WHITE PAPER

Skill and Certification: Key to Achieving Technology Value

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SITUATION OVERVIEW

Historically, hardware and software upgrades have been carefully scrutinized whenever businesses have been forced to adjust to a down cycle of a global or local economy. The software market may prove resilient in this cycle, but enterprises may still reduce spending growth this year compared with 2007. The most significant impact will likely be felt in the applications market, where enterprises are expected to purchase only 5.5% more than last year. However dire market forecasts become, organizations will continue to leverage technologies in search of greater global efficiency and operational improvements in the face of stiffer, nimble competitors.

At every point in the economic cycle, IT managers cautiously select the most appropriate technology, hire the most affordable and experienced consultants, and use sophisticated management practices to ensure functional success. IDC believes that the talent of the IT team is often overlooked as the critical element of IT organizational performance. IT managers must be confident that they are deriving maximum value for necessary investments in training.

Vendors and their partners are particularly interested in ensuring their customers' success with their products. Much of a typical sales cycle is spent uncovering needs, ensuring compatibility, or describing opportunities. Unfortunately, buyers of technology sometimes fail to take the most straightforward step toward ensuring the maximum value from their technology investments: They fail to fully train their employees.

Becoming fully trained may sometimes seem like an unattainable goal. There is always more to know, more to learn, more to experience. Except, with technology, there are bodies of knowledge that, if mastered, provide IT teams with the performance benefits they read about in brochures. They are called certifications.

Certification's Impact on Performance

Deploying a technology is a complicated, detailed, and involved activity. Vendors and their partners spend weeks, or longer, preparing their staff to properly install a technology within an organization. After installation, managing or even using a technology or solution without sufficient skills reduces the benefits organizations receive from their technologies. To maximize enterprise readiness to achieve the benefits of systems and technology, an organization must fully train its workforce.

IDC's 2007 *Performance Impact Study* found that project team skill is the biggest determinant of project success. Other key findings include:

☑ Teams with certified architects and developers deliver projects on specification, on time, and on budget more often than other teams.

☑ Projects that met most or all of their objectives had teams with twice the amount of training as those projects that achieved only little or partial success. Trained teams succeed more often.

☑ The most important factor in determining the ongoing success of any IT solution is the skill of the IT team in charge of managing that technology. In fact, more than 60% of IT managers believe that the skill of their teams surpasses other factors such as installed technology and staff turnover as the most important determinant of success vis-à-vis critical IT functions.

It is logical to conclude that sufficiently trained teams derive more benefit from their technology investments than undertrained teams.

What constitutes "fully" or "sufficiently" trained is not a mystery. Our research shows that well-crafted certifications represent the types of skills — and level of understanding — that IT teams need to improve their performance. And sufficient concentrations of certified team members help ensure an organization of maximizing the capability of its IT investments.

Impact of Certifications on General Capabilities

All IT organizations strive for the following overarching capabilities:

☑ **IT operational efficiency.** IT operational efficiency includes optimizing processes, consolidating assets, augmenting staff, and managing information infrastructures.

☑ **Response time to complete standard or routine tasks.** The ability to minimize the time spent responding to standard tasks allows organizations to maximize time spent improving or enhancing the IT infrastructure.

☑ **Agility.** Agility is described as the alignment between the IT organization and the business combined with the IT organization's ability to rapidly deploy new business capability.

IT teams in which 50% or more of the team holds relevant certification show 15–17% improvement in capabilities (see Figure 1).

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FIGURE 1

Team Performance Based on Certification Level
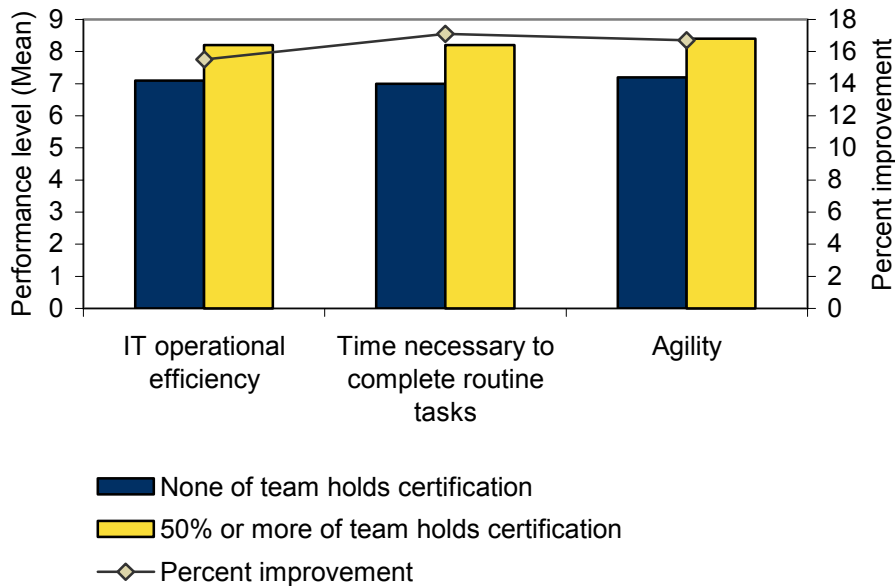
Note: On a 1–10 scale, 1 = far worse than industry average and 10 = far better than industry average.

Source: IDC's *IT Manager Survey*, 2007

One of the key caveats to this opportunity is the relevance of the certification. Obviously, if all members of an organization's IT team have dental hygiene certifications, the organization isn't likely to improve its IT operational efficiency.

It is essential that the certifications be relevant and well constructed. Application development, network security, or even network management, for example, shows improvements ranging from the small — like percentage of clients satisfied with custom-developed applications — to the serious — like the reduction in unscheduled downtime. Some of these measures show limited movement, not because the certification didn't work but likely because the certification wasn't designed to move that particular performance indicator. The marketplace and the certification sponsors will determine whether or not certifications should be focused on deploying servers on budget or completing application development projects on time (see Figure 2).

Note: Each metric in Figure 2 is represented by the frequency of achievement. As an example, the second item should be read as follows: Teams with no certified members reported that 70% of servers are compliant with company standards, while teams with 50% or more members certified reported that 76% of servers are compliant with company standards.

Team Performance in Key Areas Based on Certification Level
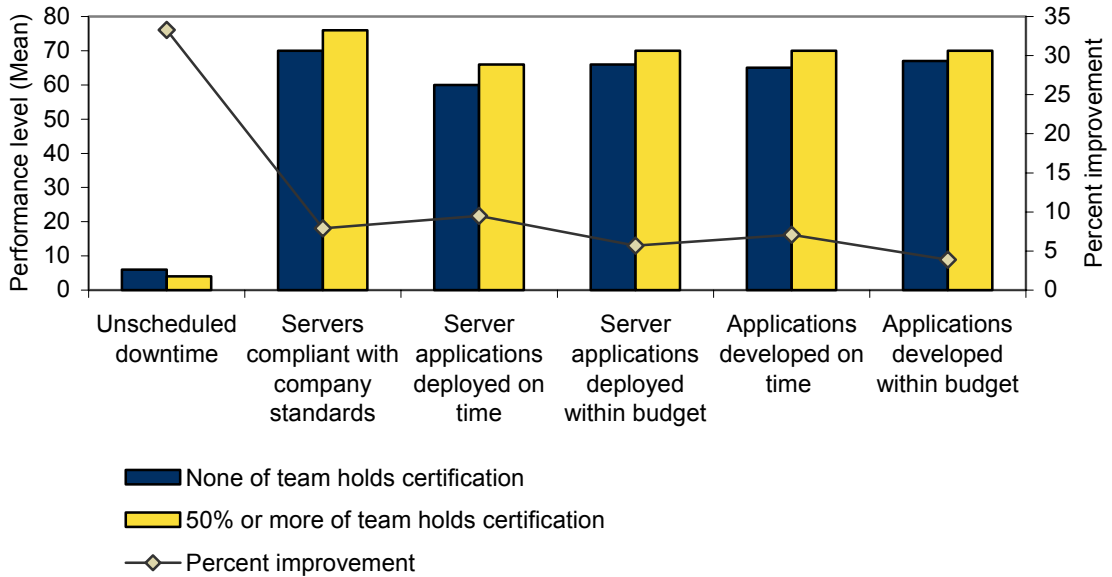
Source: IDC's *Performance Impact Study*, 2007

Team performance improvements can extend to not only increasing IT service levels to customers but also reducing compliance and other risks associated with IT functions. When IDC examined the performance of highly certified IT teams, we found a significant change in operational performance:

☑ Backup jobs are successfully completed without failure almost 60% more often.

☑ Compliance with legal and regulatory requirements for archiving content is achieved more than twice as often.

It seems that highly certified teams are better able to leverage the features and functions built into a technology than less certified teams. This increases the performance of the technology and team productivity. Our research also shows that organizations with high concentrations of certified team members are better able to anticipate problems, implement preventative actions, and work to develop operational improvements than organizations with low concentrations of certified team members because of their familiarity with the capabilities of the deployed technologies. Ultimately this allows highly certified teams to spend a greater portion of their workdays "maintaining and improving" (20% more) technology solutions.

This improvement is consistently seen. IDC's 2007 *IT Manager Survey* examined team performance in relation to numerous key performance indicators (KPIs) across a range of IT functions, including network administration, security, storage, and end-user support. After compiling the results of over 5,000 team responses, we found a clear and direct correlation between team performance and the percentage of the team that holds certification (see Figure 3).

The average team performed the aggregate of these KPIs at the 50th performance percentile. Those teams also had, on average, a little less than 40% of the team certified on some relevant technology. When we examined teams with about 50% of the team certified, we found they performed above the 85th performance percentile.

FIGURE 3

Relationship Between Performance and Percent of Team with Relevant Certification
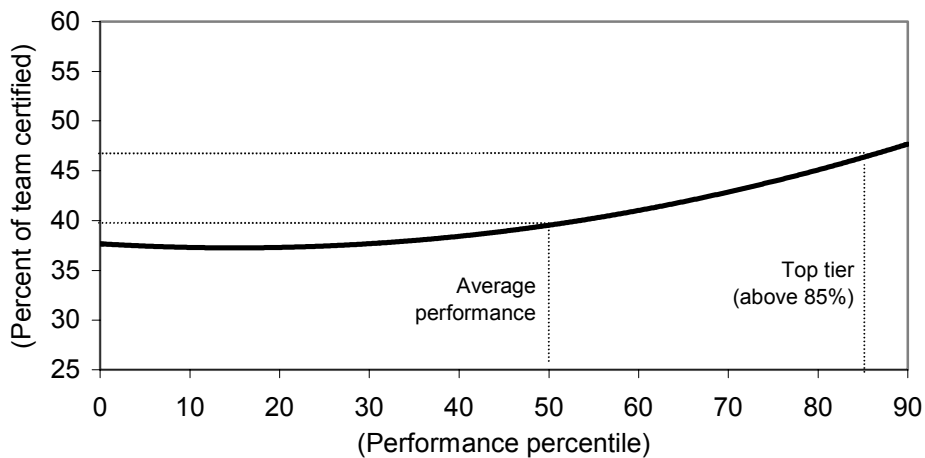
Source: IDC's *IT Manager Survey*, 2007

Managers' Perceptions of Training

IDC understands that IT managers are constantly balancing operational efficiency against staff requirements. Most IT managers intuitively understand the value of training. Almost 60% of IT managers believe training prevents errors, and one-third also believe that training reduces downtime caused by errors. (In fact, well-trained teams spend 15% less time fixing errors.) While organizations fight to improve performance, reducing mistakes is critical. To the extent that undertrained employees can cause mistakes that result in operational failures, reducing those mistakes both maintains operational performance and frees staff for value-added activities.

However, too often, IT managers allow their teams to become weaker over time as a result of changes in processes or technologies or even as a result of promotions that lead to the hiring of a less well-skilled employee. Even when team members are promptly replaced, "team skill" consistently declines without active effort to maintain and increase team capability. This is a result of several factors: over time rapidly changing technology makes skills outdated, staff turnover and promotions degrade the skill mix of a team, and changes in processes or procedures over time make old skills less relevant to the new processes. IDC calls this phenomenon knowledge leakage. Past IDC research has identified that the degradation of skills over time occurs in all organizations regardless of skill level. IDC estimates that if skills are left unchecked, an IT organization's skill level can degrade by as much as half in just six years as a result of knowledge leakage.

Because of the tight labor pool and the complex mix of technologies found in typical IT infrastructures, it is probably impossible to maintain team capability through successful hiring practices alone. Therefore, the most viable option is to establish a robust training program to ensure that team skill is maintained that both accounts for attrition and changes to the technical infrastructure that invariably occur in all IT environments and leverages certification on relevant technologies as the benchmark of understanding and capability.

Elements of a Well-Crafted Certification

There has been a lot of well-researched reporting on the critical elements of an appropriate, well-crafted certification program. Briefly, a well-crafted certification must provide a trusted benchmark of qualification. It can achieve that standard by including:

☒ **Rigorous job-task analysis.** This analysis identifies the critical behaviors and processes that define (or retard) high performance. It often also reflects the established or emerging ideas in the industry supporting effective deployment or use of technology. When best practices are built into the certification process, the organization is assured of implementing not only the most appropriate technology but also the most appropriate method for managing that technology.

☒ **Instructionally sound training.** Training, either self-study or instructor led, conveys the instructional material accurately, succinctly, and effectively. Recent advances in instructional methodology suggest that equally important are techniques that facilitate rapid, effective knowledge transfer to a variety of audiences.

☒ **Appropriate performance support materials.** Not all content needs to be retained "top of mind." Reference material and job aids both increase consistency of performance and provide reinforcement of critical steps, processes, or capabilities.

☑ **Valid high-stakes exam.** Essential to a well-crafted certification is the candidate's performance in a validated assessment that can demonstrate the strong correlation between success on the exam and behavioral performance. Related to a high-stakes exit test is the appropriate use of complex solution and performance-based assessment methods to help reinforce learned skills and guide a candidate to the successful adoption of key practices.

☑ **Recertification process.** Almost of equal importance to the initial certification is a rational and effective process of recertification. This must consider the deployed life cycle of the appropriate technology and the effective obsolescence of the skills of the candidate.

Completing a well-crafted certification program is a significant investment for both the candidate and the enterprise. It often requires internal changes to processes and procedures to take advantage of the operational improvements the certification conveys. But the benefits are worth it.

CONCLUSION

With an increased emphasis on IT service delivery excellence, organizations are attempting to improve key metrics. One clear and straightforward way of improving performance is to increase the overall capability, or skill, of the key teams. It is clear that every increase in team skill improves organizational performance. IDC's research demonstrates that for each new team member certified, team performance increases. Our research concludes that:

☑ Team skill is directly responsible for organizational performance.

☑ Concentration of certifications in a team is clearly linked to team capability and performance.

☑ To achieve "top tier" performance, organizations should strive to have approximately 50% of the team certified in relevant technologies and processes.

IDC recommends that IT managers consider their overall performance goals and determine if team performance would increase with additional skills. If team performance is important, IDC recommends that IT managers leverage training and certifying team members as an effective way to increase organizational performance. Key recommendations include the following:

☑ **Train consistently.** System rollouts are exercises in change management. To reap the benefits of any new initiative, management must demonstrate its commitment to the new system and its processes. A consistent message is needed to unify everyone's efforts. Similarly, consistency in the quality of training experiences helps ensure that everyone is on the same page when using the technology.

☑ **Train practically.** IDC's research suggests that elearning courses and electronic performance support modules offer the benefit of replicating the end user's work setting, providing a consequence-free environment that combines job focus and business process training.

☑ **Train everyone.** Technology-based training is not a panacea for all organizational learning challenges. The goal of a training program is to ensure that 100% of the target learners are trained to 100% of the required skill. This must take into account new hires, transfers, and promotions.