

## White Paper

# The Impact of Certification on Cloud Outcomes

Sponsored by: IBM and Intel

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June 2022

## EXECUTIVE SUMMARY

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Cloud continues to play a dominant role across the IT industry as enterprises leverage digital transformation (DX) as a business strategy. Digital transformation is now a permanent and dynamic fixture; organizations of all types, from businesses to schools to governments, leverage cloud to achieve a wide range of outcomes. These include expanding access to data services, expanding the global reach of IT, and reducing the IT budget. Challenges often appear, however, in the complexity of cloud environments. Many organizations report that their cloud environments require high service reliability, high security, and high data volume/velocity. For many organizations, all of this must be achieved in a strict regulatory environment.

Yet, despite the demands and requirements placed on cloud environments, organizations are generally able to improve performance and achieve these outcomes.

New research shows that to get the biggest business impact from cloud-related projects, organizations are most successful when a large proportion of their IT project teams are certified in cloud-related areas – organizations with high numbers of cloud-certified professionals achieved an average of 35% greater improvement across all measures. Specifically, this IDC study found that over the past year, fully certified teams (defined as those with more than 75% of the team certified) achieved better results than under-certified teams (defined those with less than 25% of the team certified) in a number of areas, including expanding the global reach of their cloud environment, adding new capabilities faster, leveraging cloud to scale resources on demand, and leveraging cloud services to reduce IT spending.

As a result of these findings, we believe that to get the most benefit in the shortest time from a cloud infrastructure, organizations should strive to certify their cloud teams. Ensuring at least 25% of the team is certified can double performance improvement over a team with no certifications. And outcomes can improve by an additional 50% when more than 75% of the team is certified.

## Methodology Overview

IDC surveyed over 600 IT professionals working as IT managers and in higher positions with cloud-related roles. These professionals were responsible for over 1,400 recent cloud-related projects.

This global survey had equal representation in six countries across North America, Europe, and Asia.

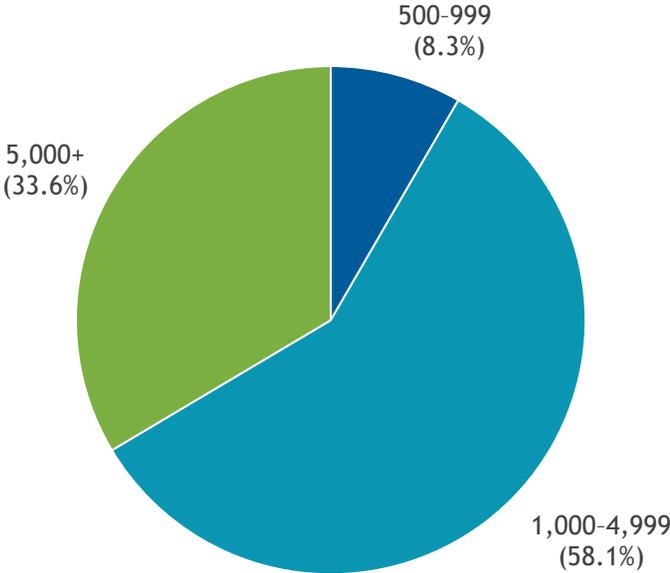
Half of the organizations in the study reported that between 25% and 75% of the IT professionals on their teams had certifications related to their current responsibilities.

About half of the teams received less than 24 hours of training directly related to the project.

Figure 1 shows respondents by company size, and Figure 2 shows respondents by role.

**FIGURE 1**

**Respondents by Size**

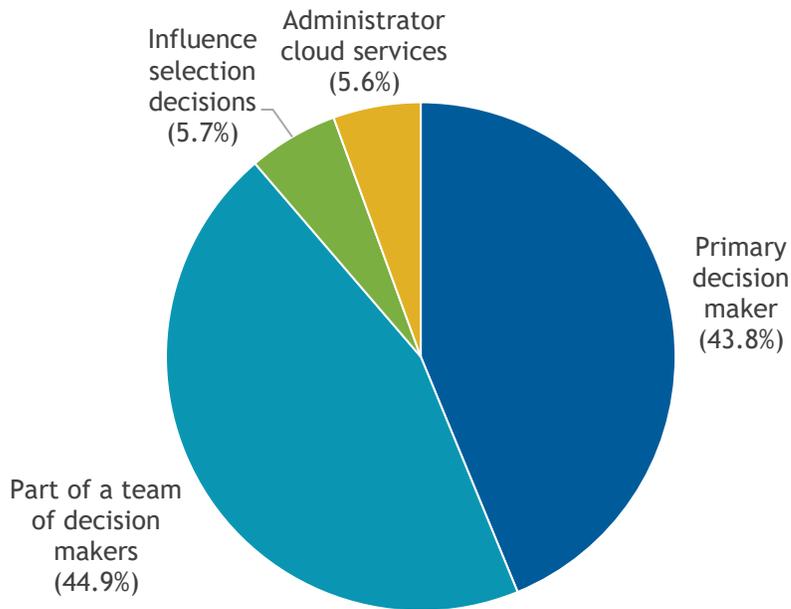


n = 611

Source: IDC's *Impact of Training on Cloud Outcomes Survey*, February 2022

## FIGURE 2

### Respondents by Role with Cloud



n = 611

Source: IDC's *Impact of Training on Cloud Outcomes Survey*, February 2022

## CLOUD PROJECTS ADDRESS A RANGE OF PRIORITIES

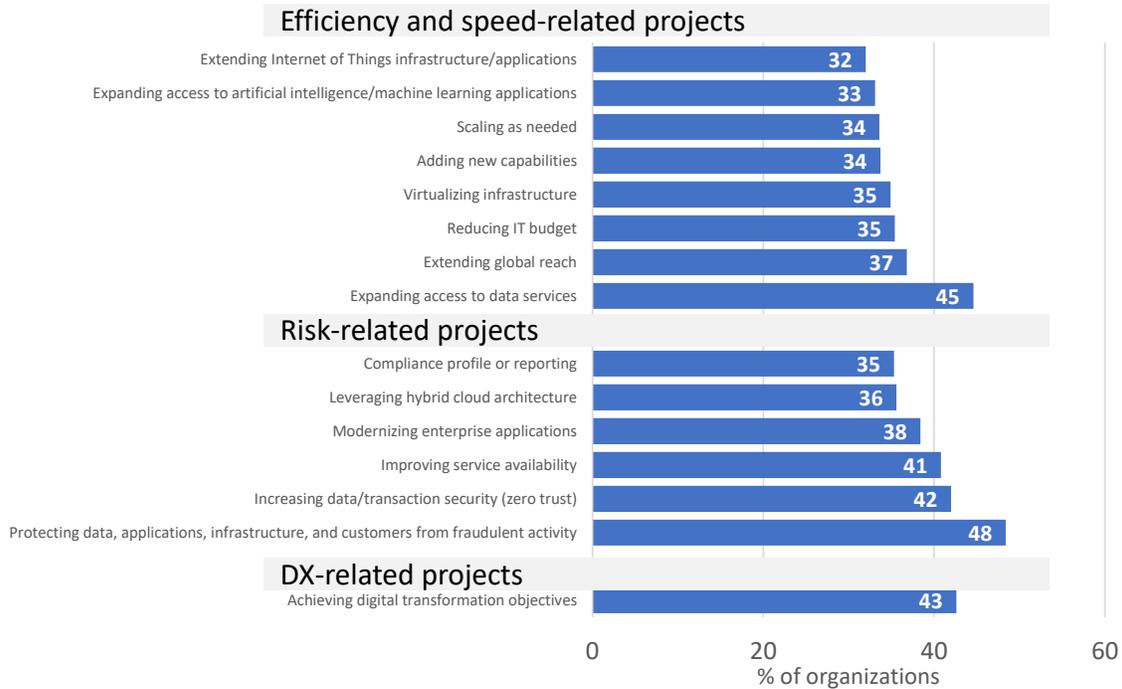
Organizations had a wide range of outcomes for their cloud projects. For example, organizations could address efficiency and speed-related outcomes with cloud, and/or organizations could address risk-related outcomes with cloud. Each of the 15 project outcomes we examined was important to almost a third of organizations projects (see Figure 3).

Average improvement in cloud outcomes was quite high. Of the most common key performance indicators (KPIs), protecting data and applications from fraudulent activity was among the KPIs with the biggest improvement in 2021 at just over 21%.

**FIGURE 3**

**Frequency of Important Outcomes**

Q. Which of the following benefits for moving to or expanding cloud capabilities are considered most important outcomes for your organization?



n = 611

Source: IDC's *Impact of Training on Cloud Outcomes Survey*, February 2022

**CLOUD ENVIRONMENTS ARE ALSO COMPLEX**

Cloud environments are not only targeting a wide range of IT and business priorities but also operate in complex environments. For this research, we wanted to explore complex cloud environments: for example, environments that had high service reliability requirements or were highly secure. All respondents to this survey were requested to describe their cloud environments as having at least one of seven complexity characteristics identified among the following:

- High service reliability requirements
- Highly secure (zero trust)
- High-volume/velocity data
- Strict regulatory environment
- Complex computing environment
- Widely distributed
- Harsh operating conditions

In fact, we found that half of our respondents described their environments as having five or more of these characteristics. For this research, we classified organizations with six or seven of these characteristics as operating in the most complex environments.

Complexity affects project execution, and while all projects experience some execution challenges, the organizations with the most complex cloud environments experienced more solution- and project-related issues than organizations overall. Those execution issues included such challenges as the solution not meeting performance requirements or unable to be implemented as expected (see Table 1). In all cases, the most complex organizations experienced these problems more often than average.

**TABLE 1**

**Frequency of Issues with Project Execution**

*Q. Were there any significant issues or problems with the solution?*

	Percentage of All Projects	Most Complex Projects
Solution didn't meet the performance requirements	25%	18% more often
Solution wasn't implemented as expected	28%	20% more
Solution or product couldn't be implemented as expected	30%	19% more
Consultant/implementation partner staff didn't have skills they needed	28%	6% more
Consultant/implementation partner staff wasn't available/took longer than expected	32%	5% more
Application development took longer than planned	35%	14% more

n = 1,420 projects

Note: "Most complex" environments reported six or more of the "complexity characteristics."

Source: IDC's *Impact of Training on Cloud Outcomes Survey*, February 2022

**People Are Critical to Transformation Success and Business Success**

Regardless of the business objective, or the complexity of the operating environment, people are the make-or-break element of a high-performing IT organization. To achieve greater efficiency or reduce risk, there is simply no replacement for people with the right skills, attitudes, and traits. CIOs do not have the luxury of hiring a totally new roster of people with the right stuff when implementing cloud or deploying a new solution on cloud. CIOs must be creative in using a mix of hiring new skills and mentoring and training existing staff, as well as leveraging contractors and service providers to create the needed mix of capabilities.

IDC research has found that the skill of the IT organization contributes up to 40% of the improvement organizations realize for any digital transformation investment. For example:

- Between 2019 and 2020, organizations attributed 19.6% of their revenue improvement to investment in digital transformation.
- Nearly half of that gain in revenue (44.4%) is credited to the skill of the IT organization.
- Therefore, about 8.7% of an organization's revenue gains between 2019 and 2020 can be attributed to the skill of the IT organization.

Similarly, we found that 9% of an organization's profit gains associated with digital transformation investments for 2019 and 2020 can be attributed to the skill of the IT organization.

Across the globe, organizations have difficulty finding staff with the skills to deploy and use technology for their digital transformation and cloud initiatives. This costs the business real money and stunts an organization's ability to innovate. IDC believes that IT skills shortages related to digital transformation will affect 90% of organizations by 2025, costing over \$6.5 trillion due to delayed product releases, reduced customer satisfaction, and loss of business.

This puts a premium on improving the skills of specific IT professionals and on creating an effective approach for identifying skill gaps and upskilling capabilities.

IDC believes that leveraging industry-recognized certification programs from reliable sponsors can help focus IT development programs on the right skills while providing sufficient validation to ensure that the skills can be applied on the job.

## CERTIFICATION HELPS ORGANIZATIONS GET MORE BENEFITS, FASTER

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For this research, we compared the performance improvement between organizations that were "fully certified" – meaning more than 75% of the team had a relevant cloud certification – and teams that were "under-certified" – meaning less than 25% of the team had a relevant cloud certification.

We found that organizations that were "fully certified" averaged 35% greater improvement across all measures we studied. Simply stated, when the IT organization and project team are more completely certified, organizations tend to get more improvement from their cloud-related projects.

For efficiency and speed-related measures, we found that fully certified teams achieve:

- 80% greater improvement in *reducing IT budget* than under-certified teams
- 64% greater improvement in *extending global reach* than under-certified teams
- 36% greater improvement in *scaling as needed* than under-certified teams

For risk-related measures, we found that fully certified teams achieve:

- 74% greater improvement in *modernizing enterprise applications* than under-certified teams
- 23% greater improvement in *improving service availability* than under-certified teams
- 22% greater improvement in *compliance profile or reporting* than under-certified teams
- 17% greater improvement in *leveraging hybrid cloud architecture* than under-certified teams
- 17% greater improvement in *increasing data/transaction security* (including zero trust) than under-certified teams
- 16% greater improvement in protecting data, applications, infrastructure, and customers from fraudulent activity than under-certified teams

## And Projects Were Completed Faster

In addition to greater performance improvement, an increase in the number of certified team members also decreased the time it takes to complete projects.

For the respondent companies in this research, projects typically took between 5 and 20 months to complete, with nearly half being completed in less than 6 months. Projects staffed by fully certified teams were completed about 25% faster than projects run by under-certified teams, an average reduction of nearly 2 months.

Notably, when we examined training alone, without certification, we did not find the same improvement. When teams had more than 75 hours of training related to the project – a level that can be considered fully trained – but were not certified by examination through an independent, authoritative body, projects took more than 40% longer to complete than projects staffed by fully certified teams.

So, although certification is not a panacea for all problems, these findings suggest that well-certified teams adjust to and overcome issues more quickly. The difference in performance between certified and (merely) fully trained suggests that the mastery derived from earning certification translates to performance improvements in activities associated with project completion – improvements that may be related to better design, more efficient development, or more accurate implementation of the solution.

## More Certification Increases Improvement

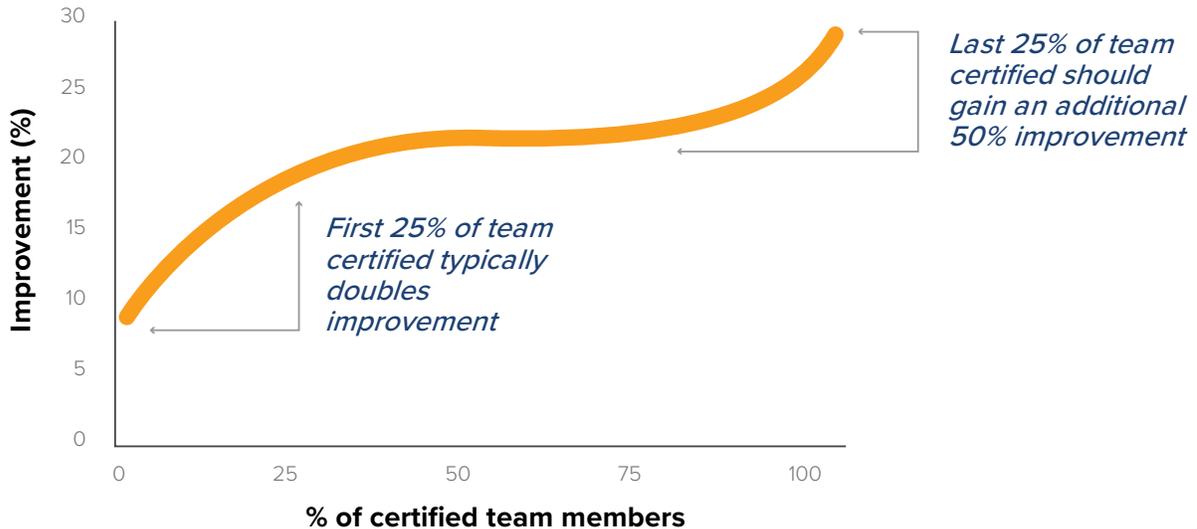
But our findings go further. Compared with teams without any certifications, getting the first 25% of those team members certified can double performance improvement across a range of measures (see Figure 4). And getting the last 25% of the team certified can also have a significant impact on overall performance, typically increasing performance improvement by an additional 50%.

FIGURE 4

## Teams with More Certified Members Have Greater Improvement

Q. What percentage improvement have you seen in your important cloud outcomes in the past year?

### Average Improvement of Certified Team Members



n = 1,420 projects

Source: IDC's *Impact of Training on Cloud Outcomes Survey*, February 2022

## Beyond Outcomes, Certifications Can Help Overcome Skill-Related Challenges

Cloud decision makers understand the impact of the cloud skills gap on their cloud-related services.

They also understand that the rapid adoption of cloud and remote work technologies has changed the skills that cloud-related IT professionals need to be successful in their roles. Even before the detailed findings of this research were announced, decision makers understood that certifications are one way to help address those challenges. Certifications help ensure that IT projects support business objectives and that projects are completed on time. What's more, in a tight job market, the following additional findings stand out:

- Cloud decision makers believe that relevant certifications increase their confidence that a candidate has the skills to work in a cloud environment. 82% of cloud leaders agree that when candidates have relevant cloud certifications, they have an increased confidence in the candidates' knowledge or ability. In an era of intense hiring demand, and seemingly fewer candidates to choose from, leveraging certifications can help increase confidence in hiring choices and speed the selection process.
- Certified employees will get up to speed quickly on new projects. 81% of cloud leaders believe that certified new hires or new project team members contribute to the organization more quickly. In fact, IT managers report that certified employees reach full productivity on cloud projects about 30% faster than noncertified IT professionals.

- Prior concerns regarding certifications are less of an issue. IT managers do not think being certified increases the chances an IT professional leaving the company. Instead, certification is more often taken as a sign that the employee has the initiative and knowledge to assume more cloud-related responsibilities. Only 14% of IT leaders report being concerned that when employees earn a new cloud certification, the employee is more likely to leave the company. Other research from IDC found that 65% of IT employees who were pursuing a certification in 2021 were seeking certification for reasons *other than* preparing for a future position. And of the 20% who were thinking of a future position, some portion were thinking about a future position at their own companies. Employees often pursue certification to improve at their current role, to gain skills for a particular project, or because their company told them to. IT employees who get certified are not trying to leave – they are trying to be better at their jobs.

## OPPORTUNITIES AND CHALLENGES

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Identifying IT professionals with the right skills has never been straightforward. And in this period of rapid change, economic disruption, and intense hiring pressure, it has never been harder or more important. Recognizing and validating specific competence can be a challenge. This research shows that well-certified teams gain greater benefit from their cloud projects and can deploy cloud solutions more quickly than less-certified teams.

For important roles and teams, IT leaders should seek advice from their technology and tool providers to identify the specific skills and training paths necessary to upskill the roles anticipated for the future. Technology vendors with relevant certification programs are in a unique position to support the skills requirements for a range of IT and business professionals.

To leverage IT certifications effectively for increased digital transformation and cloud success, it is essential that the certification program be a good fit for your organization. Consider the following seven criteria as a starting place for selecting an appropriate IT certification program:

- Is the certification program from a significant provider of your IT infrastructure? Alternatively, is the certification program so significant industrywide that it is an industry standard?
- Is the certification program aligned to roles that are relevant to your organization's current and future requirements? Are you willing to be committed to these roles for the long term?
- Are the skills represented by the certification program evolving with the technology?
- Does the certification program have progression that is sufficiently robust to grow with your staff?
- Does the certification program use exams that include performance-based testing?
- For appropriate roles, does the certification program validate business knowledge and skills in addition to technical competence?
- If you are going to use the certification program for selection or promotion, does the certification program ensure that the exams have not been compromised?

## ABOUT IBM CENTER FOR CLOUD TRAINING

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IBM is a leading global hybrid cloud and artificial intelligence (AI) and business services provider, helping clients in more than 175 countries capitalize on insights from their data, streamline business processes, reduce costs, and gain competitive edge in their industries.

IBM Center for Cloud Training provides organized, role-based learning experiences to prepare for a cloud role or specialty areas. Its learning curricula represent curated learning content to acquire skills applicable to IBM Cloud products and solutions, job roles, or technology areas.

IBM Center for Cloud Training validates skills in two ways:

- IBM Certification to recognize the knowledge, skills, and/or competencies necessary for the performance role or specific work-related tasks and responsibilities
- IBM Specialty Certification to recognize the knowledge and competencies in key domain areas like cloud for financial services, distributed computing, and cloud security

## ABOUT INTEL

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Intel is a technology leader that embeds intelligence in the cloud, network, edge, and every kind of computing device to unleash the potential of data to transform business and society for the better.

## ESSENTIAL GUIDANCE

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IDC believes that leveraging relevant, well-constructed, role-based IT certifications from significant technology vendors can help IT leaders build a successful IT organization and effectively execute digital transformation and cloud initiatives.

Certification programs can be part of a reliable development road map to help organizations build skills during every phase of a transformation journey and create a pipeline of talent to help address future needs.

To successfully leverage cloud to support critical business objectives, IT organizations will need to adopt new skills, leverage new techniques, and continuously upgrade their skills to maximize the value their cloud initiative delivers to the enterprise.

While research consistently shows that training and certification lead to greater performance, this research indicates that certifications help IT professionals improve outcomes across a wide range of priority outcomes.

To leverage this finding to improve business success with digital transformation, it is essential that IT organizations:

- Leverage cloud certifications for the IT staff to help maximize cloud outcomes, to increase innovation, and to ensure on-time delivery of cloud resources.
- Leverage IT vendor certifications as guides to IT professional development.
- Provide sufficient ongoing training and relevant certification opportunities to maintain and improve skills over time.
- Monitor cloud projects and operational priorities for new/expanding skill requirements.

## About IDC

International Data Corporation (IDC) is the premier global provider of market intelligence, advisory services, and events for the information technology, telecommunications and consumer technology markets. IDC helps IT professionals, business executives, and the investment community make fact-based decisions on technology purchases and business strategy. More than 1,100 IDC analysts provide global, regional, and local expertise on technology and industry opportunities and trends in over 110 countries worldwide. For 50 years, IDC has provided strategic insights to help our clients achieve their key business objectives. IDC is a subsidiary of IDG, the world's leading technology media, research, and events company.

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