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## Business Value Highlights

Higher productivity for server, database, and application teams

**17%**

Less unplanned downtime

**56%**

Faster time to market for applications

**58%**

Less time for new hires to reach full productivity

**39%**

# The Business Value of IT Certification

## EXECUTIVE SUMMARY

In just a few short decades, information technology (IT) moved from the back office to the front office and now has embedded itself into nearly every aspect of our business and personal lives. Fueled by new technologies including mobile, social business, cloud, and big data and analytics (BDA), the technologies and processes that businesses deploy are so tightly linked to their customers and markets that the boundary between the internal operations of the enterprise and its external ecosystem is rapidly disappearing. Business leaders are challenged to transform their business, employing digital technologies as well as organizational, operational, and business model innovation to create new ways of operating and growing businesses.

Responsive to the needs of the enterprise, IT organizations are increasingly required to accelerate the time to value in delivering higher system resiliency and greater innovation while optimizing IT spend.

While being responsive to the needs of the enterprise sometimes means upgrading hardware or implementing new software, IDC has long advocated that upgrading skills and certifying staff will deliver the most persistent performance improvement in IT operations, including increased reliability of IT systems and increased organizational productivity. IDC also believes the IT organization should experience additional benefits of having a well-trained and certified team that improves the internal operations of IT.

To measure the impact of training and certification on IT staff productivity and IT operations, IDC conducted interviews with eight organizations with IT staff members who have earned various IT-related certifications. These organizations reported achieving strong value by having IT staff who have earned IT certification, including:

- » **IT staff efficiencies:** Deeper knowledge and understanding of technologies enable time savings and higher productivity for certified staff members.
- » **Improved IT operations:** Applications are delivered faster to users and customers, and users of these applications experience less unplanned downtime when certified staff are involved in their development and support.
- » **New hire productivity:** New hires who have earned certification reach full productivity sooner and have longer tenures on average.
- » **Employee advancement:** Employees who are certified are often given more responsibility, have more opportunities for advancement, and have higher salaries on average.

## Situation Overview

Digital transformation is driving change in the business and results in a rapidly changing IT organization. The IT organization is increasingly required to deliver:

- » **Accelerated time to value:** IT effectiveness can be a competitive differentiator and strategic asset. Agility in IT allows the organization to respond quickly to changes in the marketplace.
- » **Higher system resiliency:** When a failure occurs, the IT organization must redirect workloads to avoid prolonged outages and also minimize service-level recovery time.
- » **Increased IT staff focus on innovation:** Building systems with reduced maintenance and improved reliability increases the opportunity for operational improvement and innovation.
- » **Optimized IT and staffing spend:** Constantly monitoring the utilization of the physical infrastructure and maximizing the productivity of staff both increase the value of IT.

While the technical infrastructure to meet these objectives is important, equally important are the management practices to enable a high-performing IT organization and a well-skilled IT workforce. A well-skilled IT workforce is the combination of people, skills, and competencies that play a role in an IT-enabled operations. Like the physical IT infrastructure, the IT organization must be well designed for its purpose and IT workers must be appropriately skilled for their roles.

Without the combination of innovating infrastructure, the IT management process, and

the IT organization, enterprises risk implementations that fail to deliver the benefits or, worse, are unreliable business systems.

To create resilience, increase value and innovation, and optimize the IT and staff spending, high-performing IT organizations must seek to maximize the skill of their employees by leveraging a robust training and development program that includes IT certification.

## Microsoft's IT Certification Program

Microsoft's certification program covers each of the company's significant technology areas: server, database, developer, operating system, and Office applications. To be fully valuable to employees and employers, Microsoft's certification programs are designed to help both employees and employers at various stages of an employee's career, including:

- » **Getting a job:** Providing introductory and intermediate-level certification to support both a first job out of school and a first job in IT. Microsoft Technology Associate (MTA) is an introductory Microsoft certification for individuals considering a career in technology. MTA certification addresses a wide spectrum of fundamental technical concepts and assesses and validates core technical knowledge in three areas: IT infrastructure, database, and developer. Microsoft Office Specialist (MOS) certification demonstrates that the candidate can get the most out of specific Microsoft Office applications, such as Word, SharePoint, or Access.
- » **Getting better:** Certification, training, and experience are three of the top four most important characteristics when selecting a candidate for a more advanced positions. Microsoft Certified Solutions Associate (MCSA), Microsoft Certified Solutions Expert (MCSE), and Microsoft Certified Solutions Developer (MCSA) each attest to increasingly more complex levels of capability with specific Microsoft technologies, such as Windows Server and SQL Server, or build innovative solutions across technologies such as private cloud, communications, or business intelligence.
- » **Getting promoted:** All Microsoft certifications help establish both the professionalism and the competence of an employee and can help differentiate the employee from other candidates for a promotion or an opportunity.

## The Business Value Of IT Certification

### Study Demographics

IDC conducted interviews with IT managers at eight organizations with a minimum of 25 IT staff members who have earned IT-related certifications. Interviews covered

quantitative and qualitative topics related to the impact of IT-related certification on the IT staff and IT organization. IDC interviewed large enterprises that had an average employee base of 59,400 (see Table 1). Although all eight interviews were conducted with IT managers based in the United States, four of the eight interviewed organizations also have substantial business operations in non-U.S. markets, including three with worldwide operations.

Interviewed organizations reported that they have an average of 436 IT staff members who have earned at least one IT-related certification, with an average of three certificates per certified staff member. In terms of vendors, interviewed organizations were most likely to have employees who have earned certification from Microsoft and Cisco (seven organizations), followed by Oracle and IBM (five organizations).

TABLE 1

## Demographics of Interviewed Organizations

	Average	Range
Number of employees	59,400	1,700–305,000
Number of IT staff with certification	436	25–1,700*
Percentage of IT staff with certification	43%*	30–100%*
Average number of certifications achieved per staff member with certification	3	1–4
Number of users of IT services	46,200	1,100–106,800
Industries	Healthcare, manufacturing (aerospace, electronics), professional services, retail, transportation	

*\* reflects IT staff within the knowledge of the IT managers being interviewed  
Source: IDC, 2015*

Figure 1 shows the distribution of the average number of IT-related certifications achieved by staff at interviewed organizations.

FIGURE 1

## IT Certifications Earned by Subject Area



Source: IDC, 2015

## Business Value Analysis

Interviewed organizations reported a number of reasons for supporting their employees in earning IT-related certification and for preferring IT staff with certification. However, fundamentally, the value is that certified employees are better able to support efforts to meet challenges associated with digital transformation. An IT director at a software company explained: *"We encourage and reward employees to obtain certification. It is strategic to our organization. The speed of technology innovation demands ongoing training. We have found that those with IT certification perform better and are more confident employees."*

Interviewed organizations described achieving strong business value in several areas by having IT staff members who have earned certification:

- » **Improved IT staff efficiencies.** Certified IT staff are more efficient and perform better than staff without certification. The time saved from this efficiency can be reinvested in IT innovation or otherwise supporting the business. In addition, certified staff are often relied on to handle more challenging issues and to supervise the work of noncertified IT staff members.
- » **Improved availability and risk mitigation.** IT staff with the appropriate knowledge and skill are better able to identify problems and take the necessary steps to minimize recovery time. Therefore, certified IT staff increase system resiliency.

Certified IT staff increase system resiliency.

- » **Increased business agility.** IT organizations are more agile and deliver better-performing applications and services in less time by having certified staff members.
- » **Improved productivity and reduced cost.** Employees with certification reach full productivity upon being hired and tend to stay with their organizations longer. As a result, interviewed organizations have reduced costs associated with hiring new employees and minimized the disruption to operations caused by employee turnover.

## IT Staff Efficiencies

IT organizations realize substantial value by having IT staff members with certification. Interviewed organizations reported certified staff members are more productive, can handle more complex issues efficiently, and are able to support and supervise the work of uncertified staff. This means that IT organizations require less staff time to support day-to-day operations for datacenter infrastructure, database operations, and application development efforts. Table 2 demonstrates the extent of these staff efficiencies for the eight interviewed organizations. IDC calculates that teams with certifications responsible for core IT activities are almost 20% more productive.

TABLE 2

### Overall IT Staff Impact — Interviewed Organizations

# of FTEs	Without Certification	With Certification	Difference	% Improvement
Server team	78	66	12	15
Database team	63	47	16	26
Application development team	93	82	12	12
<b>Total</b>	<b>233</b>	<b>194</b>	<b>39</b>	<b>17</b>

Source: IDC, 2015

Interviewed organizations perceive advantages in having certified staff who generate efficiencies:

- » **Better understanding of evolving technologies and priorities.** Certified staff have the knowledge and training to support complex and evolving technologies. An IT manager at a retailer said: *“It’s about the knowledge and the confidence. Certified staff understand the concepts. Also, security technology is now in the forefront. In years past, it*

“[Certified staff] are more aware of security issues and technology,” said an IT manager at a retailer.

“[Certified staff] ... provide a higher level of support,” said an IT manager at a technology company.

Certified staff members supporting servers and applications reduce the impact of unplanned downtime on users by 56%.

*was in the background. From their certification experience — studying and testing — they are more aware of security issues and technology.”*

- » **Ability to handle more complex issues.** Certified IT staff members are often given responsibility for more challenging work critical to IT operations. An IT manager at a technology company explained: *“When it comes to server management, we have a tiered approach. The most important tasks are with the certified team members. They in fact spend less time on them than noncertified team members but provide a higher level of support.”*
- » **Support work of noncertified staff members.** IT staff members with certification are able to support noncertified or junior employees, improving the quality of their work and providing them with valuable guidance. An IT manager at a multi-national company said: *“Less complex applications [are] developed by staff without IT certification. [Those] applications are tested and approved by someone with IT certification before being released.”*

## Risk Mitigation and Availability

Applications and systems perform better and experience less unplanned downtime with the support of certified IT staff members. According to interviewees, certified staff members reduce the frequency and duration of unplanned outages as a result of deeper knowledge and the ability to apply their knowledge. The IT manager at the technology company explained: *“It is the in-depth knowledge that helps with any issues that might arise. We find it leads to a methodical approach to resolution by handling issues with confidence and capability.”* As a result, their organizations experience fewer instances of unplanned downtime, resolve outages in less time, and reduce the impact on users. Certified staff members supporting servers and applications reduce the impact of unplanned downtime on users by 56% compared with noncertified IT staff (see Table 3).

TABLE 3

## Server-Related Unplanned Downtime

	Without Certification	With Certification	Difference	% Improvement
# of unplanned downtime instances per year	90	74	16	15
Mean time to repair (MTTR)	3.4	2.3	1.1	26
Average productivity impact (%)	32	25	7	22
Server-related unplanned downtime impact per user per year (hours per year)	1.1	0.5	0.6	56

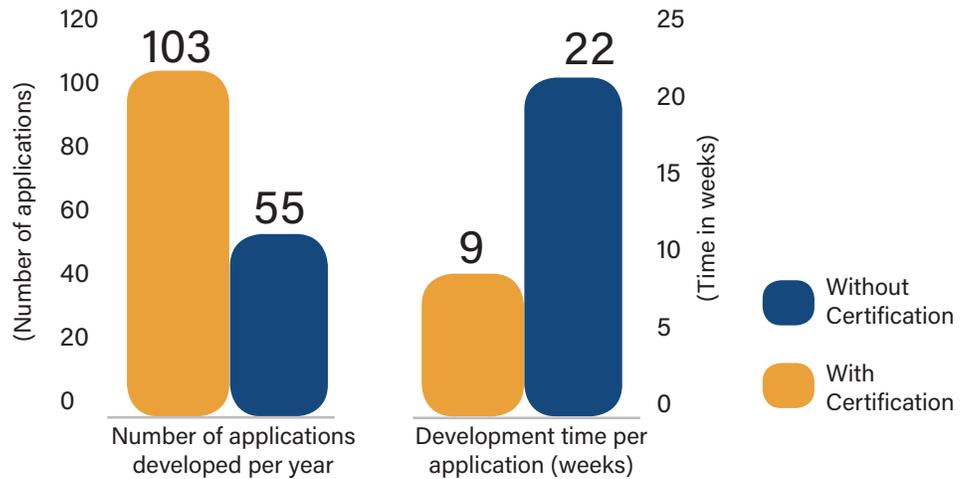
Source: IDC, 2015

## Business Agility

Certified IT staff members enable their IT organizations to be more agile and better meet demands from the businesses they support. This positive impact is particularly evident in terms of their ability to support users and customers with business applications. According to IT managers at interviewed organizations, certified application developers are almost 90% more productive and nearly 60% more efficient. An IT manager at a transportation company explained the outsized role of his organization's one certified application developer: *"We have one certified developer who reviews and finalizes the applications developed by our five uncertified developers. He also develops a number of applications completely on his own."* This means that certified application developers reduce the time to market for new applications and features, delivering faster service and giving application users the tools they need more quickly than noncertified developers (see Figure 2).

FIGURE 2

## Application Development Team Efficiencies



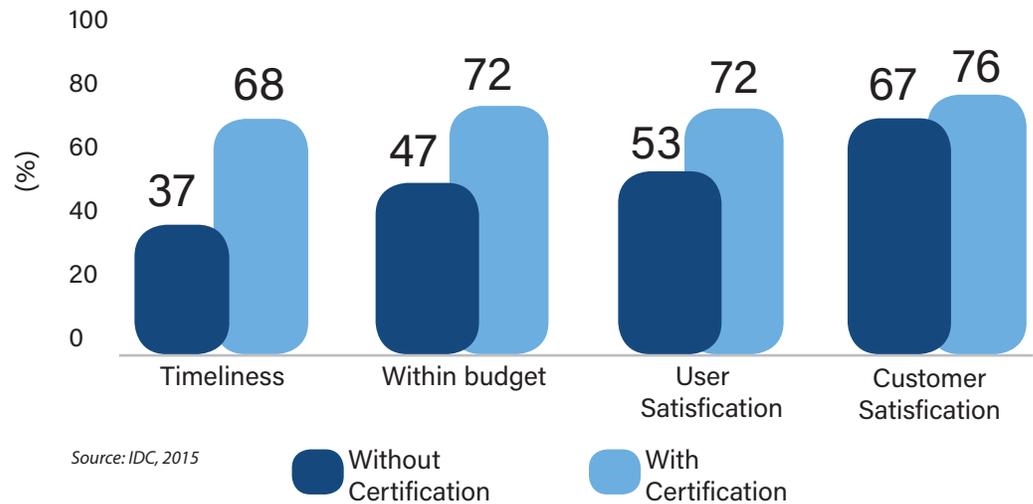
Source: IDC, 2015

Beyond these efficiencies, interviewed organizations also reported improvements across the application development process relating to having certified staff members, including satisfaction with applications (see Figure 3). Specifically, having staff members who have earned certification has led to:

- » **Improved timeliness of application delivery.** On average, interviewed organizations reported that certified staff have increased on-time delivery of new applications. This means that users and customers more often have access to applications when they need them, increasing the value of the applications and the work being done by the application development team.
- » **More applications being delivered on budget.** On average, interviewed organizations said that certified staff are substantially more likely to deliver applications on budget. Cost and staff time savings can be reinvested to deliver more applications and services or to support other areas of IT innovation.
- » **Higher user satisfaction.** IT managers reported that satisfaction among both internal users and customers is higher when certified staff members are involved in developing applications. Higher satisfaction with applications can carry through to employee productivity gains and higher revenue.

FIGURE 3

## Application Development Team Performance KPIs



### Productivity and Cost

Beyond the impact of certification on IT staff performance and IT operations, interviewed organizations provided examples of how hiring applicants with certification can result in cost reductions, staff time savings, and higher productivity (see Figure 4). Benefits include:

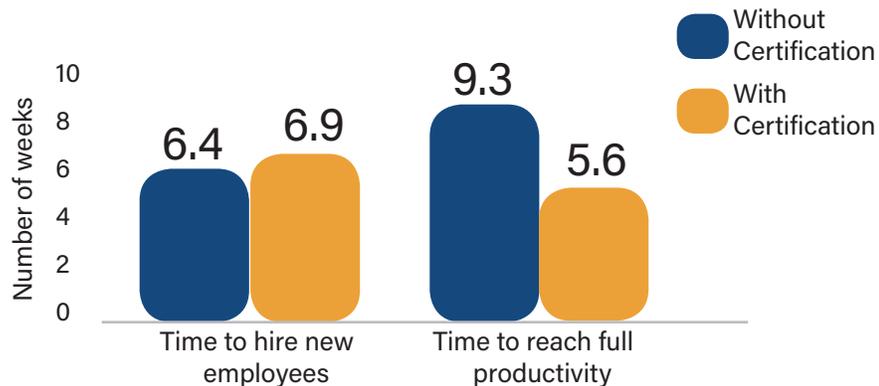
- » **Higher productivity.** New hires with certification reach full productivity levels substantially faster — a full month earlier — than noncertified hires. According to the IT manager at the transportation company: *“Certification improves productivity right out of the chute. It also, I think, strengthens their commitment to the job.”*
- » **Longer average tenure.** While several organizations noted that certified staff members are attractive potential hires for other organizations, they reported that the average tenure for certified staff members is about 15% longer. As the IT manager at the multinational company explained: *“I believe that employees with certification generally stay longer. They perform better, have more subject matter expertise, and are more satisfied employees.”*
- » **Reduced cost of hiring.** Interviewed organizations reported that each new hire incurs substantial costs in terms of hard costs (advertising, recruiters, etc.) and employee time (HR, LOB). As a result, longer tenure benefits organizations by

reducing the frequency with which they must incur these costs of hiring.

- » **Time to hire.** Interviewed organizations expressed mixed sentiment about whether it takes less time to hire individuals with certification. On average, they reported that making certified hires takes 8% longer time, possibly due to more significant responsibilities associated with certified hires. However, several organizations said that they are able to make certified hires faster, with the IT director at the software company explaining: *“Hiring is faster because the screening process is simplified with certification as a criterion, and the weeding out of candidates happens more quickly.”*

FIGURE 4

## Employee Hiring and Tenure Impact of Certification



## Employee Advancement

In addition to the productivity and cost benefits employers derive from having certified IT staff members, interviewed organizations also provided insight into how certification can benefit employees both financially and in terms of career prospects, including:

- » **More responsibility.** Several organizations reported that certified IT staff members are given more responsibility than noncertified staff members and are sometimes given responsibility for managing and supervising noncertified staff members.
- » **More opportunities for advancement.** These additional responsibilities create more opportunities for advancement within organizations. In addition, interviewed IT managers expressed a sense that earning certification reflects an employee's interest in career advancement. An IT manager at a hospital said: *“Certification is a motivation tool to build confidence and competence. Staff know it is required for advancement, including pay increase or title increase.”*

- » **Higher salary.** Perhaps the most fundamental benefit of certification for employees is that they earn more. Interviewed organizations reported that certified staff members earn 15% more on average than staff without certification. Higher salaries reflect employees' skills and knowledge, increased likelihood of employees taking on supervisory roles, and the ability of employees to earn promotions and advance their careers.

## Challenges and Opportunities

Because business and IT leaders must transform the business, the rapid adoption of new technologies and organizational, operational, and business model innovation will create pressures on both the IT organization and IT employees specifically. As a result, the consequences of failing to train employees sufficiently can be severe.

At an IT organization level, failing to keep up with business requirements can interfere with the enterprise's ability to adapt to competitive or market pressures. At the employee level, failing to train sends a message to employees that they must perform without the proper tools and that their capabilities and potential are not valued in the organization. This results in not only lower overall performance and efficiency but also lower motivation to succeed and greater likelihood that employees will seek other opportunities.

On the other hand, IDC research shows that performance improvements result from successful training and certification programs. Well-trained IT staff exhibit better understanding of evolving technologies and priorities and are more aware of security issues and technologies. This leads to a greater ability to handle increasingly complex tasks and responsibilities.

Specifically, well-trained organizations outperform undertrained IT organizations in:

- » **IT staff efficiencies:** Including an average 17% improvement in the efficiency of server, database, and application development teams
- » **Availability and risk mitigation:** Including certified IT employees contributing to a 15% reduction in unplanned downtime, a 26% improvement in mean time to repair (MTTR), and a more than 50% improvement in unplanned downtime related to server management
- » **Business agility:** Including nearly twice as many applications developed per year by certified employees and less than half the time to develop each application and improved on-time and on-budget delivery of applications

- » **Productivity and cost:** Including certified new hires reaching full productivity one month sooner than noncertified new hires (Certified new hires also cost less to hire and generally have a longer tenure with the organization than noncertified IT employees.)

## Summary and Conclusion

IDC has long advocated that upgrading skills and certifying staff will deliver the most persistent performance improvement in IT operations, including increased reliability of IT systems and increased organizational productivity. IDC also believes the IT organization should experience additional benefits of having a well-trained and certified team that improves the internal operations of IT.

Ongoing training and certification is essential to prepare IT employees and the overall organization for the fast-changing technology landscape. As IT organizations adjust to changing business requirements, training and certification remains a reliable method to satisfy both organizational needs related to increased efficiency, productivity, and innovation and individual needs related to self-improvement and validation. To ensure IT organizational success, IT leaders need to:

- » Train consistently. Build a plan to maintain the skills of your IT employees and be proactive about it. Well-defined development programs will increase employee participation and progress. Consistency in the quality of training experience helps ensure that every IT employee is able to provide the level of quality service and support appropriate for each role.
- » Train practically. Leverage elearning courses and electronic performance support modules to offer efficient and convenient delivery of high-quality training programs to every IT employee. Make use of vendor-supplied elearning and live training events. With a training plan in place for every employee, it will be easy to determine whether a particular training program or course is necessary for a specific employee.
- » Leverage certifications. The value of certifications as development milestones for IT employee roles is significant. Not only do certifications represent deep technical insight, but the structure and progression of the preparation are geared toward the increasing complexity of the target IT employee role. Achieving and maintaining certifications is an extremely effective way to ensure the highest level of employee competence.

Strong training and certification programs impact IT employee productivity. The numbers deserve repeating: 17% improvement in IT team efficiency, 26% reduction in mean time

to repair outages, and more than 50% reduction in time to create new applications. And new hires reach full productivity one month sooner than noncertified new hires. Numbers like that can help transform businesses into digital enterprises.

## Appendix

IDC's standard business value methodology was utilized as the basis for the analysis in this project. This methodology is based on data gathered from interviews with organizations that have employees who have earned IT-related certifications. IDC uses the following steps to calculate the benefits and investment costs:

- » Measure the savings from reduced IT costs (staff, hardware, software, maintenance, and IT support), increased user productivity, and business impact.
- » Ascertain the investment made in supporting employees with IT-related certifications.

IDC bases the financial calculations on a number of assumptions, which are summarized as follows:

- » Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and manager productivity savings.
- » Downtime values are a product of the number of hours of downtime multiplied by the number of users affected.
- » The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue.
- » Lost productivity is a product of downtime multiplied by burdened salary.

Because every hour of downtime does not equate to a lost hour of productivity or revenue generation, IDC attributes only a fraction of the result to savings. As part of our assessment, we asked each enterprise what fraction of downtime hours to use in calculating productivity savings.

*Note: All numbers in this document may not be exact due to rounding.*

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