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REGION FOCUS: WORLDWIDE

The Business Value of Microsoft Azure for SQL Server and Windows Server Workloads


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Table of Contents

CLICK BELOW TO NAVIGATE TO EACH SECTION IN THIS DOCUMENT.

Executive Summary

Cloud has become a foundational technology for organizations looking to increase business agility, automate operations, and launch new products and services. The ability to quickly provision resources, scale on demand, and deploy globally has fueled a new wave of innovation. In 2022, IDC expects spending on cloud infrastructure to reach $90.2 billion, surpassing non-cloud infrastructure for the first time[1].

IDC assessed the impact for Microsoft customers of migrating, modernizing, and running SQL Server and Windows Server workloads in the Microsoft Azure cloud through in-depth interviews about their experiences. Study participants reported that Microsoft Azure has provided an agile, high-performing, and efficient cloud platform for many of their most important SQL Server and Windows Server workloads.

As a result, interviewed Microsoft customers not only reduce costs through migration and modernization of these workloads but also generate more value through running these workloads on Azure, with IDC projecting that they will achieve benefits worth an annual average of $15.85 million per organization ($271,500 per 100 users) by:

- **Optimizing infrastructure costs** by provisioning capacity for core SQL Server and Windows Server workloads to match actual business needs and taking advantage of cost-effective access to new technologies
- **Enabling IT infrastructure and security teams to work more efficiently and better ensure security** by using Azure platform capabilities that include the automation of many day-to-day activities, such as patching, updates, and capacity provisioning
- **Bettering the effectiveness of development activities** by ensuring flexible access to IT resources, supporting the adoption of new development approaches, and offering new tools for maintaining and leveraging data
- **Providing a reliable and high-performing infrastructure foundation,** which allows businesses to generate value through migration and modernization of SQL Server and Windows Server workloads

Business Value Highlights

Click each highlight below to navigate to related content within this document.

406%
three-year ROI

12 months
to payback

40%
lower three-year cost of operations

27%
lower infrastructure costs

51%
more efficient IT infrastructure teams

87%
faster deployment of IT resources

45%
faster delivery of new applications

43%
more efficient IT security teams

$65.63 million
higher revenue per year[2]

[1] Source: IDC's *Worldwide Quarterly Enterprise Infrastructure Tracker: Buyer and Cloud Deployment*, June 2022
[2] IDC considers 15% of revenue gains as net revenue gains for the purposes of its return on investment model — i.e., $9.84 million in net revenue gains on total revenue gains of $65.6 million for the enterprise customers surveyed for this study. Please see the Appendix for further details on IDC's Business Value methodology.

- **Improving business results,** including capturing higher revenue by better serving customers with greater scalability, performance, timeliness, and innovation

A U.S. distribution company summed up the value it has achieved by migrating and modernizing its SQL Server and Windows Server workloads on Azure:

"We can now support the business better, faster, and cheaper with Microsoft Azure for anything they throw at us because of not only the functionality of Azure, but some of the support and learning and intelligence and automation Azure provides. The number of tools in our toolkit right now and the time to market that we can deploy things, for lack of a better word, used to be a dream. Now, it's something that we can make real in a fairly quick period of time."

Situation Overview

Modernization is the act of updating organizational processes, systems, and tools to the most current versions or best practices. In the context of cloud computing, modernization is the process of transitioning an organization's applications, processes, and data management to a cloud-first approach. The goal is to improve organizational and technological performance, enhance the quality of customer and employee experiences, and accelerate time to market for new offerings and updates.

Benefits related to modernization fall into four categories:

- **Accelerated innovation and time to market:** When organizations don't have to devote as much time and resources to maintaining apps and infrastructure, they can spend more time innovating. Cloud-based tools and services further help streamline the development process, resulting in faster time to market.
- **Security and reliability:** With a cloud-first approach, organizations can use built-in updating and security capabilities to help safeguard their workloads. Other built-in features can include task automation for important things like high availability, disaster recovery, backups, and performance monitoring.
- **Compatibility and agility:** The advantage of modernizing apps isn't just that they'll be able to work with the most current technology; it's that they'll keep working even as the technology evolves. This seamlessness allows for quick updates and changes to meet current and future business needs. It can also enable automatic scaling so that apps continue to work well when there are sudden increases in demand — and to instantly reduce costs when there are sudden decreases in demand.

- **Efficiency:** When done thoughtfully, modernizing existing apps can be easier than creating new ones from scratch. That way, organizations can build on existing investments rather than sink time and money into something new. App modernization also helps retain many current processes and maintain business continuity compared with plugging completely new apps into existing operations.

Organizations' shifting their strategies from cloud-opportunistic to cloud-first has led to an acceleration of migration and modernization initiatives. In a 2021 IDC survey, 86% of respondents noted that their organization had modernized over half of its legacy applications, up from 65% in 2020. Looking forward, IDC expects that trend to continue.

Microsoft Azure for SQL Server and Windows Server Workloads

Microsoft Azure provides the most straightforward path to moving SQL Server and Windows Server workloads to the cloud with few to no application code changes. It provides built-in security controls and advanced threat protection to ensure data is stored in a secure and compliant environment.

With full SQL Server parity and a consistent code base, it is possible to make use of existing on-premises skills and knowledge in the cloud. Microsoft provides resources for easy lift-and-shift migrations along with application modernizations with the help of Azure Database Migration Guides. Azure also offers native support for .NET, Remote Desktop Services, and other Windows Server workloads.

Customers can maximize existing investments in on-premises licenses with the Azure Hybrid Benefit program, which can be combined with reserved instances for more savings. Also, special pricing is available for dev and test environments. Extended security updates are available for customers while migrating applications and SQL Server databases to Azure Virtual Machines, providing additional savings and protection.

For those that need additional assistance, expert migration support can be accessed in the Azure Migration and Modernization Program. This includes free migration tools to discover and assess on-premises migration readiness.

Microsoft Azure provides the most straightforward path to moving SQL Server and Windows Server workloads to the cloud with few to no application code changes.

Customers often use the following products and services for SQL Server and Windows Server migration:

- **Azure Migrate:** A central hub of Azure cloud migration tools and services to discover, assess, and migrate workloads to the cloud
- **Azure Database Migration Service:** A service that helps customers simplify, guide, and automate database migration to Azure
- **Azure Migration and Modernization Program:** Simplifies migration and modernization with best practices, unique savings, and access to engineers and specialized partners
- **Azure SQL:** The family of SQL cloud databases providing flexible options for application migration, modernization, and development

For hybrid environments, Azure Arc enables customers to secure, develop, and operate data and app services anywhere. Azure Arc is a bridge that extends the Azure platform to run across datacenters, at the edge, and in multicloud environments. It facilitates the creation of cloud-native applications with a consistent development, operations, and security model. Azure Arc runs on both new and existing hardware, virtualization and Kubernetes platforms, Internet of Things (IoT) devices, and integrated systems.

Additionally, Microsoft Defender for Cloud is a solution that adds threat detection and advanced defenses to Windows machines that exist in hybrid and multicloud environments. The service assesses and strengthens the security configuration of cloud resources, manages compliance against critical industry and regulatory standards, and detects vulnerabilities to protect workloads against malicious attacks.

The Business Value of Microsoft Azure for SQL Server and Windows Server Workloads

Study Demographics

IDC spoke with eight organizations that used the Microsoft Azure platform to migrate, modernize, and run SQL Server and Windows Server workloads to understand the impact on their IT costs, IT operations, and business outcomes. Interviews were in-depth in nature and designed to understand the quantitative and qualitative impact of running these workloads on Azure.

As shown in **Table 1**, study participants had an aggregate enterprise-level profile with an average of 12,675 employees and annual revenue of $6.15 billion (medians of 5,000 employees and $3.50 billion in revenue, respectively). Interviewed Microsoft customers were based in the United States, Singapore, France, and Germany and provided perspectives of industry verticals that included financial services, distribution, energy, healthcare, manufacturing, marketing, and retail/ecommerce. Please see **Table 1** for additional details about interviewed organizations.

TABLE 1

Demographics of Interviewed Organizations

	Average	Median
Number of employees	12,675	5,000
Number of IT staff	481	300
Number of business applications	405	89
Revenue per year	$6.15B	$3.50B
Countries	United States (4), Singapore (2), France, Germany	
Industries	Financial services (2), distribution, energy, healthcare, manufacturing, marketing, retail/ecommerce	

n = 8, Source: IDC in-depth interviews, June 2022

Decision to Use Microsoft Azure for SQL Server and Windows Server Workloads

Study participants reported that they chose to migrate, modernize, and run important SQL Server and Windows Server workloads on Microsoft Azure because it was the best fit both from an ecosystem perspective and for specific characteristics of these workloads. They already had extensive Microsoft environments and saw efficiencies and benefits in running their SQL Server and Windows Server workloads on the Azure platform. Further, they saw the Azure platform as providing a more fluid path to the public cloud, in terms of both ensuring a smooth migration and allowing them to maintain robust hybrid IT environments based on workload-specific needs. Finally, they cited specific characteristics of SQL Server and Windows Server workloads, including their data-heavy nature, that can create challenges in scaling to match workload demand, especially with on-premises environments. Interviewed Microsoft customers described their considerations:

Study participants reported that they chose to migrate, modernize, and run important SQL Server and Windows Server workloads on Microsoft Azure because it was the best fit both from an ecosystem perspective and for specific characteristics of these workloads.

Microsoft ecosystem and ability to create hybrid environment (distribution, United States):

"We are a Microsoft shop, so it made the most logical sense for us to stay in the Microsoft ecosystem with Microsoft Azure so we could take advantage of hybrid benefits."

Challenges with on-premises environment of maintaining performance and quality of SQL server applications (financial services, United States):

"We went with Azure because traditionally, our SQL Server use grows horizontally, which means that volume costs increase and computing power available goes down because CPU is limited. … This means that the processing power, the speed, the reliability slows down, and this is true for any application."

Relative ease of migrating SQL workloads and data (marketing, France):

"When it comes to migrating SQL workload data, things are much simpler with Azure because there are so many options out there to automate data migration from on premises to Azure SQL. We have really lifted most of the pain points there with Azure."

Integration across Microsoft ecosystem enhances security (financial services, United States):

"We were reducing our on-premises footprint, which is the main reason we went to cloud. … As we got more comfortable with being in the cloud, we started moving to Office365 and Azure. … We chose Microsoft Azure over [the other public cloud] mainly because O365 and Azure Active Directory integration made it easier from a security standpoint for our application stack."

"When it comes to migrating SQL workload data, things are much simpler with Azure because there are so many options out there to automate data migration from on premises to Azure SQL. We have really lifted most of the pain points there with Azure."

Use of Microsoft Azure for SQL Server and Windows Server Workloads

Table 2 provides an overview of study participants' use of Azure to migrate, modernize, and run their SQL Server and Windows Server workloads. As shown, these organizations have established significant public cloud environments, with almost half (46% on average) of their applications in the public cloud. The relative importance of Azure for these organizations is reflected in the fact that it makes up an average of three-fifths (61%) of these public cloud environments. The significant scale of use of Azure for SQL Server and Windows Server workloads is reflected in their using an average of 556 Azure VMs for workloads and applications that affect an average of 69% of their revenue. These figures demonstrate Azure's importance both as an IT platform for these organizations and specifically for their SQL Server and Windows Server workloads, which represent many of their most important data-driven and collaboration-focused applications and workloads.

TABLE 2

Microsoft Azure Use by Interviewed Organizations

	Average	Median
Percentage of business applications in public cloud	46%	38%
Microsoft Azure as percentage of organization's cloud environment	61%	65%
Average number of Azure VMs	556	213
Maximum number of Azure VMs	916	288
Number of applications	227	59
Number of internal users of applications	5,839	2,700
Percentage of revenue	69%	80%
Number of TBs	129	38

n = 8, Source: IDC in-depth interviews, June 2022

Business Value and Quantified Benefits of Microsoft Azure for SQL Server and Windows Server Workloads

Study participants described Microsoft Azure as a cost-effective and efficient platform for migrating, modernizing, and running many of their most important SQL Server and Windows Server workloads. They reported achieving cost savings and operational efficiencies and establishing robust hybrid IT environments with Azure, while also driving innovation, enhanced operational performance, and improved business results. They commented on the most significant areas of value they are achieving with Azure:

> “Traditionally, when there was a new sales initiative that needed an application built, it took four months before we could start drawing revenue against it. With Azure, it now only takes one month, so we’re getting three months of additional revenue.”

Platform for business growth based on faster time to market (distribution, United States):

“Traditionally, when there was a new sales initiative that needed an application built, it took four months before we could start drawing revenue against it. With Azure, it now only takes one month, so we’re getting three months of additional revenue. Because we can build faster, the business grows faster, which in turn creates more revenue.”

Resiliency, disaster recovery, strong security (healthcare, Singapore):

“The most significant benefit for us is resiliency because Microsoft has multiple datacenter locations. This means we can design some applications that need high availability with disaster recovery at the same time. That’s what Azure can do for us that the rest cannot do.”

Efficiencies allow for greater focus on project work (energy, Germany):

“Azure has enabled us to be more efficient, which has enabled us to reduce operational and run efforts to run more project work.”

Serverless capabilities drive improved security (marketing, France):

“From the security perspective, where we are seeing the biggest gain with Azure is when we look at SQL in the serverless approach. … It’s a very big difference versus our previous environment because we don’t really have to deal with maintaining the security of the servers ourselves.”

Faster time to market through faster access to compute/storage capacity (manufacturing, United States):

“If the business decides that they want a new bell and whistle for a given application, then we’re faster to market — 10% faster with Azure — because we’re not deploying to on-premises hardware with the associated lead time standing that hardware up.”

IDC projects that interviewed Microsoft customers running SQL Server and Windows Server workloads in the Azure cloud will achieve benefits with an annual average value of $271,500 per 100 users ($30.31 million per organization) in the following areas:

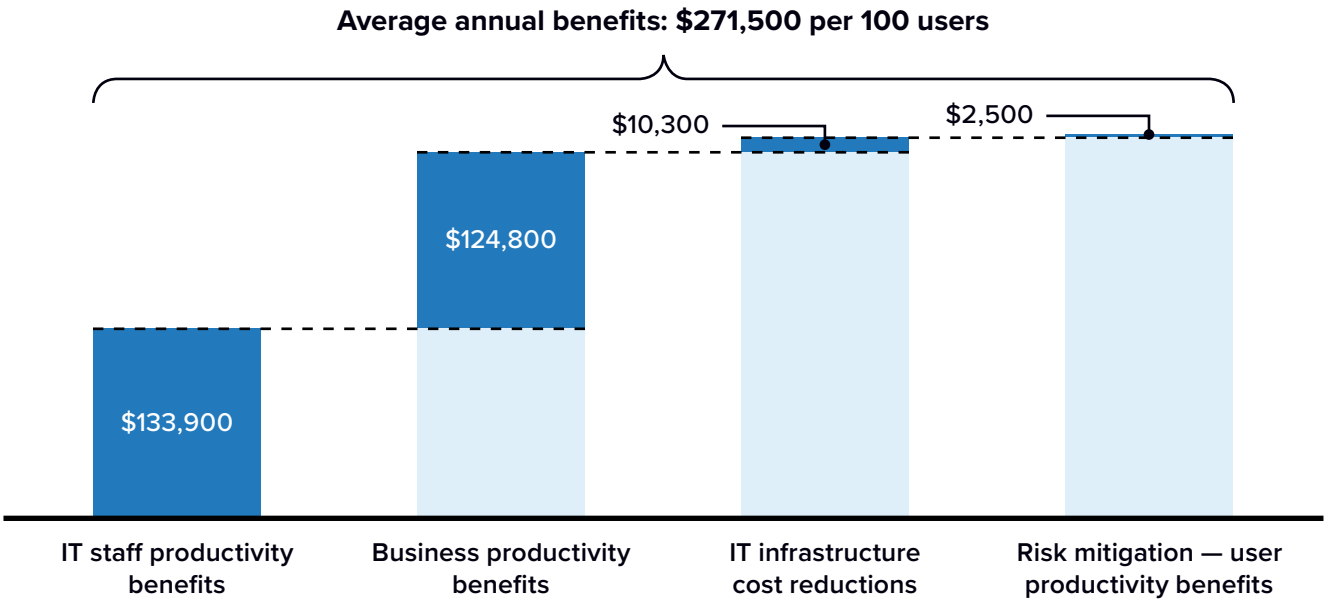
- **IT staff productivity benefits:** IT infrastructure, security, and database administration (DBA) teams have less day-to-day work to run equivalent workloads, and development teams gain from much-enhanced IT agility and performance. IDC calculates that these teams will realize efficiencies and productivity gains worth an annual average of $133,900 per 100 users ($7.82 million per organization).
- **Business productivity benefits:** The ability to provide more robust services and functionalities to customers enables study participants to win more new business and better retain existing customers. IDC puts the value of net revenue gains at an average of $124,800 per 100 users per year ($7.29 million per organization).
- **IT infrastructure cost reductions:** Microsoft Azure provides a more cost-effective infrastructure foundation for running equivalent SQL Server and Windows Server workloads than study participants' legacy on-premises environments. IDC estimates that they will save an annual average of $10,300 per 100 users ($0.63 million per organization).
- **Risk mitigation — user productivity benefits:** Reducing the frequency, duration, and impact of unplanned outages means that study participants face lower operational risk and lose less productive employee time and revenue during outages. IDC calculates that productivity and net revenue gains will be worth an annual average of $2,500 per 100 users ($0.15 million per organization).

IDC projects that interviewed Microsoft customers running SQL Server and Windows Server workloads in the Azure cloud will achieve benefits with an annual average value of $271,500 per 100 users ($30.31 million per organization).

FIGURE 1

Average Annual Benefits per 100 Users

($ per 100 users)



n = 8, Source: IDC in-depth interviews, June 2022

Cost Efficiencies

Study participants reported that Microsoft Azure provides a more cost-effective infrastructure foundation for running their SQL Server and Windows Server workloads. Much of this cost benefit relates to their ability to better match capacity to actual needs — i.e., avoid overprovisioning expensive and capital-intensive on-premises infrastructure assets. As a result, interviewed organizations can consume IT capacity as dictated by their workloads and businesses rather than standing up and running on-premises infrastructure geared toward potential maximum capacity.

Interviewed Microsoft customers spoke to specific and large-scale examples of infrastructure cost savings:

Much more cost-effective IT foundation (distribution, United States):

"If you take into account 150 servers at $9K each that we would need for an on-premises environment, that's a fairly substantial number. And then, if you take in power, cooling, internet services, security, and all of that, you are talking millions of dollars, so we're saving in excess of 70% with Azure. … It's a very compelling argument."

Lower costs for running SQL workloads (marketing, France): *"We organize online time with Microsoft Azure for our SQL workloads to make sure that we optimize the cost by having them online only when needed. So, that helps quite a lot and we've decreased costs by more than 35%."*

Beyond specific infrastructure cost savings, study participants also noted that the flexibility Azure offers yields more significant value than just direct cost savings.

One interviewed Microsoft customer explained how Azure enables it to try and fail with new applications and features, which is critical to its ability to iterate on and deliver new functionality to employees and customers: *"There's a difference in spending so much upfront with some potential to fail versus spending on a regular basis per month with Azure. And if we fail with Azure, then we just destroy the footprint and start over, so we don't waste so much resources."*

Another study participant recognized the cost savings it achieves with Azure but stressed that it focuses on the broader impact of Azure on business operations: *"We can see this huge difference in IT costs with Azure, but we never moved into this to save money in the first place. We are just enjoying the benefits of it. Not only the cost savings but also the technological benefits."*

Figure 2 shows the extent to which study participants reported optimizing their infrastructure costs by using Azure to migrate, modernize, and run their SQL Server and Windows Server workloads. On average, they can run equivalent workloads at a 27% lower annualized cost, thereby saving almost $815,000 per organization per year.

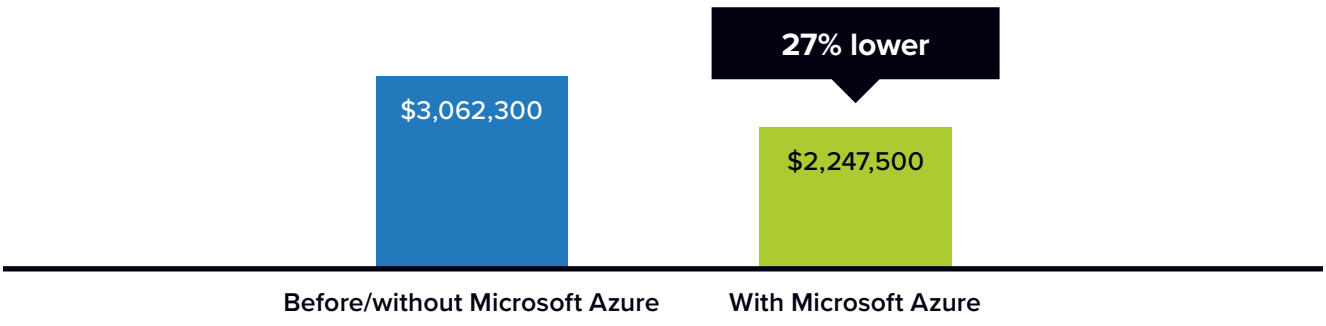
> "We organize online time with Microsoft Azure for our SQL workloads to make sure that we optimize the cost by having them online only when needed. So, that helps quite a lot and we've decreased costs by more than 35%."

> "We can see this huge difference in IT costs with Azure, but we never moved into this to save money in the first place. We are just enjoying the benefits of it. Not only the cost savings but also the technological benefits."

FIGURE 2

Annualized Infrastructure Costs

($ per organization)



n = 8, Source: IDC in-depth interviews, June 2022

IT Staff Efficiencies

In addition to cost savings, study participants reported that their Microsoft Azure environments for their SQL Server and Windows Server workloads require less staff time to maintain and manage. They linked efficiencies to functionalities such as automated patching, updates, and configuration, as well as having a more consolidated cloud environment for these workloads:

Efficiencies in patching/vulnerability management (financial services, United States):

"We can keep up with patching and vulnerability management with Azure, which we were always behind with on premises. This definitely makes it easier for us to do DevOps and production deployments and enhancements."

Allows for more efficient approach to IT staffing (marketing, France):

"In the past we used to rely quite extensively on hosting providers, so that came at a high cost. We switched to managing a lot of our, if not all, Azure workload by ourselves so it's much cheaper because it's easier for us to manipulate Azure versus on-premises servers. This is something that we have been able to optimize because we have a few experts which deal with Azure infrastructure."

Table 3 shows IT infrastructure and administrative team efficiencies achieved by interviewed Microsoft customers. As shown, IDC calculates that study participants will realize an average 51% efficiency for their IT infrastructure and administrative teams, which frees up significant staff time to focus on other projects and to reskill to work on higher-value business initiatives.

TABLE 3

Impact on IT Infrastructure and Administration Teams

	Before/Without Microsoft Azure	With Microsoft Azure	Difference	Percentage Benefit
Equivalent FTEs required for same workloads	38.60	18.80	19.80	51%
Value of equivalent FTE time required ($ per organization per year)	$3.86M	$1.88M	$1.98M	51%

n = 8, Source: IDC in-depth interviews, June 2022

Importantly, study participants do not view these staff efficiencies as an opportunity to downsize their teams. Instead, they perceive an opportunity to upskill their IT teams and reallocate staff resources to other deserving business and innovation-focused projects.

Study participants provided examples:

A retailer in Singapore noted:

"Some staff skill sets that we need can be very difficult to find and there tend to be more people with a newer platform and technology like Azure. It is harder to find the skills for on premises."

A distributor in the United States explained:

"When things are automated with Azure, there are lower staff dependencies. … We have to reskill existing positions to be able to support this new environment, so all this has dramatically changed our support structure and our IT staffing. Our workforce has dropped about 30%, and most of that is for people taking other opportunities. There's no need to refill them because we can do more with less now."

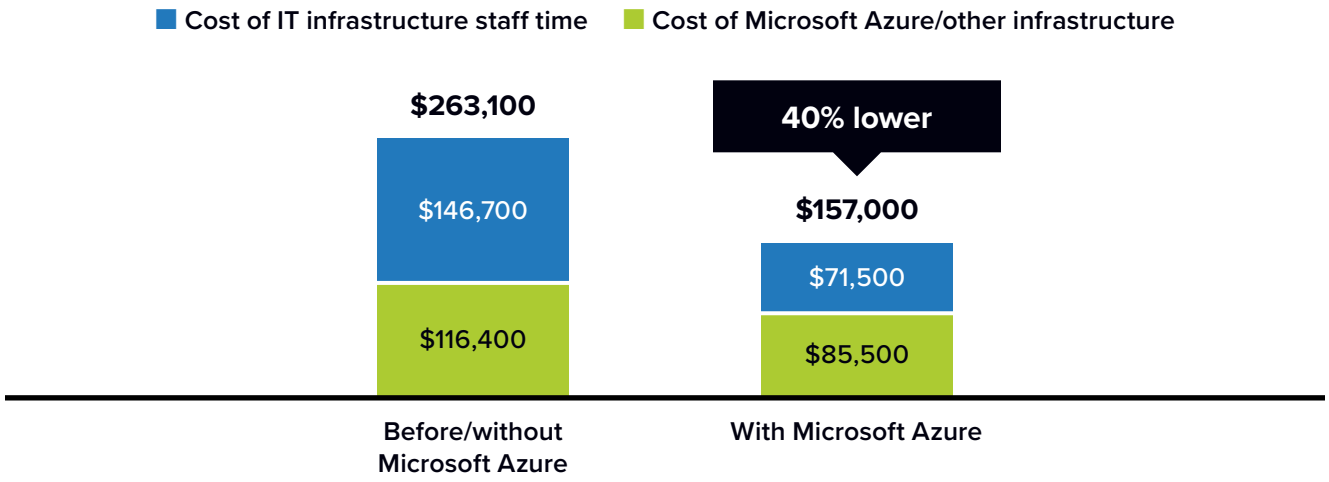
> When things are automated with Azure, there are lower staff dependencies. Our workforce has dropped about 30%."

Figure 3 shows the overall impact on cost of operations of infrastructure savings alongside these IT administrator and infrastructure team efficiencies. Overall, IDC calculates that study participants will incur 40% lower costs with Azure over three years to deploy and run equivalent SQL Server and Windows Server workloads, equivalent to saving $106,100 per 100 users over that time period.

FIGURE 3

Three-Year Cost of Operations per 100 Users

($ per 100 users, three years)



n = 8, Source: IDC in-depth interviews, June 2022

Agility and Development Benefits

Development teams at interviewed organizations are tasked with providing relevant and productivity-enhancing applications and functionalities to their businesses. For their SQL Server and Windows Server environments, this means embedding data into features and continually enhancing productivity tools core to how employees work. Study participants noted that friction caused by on-premises infrastructure environments can frequently slow development efforts. For example, development teams might not have access to the resources required to stand up a testing environment in a timely manner.

> “We have become more agile and flexible with Azure. We don’t need to constantly worry about performance because we know we have a backup plan by increasing capacity to get better performance.”

Interviewed Microsoft customers reported that running their SQL Server and Windows Server workloads on the Azure platform has provided much-enhanced agility in terms of access to compute, storage, and other IT resources, which is an important component of modernizing these workloads. With Azure, study participants have unfettered access to additional resources as their development activities and business operations require without having to make capital investment or otherwise plan capacity requirements from a longer-term perspective. Thus, they minimize or avoid planning and procurement cycles and can often deliver new capacity with little more than a touch of a button. Interviewed Microsoft customers provided examples of the agility gained with the Azure platform:

Much improved flexibility (retail, Singapore):

“We have become more agile and flexible with Azure. We don’t need to constantly worry about performance because we know we have a backup plan by increasing capacity to get better performance. Whereas if we were on premises and we run out of capacity, we are sunk. It’s also easier to try out new things with Microsoft Azure, so if we need to test, we can do it and then move on.”

More nimble business (healthcare, Singapore):

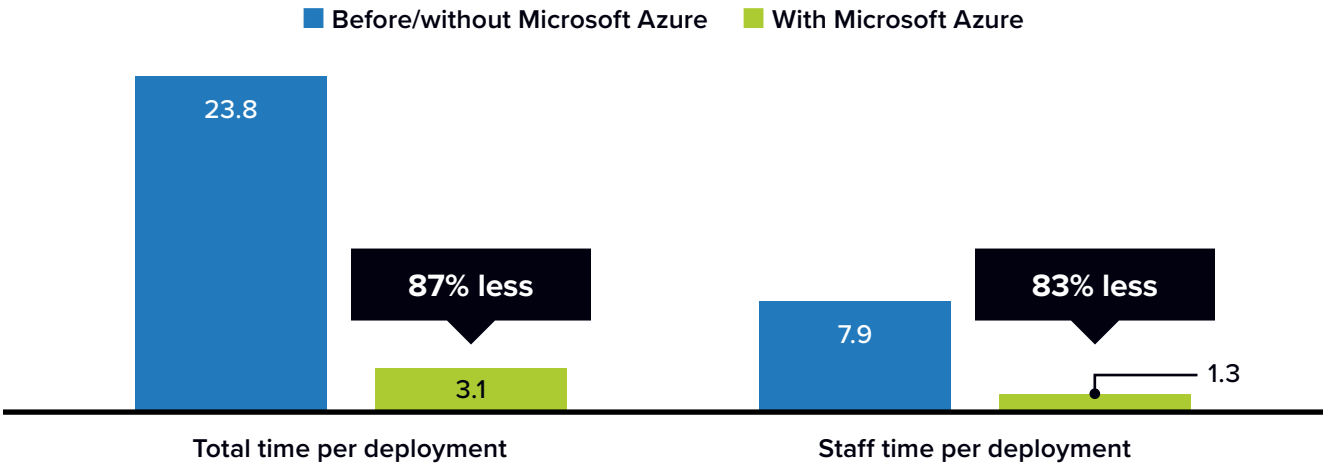
“Projects run faster now because we are more nimble with Azure. Whenever we need servers, we can easily spin up.”

Figure 4 (next page) shows the effect of Azure on the time required for interviewed organizations to provide additional compute and/or storage capacity for their SQL Server and Windows Server environments. On average, they have reduced the time frame for obtaining new capacity by 87%, going from almost three days to just over three hours. Likewise, the amount of staff time required to deliver new capacity has fallen by a similar amount of 83% on average, going from almost one full day’s staff time to just over one hour.

FIGURE 4

Impact on IT Agility

(Number of hours per deployment)



n = 8, Source: IDC in-depth interviews, June 2022

Study participants reported that enhanced agility with Azure has empowered their development teams to innovate more readily. As they can access the resources required to test and deploy new applications and features in a timely way, they can in turn establish more streamlined development processes and approaches and deliver faster to meet business demand.

For example, a marketing company in France commented:

"Provisioning capacity takes much less time now with Azure. As a result, we are much more flexible and able to create very tailored environments in no time now. … For example, whenever we have a new project that comes in, if it's a short-time project that needs to go live in weeks, with Azure now we can make sure that even if we only have two weeks, provisioning will be done. It's just much faster."

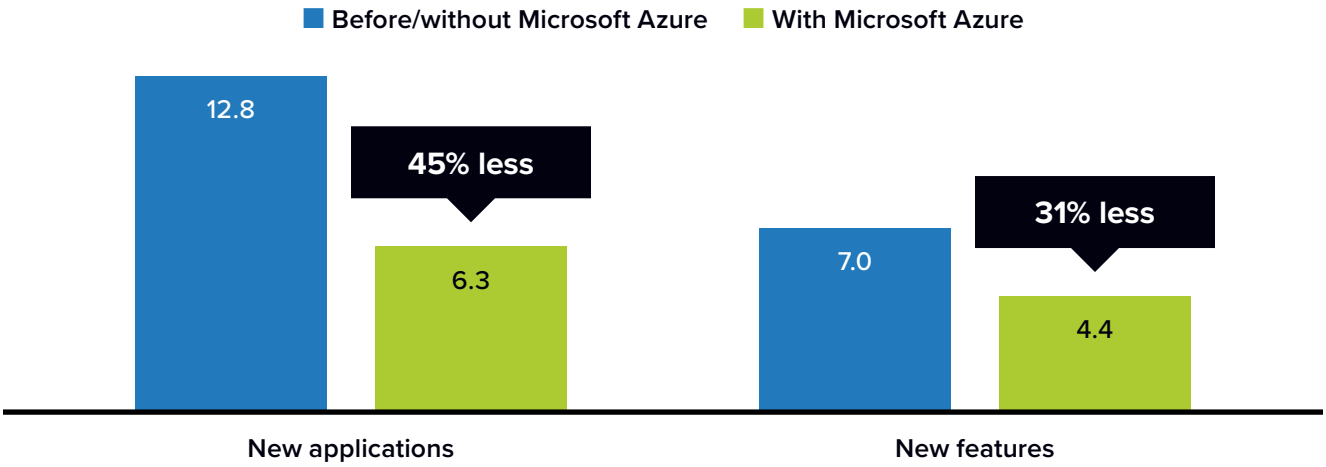
> "Whenever we have a new project that comes in, if it's a short-time project that needs to go live in weeks, with Azure now we can make sure that even if we only have two weeks, provisioning will be done."

Figure 5 (next page) shows the impact for interviewed Microsoft customers of using the Azure platform for their SQL Server and Windows Server workloads on application and feature development life cycles. Study participants reported that they can deliver new SQL- and Windows Server–related applications an average of 45% faster and new features 31% faster, in each case enabling them to deliver needed functionality to their employees and customers weeks faster than before.

FIGURE 5

Impact on Development Life Cycles

(Number of weeks)



n = 8, Source: IDC in-depth interviews, June 2022

As study participants use enhanced agility to adopt more effective approaches to development on the Azure platform, including DevOps and continuous integration/continuous delivery (CI/CD) approaches, their development teams can not only deliver more functionality to their businesses but also do so faster and thus better meet business needs. Interviewed Microsoft customers provided examples of how these new development approaches on Azure have been beneficial:

Creates agile CI/CD environment for development (financial services, United States):

"With Azure, we can do continuous integration/continuous development very easily because the products are well integrated into that environment. … We have a lot of baked-in capabilities which Microsoft gives us which is source control, and its own integration and deployment tools. So, when we start using all this, the process of pushing stuff in is seamless. We just press a button, and it does all the work on its own and pushes it into a testing environment."

Enhancing application capabilities through delivery of new features (energy, Germany):

"We haven't increased the number of applications with Azure but we have increased the scope of applications. Because we are using DevOps models and Azure methodologies, we are adding in additional capabilities into the existing tools. … For example, we used to do 10 new features a year in total because it took so much more staff time and now this year, we are doing 50 new features."

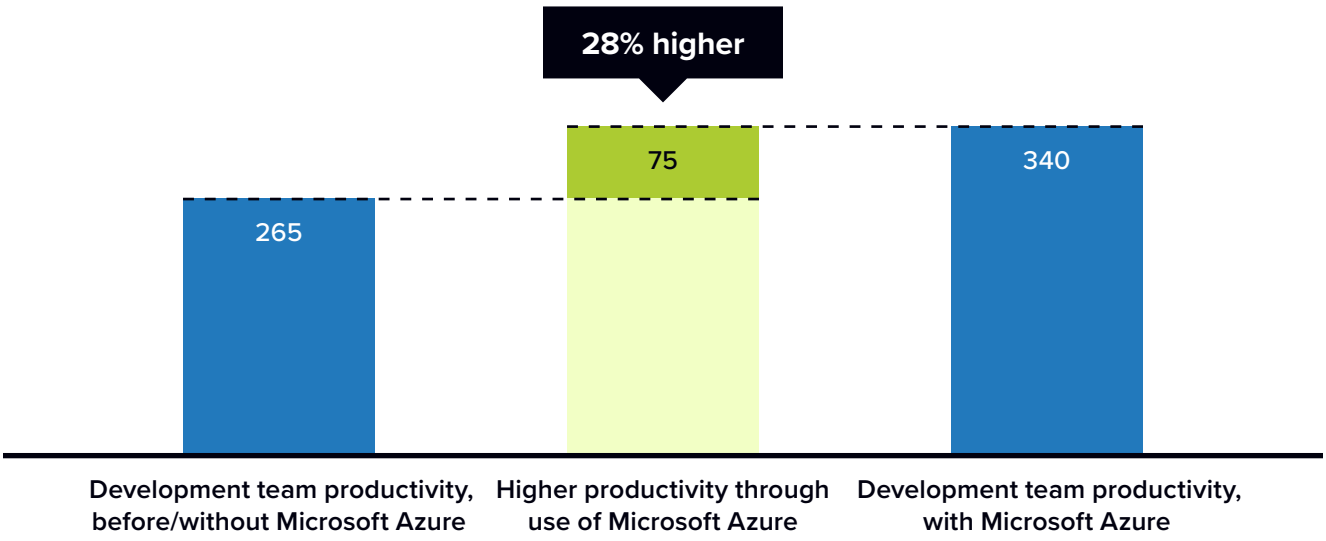
As study participants use enhanced agility to adopt more effective approaches to development on the Azure platform, including DevOps and continuous integration/continuous delivery (CI/CD) approaches, their development teams can not only deliver more functionality to their businesses but also do so faster and thus better meet business needs.

As shown in **Figure 6**, study participants have significant development operations working in their Azure for SQL Server and Windows Server environments, with an average of 265 developers. They attributed average productivity gains of 28% for these developers to the Azure platform, marking a substantial increase in the value these development teams provide to their business operations.

FIGURE 6

Impact on Development Team Productivity

(Equivalent productivity, FTEs per organization)



n = 8, Source: IDC in-depth interviews, June 2022

Security, Risk, and Performance Benefits

Study participants reported that Azure provides a higher-performing, more reliable, and secure platform for their SQL Server and Windows Server workloads.

They noted that automation and visibility into patching ensures quality and performance, with a utility company in Germany commenting:

"By using the standardized products from Azure with the standardized dashboards, we can see what's patched by whom, when and what's up to date and what's not up to date and then we can have a clear view and make an exception if we need to."

> By using the standardized products from Azure with the standardized dashboards, we can see what's patched by whom, when and what's up to date and what's not up to date and then we can have a clear view and make an exception if we need to."

One result of improved infrastructure upkeep is higher reliability; interviewed Microsoft customers reported experiencing fewer outages to their SQL Server and Windows Server workloads and less impact to business operations measured in terms of lost employee productivity. On average, they experience two-thirds fewer unexpected outages (67% fewer) and lose an average of 73% less productivity by running SQL Server and Windows Server workloads on Azure (see **Table 4**).

TABLE 4

Impact on Unplanned Downtime KPIs

	Before/Without Microsoft Azure	With Microsoft Azure	Difference	Percentage Benefit
Number of unplanned outages per year	46	15	31	67%
Mean time to repair (hours)	4.1	1.6	2.5	59%
Hours of productive time lost per user per year	1.3	0.3	1.0	73%
Productivity loss per year in FTEs per organization	3.9	1.1	2.8	73%
Value of lost productivity time per organization per year	$273,100	$74,500	$198,600	73%

n = 8, Source: IDC in-depth interviews, June 2022

Interviewed Microsoft customers also connected improved security for their SQL Server and Windows Server environments to running these workloads on Azure.

A distributor in the United States commented:

"The level of a patch automation with Microsoft Azure has been extremely helpful for us. … Patches are done automatically so we have less we have to handle on our own. As far as firewalls and levels of security, using Azure firewall VPN is far superior than what we would have for a level of access into our own datacenters."

> "The level of a patch automation with Microsoft Azure has been extremely helpful for us. … Patches are done automatically so we have less we have to handle on our own."

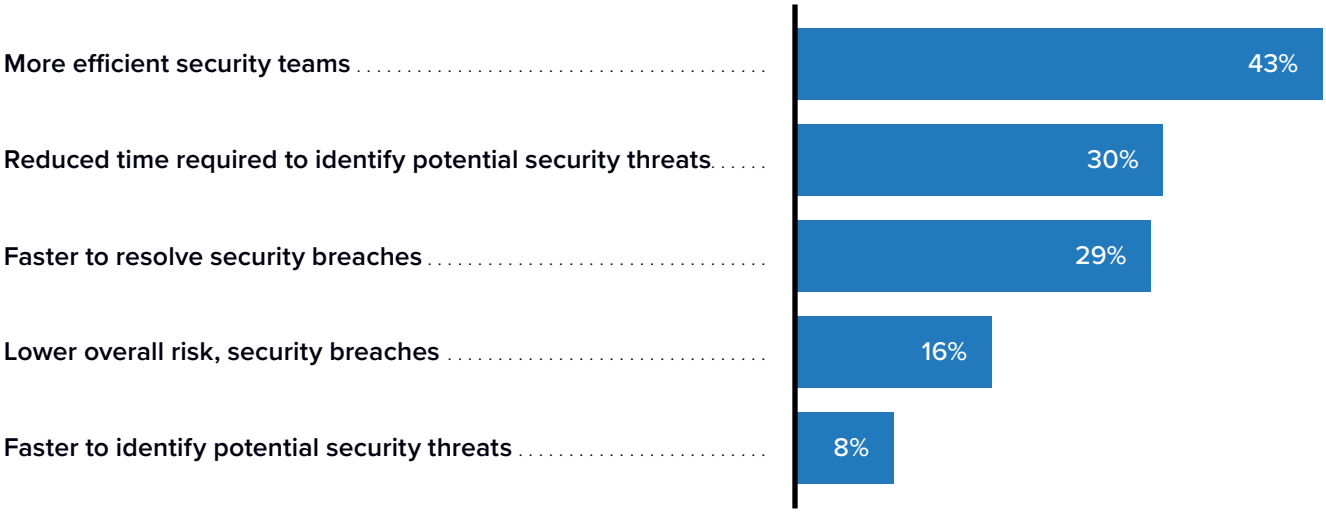
Figure 7 (next page) provides key metrics related to security for study participants. Importantly, they reported reducing security risk with Microsoft Azure by identifying (30%) and resolving (29%) security threats faster. This has helped them

reduce overall risk related to security breaches by an average of 16% and contributes to significant average efficiencies of 43% for their cloud security teams responsible for their SQL Server and Windows Server environments.

FIGURE 7

Security-Related Benefits

(% benefit)



n = 8, Source: IDC in-depth interviews, June 2022

Business Benefits

Ultimately, study participants linked their use of the Microsoft Azure platform for their SQL Server and Windows Server workloads to improved business results. Specifically, they noted the benefit for their businesses of having these workloads run on a more modern, high-performing infrastructure foundation that provides much enhanced flexibility in terms of delivering innovative functionality and services to their customers. As a result, they can more readily address customer demand and ensure that they respond in a timely and complete manner to customer needs.

Interviewed Microsoft customers spoke to the impact of the Azure platform on their business activities:

Part of becoming a more modern, agile organization (marketing, France):

"We are much more modern in our approach with Azure and have opened the way to leverage cloud services to make everyone's lives easier and especially developers.

It's enabled us to reuse excellent work we have out there and be much more agile in terms of how we create those sources, which increases our creativity."

Change to fundamental business understanding of IT role (healthcare, Singapore):

"Business expectations are so much higher now with Azure. Before, when we would start a project, people understood we were still procuring our hardware, those things. But now they're more demanding because they know that those things can be easily activated, and we have an agreement and the pricing is there. The minute we estimate how many VMs we need to activate, then the opex cost can be more or less estimated."

More modern, digitized applications (financial services, United States):

"We've enabled continued enhancements and more modern applications to be delivered quicker with Azure, which is speeding up our digital transformation and our digital client journey."

Business expectations are so much higher now with Azure. Before, when we would start a project, people understood we were still procuring our hardware, those things. But now they're more demanding because they know that those things can be easily activated."

Table 5 provides IDC's analysis of the business impact for study participants of using Microsoft Azure to run SQL Server and Windows Server workloads. On average, IDC projects that interviewed enterprise organizations will realize average revenue gains of $65.63 million per year, reflecting a substantial positive impact on their businesses. For the purposes of its financial model, IDC applies a 15% margin assumption, thereby attributing average net revenue gains per organization of $9.84 million per interviewed Microsoft customer ($17,700 per 100 users).

TABLE 5

Business Productivity Benefits, Higher Revenue

	Per Organization	Per Microsoft Azure VM
Revenue Impact		
Total additional revenue per year	$65.63M	$118,000
Assumed operating margin	15%	15%
Total additional net revenue per year*	$9.84M	$17,700

*Net revenue is calculated by applying a 15 percent margin assumption against total revenue gains
n = 8, Source: IDC in-depth interviews, June 2022

ROI Summary

Table 6 presents IDC's summary of the financial benefits and investment costs that interviewed Microsoft customers will achieve by running SQL Server and Windows Server workloads on the Azure platform. IDC calculates that they will realize discounted benefits over three years in infrastructure cost reductions, staff efficiencies and productivity gains, and higher revenue worth $36.53 million per organization ($625,700 per 100 users). These benefits compare with estimated three-year discounted investment costs of $7.22 million per organization ($123,600 per 100 users). Based on these levels of projected benefits and costs, IDC estimates that interviewed Microsoft customers will achieve a three-year ROI of 406% — with an average payback period of 12 months on average.

IDC estimates that interviewed Microsoft customers will achieve a three-year ROI of 406% with an average payback period of 12 months on average.

TABLE 6

ROI Analysis

	3-Year Average per Organization	3-Year Average per 100 users
Benefit (discounted)	$36.53M	$625,700
Investment (discounted)	$7.22M	$123,600
Net present value (NPV)	$29.31M	$503,100
Return on investment (ROI)	406%	406%
Payback period	12 months	12 months
Discount rate	12%	12%

n = 8, Source: IDC in-depth interviews, June 2022

Challenges/Opportunities

Despite the benefits that organizations can achieve by migrating SQL Server and Windows Server workloads to the cloud, it is not without challenges. The most commonly cited barrier involves skill sets and training as IT staff and developers become familiar with the cloud operating model. There can also be cultural barriers within a company as the shift to cloud impacts internal processes and budgeting.

To address these challenges, Microsoft offers a variety of resources to help customers with the transition, including documentation, code samples, and reference architectures. In addition, training and certification programs can help upskill existing employees and instill best practices across the organization.

For those that may need additional help, the Microsoft Partner Program consists of more than 8,500 Solutions Integrator (SI) partners, 2,000 qualified Independent Software Vendor (ISV) partners, and 3,700 partner data solutions. These partners can help customers at any point in their migration and modernization journey, making it easier and faster to gain the benefits of Microsoft Azure.

Conclusion

Cloud has established itself as an essential technology for organizations that must innovate to better serve their customers. They must be able to move quickly, scale as needed, and deploy across global locations in order to achieve this innovation, which leads them to consider cloud as a core business platform. Modernization serves as a driver for organizations' consideration of cloud, with migrations offering the opportunity to not only take advantage of new approaches and technologies but also become more agile and move faster to meet customer needs.

This study analyzes the value that organizations can achieve by migrating, modernizing, and running SQL Server and Windows Server workloads in the Azure cloud. These workloads often stand among organizations' most important data-driven and collaboration-focused applications and workloads, making it imperative that they have an infrastructure foundation that enables strong performance, agility, and efficient operations. Microsoft Azure provides the most straightforward path to moving SQL Server and Windows Server workloads to the cloud with few to no application code changes, as well as offering features such as built-in security controls and advanced threat protection to ensure data is stored in a secure and compliant environment.

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Microsoft customers participating in this study described Azure as a cost-effective and efficient platform for migrating, modernizing, and running many of their most important SQL Server and Windows Server workloads. They have lowered infrastructure costs, realized substantial operational efficiencies, and established hybrid IT environments with Azure, while also benefiting from enhanced performance, agility, and reliability. Ultimately, these advantages of Azure allow them to capture more value from their SQL Server and Windows Server workloads and improve their business results. Based on interviews with Microsoft customers, IDC projects that they will realize benefits worth more than five times the investment costs, which would yield an average three-year ROI of 406% and an average payback period of 12 months.

Appendix A

Methodology

IDC's standard Business Value/ROI methodology was utilized for this project. This methodology is based on gathering data from organizations currently using Microsoft Azure to run SQL Server and Windows Server workloads as the foundation for the model.

Based on interviews with organizations using Microsoft Azure, IDC performed a three-step process to calculate the ROI and payback period:

1. **Gathered quantitative benefit information during the interviews using a before-and-after assessment of the impact of using Microsoft Azure.** In this study, the benefits included IT infrastructure cost savings, IT staff and development team efficiencies and productivity gains, reduced costs associated with risk, and higher revenue.
2. **Created a complete investment (three-year total cost analysis) profile based on the interviews.** Investments go beyond the initial and annual costs of using Microsoft Azure and can include additional costs related to migrations, planning, consulting, and staff or user training.
3. **Calculated the ROI and payback period.** IDC conducted a depreciated cash flow analysis of the benefits and investments for the organizations' use of Microsoft Azure over a three-year period. ROI is the ratio of the net present value (NPV) and the discounted investment. The payback period is the point at which cumulative benefits equal the initial investment.

IDC bases the payback period and ROI 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. For purposes of this analysis, based on the geographic locations of the interviewed organizations, IDC has used assumptions of an average fully loaded salary of $100,000 per year for IT staff members and an average fully loaded salary of $70,000 per year for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).
- The net present value of the three-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.
- Downtime values are a product of the number of hours of downtime multiplied by the number of users affected. The impact of unplanned downtime is quantified in terms of impaired end-user productivity and lost revenue, with study participants providing the average amount of lost productivity in terms of number of users impacted and typical productivity losses.
- IDC applies a net margin assumption (15%) for gross revenue attributed to interviewed organizations' use of Microsoft Azure resulting in the net revenue calculation applied to IDC's model.
- Because IT solutions require a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.
- All financial values in this study are presented in terms of United States dollars (USD or US$).

Appendix B

Quantified Value of Microsoft Azure for SQL Server and Windows Server Workloads

TABLE 7

Annual Quantified Financial Benefits

Category of Value	Average Quantitative Benefit	15% Margin Assumption Applied	Calculated Average Annual Value*
IT infrastructure cost savings	$814,800 savings per year, 27% lower	No	$603,000
IT infrastructure/ administrative team efficiencies	51% more efficient, saving 19.8 FTEs, $100K salary	No	$1.46M
IT security team efficiencies	43% more efficient, saving 8.7 FTEs, $100K salary	No	$643,800
DBA team efficiencies	22% more efficient, saving 2.2 FTEs, $100K salary	No	$161,600
Application development team productivity gains	28% more productive, value of 75 FTEs, $100K salary	No	$5.55M
Productivity gains, reduced unplanned downtime	73% less downtime, saving 0.9 hours per user, 2.8 FTEs, $70K salary	No	$147,000
Revenue gains, business enablement	$65.63M higher revenue, 15% net margin applied	Yes	$7.29M
Total annual benefits, use of Microsoft Azure			**$15.85M**

*Includes 8.2 months deployment time in year 1
n = 8, Source: IDC in-depth interviews, June 2022

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

About the IDC Analysts

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Dave McCarthy is a Vice President within IDC's worldwide infrastructure practice, where he leads a team of analysts covering shared (public) cloud, dedicated (private) cloud, and edge strategies. Benefitting both technology suppliers and IT decision makers, Dave's insights delve into how hybrid and distributed cloud platforms provide the foundation for next-generation workloads, enabling organizations to innovate faster, automate operations, and achieve digital resiliency. His research is available via syndicated research programs (subscription services), data products (IDC Trackers), and custom engagements.

More about Dave McCarthy

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Matthew is responsible for carrying out custom business value research engagements and consulting projects for clients in a number of technology areas with a focus on determining the return on investment (ROI) of their use of enterprise technologies. Matthew's research often analyzes how organizations are leveraging investment in digital technology solutions and initiatives to create value through efficiencies and business enablement.

More about Matthew Marden

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