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AIOps means business: IT innovation for business advantage

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Prepared for ScienceLogic
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Table of Topics

AIOps is

a. The use of artificial intelligence (AI) in IT operations
b. An accelerator of IT automation
c. An enabler of digital transformation
d. A cost-cutting initiative for IT efficiency
e. All of the above

E All of the above (and more)

AIOps' roots run deep in the IT tradition of constantly doing more with less—and doing it better. For IT, that means automation.

The catch with traditional IT automation is that there's nothing automatic about it. It requires intelligence to construct and instruct the actions. When complexity and change reach a scale and velocity that far outstrip human capacity to comprehend, automation slams into a wall.

Artificial intelligence (AI), machine learning (ML), and analytics applied to the torrents of observability data from diverse monitoring tools remove the limits of humanity from the possibilities of IT automation. What's new about AIOps is neither AI nor automation. It is the combination of AI and automation applied to IT operations in the pursuit of IT excellence and business innovation.

Although AIOps is mainstream with more than 90% of enterprises well underway, it is new enough that the name itself is open to debate. When EMA asked hundreds of global IT leaders to define the term, the responses varied as follows:

- The use of AI or ML in IT operations 35%
- The use of automation in IT operations 25%
- The use of AI or ML plus automated actions 32%
- An intelligent overlay or platform 8%

From a theoretical perspective, AIOps is the use of AI/ML/analytics applied to IT operations and observability data. However, from a practical point of view, AIOps is intuitively associated with automation. After all, what is the sense of knowing something important without doing something important with that knowledge?

For cost-conscious CxOs who are doubling down on digital transformation and innovation, the "AI" in AIOps is simply a means to an end—fuel for the gamechanger that is automation. For practical, real-world purposes:

AIOPS = AI/ML/ANALYTICS + AUTOMATION

AIOps tackles the IT automation competitive gap

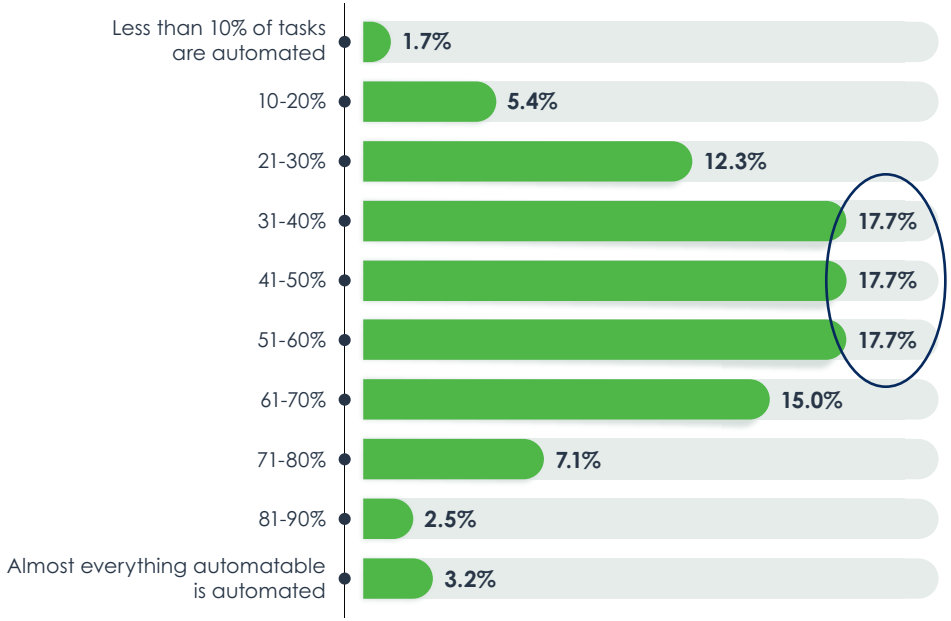
If IT automation means doing better work faster with less human involvement, and it does, then it is a competitive must-have. This is especially true when innovation is the fiscal lifeblood of business.

IT technical talent, already in high demand, is now at a critical and crucial shortage. The global Great Resignation magnifies the existing talent shortage, which in turn heightens the need for automation. IT leaders rank "shortage of IT talent and/or lack of automation to take its place" as one of the top two impediments to IT service quality, making it clear why IT personnel productivity is far and away the top driver for IT automation initiatives.

The circle is ironic: There is a shortage of IT talent that must be addressed with automation, but there is a shortage of IT talent to implement it.

Although IT automation is a high priority for almost all companies, its implementation is not evenly distributed. EMA asked a global panel of 400+ IT leaders to estimate the percentage of IT tasks that are automated with software that can replace repeatable processes, address complex processes, and take critical actions. The gap is wide.

What percentage of IT tasks do you estimate use automation in your IT organization?



More interesting than the exact numbers is the large range of responses. This graph turns out to be a visual representation of a competitive gap that is real and growing. If IT automation is a competitive advantage, then falling behind is a de facto competitive disadvantage that will only grow over time. AIOps solutions tackle this challenge head on.

Automation caveat

There is a caveat to IT automation that IT leaders ignore at their peril: Automation is not a one-size-fits-all proposition. In reality, most organizations use a mix of autonomous actions and human/automation interplay. Forced to fall on one side of an either/or choice, EMA research consistently shows a fairly equal split between how organizations take automated action based on AI/ML/analytics:

- Automated action is taken with as little human touch as possible
- Automated action is allowed only with human oversight

Automation is an acquired taste in most enterprises. As experience and trust builds, so does an organization's willingness and cultural ability to consume automation. Therefore, there is a range of automation that any AIOps implementation must be able to accommodate between actions taken with human oversight and full autonomous processes.

AIOps solutions must be able to grow automation reach and depth to keep pace as an organization's appetite for automation grows. That growth is almost guaranteed because automation initiatives are highly successful. Success breeds success.

AIOps is where aspiration and action meet

Drivers are forward-thinking and results-minded

Whether strategic or a problem-solving response to IT complexity, AIOps initiatives tend to be C-level-driven and funded for two reasons:

1. The cross-domain workflows, collaboration, and automation that mark AIOps implementations require executive support in order to succeed.
2. The high-impact results that AIOps brings to IT efficiency and business agility command executive interest.

Although cost savings turns out to be a benefit that AIOps consistently delivers, it is not a prime mover for AIOps adoption. In fact, for those who are highly successful in their implementations, cost doesn't even rank among the top ten drivers. Done well, AIOps is strategic and a basis for business innovation.

The top drivers of AIOps tend to be positive, even visionary:

- Strategic drivers, such as the coupling of AIOps and digital transformation, target improved business outcomes and agility.
- They speak to an organization's focus on improvement through business agility (DevSecOps innovation/speed and support for the nascent SRE function)—a refusal to be constrained by past technology and organizational decisions.
- The drivers strongly imply automation in operational efficiencies, observability, and efficient workflows/collaboration. The focus is on people, with IT talent delivering the services and the end users consuming those services.

AIOps makes it possible for IT to operate at top efficiency—not only faster, but in new ways and functions. Cross-domain workflows and collaboration become the norm. Cross-group interests are increasingly expressed in new organizations that meld formerly distinct disciplines into converged powerhouses. Organizations such as DevSecOps and SRE collaboratively contribute their unique specializations as they work toward the common goals of corporate health and IT service excellence.

Top AIOps use cases save pain-time and change-time

Current AIOps implementations tend to group in four general categories, which in turn are synergistic with each other.

Event management – Spanning anomaly detection, root cause analysis, and prescriptive capabilities, event management is a staple of almost all AIOps implementations. Event management relies on the monitoring and reporting of many domain-specific tools from network and application management groups to produce information and action that will greatly reduce the number of incidents and outages.

Predictive analysis can see an issue coming before it has a chance to cause a problem. When an outage does occur, AIOps can slash the mean time to find and fix a problem. Mean time to repair (MTTR) is one of the key metrics used to measure and prove AIOps effectiveness today. Observability that enables end-end visibility of service health is essential to event management. In turn, that makes the ability to incorporate cloud into this view a top requirement for AIOps solutions.

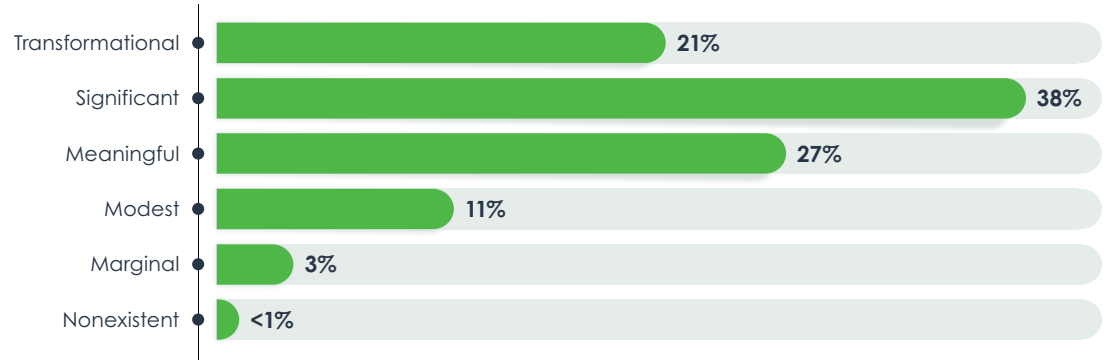
Change management – Business agility and speed of innovation mean new capabilities are continually introduced to applications and systems. While change is the lifeblood of business innovation, it is the bane of IT stability. AIOps is critical in the battle to balance speed with safety. Change management and impact analysis serve DevOps as well as IT operations in the full lifecycle of technology. AIOps is a key enabler of cross-functional efforts that bring other disciplines into the operational sphere. DevSecOps is a good example. Security and governance are increasingly brought in to manage the risk of change at ever-earlier points in the development cycle.

Capacity management and optimization – AIOps addresses another classic IT struggle, one that cloud and virtualization exacerbate: the battle to balance performance and cost. Although cloud providers do a good job of managing their own environments, they have little incentive or ability to inform end-end decisions on performance and cost. AIOps can make sense of workloads scattered across public cloud, private cloud, and IT infrastructure to serve business demands cost-effectively.

Business impact and alignment – AIOps has the ability to understand the relationship between an IT service and the business it supports. When there is a change, issue, or improvement to be made, the impact on the business can be quickly determined and actions prioritized.

AIOps improves the IT/business relationship for a number of reasons. To begin with, AIOps predictably brings a huge improvement in the quality and performance of IT service—always a crowd-pleaser. Behind the scenes, the integration, automation, and workflows that shape AIOps all require collaboration and understanding between IT and its business constituency. The fact that AIOps delivers quantifiable savings relative to its cost is a consideration that business-minded stakeholders respect.

What impact has AIOps had on the relationship between IT and other parts of the business?



So many stakeholders benefit from AIOps insights

One of the reasons AIOps is so high-value and strategic is because of its beneficial impact across the enterprise. AIOps actively serves a variety of stakeholders across and beyond IT with intelligent insight for intelligent actions, whether automated or human-assisted. AIOps frees IT talent from mountains of data and mundane tasks to productively do work that humans do best (and enjoy doing).

Top cross-domain stakeholders:

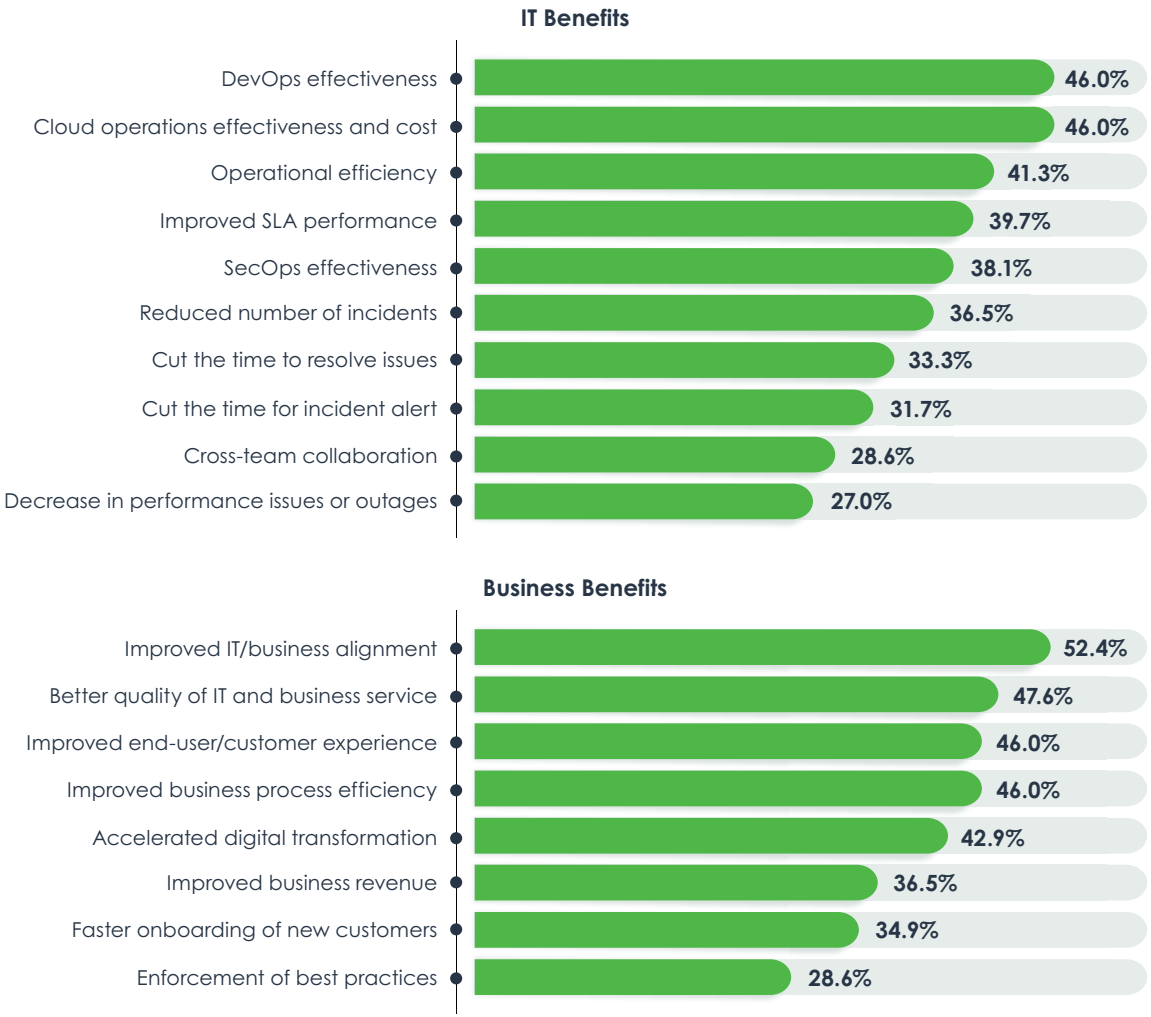
- IT operations are in a tie with IT executives for top honors
- ITSM (service desk and beyond)
- Infrastructure management
- CxOs
- Line of business management
- User experience

Top IT domain stakeholders:

- Cloud
- DevOps
- SecOps
- DataOps
- NetOps
- Application management

AIOps success is measured in IT and business gains

AIOps initiatives enjoy a high rate of success. Recent EMA research of 400+ global IT leaders placed 84% in the very successful range, with 16% stating that their efforts were only somewhat successful. Zero percent chose any response in the unsuccessful or negative range. The benefits that AIOps delivers fall in both the IT and business camps, both at a high rate.



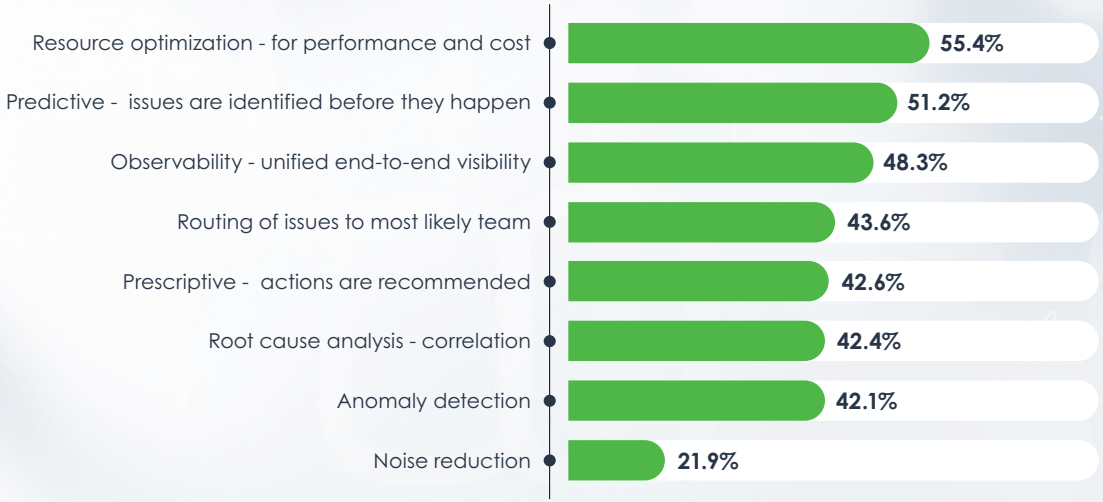
Some of the most widely used metrics behind these benefits include:

- Reduced number of outages
- Decrease in MTTR
- Improved business efficiencies
- Decrease in war room frequency, duration, and people involved
- Cost savings in operational expenses (OPEX)
- Number of tasks automated or eliminated
- Percentage of tasks automated
- Decrease in number of incidents
- User/employee/customer satisfaction
- Revenue
- Number of events first detected by service desk/user
- DevOps frequency of releases and change failure rate

The beauty of AIOps is its brain

If automation is the brawn of AIOps, clearly AI/ML and analytical insight are the brains. There are algorithms and analytical capabilities fit to serve all of the most challenging operational tasks and hurdles. Organizations typically begin their AI journey targeting the biggest impact areas with the most readily accessible analytics. Although the possibilities and combinations are endless, global IT leaders named their top capabilities...

Which types of IT AI/ML/analytics are currently either fully deployed or in deployment?



...but it all starts with data.

Data will be either an AIOps enabler or impediment

IT has no shortage of data. It pours in from specialized monitoring tools that challenge end-end observability. AIOps has to make sense of a widening universe of data to make it actionable for IT operations. It is impossible for humans to adequately comprehend the sheer volume, scope, and diversity of data, or the velocity at which it changes. However, that data is frequently locked into siloed prisons.

"Data accuracy and accessibility" shares top billing with "technical complexity" as impediments to AIOps automation. The runners-up on that list also share data challenges: legacy systems, difficulty integrating with other solutions and tools, and cloud.

The number and types of applications continue to grow, spanning cloud-native and hybrid applications to well-entrenched mainframe solutions that are not going away anytime soon, if at all. In between is a brew of API-connected and SaaS applications serving every nook and cranny of the organization. Add monitoring tools to the data mix. The average AIOps implementation oversees 20-75 monitoring tools, and more than 100 is not at all uncommon.

Data needs to be collected, cleaned, normalized, and infused with context before it can have useful relevance to any AIOps initiative. Without a platoon of data scientists, an automated solution or platform specifically designed for these challenges must crisply address the data challenges.

When context is injected into normalized data, that data becomes a unified enterprise currency—the basis for insight as well as action.

The platform approach is a money-making proposition

When it comes to making actionable sense of diverse data at volume and scale, there are two approaches and one is the clear winner:

1. Build and maintain a way to continually integrate monitoring tools, data sources, and cross- domain processes with AI/ML/analytics and automation capabilities
2. Invest in an AIOps platform that serves as a base on which other applications, processes, and technologies can act and interact

EMA research decisively decides for the platform approach. Not only is the platform approach highly successful in terms of results, it is cost-effective as well. Asked to rate the value of their platform investment specifically related to the cost expended, 400 IT executives and managers painted a very positive return on investment:

- 32% report realizing at least 2x its cost in savings and benefits
- 59% say it pays for itself, returning at least an additional 20%
- 8% credit it with being breakeven or better

In the worst-case scenario, the platform approach will be a breakeven proposition. A profitable investment is a much more likely outcome.

EMA perspective

AIOps is well underway in most enterprises. To the extent that it is done swiftly and effectively, it is an enabler of business innovation and a competitive differentiator because it tackles some of the most pressing business realities of today and the near future.

- The IT talent shortage – Technological advances can't be implemented when IT talent is swamped with routine tasks. The skills shortage hits enterprises of all sizes and pocket depths. AIOps' ability to take effective, autonomous action and enable automated processes frees valuable IT resources to promote innovation and digital transformation.
- Continuous change continues – Whether it's changing business requirements or the surprise curves that life can throw at the planet, AIOps platforms can serve as a unifying basis to welcome and accommodate change on a continual basis.
- Digital transformation – Although some speak of it as a destination with a knowable product at the end, digital transformation is an ongoing process. In highly successful organizations, there is a natural pairing between these initiatives and AIOps.
- Organizational innovation – AIOps enables cross-domain processes, as well as newer functions such as DevOps, SRE, and the growing need for DevSecOps considerations. As many organizations adopt a platform/product approach to IT, AIOps acts as a unified basis for pan-enterprise visibility and action.
- Business innovation with no compromise to governance and risk – AIOps makes it possible for enterprises to balance the demands of speed to business innovation with thoughtful governance and risk reduction—a balancing act that is as useful in the cloud as it is in DevOps.
- Resource and cost optimization – Cost savings may not top the list of drivers for AIOps, but it is a welcomed benefit of most implementations. "We have no interest in cost savings" said no enterprise ever.

AIOps is well suited to act as a multifunction unifier across the enterprise, one that allows each group to retain their distinctives and tools of choice in an end-end observability view. Capable of delivering great quantitative and qualitative benefits, AIOps returns value at the highest rate when it is implemented on a platform and approached as a strategic initiative enterprise-wide.

EMA recommends that IT practitioners look beyond their immediate issues to consider both the aspirational and unknown when choosing an AIOps platform. The old-fashioned attributes of flexibility, scalability, ease of integration, and rapid time to value will wear well over time, across a future filled with changing business requirements and technological advances yet to come.

About ScienceLogic

ScienceLogic is a leader in IT Operations Management, providing modern IT operations with actionable insights to predict and resolve problems faster in a digital, ephemeral world. Its Infrastructure monitoring and AIOps solution sees everything across cloud and distributed architectures, contextualizes data through relationship mapping, and acts on this insight through integration and automation. Trusted by thousands of organizations, ScienceLogic's technology was designed for the rigorous security requirements of United States Department of Defense, proven for scale by the world's largest service providers, and optimized for the needs of large enterprises.

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