The Business Value of Oracle Autonomous AI Database

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BUSINESS VALUE HIGHLIGHTS

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$4.9 million
average annual benefits per organization

436%
three-year return on investment

5-month
payback on investment

48%
more efficient IT infrastructure team

66%
more efficient DBA team

65%
less time required to keep the lights on

18%
more productive developers

20%
more productive analytics teams

91%
reduction in unplanned downtime

39%
less time for analytics teams to run queries

$12,146,369
average additional annual gross revenue per organization

Executive Summary

Oracle Autonomous AI Database is the mission-critical database engine that the largest and most vital enterprises in the world trust with their most important data and applications. Oracle Autonomous AI Database provides a fully automated and managed Oracle Database service, enabling global organizations to migrate and run any workload securely, from the simplest to the most mission critical. It runs on top of Real Application Clusters on Oracle Exadata in Oracle Cloud Infrastructure (OCI), providing the highest performance, availability, security, and scalability. In addition to scaling up to handle the most demanding applications, it also scales down to handle small workloads with as few as two ECPUs.

Oracle Autonomous AI Database is a cloud-based system that automates routine management tasks, such as provisioning, tuning, security updates, and recovery. It offers features that support scalability, availability, and compliance in cloud-native environments. Oracle Autonomous AI Database is available in a wide variety of deployment options, including Exadata Cloud@Customer, Oracle Cloud Infrastructure Dedicated Region, and multicloud on OCI, Microsoft Azure, Google Cloud, and AWS datacenters. To measure the impact of Oracle Autonomous AI Database, IDC carried out a global business value study of Oracle Autonomous AI Database customers. This white paper presents the detailed outcomes of that study.

IDC conducted research that explored the value and benefits for organizations using Oracle Autonomous AI Database to optimize data management and operational efficiency.

Based on an extensive data set and employing a specialized business value methodology, IDC calculated that these customers achieved benefits worth an annual average of $4.9 million per organization and a three-year ROI of 436% by:

- Boosting the productivity of IT infrastructure teams to optimize organizationwide IT service and resource delivery
- Improving the overall efficiency of DBA teams to ensure optimal database performance for internal end users
- Enhancing the productivity of developers to improve the timely delivery of business-critical applications for end users and customers
- Lowering instances of unplanned downtime and remediating events more quickly when they occur to optimize productivity
- Saving costs with elastic pay-per-use pricing and the autoscaling of databases
- Improving business operations and results

Situation Overview

Organizations today confront several interrelated challenges in managing their data platforms:

- **Unprecedented data growth:** Businesses are generating and ingesting massive volumes of structured, semi-structured, and unstructured data that applications, IoT devices, and large-scale analytics workloads drive.
- **Diverse data types:** Enterprises must process everything from relational records to JSON documents, log files, images, and sensor streams, increasing complexity in storage, integration, and transformation.

- **Heavy management overhead:**
  Traditional database systems require ongoing schema modifications, index tuning, capacity planning, and complex ETL maintenance — tasks that consume significant DBA and engineering resources.
- **Ongoing security and compliance burdens:**
  On-premises environments often defer critical patching and upgrades, exposing systems to evolving threats and regulatory noncompliance risks, such as GDPR and industry-specific mandates.
- **Need for global accessibility and elastic scalability:**
  Distributed teams and around-the-clock operations demand platforms that can automatically scale compute and storage while providing secure, low-latency access from any location.

These factors collectively drive organizations to seek platforms that minimize manual intervention, support diverse data types, deliver real-time performance, ensure continuous security, and offer elastic, global scalability.

Oracle Autonomous AI Database Overview

Oracle Autonomous AI Database is a fully managed, cloud-native database as a service that uses AI and ML to automate provisioning, patching, tuning, and scaling, delivering elastic compute and storage, 99.995% availability, and fast query performance for enterprise workloads. Initially, the company launched Oracle Autonomous AI Database on Oracle Cloud Infrastructure (public cloud), but it is now also available on Microsoft Azure, Google Cloud, and AWS, as well as on premises with Oracle Exadata Cloud@Customer and OCI Dedicated Region.

Key Features and Innovations

- **Autonomous operations:**
  AI and ML-driven automation of provisioning, patching, tuning, and scaling without downtime provides a self-driving, self-securing, self-repairing experience.
- **Elastic scalability:**
  Serverless and dedicated Exadata deployment options offer independent, on-demand scaling of compute and storage resources.

- **Unified multimodel support:**
  This allows for the native processing of relational data alongside JSON documents, graph, spatial, text, and AI vector similarity search workloads within one database.
- **Integrated analytics and AI:**
  Built-in Oracle Machine Learning, AI Vector Search, graph and spacial analytics, and support for SQL, Python, and R enable in-database analytics, model development, and GenAI use cases without data movement.
- **High availability:**
  Self-repairing architecture with a 99.995% availability SLA and automatic tuning and scalability optimizes performance at scale.
- **Enterprise-grade security:**
  This provides end-to-end AES-256 encryption for data at rest and in transit, continuous security and patch updates, network encryption using TLS 1.2, integration with Oracle Data Safe, and built-in access control capabilities, such as Virtual Private Database, SQL Firewall, and Database Vault — all anchored by OCI's zero-trust security model.

The Business Value of Oracle Autonomous AI Database

Study Firmographics

IDC conducted research that explored the value and benefits for organizations using Oracle Autonomous AI Database to optimize data management and operational efficiency. The project included nine interviews with organizations that moved to or augmented previous environments with Oracle Autonomous AI Database from on-premises Oracle databases, OCI services, Oracle databases running in non-Oracle Autonomous AI Database clouds, and non-Oracle databases. These participants had experience with and/or knowledge about the benefits and costs of using the platform. During the interviews, IDC asked the companies a variety of quantitative and qualitative questions about the offering's impact on their IT and database operations, core businesses, and costs.

Table 1 (next page) presents the study's firmographics. The organizations that IDC interviewed had an average base of 38,824 employees and average annual revenues of $31.4 billion. The companies were based in the United States (3), Germany (2), Croatia, Finland, Spain, and the United Kingdom. In addition, there was representation across the communications, financial services, hospitality, manufacturing, professional services (2), technology (2), and utilities market sectors.

TABLE 1

Firmographics of Interviewed Organizations

Firmographics	Average	Median	Minimum	Maximum
Number of employees	38,824	10,000	16	130,000
Number of IT staff	2,798	1,500	2	17,000
Number of databases	3,804	650	9	13,000
Company revenue	$31.4B	$23.0B	$3.7M	$153.9B
Countries	United States (3), Germany (2), Croatia, Finland, Spain, United Kingdom			
Industries	Communications, Financial Services, Hospitality, Manufacturing, Professional Services (2), Technology (2), Utilities			

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Choice and Use of Oracle Autonomous AI Database

The organizations that IDC interviewed described a full range of decision criteria involved in their selection of Oracle Autonomous AI Database. In general, companies were looking for a solution to help them advance the goal of optimizing their data management processes, including database and analytics operations, while improving IT operations and application development. Study participants also wished to advance their digital transformation efforts with database modernization and decrease capital expenditures related to hardware acquisition. Moreover, they appreciated that Oracle Autonomous AI Database minimized typical manual processes for carrying out patching and upgrades to help improve performance, availability, and security.

Study participants elaborated on these factors:

Database modernization (Communications):

"Basically, the initial trigger for my organization to look at Oracle Autonomous AI Database was through our modernization program for our databases. Oracle Autonomous AI Database was one of the perfect candidates for our program because of the simplification it provided; there are a lot of benefits that come from simplification."

Maintenance support and cost (Financial services):

"My company selected Oracle Autonomous AI Database for its patching, maintenance, stability, and cost effectiveness."

Environment support (Utilities):
"Oracle Autonomous AI Database was appealing from an operational standpoint because it is Oracle-managed. We liked that we would no longer have to do patching or upgrades, and there would be no new hardware purchases."

Better performance (Technology):
"My organization has a goal to achieve better performance; we needed to get better at patching, redundancy, tuning, and reliability. Instead of hiring another full-time employee to focus on this, we decided to go with Oracle Autonomous AI Database."

Global performance (Hospitality):
"My organization is global. We needed a system that would limit disruption and increase our performance for all our employees, no matter the region. We felt Oracle Autonomous AI Database could help with this goal."

Reduced downtime (Professional Services):
"My organization faced challenges with upgrading and patching our environment. We were looking for a solution that would help improve our downtime. Oracle Autonomous AI Database was selected because it can manage these types of things without any disturbance to production."

Lower TCO (Technology):
"My organization provides software-as-a-service solutions, and we wanted to concentrate on what we are good at, which is writing applications, not in managing and maintaining infrastructural databases. We were actively looking for a platform-as-a-service database provider, and specifically, we wanted to minimize the cost of ownership and achieve high availability with an Oracle solution."

Table 2 provides a quantitative view of Oracle Autonomous AI Database usage and deployment across all companies at the time of the interviews. On average, there were 4,079 concurrent users working with 67 business applications. These applications had links to 48 databases. The table also presents additional metrics.

TABLE 2

Organizational Usage of Oracle Autonomous AI Database

Oracle Autonomous AI Database Environment	Average	Median
Concurrent users (total across all databases)	4,079	750

Table 2 continued

Table 2 continued

Oracle Autonomous AI Database Environment	Average	Median
Business applications	67	10
Databases	48	20
Internal users	11,725	138
Storage TBs	263	10

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Business Value and Quantified Benefits

The data that IDC gathered from study participants confirmed that the Oracle solution fulfilled its promise to optimize data management and increase IT operational efficiency. Oracle customers found that the solution boosted the productivity of IT infrastructure teams, thereby optimizing organizationwide IT service and resource delivery. It also served to improve the overall efficiency of DBA teams, thereby ensuring optimal database performance for end users and the analytics teams that are typically heavy database users.

IDC found that Oracle Autonomous AI Database improved developer productivity, enhancing the application development process and leading to improvements in the timely delivery of business-critical applications for end users and customers. In addition, it lowered instances of unplanned downtime and provided timely remediation for disruptive events when they occurred to optimize end-user productivity. IDC's aggregated data shows that these benefits ultimately contributed to better business results and higher annual revenues.

Study participants offered these comments on the most significant benefits of Oracle Autonomous AI Database:

Automated repetitive tasks (Manufacturing):

"Oracle Autonomous AI Database allows my organization to focus our employees' time on high-value tasks that satisfy business growth, rather than repetitive tasks. We don't need to spend time on tuning, patching, and all the platform-related tasks. That would be the biggest benefit, the automation of repetitive tasks."

Management automation (Utilities):
"Oracle Autonomous AI Database has reduced the management of the database itself through its automated features, such as space management and provisioning. It is also less expensive than many other ways of deploying databases."

Automated processes (Professional Services):
"Oracle Autonomous AI Database offers significant benefits for IT, particularly in terms of security and maintainability, as Oracle handles backups and patching. The most beneficial aspect currently is the AI-related features that automate processes. This enables my organization to achieve more with the same budget. We also now have the flexibility to accomplish tasks that were previously impossible."

Improved security and updates (Professional Services):
"Oracle Autonomous AI Database helps us a lot with our production environments. If we can define architecture for our customers, we are pretty much always using it. It has improved many areas, like information security management, patching, and upgrades, amongst several other things."

Increased reliability and functionality (Technology):
"The most significant benefits of Oracle Autonomous AI Database are the reliability, backup and recovery, and patching capabilities."

Small footprint (Technology):
"A very significant benefit of Oracle Autonomous AI Database is that my organization has deployed an enterprise-grade, highly available environment, which has a very small footprint."

Figure 1 (next page) presents IDC's calculations of the cumulative customer benefits after the adoption of Oracle Autonomous AI Database. As shown, IDC quantified the average annual benefits at $4.9 million per organization ($103,000 per Autonomous AI Database).

These benefits derive from four core areas:

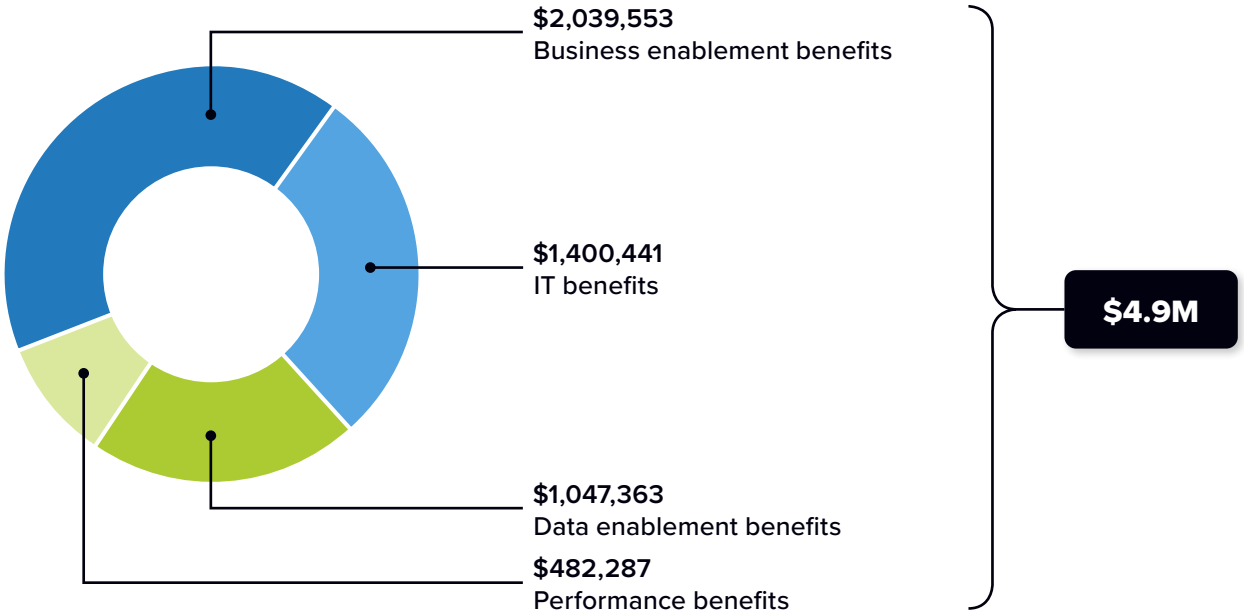
- **Business enablement — higher revenue**:
  Oracle Autonomous AI Database increased overall business effectiveness and resulted in higher overall annual revenues.
- **IT benefits:**
  Oracle customers were able to enhance their IT, database, and analytics operations in a cost-effective manner compared to previous approaches and solutions.
- **Data enablement benefits:**
  Enhanced analytics operations and improved application development processes delivered high-quality applications for end users and customers.

- **Performance benefits:**
  End users were able to complete their tasks and operations more effectively to enhance productivity while minimizing unplanned downtime.

FIGURE 1

Average Annual Benefits per Organization

($ per interviewed organization)



n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

IT Benefits from the Use and Deployment of Oracle Autonomous AI Database

Oracle Autonomous AI Database is a fully managed, AI-based, cloud-based database service that automates a spectrum of time-sensitive database management operations. Interviewed companies chose the solution to optimize data management, enhance the overall efficiency of database operations, and accelerate digital transformation.

Study participants noted that, after adoption, the platform offered the following benefits:

- Boosted the performance of DBA and IT infrastructure teams

- Provided significant annual cost savings for expenditures related to OS, IT, various IT toolsets, and core IT infrastructure
- Significantly lowered the total three-year cost of operations

Commenting on these and other benefits, companies appreciated that the platform served to enhance the digital experience of their end users. They also found that the built-in automation smoothed out administration, storage management, backups, and other tasks, thereby enabling the processing and availability of greater amounts of data. As a result, respondents noted that they freed up staff time to focus on activities that more directly supported the business, such as data modeling.

Study participants elaborated on these improvements:

Automated functionality (Manufacturing):
"Our IT team no longer wastes time on tuning, patching — all the platform-related tasks. That is the biggest benefit of Oracle Autonomous AI Database. We are analyzing everything that is repetitive and can be automated."

Better performance and less maintenance (Hospitality):
"A significant benefit of Oracle Autonomous AI Database is the performance. As a result of better performance, our user experience has improved. Additionally, there is less management from our end. Before deployment, we needed four outsourced resources to manage all our databases; now we only need one full-time resource."

Less administrative work (Professional Services):
"Oracle Autonomous AI Database helps with administration, storage management, and other tasks, so my organization can easily ingest more data into the database. We know that storage management, tuning, and backups will be done in a fast and secure way. This means the admins do not have to double-check everything."

Increased innovation (Professional Services):
"Our team can focus on other topics that are more important to our business than maintenance tasks, like extending space or defragmenting tables."

Shift in focus (Financial Services):
"Existing staff can focus on other things because tasks like maintenance and patching are now taken care of by Oracle Autonomous AI Database. They can now shift focus to tasks like data modeling."

IDC applied its business value methodology to drill down on and quantify this anecdotal information, beginning with DBA team performance. Study participants reported improvements in the day-to-day operations of their DBA teams. Importantly, they found that automating maintenance tasks, such as updates, tuning, patching, and provisioning, allowed DBA teams to focus more on strategic business initiatives and data optimization.

Table 3 quantifies these benefits. After adoption, DBA teams experienced a 66% efficiency boost. In real-world terms, this efficiency translated into the team needing 4.8 fewer FTEs to manage the same workload compared to their previous workload environment. Additionally, these organizations reported that the platform enabled them to avoid hiring 2.3 additional FTEs that they would have otherwise needed. In total, IDC calculated that this improvement had a value of $712,167 for each organization.

TABLE 3

DBA Efficiency Gain

DBA Efficiency Gain	Before Oracle Autonomous AI Database	With Oracle Autonomous AI Database	Difference	Benefit
Total FTE count	8.5	**3.7**	4.8	57%
Additional new hires needed, FTEs	2.3	**N/A**	2.3	N/A
Cost of staff time per year	$1,078,333	**$366,167**	$712,167	66%

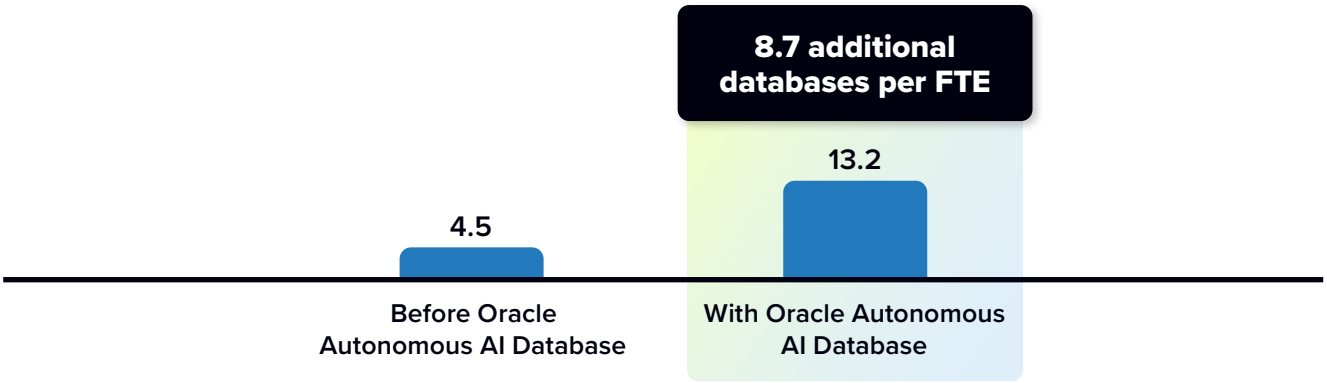
n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

These staff efficiencies positively impacted workload distribution. IDC calculated databases per DBA in **Figure 2**. As shown, each DBA could manage 8.7 additional databases after the adoption of Oracle Autonomous AI Database.

FIGURE 2

Databases per DBA

(Databases per DBA)



n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Interviewed companies also reported that their IT infrastructure teams increased their overall efficiency levels. The Oracle solution eased the burden of hardware management by automating key tasks, such as scaling, backups, updates, and resource deployment, which enabled a significant boost in efficiency and overall performance.

In fact, this team achieved the following KPIs with Oracle:

- **65% less time spent keeping the lights on**
- 72% quicker deployment of additional compute resources
- 42% quicker deployment of additional storage resources

After adoption, IT infrastructure teams experienced a 48% efficiency gain and needed 4.3 fewer FTEs to manage the same workload compared to their prior environment. Additionally, these organizations reduced their need to hire 1.6 additional FTEs that they previously would have needed to manage their database infrastructure. IDC's calculation valued this improvement at $590,687 for each organization (see **Table 4**).

TABLE 4

IT Infrastructure Team Efficiency Gain

Efficiency Gain	Before Oracle Autonomous AI Database	With Oracle Autonomous AI Database	Difference	Benefit
Total FTE count	10.6	**6.3**	4.3	41%
Additional new hires needed, FTEs	1.6	**N/A**	1.6	N/A
Cost of staff time per year	$1,222,115	**$631,428**	$590,687	48%

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

IDC's analysis then shifted to evaluating the platform's cost effectiveness in the context of annual OS/tool/infrastructure outlays. Interviewed organizations valued Oracle's pay-as-you-go pricing model — especially when combined with autoscaling.

One study participant working in the manufacturing sector noted:

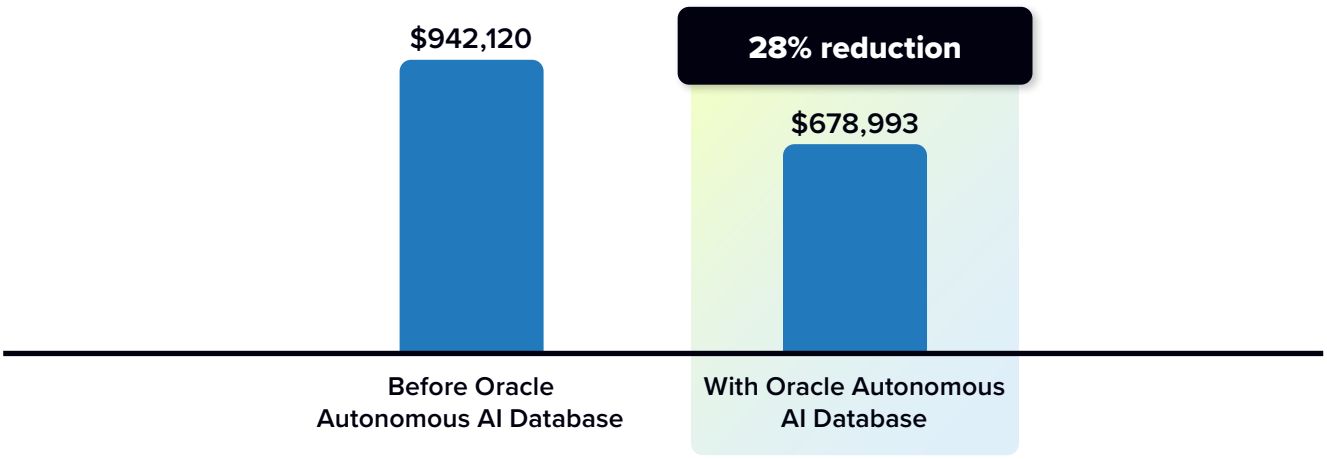
"The cost savings come from the ability to easily scale down our Oracle Autonomous AI Databases when they're not in use — sometimes with just a few clicks. In lower-tier environments, like B or C, we can even stop databases entirely, paying only for minimal storage, which is very inexpensive. We haven't eliminated any databases; we simply optimize their usage over time to maximize our cloud credits."

As shown in **Figure 3**, Oracle helped eliminate overprovisioning, which enabled average annual savings of $263,127 in database-related costs. This resulted in a 28% reduction in annual OS/tool/infrastructure costs after adoption.

FIGURE 3

Annual OS/Tool/Infrastructure Cost Reduction

($)



n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

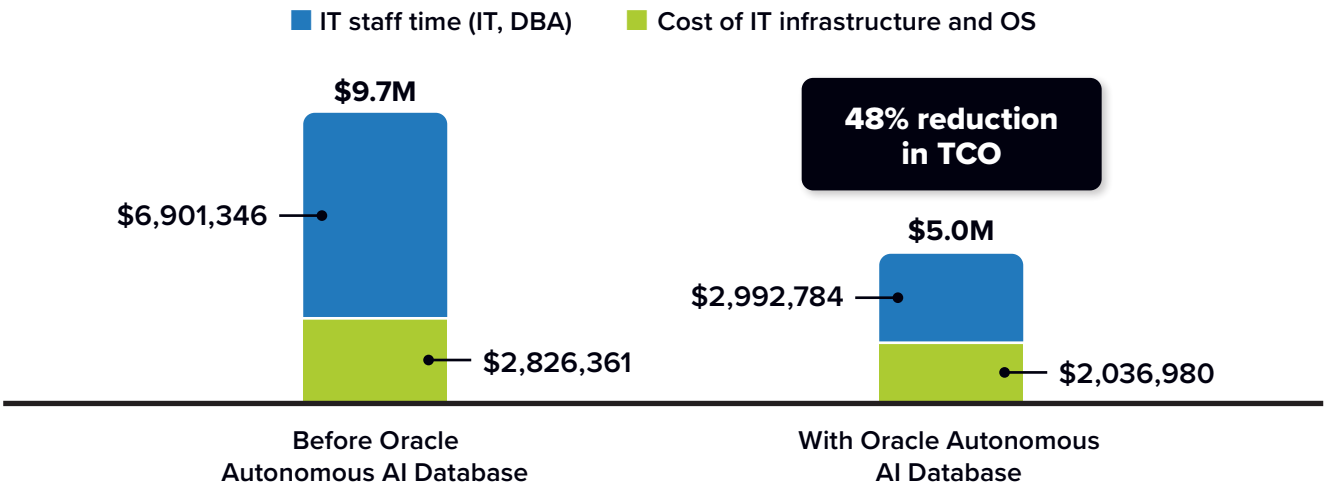
There was a positive impact on the cumulative cost of operations for surveyed organizations when compared against previous or alternative environments. Factoring in IT and DBA staff management expenditures along with IT infrastructure and OS costs, **Figure 4** (next page) shows that the total annual three-year cost of operations for interviewed companies was 48% lower — a very significant reduction — after the adoption of Oracle Autonomous AI Database.

FIGURE 4

Total Three-Year Cost of Operations

($)

For an accessible version of the data in this figure, see Figure 4 Supplemental Data in Appendix 2.



n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Data Enablement Benefits from Oracle Autonomous AI Database

IDC then shifted the focus to data enablement benefits. Here, interviewed companies benefited from key application development features and capabilities that enabled rapid business application rollouts with support for all data types and workloads (relational, JSON, graph, vector, etc.), multiple programming languages, and integration with a wide variety of AI/ML tools.

IDC's analysis of key data enablement benefits focused on two major operational areas:

- Application development team productivity
- Analytics team productivity

In their comments to IDC, study participants noted that after adopting Oracle Autonomous AI Database, developers were able to more easily create snapshots. They appreciated that they could deploy applications quicker while freeing up more time to devote to coding.

Developers also had better access to multiple environments and, with self-service provisioning, had less dependency on DBA resources, thereby avoiding resource bottlenecks.

In addition, analytics teams appreciated the ability to perform queries faster. Study participants commented on these and other benefits:

Quicker replication (Communications):
"Developers can create snapshots easier and quicker with Oracle Autonomous AI Database. They have access to work within multiple environments and replicate much quicker."

Quicker deployments (Technology):
"Our developers are able to deploy applications quicker with Oracle Autonomous AI Database. This has given them more time to code."

Easier performance management (Technology):
"Application development is our core business. Oracle Autonomous AI Database impacts the developers in that it is easy to spin up test environments. Additionally, the tools for managing and viewing performance are a benefit. They help them ensure that the applications are fully functioning without spending a lot of time thinking and working on it."

Self-service provisioning (Financial Services):
"Provisioning for test or development activities is self-service for our developers in Oracle Autonomous AI Database. They can do it with a click of a button."

Less DBA dependency (Manufacturing):
"Prior to our deployment of Oracle Autonomous AI Database, developers had a dependency on DBA staff; it was a clear bottleneck. Now, this dependency has disappeared, and our developers no longer need to deal with database problems when the infrastructure needs optimization."

APEX (Professional Services):
"Application development is much faster with Oracle Autonomous AI Database. We mainly use APEX, especially now that it is supporting some AI functionalities. Developers that are using APEX have had a huge improvement in speed."

Faster queries (Hospitality):
"My company has had better performance with Oracle Autonomous AI Database. This increased performance has helped analytical queries come back faster, and people are generally happier."

Faster queries (Manufacturing):
"Queries are faster with Oracle Autonomous AI Database; our analytical team can launch more. Prior to deployment, if we launched a query, it took a minute; now I can launch two queries in the same time frame."

IDC then validated these anecdotal comments. The data confirmed that Oracle Autonomous AI Database boosted developer productivity — especially for those using APEX for low-code development — by enabling self-service provisioning, automated monitoring, and faster deployments. As a result, Oracle customers experienced an 18% productivity boost for their development teams (see **Table 5**). This meant that teams of 33 FTEs could work at the equivalent productivity level of having 5.9 additional FTEs on staff. IDC calculated this benefit to bring a value of $592,500 per organization.

TABLE 5

Developer Productivity Gain

Productivity Gain	Before Oracle Autonomous AI Database	Equivalent Productivity With Oracle Autonomous AI Database	Difference	Benefit
Equivalent productivity level, FTEs	33.9	**39.8**	5.9	18%
Value of staff time per year	$3,385,714	**$3,978,214**	$592,500	18%

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Similar benefits were evident for analytics teams. Oracle enabled analytics teams to generate faster, highly optimized queries — especially in combination with JSON — which helped them deliver high-quality, strategic reports with greater speed and accuracy. In fact, **IDC calculated that there was a 39% reduction in the time needed to run queries after adoption.**

Table 6 indicates that analytics teams enjoyed a 20% gain in productivity, which helped teams of 41.3 FTEs work with the equivalent productivity level of having 8.3 additional FTEs on staff. The annual value of this productivity enhancement was $578,667 per organization.

TABLE 6

Analytics Team Productivity Gain

Productivity Gain	Before Oracle Autonomous AI Database	Equivalent Productivity With Oracle Autonomous AI Database	Difference	Benefit
Equivalent productivity level, FTEs	41.3	**49.6**	8.3	20%
Value of staff time per year	$2,893,333	**$3,472,000**	$578,667	20%

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Performance Benefits from Oracle Autonomous AI Database

Interviewed organizations also found that the Oracle platform increased the reliability and performance of databases with automation. As a result, it reduced the frequency of unplanned downtime outages while significantly improving the time it took to resolve them.

Table 7 breaks down this data set. It's noteworthy that, after adoption, the frequency of unplanned downtime for applications had significantly reduced by 91%. In addition, when outages occurred, they took 70% less time to resolve. Combined, these improvements significantly reduced the impact of downtime on end users by 97%. IDC valued this productivity gain at $539,295 annually. **Table 7** also provides additional granular metrics.

TABLE 7

Unplanned Downtime — End-User Impact

Unplanned Downtime	Before Oracle Autonomous AI Database	With Oracle Autonomous AI Database	Difference	Benefit
Number of outages per year	2.9	**0.3**	2.6	91%
MTTR, hours	3.7	**1.1**	2.6	70%
Users impacted by downtime	3,266	**3,266**	N/A	0%
Percentage of productivity loss factor	43%	**43%**	N/A	N/A
Total lost productivity per year, FTEs per organization	7.9	**0.2**	7.7	97%
Value of productivity gain time per year	$553,677	**$14,381**	$539,295	97%

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Business Enablement Benefits with Oracle Autonomous AI Database

The performance benefits discussed in the previous section had significant impacts on business enablement, showing a clear connection between improving database and IT staff operations and business-related improvements at the companies interviewed. Study participants reported that Oracle contributed to enhancing business operations by improving customer interactions and accelerating and optimizing application development efforts. This, in turn, served to provide line-of-business employees with higher-performing, business-critical applications. Through better database operation, faster and higher-quality application development rollouts, and greater IT resource availability and reliability associated with unplanned downtime improvements, employees had the tools they needed to deliver maximum value to customers. Ultimately, the improvements in annual revenue results provide evidence of these benefits.

Study participants offered these detailed comments:

Increase innovation (Manufacturing):
"Oracle Autonomous AI Database enables our IT teams to focus more on user experience, requirements, and value add, since all maintenance operations are managed by Oracle."

New initiative support (Financial Services):
"Oracle Autonomous AI Database helps my organization support new initiatives because we can test these initiatives quicker. This helps drive business and planning."

Useable data (Professional Services):
"Oracle Autonomous AI Database helps staff move beyond basic work with data to more advanced tasks. Oracle helps with better quality data, being able to use data better, and provides tools that enable us to learn from data, like JSON relational graphs. Being able to use data better has been very beneficial for our general business."

Higher productivity (Communications):
"All of our end users are more productive because Oracle Autonomous AI Database provides higher performance than our old environment."

Higher employee satisfaction (Technology):
"Employee satisfaction has increased because our system is performing better."

IDC quantified business enablement benefits, beginning with end-user productivity. Interviewed organizations found that end users were more productive thanks to improved access to high-quality data and enhanced application and database performance.

Table 8 shows end-user productivity gains of 8%. Factoring in a 15% operating margin, this means that end users worked with the equivalent productivity level of having 6.6 additional FTEs on staff. This led to an annual productivity-based business value of $458,683 for each organization.

TABLE 8

Business Enablement — End-User Productivity Gain

Productivity Gain	Before Oracle Autonomous AI Database	Equivalent Productivity With Oracle Autonomous AI Database	Difference	Benefit
Equivalent productivity level, FTEs	527	**571**	44	8%
Total FTE count, net	527	**534**	6.6	1.2%
Value of staff productivity per year	$36,905,556	**$37,364,239**	$458,683	1.2%

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

IDC also assessed the impact of Oracle Autonomous AI Database on revenue generation. Interviewed organizations reported that the platform enabled more effective data-driven decision-making, which strengthened their strategic direction and business focus. Additionally, by automating routine tasks, the database freed up time for highly skilled IT professionals, allowing them to concentrate on innovation and deliver stronger organizational support. These combined improvements in strategy and innovation translated into enhanced customer experiences and higher satisfaction levels.

As shown in **Table 9**, participants reported substantial financial gains, with each organization generating an average of $12,146,369 in additional annual gross revenue. Applying a 15% operating margin assumption for IDC's financial model, this equates to an average net revenue gain of $1,821,955 per organization annually.

TABLE 9

Business Enablement — Higher Revenue

Business Enablement	Per Organization	Per 100 Internal Users	Per Autonomous AI Database
Total additional gross revenue per year	**$12,146,369**	**$103,590**	**$251,497**

Table 9 continued

Table 9 continued

Business Enablement	Per Organization	Per 100 Internal Users	Per Autonomous AI Database
Assumed operating margin	15%	15%	15%
Total additional net revenue, IDC model	**$1,821,955**	**$15,539**	**$37,725**

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

ROI Summary

Summing up the financial and business-related benefits for study participants' use of Oracle Autonomous AI Database, IDC calculated an average three-year ROI. As shown in **Table 10,** IDC projects that these companies will achieve three-year discounted benefits worth an average of $11,773,700 per organization through significantly improved IT and database management, enhanced staff efficiencies, and better overall business results. These benefits compare with the total three-year discounted costs of $2,195,700 per organization. These levels of benefits and investment costs resulted in an average three-year ROI of 436% with a payback period of five months.

TABLE 10

Three-Year ROI Analysis

Three-Year ROI Analysis	Per Organization	Per Autonomous AI Database
Discounted benefits	$11,773,700	$243,781
Discounted investment	$2,195,700	$45,463
NPV	$9,578,000	$198,317
ROI	**436%**	**436%**
Payback	**5 months**	**5 months**
Discount factor	12%	12%

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Challenges/Opportunities

Transitioning to Oracle Autonomous AI Database can introduce a range of challenges.

Migration complexity:
As with moving any application or database to the cloud, moving existing Oracle databases or non-Oracle systems into OCI involves reworking dataflows and ensuring compatibility with current applications. Comprehensive planning and validation are essential for identifying unsupported objects, adjusting privileges, and redesigning workflows before cutover. Oracle offers migration tools, such as Zero Downtime Migration, and services to help customers move their on-premises Oracle databases to the cloud. In addition, Oracle offers free heterogeneous migration utilities that simplify the process of moving non-Oracle workloads to Oracle Database.

Vendor lock-in concerns:
Dependence on a single cloud provider can raise the cost and technical effort of later migration. Public-cloud vendor lock-in stems from proprietary APIs, networking configurations, and identity services that can impede a shift to another platform without significant reengineering. Oracle offers database multicloud solutions via Oracle Database@ Hyperscaler with deployments on Microsoft Azure, Google Cloud, AWS, and OCI. This option enables customers to integrate their preferred apps, tools and cloud services on their chosen cloud with Oracle Autonomous AI Database while gaining extremely short latencies and avoiding egress fees.

Conclusion

IDC's research highlights the substantial value organizations achieve by adopting Oracle Autonomous AI Database, a fully managed, cloud-native database as a service. Oracle Autonomous AI Database addresses key challenges, such as database complexity, manual maintenance, and scalability, while providing built-in automation for provisioning, patching and tuning, automatic security updates, and enterprise-grade performance. By eliminating repetitive tasks, reducing unplanned downtime, and optimizing costs through autoscaling, Oracle Autonomous AI Database empowers organizations to modernize their data infrastructure, accelerate application development, and focus IT resources on innovation. Overall, IDC found that organizations achieved average annual benefits of $4.9 million per organization, including increased annual revenue, cost reductions, IT, developer, and end-user productivity gains, improved reliability, and enhanced business agility. These benefits yielded a 436% ROI over three years and a payback period of just five months, illustrating Oracle Autonomous AI Database's capacity to deliver measurable ROI and fuel sustainable business growth.

Appendix 1: Methodology

Table 11 presents a summary of IDC's business value calculations, as the previous sections fully describe, with total average annual benefits of $4.9 million per organization accruing annually.

TABLE 11

Specific Calculations: Benefits from the Use of Oracle Autonomous AI Database

Category of Value	Average Quantitative Benefit	15% Margin Applied	Calculated Average Annual Value*
Annual OS/tool/ infrastructure cost reduction	$263,127 in annualized cost reductions	No	$235,312
IT infrastructure team — admin and management efficiency gains	48% higher efficiency worth 5.9 FTEs, $100,000 salary	No	$528,246
DBA efficiency gains	66% higher efficiency worth 7.1 FTEs, $100,000 salary	No	$636,884
Analytics team productivity gains	20% higher productivity worth 8.3 FTEs, $70,000 salary	No	$517,496
Development team productivity gains	18% higher productivity worth 5.9 FTEs, $100,000 salary	No	$529,867
Unplanned downtime, end-user benefit	97% less productivity lost from unplanned downtime, worth 7.7 FTEs, $70,000 salary	No	$482,287
Business enablement — higher revenue	$1,821,955 in additional gross revenue	Yes	$1,629,357
Business enablement — end-user productivity gains	8% higher productivity worth 43.7 FTEs, $70,000 salary	Yes	$410,196
Total average annual benefits	**$4.9M per organization per year**	**N/A**	**N/A**

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Methodology

IDC utilized its standard ROI methodology for this project. This methodology involved gathering data from current users of Oracle Autonomous AI Database as the foundation for the model.

Based on interviews with organizations using the platform, 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 Oracle Autonomous AI Database.** In this study, the benefits include IT cost reductions and avoidances, staff time savings and productivity benefits, and revenue gains.
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 Oracle Autonomous AI Database 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 Oracle Autonomous AI Database over a three-year period. ROI is the ratio of the net present value 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 as follows:

- Time values multiplied by burdened salary (salary + 28% for benefits and overhead) quantify the efficiency and productivity savings. For this analysis, IDC used the assumptions of an average fully loaded $100,000 per year salary for IT staff members and an average fully loaded salary of $70,000 for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).
- IDC calculated the net present value of the three-year savings by subtracting the amount that organizations would have 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.
- Further, because Oracle Autonomous AI Database requires a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorated the benefits on a monthly basis and then subtracted the deployment time from the first-year savings.

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

Appendix 2: Supplemental Data

This appendix provides an accessible version of the data for the complex figure in this document. Click "Return to original figure" below the table to get back to the original data figure.

FIGURE 4 SUPPLEMENTAL DATA

Total Three-Year Cost of Operations

Costs	Before Oracle Autonomous AI Database	With Oracle Autonomous AI Database
IT staff time (IT, DBA)	$6,901,346	$2,992,784
Cost of IT infrastructure and OS	$2,826,361	$2,036,980
Total	**$9.7M**	**$5.0M (48% reduction in TCO)**

n = 9; Source: IDC Business Value In-Depth Interviews, May 2025

Return to original figure

About the IDC Analysts

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Devin Pratt is a research director within IDC's AI, Automation, Data, and Analytics practice, where he oversees the database management tools and technologies software market. His primary research centers on the evolution of database management tools and technologies, covering both current and future capabilities across various relational, non-relational, and dynamic database systems designed for operational or analytic data workloads. Additionally, Pratt's research encompasses related technologies used for data modeling, database development, optimization, and maintenance. By analyzing market trends, buyer behaviors, and the business value of these technologies, Pratt's research helps vendors enhance their products and refine marketing strategies while also guiding end users in selecting data management solutions for challenges such as cloud migration and AI-driven data initiatives.

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Megan Szurley is manager for the Business Value Strategy practice, responsible for creating custom business value research that determines the ROI and cost savings for enterprise technology products. Szurley's research focuses on the financial and operational impact of these products for organizations once deployed and in production. Prior to joining the Business Value Strategy practice, Szurley was a consulting manager within IDC's Custom Solutions division, delivering consultative support across every stage of the business life cycle: business planning and budgeting, sales and marketing, and performance measurement. In her position, Szurley partners with IDC analyst teams to support deliverables that focus on thought leadership, business value, custom analytics, buyer behavior, and content marketing. These customized deliverables are often derived from primary research and yield content marketing, market models, and customer insights.

More about Megan Szurley

IDC Custom Solutions

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