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The State of IT Automation:
EMA Research Findings

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EMA surveyed 400 IT professionals globally to understand the role that advanced technologies, such as automation and AI, play in the quality of services IT delivers to the enterprise. Not surprisingly, IT automation has a far-reaching impact across functions, offering benefits that are highly valued up and down the chain of command. In fact, EMA research shows that IT automation, done right, has the realized potential of being transformational to the relationship of IT and its business stakeholders, as well as to the business itself. Although potentially game-changing, these advances are not challenge-free. Technological complexity, functional understanding, resource allocation, and simple resistance to change all exert drag on adoption. This paper takes a research-based look at the adoption, maturity, challenges, and near-term plans for IT automation.

AUTOMATION AS A COMPETITIVE ADVANTAGE

If IT automation means that IT can at long last do more with less (and it does), then automation conveys a competitive advantage to those who do it well. That advantage grows with extended and deepened levels of adoption. EMA research shows a direct correlation between successful implementation of automation and the rate of adoption. As success breeds success, so also does automation breed automation. For this reason, the gap between the automation haves and have-nots will only increase in the absence of making IT automation a strategic and funded priority.

When asked "To what degree have you implemented automation in your organization?" only 4% reported having no plans to automate anytime soon. The majority were early on, either in the planning stage (30%) or having automated simple tasks (22%). Bolder steps taken by another 19% result in the automation of some multistep processes. In the meantime, 26% of the respondents were already well on their way, enjoying the benefits of advanced automation and the competitive advantage that automation brings with it.
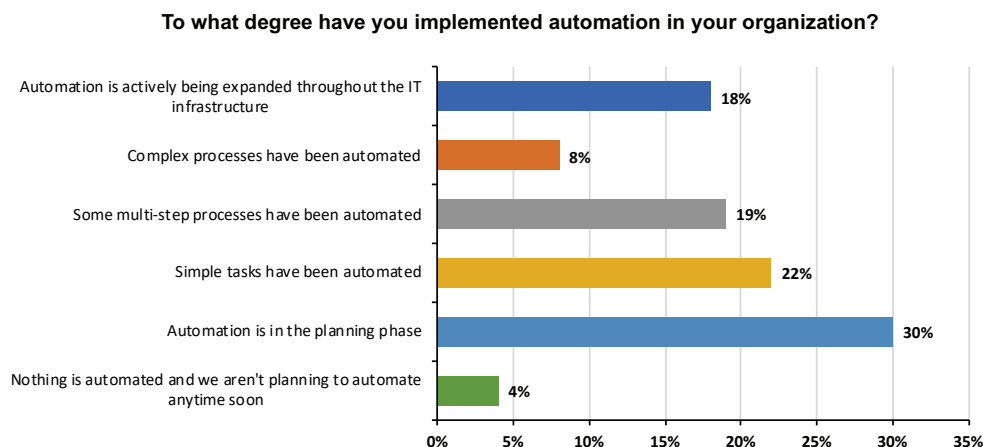
To what degree have you implemented automation in your organization?

Category	Percentage
Automation is actively being expanded throughout the IT infrastructure	18%
Complex processes have been automated	8%
Some multi-step processes have been automated	19%
Simple tasks have been automated	22%
Automation is in the planning phase	30%
Nothing is automated and we aren't planning to automate anytime soon	4%

Figure 1: While 30% have automation in the planning stage and only 4% have no plans, 26% are already at advanced levels of automation.

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THE AI/ANALYTICS CONNECTION AND THE HUMAN SIDE OF AUTOMATION

Grouping the responses from Figure 1 into levels of automation results as follows:

- **High**: complex processes + automation is actively being expanded (26%)
- **Medium**: simple tasks + some multistep processes (41%)
- **Low**: nothing is automated + automation is in the planning stage (34%)

High levels of automation correlated strongly with advanced use of AI/analytics. Organizations with high levels of automation were more likely to have high investments in AI/analytics and to allow AI/analytics to drive their automation at a much higher rate than average. When AI and analytics are viewed as the enablers of action, automation becomes the doer of those actions. The combination consistently returns superior benefits from both automation and AI/analytics deployments.

Figure 2 illustrates the divide between organizations that exploit automation wherever possible and those that take more hesitant steps. It is important that automation be implemented on a scale and at a pace that can be consumed by the culture. That pace and scale will change over time.

EMA research and experience clearly show that as organizations experience success with their automation initiatives the trust level rises, followed by increasing use of automation. Because the human element is a critical factor in both the short- and long-term success of these projects, it must be planned into implementations, leaving room to grow over time.

To what degree does your organization enable automated actions to be taken based on AI/analytics recommendations?
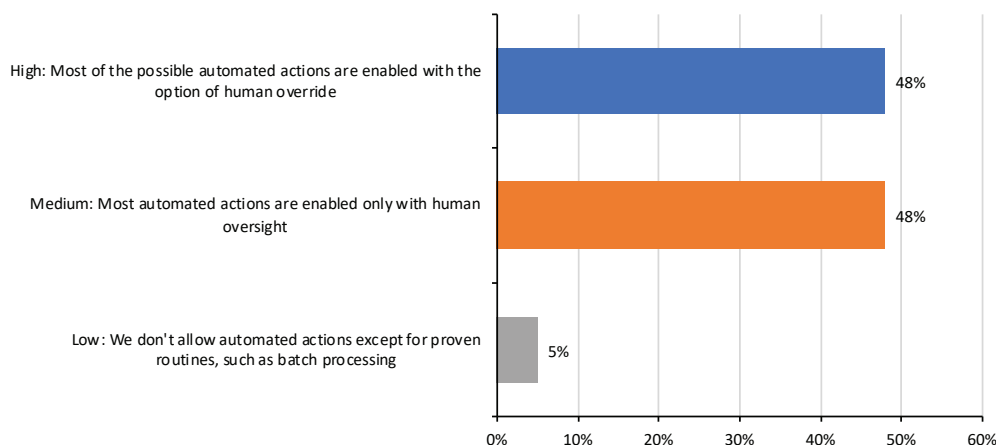

High: Most of the possible automated actions are enabled with the option of human override — 48%

Medium: Most automated actions are enabled only with human oversight — 48%

Low: We don't allow automated actions except for proven routines, such as batch processing — 5%

Figure 2: When it comes to automated actions driven by AI and analytics, most organizations require some level of human oversight.

IT AUTOMATION IS AN EXECUTIVE PLAY

Analysis of the findings showed that organizations with high levels of automation were predictably experiencing higher levels of success, as measured by both technical and business metrics. High levels of automation also predict a high level of executive oversight and involvement. The reasons are twofold: these high-visibility initiatives bring high business-level benefits, and the transformative potential of advanced automation absolutely requires the crossing of silos across functions.

The ability to cross and even abolish boundaries calls for an arbitrating agent with the power to enforce the enterprise equivalent of sharing toys and playing nicely. This fact of enterprise life is born out in the top automation priorities.

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The top automation priorities EMA identified in the research were almost exclusively those that must cross "natural" organizational boundaries in order to succeed. When EMA asked respondents about their critical automation priorities, in order, the top ten were:

1. IT process automation (ITPA)/runbook
2. Automation in support of IoT
3. Workflow automation combined with social IT
4. Incident resolution
5. Alert-driven notification
6. Cross-IT change management
7. Service request management
8. SecOps/security-related automation
9. Enterprise service management (ESM)
10. Configuration management and infrastructure provisioning

These priorities all play to C-suite interests of operational efficiency and cost effectiveness. IT automation has the clear potential to eliminate operational redundancies and friction between functions.

The top automation priorities also reflect the fact that the pace of change, the scope of impact, and the complexity of infrastructure have combined to far outstrip the human ability to command order out of chaos. Digital transformation guarantees that the impact and complexity of IT will do nothing but increase rapidly over time, demanding seamless workflows between such areas as DevOps, endpoint management, IT asset management, change management, problem/availability management, and incident/request management.

Example: Critical incident response teams dealing with infrastructure complexity, scope, and scale
Incident response is one universal example from the top automation priorities. EMA research shows that today's critical incident response team averages roughly 20 people who represent more than 15 functional areas and disciplines. What's more, the research shows that it takes an average of 30 minutes to more than an hour to simply assemble that team before beginning to work on the problem. Research shows that automation can cut that number to five minutes.

Most companies (91%) use war room-related teams, processes, and capabilities when preventive diagnostics flag a significant problem before it causes major disruptions. Although it is difficult to quantify the savings of an incident that never happens, it is even more difficult to disqualify from consideration those incidents that automation averted.

On a daily basis, automation gives frontline service desk operators the knowledge and tools to resolve issues without ever having to assemble teams or search for answers across multiple functions and constituents. In a world where minutes of downtime can be measured in significant hits to the bottom line, automation is conceptually a no-brainer. In the cold, hard light of implementation, automation demands a cross-domain blindness to siloes that only executive influence can establish and enforce.

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IT AUTOMATION: WHERE ADVANTAGES SOUGHT MEET BENEFITS REALIZED

When queried about the motivation behind the top automation priorities, responses were consistent across industries, with minimal variation between large and midsized firms. As it turns out, the benefits actually realized in automation deployments map very closely to the intended outcomes. Although those with high levels of automation reaped the largest rewards, respondents at all levels of active automation averaged at least five specific benefits from their investments. Asked to narrow benefits to the top two gave the leading benefits represented in Figure 3.

To date, what are the top two benefits achieved from your current automation investments?

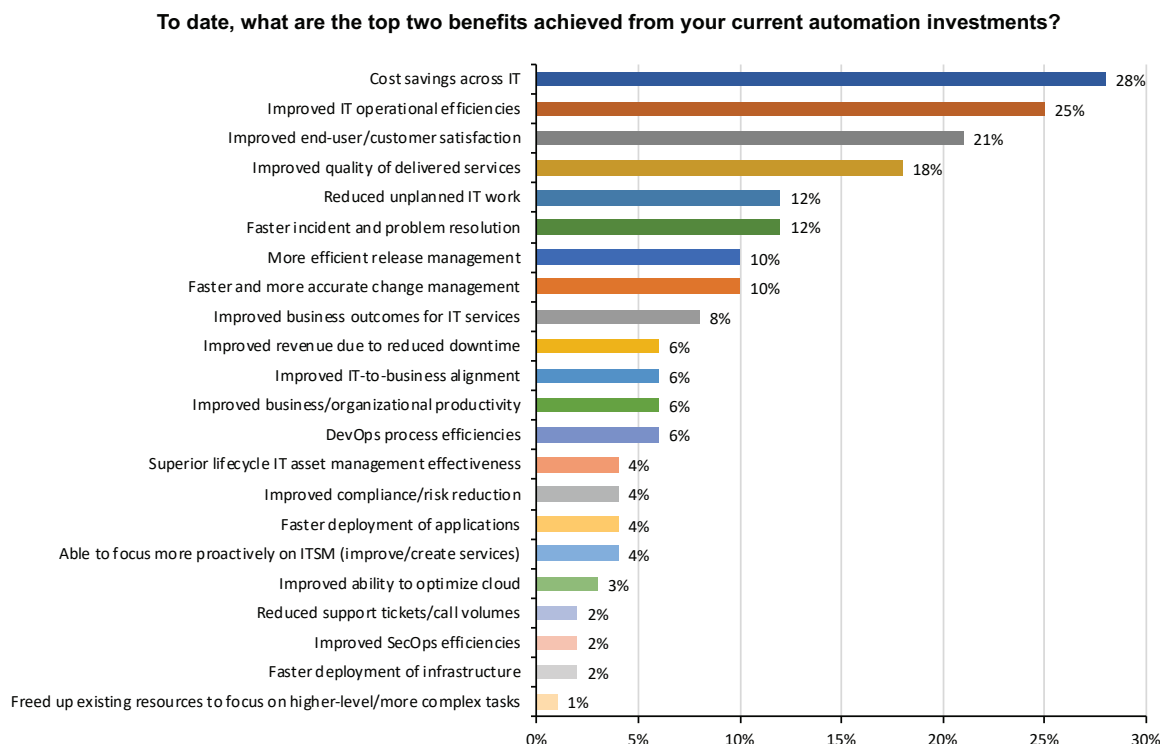| Benefit	Percentage
Cost savings across IT	28%
Improved IT operational efficiencies	25%
Improved end-user/customer satisfaction	21%
Improved quality of delivered services	18%
Reduced unplanned IT work	12%
Faster incident and problem resolution	12%
More efficient release management	10%
Faster and more accurate change management	10%
Improved business outcomes for IT services	8%
Improved revenue due to reduced downtime	6%
Improved IT-to-business alignment	6%
Improved business/organizational productivity	6%
DevOps process efficiencies	6%
Superior lifecycle IT asset management effectiveness	4%
Improved compliance/risk reduction	4%
Faster deployment of applications	4%
Able to focus more proactively on ITSM (improve/create services)	4%
Improved ability to optimize cloud	3%
Reduced support tickets/call volumes	2%
Improved SecOps efficiencies	2%
Faster deployment of infrastructure	2%
Freed up existing resources to focus on higher-level/more complex tasks	1%

Figure 3: The top benefits of automation were: cost savings across IT, improved IT operational efficiencies, improved end-user/customer satisfaction (which ties in well with improved quality of delivered services).

It is worth noting that IT executives cited improved end-user satisfaction at 43% vs. a 33% average. They also selected improved IT efficiencies at 56% vs. a 43% average response rate. Automation is a clear winner with the C-suite, both IT and non-IT executives, because it strikes to the ability to run the business quickly, responsively, and efficiently. Anything already in place will run better and faster, including:

- Technical management
- IT operations management
- IT service continuity management

- Service-level management
- Financial management for IT services
- Enterprise service management non-IT

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AUTOMATION SUCCESS RATE IS HIGH BUT NOT WITHOUT OBSTACLES

The success rate is high: 66% of the IT professionals viewed their automation initiatives to be "extremely successful" or "very successful," with 26% at "successful," and only a reluctant 8% were "somewhat successful." Zero percent were unsuccessful. The self-reported success rate coupled with the solid stable of benefits realized makes automation an almost guaranteed winner as an enterprise initiative. However, it is not a problem-free venture. Asked to name the top three obstacles on the automation journey, the respondents were not shy.

What were the three top obstacles in deploying or supporting more advanced levels of automation?

Obstacle	%
Cost/budgeting issues	21%
Resistance to change	15%
Lack of executive support	14%
Product costs and complexity	14%
Lack of integration with current tools	13%
Security/compliance concerns	13%
Organizational conflicts within IT	12%
Lack of financial and human resources	12%
Lack of effective skillsets (automation programming and processes)	12%
Lack of visibility into the automation infrastructure	11%
Too much customization required	11%
Understanding and setting use case priorities	11%
Bad data/lack of data quality	11%
Level of difficulty and time-consuming deployment	10%
Fear of job loss/lack of trust	10%
Skills and processes for two-way communication between IT and business	10%
Product limitations don't allow for more advanced levels	9%
Organizational change and turf issues	9%
Keeping automation levels current and consistent	9%
Lack of appropriate intelligent automation products to choose from	9%
Lack of overarching automation strategy and architecture	8%
Proliferation of siloed automation tools across IT departments	8%
Products can't scale to meet needs	7%
No significant obstacles	3%
Other	0%

■ % Valid Cases (Mentions / Valid Cases)

Figure 4: Cost/budgeting clearly led as obstacles to adopting automation, followed by resistance to change, and a wide field of close contenders.

There were role-differentiated responses in the obstacles that were ranked as follows:

- IT executives: security/compliance issues topped the list of obstacles
- ITSM core professionals: organizational conflicts tied with product costs and product complexity
- Beyond the service desk: cost/budget issues were dramatically in first place
- Non-IT: lack of effective skillsets

Change trumps cost
Resistance to change grabbed a healthy 15% share of the obstacle field. Taken together, its cousins organizational conflicts within IT, organizational and turf issues, and fear of job loss/lack of trust racked up an impressive 31%. EMA research and field experience answer these obstacles with two resounding certitudes: executive-level sponsorship, support, encouragement, and enforcement are essential, and success breeds success. Automation breeds trust and success, which fuel further adoption.

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RECOMMENDATIONS FOR GOING FORWARD WITH IT AUTOMATION

The first step in successful IT automation is a human one. EMA research clearly shows that automation is an acquired taste. What begins with fear and resistance to change quickly morphs into acceptance and extended adoptions. The most successful IT automation initiatives are those that have the following characteristics:

- A clear purpose/vision/need
- A strategy and process to get there
- Strong executive support
- An immediate high-impact use case
- A well-educated user community brought into the initiative as early and thoroughly as possible
- •A realistic project plan with metrics in place to measure progress
- Cross-silo processes and standards
- Adequate skill sets in place
- Ongoing communication
- Continual improvement
- A pace of change and automation that matches the cultural appetite for adoption

Respondents were clear in urging peers to be prepared for changes in how process-related initiatives impact the organization. As automation takes root in a culture, innovative ways to work together in new and established processes become apparent. Organizations that can adapt to capitalize on improvements will continue to innovate with automation and reap the benefits of continual improvement.

EMA CONCLUSION

A final word of research-based advice: implement IT automation at a pace that your organization can productively absorb. Build on successes as they occur to grow a culture that welcomes automation. More than half of those organizations that have implemented IT automation only allow actions to be taken with human oversight. Not surprisingly, those organizations with high levels of automation eliminate human intervention wherever possible.

Because it's not always possible—or even desirable—to eliminate human action, it makes sense to build processes that can accommodate an organization's growing acceptance of automation. Build systems that can grow with the culture and the business. Research findings and field experience combine to assure a harvest of efficiencies for organizations that proceed with bold vision and reasoned steps on the continuum of IT automation.

ABOUT RESOLVE

This report is based on a vendor-neutral, independent research project conducted by EMA to determine the role advanced technologies are playing in shaping IT today and moving forward. Resolve Systems (www.resolve.io) was one of the sponsors who made this EMA research possible. Resolve offers a leading IT automation and orchestration platform, powering more than one million automations every day from simple, repetitive tasks to complex, cross-domain processes that go well beyond what many consider to be candidates for automation. With more than a decade of automation expertise, Resolve's platform is purpose-built to enable today's ITOps, NetOps, and SecOps teams to meet the growing demands on IT, achieve new levels of efficiency and cost metrics, and drastically improve service levels through the power of automation. Learn more at resolve.io.

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