

Achieving Digital Transformation:

The Role of Communities of Practice in Cloud Skills

 training and
certification



Executive Summary

Digital transformation has become central to the success of nearly every major industry. According to a recent IDG report, 93% of surveyed enterprises have a digital-first strategy for their business, encompassing everything from enhanced data availability to the development of new revenue streams. A third of the respondents reported that digital business has already helped their organization achieve revenue growth.¹ Digital transformation has become a critical trend for industry leaders, as organizations harness the power of technology to create better customer experiences and improve worker productivity.

Cloud fluency has become a major component of that transformation. In a recent survey by the management consulting firm McKinsey & Company, companies that move to the cloud can improve service levels, shorten times to market, and reduce IT overhead costs by up to 40%.²

Successful digital transformation, however, doesn't just happen in the IT department. It requires all employees to buy in, as well as a commitment by the organization to cloud-skills training that goes beyond a single one-day class or a few online courses. Organizations need a comprehensive skills development program. This begins with identifying skill gaps throughout the workforce and includes creating a strong strategic communication plan to bring all employees onboard.





Such a program incorporates both formal teaching methods (classroom training, digital training, certification exams) and informal approaches (workshops, peer mentoring).

Among these informal processes, communities of practice have garnered a great deal of attention from industry leaders. Simply put, communities of practice are groups of like-minded professionals who come together to share information and expertise. These groups have been around for centuries, dating back to the oldest trade guilds or academic study groups. But for much of that time, their value has not been recognized by the business community. Today, leaders increasingly rely on them to help share knowledge and expertise within and between organizations. Communities of practice have become essential to successful training, helping employees learn faster, and motivating them to become more productive and innovative.

Cloud fluency depends on continuous learning, and communities of practice have become a vital component of that. Communities of practice often start on their own, but organizations can work to create, manage, and nurture them. And it's no wonder: These informal groups consistently prove their worth in supporting digital transformation and increased cloud fluency.

Introduction

Successful digital transformation begins with effective training and skills enablement. According to a survey by McKinsey & Company, four of the five categories that most affect a company's chances of a successful digital transformation are people-centric.³ For instance, when employees were offered individual learning modules to develop specific skills, companies were 1.5x more likely to report a successful digital transformation.⁴ Similarly, success rates more than doubled when employees were offered leadership training classes that focused on cross-functional teams. "Developing talent and skills throughout the organization — a fundamental action for traditional transformations — is one of the most important factors for success in a digital change effort," the survey reported.⁵

Even so, readying the workforce for the move to digital is often slow going. In an annual report on the state of digital business transformation, IDG noted that more than half of the organizations have data analytics, mobile technology, and private



cloud implemented in their organization, but only 19% had fully implemented a workforce strategy to become a fully digital business.⁶

Organizations are increasingly looking for effective ways to train employees in their move toward digital transformation. They want to enable peer-to-peer learning and develop a sustainable mechanism that encourages innovative thinking.

Companies have embraced communities of practice as a means of training and skills development—and as part of a larger plan to create a culture of continuous learning.

Communities of practice caught the attention of organizations as a result of a pioneering 1991 study conducted by Etienne Wenger, an educational theorist, and Jean Lave, a social anthropologist.⁷ Wenger defines them as “groups of people informally bound together by shared expertise and passion for a joint enterprise—engineers engaged in deepwater drilling, for example, consultants who specialize in strategic marketing, or frontline managers in charge of check processing at a large commercial bank.”⁸

Within today’s companies, the definition of communities of practice is becoming even more refined. When discussing strategies for knowledge management, they are often described as **“a group of professionals informally bound to one another through exposure to a common class of problems or pursuit of solutions, by which they come to share common knowledge.”**⁹





Of course, not every group of like-minded people is a community of practice. According to Wenger, true communities of practice share

three crucial traits:

1. **They share a domain of knowledge.** Members have a collective base of knowledge in a specific area. This shared base of knowledge and expertise distinguishes its members from other people, creates a sense of group identity, and gives value to their work.
2. **They pursue common objectives.** Communities of practice don't just have shared interests. Members build relationships that help them share information and learn from one another. Interaction and a constant flow of knowledge are key. A group of tax accountants who meet weekly for lunch is not a community of practice unless they actively share information in pursuit of a common task.
3. **They are practitioners.** Members do not just share information and insights. They are also active in a shared practice and often experts in what they do. They are litigators, for example, not pre-law students. This hands-on experience bonds members together, shaping and informing how knowledge is passed between them.¹⁰

Closing the Cloud-Skills Gap with Communities of Practice

Many employees, working for decades-old businesses and startups alike, lack the cloud skills and expertise to thrive in today's constantly evolving workplace. According to an IT Skills and Salary Report from Global Knowledge, 79% of information technology decision makers reported a gap between their team's cloud-skills levels and the knowledge required to achieve organizational objectives. That same report noted that 60% of these decision makers believe the skills gaps cost their employees between three and eight hours per week in lost productivity.¹¹ And in a recent study conducted by 451 Research, 90% of enterprises said that their cloud skills gaps had nearly doubled in the past three years.¹²

How do companies close that gap? As any leader involved in a successful cloud transformation can tell you, training and certification are key. "Training has been proven to accelerate cloud

transformations massively," said Jonathan Allen, AWS enterprise strategist. Organizations need a variety of tools and approaches to maximize their organization's cloud fluency. "You have to look deeper at what motivates people," Allen said, "and that means taking a holistic approach."¹³



Communities of practice are an integral part of that holistic approach. By definition, communities of practice are all about bringing people together in social settings that encourage knowledge sharing. The camaraderie and open communication of these informal groups help foster peer mentoring and hands-on learning—just the sort of training elements that are crucial to cloud adoption. Rather than replacing other means of learning, communities supplement and enhance them.

Take World Bank Group, for example. It has more than 100 communities of practice spread out across the organization's 189 member countries, many of them focused on the bank's longstanding mission to eradicate poverty and hunger across the globe.¹⁴ Also consider Siemens, Europe's largest manufacturing company, which depends on communities of practice to spread knowledge among its nearly 400,000 employees worldwide. There, communities have focused on everything from contract creation and analysis to supply chain management.¹⁵

And then there's Nike. Their communities of practice have been an essential part of their ongoing digital transformation, which also includes monthly engineering forums and team-wide innovation days and hackathons. "As part of our journey to the cloud, we took an active role in creating a culture of sharing what we learn,

both internally and externally," said Murali Narahari, director of engineering and retail commerce at Nike. "Creating best practices and tools for all to leverage is important for us, given the size of our technology team."¹⁶

These companies have learned that communities of practice connect employees in ways that encourage peer mentoring, knowledge sharing, and innovative problem solving. Through these connections, members are able to learn more effectively and develop new ways to improve their companies' products and services.



The Value of Communities of Practice

Communities of practice can be invaluable repositories of knowledge. They also serve as dynamic agents of innovation and change. As Wenger noted, “people in communities of practice share their experiences and knowledge in free-flowing, creative ways that foster new approaches to problems.”¹⁷ Bound together by their shared expertise, communities of practice are essential in successful training programs. Informal by definition, these groups bring value to organizations that is dramatic and tangible.

Communities of practice are valuable to an organization in a number of ways. They can:

Foster a culture of constant learning and training. Formed voluntarily, communities of practice tend to attract individuals who want to share knowledge with others and forge connections across company boundaries. Big or small, Wenger said, communities of

practice typically have “a core of participants whose passion for the topic energizes the community and who provide intellectual and social leadership.”¹⁸ Since these individuals often work together, the groups combine learning with hands-on experience.

Encourage innovative thinking. Members function as both apprentices and teachers, novices and experts, often shifting roles as the need arises. This dynamic interchange of knowledge encourages members to think outside the box and to come up with ideas in creative brainstorming sessions.

Improve employee performance. Communities promote knowledge sharing, accelerate the learning curve for new employees, and reduce rework—all things that improve how workers perform. Their tight-knit nature also promotes healthy competition among members, spurring already motivated workers to work even harder.

Help members solve problems quickly. Communities of practice encourage knowledge sharing. This helps members identify the best individual or team to ask for help when problems arise. And because of their sense of camaraderie, they can also work quickly to solve those problems. Working with traditional training and certification programs, communities of practice can speed up learning within the group and throughout an organization.

Help your company recruit and retain talent. According to Manpower, “46% of today’s global employers face difficulties filling jobs across a range of industries—the highest percentage in 12 years.” Nearly 40% attribute this to a lack of hard skills or experience.”¹⁹ When promoted as part of an organization’s brand, communities of practice help recruit top talent by positioning an organization as a desirable place to work. And by bringing a company’s best and brightest together in one place, they allow leaders to easily identify and retain the top performers they already have. For many, joining a prestigious community of practice at one’s workplace is a major incentive to stay with a company.

Ease onboarding for new employees. By their very nature, communities of practice include built-in mentors who can help recent hires find their place within an organization. New employees

know whom to go to when they have a specific problem. Within veterans and newer colleagues can bounce ideas off one another, which may lead to innovative changes in the future.

Organizations have learned to value communities of practice so much that their creation and formation are no longer left to chance. Once allowed to form organically, now businesses actively create them—sometimes on an ambitious scale. In 2018, National Australia Bank launched its NAB Cloud Guild, a training program that combined many elements of a community of practice, from its informal, lunchtime sessions to the shared camaraderie of its members. Before the program launched, only seven employees at NAB were AWS Certified.²⁰ To date, more than 4,500 employees have been trained through the initiative, and more than 800+ have become AWS Certified.²¹

Patrick Wright, chief technology and operations officer at NAB, told CIO Magazine, “The battle for technology talent is fierce and we’re taking action. We want to create opportunities for our people who want to learn new skills and grow their career in technology—and we want the top talent in the industry to come and join us.”²²

Planning and Launching Communities of Practice

Many of the traits that define these groups—their informal, voluntary nature and independence from a company's organizational structure—sometimes impede their effectiveness. This is especially true if they're not executed properly and aligned with overall plans and strategies.

"Valuable as they are, these ad hoc communities clearly have shortcomings: they can increase complexity and confusion, and since they typically fly under management's radar, they elude control," a McKinsey report stated.²³

How does an organization combine the best aspects of communities of practice, such as their camaraderie and their capacity for knowledge sharing, with the efficiency and structure of more formal groups? According to Stan Garfield, author of Proven Practices for Promoting a Knowledge Management Program:

Communities are not teams.

Unlike project teams, communities don't have team leaders who have authority over members. Members are often free to come and go as they please, and the community itself is free to expand beyond the size of its initial roster.

Community membership must be voluntary.

Members want to actively engage in these communities, which is what gives these groups their special spark. Wenger calls this trait "aliveness," which describes the natural and spontaneous energy that drives the best communities of practice.

Communities should span organizational, functional, and geographic boundaries.

Today, the most effective communities are no longer confined to a single workspace or department. Members communicate with partners and peers throughout an organization and online.²⁴

With these guidelines in mind, how do managers create and launch communities of practice—or nurture the ones they already have? Bottom line: look for talent that’s hiding in plain sight, and nurture groups with an eye to the needs of the company.

Here are several key steps:

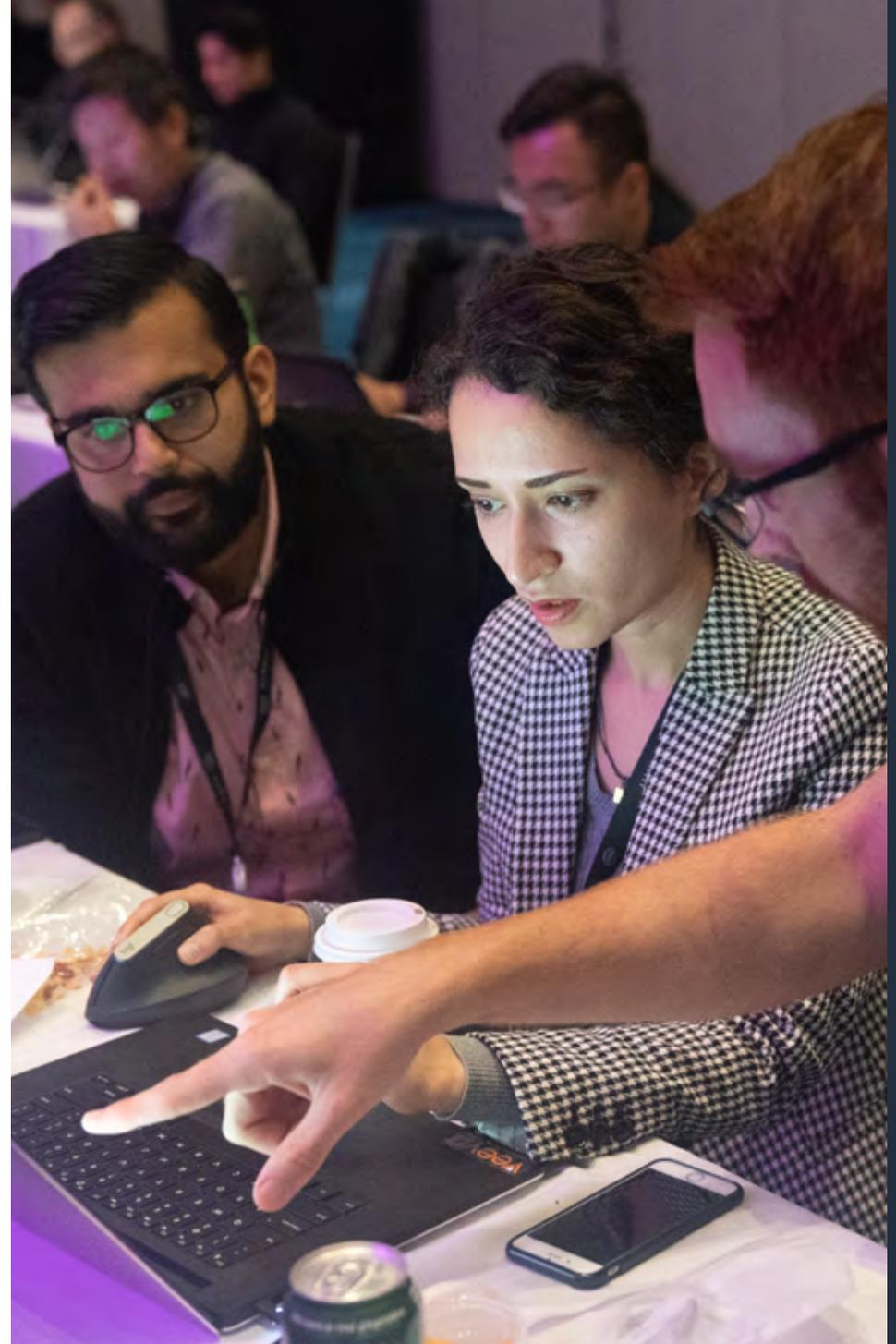
1. Identify potential communities of practice. thankfully, most communities of practice don’t have to be created from scratch. Perceptive managers know these informal networks exist at most organizations. “The task is to identify such groups and help them come together as communities of practice,” Wenger wrote.²⁵ The next step is to look for immediate challenges or problems for the group to tackle. This can help give the group both a shared sense of purpose and a cause to rally around.

If a new community of practice is needed, organizations can start small with a team of first movers who are passionate and eager to form a new community, assign a project or objective to them, and assign a mentor to help and advise them to build their community.

2. Focus on issues and problems that are central to the organization. Successful communities of practice are comprised of motivated individuals who want to work on the biggest and most relevant projects. To attract the top talent, managers create communities of practice to work towards their organizations’ most pressing business outcomes. An article in Harvard Business Review reported that the leaders of the pharmaceutical firm Pfizer actively created communities of practice around the firm’s most important concerns. Pfizer’s communities of practice addressed such issues as pediatric safety and nanotechnology. Membership in these groups, HBR reported, “is a major recognition of expertise.”²⁶



3. Design for evolution. One of the primary advantages of communities of practice is flexibility. Unlike more organized structures in an organization, smaller and leaner communities can evolve and adapt quickly as the needs of an organization change. Often, this may involve bringing in experts from other areas—or, better yet, training existing community members in the latest technologies to accommodate changing needs. In these cases, training is essential and desirable for truly motivated employees. “Developers are incredibly interested in making sure that their skills remain current and that they want to be on the leading edge,” said AWS vice president and chief evangelist Jeff Barr. “So organizations with a morass of legacy code and technology that is two or three generations old are finding it very, very difficult to motivate people to come to work there and try to do something incredible.”²⁷





4. **Combine familiarity and excitement.** As communities mature, they often settle into familiar ways of doing things. Sometimes mixing things up can help keep a group from stagnating—from picking a new meeting venue to attending conferences and training sessions. Communities can also bring in guest speakers to introduce new and creative ways of tackling ongoing business concerns.

5. **Set tangible goals and deliverables.** People need benchmarks to feel successful, and communities of practice are no different. Rather than feeling like burdens, organizational goals should motivate communities and drive them to take ownership in projects. Possible goals include cloud optimization, enhanced business agility and innovation, cost management, increased staff productivity, and cloud certification throughout the organization.

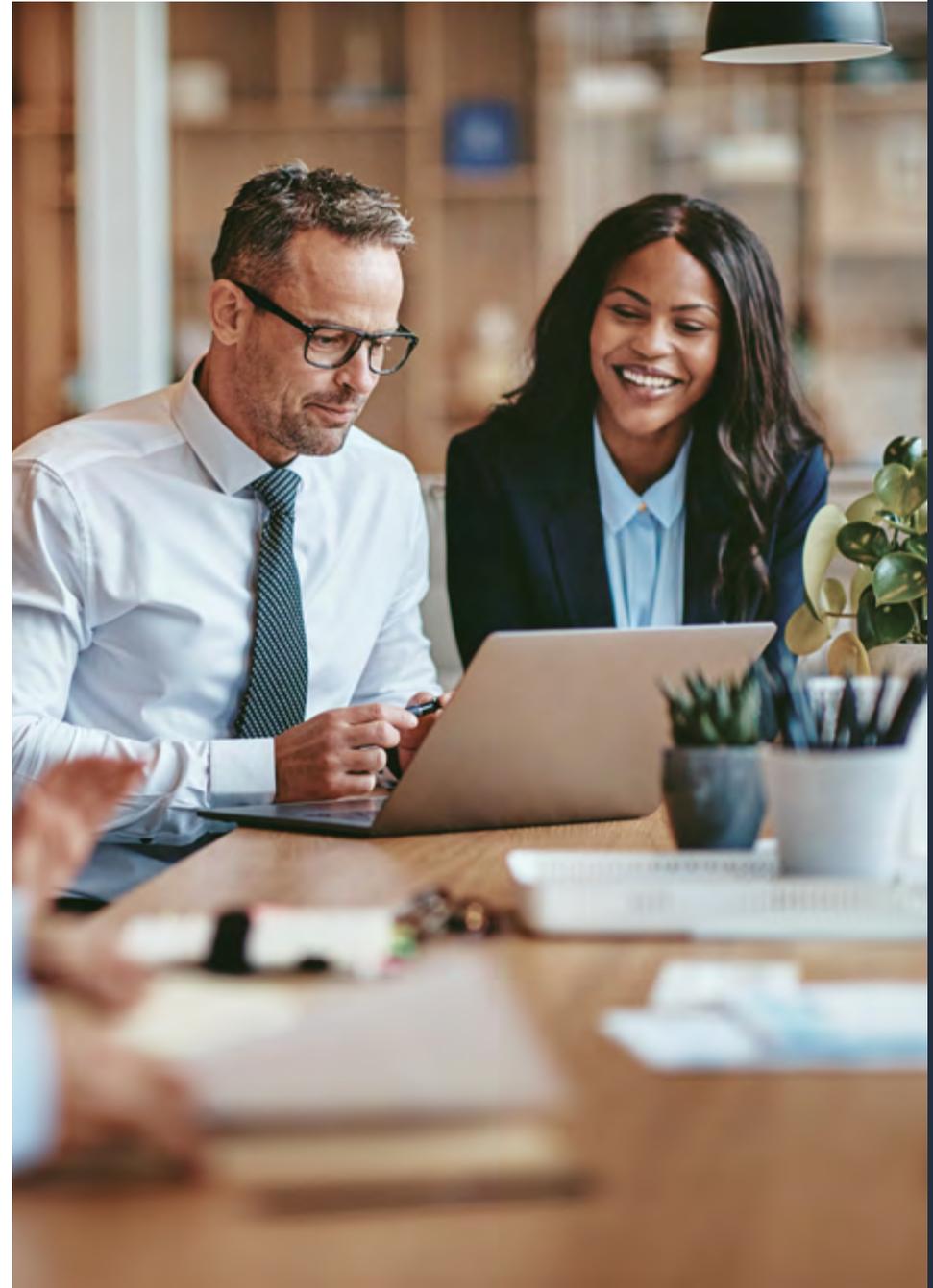
Nurturing Communities of Practice



Once established, communities must be nurtured in order to thrive. Communities can fail if organizations don't support their efforts or ensure that the right people are going into the right groups. "In large companies a number of informal networks may form on related topics, but never integrate," a McKinsey report explained. "People with valuable knowledge or skills may not join the most appropriate network, belong to other informal networks, or fail to discover that a network exists. What's more, companies typically underinvest in the capabilities needed to make networks function effectively and efficiently."²⁸

To address digital transformation, many organizations are creating and nurturing communities that focus on cloud fluency. Consider Dow Jones. While he was CIO there, Stephen Orban (currently the head of strategy at AWS) oversaw the formation of the Dow Jones Cloud Center of Excellence (CCOE). Dow Jones CCOE started small, with skilled engineers recruited from within the organization. But unlike more informal communities, this group was deliberately created by the company with a specific goal in mind: to help bring the 137-year-old news and business information company into the digital age.

Predictably, cloud-based technologies were central to their transformation. “But how do we take a large organization accustomed to working in a specific way and change everything it knows about infrastructure, operations, and software delivery?” wondered Milin Patel, a CCOE leader working under Orban. One of the key steps, he said, was setting up the CCOE to succeed by delivering quick wins on relatively small but important projects. Their first success: migrating the entire data center for The Wall Street Journal Asia to the AWS Tokyo region—all in a matter of weeks. That early success inspired a group that was initially uncertain about whether they could run a production app in the cloud. It also showed the rest of the organization what was possible with the right people, cloud tools, and expertise.²⁹



Support from the Top

Providing strategic framework is essential to the success of a community of practice. That strategic framework can come in many forms, from ensuring members have access to resources and supplies to providing them with the proper tech support. According to a study in the International Journal of Managing Projects in Business, Executive sponsorship of communities can help organizations increase communication and break through silos, even at companies with the most rigid and hierarchical bureaucracies. In that study, Dr. Meri Duryan stresses the crucial role of executive sponsorship and concludes that it “gave the community legitimacy, made necessary resources available, and helped to deliver the ideas and new solutions to the decision makers.”³⁰





Wenger agrees. “Senior executives must be prepared to invest time and money in helping such communities reach their full potential,” he writes. “That means intervening when communities run up against obstacles to their progress, such as IT systems that don’t serve them, promotion systems that overlook community contributions, and reward structures that discourage collaboration.”³¹

Communities of practice also depend on the support of on-the-ground leadership to thrive. Management can create support teams that work with community leaders to provide valuable resources and information to community members, and to help

coordinate everything from annual community conferences to technical support. These resources can include catered lunches and extra time for member meetings, as well as T-shirts or other giveaways to celebrate community successes. Other markers of membership, including digital badges or icons next to the names of members in the company phone directory, can improve community excitement and morale.

Support teams can also help arrange training and certification sessions as the needs and members of a community change. Management should also create temporary cross-functional teams, project by project, to leverage knowledge from different areas and redistribute the new knowledge back into an organization’s communities. This support allows communities of practice to share knowledge across teams and break through project-based silos—all without losing autonomy.

“Communities are not as informal as was once thought, nor are they free,” wrote Richard McDermott in the Harvard Business Review. Though IT systems make global collaboration possible, successful communities need more. **They need the human systems—focus, goals, and management attention—that integrate them into the organization.**³²

Accelerate Skills Enablement through Peer to Peer Learning



Training and certification are essential parts of any digital transformation. According to the 2019 Global Knowledge IT Skills and Salary Report, 85% of global IT professionals hold at least one certification, over half of which were earned in the previous 12 months. Another 66% of the respondents plan to attain a new certification in the coming year.³³

Communities of practice help promote training and certification in a number of ways. Members create environments where people can learn from each other in training programs, study together to pass exams, and encourage each other to tackle the next training goal or certification. For some communities, role-based certification can become a short-term objective. For others, solution-based training can help communities achieve specific organizational goals. These communities then bring their expertise and knowledge to the organization through peer mentoring and hands-on experience.

Organizations in industries such as banking and energy support their employees and communities by investing in training and certification programs. One example of this support is the certification learning path for AWS Cloud Practitioner, which provides training in general cloud fluency across multiple technical and nontechnical roles within an organization. In this course, community members learn the fundamentals of the AWS Cloud and cover such topics as security services, pricing models, architectural principles, and problem-solving. In the end, community members can validate their skills with an AWS Cloud Practitioner Certification. Their positive example can encourage others to participate in training and certification programs themselves. This, in turn, can help give all relevant stakeholders the common vocabulary they need to be a part of an organization's cloud optimization.

Cloud training can also be a valuable part of a company's brand. Initiatives like NAB's Cloud Guild let prospective new hires know that a company is serious about the professional development of its employees. It also brands the organization as forward thinking and a desirable place to work and grow.³⁴



Programming for Success—and Rewarding It

Managers must also ensure that members have time to do their work in a community of practice without feeling squeezed by their normal work duties. Some companies make community work part of a member's job description and performance reviews; others make leadership positions one of the mandatory steps to promotion.

Face-to-face events, whether in-person or via video conferencing, are also crucial in nurturing communities, especially now as employees increasingly work remotely. “Face-to-face contact fosters the trust and rapport members need to ask for help, admit mistakes, and learn from one another,” Richard McDermott wrote.³⁵ These informal meetings help bond communities together and are some of the most effective means for members to generate ideas and come up with innovative solutions to problems. Such events can range from weekly get-togethers at a local eatery to an annual community meeting, where larger communities can gather and recap news and accomplishments with an organization's leaders.

These meetings are perfect opportunities to recognize and celebrate the efforts and accomplishments of the community and its members. A reward can be something as simple as a gift certificate or a personal thank you from executive leadership. Members can also be recognized through the awarding of company T-shirts, special desk and office plaques, or announcements in company newsletters. This type of recognition motivates members on their digital journey and encourages them to continue to contribute their time, energies, and expertise to the group.





Rewards can also come in the form of training and certification. Successful communities might receive free classroom training or vouchers for certification exams. Such rewards benefit the organization and the communities within it. They also demonstrate a company's commitment to its employees and their ongoing education. And, once the community members successfully complete these training and certification programs, they can be rewarded for that, too. Offering branded materials to members who pass these programs helps motivate other members to take part in these training opportunities.

Allen recommends praising people at all-hands meetings after they've passed an exam and distributing a global roster of successful graduates. "Depending on how individuals best respond, you might use an internal roster of honor, give people a special chair for the day or some Amazon vouchers, praise them in a meeting or put their name on a screen," he said.³⁶ Whatever form it may take, celebrating employee successes at community of practice and company-wide meetings can be valuable to an organization. "Don't underestimate the power of recognizing mastery," Allen said.³⁷



Conclusion

Digital transformation has never been more crucial to an organization—or more challenging. But a people-centric approach that focuses on training and certification can help any organization close the cloud skills gap. Nurturing communities of practice can help your organization be more creative and productive, attract new talent, and promote a culture of continuous learning. To successfully build communities of practice into your digital transformation, an organization must:

1. Identify cloud skills gaps throughout the company.
2. Develop a comprehensive skills enablement plan to build enterprise-wide cloud fluency.
3. Establish formal and informal training mechanisms, including communities of practice, to close the cloud skills gap.
4. Ensure executive support and sponsorship for communities by creating support groups and designating champion go-betweens.

5. Give communities projects and goals that are central to the company's objectives, and enable them with training and certification resources.
6. Continuously promote the communities, communicate their achievements, and celebrate their successes.

Communities of practice, even the best of them, don't always succeed. But the energy and flexibility they bring to an organization are undeniable. According to a McKinsey report, "By participating in more than one network at a time, talented workers would gain the ability to integrate knowledge and access to talent across a number of communities. A person in the retail-banking community could also be a member of a branding community, for example, and members could bring knowledge gained there into other communities. The number of formal networks a company could create is limited only by how much management chooses to invest in them."³⁸

In the end, an organization's journey to cloud fluency comes down to people. As many companies have found, it's a challenging trek that requires plenty of strategizing and a dedicated crew. But a multi-pronged approach that combines skills training and certification with communities of practice and other informal networks is one possible path to success.



AWS Training and Certification supports business achievement by building cloud fluency across global organizations. It offers the resources to create a culture of innovation, develop adaptable and continuous learning mechanisms, and transform and modernize organizations.

Learn more at: aws.training/enterprise.

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