



# THE 10<sup>TH</sup> ANNUAL NONPROFIT TECHNOLOGY STAFFING AND INVESTMENTS REPORT

An NTEN Report  
Written by Robert Hulshof-Schmidt

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# About the report

NTEN has been collecting data for a decade on how nonprofits invest in technology staff and tools. To gather the data for this report, we rely on the generosity and participation of respondents who completed the survey, as well as the collaboration of sector partners who helped distribute the survey: Thank You! During 2016, we distributed an invitation via direct email to participate in the online survey to NTEN's community and promoted the survey across a wide range of NTEN channels, including our monthly Connect and Member Update newsletters, and social media. Survey distribution partners also distributed links to the online survey via email and/or via social channels. 259 responses were received. The data collected was voluntary and not verified by a third party or external sources.

As part of the data analysis process, we have applied some basic data validation rules to exclude obviously erroneous or impossible data. However, please read the demographic representation (page 32) to gauge how your organization might compare to our respondent make-up, and consider the voluntary nature of this data when you are comparing your own organization's practices and investments to the results. Because our year-over-year respondent pool varies significantly, we refrain from making direct year-to-year analysis of dollar figures, and we recommend you do the same. However, when significant changes emerge, we will make a note. Otherwise, we tend to generalize about organizational technology practices in terms of trends, and let the current year investment numbers stand on their own.

## Survey distribution partners



# How to read this report

Throughout this report, we use two scales to group respondents - technology adoption level and organization size. The definitions for those terms are listed below.

Technology adoption level	Percent of respondents
<b>Struggling</b> - we are struggling; we have a failing infrastructure, and our technology time and budget generally go towards creating work-arounds, repairing old equipment, and duplicating tasks.	6.53%
<b>Functioning</b> - we keep the lights on; we have basic systems in place to meet immediate needs. Leadership makes technology decisions based on efficiencies, with little-to-no input from staff/consultant.	22.86%
<b>Operating - we keep up; we have stable infrastructure and a set of technology policies and practices. Leadership makes technology decisions based on standard levels according to industry/sector information and gathers input from technology staff/consultant before making final decision.</b>	<b>50.20%</b>
<b>Leading</b> - we're innovators; we recognize that technology is an investment in our mission, and leadership integrates technology decisions with organizational strategy. Technology-responsible staff are involved in overall strategic planning. We explore new tools and approaches to ensure our technology is up-to-date and is serving the needs of our organization and community.	20.41%

**Organization size:** We asked respondents their overall organizational operating budgets, which we've used throughout the report to categorize and compare responses:

Organization size category	Organization budget range
Small	< \$1M
Medium	\$1M < > \$5M
Large	\$5M < > \$10M
Very large	> \$10M

# Technology staffing

## Average total technology staff by org size

Organization size	Average # of total tech staff	Average # of org staff supported by each tech staff
Small	3.1	4.8
Medium	5.0	13.0
Large	3.7	15.6
Very large	10.2	35.9
All	5.9	23.9

## Average technology staff by role and org size

Organization size	Total org staff size	IT staff	Web staff	Data/ analytics staff	Online/ digital staff	Other tech staff
Small	14.7	1.0	0.5	0.3	0.4	0.8
Medium	64.9	2.6	0.6	0.7	0.6	0.6
Large	57.0	1.3	0.6	0.7	0.6	0.4
Very large	367.6	5.3	1.2	1.7	1.2	0.8
All	140.4	2.8	0.8	0.9	0.7	0.7

## Technology roles breakdown

We wanted to look at the various technology roles that staff play at responding organizations. These tables look at the number of staff in each role and the totals across organizations. The data also provide a nuanced look at the way staffing breaks out by size of organization. (For definitions, refer to *How to Read This Report* on previous page. Detailed demographics are at the end of this report.)

We also look at how many overall staff are supported by each member of the tech staff, by size and overall across respondents. Not surprisingly, the larger the organization, the more tech staff in all categories; smaller organizations, however, have a much lower tech-to-staff ratio. This is a useful metric for benchmarking. It can offer a more exact comparison since your staff size may give you a clearer sense of your actual technology needs.

# Technology staffing

## Total technology staff

Tech adoption Level	Average # of total tech staff	Average # of org staff supported by each tech staff
Struggling	2.2	8.1
Functioning	3.9	18.3
Operating	6.6	28.2
Leading	8.3	20.4
All	6.0	24.1

## Leading organizations invest in tech staff

It can also be useful to look at technology adoption and staffing levels. For example, the more robust the technology adoption level, the larger the number of tech staff on average. Leading organizations have sufficiently more tech staff and their average support ratio is lower than that of Operating organizations.

## Technology staff by role

Tech adoption level	Total staff	IT staff	Web staff	Data/ analytics staff	Online/ digital staff	Other tech staff
Struggling	17.5	0.7	0.3	0.4	0.3	0.5
Functioning	70.4	1.3	0.8	0.4	0.4	1.0
Operating	186.0	3.4	0.8	0.9	0.9	0.6
Leading	169.8	4.1	0.9	1.6	1.0	0.7
All	145.2	2.9	0.8	0.9	0.7	0.7

# Technology budgets

## Budgets by organization size

Organization size	Average overall tech budget
Small	\$7,595
Medium	\$45,184
Large	\$101,064
Very large	\$235,445
All	\$98,668

### Larger organizations invest more in technology

These tables provide a snapshot of the averages and ranges by organizational size. As one might expect, the larger the organization, the larger the budget and the wider the range.

	Small	Medium	Large	Very large
75th percentile	\$2,209	\$80,250	\$184,500	\$461,800
Median	\$1,000	\$28,650	\$135,390	\$205,000
25th percentile	\$404	\$16,400	\$96,250	\$50,350

# Technology budgets

## Budgets per staff

Organization size	Average tech budget per staff
Small	\$2,127.45
Medium	\$3,468.11
Large	\$5,016.32
Very large	\$3,081.23
All	\$3,194.68

## Economies of scale

As we discussed earlier, looking more closely at the “per staff” value of investment is often more useful than looking at the average per overall size category. In the case of technology budgets, we see that the per-staff budget amount tightens up across all the size categories. As we’ve seen over the years, Very large organizations actually spend less per staff member than Medium and Large organizations and have a tighter range of budget-per-staff averages.

	Small	Medium	Large	Very large
75th percentile	\$2,209	\$3,578	\$5,810	\$2,576
Median	\$1,000	\$1,535	\$2,692	\$747
25th percentile	\$404	\$555	\$1,228	\$268



# Technology budgets

## % of operating budget

Organization size	Average tech budget as % of operating budget
Small	13.2%
Medium	4.8%
Large	2.8%
Very large	1.5%
All	5.7%

## Technology's slice of the pie

How much do you spend on technology compared to your overall budget? These tables will help you compare your expenditures with organizations of similar size.

	Small	Medium	Large	Very large
75th percentile	4.9%	3.3%	2.5%	1.7%
Median	2.6%	1.7%	2.0%	1.0%
25th percentile	0.9%	0.7%	1.6%	0.2%

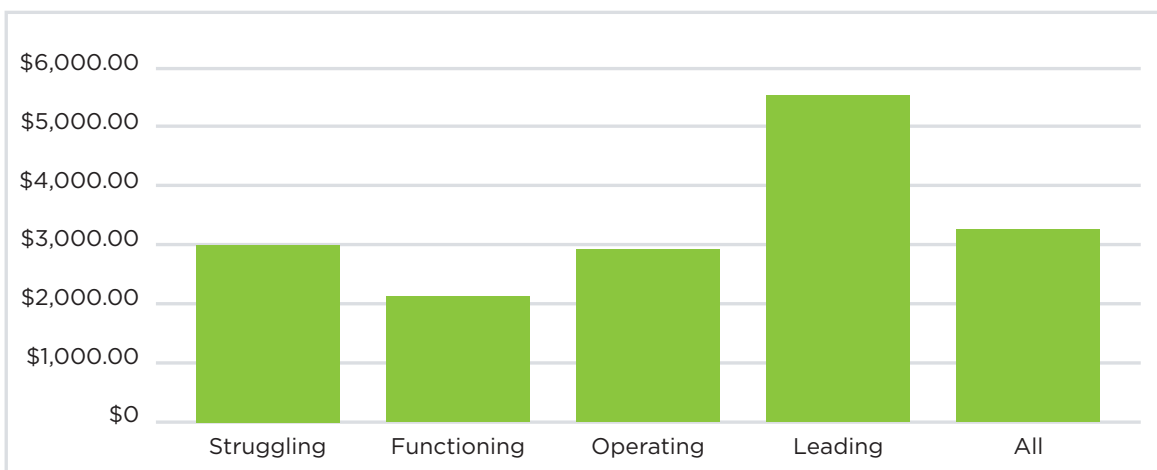
# Technology budget metrics: By adoption level

Tech adoption	Average tech budget per org staff
Struggling	\$3,010.11
Functioning	\$2,078.68
Operating	\$2,915.18
Leading	\$5,502.59
All	\$3,194.68

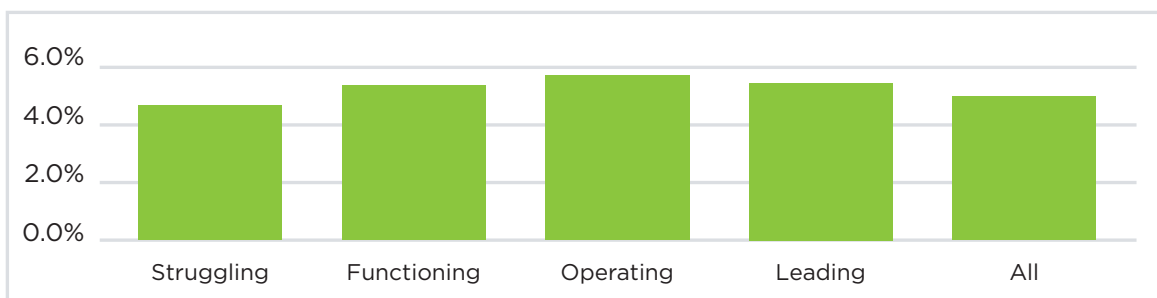
Tech adoption	Average tech budget as % of operating budget
Struggling	4.9%
Functioning	5.4%
Operating	5.9%
Leading	5.8%
All	5.7%

The last two pages looked at budget metrics by organization size. These tables look at the same metrics categorized by technology adoption level, providing a different lens on the same measures.

### Average tech budget per org staff by tech adoption level



### Average tech budget as % of operating budget by tech adoption level



# Technology budget allocations:

## By organization size

Organization size	Hardware	Software	Hosting	Networking	Consulting	Outsourced services	Backups	Other tech
Small	\$4,109	\$2,503	\$1,234	\$3,109	\$1,971	\$2,975	\$260	\$1,295
Medium	\$10,526	\$18,833	\$6,871	\$10,379	\$12,984	\$8,343	\$2,714	\$46,007
Large	\$23,742	\$42,972	\$5,593	\$16,593	\$51,906	\$43,654	\$3,945	\$34,650
Very large	\$84,079	\$132,450	\$16,508	\$106,307	\$90,517	\$58,495	\$11,454	\$104,652
All	\$31,412	\$50,030	\$8,227	\$36,606	\$44,190	\$27,721	\$4,994	\$52,721

Organization size	Average of total tech salaries
Small	\$17,246
Medium	\$17,246
Large	\$71,969
Very large	\$330,862
All	\$127,313

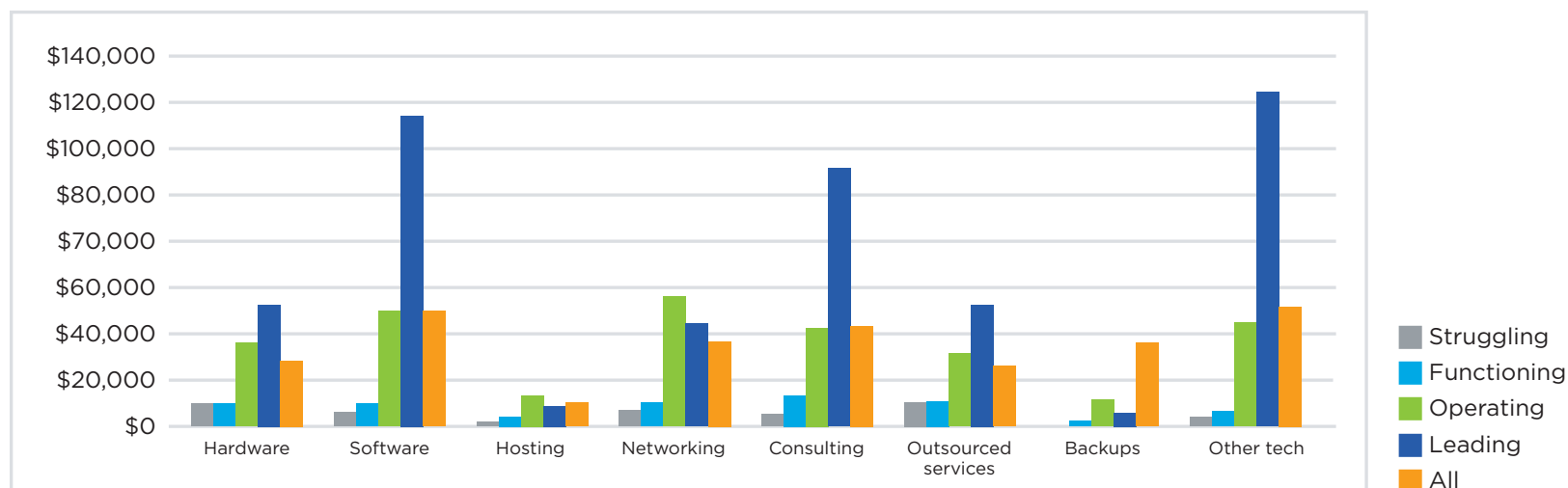
Technology budgets are made up of many parts. These tables help us look at the way organizations distribute their technology spending by category. With only a couple of exceptions (for two Medium organization categories), the larger the organization, the bigger the expenditure.

This also holds true for salaries, which we've separated from all our other budget tables.

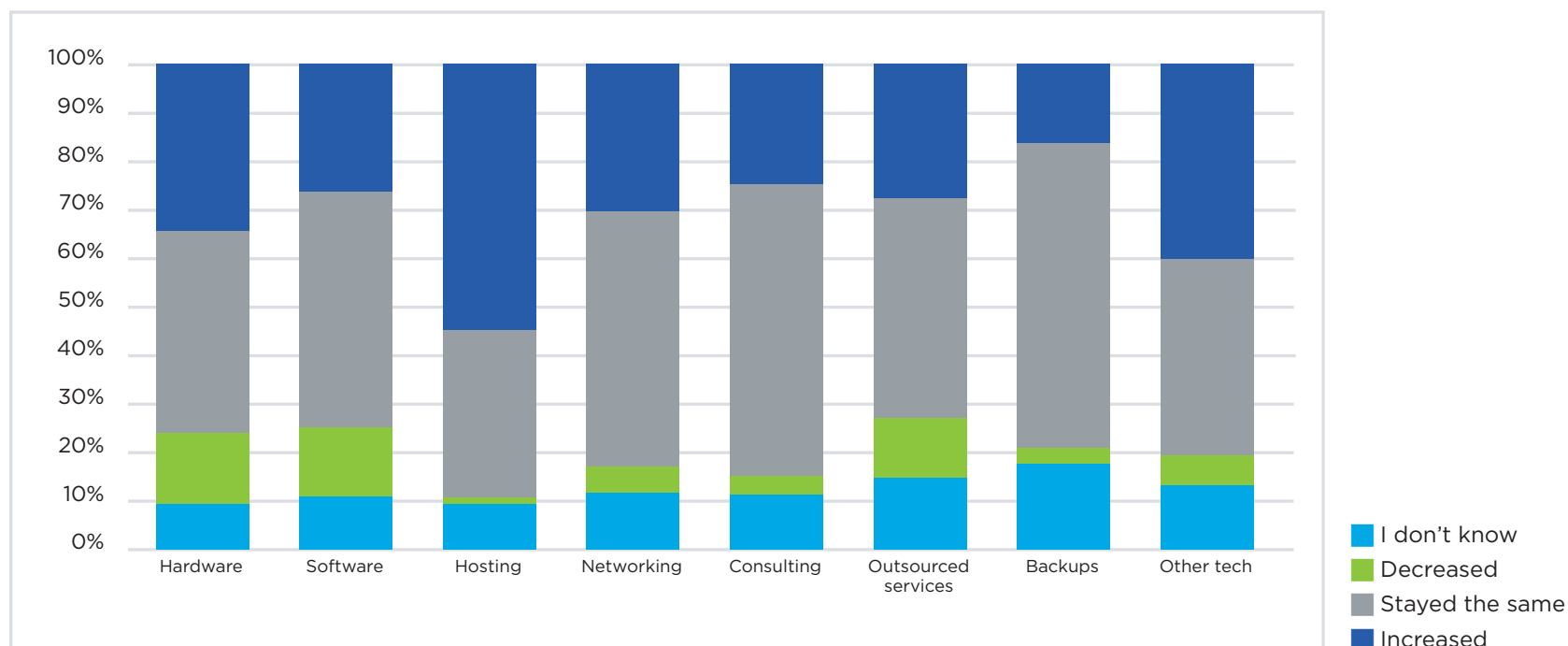
While we try to avoid year-over-year comparisons, one change stands out this year. For the first time, three out of four size groups spent more on software than hardware, making that category the overall champ for the first time.

# Technology budget allocations: By tech adoption levels

Technology adoption level	Hardware	Software	Hosting	Networking	Consulting	Outsourced services	Backups	Other tech
Small	\$7,589	\$5,106	\$2,144	\$3,785	\$3,000	\$6,714	\$333	\$2,371
Medium	\$7,550	\$8,221	\$3,173	\$7,229	\$12,078	\$6,926	\$2,329	\$3,593
Large	\$38,114	\$50,225	\$11,816	\$54,969	\$41,752	\$29,972	\$4,647	\$45,908
Very large	\$50,724	\$112,523	\$7,630	\$42,585	\$90,560	\$53,023	\$9,672	\$124,896
All	\$31,708	\$50,391	\$8,354	\$38,187	\$42,399	\$27,890	\$4,861	\$49,513

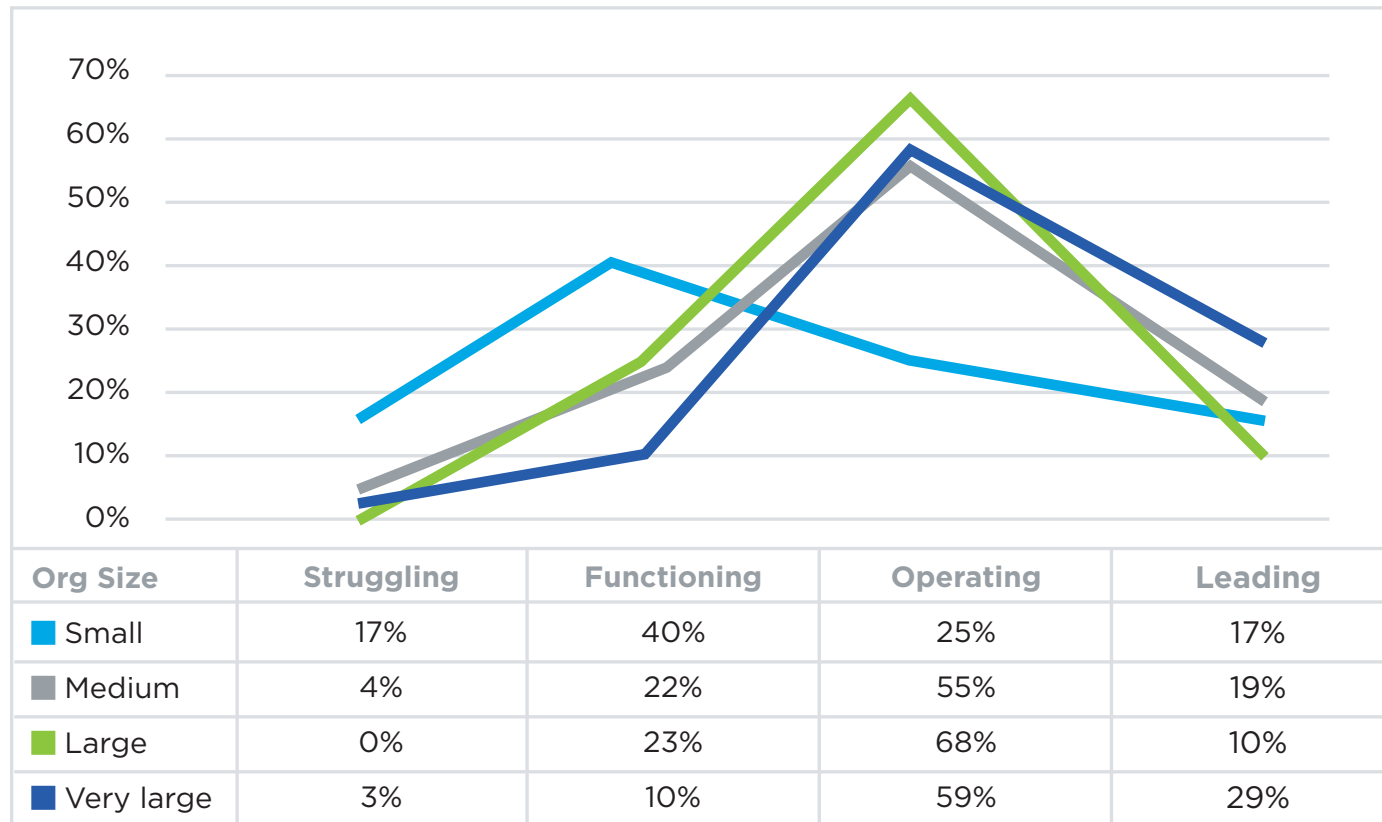


# Technology budget allocations: Compared to the previous year



Looking at how organizations spend their technology budgets over time is also useful. As we have seen in previous years, the most common answer for every category is “stayed the same.” The one exception is for hosting, with a significant number of respondents reporting an increase in this category. While this is a relatively low expenditure overall, this increase in spending is interesting to note.

# Technology adoption levels: By organization size



While we can see that organizational size does play a role in technology adoption level, we should note that there isn't a direct correlation. While smaller organizations are significantly more likely to consider themselves Struggling or Functioning, the spread between Small and Very large organizations significantly decreases at the upper end of the adoption spectrum.

While in general we see a steady progression towards, and peak at, the Operating level for each size category, we note that Small organizations hover between Functioning and Operating, with slightly more indicating they're at the Functioning Level. This is a pattern we have seen previously.

# Tech effectiveness score

Organization size	Average of TE score	Normalized TE score
Small	17.0	2.8
Medium	18.7	3.1
Large	19.5	3.2
Very large	18.7	3.1
Overall	18.3	3.1

Tech adoption	Average of TE score	Normalized TE score
Struggling	14.7	2.4
Functioning	15.4	2.6
Operating	19.8	3.3
Leading	23.1	3.9
Overall	19.1	3.2

We create the Technology Effectiveness (TE) score by asking respondents to rate their agreement with six statements (listed in detail on the following page). Answers range from 1 to 5; scores are added for a maximum of 30, then normalized back to the five-point scale. The higher the number, the more effective the organization is in terms of providing the technology, staff, and training they need to carry out their work and in applying those tools across the various departments of the organization.

Unlike technology adoption level, Technology Effectiveness scores do not vary significantly based on the size of the organization. A small organization can feel just as effective in making use of their tech resources as very large one.

Unsurprisingly, however, there is a clear relationship between technology adoption level and Technology Effectiveness. A Struggling organization is inherently less effective at using its resources than an Operating one.

As in previous years, respondents felt most confident about having the tools to do their everyday work. By a small margin, they were least confident about the having sufficient skilled staff and staff training for effective technology use. While having the tools remains a significantly higher rating, the other five scores actually cluster fairly tightly. This is a trend that has appeared over the years.

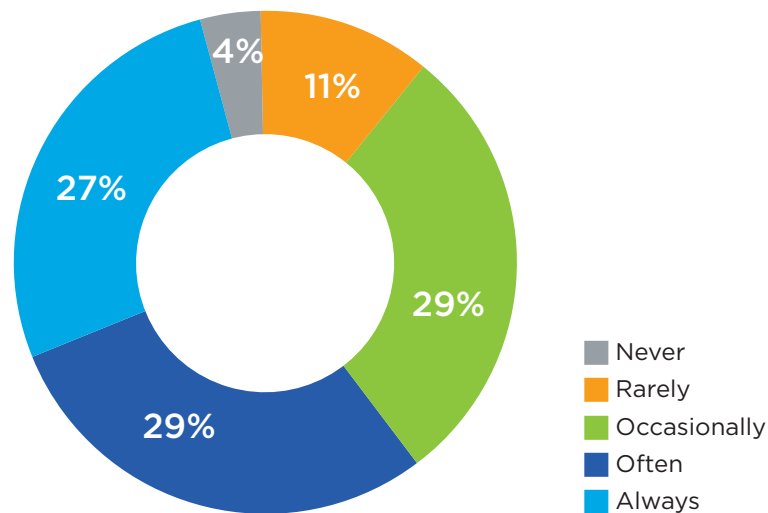
Tech effectiveness statements	Average rating
We have the technology (hardware and software) we need to do our day-to-day work effectively	3.421
We have enough skilled staff to support technology functions/needs for the organization	2.99
We have enough training for all staff to use technology effectively for their day-to-day work	3.01
We make effective use of technology to support our programmatic work/our services	3.16
We make effective use of technology to support our fundraising/development work	3.09
We make effective use of technology to support our marketing/communications work	3.29



# Best practices:

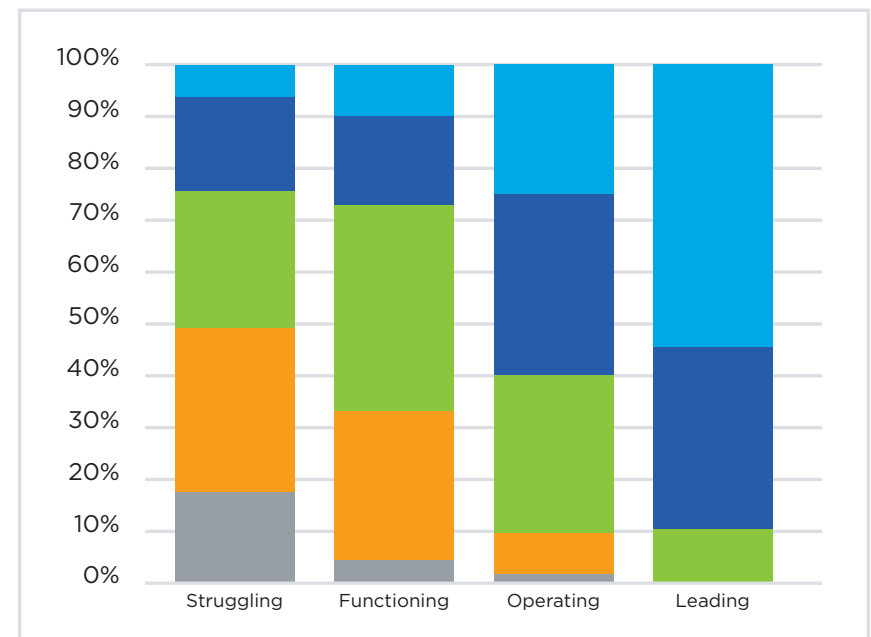
## Does your organization include technology in your organizational strategic plan?

### Technology effectiveness



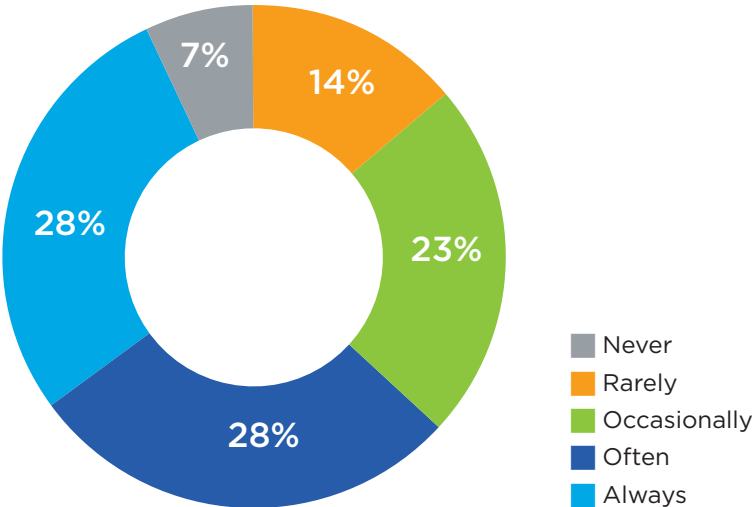
Over half of the respondents indicated that they regularly include technology issues in their strategic plans. This practice has a strong correlation with technology adoption level, with all Leading organizations indicating that they include technology at least occasionally, while Struggling organizations do so only half the time.

### By tech adoption level



# Does IT or technology-responsible staff participate in strategic and planning discussions with the executive team?

## Technology effectiveness

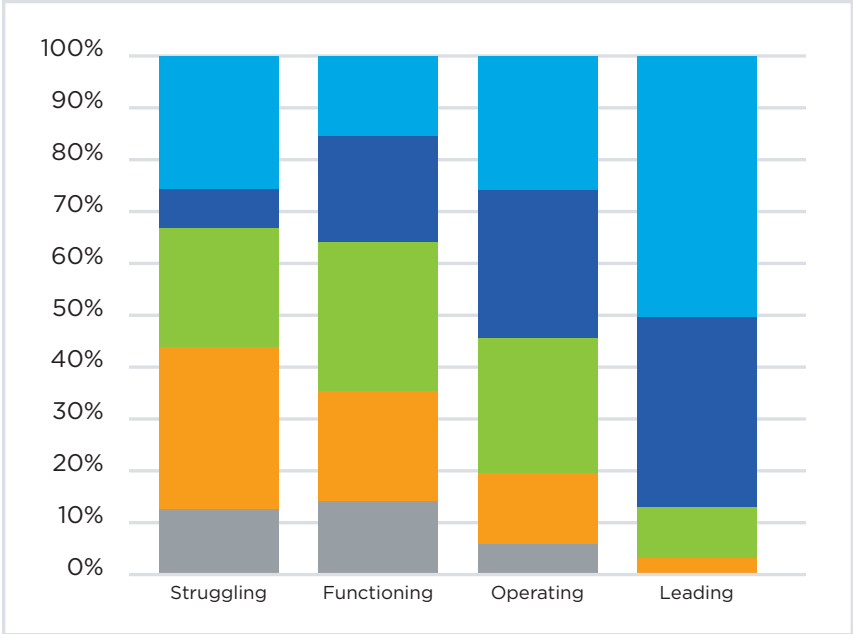


Not surprisingly, organizations that include technology in their strategic plans tend to include technology staff in the process. The responses for this practice are very similar to the previous one, with similar correlation to technology adoption level.

This measure is based on NTEN’s theory of change, which includes the notion that organizations will be more effective if technology staff have a seat at the table for planning.

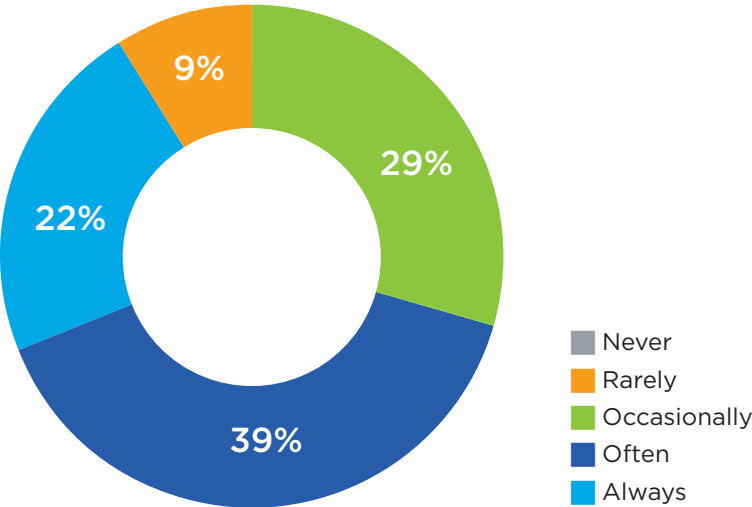
The question referred respondents to the technology categories on page 9 to ensure consistency in applying the concept of technology-responsible staff.

## By tech adoption level

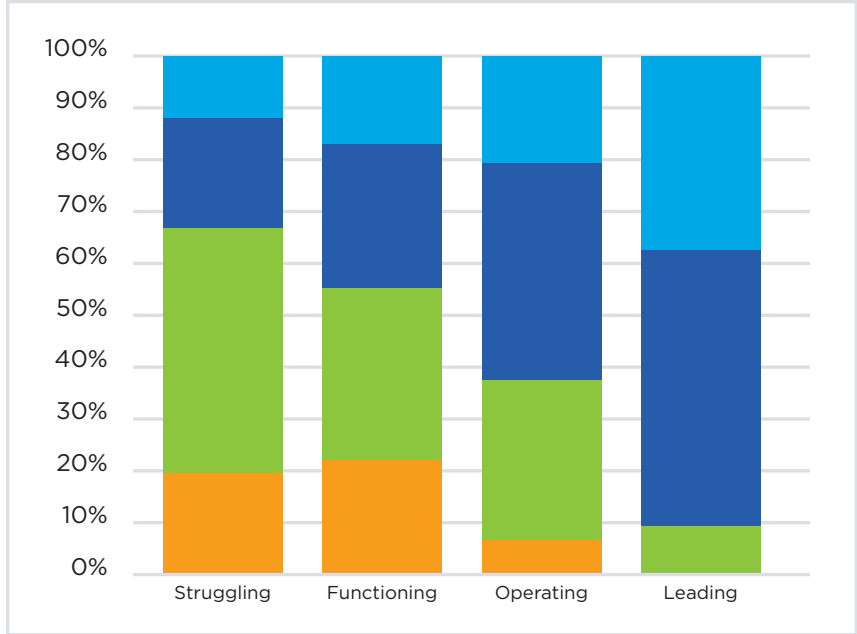


# Do you review how technology can strategically improve your organization's administrative efficiency?

### Technology effectiveness



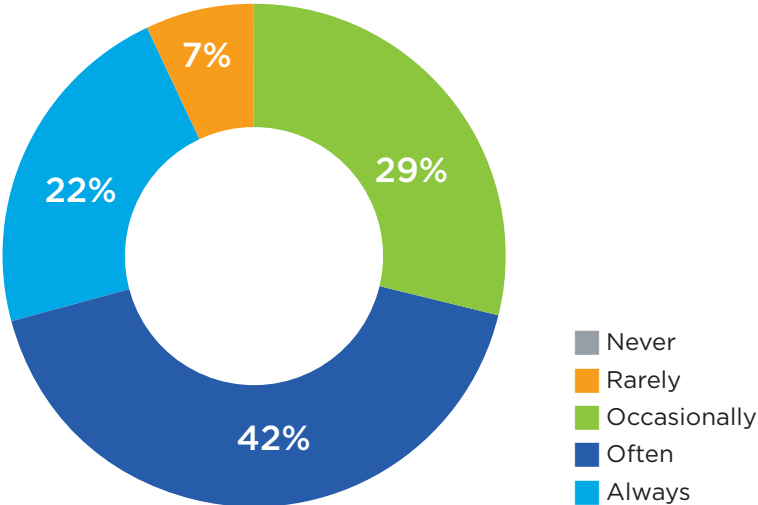
### By tech adoption level



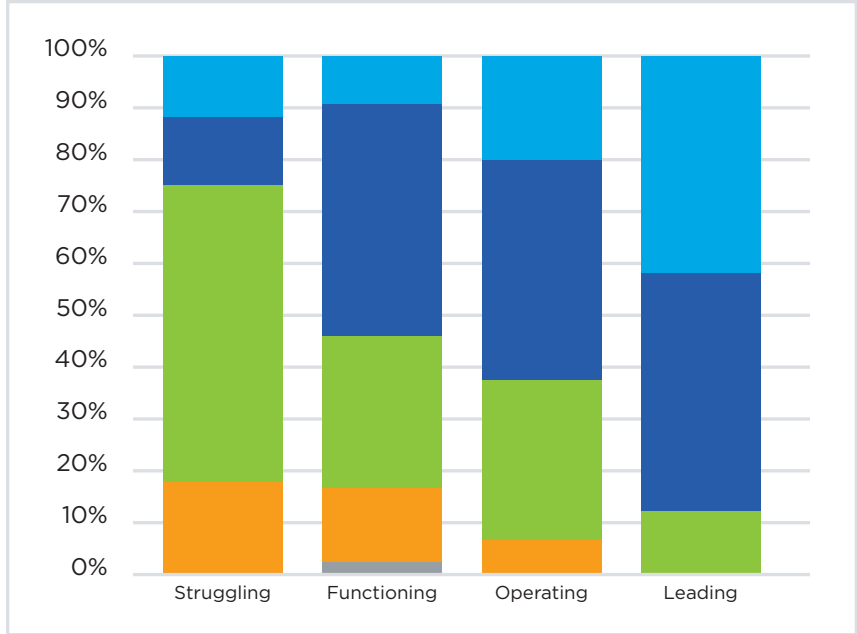
This is one of the most frequently adopted practices, with over 90% of respondents indicating that they perform such reviews at least occasionally. Note, however, that fewer organizations at all levels always conduct reviews.

# Do you review how technology can strategically improve interactions with clients and program effectiveness?

## Technology effectiveness



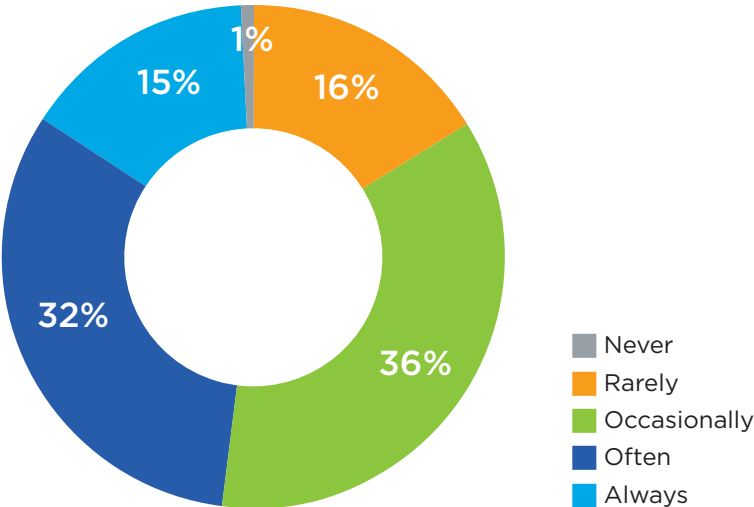
## By tech adoption level



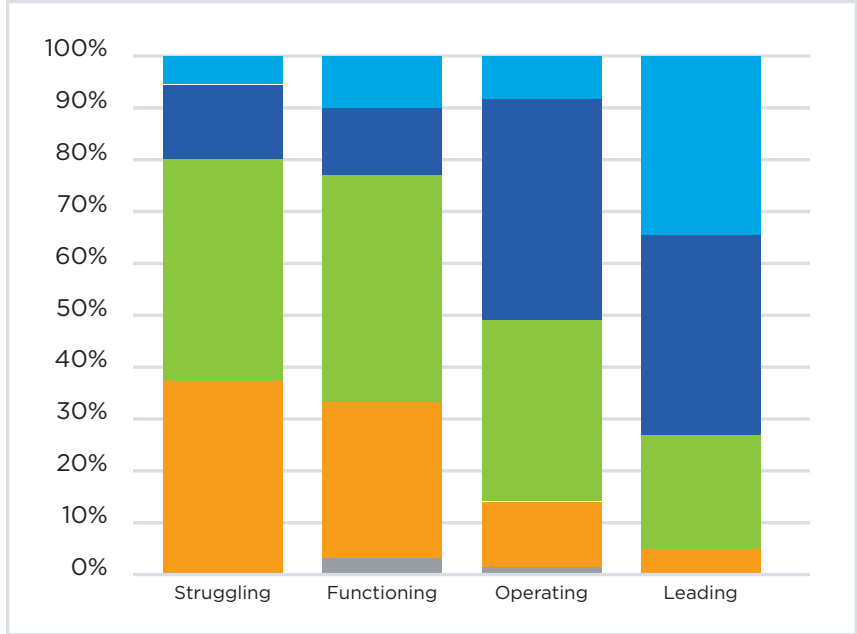
Reviewing technology for client and program effectiveness maps neatly to reviewing for administrative efficiency.

# Do you review how other organizations or industries are using technology to address challenges faced by your organization?

### Technology effectiveness



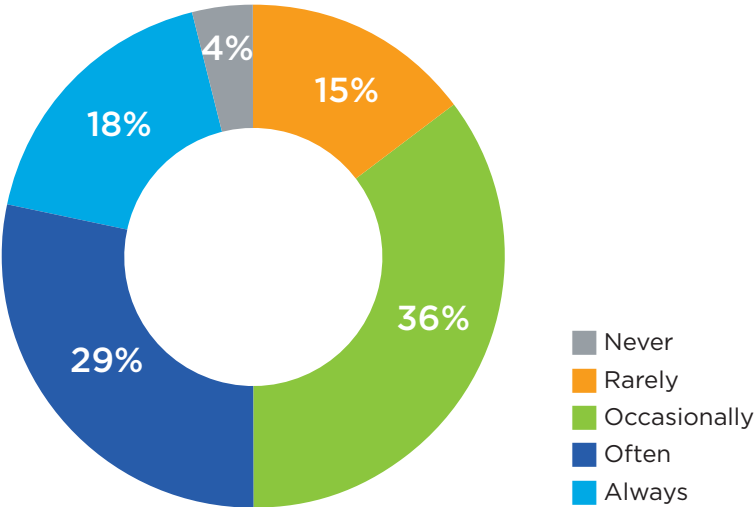
### By tech adoption level



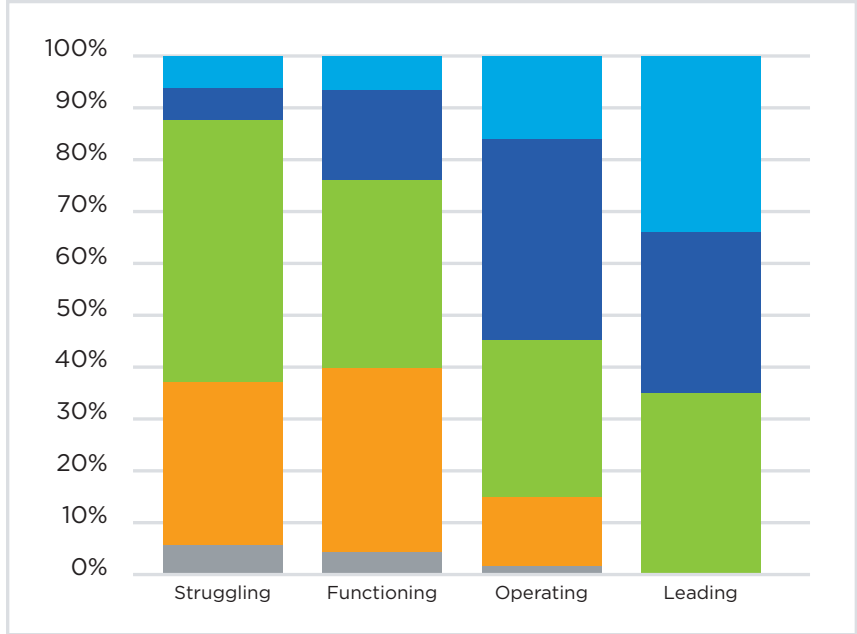
Comparative reviews are somewhat less common than strategic planning practices, with just under 50% of respondents regularly performing them.

# Do you use a process for prioritizing technology needs, selection, and implementation?

### Technology effectiveness



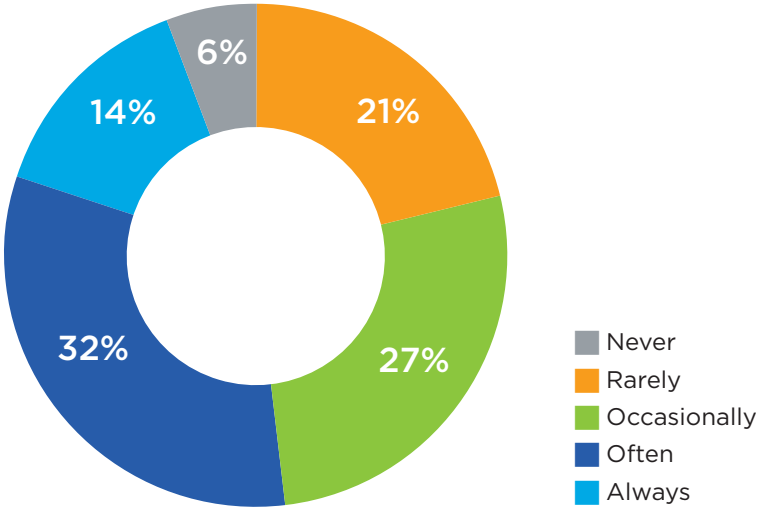
### By tech adoption level



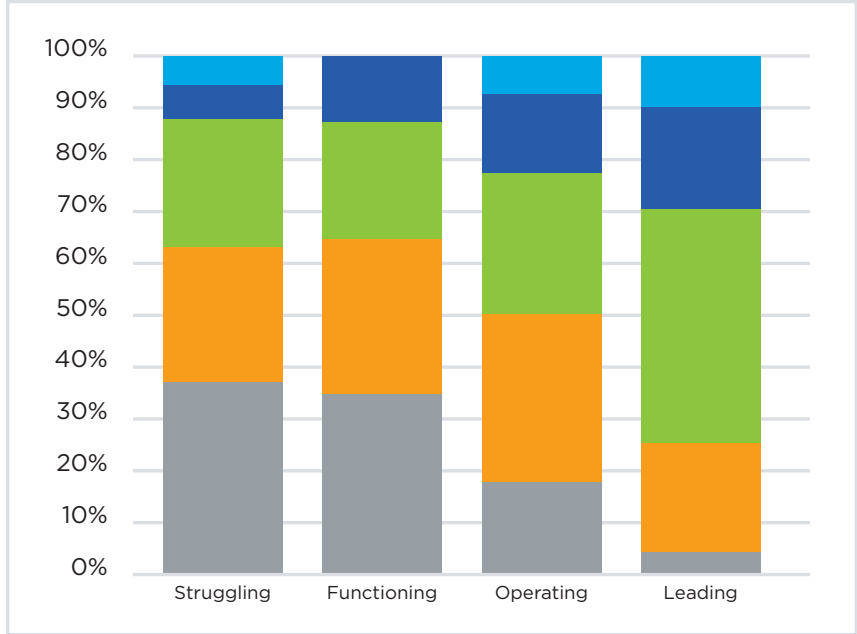
Applying a concrete process to technology priorities is also only moderately common. Note that this practice diminishes significantly with lower technology adoption levels.

# Does your organization conduct an analysis or study as part of its technology investment process?

## Technology effectiveness



## By tech adoption level

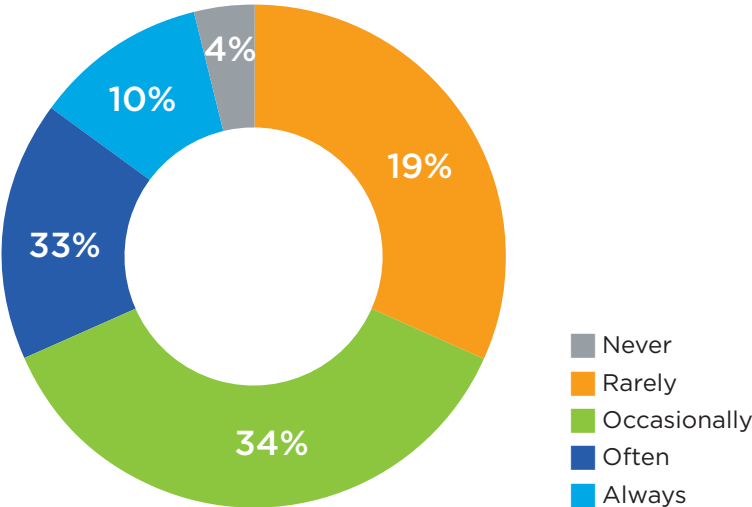


**Example: In determining a software, hardware, or service purchase, is an evaluation of costs and impact on the organization conducted?**

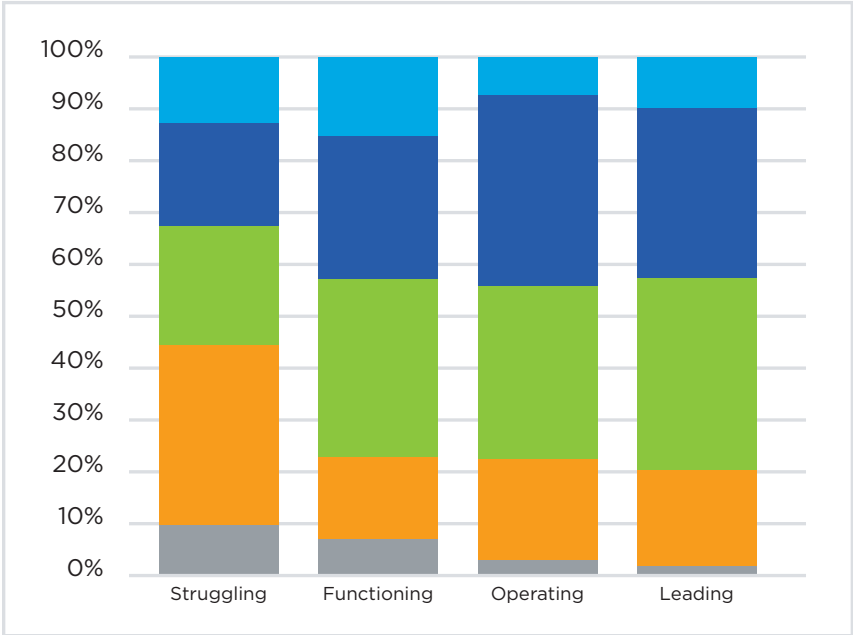
ROI evaluation is the least applied of the internal practices. Only 20% regularly review technology investments, and these reviews increase only slightly with technology adoption levels. Organizations that do evaluate ROI show markedly higher technology effectiveness scores, however.

# To what extent do you rely on consultants for technology guidance or support?

## Technology effectiveness



## Use tech consultants

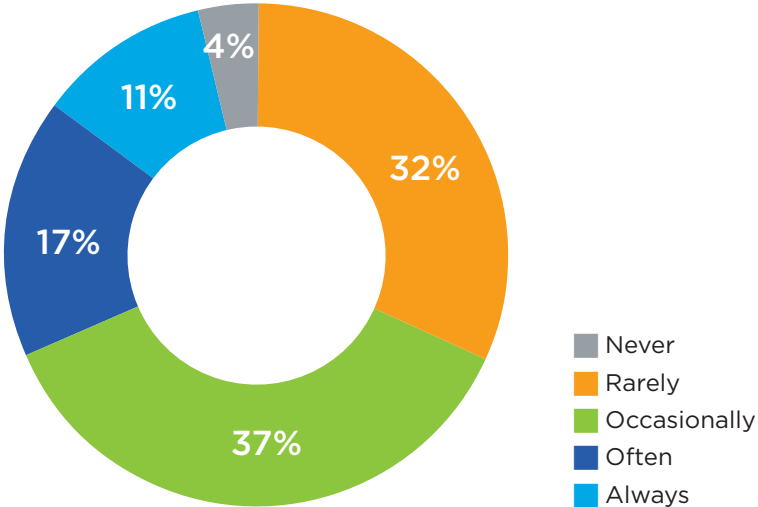


Bringing in external staff can be an effective way of achieving success in a wider range of technology areas. Over 40% of respondents make use of consultants regularly. Use of consultants is fairly consistent across levels, more so than any other practice.

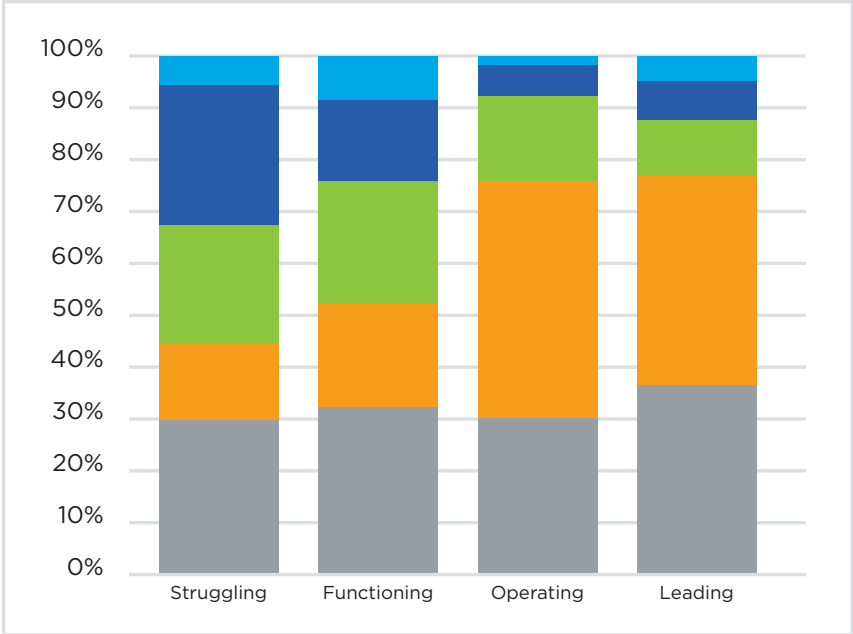


# To what extent do you rely on volunteers for technology guidance or support?

## Technology effectiveness



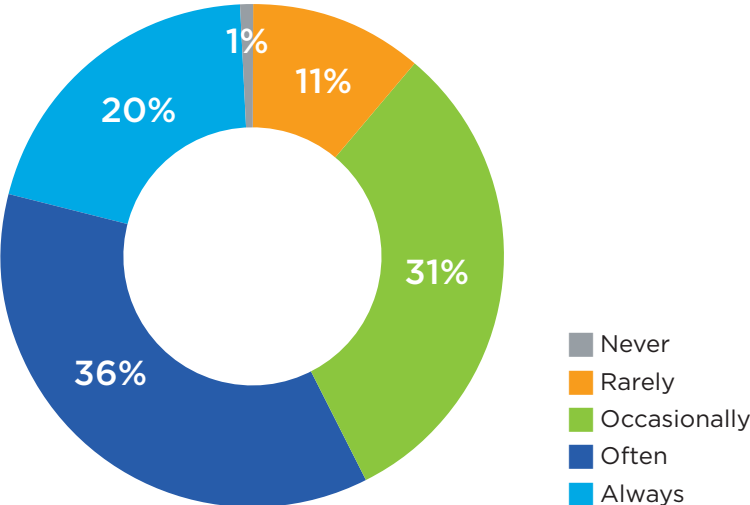
## Use tech volunteers



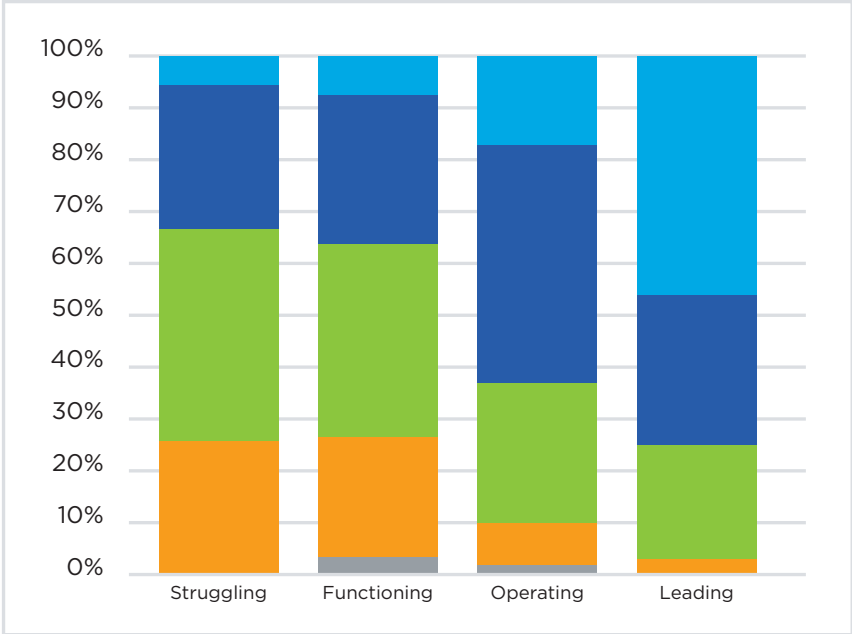
Only a third as many use volunteers, however, and nearly a third never do, especially at Operating and Leading levels.

# Do you train your staff on how to use your IT tools and systems?

## Technology effectiveness



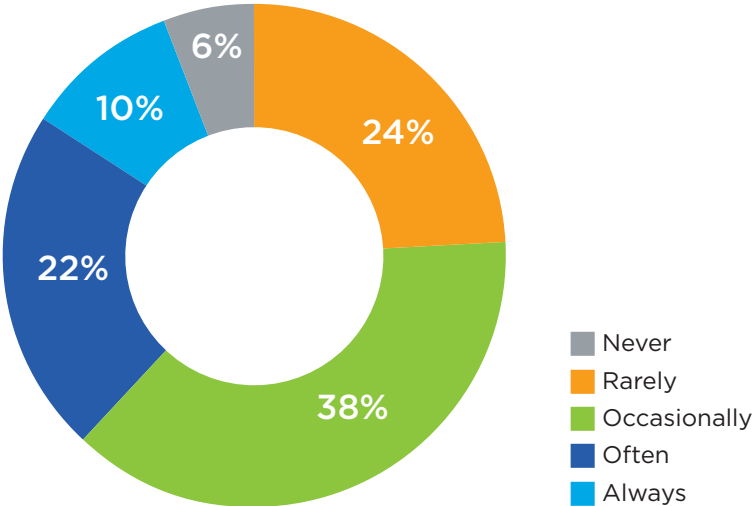
## By tech adoption level



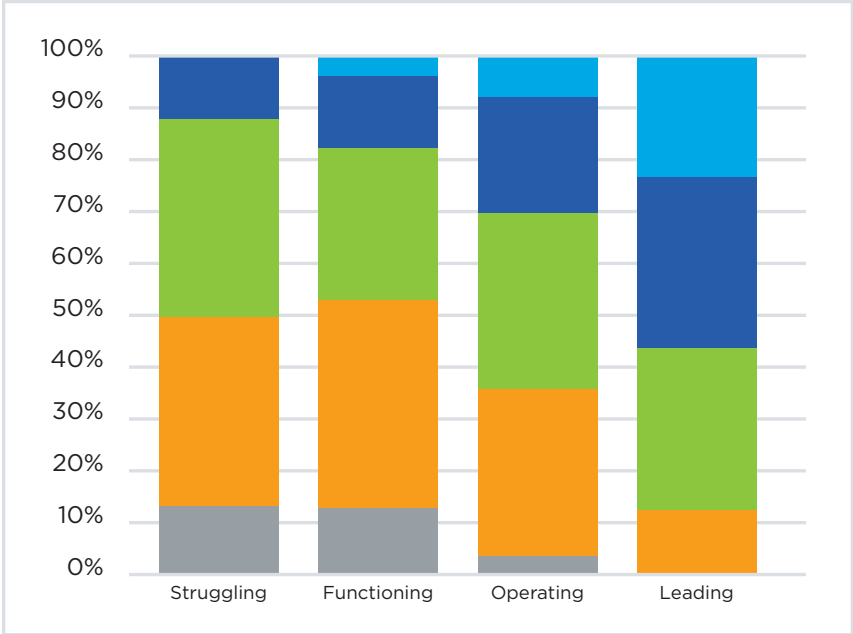
Given the importance of training for success in any enterprise, it is not surprising that over half of respondents regularly perform technology training, while only 12% do so rarely or never. Note that technology effectiveness correlates strongly with training. (For a look at how training is budgeted, see page 28).

# Do you educate employees on how the organization's data and IT systems benefit the organization and its mission?

## Technology effectiveness



## By tech adoption level

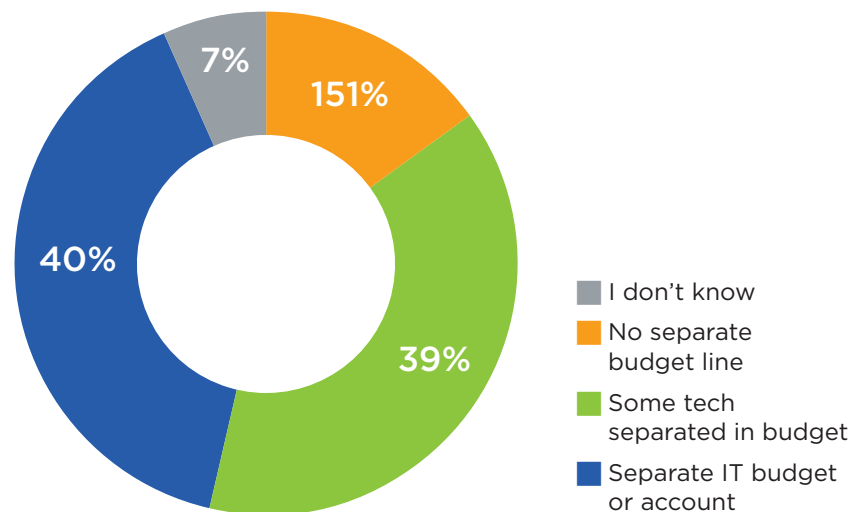


**Example: Reimbursement, regulatory compliance impacts, or client safety.**

Only about a third of respondents regularly perform this kind of information sharing, with significant variance across adoption levels.

## Does your organization have a defined technology budget that separates technology expenses from other general “overhead” or “supplies” line items in your annual operating budget?

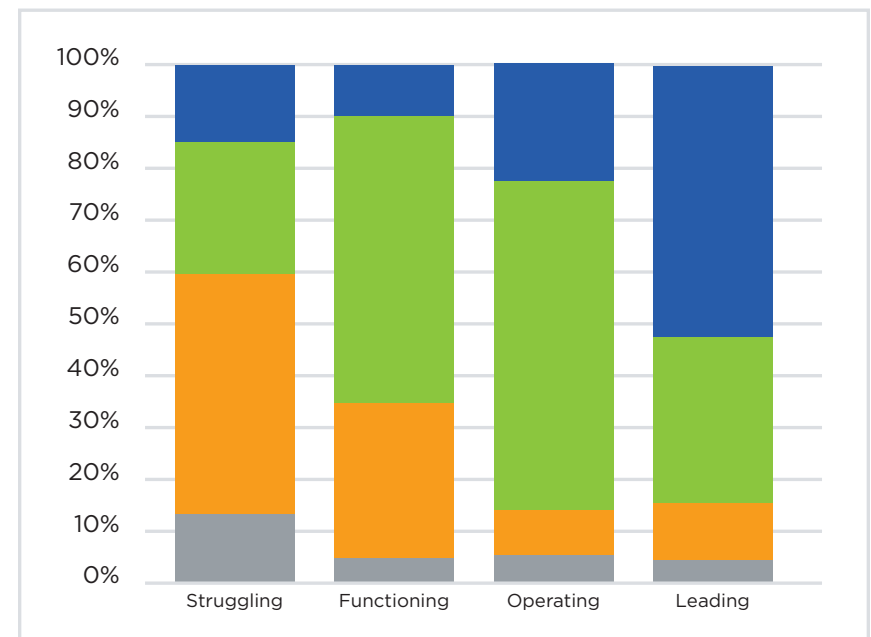
### Technology effectiveness



Nearly 80% of respondents employ some kind of accounting to track technology spending. This practice correlates strongly to adoption levels, and having a separate budget lines up with a notably higher effectiveness score.

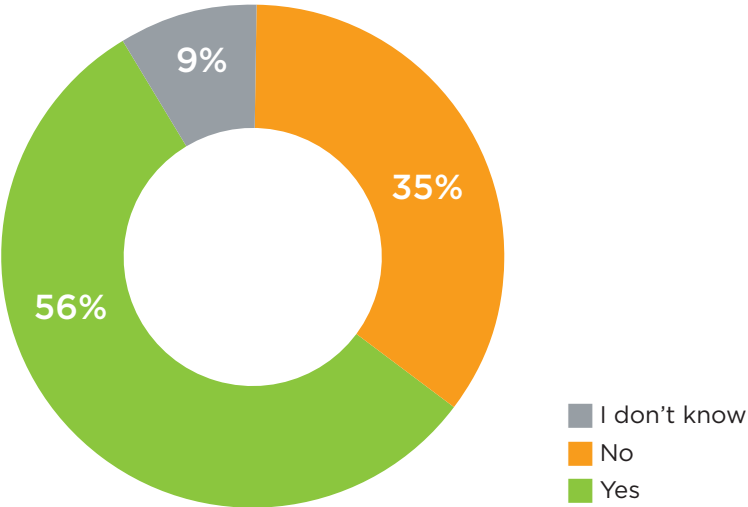
While year-over-year changes may result from differing respondent pools, it is interesting to note that having a separate budget line increased significantly this year, from 25% to 40%.

### By tech adoption level

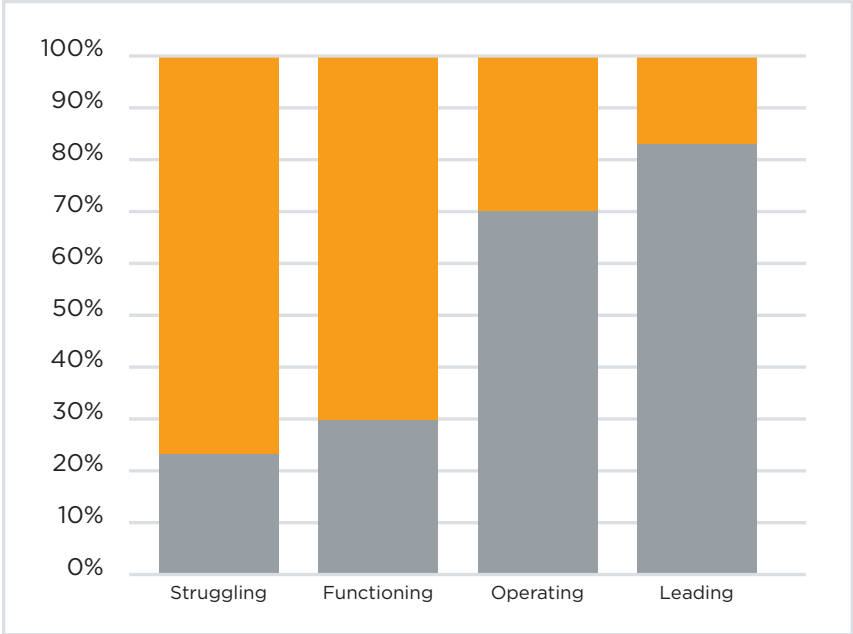


# Does your organization provide organizational budget for technology-related professional development?

## Technology effectiveness



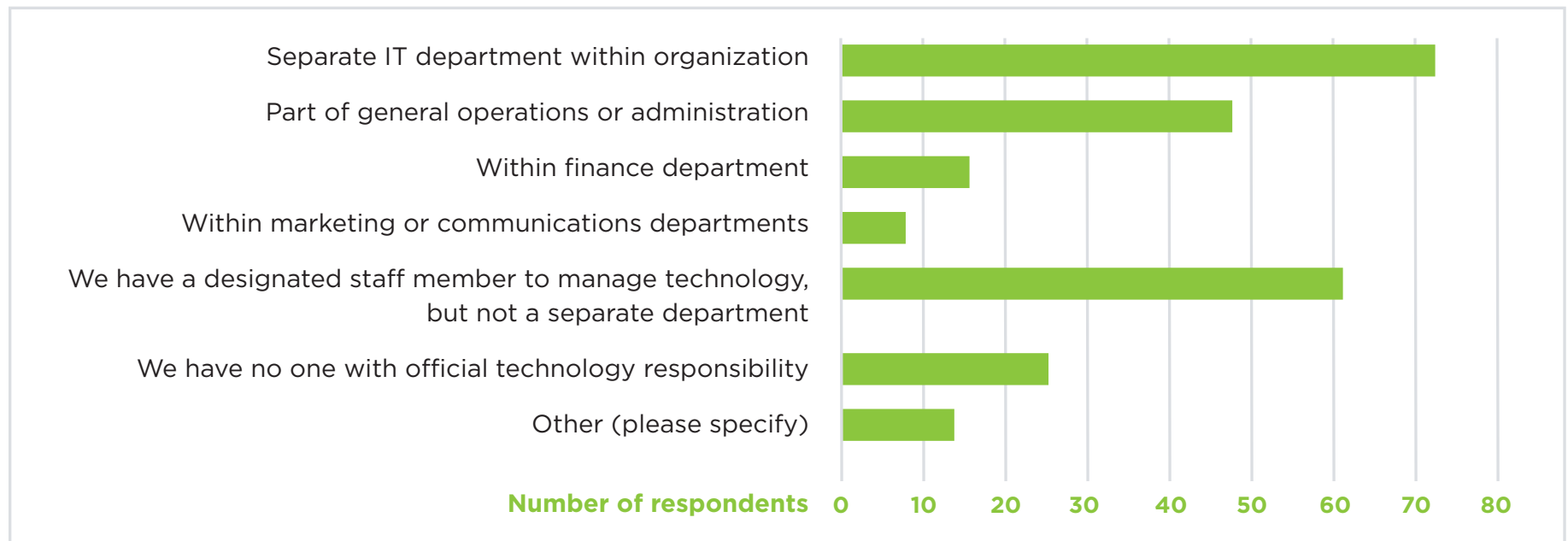
## By tech adoption level



Given the relationship between training and both technology adoption and effectiveness (see page 34), it is reassuring to see that over half of respondents provide tech-specific training funding. Note the significant correlation between this budget and both metrics.

# Organizational structure

## Where is technology oversight within the organization?

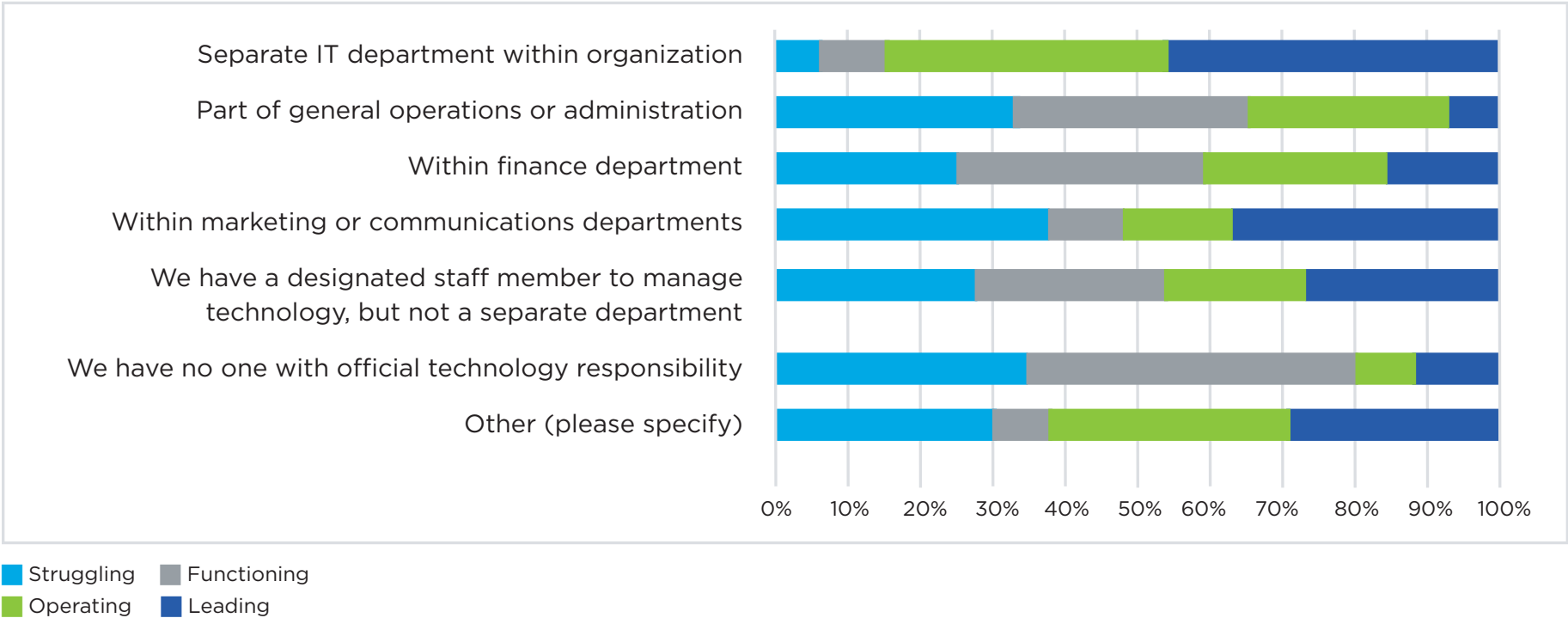


This is the first time we have seen “separate IT department” appear as the most frequent response, with last year’s top answer, “designated staff member” coming in second. General operations remains a common home for IT, with other answers appearing relatively infrequently.

We should note that there is correlation between an organization’s size and their technology structure/oversight, with Very large organizations most likely to report that they have separate departments to manage technology, and Small organizations most likely to indicate that they have no one with official technology responsibility.

# Organizational structure

## By technology adoption level

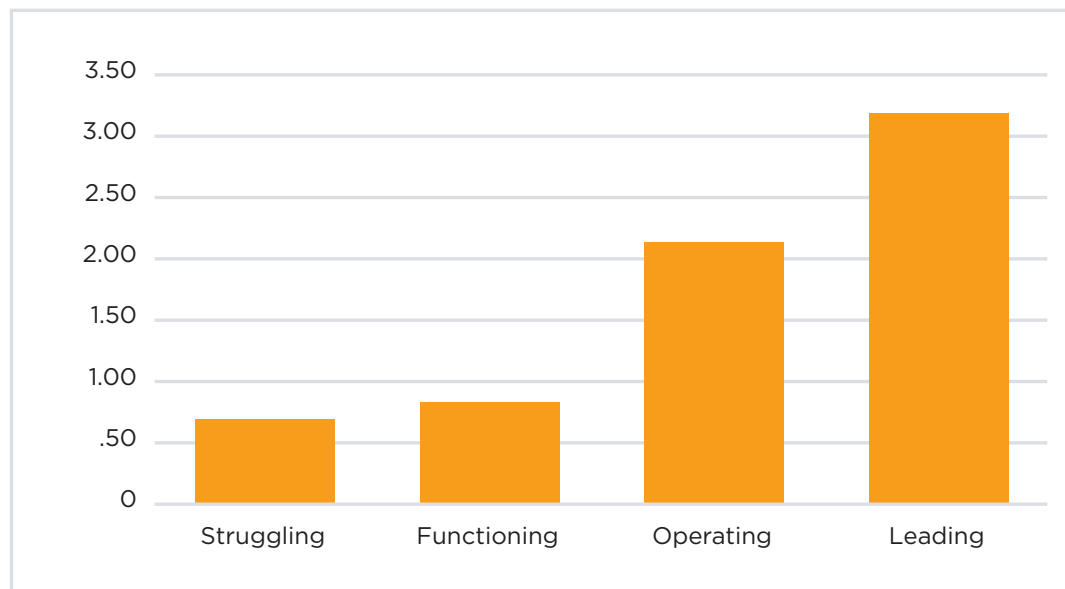


Leading and Operating organizations are far more likely to have a separate IT department. The most evenly distributed response is “designated staff member.” Struggling organizations have the most diverse array of technology locations. Not surprisingly, Struggling and Functioning organizations are the most likely to have no staff with official technology responsibilities.

# Technology staff credentials

Please indicate how many of your technology staff are credentialed technology professionals. For example, they have a degree or certificate in fields such as computer science or IT.

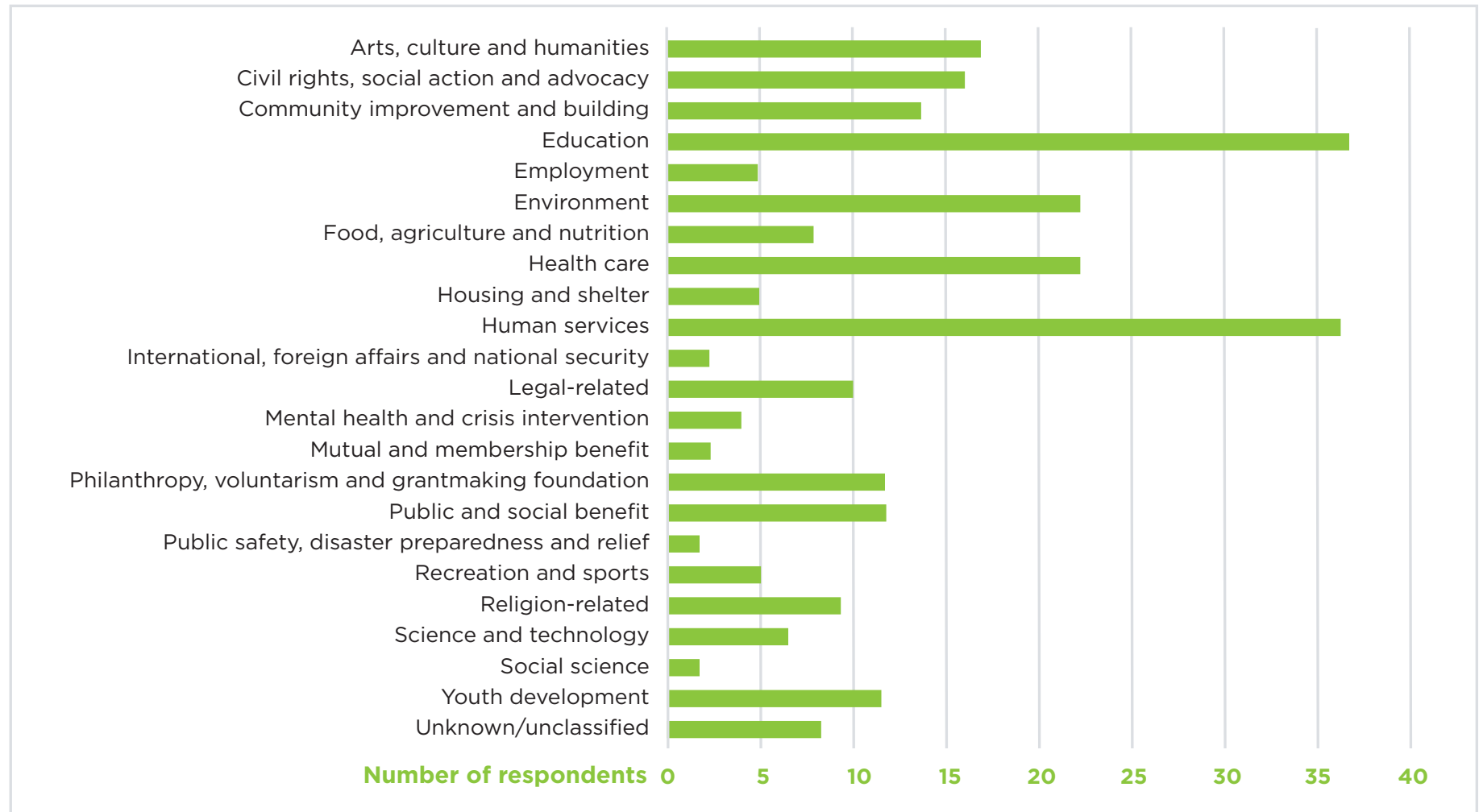
## By technology adoption level



This is only the second year we've asked this question, and the correlation between credentials and technology adoption level is even more pronounced. Leading organizations have an average of nearly five times as many credentialed tech staff.



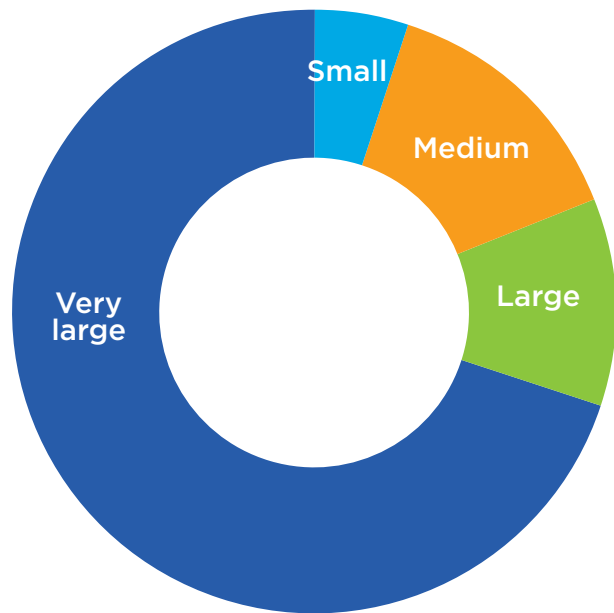
## Industry sectors (using IRS NTEE codes)



# Respondent demographics

## Budget and staff sizes

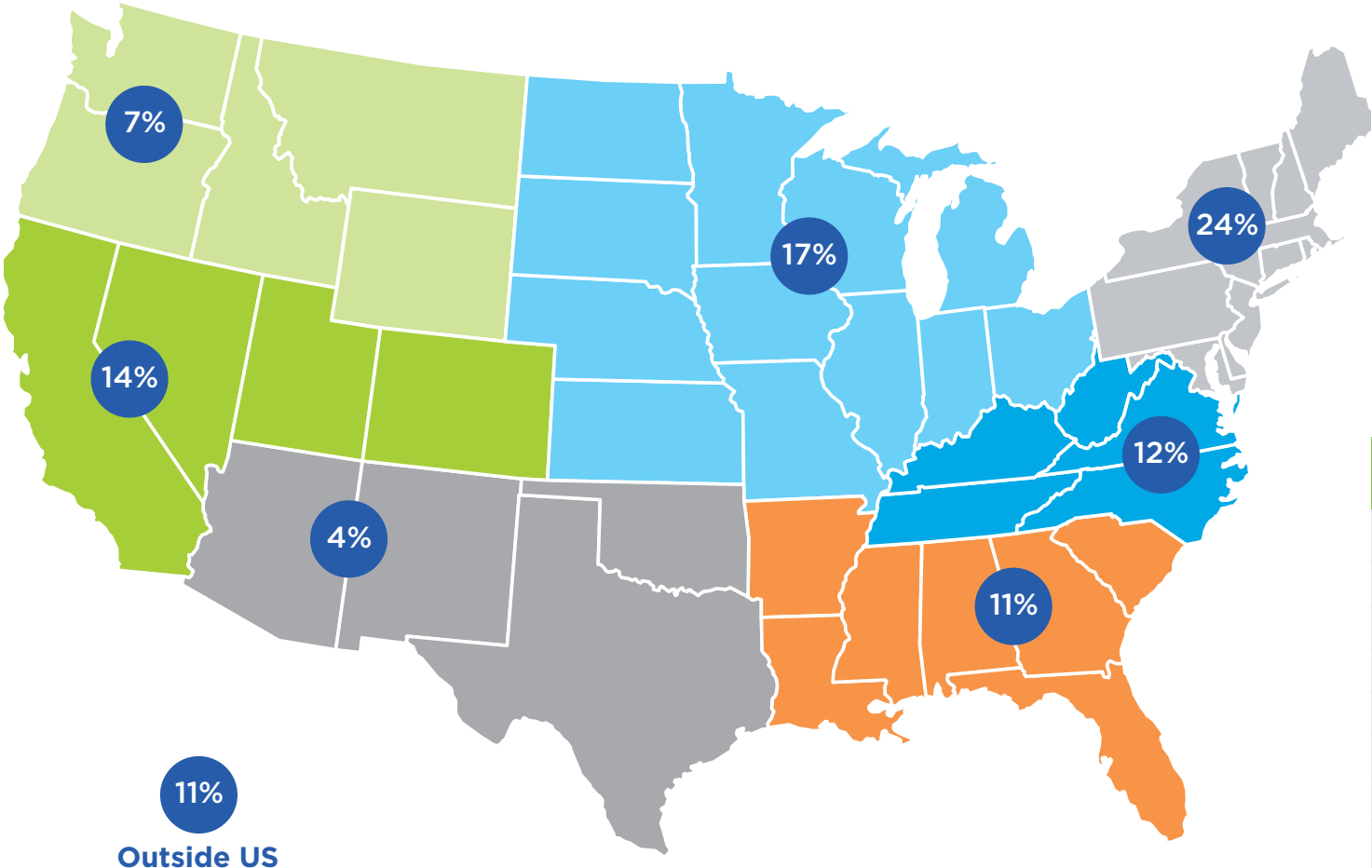
### Organization operating budget



Organization budget size	Average total staff size
Small (<\$1M)	14.72279
Medium (\$1M-\$5M)	64.8825
Large (\$5M-\$10M)	57.03906
Very large (>\$10M)	367.55

# Respondent demographics

## Geographic location



Number of respondents by region	
Mid-Atlantic US	12%
Midwestern US	17%
Northeastern US	24%
Northwestern US	7%
Outside US	11%
Southern US	11%
Southwestern US	4%
Western US	14%

# Respondent demographics

## Gender, age, and race

### Average number of technology-responsible staff that fall into these additional demographic categories:

#### Gender

Men	3.08
Women	2.90

#### Race/Ethnicity

American Indian or Alaska Native	0.11
Asian	0.58
Black or African American	0.79
Latino or Hispanic	0.78
Native Hawaiian or other Pacific Islander	0.07
White	2.37
More than one race	0.40
Other	0.56

#### Generation

Traditionalist (Born 1925–1945)	0.25
Baby Boomers (Born 1946–1964)	1.82
Generation X (Born 1965–1980)	2.61
Millennial (Born 1981 and after)	2.70

This is the second year that we've asked respondents to provide some demographic information about their technology staff. While this information provides an interesting snapshot, it should be used with a few caveats:

- The response rate for these questions was relatively low; this accounts for the variation in total staff numbers between these breakdowns and staffing averages elsewhere in this report.
- These responses are self-reported by a single individual at each organization.
- Unless this data is collected by human resources or other administrative staff in a consistent fashion, replies may be based on perceptions.

## About NTEN

### A community transforming technology into social change

#### Who we are

A community of nonprofit professionals, we aspire to a world where nonprofit groups of all types and sizes use technology strategically and confidently to fulfill their missions. Together, the NTEN community helps members put technology to work so they can bring about the change they want to see in the world.

Find out more and join NTEN at [www.nten.org](http://www.nten.org)

## About the Author

Robert Hulshof-Schmidt is a freelance writer and researcher based in Portland, Oregon. Drawing on his background as a librarian and his work with a wide variety of nonprofits, Robert uses his research skills to collect thorough information and craft meaningful reports. He also helps clients design and edit content for online resources. In addition to his freelance work, Robert is the Director of Development and Communications at Classroom Law Project, a nonprofit that specializes in civic education and professional development for teachers.