White Paper

Benefits of Role-Based Certifications

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IDC OPINION

The success of business increasingly relies on the IT organization supporting business requirements and often implementing new and evolving technologies. New research from IDC demonstrates that the responsibilities of a single IT professional typically span several domains, and each role works with several (or many) different technologies. This suggests that "technology focused" certifications are insufficient. If a certification focuses solely on a technology – such as Azure, Windows, or SharePoint – it will not prepare IT professionals for the full scope of their "real world" responsibilities.

On the other hand, the research demonstrates that IT professionals who have achieved a relevant role-base technical certification perform on average 26% better than their uncertified colleagues with the same responsibilities.

This is particularly important for organizations and their IT professionals responsible for implementing technology transformation in support of critical business objectives and implies a need for continuous professional development and represents another value of IT certification to the enterprise.

SITUATION OVERVIEW

Technology has moved out from the IT department to the desktop, to tablets, and to a phone in every pocket. In fact, there is more "digital transformation" (DX) happening outside the IT organization than within it. As an organization senses an opportunity, it deploys a new approach using technology to help streamline or automate processes. Digital transformation is ushering in a new era of digitally enabled customer-facing products, services, and experiences in an environment of rapid change and uncertainty.

Most DX is deploying and effectively using core capabilities – better collaboration, integrated applications to improve communication, and improved data analytics and reporting. And these core capabilities represent both the foundation of what most businesses require to succeed and a performance benefit to the IT organization itself. Because technology is at the center of business growth for all companies, transformation requires an IT organization with the right skills. IDC estimates that trained and certified teams responsible for core IT activities are generally 20% more productive than uncertified staff.

This research was designed to help us understand the kinds of responsibilities IT professionals typically have and the extent to which role-based certifications from Microsoft improve their performance of those responsibilities. We found that while roles are increasingly complex, IT

professionals that hold IT certifications related to their responsibilities typically perform significantly better in specific KPIs related to their assigned tasks.

IT Roles Are Increasingly Complex

The skills IT professionals need are continuously evolving. IT professionals are assuming new roles, working with new and more diverse solutions, and implementing new configurations. The continuous evolution of skills requires a conscientious program of continuous learning and development that supports both the range of technologies and the breadth of responsibilities of an effective IT professional.

In IDC's recent *Drivers of DX Success in the IT Organization Survey,* more than 650 IT leaders across a variety of roles helped us uncover the relationship between capability, as measured by the attainment of a relevant technical certification, and critical KPIs that suggest effectiveness and efficiency in execution of their work in significant IT roles. The roles we examined at Microsoft included:

- Azure data engineer/Azure data scientist/Azure AI engineer
- Azure solutions architect
- Security administrator
- Azure administrator
- Enterprise administrator

To understand the roles and their responsibilities, we asked more than 650 IT professionals who worked with Microsoft technologies what their role was and what significant responsibilities were included in their role. Each responsibility was also categorized into the role where it was typically found.

We also asked each IT professional if his/her responsibilities include working substantially with a list of Microsoft solutions and products.

Responsibilities Span Traditional Role Boundaries

We found that across these roles, IT professionals had responsibilities that might be also categorized as primary responsibilities of other roles.

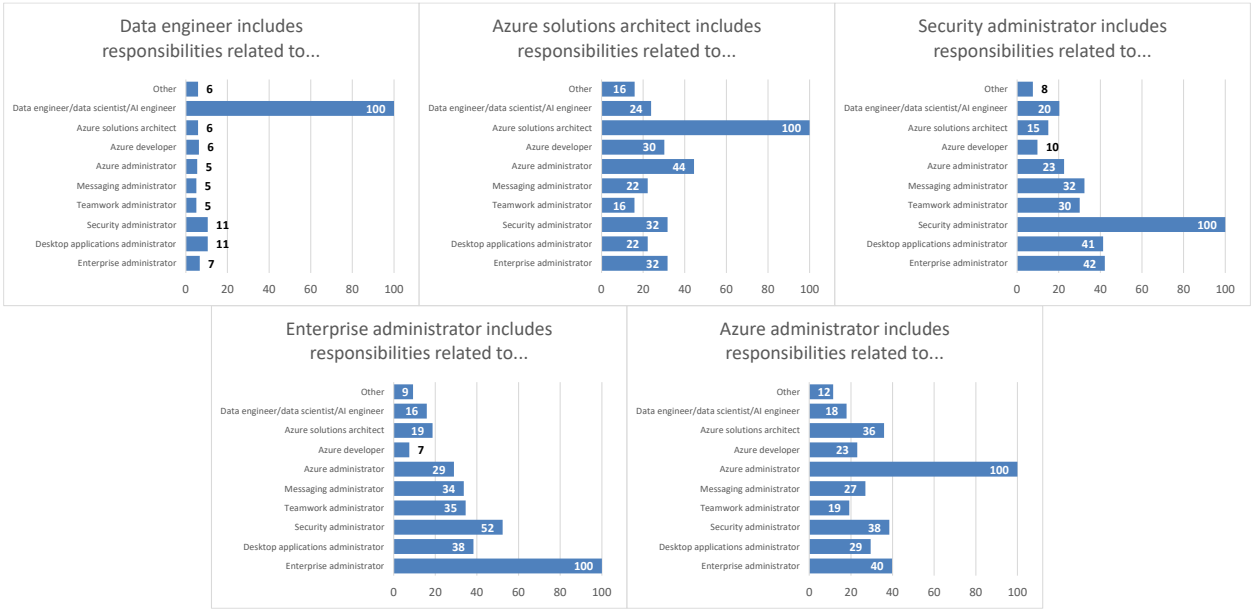
Figure 1 illustrates the breadth of responsibilities for each role and indicates how often the role was specifically responsible for some activity that might be classified as belonging to another role. For instance, while 100% of Azure solutions architects performed responsibilities related to Azure solutions architects, 24% also performed Azure data engineer responsibilities, 44% performed Azure administrator duties, and 32% performed enterprise administrator duties. Similarly, security administrator responsibilities included enterprise administrator responsibilities 42% of the time, messaging administrator responsibilities 32% of the time, and Azure solutions architect responsibilities 15% of the time.

While a "role" is a defined set of responsibilities, responsibilities overlap and are commonly part of many different roles. This suggests that an Azure data engineer, or an Azure solutions architect, must be familiar with the "responsibilities" that might have historically been the domain of security or enterprise administrators.

FIGURE 1

Responsibility Profile for Select Roles (% of Respondents)

Q. Which of the following are important responsibilities of yours?



n = 256 for data engineers, n = 63 for Azure solutions architects, n = 133 for security administrators, n = 107 for enterprise administrators, and n = 78 for Azure administrators

Source: IDC's *Drivers of DX Success in the IT Organization Survey,* 2020

Roles Work with a Wide Range of Technologies

In addition to having a broad responsibility profile, these roles typically worked with a wide range of Microsoft products.

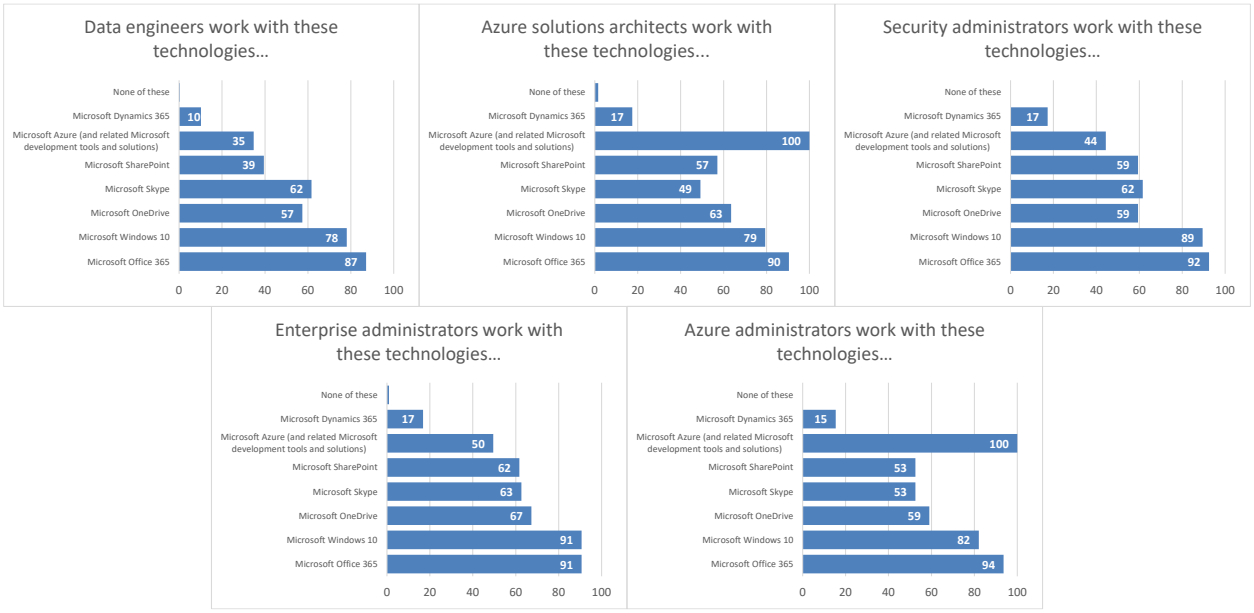
Figure 2 illustrates the range of technology solutions with which each role worked. For instance, more than 90% of enterprise administrators work with Microsoft Office 365 and Microsoft Windows 10. 67% of those enterprise administrators work with OneDrive and 62% work with SharePoint. For Azure administrators, the range of technologies is similar. 100% of Azure administrators work with Azure, while 53% also work with SharePoint and 59% work with OneDrive.

The technologies each role works with as part of its responsibilities are broad and growing as the business problems being solved become more complex. This suggests that IT professionals in any role, such as an enterprise administrator or Azure administrator, must be familiar with a broad range of technologies to be successful in their role.

FIGURE 2

Technology Profile for Select Roles (% of Respondents)

Q. Do your responsibilities include working substantially with any of the following Microsoft solutions?



n = 256 for data engineers, n = 63 for Azure solutions architects, n = 133 for security administrators, n = 107 for enterprise administrators, and n = 78 for Azure administrators

Source: IDC's *Drivers of DX Success in the IT Organization Survey,* 2020

CHALLENGES/OPPORTUNITIES

By the end of 2019, up to 70% of companies engaged in digital transformation efforts struggled to translate business needs into effective IT investments and operations plans. That is often because they don't have the skills they need to build and execute an effective transformation. In recent IDC research of IT leaders, "having the right skills in-house" is most often selected as the biggest challenge to successfully completing digital transformation of their datacenters. Other challenges exist too – developing new applications, migrating workloads to the public cloud, and data integration issues. But each of those challenges is also impacted by the skills of the IT professionals in the organization.

But the findings of this research – that responsibilities typically span several domains and each role works with several (or many) different technologies – suggest that "technology focused" certifications are insufficient. If a certification focuses solely on a technology – such as Azure, Windows, or SharePoint – it will not prepare IT professionals for the full scope of their "real world" responsibilities.

Reliable High Performance Requires Role-Based Certifications

Within any company, IT roles are no longer simply described as "administrator" or "engineer." Instead, each job title has subheadings, such as "security systems engineer," and some have subcategories to identify niche and specific roles.

Acknowledging that IT roles cover a wide range of responsibilities, and touch a range of technologies, it is important that training is more job specific than simply in-depth knowledge of a specific technology. Training to prepare for well-constructed "role based" certifications ensure IT professionals' skills align with the responsibilities they have. These certifications and the training to prepare for them need to be kept current with new features while services are added to the solution area and job role.

We examined dozens of responsibilities and compared the performance of IT professionals who were certified with the performance of uncertified IT professionals. We found that Microsoft-certified IT professionals performed 26% better across all roles than uncertified IT professionals with the same responsibilities. To illustrate the impact of certification on performance, the following are the performance benefits for four roles:

- **Azure data engineers** design and implement the management, monitoring, security, and privacy of data using the full stack of Azure data services to satisfy business needs. A Microsoft-certified Azure data engineer:
  - Spends 20% less elapsed time setting up the infrastructure, completing nearly two days sooner
  - Spends 33% less elapsed time to train and evaluate a machine learning model, completing more than two days sooner
- **Azure administrators** implement, monitor, and maintain Microsoft Azure solutions, including major services related to compute, storage, network, and security. A Microsoft-certified Azure administrator:
  - Is 55% more likely to be able to determine the scope of impact of a security issue with a virtual machine
  - Is 13% more likely to assign "the least privilege" to roles
- **Enterprise administrators** evaluate, plan, migrate, deploy, and manage Microsoft 365 services. A Microsoft-certified enterprise administrator:
  - Spends 40% less time designing and implementing Microsoft 365 services
  - Is 46% more likely to implement two-factor authentication
- **Security engineers** implement security controls and threat protection, manage identity and access, and protect data, applications, and networks in cloud and hybrid environments as part of end-to-end infrastructure. A Microsoft-certified security administrator:
  - Has 37% fewer network-related security incidents that impact multiple devices
  - Has 5% fewer network-related security incidents that had systemwide impact

Refer to Table 1 in the Appendix for the complete list of roles and responsibilities IDC examined for this research.

These findings are consistent with other research IDC has completed related to the performance differential of certified IT professionals. What sets these certifications apart is the specific focus on the broad responsibilities of each role.

Leverage Certifications as Part of Strategic Skill Development

Identifying IT professionals with the right skills has never been straightforward. And in this period of rapid change and economic disruption, it has never been harder nor more important. Recognizing or validating specific competence can be a challenge. 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 initiatives.

Certification programs can be part of a reliable development road map to help organizations build skills during every phase of a transformation journey. IDC analysis has determined that IT professionals should get at least 10 hours of job role-related training every year to remain current. And additional training is necessary when significant digital transformation projects are being planned. For important roles, IT leaders should seek advice from their technology and tool providers to identify the specific skills and training paths necessary to upskill the role to meet future needs. Technology vendors with relevant certification programs are in a unique position to support the skills requirements of a range of IT and business professionals.

To effectively leverage IT certifications for increased DX 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? Or 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?

CONCLUSION

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

While research consistently shows that training and certification lead to greater performance, this research indicates that role-based certifications help IT professionals perform across a wide range of responsibilities and technologies.

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

- Align IT organizational requirements and development plans with DX strategy.
- 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 DX projects and operational priorities for new/expanding skill requirements.

APPENDIX

Table 1 lists the roles and responsibilities IDC examined for this research.

TABLE 1

Examined Roles and Responsibilities

Role	Responsibility
Enterprise administrator	▪ Designing and implementing Microsoft 365 services ▪ Implementing Microsoft 365 security and threat management ▪ Managing Microsoft 365 user identity and authentication
Desktop applications administrator	▪ Deploying Windows and applications to client devices including Office 365 ▪ Keeping client application and OS current and up to date ▪ Refreshing client hardware with Windows 10 ▪ Troubleshooting client-related issues ▪ Maintaining device access policies
Security administrator	▪ Responding to PC-related security issues ▪ Responding to network-related security issues ▪ Responding to data-related security issues
Messaging administrator	▪ Securing the messaging environment ▪ Managing modern messaging infrastructure ▪ Managing mail flow topology
Azure administrator	▪ Managing Azure subscriptions and resources ▪ Implementing and managing storage ▪ Deploying and managing virtual machines ▪ Configuring and managing virtual networks ▪ Managing secure identity management solutions

TABLE 1

Examined Roles and Responsibilities

Role	Responsibility
Azure developer	▪ Developing Azure infrastructure-as-a-service compute solutions ▪ Developing Azure platform-as-a-service compute solutions ▪ Developing for Azure storage ▪ Implementing Azure security ▪ Monitoring, troubleshooting, and optimizing solutions
Azure solutions architect	▪ Using Resource Manager to create JSON templates for configuring and managing infrastructure ▪ Using RBAC to assign roles to existing Azure Active Directory identities ▪ Configuring, deploying, or modifying Azure compute resources using Azure Resource Manager ▪ Creating Azure virtual networks
Data engineer/data scientist/AI engineer	▪ Provisioning, setting up, and maintaining a data infrastructure ▪ Managing data ingestion and preparation ▪ Comparing AI models to identify the best one ▪ Using AI models in a solution

Source: IDC, 2020

MESSAGE FROM THE SPONSOR

About Microsoft

As companies are evolving with digital transformation to bring new ways of generating value (learn more), Microsoft learning resources enable you and your organization to get there too.

Microsoft Certifications ensure individuals and organizations are kept up to date with necessary skills and ability to perform job roles in a modern digital business. They also validate the ability to demonstrate "doing" skills and hands-on real-world scenarios with performance-based testing.

And as products and technology update, keep up to date by building technical skills while preparing for certification with updated learning content. Get started on Microsoft Learn with free, interactive, hands-on training or dive deep with instructor-led training offered by Learning Partners and taught by Microsoft Certified Trainers worldwide.

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