Enterprise Strategy Group by TechTarget

ECONOMIC VALIDATION

Analyzing the Economic Benefits of Microsoft Azure SQL Managed Instance

Organizations Can Lower Administrative Tasks by 60%, Increase Performance by 55%, and Lower TCO by 58% With Azure SQL Managed Instance

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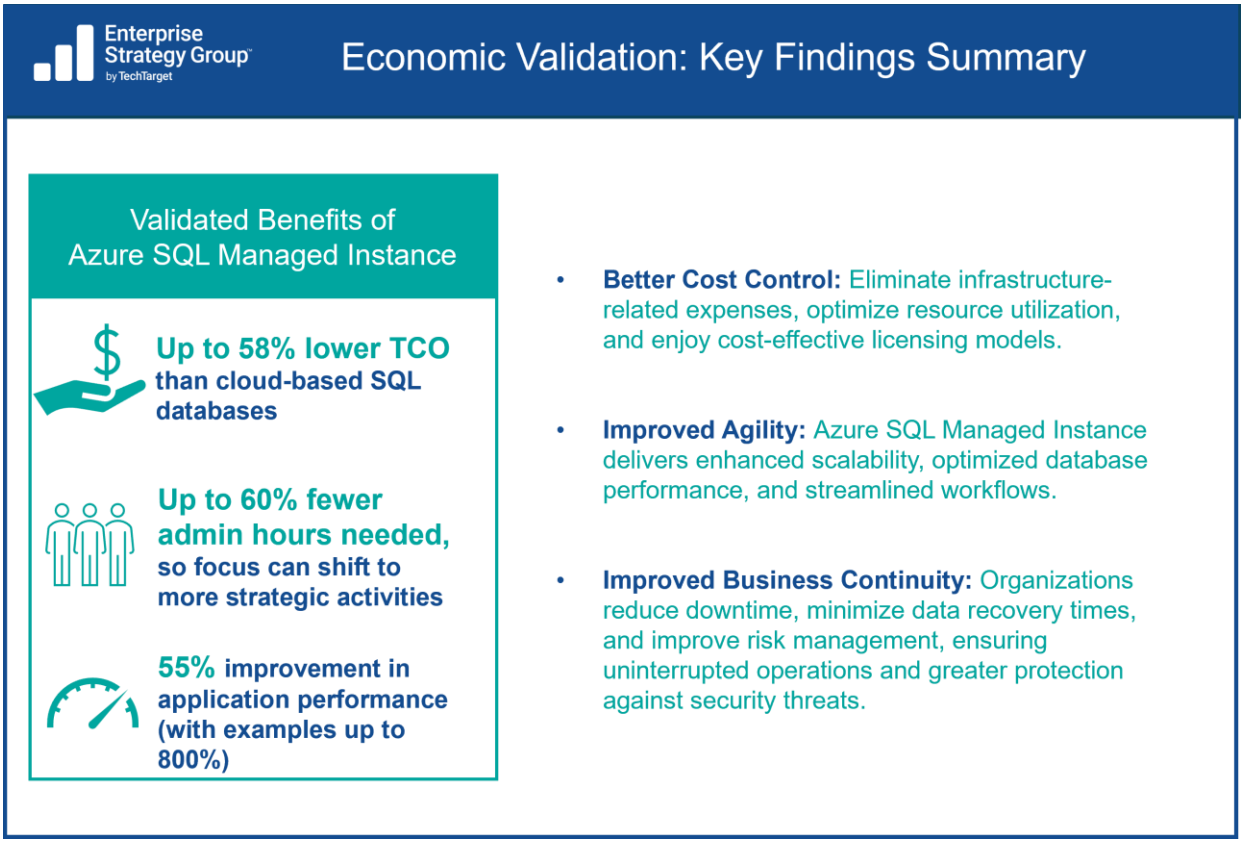
Contents

Executive Summary 3
Introduction 4
Challenges 4
The Solution: Azure SQL Managed Instance 5
Enterprise Strategy Group Economic Validation 6
Azure SQL Managed Instance Economic Overview 6
Improved Cost Control 7
Improved Agility 8
Improved Business Continuity 9
Enterprise Strategy Group Analysis 11
Conclusion 11



Executive Summary

Organizations have relied on Microsoft SQL Server for decades, investing heavily in training and integration. To maximize data utility, they need to spend less time managing databases and more on extracting value. On-premises solutions are costly, complex, and lack scalability, requiring significant resources for maintenance and updates. Ensuring business continuity demands heavy investment in redundant systems.

Azure SQL Managed Instance eliminates these expenses, optimizes resources, enhances scalability, and improves performance. It also ensures better business continuity by reducing downtime, speeding up data recovery, and providing robust security.

This Economic Validation from Informa TechTarget's Enterprise Strategy Group of Azure SQL Managed Instance reveals significant benefits. Key findings include up to 58% lower total cost of ownership (TCO) for cloud-based SQL databases, translating to substantial cost savings. Additionally, administrative hours can be reduced by up to 60%, enabling IT staff to focus on strategic activities. Application performance can also improve by 55%, with some examples showing enhancements up to 800%.

Introduction

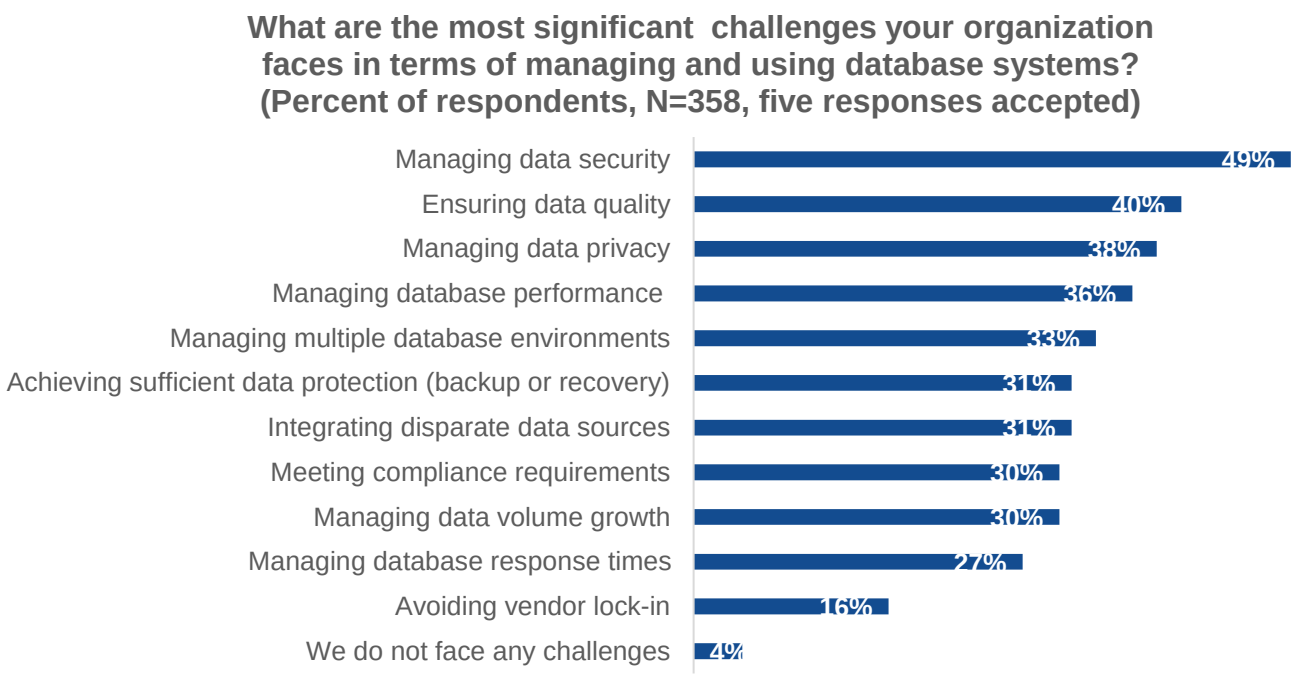
This Economic Validation focused on the quantitative and qualitative benefits organizations can expect from migrating on-premises and cloud-based SQL databases to Azure SQL Managed Instance.

Challenges

Organizations have relied on on-premises database systems such as SQL Server to power critical business operations and applications for decades. While these legacy systems remain a cornerstone for many organizations, some find they now present significant barriers to achieving the flexibility, scalability, and efficiency required in today's fast-paced business environment. On-premises infrastructure demands that IT decision-makers predict compute, storage, and network needs years in advance, locking organizations into fixed resource configurations. This rigidity can lead to overprovisioning, which requires significant upfront capital investments that can strain budgets. Compared to modern cloud-based alternatives, on-premises deployments are not only costly but also slow to deploy and complex to maintain. Every time organizations outgrow their infrastructure or deploy new applications, they must go through lengthy cycles of planning, justifying, procuring, and deploying new hardware. This approach often results in inefficiencies and prevents organizations from scaling quickly to meet evolving market demands.

In a business environment characterized by rapid change and unpredictability, organizations need to respond to new opportunities and challenges swiftly. According to research from Enterprise Strategy Group, 49% of respondents listed managing data security as one of the most significant challenges their organization faces in terms of managing and using database systems, followed by ensuring data quality (40%) and managing data privacy (38%, see Figure 1). Furthermore, managing database performance (36%) and coordinating multiple database environments (33%) compound the difficulties IT teams face daily.[1]

Figure 1. Organizations Ranked Their Top Challenges in Using Databases



Source: Enterprise Strategy Group, a division of TechTarget, Inc.

[1] Source: Enterprise Strategy Group Complete Survey Results, *Rethinking Database Requirements in the Age of AI*, November 2024.

The complexity of maintaining legacy systems while meeting these challenges can lead to operational inefficiencies and heightened security risks, especially as organizations adopt hybrid or remote work environments. IT administrators also struggle with the growing demand to manage increasingly complex infrastructures efficiently. Balancing cost control with performance and scalability is a persistent challenge. Moreover, the shortage of skilled labor familiar with legacy on-premises systems further exacerbates the problem, leaving many organizations ill-equipped to modernize their database environments. Adding to these challenges, businesses are under pressure to embrace digital transformation initiatives, which require seamless data integration, advanced analytics, and real-time decision-making capabilities. The limitations of on-premises infrastructure hinder progress in these areas, delaying innovation and putting organizations at a competitive disadvantage.

To address these pressing challenges, organizations need a solution that not only eliminates the inefficiencies of legacy infrastructure but also delivers scalability, operational agility, and enhanced security, all while reducing total cost of ownership (TCO) and supporting modernization initiatives. Such a solution would enable organizations to focus on strategic initiatives and innovation, paving the way for sustainable growth and success in a rapidly evolving digital landscape.

The Solution: Azure SQL Managed Instance

Azure SQL is a family of fully managed, secure, and intelligent SQL cloud database services that support a wide range of application patterns, from migrating to modernizing existing SQL Server workloads (as seen in Figure 2). Azure SQL enables organizations to run SQL Server workloads on Azure's infrastructure-as-a-service (IaaS) offering or a platform-as-a-service (PaaS) offering, depending on which business and application requirements are right for them.

Azure SQL Managed Instance is a scalable cloud database service (PaaS) that is always running on the latest stable version of the Microsoft SQL Server database engine and a patched OS with 99.99% built-in high availability, offering close to 100% feature compatibility with SQL Server. PaaS capabilities built into Azure SQL Managed Instance enables organizations to modernize existing applications and focus on domain-specific database administration and optimization activities that are critical, while Microsoft handles backups, patching and updating of SQL, and operating system code, removing the burden of managing the underlying infrastructure from organizations. Azure SQL Managed Instance enables existing SQL Server customers to modernize existing applications by migrating to the cloud with minimal application and database changes.

Azure SQL Managed Instance runs on 4th Gen Intel Xeon Scalable processors. Microsoft and Intel have a decades-long partnership of co-engineering SQL workloads both on premises and in Azure so that SQL workloads can benefit from high performance, security, and cost optimization at the database layer. The combination of Azure and Intel Technologies delivers the performance needed for next-gen intelligent applications—accelerated by the latest Intel Xeon Scalable processors.

Figure 2. Azure SQL Managed Instance Accelerates Performance and Streamlines Productivity

Source: Microsoft & Enterprise Strategy Group, a division of TechTarget, Inc.

Enterprise Strategy Group Economic Validation

Enterprise Strategy Group completed a quantitative economic analysis on the effect that moving to Azure SQL Managed Instance can have on an organization's ability to meet IT and business goals.

Our Economic Validation process is a proven method for understanding, validating, quantifying, and modeling the economic value propositions of a product or solution. The process leverages Enterprise Strategy Group's core competencies in market and industry analysis, forward-looking research, and technical/economic validation. We conducted in-depth interviews with end users to better understand and quantify how Azure SQL Managed Instance has affected their organizations, particularly in comparison with previously deployed and/or experienced solutions. In addition to having experience with on-premises SQL solutions, some of the customers interviewed had migrated their cloud-based VM environments to Azure SQL Managed Instance and were able to give detailed feedback on ongoing administration differences between the solutions. The qualitative and quantitative findings were used as the basis for a simple economic model comparing the expected costs of on-premises and cloud-based SQL instances.

Azure SQL Managed Instance Economic Overview

Enterprise Strategy Group's economic analysis revealed that, compared with on-premises and cloud-based SQL environments, organizations using Azure SQL Managed Instance powered by Intel Xeon scalable processors gained measurable value through enhanced cost efficiency, scalability, operational agility, and business continuity. Customers reported significant savings and benefits in the following key areas:

- **Improved cost control.** Azure SQL Managed Instance reduced platform costs through optimized licensing, eliminated infrastructure-related expenses, and minimized administrative overhead, delivering measurable ROI improvements.

- **Improved agility.** Organizations achieved greater flexibility and responsiveness with instant scalability, enhanced database performance, and streamlined workflows, enabling faster innovation and resource optimization.
- **Improved business continuity.** Azure SQL Managed Instance provided advanced security, automated backups, and high-availability features, reducing downtime, minimizing risk, and ensuring uninterrupted operations.

Improved Cost Control

Cost efficiency is critical for organizations aiming to optimize operations and reduce financial strain. Enterprise Strategy Group's conversations with customers highlighted significant savings achieved through reduced platform costs, streamlined support, and lower administrative overhead. Customers reported up to 60% ROI improvements, driven by optimized licensing, elastic scalability, and the elimination of hardware-related expenses. Our interviews uncovered savings and benefits in the following categories:

- **Lower platform and scaling costs.** By migrating to Azure SQL Managed Instance, organizations significantly reduced platform costs through more cost-effective licensing options, optimized resource utilization, and the elimination of hardware-related expenses. Customers reported TCO improvements averaging 58%, depending on the maturity of their migrated environments, driven by reduced reliance on expensive enterprise licenses, tools, and hardware. In traditional on-premises environments, organizations often encounter stair-step costs when scaling infrastructure, requiring large, upfront investments to increase capacity. Azure SQL Managed Instance eliminates this inefficiency through elastic scaling, enabling businesses to expand or contract resources seamlessly without overprovisioning or facing sudden cost increases. The transition to Azure SQL Managed Instance also helped organizations achieve significant savings through optimized licensing models. A customer shared, **"Licensing is a big plus. In the past, we had to use Enterprise edition for high availability. Now we can use General Purpose, which we can cover with Standard edition licenses. Just for this product, from Services Provider License Agreement (SPLA) to non-SPLA, we saved hundreds of thousands of dollars, touching millions."** Furthermore, by moving to Azure SQL, organizations reduced dependency on third-party support and eliminated the need for expensive professional services. As one customer noted, **"Moving to Azure SQL eliminated professional services costs and ongoing hardware support contracts."**

  > **"We have freed up quite a few resources and have them working on innovation instead of support."**

- **Fewer administration hours.** Migrating to Azure SQL Managed Instance has helped organizations dramatically reduce the time and effort required to manage their database workloads. By eliminating manual tasks like patching, updates, and routine maintenance, IT teams were able to shift focus to higher-value initiatives. Customers interviewed shared tangible efficiency gains averaging 60%, but some realized improvements that were much higher. One noted, **"Admin tasks that used to take hours can be done in seconds, and we have a much higher rate of assurance that it will be done right the first time."** Another customer emphasized, **"We can manage the same database load with 90% fewer admin hours than we used to when we ran SQL on prem."** One organization shared that they now have **"2 people managing 30K databases. In our old environment, that would have taken 20 people working 24/7."** The substantial reduction in administrative effort enables organizations to reallocate staff toward more strategic work. We were able to review multiple customer-provided examples that showed a much better level of alignment between business needs and IT capabilities specifically because of the energy that has been shifted to strategic planning by these freed-up resources.
- **Lower support and operational costs.** By moving to Azure SQL Managed Instance, organizations significantly reduced support costs and administrative overhead. Customers we interviewed reported notable improvements in operational efficiency, with far fewer support tickets and reduced manual intervention. As one customer explained, **"In the past 6 months, we have had 3 support tickets total. Before we went to Azure**

SQL Managed Instance, we would average 10 per week." Azure's shared responsibility model plays a critical role in reducing the burden on internal teams. Another customer shared, **"The shared responsibility matrix is very low on our side. Microsoft takes care of so much of the platform, we just focus on our data."** By automating tasks like patching, tuning, backups, and performance optimization, Azure eliminates the need for ongoing troubleshooting and balancing across hardware and software stacks. These findings align with previously validated customer-provided insights, which found that moving to Azure SQL eliminated ongoing professional services costs and hardware support contracts. Organizations also reported reduced maintenance effort, freeing up resources to focus on strategic initiatives rather than routine support tasks.

- **Improved revenue.** Migrating to Azure SQL Managed Instance not only enhanced operational efficiency but also positively impacted revenue generation for many organizations. By improving database performance and reducing downtime, businesses were able to retain more customers and increase their revenue streams. One ecommerce customer highlighted the transformation, stating, **"We could see products being searched and added to carts but never purchased because people would become frustrated with our performance and availability. Since we have gone to Azure SQL Managed Instance, those abandonment numbers have dropped almost 15%, and our overall revenue has increased 2%."** Additionally, the ability to deliver faster application updates and improved reliability enabled organizations to strengthen their competitive positioning. By addressing performance bottlenecks and meeting customer expectations for responsiveness, Azure SQL Managed Instance contributes to sustained revenue growth and enhanced customer satisfaction. Additionally, the ability to deliver faster application updates and improved reliability enabled organizations to strengthen their competitive positioning. By addressing performance bottlenecks and meeting customer expectations for responsiveness, Azure SQL Managed Instance contributed to sustained revenue growth and enhanced customer satisfaction. These findings underscore the potential of Azure SQL Managed Instance to go beyond cost savings, delivering measurable business value in the form of improved customer experience and incremental revenue growth.

Improved Agility

Agility is critical for businesses to adapt quickly to changing demands and maximize operational efficiency. Enterprise Strategy Group's interviews with customers highlighted Azure SQL Managed Instance's ability to enhance scalability, boost performance, and modernize workflows, empowering organizations to respond faster to business needs. Customers reported savings and benefits in the following areas:

- **Instant scalability.** Azure SQL Managed Instance provides organizations with the ability to scale resources dynamically, addressing fluctuating demands without the constraints of traditional on-premises or VM-based environments. Customers we interviewed highlighted how this cloud-native scalability enabled them to respond to business needs more efficiently. One customer shared, **"We are now elastic. We have drastically cut down on wasted resources and can expand or contract to mirror our needs instantly."** Unlike traditional scaling, which often requires upfront investments and lengthy provisioning times, Azure SQL Managed Instance enables rapid adjustments to individual resources, ensuring businesses can adapt quickly to seasonal spikes or unexpected workloads. This agility enhances operational efficiency and ensures organizations can meet market demands without the delays or inefficiencies associated with legacy systems.
- **Improved performance.** Organizations migrating to Azure SQL Managed Instance consistently reported significant improvements in database performance, enabling faster processing and query execution times. While we reviewed customer-reported performance gains that were much higher, we used a 55% increase in performance for our financial projections. Customers highlighted transformative gains, with one noting, **"Performance is better; response time that used to take 4 hours is down**

"We were able to solve a large performance problem by switching to a Premium Isolated Processor instance. In the past, we would have doubled our processor count. Because of the work that Intel is doing with Microsoft on Azure SQL Managed Instance, we fixed this issue and saved a lot of money."

to 15 minutes." Azure SQL Managed Instance's advanced optimization features, including automatic tuning, contributed to improved throughput and reliability. This intelligent optimization reduces manual intervention, enabling databases to operate at peak efficiency. For example, the Next-generation General purpose Azure SQL Managed Instance has demonstrated up to 2x IOPS and 60% better maximum throughput, empowering businesses to operate at peak efficiency. Another customer explained, **"Our performance increased almost 800% on our core application. With Azure SQL Managed Instance, we are always using the latest queries, and every application is on the latest version."** These enhancements not only resolve legacy bottlenecks but also free IT teams to focus on delivering innovative solutions rather than performance troubleshooting.

- **Improved DBA experience.** Migrating to Azure SQL Managed Instance has significantly enhanced the experience for database administrators (DBAs) by simplifying workflows and reducing operational burdens. Customers shared that DevOps processes are now more organized, with improved practices driving higher-quality updates delivered faster. One customer stated, **"This change is driving DevOps processes to consistently improve by driving best practices throughout our workflows."** Another emphasized, **"Now we can focus on our data and applications. We have increased our releases from 3 per year to 12 since we moved to Azure SQL Managed Instance."** These improvements enable DBAs to dedicate more time to strategic initiatives, such as optimizing applications and data management, rather than routine maintenance.
- **Pathway to data modernization.** Azure SQL Managed Instance provides organizations with a clear and efficient pathway to modernize their databases while maintaining compatibility with legacy applications. Customers highlighted the ease of transitioning to modern solutions using Azure's robust migration tools, such as Azure Database Migration Service. One customer shared, **"We now have a clear pathway to modernize our databases while maintaining compatibility with legacy applications."** By leveraging Azure's seamless migration capabilities, businesses can align their data strategies with modern application needs without disrupting existing operations.

> **"We wanted to modernize our data structure but were not sure how to get there. With Azure SQL Managed Instance, we benefit from the level of expertise and best practices that are hard to find and expensive to keep."**

Improved Business Continuity

Ensuring business continuity is essential for organizations to maintain operations, safeguard data, and minimize disruptions. Azure SQL Managed Instance provides advanced features, such as automated backups, high availability, and enhanced security, that reduce downtime and operational risks. Conversations with customers revealed that Azure SQL Managed Instance's reliability, simplified operations, and proactive security measures enabled businesses to operate with greater confidence and recover quickly from potential disruptions. Customers reported savings and benefits in the following categories:

- **Better backup retention.** Organizations migrating to Azure SQL Managed Instance reported significant improvements in backup retention and governance capabilities, ensuring enhanced data protection and recovery readiness. One customer shared, **"We have much better retention and governance policies. Because of our move to Azure SQL Managed Instance, I can assure our leadership that we are better protected and more recoverable."** Built-in automated backup features, coupled with governance tools, provide businesses with confidence that critical data is securely retained

> **"There were a lot of security vulnerabilities operating in our legacy VM infrastructure, many that we were completely unaware of until we saw the difference with Azure SQL Managed Instance. The level of expertise that comes with Azure SQL Managed Instance is astounding and would be hard to replicate on our own."**

and can be quickly restored when needed. These capabilities not only strengthen disaster recovery strategies but also reduce administrative effort previously spent on manual backup management.

- **Reduction in downtime.** Migrating to Azure SQL Managed Instance has enabled organizations to minimize unplanned downtime and improve overall availability. Customers we interviewed reported a substantial decrease in performance bottlenecks and disruptions compared to their on-premises environments. One customer noted, **"Our uptime is substantially better with Azure SQL Managed Instance than it was on prem."** Another shared, **"We were hitting performance bottlenecks 3x a day on prem. We haven't had a single performance bottleneck since we moved to Azure SQL Managed Instance."** These improvements are driven by Azure's high availability and disaster recovery features, which ensure continuous operations and rapid failover, mitigating the risks of costly outages and lost productivity.
- **Geo-replication.** Azure SQL Managed Instance provides robust geo-replication capabilities, enabling organizations to ensure business continuity across regions. By replicating data seamlessly to geographically distributed locations, businesses can safeguard against regional disruptions and maintain operational resilience. This feature ensures minimal impact during failover scenarios and helps organizations meet stringent recovery time objectives and recovery point objectives. Customers benefit from enhanced protection and reliability, ensuring critical applications remain available even in the face of unexpected outages**.**
- **Reduction of complexity.** Migrating to Azure SQL Managed Instance simplifies database management by automating routine tasks such as backups, updates, and high availability, reducing operational complexity and human error. One customer shared, **"People can no longer make mistakes that put us at risk security-wise. We have substantially cut down our rate of human-caused errors."** By consolidating management tasks into a unified platform, Azure SQL Managed Instance eliminates the need to juggle multiple tools and interfaces, streamlining operations and improving efficiency. Another customer emphasized the benefit of platform expertise, stating, **"Access to Microsoft's expertise is invaluable. The level of technical skill and platform management they provide would be nearly impossible for us to hire internally, even if we doubled our budget."** Azure SQL Managed Instance also supports international compliance, enabling organizations to meet global data requirements more easily. As one customer explained, **"We are better able to meet international data requirements with Azure SQL Managed Instance. International expansion is much easier."**
- **Lower risk of data breach.** Azure SQL Managed Instance provides advanced security capabilities that help organizations better isolate applications, reduce vulnerabilities, and protect sensitive data. Customers emphasized the improved security posture following migration, with one stating, **"We are able to isolate applications for better security."** The platform's built-in security features, such as automatic updates, advanced threat protection, and proactive vulnerability alerts, help organizations minimize exposure to risks. Another customer added, **"Our security scores have improved specifically because we moved to Azure SQL Managed Instance."** By automating security processes and adhering to robust compliance standards, Azure SQL Managed Instance ensures organizations can meet stringent regulatory requirements while mitigating the risk of data breaches.
- **Accelerated data restore.** Azure SQL Managed Instance improves recovery speed and reliability, enabling organizations to restore critical operations quickly and effectively. Automated backups, geo-replication, and advanced recovery options reduce the time and effort needed to recover data. This ensures minimal disruption during unexpected events, such as hardware failures or data loss incidents. These capabilities deliver confidence and peace of mind to IT teams, as they no longer need to rely on manual processes to restore systems. Azure's streamlined recovery solutions help organizations meet strict uptime requirements, supporting both operational resilience and business continuity.

Enterprise Strategy Group Analysis

Enterprise Strategy Group leveraged the information collected through vendor-provided material, public and industry knowledge of economics and technologies, and the results of customer interviews to create a TCO/ROI model that compares the costs and benefits of using Azure SQL Managed Instance with running SQL on-premises and in cloud-based configurations. Our interviews with customers who have recently made the transition, combined with experience and expertise in economic modeling and technical validation of SQL platforms, helped to form the basis for our modeled scenario.

Our modeled organization is a 1,550-person company that produces $387 million in annual revenue. The breakdown of their databases and administrative summary can be found in Table 1.

Why This Matters

Customer-provided examples showed ROI figures exceeding 140% in some cases and performance increases that were 6x. For our modeled organization, we took a blended average of the lowest numbers provided. While there is a likelihood that an organization's results can far exceed our findings, we wanted to present a conservative view.

Table 1. Modeled Scenario Summary

Item	On Prem	Cloud VM-based	Azure SQL Managed Instance
Number of databases	286	400	400
Data footprint (TB)	457	457	457
Infrastructure admins (FTE)	1.4	0	0
Admin hours per month per server	2.2	2	.64
Number of admins needed	4	5	1.6
Downtime costs (annual)	$5.38M	$4.31M	$2.69M

Source: Enterprise Strategy Group, a division of TechTarget, Inc.

Conclusion

"Our employees are happier since we moved to SQL Managed Instance. Our customers are happier. Our leaders are happier. It was a win across the board."

Organizations face growing pressure to modernize their database environments to remain competitive, agile, and efficient. On-premises and cloud-based SQL databases, while foundational for decades, often struggle to meet the evolving demands for scalability, performance, and simplicity in today's fast-paced business environment. Azure SQL Managed Instance offers a solution that bridges this gap, enabling businesses to modernize their infrastructure seamlessly and realize significant operational benefits without the complexities of traditional deployments.

In addition to these operational improvements, Azure SQL Managed Instance delivers measurable financial advantages. By reducing reliance on physical infrastructure, optimizing resource utilization, and eliminating administrative overhead, organizations reported significant reductions in TCO. Enterprise Strategy Group's analysis demonstrated a **strong ROI of 58% and studied customer-provided examples of ROI figures that were 4x that amount**, driven by cost savings from simplified operations, lower licensing costs, and improved efficiency.

Furthermore, by minimizing downtime and enhancing availability, Azure SQL Managed Instance enables businesses to avoid productivity losses and achieve sustained growth.

Beyond financial outcomes, Azure SQL Managed Instance empowers businesses with improved reliability, performance, and security, ensuring critical workloads remain stable, protected, and scalable. Customers emphasized tangible benefits such as increased customer satisfaction and enhanced revenue growth. As one customer noted, **"Since moving to Azure SQL Managed Instance, we've been able to grow our business, improve customer satisfaction, and strengthen our reputation in the market."**

For organizations looking to reduce costs, simplify operations, and improve business agility, Azure SQL Managed Instance is a proven platform that delivers substantial value. Enterprise Strategy Group recommends that businesses seeking to modernize their SQL database environments while achieving tangible cost and performance benefits strongly consider Azure SQL Managed Instance.

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