Internal Audit, Risk, Business & Technology Consulting

BENCHMARKING SOX COSTS, HOURS AND CONTROLS

Leverage the results of Protiviti's 2019 Sarbanes-Oxley Compliance Survey to start your journey toward next-generation, technology-enabled compliance activities

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Face the Future with Confidence

Table of Contents

02 Executive Summary

04 A Decade of SOX Compliance Survey Insights

05 Now Emerging: SOX Compliance 2.0

06 SOX Compliance Costs Trending Downward but Remain Significant

12 External Audit Costs Rise Again

14 SOX Compliance Is Consuming More Hours

17 Benchmarking the SOX Control Environment — Controls on the Rise

28 Testing IPE

29 Cyber Security

30 Perceptions of the SOX Compliance Process and Internal Control Over Financial Reporting

32 Outsourcing Practices

33 Appendix

39 Methodology and Demographics

43 About Protiviti

Executive Summary

SOX continues to be a demanding journey and is ripe for transformation.

For many organizations, most notably large accelerated and accelerated filers, compliance with the Sarbanes-Oxley Act has been a 15-year journey, and an unexpectedly challenging one at that.

Protiviti has been collecting data points and insights on all aspects of SOX compliance activities, costs and challenges for the past 10 years. The results of our decade of research make it clear that this groundbreaking law and the ongoing compliance activities it requires are anything but static and predictable. Numerous influences inside and outside of the enterprise — regulatory pronouncements and enforcement, external auditors' recalibrations in response to the Public Company Accounting Oversight Board (PCAOB) mandates, a steady procession of new accounting and auditing rules, technological disruptions, cyber threats and their influence on the implementation of internal controls, digital transformation, and more — require internal SOX teams to adapt and improve continually.

Organizations have been adapting and evolving their SOX practices over the past decade in an effort to become more efficient, including but not limited to the growing use of third-party/outsourced providers. But incremental steps may not be sufficient for much longer. Overall compliance costs have edged downward this year but remain significant in most companies. SOX hours and control counts continue to increase. Such findings, combined with Protiviti's complete body of SOX compliance knowledge, suggest SOX compliance programs have reached a critical juncture: In our view, they must pursue and perform the same magnitude of transformation and innovation rippling across most other functions in their organizations.

There is evidence that a SOX compliance 2.0 model (see page 5) is taking shape among a handful of leading programs. And a growing number of SOX executives recognize that more dramatic improvements, fueled by a new mindset and advanced technologies, are required. To illustrate, our results reveal that the use of analytics has jumped significantly and that a broader range of compliance activities are being subjected to advanced technology — with even more plans to do so in the future. It also appears many organizations are huddling with their external auditors to figure out how the auditor's use of advanced automation can deliver greater compliance effectiveness.

SOX compliance 2.0 programs treat transformation and innovation in ways that extend far beyond simply using new technology to conduct compliance activities more efficiently. Instead, these SOX groups are rethinking how they perform all of their work with a new mindset and in a more agile manner, while leveraging data and emerging technology to deliver on their objective.

The need for transformation in SOX compliance will only increase considering all of the drivers of change underway with regard to organizational processes, technology, behaviors and internal controls that ultimately generate new compliance challenges. Pressures from boards, volatile markets, intensifying competition, demanding regulatory requirements, changing workplace dynamics, shifting customer preferences, uncertainty regarding catastrophic events, and other dynamic forces are driving organizations to make major changes throughout the enterprise — many of which, again, have implications on SOX compliance. Two of the top three risks identified in the Protiviti/NC State University annual Executive Perspectives on Top Risks global research — "existing operations meeting performance expectations, competing against 'born digital' firms" and "regulatory changes and regulatory scrutiny" — underscore the magnitude of current transformation and regulatory challenges.[1]

[1] *Executive Perspectives on Top Risks for 2019: Key issues being discussed in the boardroom and C-suite*, NC State University's ERM Initiative and Protiviti: www.protiviti.com/toprisks.

As challenging as the SOX journey has been during the past 10–15 years, leaders should be prepared for more changes as they forge ahead on their own journey toward SOX compliance 2.0 capabilities. The rewards it delivers will be well worth the effort.

In our report, we take a look at how some of these emerging SOX compliance practices are growing, while also focusing on the factors of SOX compliance efforts that generate the greatest attention: costs, hours and control counts. Upon request, Protiviti can provide more detailed results on where other organizations in similar industries and of comparable size, filer status and more stand in relation to the company's own SOX compliance program.

Key Findings

SOX compliance costs on average are trending slightly down, although they remain significant — Across multiple metrics, a majority of organizations saw slightly lower internal SOX compliance costs last year. However, overall costs remain significant and, for many organizations, external audit costs rose.

Overall, SOX compliance hours continue to rise, with some notably significant variations — A number of organizations experienced year-over-year increases in SOX compliance hours of more than 10%. This upward trend in compliance hours, which was also evident in last year's survey results, reflects the fact that the cumulative time internal teams and external auditors invest in compliance activities is determined by a range of "beyond-SOX" factors, including knock-on effects from PCAOB inspections, the adoption of new accounting standards, internal technology implementations, process changes and more.

The use of automated controls testing is increasing, as is interest in deploying advanced technologies to enhance SOX compliance efficacy — There are convincing signs in our research that more organizations are interested in and/or planning to leverage automation and advanced technologies to achieve greater efficiencies throughout their SOX compliance processes. As these plans are executed, it appears likely that more companies will reduce the costs and hours dedicated to SOX compliance while simultaneously strengthening the control environment.

More organizations are leveraging outside resources — There has been a substantial increase among companies using co-source providers for SOX compliance activities related to process and IT controls.

Cyber security continues to influence SOX efforts — Nearly half of all organizations were required to issue a cyber security disclosure in their most recent fiscal year, and among these companies, close to one in five reported a substantial increase in cyber security-related SOX compliance hours as a result.

AUDITBOARD

Protiviti would like to thank AuditBoard for promoting our 2019 Sarbanes-Oxley Survey questionnaire to qualified benchmarking participants.

AuditBoard is the leading cloud-based platform transforming the way enterprises automate, collaborate and report in real-time on critical risk, audit and compliance workflows. AuditBoard offers a full suite of easy-to-use audit management and compliance solutions for SOX, controls and risk management, operational audits, ERM and workflow management. AuditBoard's clients include industry-leading pre-IPO to Fortune 50 companies looking to streamline their accounting and audit functions. For more information, visit www.auditboard.com.

A Decade of SOX Compliance Survey Insights

The more things change, the more they stay the same.

Future corporate archeologists may very well reach that conclusion after excavating and poring over early 21st-century evidence of Sarbanes-Oxley compliance activities. Given the law's extensive requirements, there will be no shortage of documentation to unearth.

As we developed Protiviti's 10th annual Sarbanes-Oxley Compliance Survey report this year, we dug up our inaugural report, which appeared in June 2010, nearly eight years after the sweeping rules were signed into law and just as businesses were striving to regain traction in the slippery wake of the global financial crisis. We conducted the research because we believed that the ongoing challenges of SOX compliance — still substantial then despite the years that had elapsed since the regulation's initial submission deadlines passed — warranted a closer review of the strategies and tactics being deployed by organizations.

Ten years have elapsed since our first collection of analyses, and much of it remains relevant today. For example, we reported that "organizations had come a long way in the past eight years" in refining their SOX compliance capabilities but pointed out that "Sarbanes-Oxley still has a high level of cost, effort and administrative burden for many organizations." That was the case in 2010, and, as our findings in the pages ahead reveal, remains true now. Back then we promoted our research as a means of providing "valuable and important insights into how companies are complying with the internal control-related provision of this legislation." We stand by that assertion today — confidently so, given that we've continued to conduct, and refine, our SOX compliance research in response to a sustained demand for this benchmarking information.

Refinements — to our survey instrument (and we've made many) and to SOX compliance strategies, structures and processes — are crucial in light of how much companies have transformed during the past decade. As business leaders continue to improve their SOX capabilities, it is important to keep in mind a handful of important takeaways we've gleaned from a decade of conducting surveys that yield benchmarking insights concerning compliance costs, control counts and other trends:

01 Despite efforts and expectations to the contrary, the hours and level of commitment dedicated to SOX compliance have not decreased notably over the past decade.

02 External auditors' scrutiny of compliance capabilities continues to change and intensify, largely due to the PCAOB's ongoing refinement of auditing standards and related oversight activities in service of its mission to protect investors and the public interest by promoting informative, accurate and independent audit reports.

03 While it remains difficult to keep the SOX compliance burden constant — let alone reduce the hours and costs involved in the endeavor — the best opportunity to do so is through automation and the introduction of new SOX compliance approaches (**see "Now Emerging: SOX Compliance 2.0" section on the following page).**

The next decade of SOX compliance trends may be dictated by how well organizations transform their compliance practices and embrace SOX compliance 2.0.

Now Emerging: SOX Compliance 2.0

The same technology advancements driving "next-generation" transformations in other parts of the organization (e.g., internal audit, finance, customer service/experience) are equipping SOX compliance groups with a rare and valuable opportunity. By deploying new tools as part of what we call SOX compliance 2.0, SOX teams are dramatically strengthening the assurance provided to management, maximizing the information external auditors rely on in their reviews and achieving greater levels of coverage in a much more efficient manner. We are seeing more compliance groups deploying RPA, artificial intelligence, process mining, advanced analytics and similar tools to achieve breakthroughs in efficiency and coverage in activities related to areas such as access and review controls, testing of workflows, confirmations of populations, as well as many others.

Developing an effective SOX compliance 2.0 approach hinges on finding the right solutions to the right challenges. As governance, risk and compliance (GRC) leaders leverage technology, process improvements and changes in controls to build this capability, they need to keep several considerations in mind:

01 **The SOX compliance 2.0 technology toolkit is large:** While RPA, AI and advanced analytics are valuable tools, there are a broad range of other categories of SOX compliance 2.0 technologies, including those that relate to process discovery and mining, eGRC, analytics, visual analytics, data visualization, segregation of duties, access controls, information security, configurations and more.

02 **The use of these tools hinges on data access and governance:** Data is the lifeblood of SOX compliance 2.0 advancements. Compliance and audit teams need access to data and the systems the data reside in for these advanced tools to deliver on their promise, and also work with other functions to confirm the quality and integrity of the data.

03 **The entire compliance lifecycle is ripe for disruption:** We've helped plan and execute SOX compliance 2.0 use cases that involve scoping and risk assessment, walkthrough and design effectiveness testing, and monitoring. Advanced tools and approaches can enhance every aspect of the SOX compliance lifecycle.

04 **Manual processes pose a major obstacle:** The most effective application of SOX compliance 2.0 tools has targeted automated, highly repetitive processes and activities. Many advanced tools are only as effective as the data that they access and use. Organizations that have high numbers of automated processes are more likely to benefit from these tools; companies that continue to operate in highly manual environments will have fewer opportunities.

05 **Expect more exceptions:** As advanced tools test a higher number of complete data sets, rather than sampling data populations, far more exceptions will likely be identified. This will reset previous norms concerning acceptable levels of exceptions. Operating in a new realm of extreme transparency may also require new ways of thinking.

SOX programs are undergoing significant transformation. Emerging tools and techniques are enabling fresh approaches to assess risks and to test controls. Automated controls were once deemed to be the holy grail of control oversight. They have been accelerated by cloud-based, robotic and analytic tools which provide comprehensive oversight and output, while in many cases reducing overall costs.

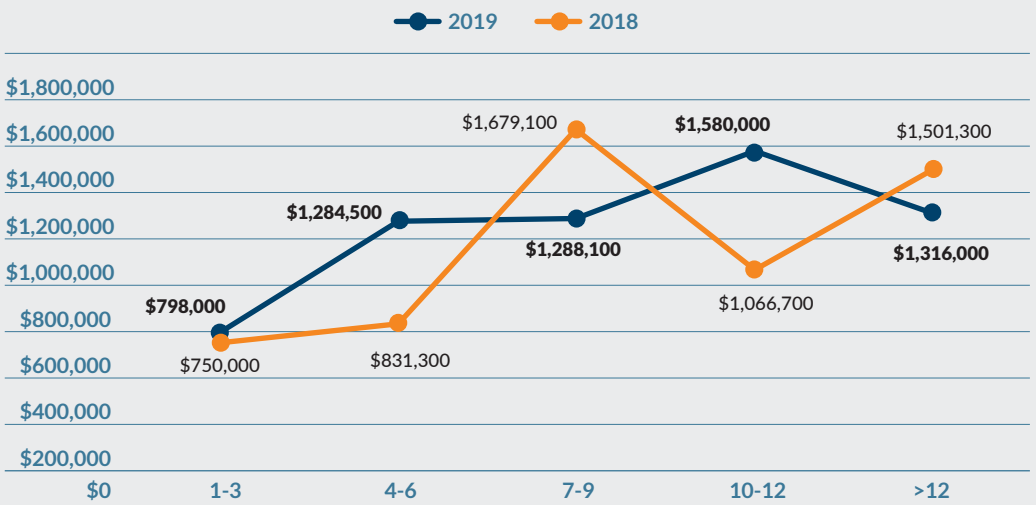
— Brian Christensen, Executive Vice President, Global Internal Audit, Protiviti

SOX Compliance Costs Trending Downward but Remain Significant

While our survey data showed an overall decrease in average internal SOX compliance costs, there were many organizations where overall internal SOX compliance costs were up during the most recent fiscal year. Boards of directors and executive teams have minimal appetite for increasing SOX compliance costs. This is especially the case for CFOs, who ultimately must answer to the CEO and the board when SOX-related costs rise. Yet in assessing these costs, boards and management must also factor in the value of risk mitigation that SOX compliance delivers, as well as the potential penalties for noncompliance with SOX, to understand the long-term benefits of their annual SOX compliance investments.

To be sure, we see SOX compliance costs for many organizations moving in the right direction, especially given that these costs increased in most organizations the previous year. It is impressive that many managed to lower SOX compliance costs at a time when many factors — including implementation of the new lease accounting standard, lingering changes related to the revenue recognition standard that took effect last year, widespread digital transformation efforts, competitive challenges posed by digitally born companies, and more — contribute to process and controls changes that force SOX compliance teams to rework testing and reporting activities. At the same time, achieving more substantial and long-term cost savings will drive demand for incorporating SOX compliance 2.0 practices.

• • • *Average Annual SOX Compliance Costs (Internal) by Number of Unique Locations**



* Excludes external audit-related fees.

In this section:

Average Annual SOX Compliance Costs (Internal)

Who Spent $2 Million or More? (Internal)

Who Spent $500,000 or Less? (Internal)

SOX Filer Status	Average Annual SOX Compliance Costs (Internal)*		
	2019	2018	2017
Large accelerated filer	$1,309,200	$1,338,900	$1,142,000
Accelerated filer	$989,300	$997,000	$802,000
Nonaccelerated filer	$734,200	$560,700	$700,000
Emerging growth company	$1,338,800	$1,391,500	$1,222,000
Size of Organization			
$20 billion or greater	$2,068,200	$1,832,600	$1,983,000
$10 billion to $19.99 billion	$1,423,200	$1,500,000	$1,158,000
$5 billion to $9.99 billion	$1,402,800	$1,358,000	$1,174,000
$1 billion to $4.99 billion	$1,014,300	$801,800	$933,000
$500 million to $999.99 million	$1,068,300	$1,438,400	$684,000
$100 million to $499.99 million	$791,700	$657,600	$656,000
Less than $100 million	$480,600	$282,900	$785,000
SOX Compliance Year			
Beyond 2nd year of SOX compliance	$1,179,400	$1,105,300	$1,033,000
2nd year of SOX compliance	$1,208,500	$1,816,300	$1,117,000
1st year of SOX compliance	$1,286,500	$853,400	$982,000
Pre-1st year of SOX compliance	$954,900	$819,200	$1,514,000
Industry			
Healthcare — Provider	$1,118,800	$1,318,400	$1,190,000
Financial Services	$1,277,500	$1,176,100	$1,292,000
Manufacturing	$965,000	$1,129,400	$1,023,000
Technology	$1,435,700	$1,157,900	$966,000
Energy	$1,250,000	$818,900	$1,009,000
Insurance	$767,300	$1,087,800	$1,200,000
Consumer Products/Retail	$1,412,000	$955,000	$960,500

* Excludes external audit-related fees.

One of the more interesting trends we've seen in our SOX research over the past decade is that the level of cost and effort has not decreased in any meaningful way for organizations. This would certainly not be the expectation for those that have been involved in this process post-PCAOB AS5 (over the last 10 or so years) but it's the reality today. This further underscores the need for organizations to assess where and how they can leverage analytics, RPA, machine learning and more in their SOX compliance activities.

— Keith Kawashima, Managing Director, Protiviti

• • • *Who Spent $2 Million or More? (Internal)**

	2019	2018	Trend
SOX Filer Status			
Large accelerated filer	24%	28%	↓
Accelerated filer	12%	28%	↓
Nonaccelerated filer	15%	4%	↑
Emerging growth company	20%	7%	↑
Size of Organization			
$20 billion or greater	52%	45%	↑
$10 billion to $19.99 billion	18%	35%	↓
$5 billion to $9.99 billion	19%	28%	↓
$1 billion to $4.99 billion	13%	8%	↑
$500 million to $999.99 million	15%	49%	↓
$100 million to $499.99 million	8%	10%	↓
Less than $100 million	0%	3%	↓
SOX Compliance Year			
Beyond 2nd year of SOX compliance	21%	21%	↔
2nd year of SOX compliance	9%	81%	↓
1st year of SOX compliance	13%	2%	↑
Pre-1st year of SOX compliance	14%	15%	↓

* Excludes external audit-related fees.

How does your organization compare?

*Who Spent $2 Million or More? (Internal)**

	2019	2018	Trend
Industry			
Healthcare — Provider	9%	53%	↓
Financial Services	22%	25%	↓
Manufacturing	13%	17%	↓
Technology	27%	27%	↔
Energy	23%	8%	↑
Insurance	13%	20%	↓
Consumer Products/Retail	15%	14%	↑
Number of Unique Locations			
More than 12	31%	35%	↓
10-12	15%	21%	↓
7-9	16%	51%	↓
4-6	16%	10%	↑
1-3	11%	10%	↑

* Excludes external audit-related fees.

How does your organization compare?

• • • *Who Spent $500,000 or Less? (Internal)**

	2019	2018	Trend
SOX Filer Status			
Large accelerated filer	26%	33%	↓
Accelerated filer	45%	55%	↓
Nonaccelerated filer	57%	57%	↔
Emerging growth company	44%	22%	↑
Size of Organization			
$20 billion or greater	23%	17%	↑
$10 billion to $19.99 billion	29%	24%	↑
$5 billion to $9.99 billion	27%	28%	↓
$1 billion to $4.99 billion	31%	63%	↓
$500 million to $999.99 million	46%	22%	↑
$100 million to $499.99 million	63%	62%	↑
Less than $100 million	73%	89%	↓
SOX Compliance Year			
Beyond 2nd year of SOX compliance	37%	41%	↓
2nd year of SOX compliance	42%	8%	↑
1st year of SOX compliance	29%	72%	↓
Pre-1st year of SOX compliance	53%	54%	↓

* Excludes external audit-related fees.

How does your organization compare?

• • • *Who Spent $500,000 or Less? (Internal)**

	2019	2018	Trend
Industry			
Healthcare — Provider	56%	43%	↑
Financial Services	39%	39%	↔
Manufacturing	23%	40%	↓
Technology	25%	41%	↓
Energy	46%	43%	↑
Insurance	24%	49%	↓
Consumer Products/Retail	42%	44%	↓
Number of Unique Locations			
More than 12	25%	29%	↓
10-12	42%	33%	↑
7-9	37%	11%	↑
4-6	39%	64%	↓
1-3	50%	63%	↓

* Excludes external audit-related fees.

How does your organization compare?

External Audit Costs Rise Again

External audit costs continue to increase for a substantial number of organizations, including a majority of large accelerated filers, nonaccelerated filers, and companies with between $100 million and $10 billion in annual revenue. Furthermore, audit fees increased 10% or more for many organizations across different segments.

- *For fiscal year 2018, what change, if any, did you experience in your external audit fees?*

SOX Filer Status	Large accelerated filer	Accelerated filer	Nonaccelerated filer	Emerging growth company
Our external audit fees increased	56%	49%	67%	55%
Our external audit fees decreased	11%	14%	5%	16%
Our external audit fees stayed the same*	33%	37%	28%	29%

Organization Size (by Gross Annual Revenue)	$20 billion or greater	$10 billion to $19.99 billion	$5 billion to $9.99 billion	$1 billion to $4.99 billion	$500 million to $999.99 million	$100 million to $499.99 million	Less than $100 million
Our external audit fees increased	45%	39%	53%	54%	59%	60%	56%
Our external audit fees decreased	17%	11%	21%	13%	9%	7%	22%
Our external audit fees stayed the same*	38%	50%	26%	33%	32%	33%	22%

* Many companies negotiate multiyear fee arrangements with their external auditors.

In this section:

For fiscal year 2018, what change, if any, did you experience in your external audit fees?

If you reported an increase in your external audit fees, please indicate the percentage increase.

• • • *If you reported an increase in your external audit fees, please indicate the percentage increase.*

SOX Filer Status	Large accelerated filer	Accelerated filer	Nonaccelerated filer	Emerging growth company
Increased > 20%	10%	15%	17%	12%
Increased 16%-20%	8%	13%	17%	28%
Increased 11%-15%	13%	24%	4%	15%
Increased 6%-10%	36%	27%	31%	31%
Increased 1%-5%	33%	21%	31%	14%
Average estimated increase	**9%**	**12%**	**11%**	**13%**

Organization Size (by Gross Annual Revenue)	$20 billion or greater	$10 billion to $19.99 billion	$5 billion to $9.99 billion	$1 billion to $4.99 billion	$500 million to $999.99 million	$100 million to $499.99 million	Less than $100 million
Increased > 20%	16%	4%	8%	7%	13%	20%	20%
Increased 16%-20%	9%	18%	11%	5%	17%	29%	15%
Increased 11%-15%	16%	15%	13%	20%	11%	4%	40%
Increased 6%-10%	34%	48%	32%	38%	33%	27%	20%
Increased 1%-5%	25%	15%	36%	30%	26%	20%	5%
Average estimated increase	**11%**	**11%**	**9%**	**9%**	**11%**	**14%**	**15%**

How does your organization compare?

SOX Compliance Is Consuming More Hours

A majority of companies devoted more hours to SOX compliance than they did in the prior year. Moreover, for significant numbers of organizations, those hours rose by 10% or more.

External changes to accounting and auditing standards, as well as shifts in how those rules are being interpreted and enforced by regulatory authorities, are contributing to increases in compliance hours. Internal changes, often related to digital transformation and the adoption of emerging technologies, also require SOX compliance teams to spend more time examining potential new control issues and related risks. Additionally, the PCAOB has continued its meticulous scrutiny of audits performed by external audit firms, which often translates to external auditors spending more time on their SOX-related testing and analysis, as well as the overall quality and consistency of their audits.

- *For fiscal year 2018, how did the total amount of hours your organization devoted to Sarbanes-Oxley compliance change?*

SOX compliance hours increased	SOX compliance hours increased more than 10%*	SOX compliance hours decreased	SOX compliance hours decreased more than 10%**	SOX compliance hours stayed the same
51%	59%	15%	50%	34%

	SOX compliance hours increased	SOX compliance hours increased more than 10%*	SOX compliance hours decreased	SOX compliance hours decreased more than 10%**
SOX Filer Status				
Large accelerated filer	48%	52%	13%	51%
Accelerated filer	42%	66%	14%	71%
Nonaccelerated filer	36%	50%	34%	40%
Emerging growth company	43%	55%	27%	41%

* Among organizations in which Sarbanes-Oxley compliance hours increased.

** Among organizations in which Sarbanes-Oxley compliance hours decreased.

In this section:

For fiscal year 2018, how did the total amount of hours your organization devoted to Sarbanes-Oxley compliance change?

How many hours, on average, would you estimate your organization spent on each key control as it relates to the following activities?

	SOX compliance hours increased	SOX compliance hours increased more than 10%*	SOX compliance hours decreased	SOX compliance hours decreased more than 10%**
Size of Organization				
$20 billion or greater	48%	51%	9%	57%
$10 billion to $19.99 billion	43%	46%	26%	47%
$5 billion to $9.99 billion	49%	68%	23%	48%
$1 billion to $4.99 billion	53%	52%	13%	48%
$500 million to $999.99 million	51%	47%	14%	53%
$100 million to $499.99 million	40%	63%	22%	21%
Less than $100 million	18%	38%	36%	94%
SOX Compliance Year				
Beyond 2nd year of SOX compliance	45%	50%	15%	40%
2nd year of SOX compliance	42%	45%	27%	48%
1st year of SOX compliance	62%	66%	13%	45%
Pre-1st year of SOX compliance	44%	67%	28%	90%
Number of Unique Locations				
More than 12	38%	50%	12%	42%
10-12	36%	65%	41%	31%
7-9	54%	47%	14%	33%
4-6	44%	61%	18%	56%
1-3	54%	53%	17%	76%

* Among organizations in which Sarbanes-Oxley compliance hours increased.

** Among organizations in which Sarbanes-Oxley compliance hours decreased.

How does your organization compare?

• • • *How many hours, on average, would you estimate your organization spent on each key control as it relates to the following activities?**

	2019 avg. no. of hours	2018 avg. no. of hours	Less than 1 hour	1-2 hours	3-4 hours	5-6 hours	7-8 hours	9-10 hours	Over 10 hours
Creating or updating control documentation	5.1	4.4	10%	19%	23%	14%	13%	3%	14%
Evaluating control design	5.1	4.2	11%	18%	17%	16%	13%	8%	10%
Time to analyze a SOC report	4.8	4.5	9%	17%	25%	16%	14%	4%	9%
Testing for control operating effectiveness	6.4	5.8	4%	11%	20%	15%	14%	14%	16%
Testing management review controls	6.2	5.3	6%	14%	14%	16%	17%	12%	15%
Testing information produced by entity (IPE) for data used to execute key controls	5.7	5.1	6%	15%	17%	14%	18%	9%	12%

* Not shown: "Don't know" responses.

How does your organization compare?

Benchmarking the SOX Control Environment — Controls on the Rise

Overall control counts are largely stable compared to control counts for the previous year, according to executives leading SOX programs. However, many companies experienced an increase in the number of controls that they test, especially when it comes to entity-level controls.

To some degree, this increase is understandable. Over the past several years, many SOX programs have made a concerted effort to reorganize single super controls into two, three or more individual controls as a means of more precisely identifying, understanding and addressing control breakdowns. Additionally, new accounting pronouncements (e.g., lease accounting, revenue recognition), as well as PCAOB guidance concerning management review control precision and SEC and PCAOB guidance around the need to consider cyber threats when implementing and testing internal controls, have likely contributed to increased control counts.

While these types of new controls can lead to more precise and effective protections, they also generate more work for SOX teams. This trend necessitates the greater use of analytics and automation in SOX testing. On that note, the survey results are pointing in a favorable direction. Compared to our prior year data, there have been significant jumps in the use of data analytics by companies as well as their external auditors. A majority of organizations utilized technology tools to test SOX 404 controls in 2018, most frequently for accounts payable, IT general controls and account reconciliations processes. There also has been substantial growth in the use of technology tools for areas such as automated approval workflow, and access control/user provisioning/segregation of duties review. While these tools may not contain cutting-edge technology, their use delivers demonstrable efficiency gains that can be measured, communicated and used as evidence of the need to invest in more advanced forms of automation.

Also of note, more organizations are beginning to employ advanced technologies such as robotic process automation (RPA) and machine/deep learning into their SOX compliance efforts. While the numbers are still relatively low, they jumped significantly from the prior year. This trend tracks with Protiviti's research on the growing use of RPA[2] and artificial intelligence.[3] In addition, a broader range of compliance activities are being supported by advanced technology compared to prior years of our study. For example, more than 60% of external auditors leverage technology tools to test SOX Section 404 controls and nearly half employ data analytics as part of the SOX compliance process.

We expect the use of advanced technology by organizations in their SOX compliance activities to become even broader and more pervasive over the next 12 to 24 months.

[2] For more information, read Protiviti's research report, *Taking RPA to the Next Level*, available at www.protiviti.com/RPA.

[3] For more information, read Protiviti's research report, *Competing in the Cognitive Age*, available at www.protiviti.com/AI.

In this section:

Controls Testing

Use of Technology Tools

Automated Controls

Entity-Level Controls

Process-Level Controls

SOC Reports

• • • *What percentage of your controls testing do the external auditors rely upon?*

SOX Filer Status	Large accelerated filer	Accelerated filer	Nonaccelerated filer	Emerging growth company
10% or less	13%	11%	34%	15%
11%-20%	12%	19%	10%	21%
21%-30%	15%	17%	22%	22%
31%-40%	10%	10%	15%	8%
41%-50%	17%	13%	5%	11%
51%-75%	18%	15%	2%	11%
76%-100%	15%	15%	12%	12%
Estimated overall percentage	**44%**	**43%**	**29%**	**37%**

Organization Size (by Gross Annual Revenue)	$20 billion or greater	$10 billion to $19.99 billion	$5 billion to $9.99 billion	$1 billion to $4.99 billion	$500 million to $999.99 million	$100 million to $499.99 million	Less than $100 million
10% or less	13%	19%	14%	10%	24%	21%	16%
11%-20%	11%	11%	11%	13%	14%	24%	29%
21%-30%	14%	10%	16%	27%	10%	20%	39%
31%-40%	8%	18%	13%	10%	11%	2%	0%
41%-50%	23%	5%	19%	15%	10%	7%	4%
51%-75%	14%	10%	17%	16%	17%	14%	7%
76%-100%	17%	27%	10%	9%	14%	12%	5%
Estimated overall percentage	**46%**	**45%**	**41%**	**39%**	**41%**	**34%**	**26%**

As more and more auditors leverage GRC technology to automate SOX workflows, organizations are not only experiencing a reduction in SOX hours and external auditor costs, but they are also experiencing less control deficiencies and an improved culture of control compliance.

— Andrew J. Kim, Chief of Staff, AuditBoard

• • • *For the 2018 fiscal year, did your organization utilize technology tools in the testing of controls to comply with Sarbanes-Oxley Section 404?*

• • • *If "Yes": For which of the following processes do you use technology tools in the testing of controls to comply with SOX Section 404?*

TOP 5	TOTAL
Accounts payable process	44%
IT general controls	40%
Account reconciliations process	37%
IT application controls	35%
Financial reporting process	35%

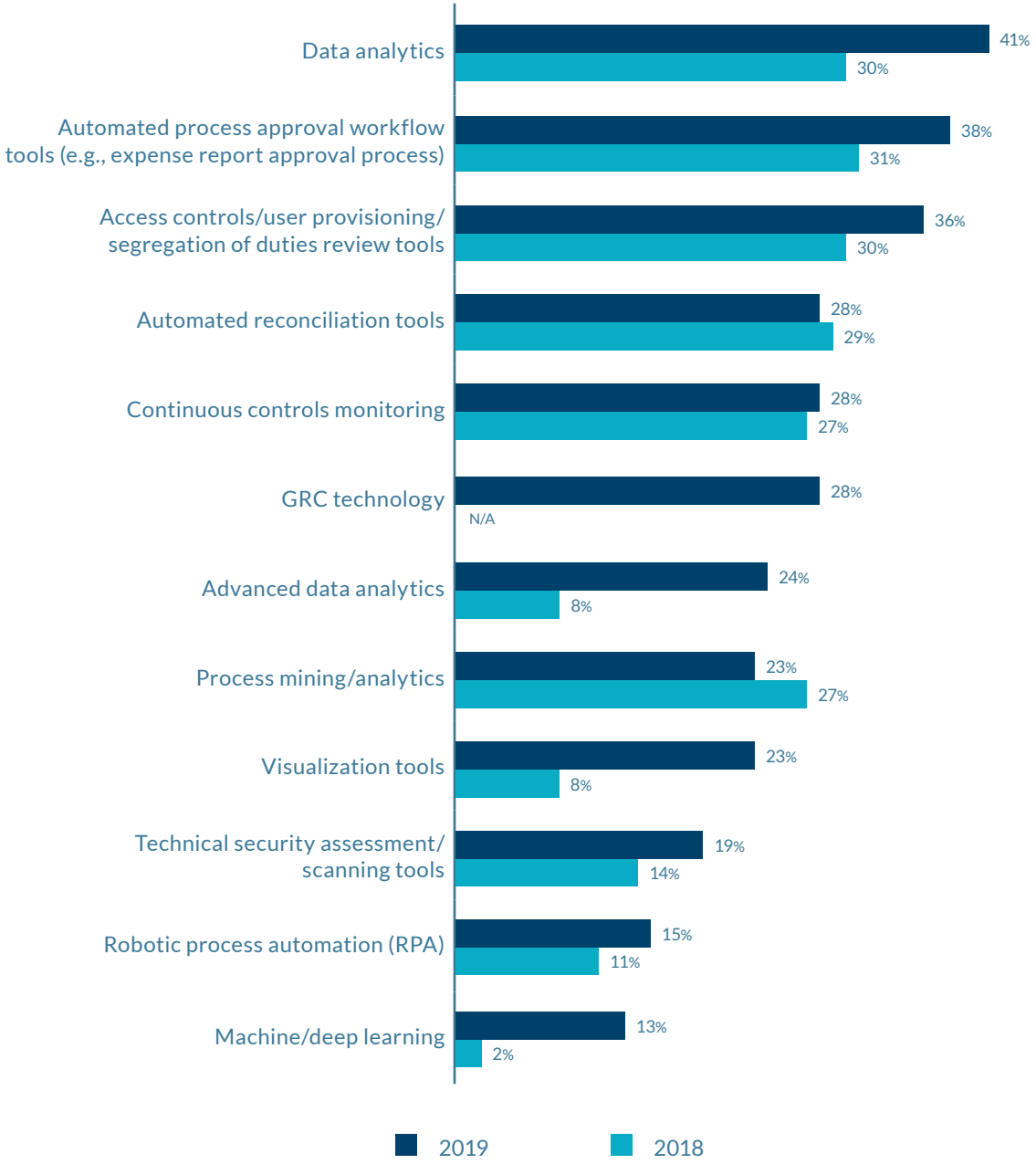
• • • *If "No": Does your organization plan to use technology tools in the testing of controls to comply with SOX Section 404 in the next fiscal year?*

	TOTAL
Yes, we plan to use technology tools in the next fiscal year	68%
No, but we plan to introduce the use of technology tools within two years	19%
No, we do not plan to use technology tools	13%

Next-generation internal audit and, by extension, SOX compliance 2.0, is really about encouraging innovative thought into the audit process and findings to deliver improved results. In all aspects of internal audit, including but certainly not limited to SOX compliance work, we need to think about where we may be able to do things better — increasing efficiency, enhancing coverage, delivering more impactful results and reports, operating in a more agile and dynamic way, and increasing leverage of data and technology. Divergent thinking should be encouraged. We need to embrace disruption and actively pursue transformation.

— Andrew Struthers-Kennedy, Managing Director Leader, IT Audit Practice, Protiviti

• • • *Which of the following technology tools is your organization using as part of the Sarbanes-Oxley compliance process? (Multiple responses permitted)*



Has your organization discussed with the external auditor the organization's plan to use technology tools in the testing of controls to comply with Sarbanes-Oxley Section 404?

Yes, we held this discussion with our external auditors during fiscal year 2018

Yes, we plan to discuss this topic with our external auditors during fiscal year 2019

No, we do not plan to use technology tools

Automated Controls

- *For fiscal year 2018, what percentage of your organization's total key controls would you estimate are automated key controls?*

SOX Filer Status				
	Large accelerated filer	Accelerated filer	Nonaccelerated filer	Emerging growth company
0%-5%	18%	12%	30%	8%
6%-10%	16%	10%	13%	5%
11%-25%	32%	34%	11%	14%
26%-50%	19%	29%	27%	51%
51%-75%	15%	15%	19%	22%

- *To what extent does your organization plan to further automate its manual processes and controls within fiscal year 2018?*

SOX Filer Status				
	Large accelerated filer	Accelerated filer	Nonaccelerated filer	Emerging growth company
We have significant plans to automate a broad range of IT processes and controls	17%	17%	22%	44%
We have moderate plans to automate numerous IT processes and controls	39%	46%	40%	33%
We have minimal plans to automate selected IT processes and controls	32%	24%	19%	12%
We have no plans to automate any further	12%	13%	19%	11%

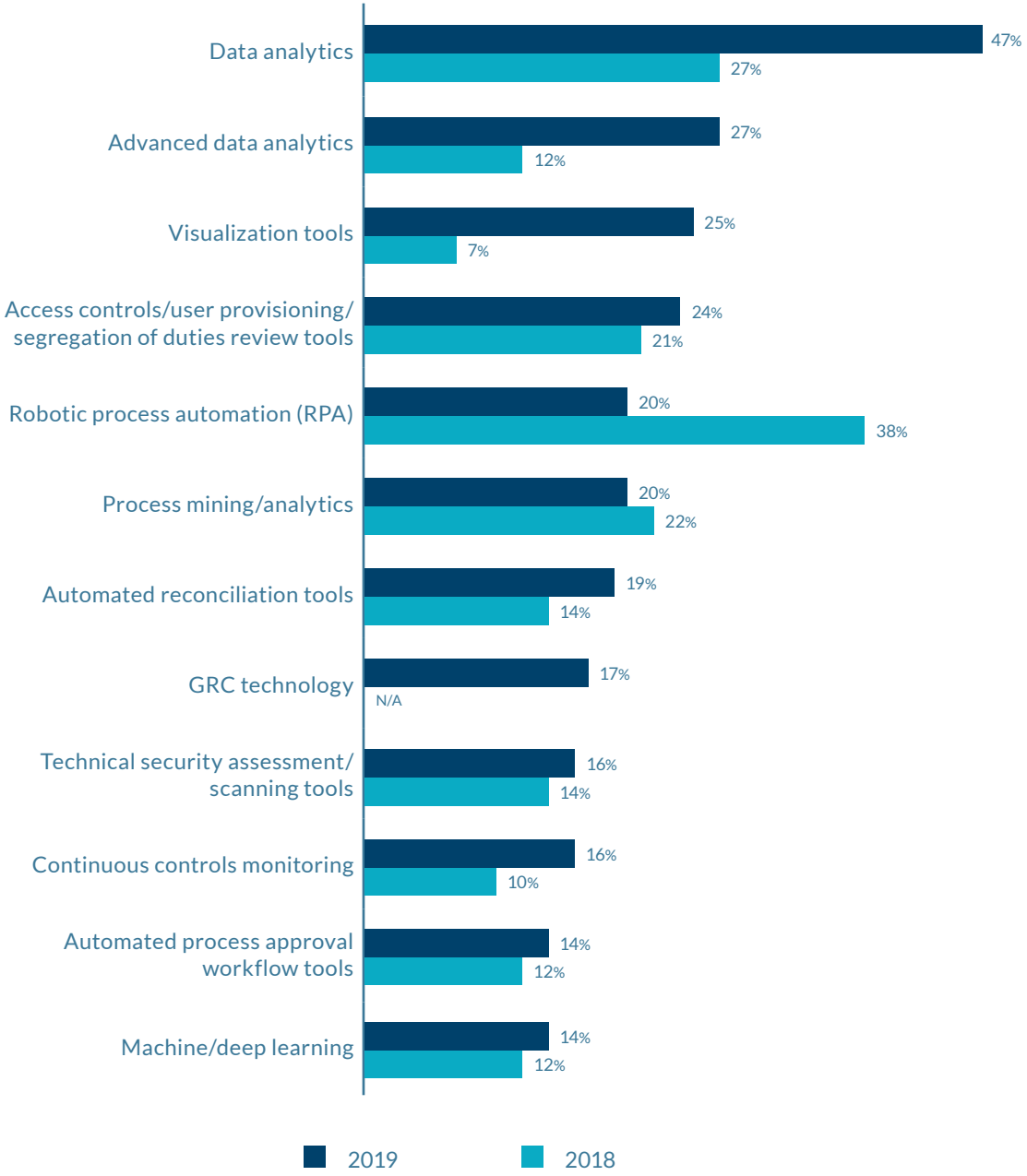
Did your organization's external auditor use technology tools in their testing of controls related to Sarbanes-Oxley Section 404 in fiscal year 2018?

Yes, our external auditor used technology tools during fiscal year 2018

No, but our external auditor plans to use technology tools during fiscal year 2019

No, our external auditor does not plan to use technology tools

• • • *Which of the following technology tools is your external auditor using as part of the Sarbanes-Oxley compliance process? (Multiple responses permitted)*



Automation, when focused on the right use cases, can be a powerful tool for improving the efficiency and effectiveness of a SOX program. Taking the time to think through and develop good RPA governance and controls from the outset can help organizations achieve the value they seek without creating unintended SOX compliance or operational consequences.

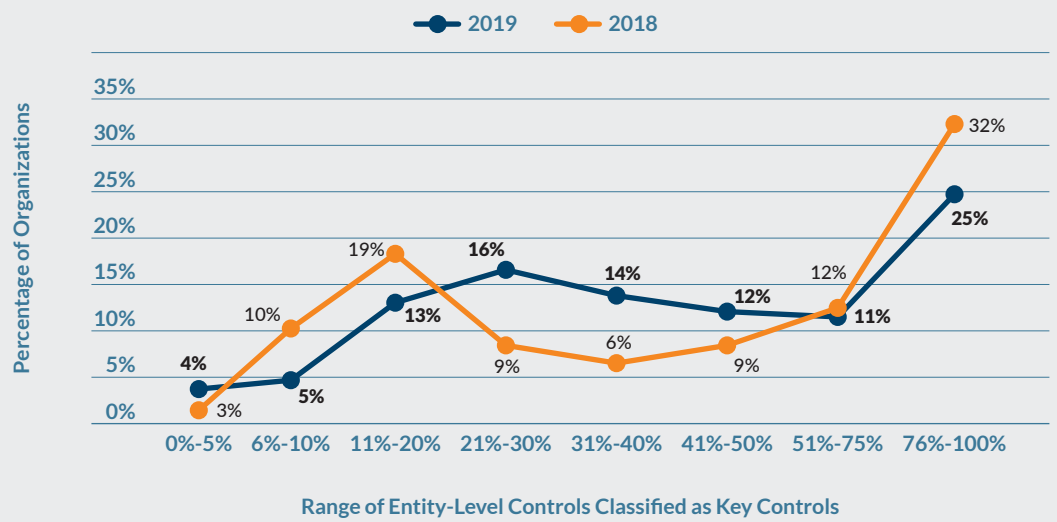
— Angelo Poulikakos, Managing Director, Protiviti

Entity-Level Controls

• • • *Number of Entity-Level Controls — by Number of Unique Organization Locations*

	1-3 locations	4-6 locations	7-9 locations	10-12 locations	More than 12 locations
Less than 15	15%	15%	11%	11%	14%
16-25	17%	13%	3%	9%	16%
26-35	15%	12%	8%	4%	10%
36-45	8%	6%	6%	11%	7%
46-55	10%	13%	12%	5%	9%
56-75	6%	3%	6%	5%	5%
76-95	2%	6%	3%	4%	4%
96-115	15%	10%	14%	12%	8%
More than 115	12%	22%	37%	39%	27%

• • • *Percentage of Entity-Level Controls Classified as Key Controls*



How does your organization compare?

• • • *Percentage of Entity-Level Controls Classified as Key Controls — by Number of Unique Organization Locations*

	1-3 locations	4-6 locations	7-9 locations	10-12 locations	More than 12 locations
0%-5%	7%	3%	3%	2%	3%
6%-10%	5%	5%	5%	2%	5%
11%-20%	6%	21%	17%	14%	12%
21%-30%	12%	13%	12%	34%	20%
31%-40%	23%	9%	15%	12%	9%
41%-50%	11%	11%	16%	7%	11%
51%-75%	8%	13%	12%	11%	14%
76%-100%	28%	25%	20%	18%	26%

Our research shows that three out of four internal audit organizations are pursuing some form of transformation with the objective of advancing their next-generation internal audit capabilities. This, without question, extends to SOX compliance activities. We expect internal audit and compliance functions increasingly to embrace technologies such as analytics, robotics, process mining and more to build greater effectiveness and efficiency into their SOX programs.

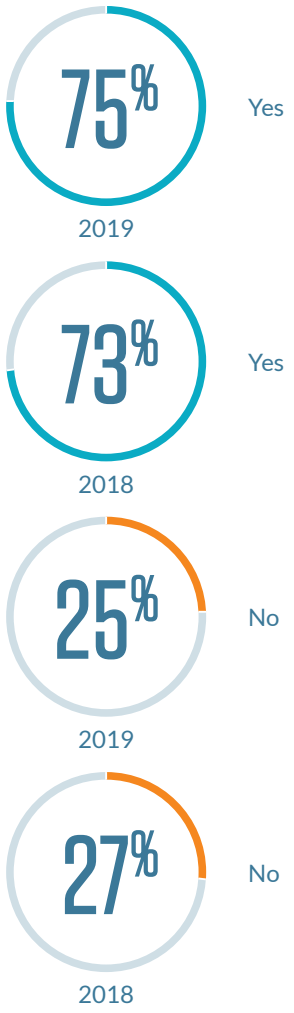
— Christine Fitzgerald, Director, Protiviti

Process-Level Controls

- *Number of Process-Level Controls — by Number of Unique Organization Locations*

	1-3 locations	4-6 locations	7-9 locations	10-12 locations	More than 12 locations
<35	14%	17%	12%	14%	12%
35-55	6%	6%	3%	5%	4%
56-75	4%	3%	1%	4%	6%
76-95	1%	0%	1%	2%	1%
96-115	9%	10%	2%	5%	8%
116-135	3%	5%	2%	0%	1%
136-155	6%	4%	6%	0%	1%
156-175	3%	0%	2%	2%	2%
176-195	1%	1%	1%	0%	2%
196-215	7%	8%	11%	3%	8%
216-235	2%	1%	3%	2%	0%
236-255	6%	5%	5%	0%	4%
256-300	9%	6%	12%	18%	8%
>300	29%	34%	39%	45%	43%

Has your organization started updating its controls documentation to reflect the implementation of the revenue recognition accounting standard?



• • • *Percentage of Process-Level Controls Classified as Key Controls — by Number of Unique Organization Locations*

	1-3 locations	4-6 locations	7-9 locations	10-12 locations	More than 12 locations
0%-5%	2%	2%	4%	2%	3%
6%-10%	3%	4%	1%	2%	3%
11%-20%	7%	14%	16%	32%	9%
21%-30%	14%	11%	15%	16%	18%
31%-40%	5%	13%	10%	7%	6%
41%-50%	18%	11%	16%	5%	13%
51%-75%	16%	15%	16%	16%	15%
76%-100%	35%	30%	22%	20%	33%

• • • *Percentage of Process-Level Controls Classified as IT General Controls — by Number of Unique Organization Locations*

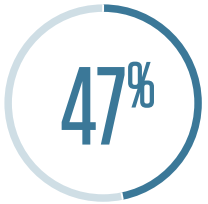
	1-3 locations	4-6 locations	7-9 locations	10-12 locations	More than 12 locations
0%-5%	8%	6%	6%	4%	7%
6%-10%	13%	8%	6%	2%	13%
11%-20%	21%	27%	25%	14%	21%
21%-30%	20%	22%	14%	43%	22%
31%-40%	23%	10%	13%	14%	10%
41%-50%	7%	10%	10%	9%	12%
51%-75%	3%	8%	15%	5%	11%
76%-100%	5%	9%	11%	9%	4%

How does your organization compare?

SOC Reports

- *Are sub-service providers included in the scope of work for the SOC reports you receive?*

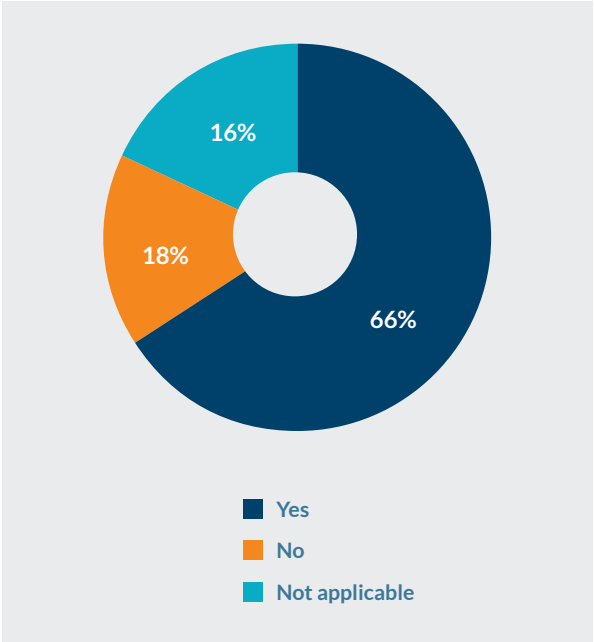
Yes, sub-service providers are included in the scope of work for all SOC reports we receive



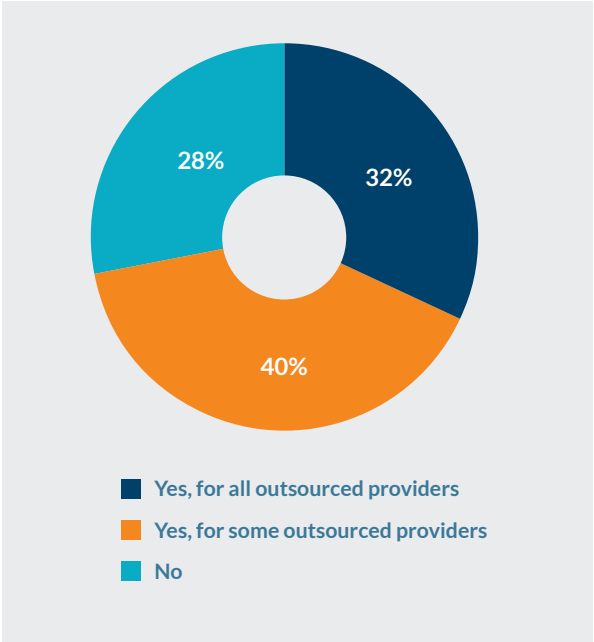
Partial — for some SOC reports we receive sub-service providers are included in the scope of work but not in others

No, none of the SOC reports we receive include sub-service providers in their scope of work

- *If you receive SOC 1 reports, are you preparing a formal mapping between company controls and outside providers' controls (as listed in SOC 1 reports)?*



- *Are you obtaining and evaluating the SOC reports for sub-service providers referenced in the SOC reports (which were not scoped into the SOC audit at the service provider)?*



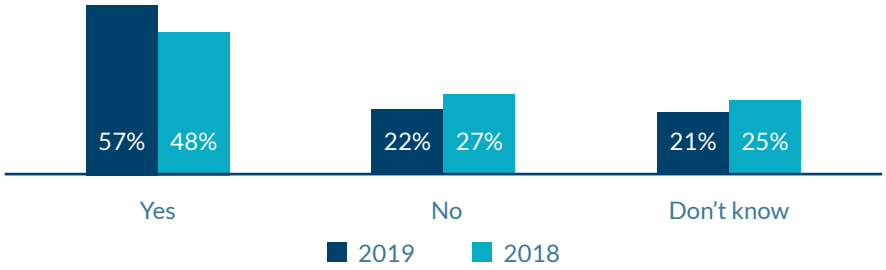
How does your organization compare?

Testing IPE

- *To what extent do you test information produced by entity (IPE) for data used to execute key controls?*

SOX Filer Status	Large accelerated filer	Accelerated filer	Nonaccelerated filer	Emerging growth company
We test IPE on a rotational basis with coverage every 2-3 years	25%	21%	25%	52%
We test IPE once a year for each key control that uses or relies upon it, and do not test it again if its source has not changed	45%	54%	50%	30%
We test IPE every time we test a control that uses or relies upon it	30%	25%	25%	18%

- *Is your external audit firm placing more focus on evaluating deficiencies?*



- *Do you baseline test system-generated reports used in key Sarbanes-Oxley controls?*

SOX Filer Status	2019	2018
Yes, all reports for key controls annually	26%	28%
Yes, all reports for key controls on a rotational basis	25%	17%
Yes, for some but not all reports	20%	33%
Yes, but only for new reports as they are developed	12%	7%
No	17%	15%

In this section:

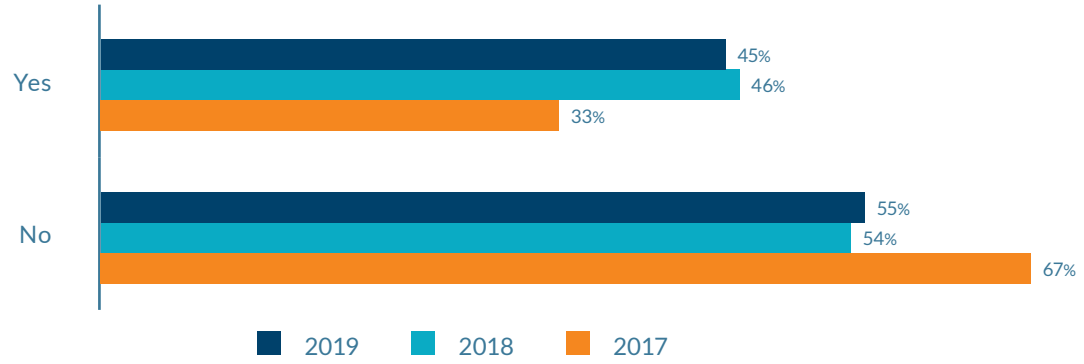
To what extent do you test information produced by entity (IPE) for data used to execute key controls?

Is your external audit firm placing more focus on evaluating deficiencies?

Do you baseline test system-generated reports used in key Sarbanes-Oxley controls?

Cyber Security

- *Was your organization required to issue a cybersecurity disclosure (according to CF Disclosure Guidance: Topic No. 2)?*



- *If "Yes": What was the impact on the total number of hours your organization devoted to Sarbanes-Oxley compliance during the fiscal year?*

	2019	2018	2017
Increased > 20%	18%	2%	15%
Increased 16%-20%	19%	39%	17%
Increased 11%-15%	16%	36%	22%
Increased 6%-10%	27%	5%	23%
Increased 1%-5%	9%	8%	10%
No change in hours	11%	10%	13%

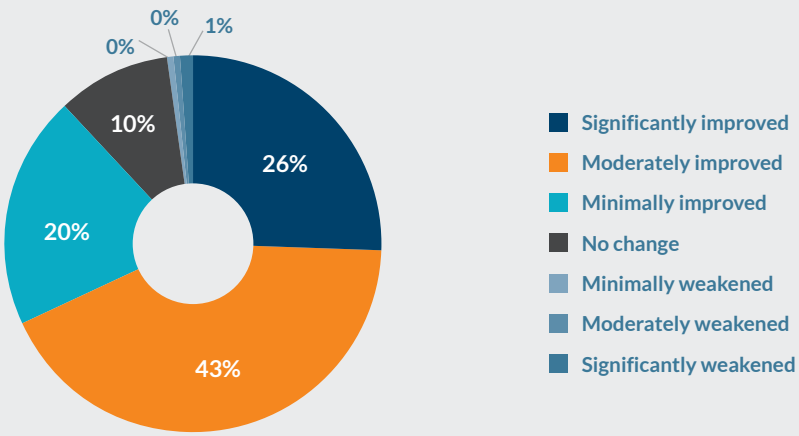
In this section:

Was your organization required to issue a cybersecurity disclosure (according to CF Disclosure Guidance: Topic No. 2)?

If "Yes": What was the impact on the total number of hours your organization devoted to Sarbanes-Oxley compliance during the fiscal year?

Perceptions of the SOX Compliance Process and Internal Control Over Financial Reporting

- *How has the internal control over financial reporting (ICFR) structure changed since Sarbanes-Oxley Section 404(b) was required for your organization?*



- *Considering the lifecycle of your Sarbanes-Oxley program until now, what are the primary benefits your organization has achieved through its Sarbanes-Oxley compliance process? (Multiple responses permitted)*

	TOTAL
Improved internal control over financial reporting (ICFR) structure	57%
Enhanced understanding of control design and control operating effectiveness	51%
Continuous improvement of business processes	47%
Compliance with SEC rules	46%
Increased reliance by external audit on the work of internal audit	43%
Ability to better identify duplicate or superfluous controls	43%
Improvements in company culture, specifically related to risk and controls	36%

In this section:

How has the internal control over financial reporting (ICFR) structure changed since Sarbanes-Oxley Section 404(b) was required for your organization?

Considering the lifecycle of your Sarbanes-Oxley program until now, what are the primary benefits your organization has achieved through its Sarbanes-Oxley compliance process?

Is internal audit involved in Sarbanes-Oxley activities in your organization?

How is internal audit involved in Sarbanes-Oxley activities in your organization?

Who in your organization supports Sarbanes-Oxley testing efforts?

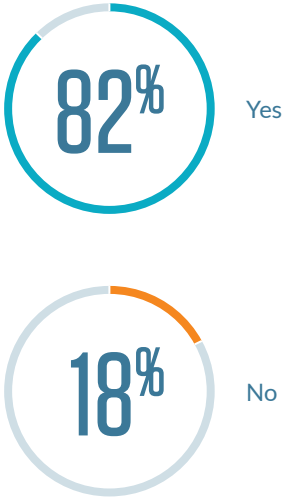
- *How is internal audit involved in Sarbanes-Oxley activities in your organization? (Multiple responses permitted)*

	TOTAL
Testing	83%
Updating documentation	68%
Project management office	53%

- *Who in your organization supports Sarbanes-Oxley testing efforts? (Multiple responses permitted)*

	TOTAL
Internal audit	69%
Management and/or process owners	64%
Third-party service provider	35%
Business/financial controls unit	34%
Project management office	34%

Is internal audit involved in Sarbanes-Oxley activities in your organization?



Outsourcing Practices

- *Does your organization use outside resources for Sarbanes-Oxley compliance activities related to process controls?*

	Total	Beyond 2nd year of SOX compliance	2nd year of SOX compliance	1st year of SOX compliance	Pre-1st year of SOX compliance
Yes, we use co-source providers	34%	32%	30%	37%	46%
Yes, we outsource our process-related Sarbanes-Oxley activities	20%	9%	45%	33%	29%
No, we do not use outside resources	46%	59%	25%	30%	25%

- *Does your organization use outside resources for Sarbanes-Oxley compliance activities related to IT controls?*

	Total	Beyond 2nd year of SOX compliance	2nd year of SOX compliance	1st year of SOX compliance	Pre-1st year of SOX compliance
Yes, we use co-source providers	35%	32%	44%	25%	54%
Yes, we outsource our process-related Sarbanes-Oxley activities	24%	17%	32%	47%	26%
No, we do not use outside resources	41%	51%	24%	28%	20%

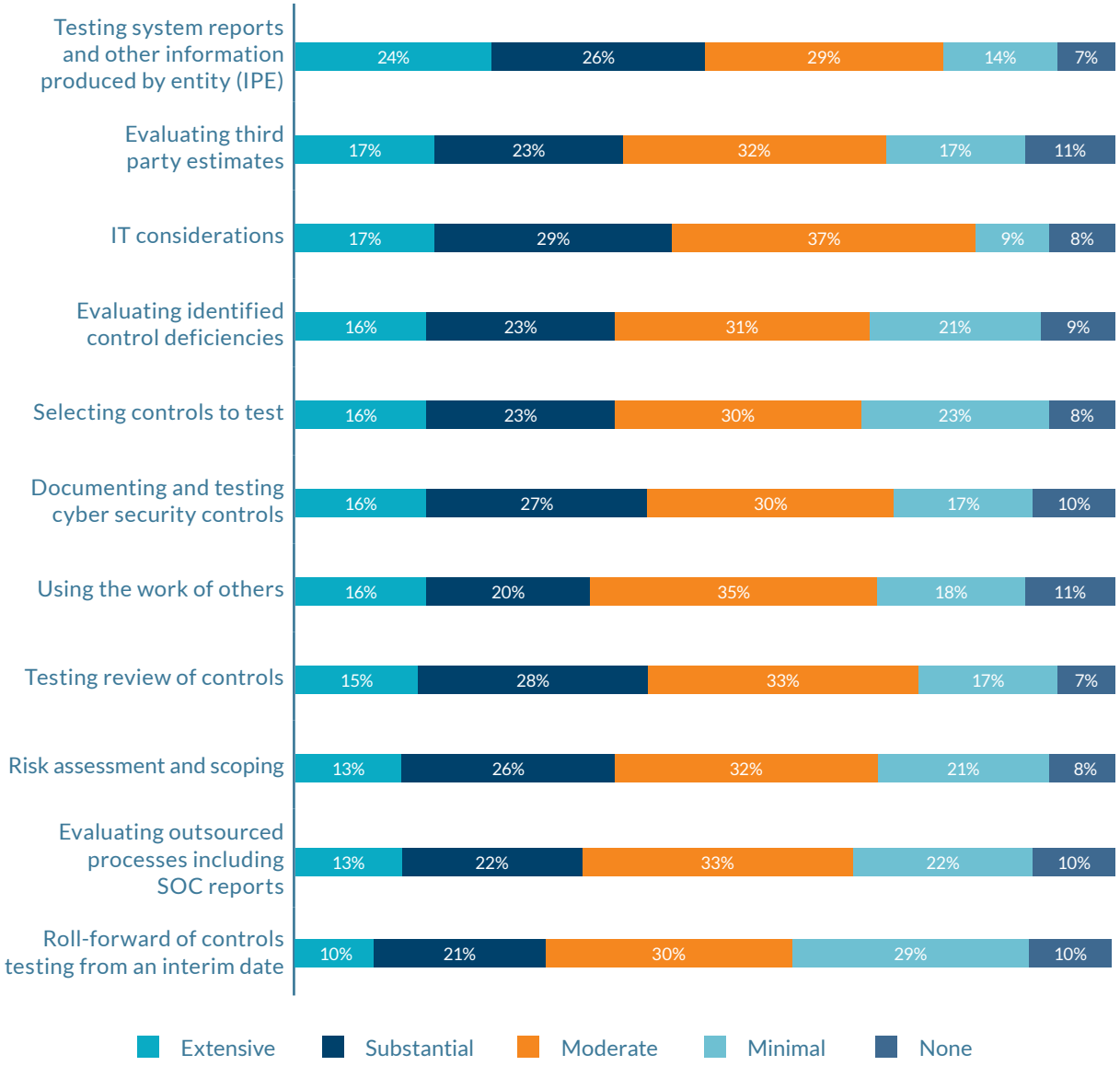
In this section:

Does your organization use outside resources for Sarbanes-Oxley compliance activities related to process controls?

Does your organization use outside resources for Sarbanes-Oxley compliance activities related to IT controls?

Appendix

- - - *Indicate the impact of the PCAOB's inspection reports on external auditors on your organization's costs for the following Sarbanes-Oxley compliance activities.*

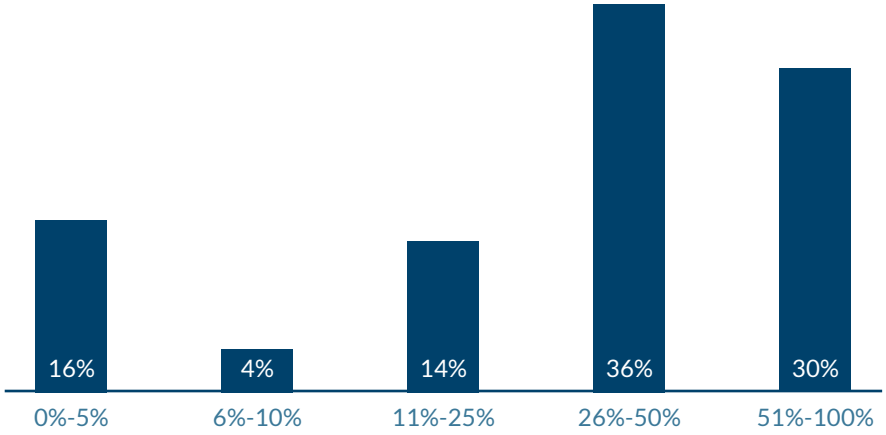


Does your organization use a software tool to manage Sarbanes-Oxley compliance execution and store documentation?

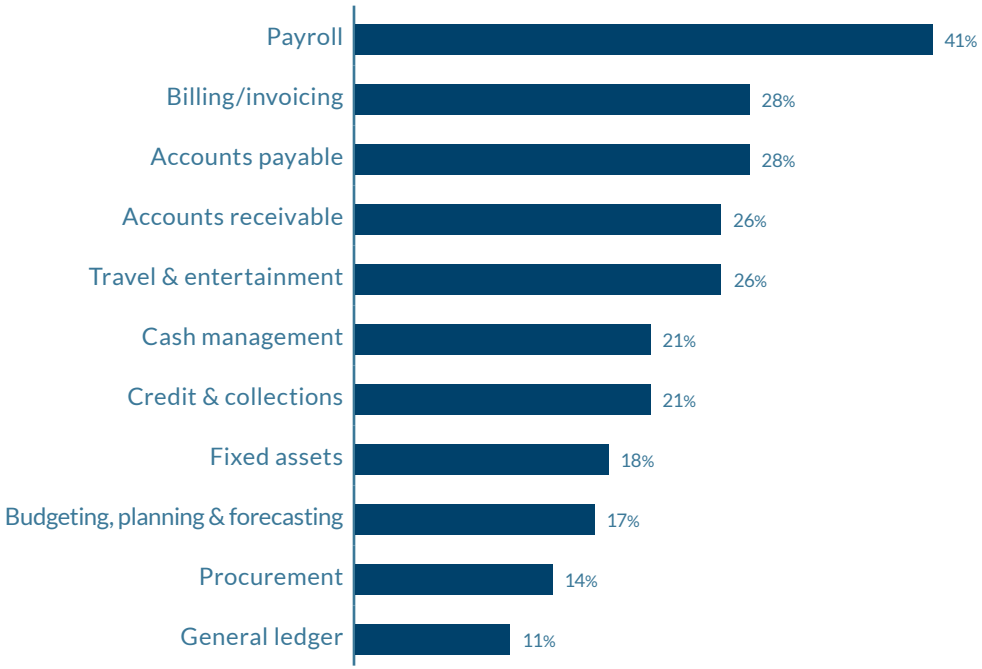
Yes

No

• • • *For processes that your company outsources, how often are they able to rely solely on internal management review controls for testing outsourced provider controls?*



• • • *What business processes/functions does your company outsource/use a third party provider for? (Multiple responses permitted)*

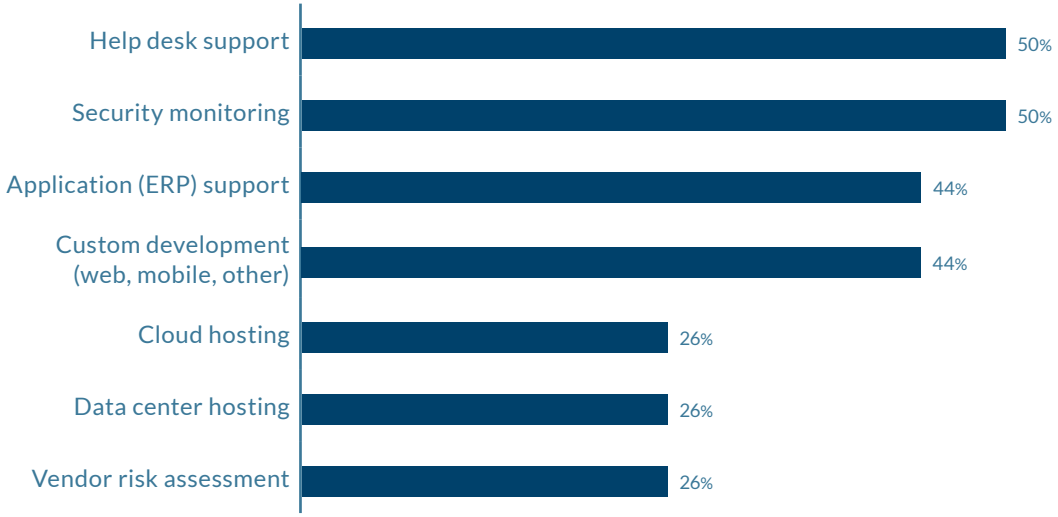


For processes that your company outsources, have you had to audit the supplier on site to gain sufficient comfort around the control environment?

Yes

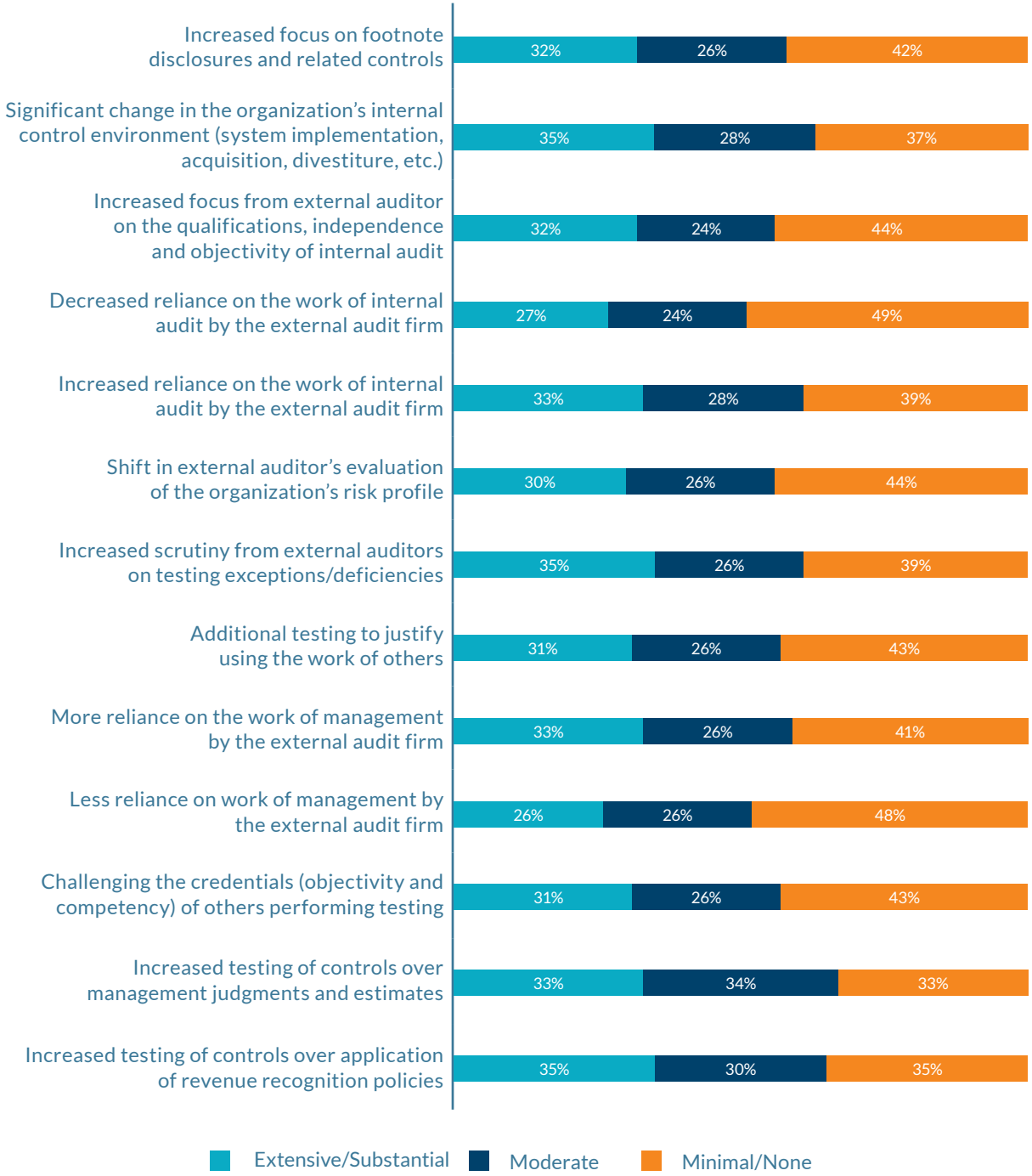
No

- - - *What IT processes/functions does your company outsource/use a third party provider for? (Multiple responses permitted)*

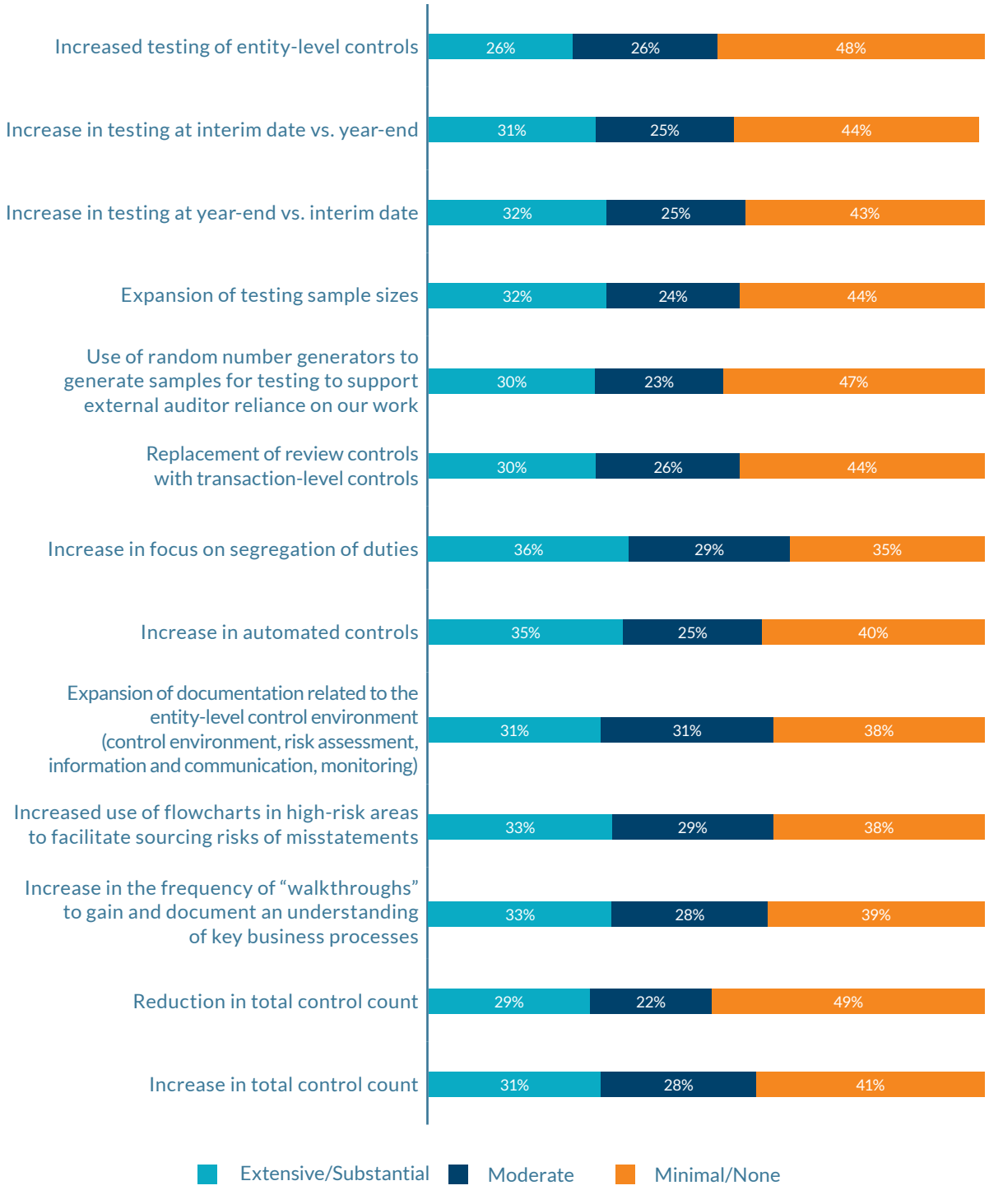


How does your organization compare?

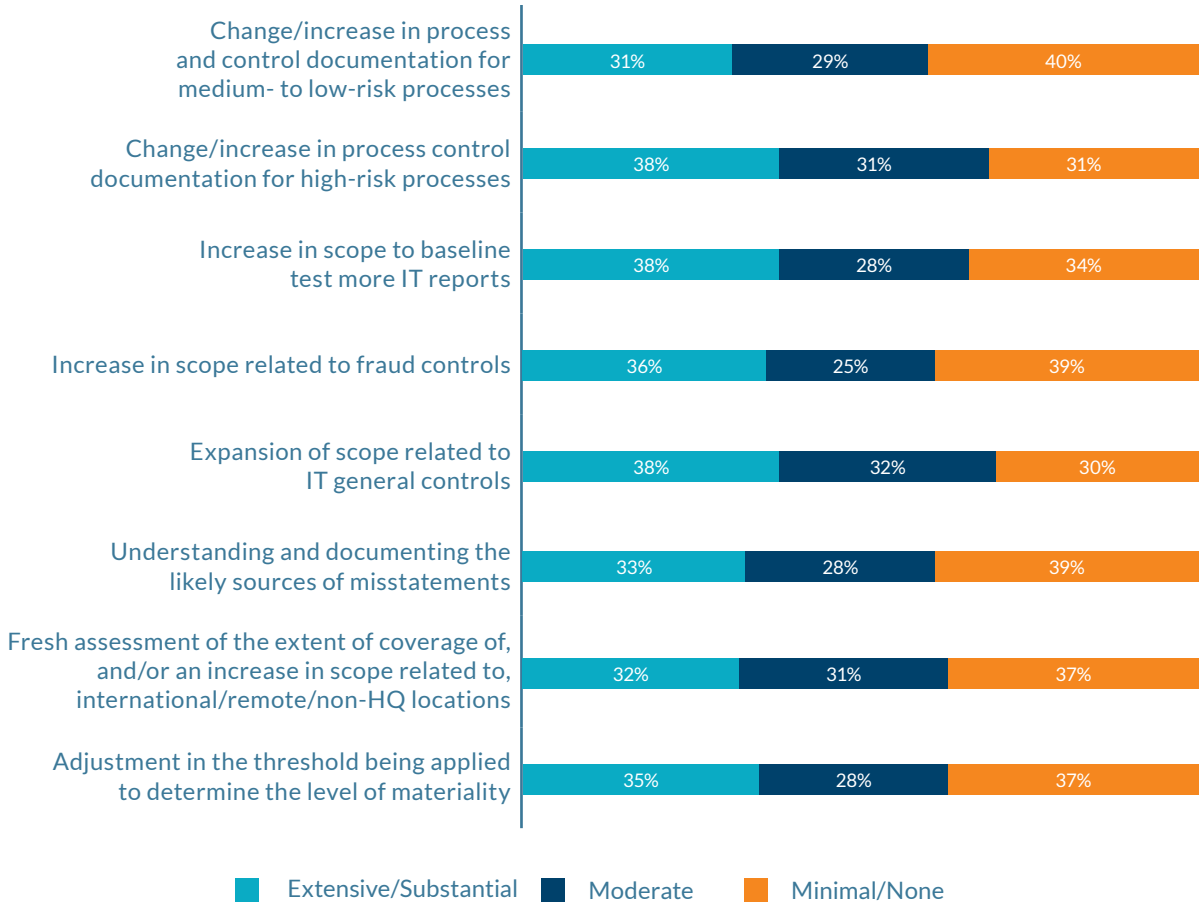
• • • *To what degree did you note the following changes in your organization's Sarbanes-Oxley compliance program in 2018?*



How does your organization compare?



How does your organization compare?



How does your organization compare?

Methodology and Demographics

Close to 700 respondents (n=693) from publicly held organizations participated in Protiviti's 2019 Sarbanes-Oxley Compliance Survey, which was conducted online during the first quarter of 2019. Survey participants also were asked to provide demographic information about the nature, size and location of their businesses, and their titles or positions. We are very appreciative of and grateful for the time invested in our study by these individuals.

• • • *Position*

Audit Manager	15%
Finance Manager	12%
Chief Audit Executive (CAE)	10%
Audit Director	10%
Finance Director	10%
Chief Financial Officer (CFO)	9%
Audit Staff	9%
Corporate Sarbanes-Oxley Leader/PMO Leader	7%
Risk Management	4%
Chief Compliance Officer (CCO)	3%
Corporate Controller	2%
Finance Staff	2%
Board Member/Audit Committee Member	2%
External Auditor	1%
Other	4%

• • • *Industry*

Financial Services	20%
Manufacturing (other than Technology)	11%
Technology (Software/High-Tech/Electronics)	11%
Retail	6%
Real Estate	6%
Insurance (excluding Healthcare — Payer)	6%
Healthcare — Provider	5%
Construction	4%
Education	3%
Consumer Packaged Goods	2%
Professional Services (CPA/Public Accounting/Consulting Firm, etc.)	2%
Telecommunications	2%
Transportation and Logistics	2%
Automotive	2%
Hospitality	2%
Oil and Gas	2%
Power and Utilities	2%
Wholesale/Distribution	2%
Healthcare — Payer	2%
Chemicals	1%
Biotechnology/Life Sciences/Pharmaceuticals	1%
Government	1%
Media	1%
Mining	1%
Other	3%

• • • *Size of Organization (outside of financial services) — by gross annual revenue*

$20 billion or greater	12%
$10 billion - $19.99 billion	8%
$5 billion - $9.99 billion	14%
$1 billion - $4.99 billion	33%
$500 million - $999.99 million	17%
$100 million - $499.99 million	10%
Less than $100 million	6%

• • • *Size of Organization (within financial services) — by assets under management*

More than $250 billion	21%
$50 billion - $250 billion	17%
$25 billion - $49.99 billion	12%
$10 billion - $24.99 billion	11%
$5 billion - $9.99 billion	11%
$1 billion - $4.99 billion	22%
Less than $1 billion	6%

• • • *Current SOX Compliance Reporting Status*

Beyond 2nd year of SOX compliance	67%
2nd year of SOX compliance	11%
1st year of SOX compliance	11%
Pre-1st year SOX compliance	11%

• • • *Number of Unique Locations*

1-3	30%
4-6	20%
7-9	16%
10-12	9%
More than 12	25%

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