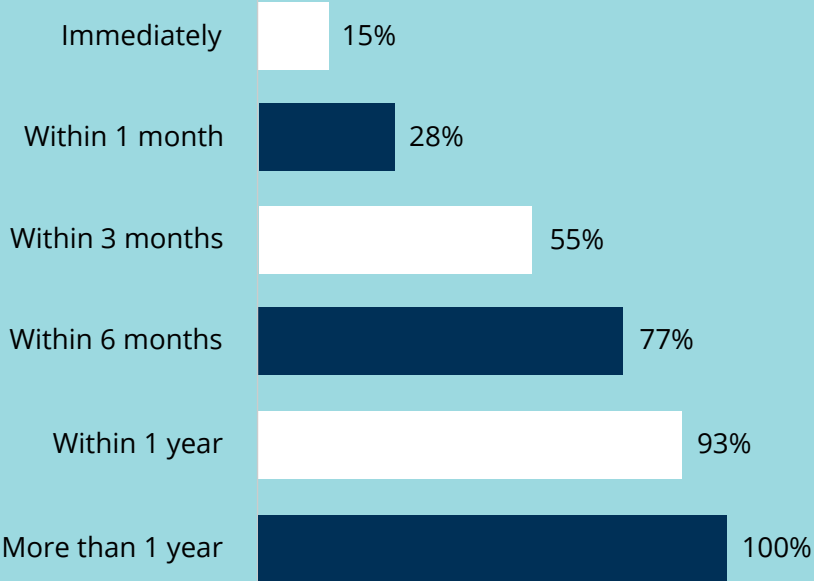
Amount of pay increase - global

Up to 5%	6% - 10%	11% - 20%	21% - 30%	31% - 50%	51% or more
22%	27%	23%	13%	9%	7%
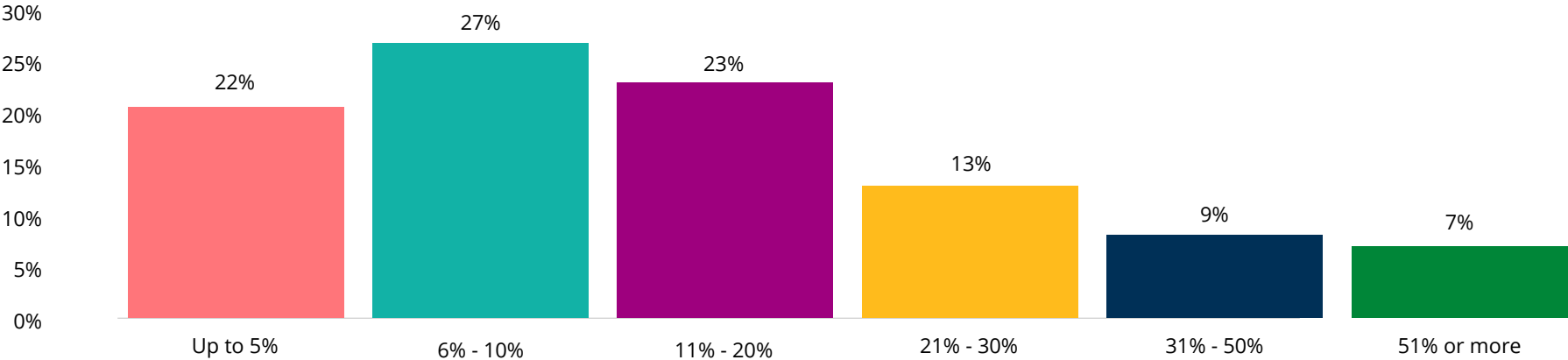
Amount of pay increase by region

Legend:
- Up to 5%
- 6% - 10%
- 11% - 20%
- 21% - 30%
- 31% - 50%
- 51% or more

N. America: 27%, 29%, 19%, 11%, 8%, 6%

L. America: 12%, 24%, 25%, 19%, 11%, 9%

Middle East and Africa: 13%, 23%, 28%, 17%, 11%, 9%

India: 15%, 26%, 22%, 17%, 13%, 8%

Japan: 56%, 28%, 11%, 0%, 2%, 2%

G.China: 24%, 36%, 24%, 8%, 4%, 5%

Rest of APAC: 19%, 27%, 23%, 15%, 10%, 6%
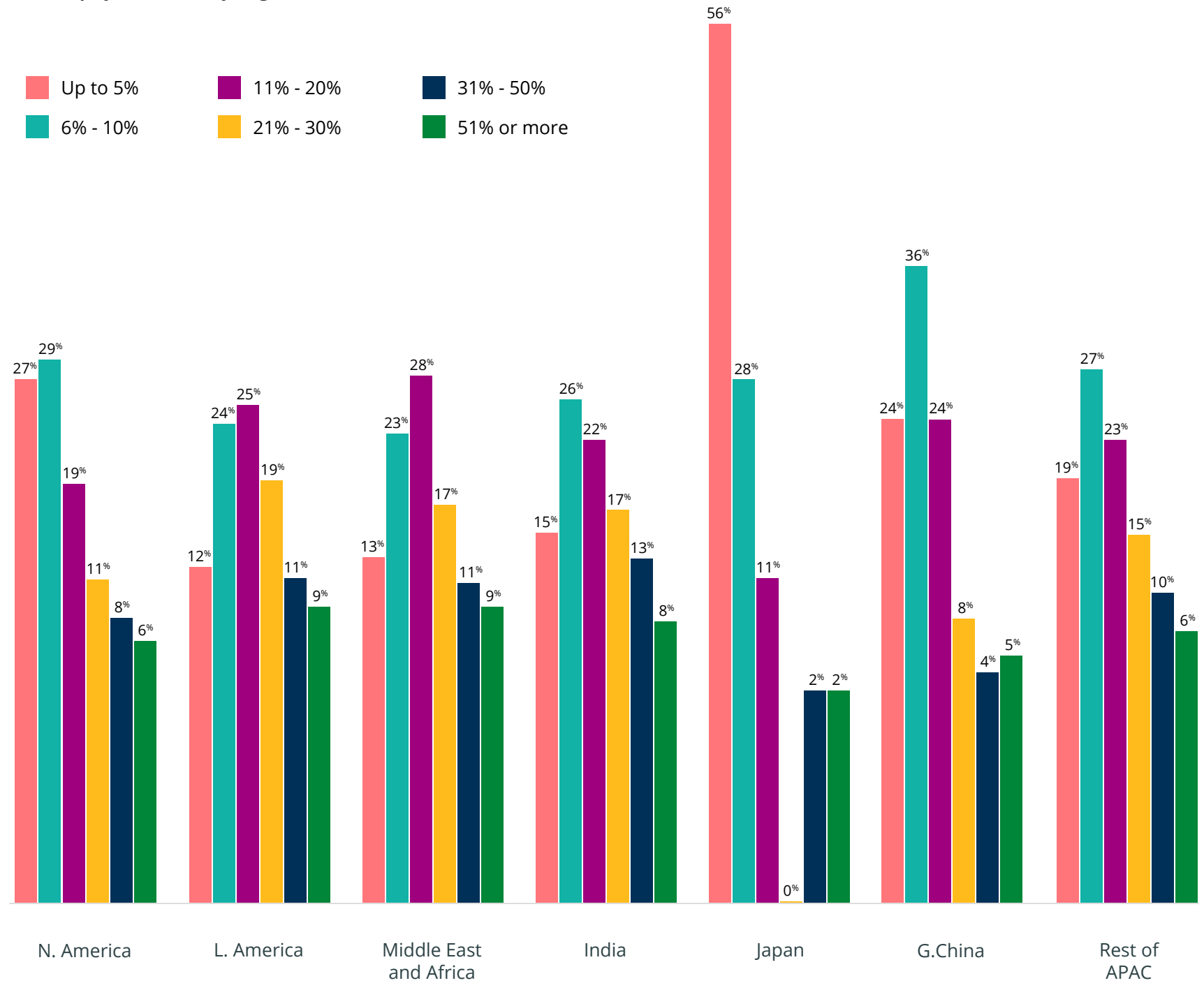
Other extrinsic (tangible) benefits

Besides raises in pay, candidates received other concrete benefits from certification, such as job promotions or advancements (21%) and new job opportunities. Another 23% found new jobs in a similar industry and 13% found new jobs in a different industry.

"The certification allowed me a higher salary and new job opportunities."

– Microsoft certification holder, Brazil

NEW JOBS IN THE
SAME INDUSTRY **23%**

PROMOTION AND
JOB ADVANCEMENT **21%**

NEW JOBS IN A
DIFFERENT INDUSTRY **13%**

Intrinsic (personal) benefits

Aside from extrinsic benefits, candidates experienced many intrinsic benefits from certification, such as increased confidence in their abilities, greater determination to succeed, feeling more respected by co-workers, greater job satisfaction, and greater autonomy at work.

INCREASED CONFIDENCE **91%**

GREATER DETERMINATION TO SUCCEED PROFESSIONALLY **84%**

INCREASED RESPECT FROM PEERS **76%**

GREATER JOB SATISFACTION **76%**

GREATER WORK AUTONOMY AND INDEPENDENCE **74%**

Did you achieve your primary certification-related goal?

Candidates were asked to identify the most important reason they planned to earn a certification, and whether they fulfilled that goal. A majority of candidates (70%) successfully fulfilled these primary goals. Only three percent did not, and the remaining 26% were still hoping to do so. Unsurprisingly, candidates most concerned with upskilling had the highest rate of success, at 82%. Those candidates primarily interested in enhancing their professional profiles and résumés (77%) felt they had succeeded.

At the time the survey was conducted, 61% of candidates who hoped to advance or be promoted had received promotions. An additional 34% were optimistic. Furthermore, 61% were able to obtain the specific IT roles they wanted, with success rates being especially high in Greater China, where 71% obtained sought-after positions.

Additionally, 41% of candidates found new employment and 39% transitioned into careers in a different industry.

Did you accomplish this primary goal?

	Global	*N. America*	*L. America*	*MEA*	*India*	*G. China*	*Japan*	*Rest of APAC*
Yes	**70.4%**	73.9%	77.4%	63.6%	74.3%	62.5%	70.6%	70.9%
No	**3.4%**	3.6%	2.7%	2.8%	2.0%	3.6%	6.1%	2.7%
Not yet but I'm still hopeful	**26.2%**	22.5%	19.9%	33.6%	23.7%	33.8%	23.3%	26.4%

Primary goal attainment by type
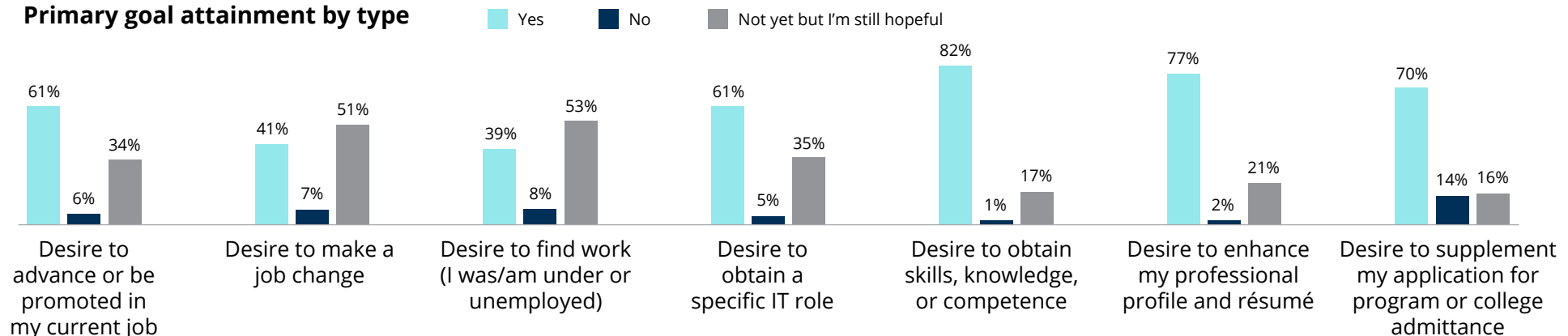
Benefits for employers

Many of the benefits that result from certification favorably impact both the candidate and his or her place of employment. Outcomes such as increased work quality, productivity, efficiency, innovation, and the ability to mentor others are direct benefits to work processes and people, which ultimately impact business profitability. For example, according to Global Knowledge's *2020 IT Skills and Salary Report*, IT decision makers estimated the return on investment for each credentialed staff member to be about $10,000.

Read on to discover how organizations benefited when their employees attained new IT certifications.

Estimated ROI per credentialed employee

$10,000
ADDED VALUE
per certified employee*

*Global Knowledge's *2020 IT Skills and Salary Report*

INCREASED QUALITY AND VALUE OF WORK CONTRIBUTIONS **81%**

GREATER ABILITY TO MENTOR AND SUPPORT CO-WORKERS **80%**

INCREASED ABILITY TO INNOVATE AND ENHANCE WORK PROCESSES AND OUTCOMES **77%**

ABLE TO PERFORM A TASK OR FILL A ROLE THAT I WAS NOT ABLE TO BEFORE **75%**

INCREASED EFFICIENCY (PRODUCE MORE IN LESS TIME) **72%**

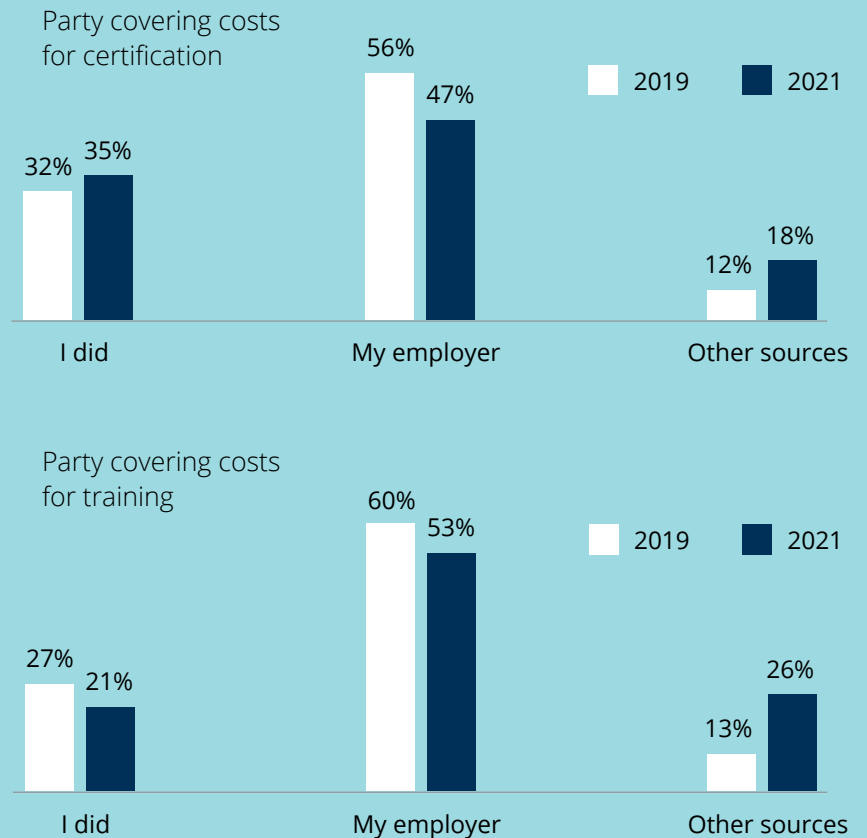INCREASED PRODUCTIVITY (PRODUCE MORE OVERALL) **71%**

Coming soon!

This year's Value of IT Certification report is the first to consider the ancillary benefits employers realize when their employees pursue certifications. A more in-depth exploration of these positive outcomes will be revealed in an upcoming Pearson VUE report.

Employer investment in upskilling

As previously noted, this year's survey results showed that fewer employers covered certification costs, compared to the report we published in 2019 (47% vs. 56%, respectively). Employer-funded training also decreased, from 60% to 53%. Decreases in employer investment for employee upskilling occurred globally, excepting Greater China. Chinese employer investment in certifications was the same and their spending for training significantly increased.

When employers covered the costs for certification, employees were less likely to seek new opportunities outside of the company (74% compared to 87%). This is especially noteworthy given the impact on employee turnover, which is typically a significant financial loss for companies.

Funding for certification and training, 2019 to 2021 data sets – global

Party covering costs for certification

2019 2021

	I did	My employer	Other sources
2019	32%	56%	12%
2021	35%	47%	18%

Party covering costs for training

2019 2021

	I did	My employer	Other sources
2019	27%	60%	13%
2021	21%	53%	26%

Certification dynamics

The number of certification exams Pearson VUE delivered in 2020 increased 16% compared to the previous year. As a result of the pandemic, the number of candidates who opted for online, at-home testing with OnVUE swelled, growing by more than 300%. Where possible, a stratified sampling strategy was used to obtain representative responses of candidates for each IT certification.

SPECIALIZATIONS

- 28% of all certifications earned in 2020 were in cloud computing—representing a 164% growth from the year before.

- Network and wireless certifications were earned by 15% of candidates; however, volumes in this specialty dropped by 23%.

- Other specialties with high growth since 2019 were DevOps, enterprise architecture, and business skills.

- Interest in security is highest in Greater China and North America.
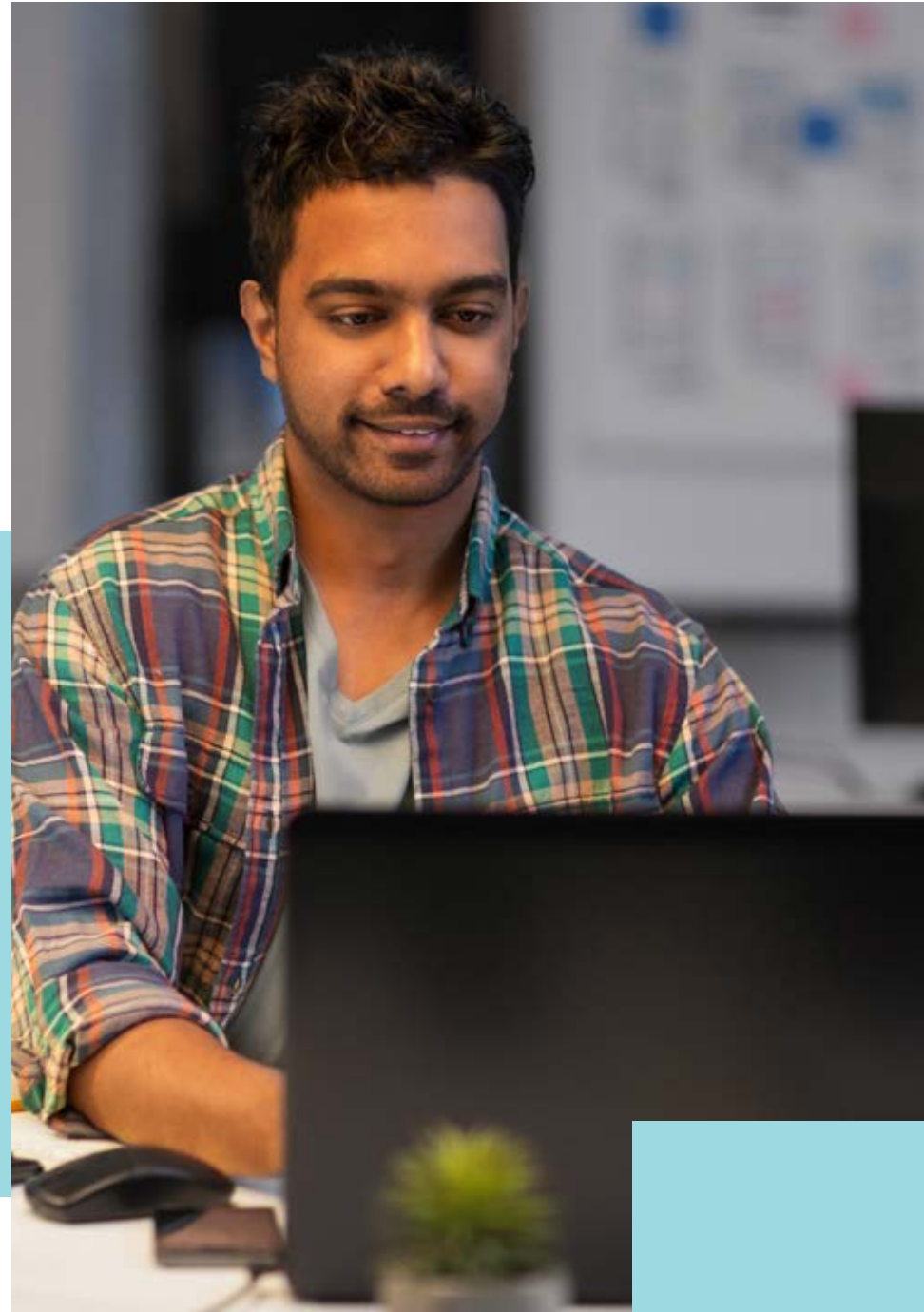
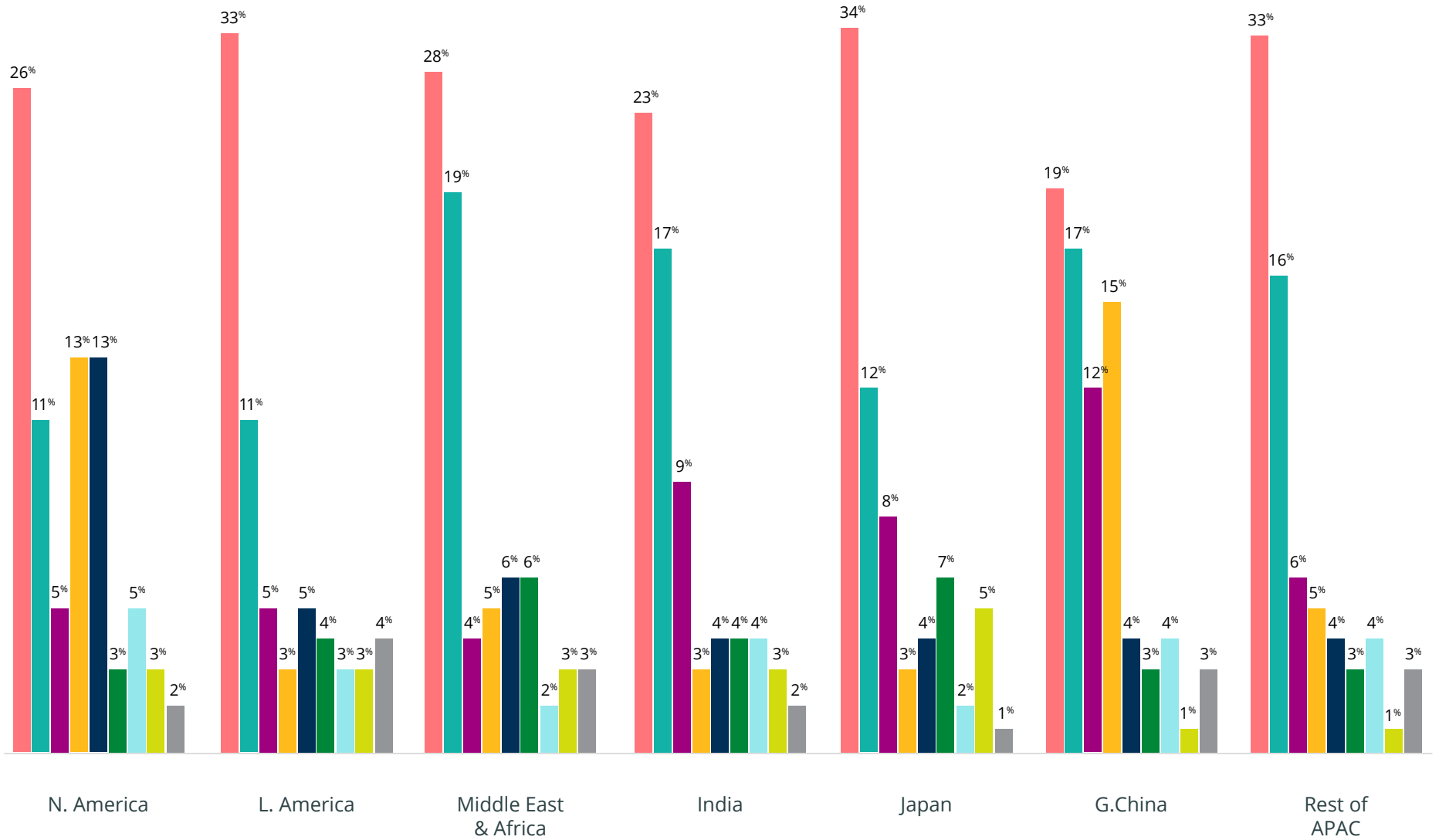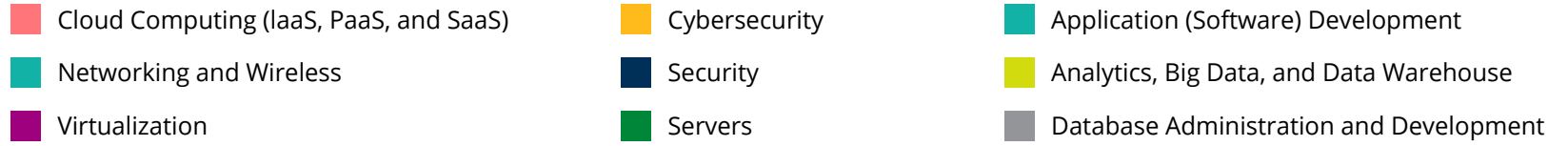|	Specialty	2019	2021	19-21 Change
1	Cloud Computing (IaaS, PaaS, and SaaS)	11%	28%	164%
2	Networking and Wireless	19%	15%	-23%
3	Virtualization	7%	7%	-9%
4	Cybersecurity	NA	7%	NA
5	Security	16%	6%	-65%
6	Servers	5%	5%	-13%
7	Application (Software) Development	5%	4%	-19%
8	Analytics, Big Data, and Data Warehouse	4%	3%	-8%
9	Database Administration and Development	6%	3%	-50%
10	Enterprise Architecture	2%	3%	63%
11	Business Skills	1%	2%	62%
12	CRM and ERP	2%	2%	11%
13	Operating Systems	3%	2%	-41%
14	DevOps	0.8%	1.8%	125%
15	Storage	3.5%	1.7%	-51%
16	Business Applications and Desktop Productivity	1.0%	1.5%	50%
17	Help Desk	1.6%	1.4%	-13%
18	IoT/Cloud Convergence	0.9%	1.3%	44%
19	Web Development	1.6%	1.3%	-19%
20	Artificial Intelligence/Machine Learning	NA	1.0%	NA
21	Project Management, Agile, and/or Scrum	1.6%	1.0%	-38%
22	Collaboration, Telephony, and Video/Web Conferencing	1.1%	0.8%	-27%
23	e-Commerce/e-Business	0.7%	0.6%	-14%
24	Leadership and Management	0.8%	0.5%	-38%
25	Mobile	0.7%	0.4%	-43%
26	Quality Assurance	1.1%	0.3%	-73%
27	Voice Engineering	0.2%	0.3%	50%
28	Middleware	1.4%	0.2%	-86%
29	Open Source	0.5%	0.2%	-60%
30	3D Modeling/CAD	0.3%	0.1%	-67%
31	Multimedia Production and Graphics Design	0.0%	0.1%	NA
32	Extended Reality (VR, AR, MR)	NA	0.0%	NA
33	Game Development	NA	0.0%	NA

Specialties by region

Legend:
- Cloud Computing (IaaS, PaaS, and SaaS)
- Cybersecurity
- Application (Software) Development
- Networking and Wireless
- Security
- Analytics, Big Data, and Data Warehouse
- Virtualization
- Servers
- Database Administration and Development

N. America: 26%, 11%, 5%, 13%, 13%, 3%, 5%, 3%, 2%

L. America: 33%, 11%, 5%, 3%, 5%, 4%, 3%, 3%, 4%

Middle East & Africa: 28%, 19%, 4%, 5%, 6%, 6%, 2%, 3%, 3%

India: 23%, 17%, 9%, 3%, 4%, 4%, 4%, 3%, 2%

Japan: 34%, 12%, 8%, 3%, 4%, 7%, 2%, 5%, 1%

G.China: 19%, 17%, 12%, 15%, 4%, 3%, 4%, 1%, 3%

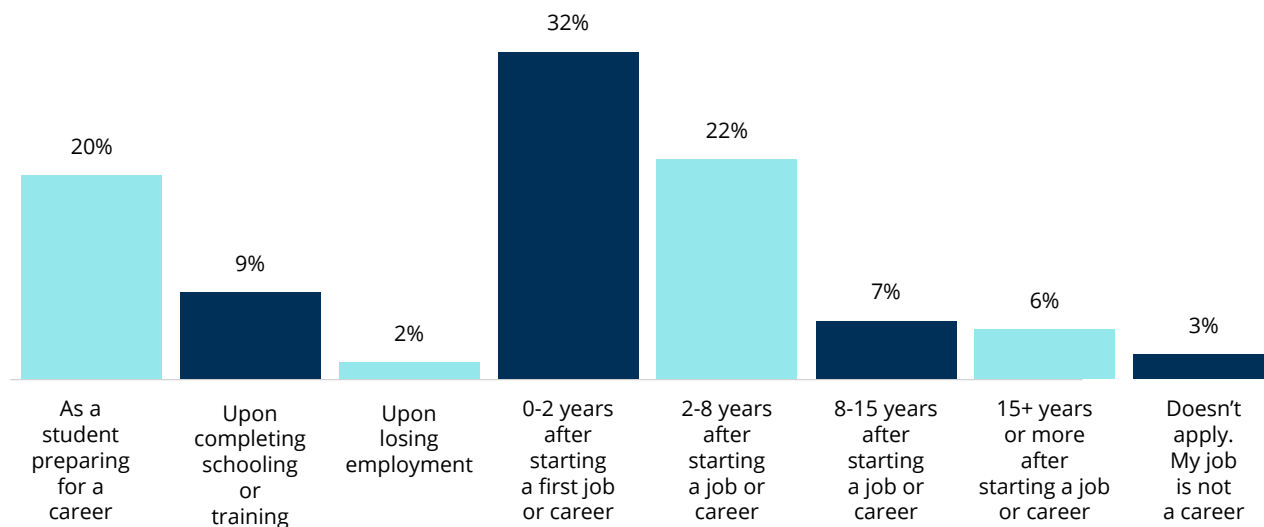**Rest of APAC:** 33%, 16%, 6%, 5%, 4%, 3%, 4%, 1%, 3%

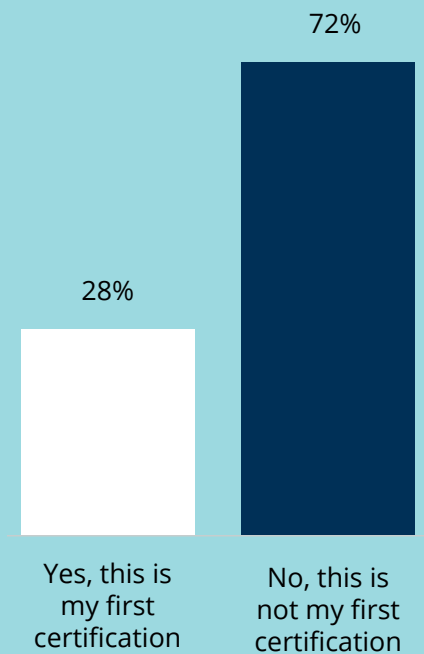# First-time versus multiple certification earners

Survey data revealed that 28% of respondents were working toward their first certification. Higher proportions of first-time certification seekers were just starting their careers, while those in mid-career or senior-level positions had already earned multiple certifications. Fewer than 30% of candidates earned their first certification while still in school or before starting a job. More than half realized the need for certification within the first eight years of their career.

The average number of certifications held by candidates who were not first-timers is seven. The number of certifications held increases both with education and career tenure—confirming that the pursuit of new skills through certification is a lifelong one.

Life stage when first seeking certification

20%	9%	2%	32%	22%	7%	6%	3%
As a student preparing for a career	Upon completing schooling or training	Upon losing employment	0-2 years after starting a first job or career	2-8 years after starting a job or career	8-15 years after starting a job or career	15+ years or more after starting a job or career	Doesn't apply. My job is not a career

First-time versus multiple credential holders

28%	72%
Yes, this is my first certification	No, this is not my first certification

Average number of certifications earned by region

	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Total certifications	**7.08**	7.14	6.13	5.4	8.33	7.01	7.31	7.53

Average number of certifications held by education and career level

Total certifications by education

Less than high school/ secondary school	High school/ secondary school diploma or equivalent	Associates degree or technical, trade, or vocational school completion	Tertiary education/ bachelor	Graduate or professional degree
5.1	7.9	7.8	7.0	7.1
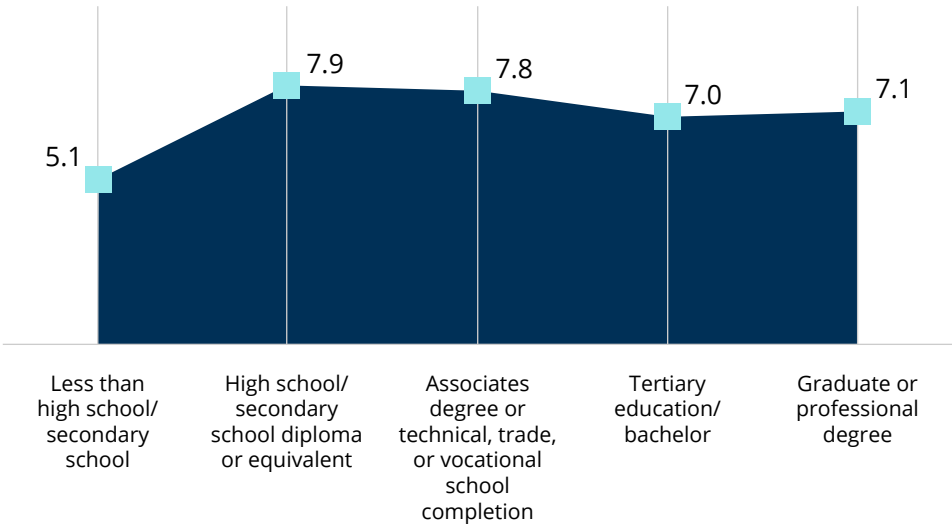
Total certifications by career level

Not currently employed or a student	Entry-level (0-2 years avg.)	Professional or intermediate level (2-8 years avg.)	Mid-level (8-15 years avg.)	Senior level (15+ years avg.)
5.1	4.0	5.1	7.0	9.8
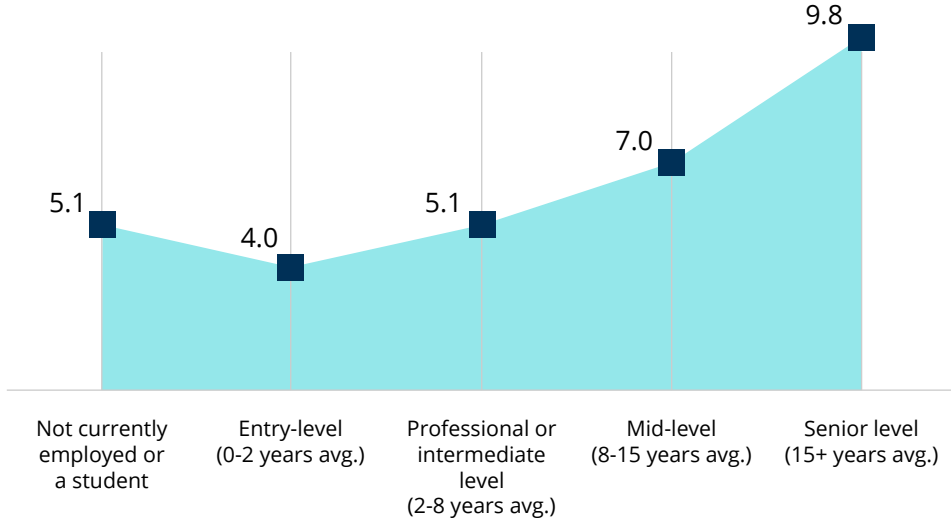
Exam preparation methods

Self-directed learning materials are commonly used when preparing for certification exams. Over half of the respondents in our survey accessed free materials and an additional 32% paid for self-directed materials. About one in four respondents attended training courses hosted by commercial centers or by employers. Commercial training centers were considered the most effective means of preparation.

Preparation methods

	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Commercial training center	**28%**	25%	23%	29%	26%	24%	41%	30%
Employer	**25%**	23%	26%	21%	35%	19%	30%	28%
Academic course	**15%**	17%	17%	16%	17%	7%	18%	14%
Purchased self-directed materials	**32%**	37%	30%	29%	24%	42%	30%	27%
Textbooks or subscriptions	**16%**	21%	18%	16%	11%	17%	16%	14%
Free materials	**53%**	58%	64%	60%	52%	35%	37%	58%
Practice tests	**37%**	52%	38%	46%	38%	14%	25%	43%
Practice labs	**25%**	30%	26%	34%	27%	10%	17%	29%

Most effective exam preparation methods

	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Commercial training center	**1.66**	1.68	1.71	1.81	1.66	1.3	1.34	1.65
Employer	**1.67**	1.73	1.67	1.77	1.51	1.36	1.71	1.75
Academic course	**1.98**	1.89	2.02	2.04	1.92	1.51	2.07	2.09
Purchased self-directed materials	**2.05**	2.17	2.08	2.09	2.16	1.55	2.08	2.16
Textbooks or subscriptions	**2.45**	2.6	2.4	2.37	2.56	1.69	2.57	2.77
Free materials	**2.05**	2.3	1.94	1.99	1.96	1.82	2.24	2.07
Practice tests	**2.28**	2.3	2.29	2.34	2.37	1.91	2.07	2.22
Practice labs	**2.5**	2.7	2.5	2.4	2.46	2.1	2.43	2.48

Based on order of effectiveness of each method where 1= most effective and 5 = least effective

Future plans

The future looks promising for the IT certification industry. Most of our respondents not only recommend certification to their peers, but they intend to continue their own certification efforts, expanding their knowledge and skill sets.

LIKELIHOOD OF RECOMMENDING CERTIFICATION

- 89% of candidates are likely to recommend certification to someone hoping to begin or advance in a technology-related career.

- Candidates who fulfilled their goal for obtaining certification are 40% more likely to recommend it to others compared to those who did not.

Likely to recommend
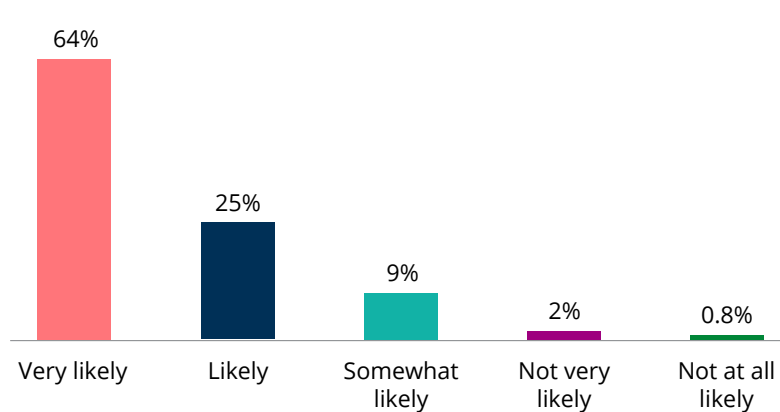
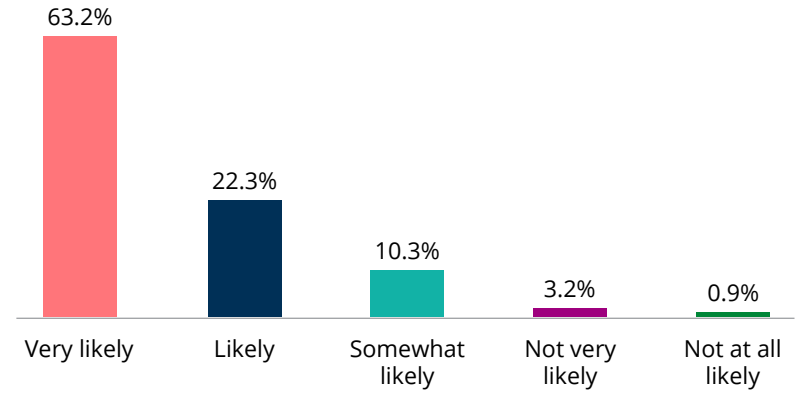**Likely to recommend based on goal attainment**
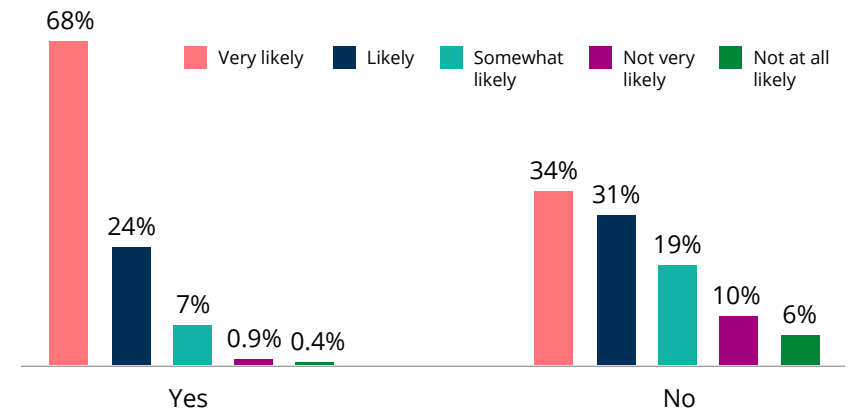
LIKELIHOOD OF RECERTIFYING IN THE NEXT 12 MONTHS

- 86% of candidates are likely to recertify in the next 12 months. The specialties with greatest interest are cloud, networking and wireless, virtualization, cybersecurity, security, and servers.

86%
OF CANDIDATES
are likely to recertify in the next 12 months

Intent to recertify in the next 12 months

Very likely	Likely	Somewhat likely	Not very likely	Not at all likely
63.2%	22.3%	10.3%	3.2%	0.9%

Recertification intent by region

Legend: Very likely | Likely | Somewhat likely | Not very likely | Not at all likely

Region	Very likely	Somewhat likely	Not very likely		Not at all likely
N. America	65%	16%	12%	6%	2%
L. America	77%	17%	5%	2%	0%
Middle East and Africa	74%	17%	8%	2%	0%
India	60%	25%	10%	3%	1%
Japan	52%	31%	13%	3%	1%
G.China	50%	26%	16%	6%	2%
Rest of APAC	58%	26%	12%	3%	1%
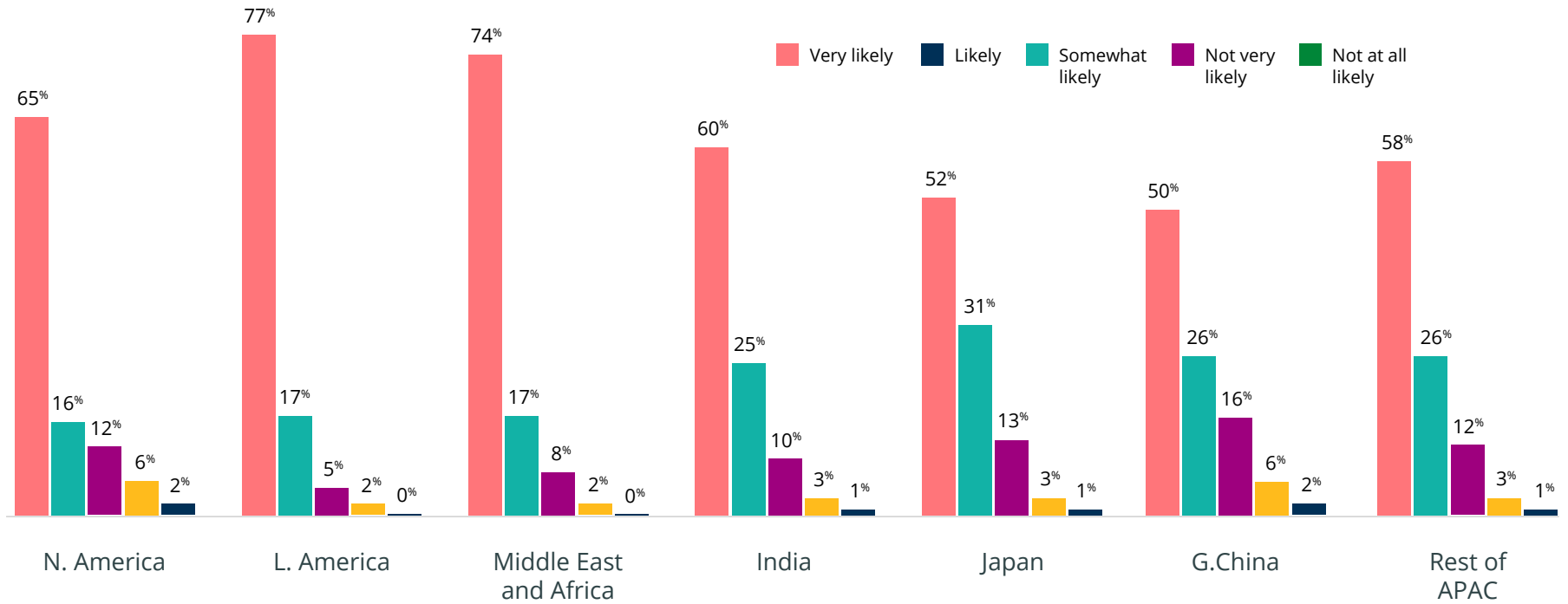
Specialties of interest and growth forecast

	Specialty	2021	2022 Forecast	21-22 Growth
1	Cloud Computing (IaaS, PaaS, and SaaS)	28%	50%	78%
2	Networking and Wireless	15%	23%	60%
3	Virtualization	7%	28%	324%
4	Cybersecurity	7%	33%	405%
5	Security	6%	27%	366%
6	Servers	5%	22%	383%
7	Application (Software) Development	4%	14%	267%
8	Analytics, Big Data, and Data Warehouse	3%	18%	445%
9	Database Administration and Development	3%	12%	325%
10	Enterprise Architecture	3%	9%	246%
11	Business Skills	2%	11%	400%
12	CRM and ERP	2%	6%	200%
13	Operating Systems	2%	13%	555%
14	DevOps	1.8%	19%	944%
15	Storage	1.7%	16%	853%
16	Business Applications and Desktop Productivity	1.5%	6%	327%
17	Help Desk	1.4%	5%	229%
18	IoT/Cloud Convergence	1.3%	14%	969%
19	Web Development	1.3%	10%	685%
20	Artificial Intelligence/Machine Learning	1.0%	20%	1940%

	Specialty	2021	2022 Forecast	21-22 Growth
21	Project Management, Agile, and/or Scrum	1.0%	11%	970%
22	Collaboration, Telephony, and Video/Web Conferencing	0.8%	4%	425%
23	e-Commerce/e-Business	0.6%	5%	650%
24	Leadership and Management	0.5%	9%	1600%
25	Mobile	0.4%	5%	1125%
26	Quality Assurance	0.3%	3%	1000%
27	Voice Engineering	0.3%	3%	833%
28	Middleware	0.2%	3%	1150%
29	Open Source	0.2%	6%	2750%
30	3D Modeling/CAD	0.1%	2%	2000%
31	Multimedia Production and Graphics Design	0.1%	1%	1300%
32	Extended Reality (VR, AR, MR)	0.0%	2%	NA
33	Game Development	0.0%	3%	NA

Interest in certification, training, or both

Specialty Area of Interest	Training and certification	Only training	Only certification
Cybersecurity	67%	4%	29%
Security	64%	5%	32%
Voice Engineering	62%	10%	29%
Project Management, Agile, and/or Scrum	61%	6%	33%
Networking and Wireless	60%	5%	35%
Leadership and Management	59%	9%	32%
Analytics, Big Data, and Data Warehouse	59%	6%	36%
Enterprise Architecture	59%	7%	35%
Virtualization	58%	6%	35%
Multimedia Production and Graphics Design	56%	13%	31%
Game Development	56%	16%	28%
Cloud Computing (IaaS, PaaS and SaaS)	56%	4%	40%
Collaboration, Telephony, and Video/Web Conferencing	56%	10%	34%
3D Modeling/CAD	56%	12%	33%
Mobile	56%	11%	33%
Artificial Intelligence/ Machine Learning	56%	8%	37%
Help Desk	56%	8%	37%
DevOps	55%	6%	39%
IoT/Cloud Convergence	55%	11%	35%
Servers	54%	7%	39%
Storage	54%	9%	38%
e-Commerce/e-Business	53%	10%	37%
Operating Systems	53%	8%	40%
Business Skills	53%	10%	38%
Extended Reality (VR, AR, MR)	51%	12%	37%

IT certifications: Growing in demand, esteem, and impact.

More than ever, the value of IT certifications cannot be understated. The rapid adoption of cloud and wireless networking technologies throughout the past year revealed the need for more nimble, skilled IT teams—and many organizations found they were lacking.

Even now, as the world begins to recover from the COVID-19 crisis, it appears that remote working, learning, and connecting are here to stay, at least in part. Certification holders will continue to be in demand for their skills, knowledge, and influence.

Our survey findings indicate that individuals in the IT field see these trends as well, they realize the value of certification, and they are poised to meet both the challenge and the need.

We are confident that these are long-term trends, and that the relevance and demonstrated value of certification will grow ever stronger.

We delivered 16% more IT certification exams in 2020 than the year prior, and the cost for most of those was covered by the candidates themselves. This suggests a strong commitment not only to certification, but also to career development and professional resilience. The average survey respondent already holds seven certifications, and 86% told us they planned to certify in a new specialty within 12 months. Certification helped most respondents fill a skills gap and improve their job performance, but they also enjoyed pay raises, promotions, and the newfound respect of leaders and peers.

And it wasn't just the individuals who felt the positive impacts. Employers reaped the benefits of certification by gaining employees with increased quality of work, higher productivity, greater efficiency, and stronger mentoring skills.

We are confident that these are long-term trends, and that the relevance and demonstrated value of certification will grow even stronger.

Methodology

We sent our survey to a random sample of 337,000 candidates who completed certification exams between November 2019 and October 2020. These exams were delivered both virtually and in person at Pearson VUE-authorized test centers around the globe. The first 100 candidates who completed surveys in four regions were offered a $10 (USD) gift card. Responses from 29,000 candidates in 160 countries are included in this report.

Respondents from North America, Latin America, Middle East and Africa (MEA), India, Greater China, Japan, and the rest of Asia Pacific (APAC) completed the survey. As illustrated to the right, the Middle East and Africa region and Latin America each comprised 21% of responses, while those from Greater China contributed only 6%. To normalize responses from each region, a weight was applied to calculate a global average.

- N. America
- L. America
- Middle East and Africa
- India
- G. China
- Japan
- APAC
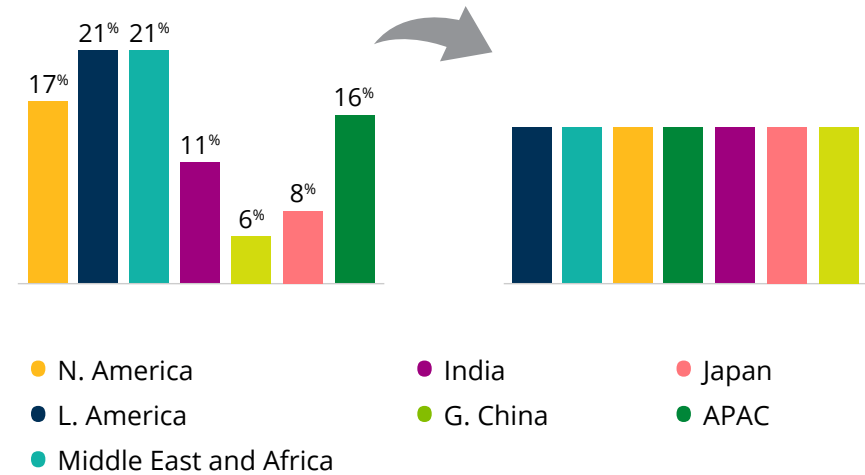
Demographics

GENDER OF RESPONDENTS

	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Male	**83%**	76%	85%	83%	82%	85%	85%	82%
Female	**15%**	19%	14%	16%	16%	13%	10%	15%
Prefer not to answer	**3%**	5%	1%	1%	2%	2%	5%	3%

AGE OF RESPONDENTS

	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Under 18	**0.2%**	0.4%	0.0%	0.1%	0.1%	0.1%	0.4%	0.1%
18-24	**10%**	6%	5%	11%	20%	8%	14%	8%
25-34	**39%**	26%	41%	51%	50%	32%	39%	41%
35-44	**31%**	31%	36%	29%	25%	31%	31%	34%
45-54	**14%**	22%	14%	8%	4%	23%	13%	12%
55-64	**4%**	11%	3%	1%	0%	5%	2%	2%
65+	**0%**	1%	0%	0%	0%	0%	0%	0%
Prefer not to say	**1%**	3%	0%	1%	1%	1%	2%	2%

EDUCATION LEVEL

	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Less than high school/secondary school	**1%**	1%	0%	1%	1%	1%	1%	1%
High school/secondary school diploma or equivalent	**9%**	11%	5%	16%	4%	10%	5%	7%
Associates degree or technical trade/ vocational school	**11%**	18%	9%	7%	3%	14%	14%	8%
Tertiary education/bachelor	**36%**	34%	11%	40%	15%	57%	62%	40%
Graduate or professional degree	**44%**	37%	74%	36%	77%	19%	19%	44%

STUDENT STATUS

	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Yes, I was/am a full-time student	**13%**	16%	9%	17%	18%	6%	17%	13%
Yes, I was/am a part-time student	**8%**	8%	12%	13%	7%	1%	4%	8%
No	**79%**	76%	79%	71%	75%	93%	80%	80%

CAREER LEVEL

	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Not applicable: my current job is not a career	2%	2%	3%	2%	1%	2%	1%	1%
Entry-level (0-2 years avg.)	12%	12%	7%	16%	15%	11%	13%	11%
Professional or intermediate level (2-8 years avg.)	29%	22%	29%	34%	37%	23%	30%	29%
Mid-level (8-15 years avg.)	28%	23%	30%	23%	30%	35%	24%	30%
Senior level (15+ years avg.)	25%	35%	31%	16%	12%	26%	25%	24%
Not currently employed or a student	5%	6%	1%	9%	6%	3%	6%	4%

EMPLOYER SIZE

Number of employees	Global Avg.	N. America	L. America	MEA	India	Japan	G. China	Rest of APAC
Fewer than 10	8%	11%	6%	16%	6%	5%	5%	7%
10–49	10%	8%	14%	17%	5%	5%	13%	12%
50–99	7%	6%	10%	10%	3%	5%	9%	8%
100–199	9%	6%	11%	9%	5%	7%	12%	9%
200–499	10%	7%	10%	10%	6%	11%	13%	13%
500–999	8%	6%	8%	9%	6%	12%	10%	8%
1,000–1,999	9%	7%	9%	8%	5%	13%	9%	9%
2,000–4,999	8%	7%	8%	7%	5%	15%	7%	9%
5,000–9,999	7%	7%	7%	5%	6%	8%	6%	7%
10,000 or more	24%	35%	17%	10%	53%	20%	18%	18%

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