

EMA Research Report: What Is the Future of IT Service Management?

By Dennis Nils Drogseth

An ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) Research Report

March 2017

This research has been sponsored by:

 **BLAZENT**



ivanti



IT & DATA MANAGEMENT RESEARCH,
INDUSTRY ANALYSIS & CONSULTING

EMA Research Report: What Is the Future of IT Service Management?

Table of Contents

Executive Introduction	1
What Is IT Service Management?	1
Highlights	1
Methodology and Demographics	2
Organization and Growth.....	3
ITSM Growth	3
ITSM Functional Priorities.....	5
Change Management: CMDB/CMS, ADDM, and Automation.....	6
Service Catalog and the Move to Enterprise Services	9
Mobile, Endpoint, and Self-Service Priorities	10
The Move to Cloud and Agile.....	12
Best Practices and Success Factors	14
Success Factors	15
Conclusion	16

EMA Research Report: What Is the Future of IT Service Management?

Executive Introduction

IT service management (ITSM) is a term that, like many terms in service management, carries with it a diverse identity—depending on whom you talk to (in role and organization) as well as on history and IT-related politics. On the one hand, ITSM is often linked to old-guard values associated with elaborate, time-consuming processes for managing change and traditional forms of governance that slow down IT resilience in the face of shifting business pressures and demands. On the other hand, ITSM is increasingly viewed as a dynamic center for expanding IT value, impact, and effectiveness in support of broader business requirements—in combination with operations, development, and business stakeholders.

Can both views be right? Again, it depends on whom you ask.

But the data in this research rather emphatically supports the latter view—that IT service management is more needed than ever as IT seeks to become a truly service-aware, business-aligned, enterprise-facing organization. This, as opposed to a bastion of technologists isolated in silos who define their value almost exclusively in terms of “things” rather than the people they serve.

What Is IT Service Management?

To be honest, one question we *didn't* ask was: What is IT service management? Based on ongoing dialogs and readings outside of this research, perhaps the most frequent industry answer is that ITSM is a process-based practice designed to align the delivery of information technology services with the needs of the enterprise and IT customers. Many ITSM descriptions rely heavily on IT Infrastructure Library (ITIL) roots for ITSM, as well as other best practices focused on process.

However, this research approached ITSM via a triangle of vectors recognizing the importance of *technology* and *organization*, as well as *process* (including dialog and communication). We believe that ITSM has evolved to reflect multiple interdependencies that can only be understood by this multifaceted approach—and that this approach is also the best way to understand future ITSM directions. We even went beyond service-desk-specific technologies and looked at trends such as cloud and agile; big data and analytics; automation and mobile—along with examining questions relating to best practices, organizational priorities, and communication issues.

This research approached ITSM via a triangle of vectors recognizing the importance of technology and organization, as well as process (including dialog and communication).

Highlights

- Nearly 50% of ITSM organizations are slated for growth, and 35% remain the same size.
- Executive suite and operations lead in coordinating broad ITSM strategies.
- Only 11% of respondents have no plans to consolidate IT and non-IT customer service management.
- Improved user experience management and integrated operations for incident, problem, and change management are leading ITSM strategic priorities.
- Self-service, project management, and CMDB/CMS/ADDM are leading functional priorities.
- 55% of respondents view big data analytics for IT as a priority shared by ITSM and operations.
- 80% of respondents own or are about to purchase a CMDB or CMS-related solution—with an average of three active or planned use cases.
 - Of these, 81% plan to federate.
- 63% are using mobile in support of ITSM professionals.

EMA Research Report: What Is the Future of IT Service Management?

- 50% offer mobile support for ITSM/consumer interactions, and of these, 78% see meaningful or dramatic improvements in service delivery.
- Cloud is spurring integrated operations, runbook automation/IT process automation (ITPA), and automation for configuration and change management.
- 80% have plans to integrate ITSM and DevOps (agile).
 - Of these, 53% are creating a fast track for agile.
- 43% are actively using ITIL best practices, and of these, 71% view ITIL as “essential” or “very important” for their organization.

Methodology and Demographics

In February of 2015, Enterprise Management Associates (EMA) reached out to 270 respondents—including 158 in North America, 100 in Europe (divided between England, France, and Germany), seven in Central and South America, and five in the Pacific Rim. For reasons of consistency in terms of IT outlook and requirements, we eliminated companies with fewer than 500 employees. We also eliminated all respondents not actively engaged in ITSM in some capacity. Respondents’ roles ranged from executive and managerial leadership to Level 1 and Level 2 service desk professionals to other roles such as “architect” or “endpoint” management. We also included “operations” and “development” respondents to better assess the relationships between ITSM teams and the broader IT population. Comparisons with prior ITSM research are based on a report done between EMA and CXP, “The Changing Role of the Service Desk in the Age of Cloud and Agile,” April 2013.

Some of the demographic highlights include the following:

- 50% of respondents were director-level or above.
- Very large enterprises were the dominant single group (27%), but 32% had fewer than 2500 employees (see Figure 1).
- Average revenue was around \$1 billion, and the average IT budget was just under \$20 million.
- 35% of IT budgets grew more than 10%, and only 8% of budgets declined.
- Lead verticals were finance, healthcare, manufacturing, and retail (in that order).

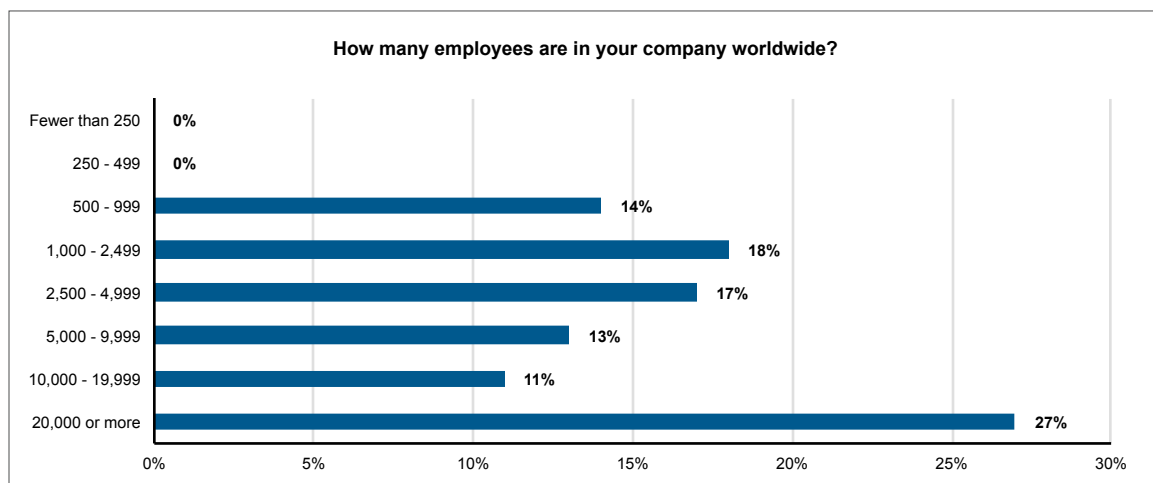


Figure 1. The respondent base included a well-balanced mix of company sizes, with significant large-enterprise presence, as well as meaningful populations in smaller mid-tier IT companies. (Sample Size = 270)

Organization and Growth

Who is most likely to drive IT service management organizations? Overwhelmingly, the answer was either the executive suite or operations (see Figure 2). This is further confirmation that ITSM belongs in a larger IT context rather than as a niche organization centered purely within the service desk.

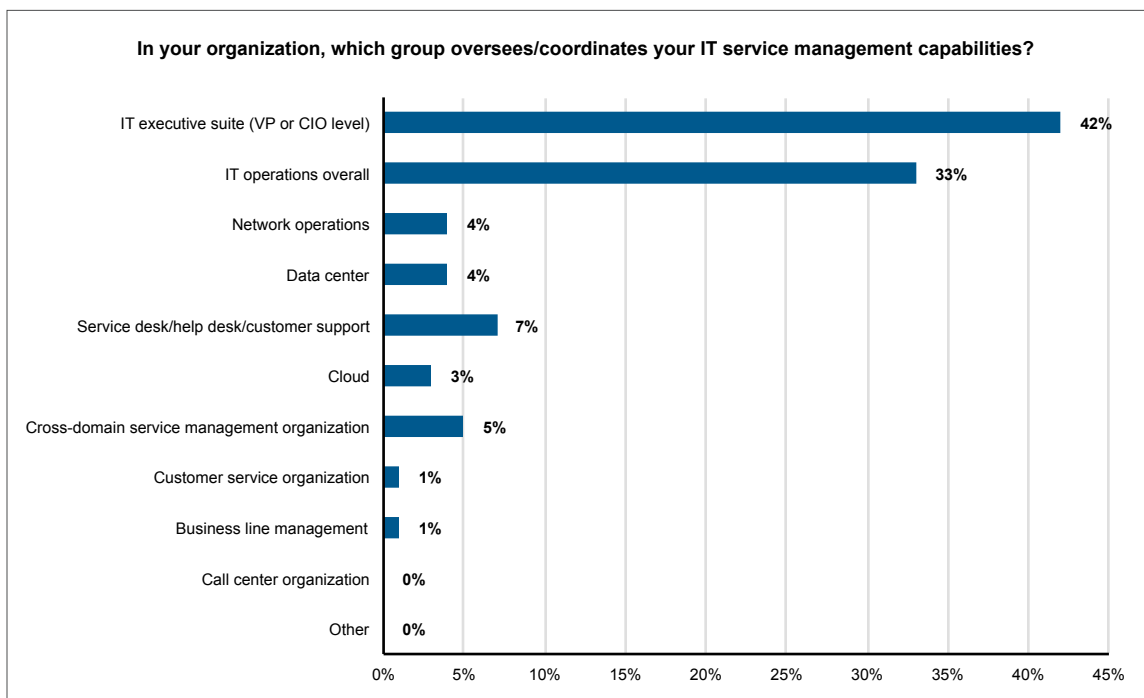


Figure 2. In most cases, either the executive suite or operations drives ITSM initiatives. These answers combine to represent 75% of interviewee responses. This underscores the more pervasive role that ITSM can and should play across IT as a whole. (Sample Size = 270)

ITSM organizations are also far more actively taking on support for enterprise-related services. The current research data indicates that only 11% have no plans to manage IT and non-IT service support or customer-relationship management as a single group—up significantly from just two years ago when 25% had no plans.

ITSM Growth

Across the broader respondent base, roughly 49% of respondents were slated for growth in their ITSM teams while 35% remained the same and 15% were downsizing for various reasons. Since many of these changes were driven by changes in overall company size, growth was not the sole indicator of ITSM success—as we'll see later in this report. Figure 3 provides a look at top drivers for ITSM team growth. As you can see, the top reasons were the following:

1. Growth in overall company size
2. Assuming more responsibilities across the lines of business
3. Expanding process support and outreach (ITIL or otherwise)
4. Cloud has required an increase in ITSM support

Who is most likely to drive IT service management organizations? Overwhelmingly, the answer was either the executive suite or operations.

EMA Research Report: What Is the Future of IT Service Management?

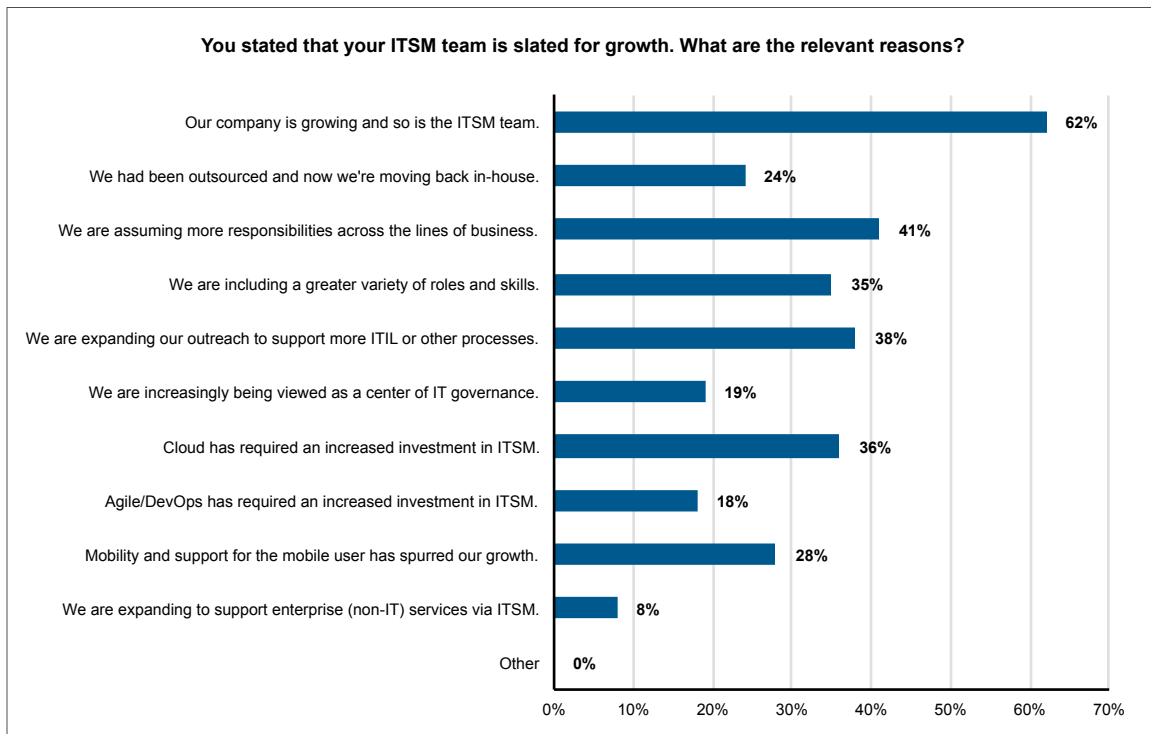


Figure 3. Growth in company size and increased responsibilities across the lines of business were the top two drivers for ITSM growth. (Sample Size = 136, Valid Cases = 136)

When respondents were asked about reasons for ITSM downsizing, the top drivers were identified as the following:

1. Being outsourced in part
2. Lines of business taking more ownership
3. Cloud is shifting responsibilities away from ITSM

However, there was a set of responses indicating that company downsizing was also a leading factor.

When examining “growth ITSM” versus those that stayed the same or downsized, some of the salient attributes for *growth* were:

- More likely to see an increase in budget and be “extremely successful” in their ITSM initiative
- More likely to have progressed with integrating IT/enterprise service desk
- More likely to prioritize DevOps/agile and user-experience management
- More likely to own a CMDB/CMS and favor federation
- More likely to leverage mobile for ITSM professionals and service consumers
- More likely to see ITIL as increasing in importance due to trends like cloud and agile

EMA Research Report: What Is the Future of IT Service Management?

ITSM Functional Priorities

Strategic priorities for ITSM growth also featured integrated operations for various values, as is shown in Figure 4. The top five were the following:

1. Improved end-user experience (internal to the business)
2. Improved operations-to-service-desk integrations for incident and problem management
3. Improved operations-to-service-desk integrations for configuration and change management
4. Improved support for the move to internal/external cloud
5. Improved customer/supply-chain end-user experience

Strategic priorities for ITSM growth also featured integrated operations for various values.

It would be no stretch of logic to claim that all five of these require integrated operational insights to be effective, as optimizing any kind of end-user experience, as well as insights into cloud adoption, should ideally include strong operational insights. Significantly, these priorities were almost a one-to-one pattern match with the ITSM priorities EMA found in 2013 research, suggesting that these broader strategic goals are not short-term but rather long-term priorities with transformational overtones.

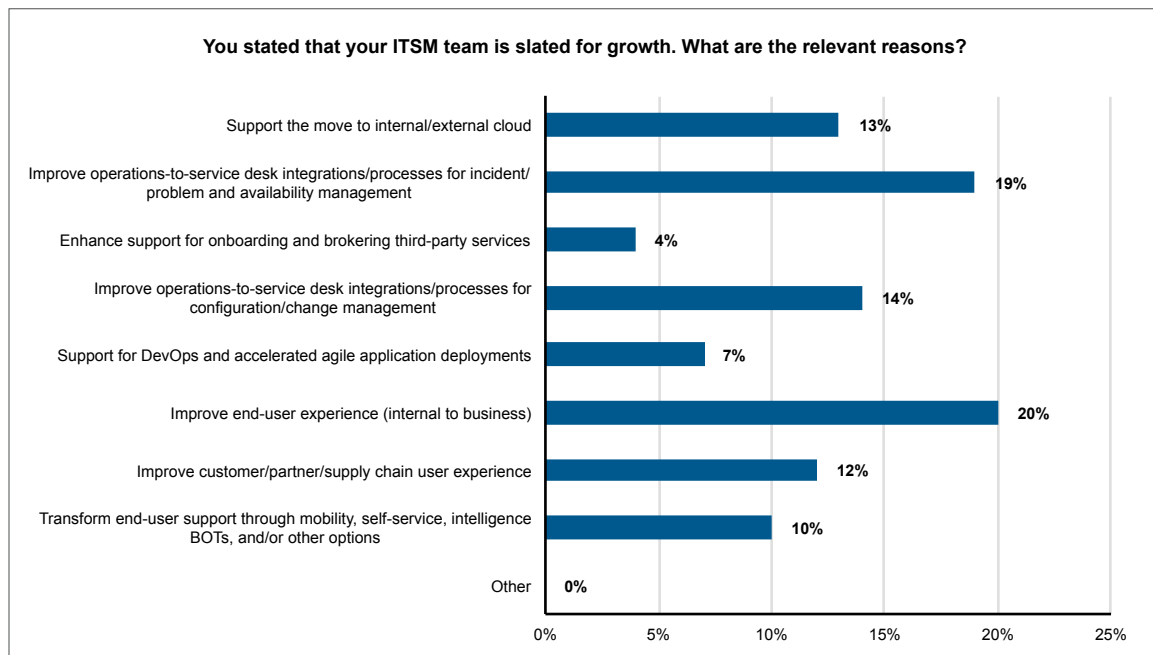


Figure 4. Strategic management priorities for ITSM centered on improved end-user experience and integrated operations for incident, problem, and change management. This data is very similar to data collected in 2013, suggesting a longer-term need for integrated service desk and operations management capabilities. (Sample Size = 270)

The top *functional* priorities for ITSM for 2015 were the following:

1. Improved *project management* and *improved automation for self-service* (tied)
2. New or enhanced CMDB/CMS or ADDM support
3. Service catalog for self-service and cloud
4. Cross-domain IT asset management and optimization
5. Mobile support for IT stakeholders.

EMA Research Report: What Is the Future of IT Service Management?

Significantly, 55% of respondents viewed *big data analytics for IT* as a shared priority for ITSM and operations. Twenty-two percent viewed it as primarily an operations concern, and 14% viewed it as more of an ITSM priority. Only 9% hadn't thought about the topic sufficiently to comment. The most prevalent requirements for ITSM analytics were support for IT-to-business and ITSM-to-operations decision making.

Change Management: CMDB/CMS, ADDM, and Automation

Consistent with EMA consulting and industry dialogs, the data showed a strong and growing interest in adoption of a configuration management database (CMDB) or configuration management system (CMS)—57% owned a CMDB or had a CMS-related investment. An additional 23% had *plans to purchase*, leaving only 20% with no plans for a CMDB or a CMS. Significantly, just two years ago, similar data showed that 48% had no plans to purchase a CMDB or CMS! In parallel, 81% of current respondents are seeking to federate their CMDB/CMS compared to 76% in 2013.

In terms of use cases, the results show steady growth toward *service impact for performance management*, which edged out *asset management* and *change management* for leading CMDB/CMS use cases. In 2013, the leading use cases were *asset management* and *change impact management* for planning changes. This trend toward performance management, confirmed by EMA dialog and consulting, reflects a growing need to optimize CMDB/CMS-related service modeling for more dynamic conditions, in particular for hybrid cloud infrastructures where quick returns on investment can be achieved through service modeling in support of availability, incident, and problem management—as well as in real-time (or even predictive) insights into the impacts of changes on service quality. Figure 5 shows how respondents prioritized CMDB/CMS-related use cases in this research. It's also worthy of note that the average respondent with a CMDB/CMS deployment indicated *three intended use cases*, underscoring the modular values of the CMDB/CMS foundation.

Consistent with EMA consulting and industry dialogs, the data showed a strong and growing interest in adoption of a configuration management database (CMDB).

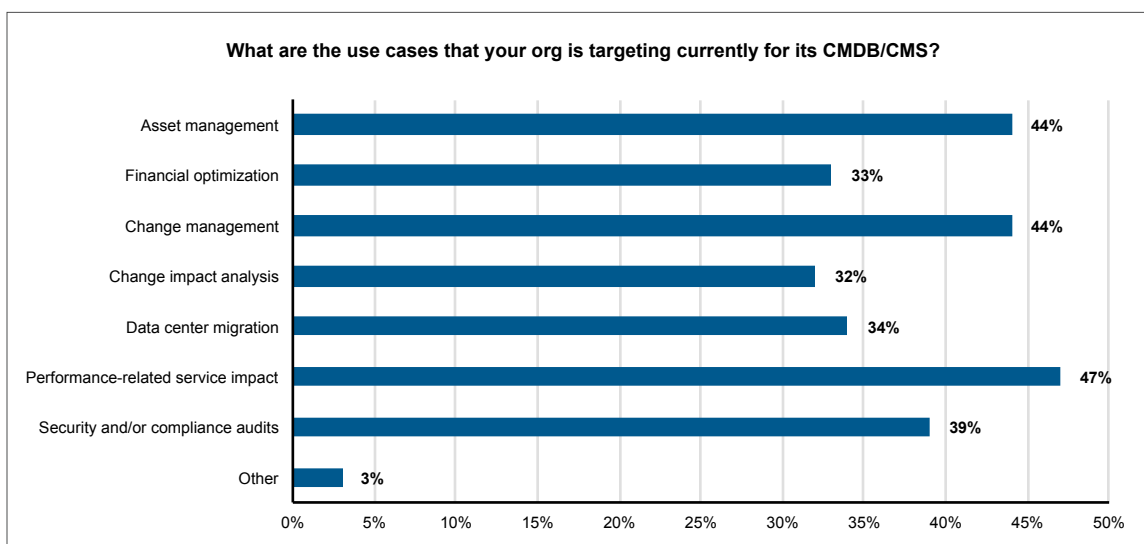


Figure 5. Performance-related service impact edged out asset and change management as the dominant CMDB/CMS use cases—reflecting a trend toward more dynamic requirements for the CMDB/CMS foundation. The average respondent indicated three intended use cases, reinforcing the modular, multi-use-case value of the CMDB/CMS. (Sample Size = 217, Valid Cases = 217)

EMA Research Report: What Is the Future of IT Service Management?

Application discovery and dependency mapping (ADDM) adoption was fairly consistent with the rates in our 2013 research. As shown in Figure 6, 71% have some plans for ADDM deployment—with *support for the move to cloud* edging out *asset management* as the dominant use case. Of those with ADDM solutions either deployed or in plan, 59% have committed plans to link their ADDM investment with their CMDB.

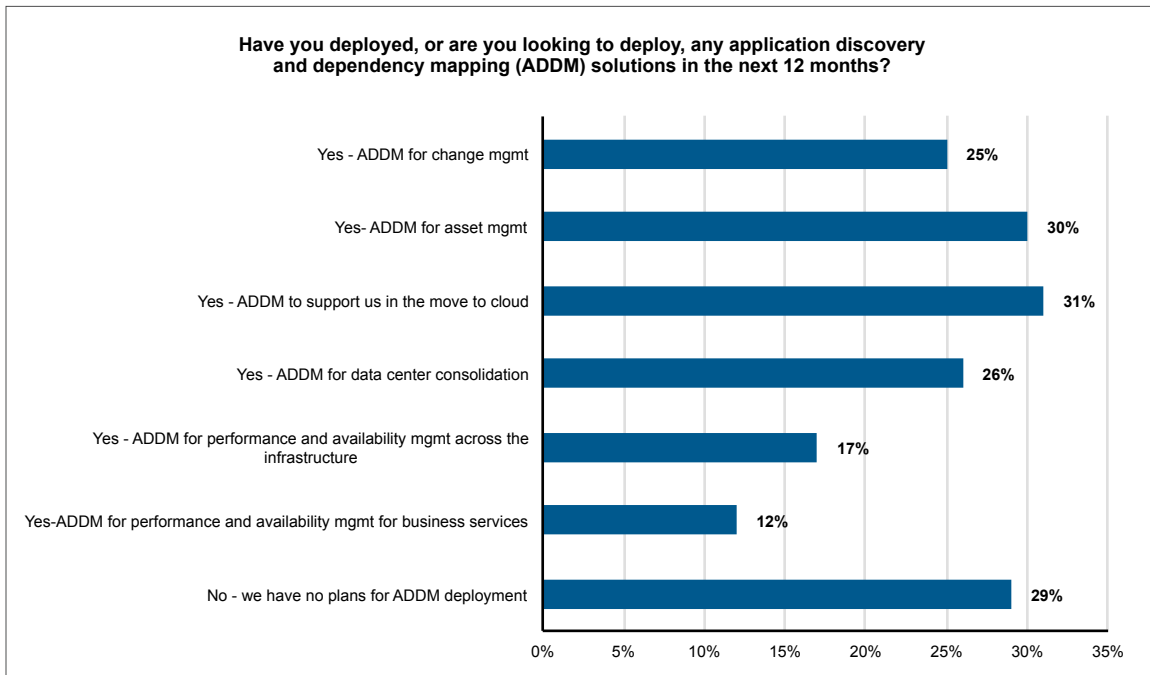


Figure 6. The move to cloud is spurring ADDM adoption, while asset and change management remain clear leading drivers as well. Fifty-nine percent of respondents with ADDM also have committed plans to link their ADDM investment to their CMDBs. (Sample Size = 270, Valid Cases = 270)

EMA Research Report: What Is the Future of IT Service Management?

Sixty percent of respondents have committed plans to invest in advanced levels of *change automation* within the next twelve months. Figure 7 presents a picture of their current priorities for change automation technologies, with IT process automation (ITPA), systems configuration, and workflow between the service desk and operations in the lead.

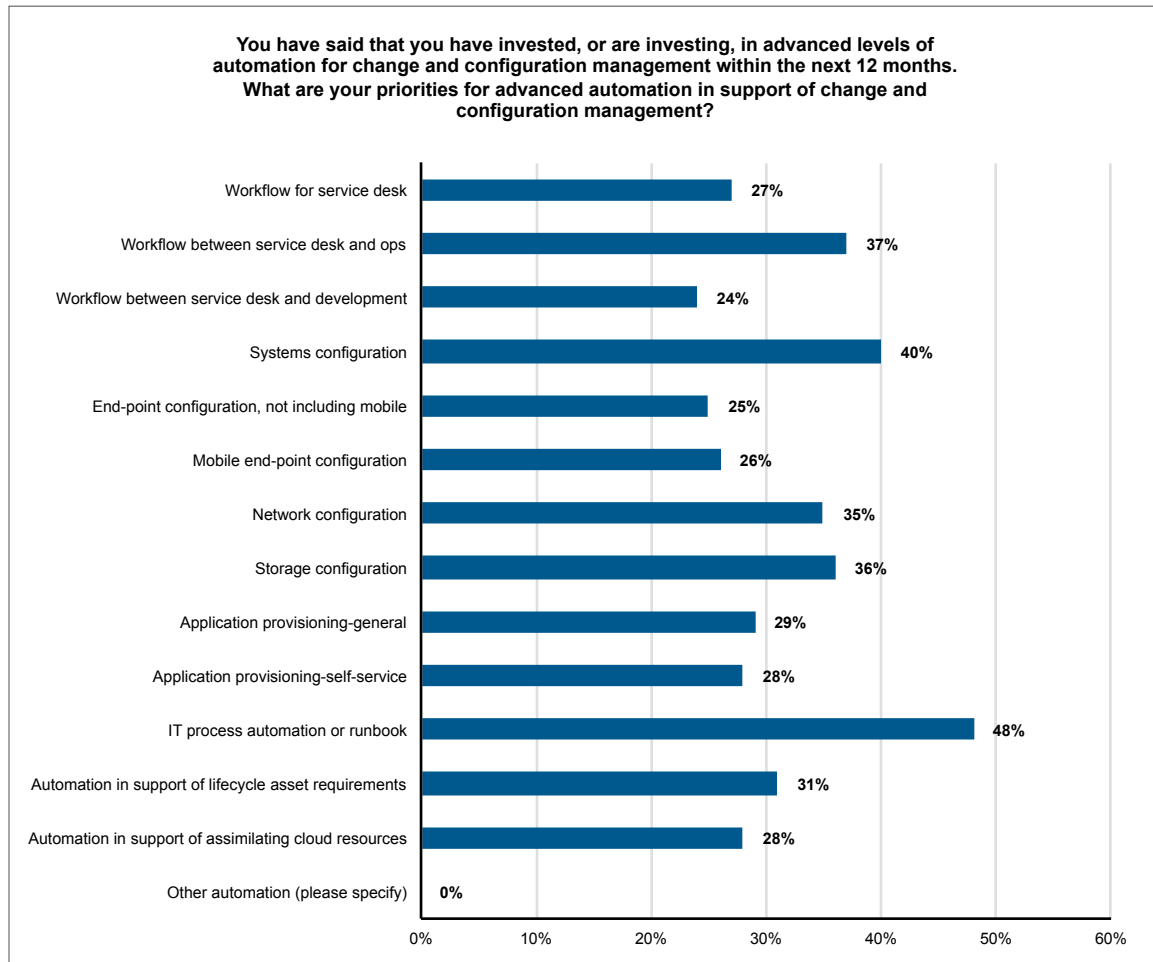


Figure 7. The visibility achieved through CMDB/CMS and ADDM investments provides an excellent foundation for advanced levels of change automation. Priorities for change automation investments indicated here highlight IT process automation, systems configuration, and workflow between the service desk and operations. (Sample Size = 162, Valid Cases = 162)

Service Catalog and the Move to Enterprise Services

Two-thirds of respondents indicate that they use service catalogs, and Figure 8 demonstrates priorities for where and how they use them. The dominant impression is that internal ITSM requirements are the leading drivers, in particular for project management and provisioning. However, cloud access and end-user access to production-level services are also strong drivers.

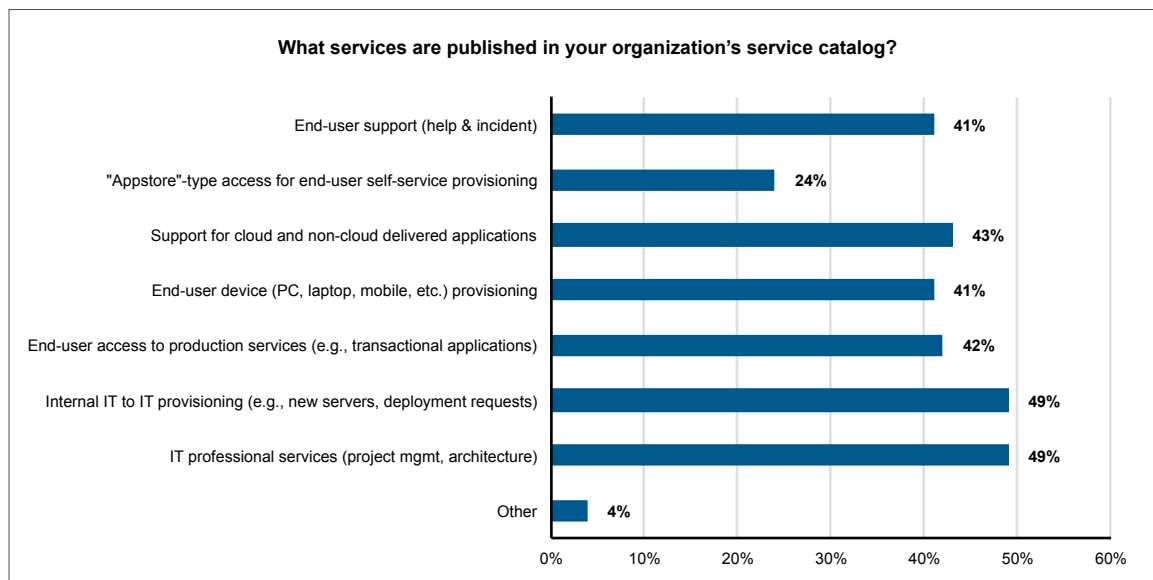


Figure 8. While internal ITSM services such as project management and provisioning are leading drivers for service catalogs, end-user access to production services and access to cloud are also important priorities. (Sample Size = 178, Valid Cases = 178)

Only 12% of respondents had no plans to publish cloud services in their service catalogs. Leading priorities in catalog support for cloud services were the following:

1. Software-as-a-Service (internal cloud)
2. Infrastructure-as-a-Service (internal cloud)
3. Software-as-a-Service (public cloud) –tied with Infrastructure-as-a-Service (public cloud)

Also worth pointing out is that larger companies were more likely to target internal cloud services while smaller companies showed a preference for public cloud services.

Only 12% of respondents had no plans to publish cloud services in their service catalogs.

EMA Research Report: What Is the Future of IT Service Management?

Figure 9 indicates how service catalogs are evolving to support both enterprise (non-IT) services as well as non-ITSM-specific services. The move to support enterprise services and enterprise values is beginning to redefine many ITSM and service desk environments, often with strong benefits in enhancing the standing of both the CIO and the IT organization as a whole. Catalog-related access to services is usually coupled with workflows and process-driven governance that can also serve to boost appreciation for ITSM disciplines and their relevance to business outcomes and business performance.

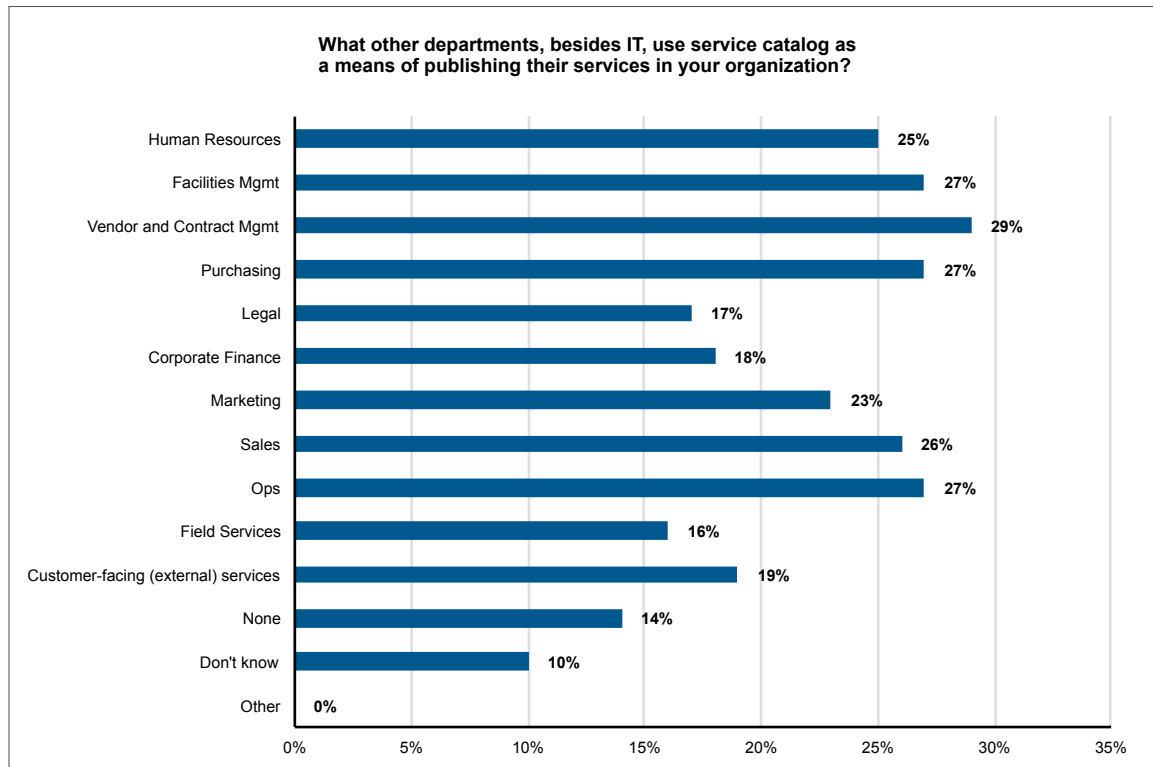


Figure 9. Support for enterprise services can be transformative for the service desk, ITSM, and the broader IT organization and can emphasize business relevance and business value. Leading areas supported in the service catalog as shown above are vendor/contract management, purchasing, facilities management, operations, and sales. (Sample Size = 270, Valid Cases = 270)

Mobile, Endpoint, and Self-Service Priorities

Self-service is becoming increasingly instrumental in improving both end-user satisfaction and IT efficiencies. The top priorities for self-service enhancements in this research were the following:

1. More effective automation in supporting end-user access to services
2. Self-service enabled knowledge management (tied with the above)
3. More effective automation for resolving end-user issues
4. Self-service via a service catalog
5. Mobile access

EMA Research Report: What Is the Future of IT Service Management?

Mobile endpoint priorities reflected a growing requirement to support a heterogeneous mobile environment including tablets, iPhones, and Android devices. In fact, only 15% of respondents had no mobile support for end users, and only 17% had no mobile support for ITSM professionals. Moreover, 62% of respondents saw the need for lifecycle mobile support for end users as *significantly* or *completely* impacting their organizations. Some other highlights in terms of end-user mobile support include the following:

- 65% of respondents indicated that there was some mobile access for end users to access corporate applications via mobile.
- About 50% allow end users to make ITSM-related service requests via mobile.
 - Of those, 78% saw meaningful or dramatic improvement in service delivery.

Only 15% of respondents had no mobile support for end users, and only 17% had no mobile support for ITSM professionals.

Figure 10 illustrates the benefits of providing mobile access to ITSM applications for *ITSM professionals*.

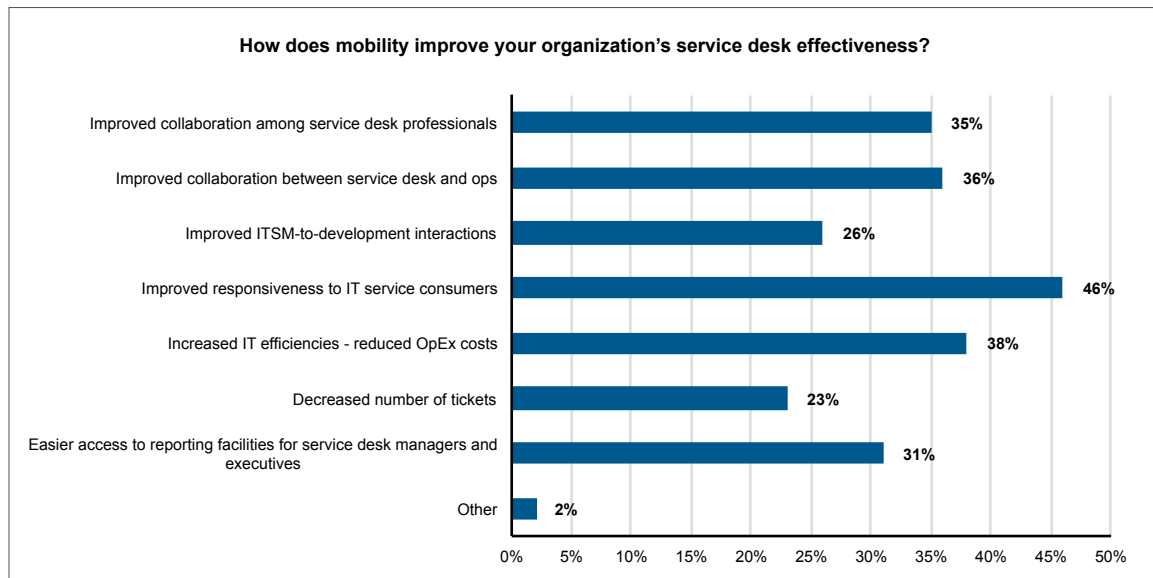


Figure 10. Improved consumer responsiveness, increased IT efficiencies, and improved collaboration between service desk professionals and operations top the charts as benefits achieved by providing mobile access to ITSM applications for ITSM professionals. (Sample Size = 270, Valid Cases = 270)

When it came to endpoint lifecycle management overall (including both mobile and non-mobile devices), the following were the five most-targeted capabilities:

1. Capturing software usage
2. Software license management
3. Software distribution
4. Operating system (OS) deployment
5. Patch management

Moreover, 58% preferred a single integrated application for unified endpoint management over separate tools for mobile and non-mobile endpoint management, while 82% viewed having a unified console for managing mobile and non-mobile endpoints as “important” or “essential.”

The Move to Cloud and Agile

Our respondents viewed cloud both as an opportunity for expanded functionality and as a challenge. The leading impacts, as seen in Figure 11, were viewing cloud *as a resource for expanding service desk capabilities* while also requiring higher levels of automation, driving more attention to DevOps, and making asset management more challenging. Significantly, only 14% saw “no impact from cloud” as compared to 21% in 2013. In parallel, the number of respondents who saw cloud as a resource for expanding service-desk impact and functionality rose from 25% to 34% in two years.

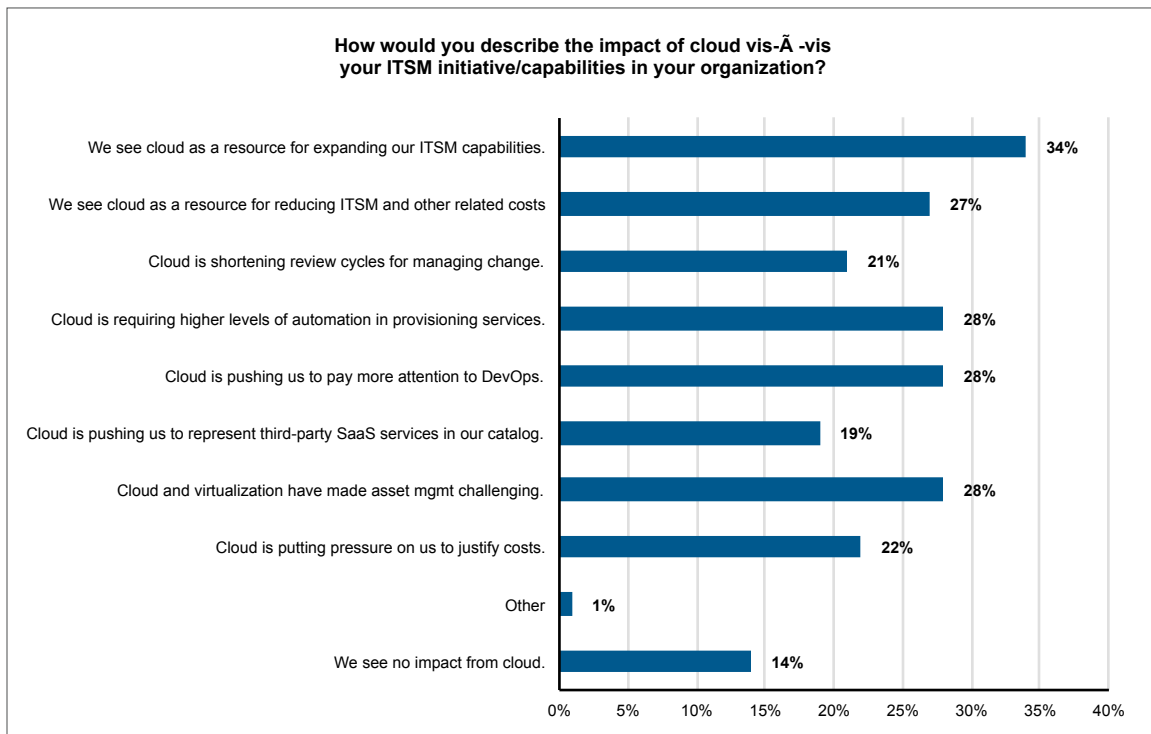


Figure 11. Not surprisingly, cloud has become even more of a catalyst for ITSM transformation over the last two years, with 34% of respondents currently (versus 25% previously) viewing cloud as a resource for expanding service desk capabilities, and only 14% (versus a previous 21%) seeing “no impact from cloud.” (Sample Size = 270, Valid Cases = 270)

The four leading cloud-driven functional priorities were the following:

1. Integrated operations in support of incident and problem management
2. Improved capabilities for runbook and IT process automation (tied for first)
3. More dynamic support for capturing service interdependencies (only 1% point below the first two)
4. Improved capabilities for provisioning and configuration automation

Integrated support for agile and DevOps has also grown significantly over the last two years. When asked if integrated release management for new application services had been integrated into ITSM capabilities, 65% of respondents said “yes,” of whom 34% indicated that integrated release management had been available for more than a year. This figure of 65% contrasts with only 39% who claimed some support for integrated release

Integrated support for agile and DevOps has also grown significantly over the last two years.

EMA Research Report: What Is the Future of IT Service Management?

management just two years ago! Moreover, in our current research, an additional 16% claimed to have imminent plans for integrated release management.

Figure 12 highlights how ITSM and DevOps are coming together, with a focus on scheduling, workflow, feedback loops, and pre-production provisioning via a CMDB/CMS. In fact, recent dialogs with CMDB deployments included one development team leveraging a CMDB using Scrum and pushing the modeling out into a less mature (more siloed) operations organization. Moreover, 55% of respondents viewed integrated ITSM and DevOps as “very positive” or “transformative,” while only 1% viewed it negatively.

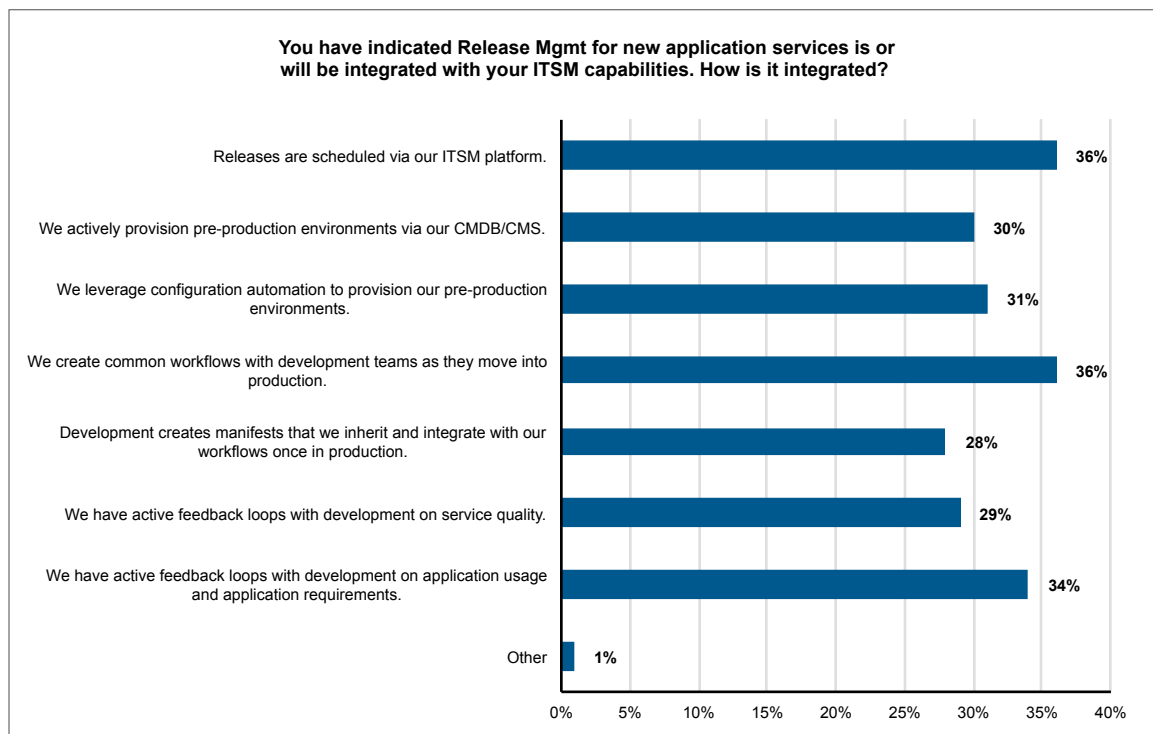


Figure 12. Scheduling, workflow, feedback loops on application usage, and pre-production CMDB/CMS enablement are among the most popular reasons that ITSM and agile are coming together with increasing benefits to IT as a whole. (Sample Size = 216, Valid Cases = 216)

Just how this is being done varies, with 29% using different tools between the ITSM team and development while 71% are seeking some form of toolset convergence. It’s also worth noting that 53% are creating a two-speed system, with a faster track for some agile application modification and a slower track for more strategic infrastructure-wide change and review.

Best Practices and Success Factors

As Figure 13 shows, best practice adoption was highly eclectic, with IT Infrastructure Library (ITIL) Version 3 holding a modest lead, and combined ITIL v2 and v3 being most clearly dominant, as might be expected. However, Six Sigma and IT Balanced Scorecard also got high ratings. The overall implication of this data is that ITSM professionals care enough about process and best practice to examine multiple sources and seek to optimize based on what's most appropriate for them and their needs.

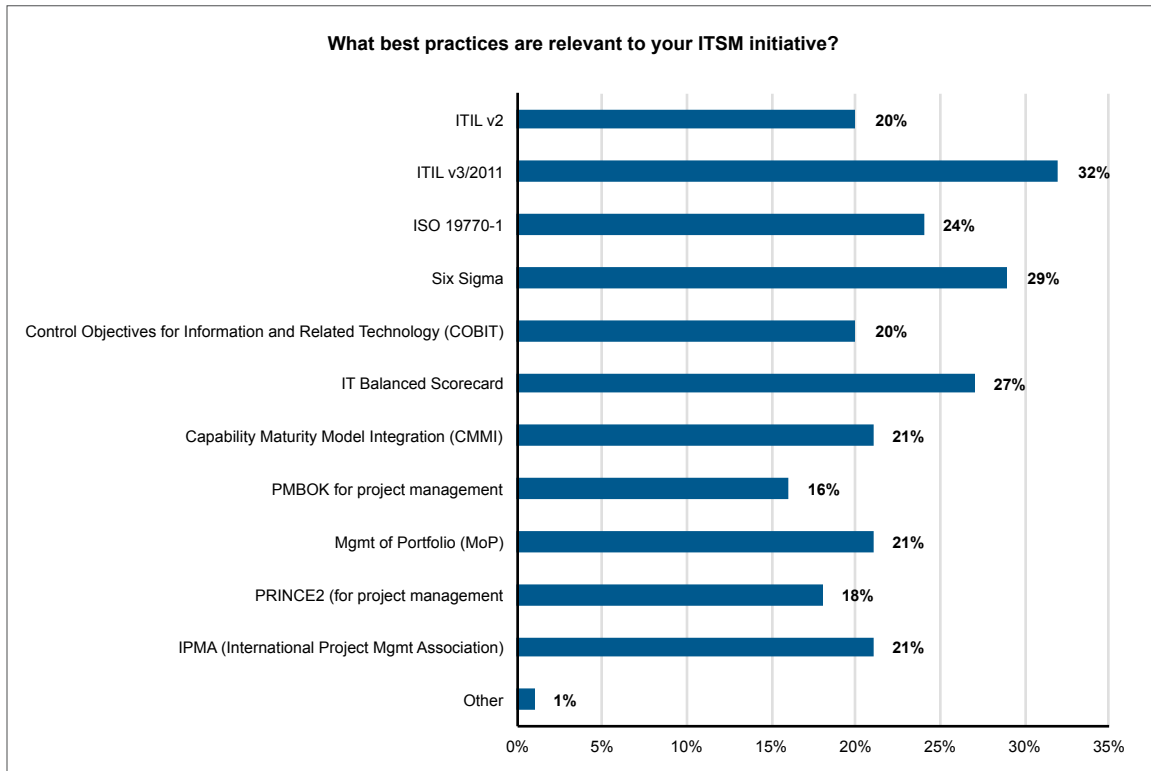


Figure 13. Best practice adoption among ITSM teams is eclectic, with ITIL Version 3 holding a modest lead, as might be expected. (Sample Size = 270, Valid Cases = 270)

When we asked those using ITIL how they viewed it, 71% said ITIL was “very important” or “critical.” And 41% viewed ITIL as becoming more important due to trends like cloud and agile, while only 3% viewed it as becoming less important.

EMA Research Report: What Is the Future of IT Service Management?

Success Factors

Figure 14 shows how respondents viewed their success rates—with 52% claiming “extremely successful” or “very successful” ITSM initiatives. When those who said they were only “somewhat successful” or were “largely unsuccessful” were asked what was most disruptive in achieving a more effective ITSM initiative, the most common answer was “organizational and political issues.” This was double the next highest specific issue, which was “poor dialog and communication across IT.” This data confirms EMA’s consulting and research experience, which shows that while technology can be a tremendous enabler, it is not the biggest roadblock to success—although “software deployment and administrative complexity” did receive solid marks as one impediment to ITSM success.

This data confirms EMA’s consulting and research experience, which shows that while technology can be a tremendous enabler, it is not the biggest roadblock to success.

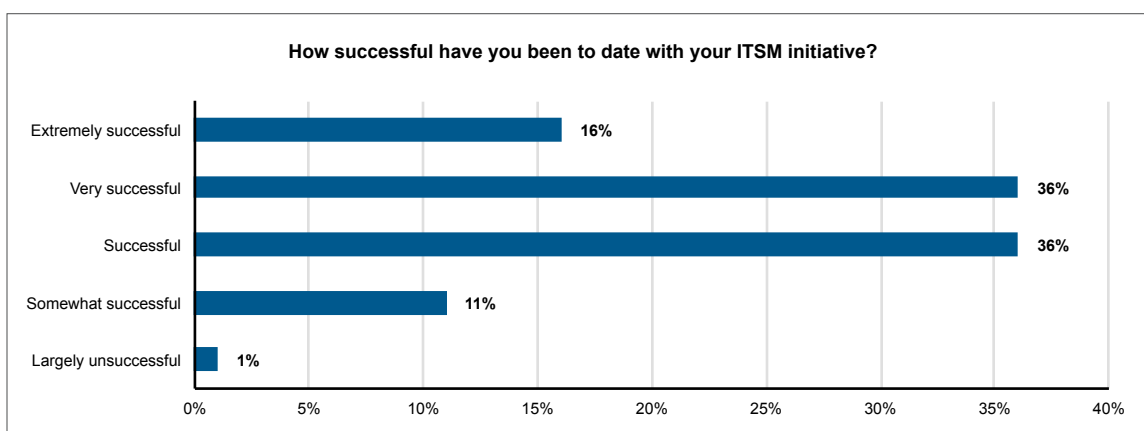


Figure 14. Most respondents felt they were either “very successful” or “successful” with their ITSM initiative. Only 1% believed they were “largely unsuccessful.” (Sample Size = 270)

EMA analyzed the data to contrast how the 16% “extremely successful” performed versus the “somewhat successful” and “largely unsuccessful” respondents. Compared to those with marginal success rates, those with extremely successful ITSM initiatives were:

- Four times more likely to have integrated IT and non-IT service desk requirements
- Two times more likely to have a CMDB/CMS-related technology deployed
- Nearly eight times more likely to have ADDM deployed or in plan
- More than two times more likely to have a service catalog in place and dramatically more likely to support cloud and non-IT services
- Two times more likely to be leveraging mobile for ITSM professionals
- Four times more likely to prefer a single unified console for endpoints
- Far more likely to see cloud as a resource for expanding service-desk capabilities
- Nearly four times more likely to have created a fast track for agile
- Twenty times more likely to view integrated ITSM and agile as “transformative”
- Much more likely to get an increase in budget
- More than two times more likely to be slated for growth

EMA Research Report: What Is the Future of IT Service Management?

It should be pointed out that while *success* and *growth* were aligned in the above data, other analysis often showed little difference between ITSM organizations staying the same and those reducing in size—as much of those moves were driven by organizational change. In fact, some ITSM organizations (about 15% of those experiencing ITSM staff reductions) were able to reduce staff size based on improved technology efficiencies.

Conclusion

EMA embarked on this research believing that just as there are two tracks—a fast track and a slower track—emerging in integrating agile with ITSM, there are two tracks emerging in the profile of ITSM-related organizations, their technology adoption, and their success rates. These two tracks are the following:

- ITSM organizations that remain enclaves functioning more reactively in traditional modes
- ITSM organizations reaching out to embrace new technologies, such as mobile and analytics, along with more cross-domain integrations to support operations, development, and even non-IT enterprise services

While data is always open to interpretation—which is, on the whole, a good thing—I believe that the overall tenor of the data in this research supports this two-track vision. Moreover, the data indicates that ITSM “progressives” are not abandoning more established technologies, such as CMDB systems, application discovery and dependency mapping, project management and workflow governance; rather, the data suggests that more successful ITSM teams are seeking more innovative technology adoptions and use cases for these investments—as the need to manage change in support of agile, mobile consumers, and hybrid public/private cloud infrastructures actually makes the disciplines and advantages of ITSM more apparent.

What the future will bring is always open to interpretation, as well. But this research, both in itself and when contrasted with ITSM research done in 2013, seems to indicate a clear trajectory that in many respects is ahead of existing “market thinking.” This trajectory underscores the need to bring process, workflow, automation, and dialog between the service desk and the rest of IT into a far more unified whole than in the past. It also suggests that technologies like “big data for IT”—so often referred to as “IT operations analytics”—belong as much to this shared mix of capabilities as does trouble ticketing and workflow.

This research, both in itself and when contrasted with ITSM research done in 2013, seems to indicate a clear trajectory that in many respects is ahead of existing “market thinking.”

Perhaps less apparent from the data here, but at least as important, is the underlying need for cultural and, for lack of a better word, “political” change across IT. ITSM teams, their tools, and their processes cannot evolve to become a powerhouse for governance, efficiency, and added consumer value without IT leaders willing to actively promote new ways of working, sharing information, and making decisions. As is often the case with transformative initiatives, ITSM transformation is better understood as a “conversation” than as a technology-defined process, as important as technology can be as an enabler. We look forward to the day when these conversations will reach a new tipping point so that the dynamics of ITSM evolution can be better understood, promoted, and shared among IT organizations, and across the industry as a whole.

About Enterprise Management Associates, Inc.

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that provides deep insight across the full spectrum of IT and data management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help EMA's clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise line of business users, IT professionals, and IT vendors at www.enterprisemanagement.com or blogs.enterprisemanagement.com. You can also follow EMA on [Twitter](#), [Facebook](#), or [LinkedIn](#).

This report in whole or in part may not be duplicated, reproduced, stored in a retrieval system or retransmitted without prior written permission of Enterprise Management Associates, Inc. All opinions and estimates herein constitute our judgement as of this date and are subject to change without notice. Product names mentioned herein may be trademarks and/or registered trademarks of their respective companies. "EMA" and "Enterprise Management Associates" are trademarks of Enterprise Management Associates, Inc. in the United States and other countries.

©2017 Enterprise Management Associates, Inc. All Rights Reserved. EMA™, ENTERPRISE MANAGEMENT ASSOCIATES®, and the mobius symbol are registered trademarks or common-law trademarks of Enterprise Management Associates, Inc.

Corporate Headquarters:

1995 North 57th Court, Suite 120
Boulder, CO 80301
Phone: +1 303.543.9500
Fax: +1 303.543.7687
www.enterprisemanagement.com
3044.033117

