





Al(work)Ops 2021: The State of AlOps

EMA Research Report

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Key Findings



Today, vendor AIOps capabilities exceed common enterprise demands. Actual deployments and overall use currently lag well behind the potential of existing platforms. However, new use case adoption is accelerating rapidly for a panenterprise impact that already reaches far past ITOps.

AIOps is still quite early as an IT initiative (65% <2 years).

AIOps and automation are inextricably linked...

...and both are largely driven by digital transformation

...and by the C-suite, followed by ITOps

One hundred percent of the very successful and extremely successful implementations use an AIOps platform. The top performers are consolidating to one. Almost all are in the market for a new or replacement AIOps platform.

AIOps is largely successful, returning very high value relative to cost in 80% of the implementations and at least paying for itself in all cases.





Of Data and Datasheets



Vendors and their visions often run ahead of the real-world pack—at least, the good ones do, because progress begins with vision. The downside of this rush to tomorrow is that IT practitioners can be left to ponder the practicality of technologies and wonder if their organization is ahead of the market curve or sliding behind in an invisible race that is always competitive.

Although AIOps is a relatively new category named within the past five years, it is based on a well-established awareness that advanced IT analytics has a lot to offer in the pursuit of operational excellence. Advances in big data, AI, ML, and IT operational complexity combined to match product capabilities with market needs. The otherwise hopeless complexity of clouds, microservices, and containers in an environment of high velocity change form the backdrop of IT's largescale adoption of AIOps.

The needs are real, as are the vendor product and platform capabilities. EMA completed an in-depth technical evaluation of 17 AIOps vendor offerings complete with user interviews as 2020 wrapped up, publishing the results in

"EMA Radar Report: AIOps – A Guide for Investing in Innovation." The next logical step, taken in this research initiative, was to probe how widely those capabilities are being adopted beyond the datasheets, and with what results.

This research, "AI(work)Ops 2021: The State of AIOps" takes a ground-level look at the AIOps experience. Focusing on groups that were most successful, it examines the use cases, top capabilities, drivers, challenges, results, and common rewards of AIOps implementations, as well as buying considerations when it comes to selecting a new AIOps platform. More than 2,500 global participants were screened to vet the final field of 200+ IT practitioners for insight into how AIOps is being used now and in the near future.

Perhaps the most surprising finding was the extent of AIOps success. For the vast majority of respondents, AIOps implementations were self-rated as successful, very successful, and extremely successful, returning high value relative to cost and exerting a sometimes-transformative impact on the relationship between IT and the businesses it serves.



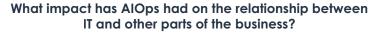
And the Winner is...Everyone: AlOps Impact, Success, and Value

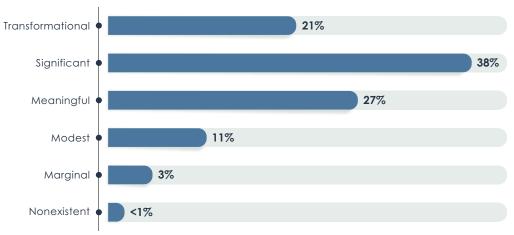


Research protocol commonly offers pages of findings that lead up to a benefits list somewhere toward the report's end. In this case, the results deserve to be placed up front. Here is EMA's trifecta of favorite findings:

The impact of AIOps on the relationship between IT and the business

The impact of AIOps on the relationship between IT and the business is very positive for 86% of respondents. Offered three positive answers to choose from, an impressive 21% chose the superlative "transformational."







AlOps success rate

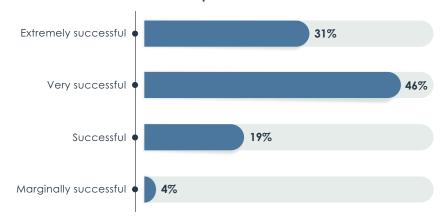
100% were successful with AIOps. 77% reported being very/extremely successful.

AlOps value relative to cost

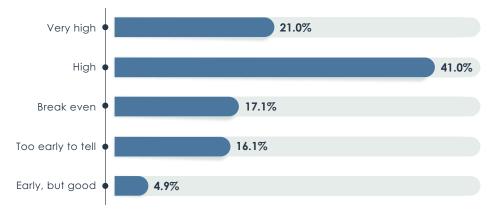
It is fair to say that AIOps is, at the very least, likely to pay for itself. Relative to cost, respondents report a high level of value returned to their organizations.

In terms of organizational impact, success rate, and value, AIOps is a clear winner. The following pages will look at how and why.

Overall, how successful do you feel your organization has been with its AIOps investments to date?



How would you characterize the value AIOps brings to your organization relative to the cost?





What are Those "Extremely Successful" with AlOps Doing Today?



The extremely successful crowd landed pretty heavily on automation and actionoriented answers

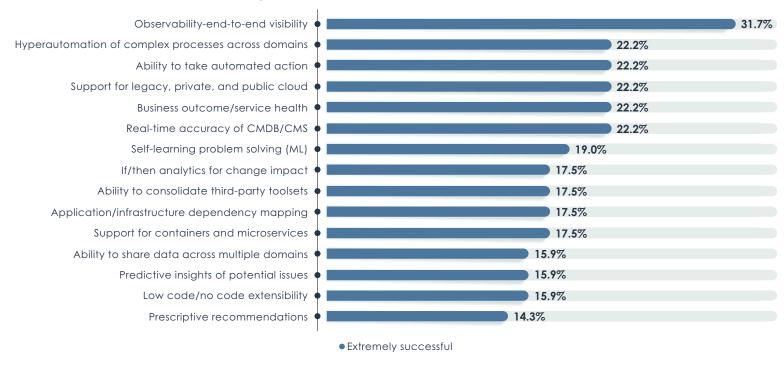
Almost eighty percent of respondents rated their AIOps initiatives as highly successful. Since a healthy one-third of respondents selfidentified as being "extremely successful" with their AIOps investments to date, it makes sense to take a look at what they are doing. The fact that another 46% followed right behind with "very successful" makes the presumption of AIOps success a reasonable point of entry into discussion of capabilities, use cases, deployment considerations, and rewards.

Top capabilities

Asked to identify the capabilities that are most important to their implementation of AIOps, the extremely successful crowd landed pretty heavily on automation and action-oriented answers. The appearance of real-time CMDB accuracy in the top grouping, followed by dependency mapping in the next, indicates the likelihood of automated actions being undertaken. More on automation to follow.

The challenge of supporting legacy applications alongside modern containers and microservices across hybrid clouds is one shared by every group investing in AIOps. Enterprise complexity requires the assistance of AIOps to simply comprehend the expansive diversity of today's IT landscape.

Which of the following capabilities are most important in your AlOps implementation?





Top analytical capabilities

These capabilities are increasingly paired with automated actions and are trending in the direction of predictive and prescriptive analytics.

Across the board, both extremely and very successful AIOps implementations take advantage of many different types of AI, ML, and analytics. These capabilities are increasingly paired with automated actions and are trending in the direction of predictive and prescriptive analytics. The leading analytical capabilities today are, in order:

- Machine learning (ML) to baseline and recognize event patterns 48%
- Optimization algorithms to determine the best use of IT and financial resources 45%
- Topology-based analytics to map relationships and dependencies 41%
- Predictive algorithms that can identify potential issues before they occur 41%
- Comparators that understand similarities and differences 40%
- Observability that can detect unplanned patterns and properties 35%



Top use cases

One of the surprises to come out of this research was the surge of interest in IoT and operational technology (OT) in conjunction with AIOps. Fifty-five percent of all respondents indicated support of IoT and OT in their AIOps initiatives, and the highly successful groups were no exception. In fact, that came in as the top use case, which represents rapid growth over previous years of EMA research. Its prominence in AIOps research is a reflection of the power of ML to cost-effectively make sense of vast amounts of data in an industrial or enterprise IT setting.

A relative newcomer to this list of top use cases in AIOps is the appearance of SecOps. Again, the power of ML and AI to productively identify patterns and behavior is a natural remedy to many of the challenges of folding security into daily operations.

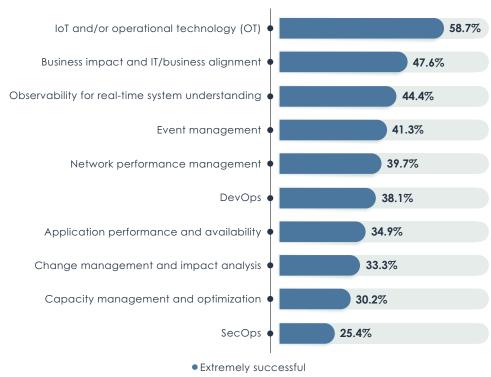
Less new, but on the rise, is DevOps, which is naturally entwined with AIOps implementations. The explanation is in large part due to two paradoxical trends. The move toward agile, decentralized development and DevOps teams is concurrent with digital transformation's requirement for cross-domain processes and enterprise-wide service visibility. AIOps can resolve that organizational tension.

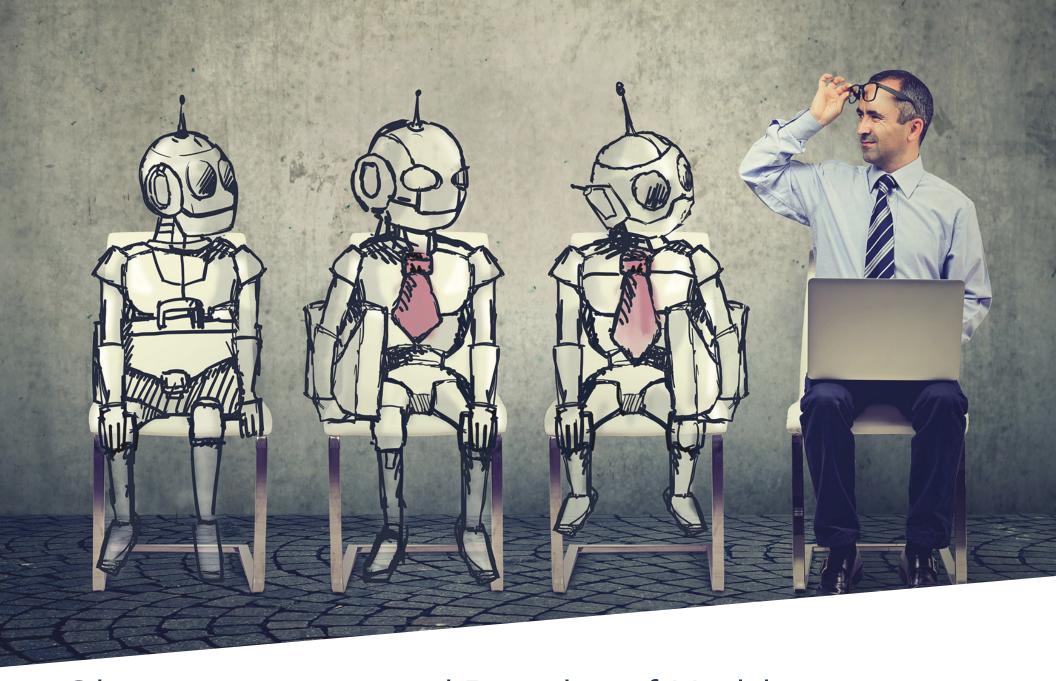
Adjacent stakeholders that feed or benefit from AIOps (in order) are:

- IoT/OT business initiatives beyond IT
- DevOps
- · Development directly
- Network operations
- Cloud migration and operations

- ITOM
- ITSM/ESM
- BizOps (business)
- SecOps
- SAM and ITAM
- APM

What use cases are active or planned in your AlOps implementation?





Characteristics and Results of Highly Successful AlOps Implementations



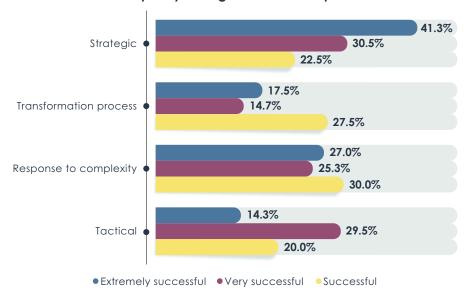
AlOps prioritization makes a big difference

In IT, as in life, success tends to follow the level of prioritization—and then effort—that is given to any initiative. As such, it's not surprising that those most successful with their AIOps implementations view AIOps as a strategic initiative across the enterprise.

When asked how to characterize the priority of AIOps in their organization, there is almost a descending staircase of response. Forty-one percent of the extremely successful group see it as strategic, followed by 31% of those who are verv successful, and 23% of the (merely) successful.

It is important to note that many AIOps initiatives that are tactical are also high-impact and high-value. Tactical initiatives can be very focused and highenergy. However, in general, excellence follows strategic prioritization and strategy-worthy investment.

How would you characterize the priority of AIOps in your organization? "AIOps is..."



Good things happen when digital transformation drives AIOps, including automation

A subtle but important point is the connection between AIOps and digital transformation. When asked, "How are digital transformation initiatives and AIOps related in your organization?" fully 65% of the extremely successful group responded that digital transformation drives their organization's AIOps strategy compared to only 15% of the successful group.

The connection between digital transformation as a driver of AIOps strategy and successful implementation is organizational. EMA research across practices identifies digital transformation as an almost universal drive. Well

underway before the turbo-pivot of 2020, digital transformation took on a new urgency with the tidal pull of work-from-anywhere and forced business agility.

When AIOps is part of what amounts to a fight for survival, it is likely to be wellfunded and well-provisioned. It is also more likely to receive the executive air cover that fuels success than a departmental initiative typically gets. It is also no surprise that automation itself is a well-established high priority for 76% of the high performing group compared to 35% of the less successful group. As will be discussed later, the effective combination of automation with AIOps can deliver a stunning one-two punch to operational inefficiency and cost.



Main drivers of AlOps

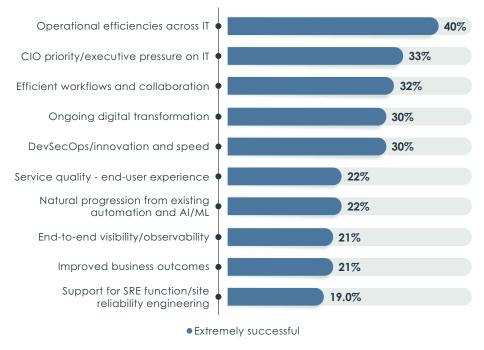
At 9%, cost savings was so far down on the list that it didn't make the cut of top AIOps drivers for the extremely successful group. It was, however, close to the top for the successful group at 32%.

Looking at the main drivers of AIOps gives a glimpse into what goes into high levels of success. The drivers tend to be positive, even visionary:

- They speak to an organization's focus on improvement through invention, as with DevSecOps innovation/speed and support for the nascent SRE function.
- Automation is broadly implied in operational efficiencies, observability, and efficient workflows/collaboration, as well as directly called out as a natural point of progression for AIOps.
- Strategic, enterprise-level interest and C-level support are represented in CIO priority and digital transformation with an eye toward improved business outcomes.

Less successful groups tend to major in the immediate and tactical rather than the strategic. Digital transformation is a notable exception to this generalization, with all groups ranking it as a top driver.

What were the main drivers for your organization's move to support AIOps?





There is no shortage of challenges

Challenges are always interesting. As illustrated in the chart, the differences in the challenges cited by the extremely successful and successful groups are significant. However, one challenge—conflicts within IT—shares almost identical ranking between the two groups. In every EMA practice, regarding every technology or initiative that has enterprise implications, conflict in IT makes the top five, if not the top three. It far exceeds organizational conflict between IT and other regimes. AIOps is no exception.

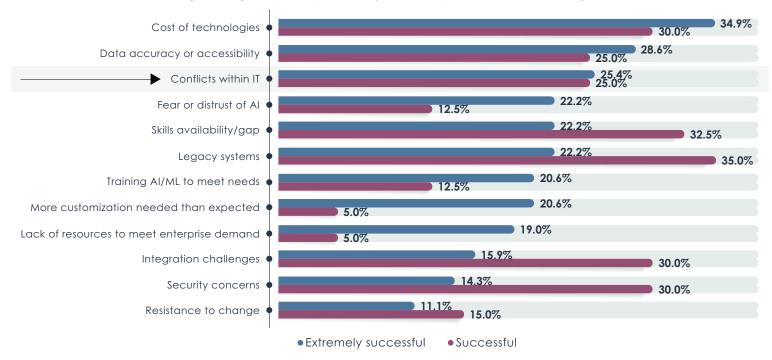
The reason for this conflict when it comes to AIOps, especially when combined with automation, is boundaries. The nature of AIOps is to introduce operational efficiencies within IT by way of cross-domain workflows and collaboration. Service quality that requires end-end observability and visibility

also requires the lowering of barriers. With pressure from the C-suite added to the mix, humans will predictably bare their fangs when the safety of their fenced domains is breached. That confrontational stance remains in place until it is eroded and eventually erased by success and the benefits that follow.

As for the rest of the list, the differences tend to split between challenges that are faced:

- · When an implementation is well underway, such as at the point that actions will be taken on the basis of AI
- Those that typically accompany early days, such as figuring out how to handle security and integration issues.

What are (or were) the primary challenges to AlOps initiatives in your organization?



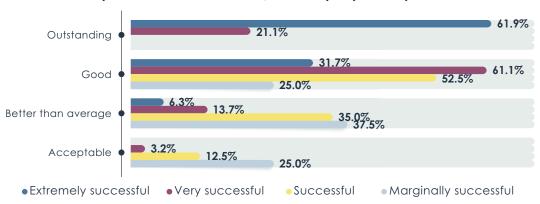


Results are evident in IT operations effectiveness and the quality of IT service

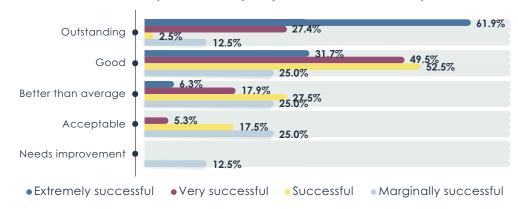
Sometimes a picture really is worth a ton of words. The two charts show a dramatic correlation between success in AIOps implementation and excellence in both IT effectiveness and the quality of service delivered by IT.

Note the significantly elevated response rating of the extremely successful group and the relationship between IT operations effectiveness and the resultant quality of service as delivered by IT. There is a statistically straight path from AIOps implementation to IT service quality, and it runs directly through IT operations.

How would you rate the effectiveness/efficiency of your IT operations efforts?



How would you rate the quality of service delivered by IT?





AlOps Benefits and Organizational Impacts

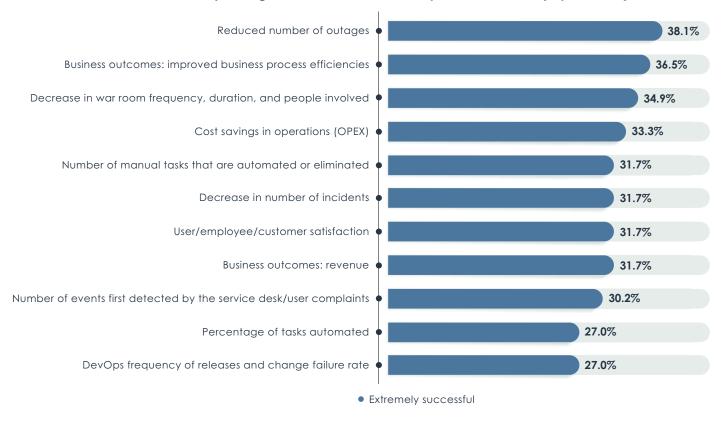


EMA experience finds that metrics and success tend to go together. When something matters, it gets measured. When something gets measured, it can be tracked and improved. AIOps gets measured—a lot. Asked to choose the metrics that are used to measure AIOps effectiveness, most respondents identified a large number. Although this chart shows the top choices of the

extremely successful group, it is also representative of the metrics in play across all groups.

Within a spread of ten percentage points, metrics that matter range across the tactical and strategic spectrum crossing IT and business boundaries. If it can be measured, it will be measured.

What metrics does your organization use to track AIOps effectiveness? (Top choices)



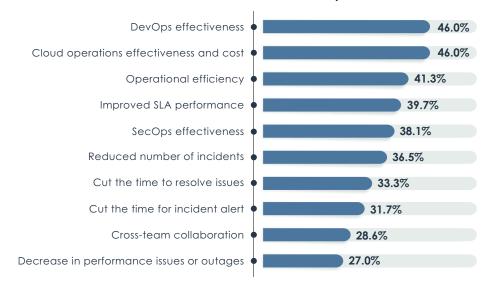


Benefits directly attributable to AlOps

The benefits of AIOps extend across the organization, with gains for both IT and the business. Research findings back up EMA field experience and conversations with IT practitioners providing some specifics. Once again, although the benefits listed are the high-achieving picks, they are representative of benefits across the board. In fact, in some categories, the successful group cited higher levels of benefits than their more successful peers. That difference tends to be in areas that are most likely to see improvements early on in AIOps implementations, such as reduced number of incidents and outages.

IT benefits

What benefits have resulted from AlOps so far?





Business benefits

A pleasant irony of AIOps is the fact that this fairly technical initiative can produce distinctly non-technical benefits. In fact, all groups report improved IT/business alignment, which is a natural outgrowth of improved service

quality and end-user experience. Although not every organization tracks the relationship between AIOps and business outcomes, when they do, the correlation is strong.

What business-related benefits are a result of AlOps?





Organizational changes and impact

As much as success breeds success and increased adoption, it also brings change. In the case of AIOps, the organizational changes and impacts are wideranging. Once again, IT/business alignment tops the chart, accompanied by an increase in cross-functional teams and collaboration.

However, it is quickly followed by some very specific organizational developments, including DevOps efficiency as a result of end-end visibility and automation, and the institution of Automation Centers of Excellence to

leverage automation advances. As AIOps and automation cross formerly siloed domains, budget and decision-making tend to rise higher in the organization as well.

The net result of these organizational gains is that AIOps has a dramatic impact on the relationship between IT and other parts of the business. That is true for everyone. However, when AIOps is extremely successful, the impact can go beyond being important to being transformational.

What organizational or process changes does AlOps tend to foster?



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





AlOps Platforms are a Critical Component of AlOps Success



Platform use and consolidation

For the purposes of this research, EMA defined an AIOps platform as "a vendorsupplied set of capabilities that allow the connection of multiple tools, teams, processes, and data sources for unified cross-domain insights and actions." With this definition in view:

- 46% responded that they use one platform
- 39% use more than one
- 15% indicated that, although they aren't currently using one, they plan to

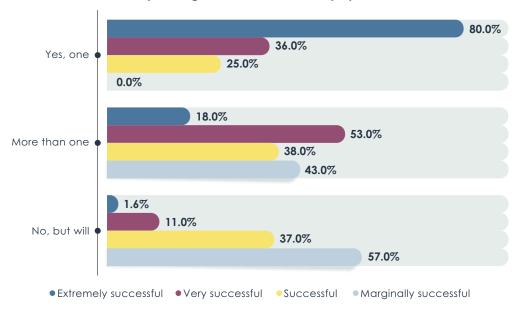
In other words, 100% of respondents view a platform as an integral component of an AIOps implementation. That view makes sense because the nature of AIOps is the taming of enterprise-wide complexity through visibility/ observability and cross-domain automation. In a world marked by siloed

specialization and toolsets, the overlay function that a platform provides is an absolute requirement for operational excellence.

The group of extremely successful AIOps implementations takes platform use to the next level. Fully 80% have managed to consolidate their AIOps initiatives to a single platform. No other group comes close to this degree of focus—and the finding was consistent across company size and industry. Clearly, there is a strong correlation between platform consolidation and AIOps success.

Note: Toolset consolidation—a worthy endeavor—is ongoing, but it can't take the place of platform functionality. Asked "Is there currently any effort to consolidate or reduce the number of toolsets?" 61% said "yes," 24% said "no," and 15% answered "No, but there should be."

Does your organization use an AlOps platform?





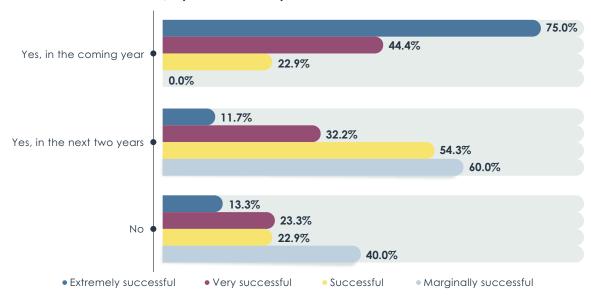
New Platform Buying Considerations

The hunt for new AIOps platforms is on

Eighty percent of all respondents indicate that they are looking for a new AIOps platform, half of them in the coming year. At first glance, it appears paradoxical that organizations that are the most successful with AIOps are also far in

the lead of those actively looking for a new platform. A closer look makes sense of the fact and gives shape to the value proposition.

Is a new/replacement AIOps solution under consideration?





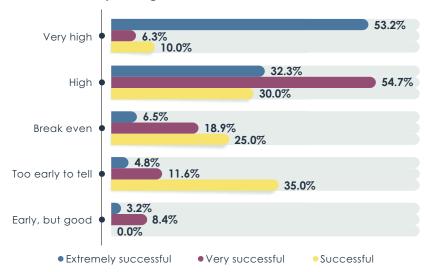
If you're extremely successful, why are you looking for a new AlOps platform?

A couple of points underlie the fact that extremely successful AIOps organizations are actively pursuing new platforms:

- 1. The highest levels of AIOps success correlate with implementation maturity. It makes sense that the more experience a person or an organization has, the better they will be at the discipline. Fifty-four percent of the extremely successful group have had AIOps initiatives in place for two or more years compared to 32% of the very successful group, 15% of the successful, and 13% of those who were only marginally successful. Organizations that have relatively mature AIOps initiatives have reached the point of knowing what is theoretically possible but inhibited by current technology.
- 2. The highest performing groups have already recognized very strong return on their investment. They know firsthand that AIOps returns very high value relative to its cost.

The combination of very high success and value with experience and vision explains the apparent paradox of the new platform search.

How would you characterize the value AlOps brings to your organization relative to the cost?





What are the top reasons that highly successful organizations look for a new AlOps solution?

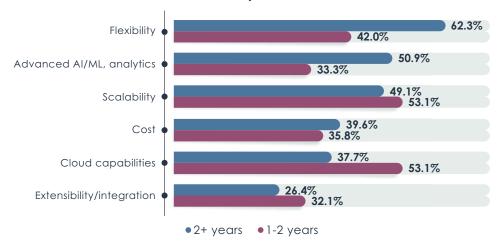
When asked, "Which factors are important in an AIOps solution or platform?" respondents checked off a long laundry list of requirements. The fact is that AIOps encompasses a wide range of highly beneficial capabilities, all of which can make a difference. However, when limited to choosing only three responses, priorities come into focus.

One of the interesting ways to look at the data from this question is to compare similarities and differences of responses between mature AIOps implementations (2+ years) and newer implementations (1-2 years).

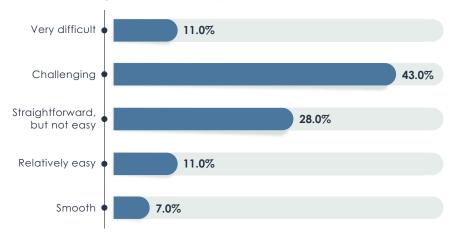
Informed by experience, driven by a realistic appreciation for AIOps' potential, and encouraged by substantial benefits already realized, the mature implementations selected flexibility as the top reason for considering a new platform, followed by advanced AI/ML and scalability. Experience develops an informed view of the potential AIOps holds on a flexible platform and an understanding of the value that AI/ML can deliver.

Note: Implementation of an AIOps platform is not generally known for being easy. However, as the rest of the findings show, the effort is well worthwhile for returning operational, organizational, and financial benefits.

You indicated that a replacement AlOps solution is under consideration. What are the top three reasons?



How straightforward or complex was the implementation?





Buying and budgets

Both AIOps and automation rise to the level of strategic initiative in most organizations. Accordingly, executives, especially the CIO, are involved in the decision-making process—frequently driving it. Asked "Who drives investments in AI/Ops?" and "Who drives investments in automation?" returned:

AIOps: Executives 49%, ITOps 27%, COE and technical 16%, Other 8%

Automation: Executives 53%, ITOps 19%, COE and technical 17%, Other 10%

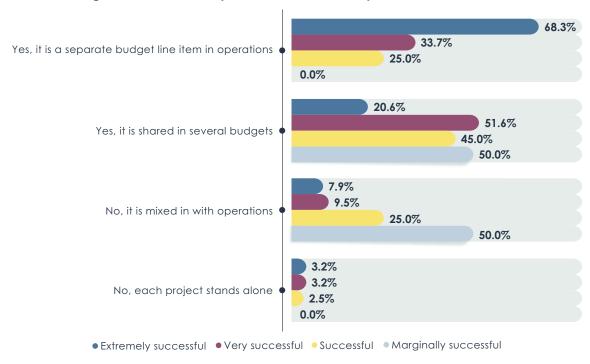
At 13%, CFOs made a pronounced appearance as the driver of automation investments (included in the executive count above) and quite absent as a presence in AIOps.

When it came to budgets, 82% of respondents said that there is a budget set aside for AIOps and automation initiatives. There was an exact split between those who said it is a separate line item in operations and those who said it is spread across several budgets.

Once again, it is interesting to look at these results through the lens of success. The visibility and commitment of a separate budget line item accompanies success. Whether it is cause, effect, or a circular mixture of both is unclear.

Note: Proof of Concept (PoC) was important to every sales cycle. They were overwhelmingly time-consuming, with 35% taking 7-12 months and 30% taking longer than a year.

Is there a budget set aside for AIOps or advanced IT analytics/AI and automation initiatives?





AlOps by any Other Name Will Probably Involve Automation



What's in a name?

It's always interesting to probe the relationship between vendor marketing and the market's understanding of those efforts. AIOps as a practice is both old and new.

- AIOps is old in the sense that the application of sophisticated analytics to complex operational issues has been an ongoing effort for years. In fact, EMA has been diligently tracking this market for 10 years under the category title of "Advanced IT Analytics."
- AIOps as a recognized market name is new, having been coined by Gartner in 2016.

In practice, AIOps is relatively new to most IT organizations and very new to many. As it turns out, the term AIOps has wide but not universal acceptance.

How does your organization refer to Al/analytics and ML-assisted automation?



The automation connection

The AIOps/automation connection is such a natural one as to be axiomatic. After all, what is the purpose of knowing in the absence of doing? If AI/ML offers advanced knowledge and insight as a basis for taking action, the ability to automate those actions is a game-changer, if not quite a no-brainer.

Asked, "What does the term AIOps mean to you? Please select the answer that is closest to your understanding," more than half of the respondents directly associated automation with AIOps.

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

In fact, when asked to characterize the priority of automation in their organization, more than 50% of all respondents said that it is a C-suite initiative, strategic across the organization. AIOps only rang in with a 32% strategic rating.

By now it should come as no surprise that the group who self-reported as extremely successful with their AIOps initiative beat their peers in automation as well: 76% rated automation as a strategic priority across the enterprise. It is the combination of AIOps and automation that transforms the potential of AIOps into very real—and frequently transformative—enterprise power.

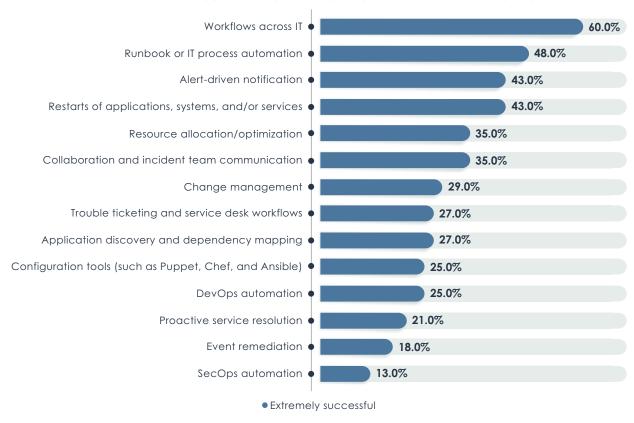


Automations supported in AlOps implementation

There is little difference between the extremely successful group and the others when it comes to the types of automations that are supported in AIOps implementations. All groups place workflows and process automations at the top of their lists.

Where they differ is in the number of automations that are named and the rate at which they are supported. There is a direct correlation between AIOps success and automation, as well as between AIOps maturity and automation.

What automations are supported in your AIOps implementation, currently or planned?





Success breeds more automation

EMA field experience and research data show that automation is something of an acquired taste. Although it is almost always a C-level initiative and a favorite of CFOs as well as CIOs, automation is not an immediate hit with IT. Part distrust, part insecurity, and a large part human resistance to change makes the organizational drag on automation adoption real. It can't just be mandated away.

What does work is time and experience. Success in automation breeds more automation. In a cycle of adoption, success, and extension, experience develops an organization's ability to productively consume and exploit automation. For this reason, it is important to choose an AIOps platform that can adaptively flex the level of automation to keep pace with the people being served.





EMA Perspective



AIOps is real. It is not a simple proposition, but neither is it addressing simple issues. Despite the challenging nature of implementation, AIOps initiatives are almost universally successful, returning very high value across organizations in all industries, in companies of all sizes—at the very least, paying for itself.

Done right, the impact on the relationship between IT and other parts of the business can be transformative partly because improvements in IT/ business alignment are almost unavoidable. A large part of doing AIOps right is automation. Not since chocolate and peanut butter has there been a more natural pairing than AIOps and automation. However, in this case, the pairing comes close to being a survival mechanism in a world where success requires business agility and rock-solid IT service.

The case for AIOps and its attendant automation is so clear and such an exercise in common sense that EMA expects the name to quietly go away over time. The capabilities—new today—will just become an everyday part of everyday IT operations. However, that time is still quite a bit further out in time.

Today, vendor capabilities far exceed common enterprise demands. Actual deployments and overall use currently lag well behind the potential of existing platforms. That distance is largely due to the relative newness of the AIOps/ automation discipline, and one which will diminish quickly over time.

Enterprises need to start their search for an AIOps platform by looking within. What's in place today that's working well, and where is there room for significant improvements? A good platform will incorporate the tools and processes that are already working well in addition to having the flexibility to continually improve and extend capabilities.

The basics are universal. Flexibility, scalability, and extensibility are critical characteristics for every platform, for every organization. The "proof" is that these factors are the top reasons that organizations—extremely successful in their AIOps implementations, receiving high value relative to cost, with transformative impact—are now actively looking for a new AIOps platform. The reason? In uncertain times, AI, automation, complexity, innovation, and change will remain IT constants.







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