

2022 Technology Survey

*Exclusive Full Report:
Bank Services Members*



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About CDW

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Laura Alix is the director of research for Bank Director, an information resource for directors and officers of financial companies. You can follow her on Twitter or get connected on LinkedIn.

EXECUTIVE SUMMARY

In mid-July, at the peak of second quarter earnings, large regional banks showed off an array of technology initiatives. Providence, Rhode Island-based Citizens Financial Group, with \$227 billion in assets, highlighted a new mobile app for its direct-to-consumer digital bank. And \$591 billion U.S. Bancorp in Minneapolis realized the benefits of its ongoing investments in digital payments capabilities over the years, reporting \$996 million in payments services revenue, or a year-over-year increase of nearly 10%.

Community banks, with far fewer dollars to spend, have to budget wisely and invest where it makes the most sense. For many, that means prioritizing new technology features and updates in areas like security, or where customers frequently interact with the bank, like payments or digital loan applications.

Bank Director's 2022 Technology Survey, sponsored by CDW, delves into some of these strategies, asking bank senior executives and board members about the concerns and challenges that their institutions face, and where they've been investing their resources in technology.

Eighty-one percent of respondents say their bank increased its 2022 technology budget over last year, reporting a median 11% increase. Asked where their bank built more efficient processes by deploying new technology or upgrading capabilities in the past 18 months, 89% named cybersecurity as a key area for investment, followed by security and fraud (62%). During the same time period, 63% implemented or upgraded payments capabilities to improve the customer experience; 54% focused on enhancing digital retail account opening.

Leveraging technology to create a more competitive and efficient organization requires internal know-how, and directors and executives find this to be a key area for concern: 48% worry about an inadequate understanding within the bank of emerging technologies. Forty-five percent say they're worried about their organization's reliance on outdated technology.

While directors aren't involved in day-to-day decisions about the bank's technology, the board needs to align technology with strategy and ensure that the bank has the resources it needs to achieve its goals. Forty-two percent of respondents say their board has at least one member they would consider to be an expert in technology, including digital transformation, user experience or data analytics.

Following on the heels of Bank Director's 2022 Compensation Survey, which found technology talent in demand, the 2022 Technology Survey indicates that most banks employ high-level executives focused on technology, particularly in the form of a chief information security officer (44%), chief technology officer (43%) and/or chief information officer (42%). However, few have a chief data officer or data scientists on staff — despite almost half expressing concerns that the bank doesn't effectively use or aggregate the bank's data.

KEY FINDINGS

➔ The Competitive Landscape

Fifty-six percent of all respondents view local banks and credit unions as their top competitive threat, followed by big and superregional banks, at 46%. One-third worry about competition from big tech companies such as Apple, while an equal number are concerned about competition from digital, nonbank business lenders.

➔ Hit-or-Miss On Digital Applications

Nearly half of respondents say their bank has a fully digital process for opening retail deposit accounts, with larger shares representing banks over \$1 billion reporting as much. Far fewer respondents report a fully digital process for retail loans, small business deposits or loans, or commercial loans.

➔ Generational Divides

Just 25% of the directors and executives surveyed say their bank has the tools it needs to effectively serve Generation Z, and half believe their institution can effectively serve millennials. Eighty-five percent say as much about Generation X, and 93% say this of baby boomers.

➔ All-In On The Cloud

Eighty-eight percent say their bank uses cloud technology to generate efficiencies internally; 66% use application programming interfaces (APIs), which allow different applications or systems to exchange data. Robotic process automation (32%) and artificial intelligence or machine learning (19%) are far less commonly used.

➔ New Frontiers

Three-quarters say their board or leadership team has discussed risks or opportunities related to cryptocurrency or digital assets in the past 18 months. Sixty-four percent say the same of banking as a service (BaaS), and 69% say that of environmental, social and governance issues. Cannabis, on the minds of 58%, has been more commonly discussed at banks under \$5 billion of assets.

➔ Views On Collaboration

More than half of respondents view technology companies as vendors only, as opposed to collaborating with or investing in these firms. Thirty-nine percent, primarily representing banks over \$1 billion in assets, say their institution has collaborated with technology providers on specific solutions. Twenty percent have participated in a venture fund that invests in technology companies, and 11% have directly invested in one or more of these companies.

STRATEGY

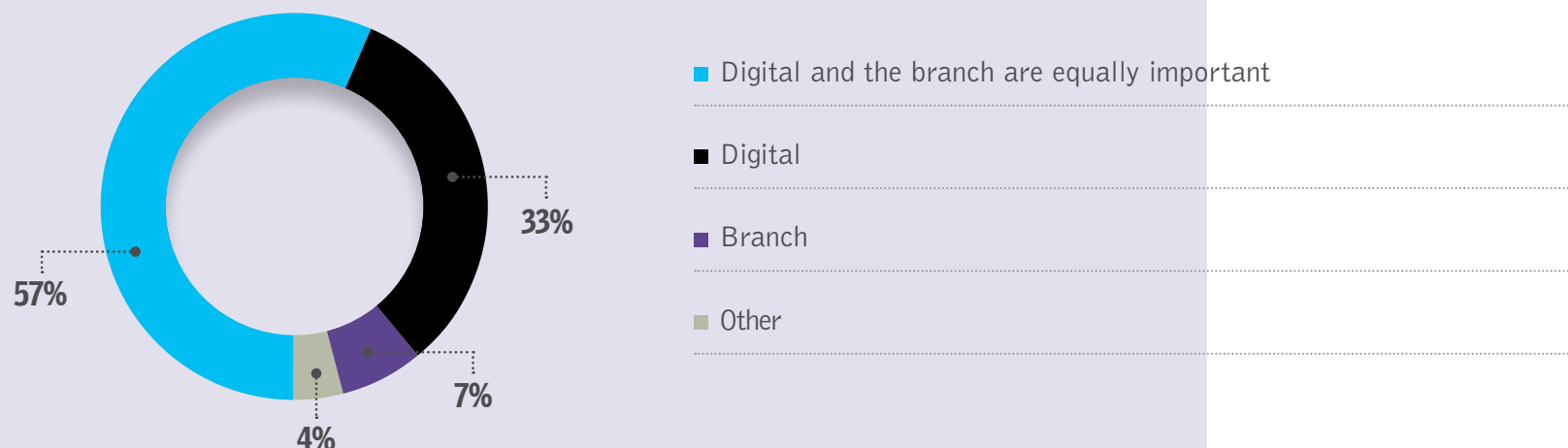
1. Of the following, which three do you consider to be the greatest competitive threat to your bank?

Respondents were asked to select no more than three options.

| Bank Asset Size | >\$10B | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|--|--------|------------|-----------|-------------|---------|-------|
| Local banks and/or credit unions | 40% | 50% | 50% | 67% | 60% | 56% |
| Big/superregional banks | 60% | 33% | 60% | 36% | 36% | 46% |
| Big tech companies such as Apple and Google (Alphabet) | 40% | 33% | 41% | 18% | 36% | 33% |
| Digital, nonbank business lenders | 10% | 17% | 29% | 42% | 44% | 33% |
| Digital payments providers such as Square and Paypal | 20% | 33% | 29% | 27% | 32% | 29% |
| Neo/challenger banks that attract consumer deposits, such as Chime | 30% | 50% | 21% | 24% | 20% | 25% |
| Digital, nonbank mortgage lenders | 20% | 8% | 29% | 18% | 28% | 23% |
| Retailers such as Amazon.com and Walmart | 20% | 17% | 12% | 18% | 20% | 16% |
| Digital, nonbank consumer lenders | - | - | 5% | 9% | 8% | 6% |
| Other | - | 8% | 2% | 9% | - | 4% |
| Digital wealth management providers | - | - | 2% | 3% | - | 2% |

2. Which delivery channel is more critical to your bank's growth strategy?

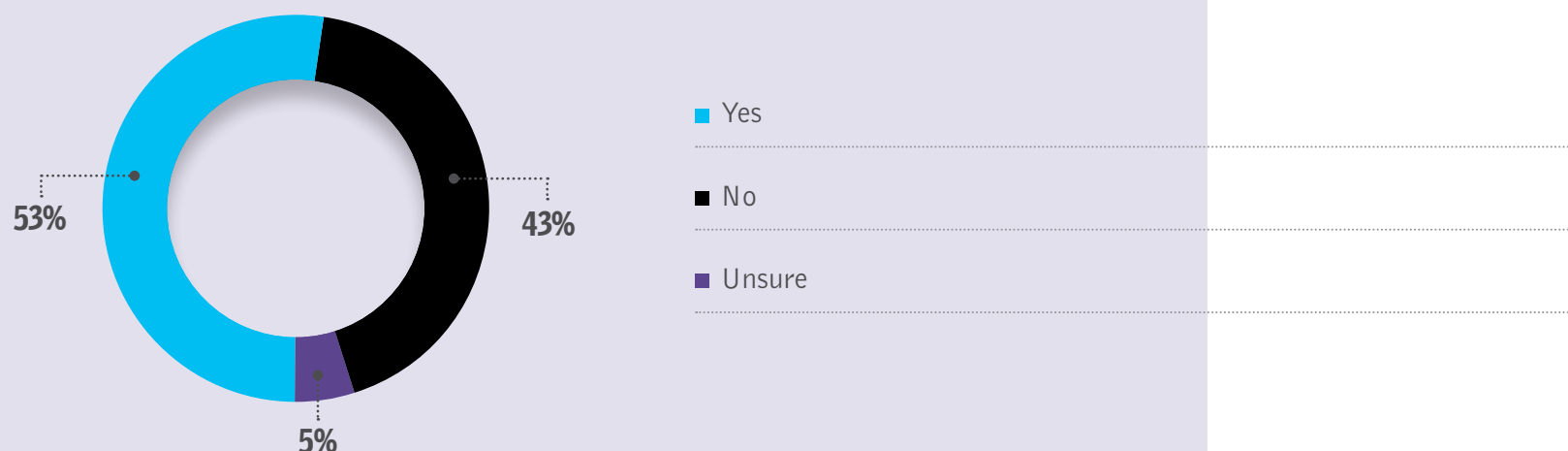
Numbers don't add up to 100% due to rounding.



| Bank Asset Size | >\$10B | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|--|--------|------------|-----------|-------------|---------|-------|
| Digital and the branch are equally important | 40% | 58% | 50% | 70% | 56% | 57% |
| Digital | 40% | 25% | 41% | 24% | 32% | 33% |
| Branch | 10% | 8% | 5% | 3% | 12% | 7% |
| Other | 10% | 8% | 5% | 3% | - | 4% |

3. Over the past 18 months, has your bank changed the staffing within its branches and how services are delivered through its branches?

Numbers don't add up to 100% due to rounding.



| Bank Asset Size | >\$10B | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|--------|------------|-----------|-------------|---------|-------|
| Yes | 50% | 58% | 60% | 46% | 48% | 53% |
| No | 50% | 33% | 36% | 52% | 44% | 43% |
| Unsure | - | 8% | 5% | 3% | 8% | 5% |

SERVING CUSTOMERS

4. Can your bank's retail and business customers currently apply for deposit accounts and/or loans digitally?

| Retail deposit accounts | | | | | | |
|-------------------------|--------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes, fully digital | 70% | 58% | 56% | 49% | 20% | 48% |
| Yes, partially digital | 10% | 33% | 27% | 24% | 44% | 29% |
| No | 10% | - | 15% | 24% | 36% | 20% |
| N/A | 10% | 8% | 2% | 3% | - | 3% |

| Retail loans (mortgages, consumer loans, etc.) | | | | | | |
|--|--------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes, fully digital | 10% | 50% | 39% | 33% | 16% | 31% |
| Yes, partially digital | 70% | 42% | 42% | 49% | 36% | 45% |
| No | 20% | - | 12% | 15% | 48% | 20% |
| N/A | - | 8% | 7% | 3% | - | 4% |

Small business deposit accounts

| Bank Asset Size | >\$10B | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|------------------------|--------|------------|-----------|-------------|---------|-------|
| Yes, fully digital | 50% | 25% | 30% | 28% | 8% | 26% |
| Yes, partially digital | 20% | 42% | 28% | 16% | 44% | 29% |
| No | 30% | 25% | 40% | 56% | 48% | 44% |
| N/A | - | 8% | 3% | - | - | 2% |

Small business loans (SBA, working lines of capital, etc.)

| Bank Asset Size | >\$10B | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|------------------------|--------|------------|-----------|-------------|---------|-------|
| Yes, fully digital | 10% | 9% | 23% | 12% | 4% | 14% |
| Yes, partially digital | 50% | 64% | 35% | 21% | 25% | 33% |
| No | 30% | 18% | 40% | 67% | 71% | 51% |
| N/A | 10% | 9% | 3% | - | - | 3% |

Commercial loans

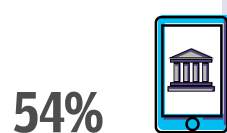
| Bank Asset Size | >\$10B | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|------------------------|--------|------------|-----------|-------------|---------|-------|
| Yes, fully digital | - | 17% | 10% | 13% | 4% | 9% |
| Yes, partially digital | 40% | 8% | 28% | 19% | 28% | 25% |
| No | 60% | 75% | 62% | 69% | 68% | 66% |

5. Over the past 18 months, has your bank upgraded or implemented any of the following to enhance customer experience?

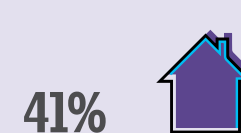
Respondents were asked to select all that apply. *Indicates a count of less than 10 within a category.



Payments capabilities



Digital retail account opening



Digital consumer or mortgage lending

| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|--|---------|------------|-----------|-------------|---------|-------|
| Payments capabilities | 50% | 55% | 74% | 60% | 56% | 63% |
| Digital retail account opening | 67% | 73% | 60% | 40% | 44% | 54% |
| Digital consumer or mortgage lending | 50% | 36% | 54% | 40% | 13% | 41% |
| Digital business account opening | 33% | 27% | 40% | 28% | 13% | 30% |
| Chatbots or similar automated communications | 50% | 27% | 29% | 24% | 25% | 28% |
| Fraud resolution | 17% | 9% | 31% | 24% | 31% | 26% |
| Direct digital communications with bankers | 33% | 9% | 37% | 20% | 6% | 24% |
| Personal financial management/digital budgeting capabilities | 33% | 9% | 37% | 16% | 13% | 24% |
| Digital business lending | 50% | 9% | 37% | 8% | - | 20% |
| Other digital banking services | 17% | 9% | 11% | 20% | 13% | 14% |
| Digital wealth management capabilities | - | 18% | 11% | 8% | 13% | 11% |

6. Do you believe that your bank has the tools in place to effectively serve the following generations of customers?

**Indicates a count of less than 10 within a category.*

| Gen Z (16-25 years old) | | | | | | |
|-------------------------|---------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes | 11% | 27% | 26% | 31% | 18% | 25% |
| No | 67% | 27% | 58% | 58% | 64% | 57% |
| Unsure | 22% | 46% | 16% | 12% | 18% | 19% |

| Millennials (26-40) | | | | | | |
|---------------------|---------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes | 56% | 46% | 46% | 56% | 50% | 50% |
| No | 44% | 18% | 35% | 41% | 18% | 32% |
| Unsure | - | 36% | 19% | 4% | 32% | 18% |

Generation X (41-56)

| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|---------|------------|-----------|-------------|---------|-------|
| Yes | 89% | 82% | 84% | 82% | 91% | 85% |
| No | - | 9% | 14% | 7% | - | 8% |
| Unsure | 11% | 9% | 3% | 11% | 10% | 8% |

Baby Boomers (57-75)

| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|---------|------------|-----------|-------------|---------|-------|
| Yes | 100% | 82% | 95% | 96% | 86% | 93% |
| No | - | 9% | 5% | 4% | 5% | 5% |
| Unsure | - | 9% | - | - | 9% | 3% |

7. Do you believe that your bank has the tools in place to effectively serve its small business and commercial customers?

**Indicates a count of less than 10 within a category.*

| Small businesses | | | | | | |
|------------------|---------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes | 67% | 55% | 66% | 69% | 86% | 70% |
| No | 22% | 27% | 29% | 23% | 5% | 22% |
| Unsure | 11% | 9% | 5% | 8% | 9% | 8% |
| Not applicable | - | 9% | - | - | - | 1% |

| Mid-sized businesses | | | | | | |
|----------------------|---------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes | 78% | 64% | 76% | 74% | 64% | 72% |
| No | 11% | 27% | 18% | 17% | 14% | 18% |
| Unsure | 11% | 9% | 3% | 9% | 23% | 10% |
| Not applicable | - | - | 3% | - | - | 1% |

Large, commercial enterprises

| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|---------|------------|-----------|-------------|---------|-------|
| Yes | 78% | 55% | 38% | 31% | 23% | 38% |
| No | - | 27% | 38% | 35% | 36% | 32% |
| Unsure | 22% | 9% | 22% | 27% | 27% | 23% |
| Not applicable | - | 9% | 3% | 8% | 14% | 7% |

8. Over the past 18 months, has your bank's leadership team and/or board discussed opportunities and risks related to any of the following emerging areas?

**Indicates a count of less than 10 within a category.*

| Cryptocurrency/digital assets | | | | | | |
|-------------------------------|---------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes | 67% | 100% | 84% | 59% | 68% | 75% |
| No | 22% | - | 13% | 41% | 32% | 24% |
| Unsure | 11% | - | 3% | - | - | 2% |

| Blockchain | | | | | | |
|-----------------|---------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes | 67% | 64% | 50% | 33% | 27% | 44% |
| No | 22% | 36% | 36% | 63% | 68% | 49% |
| Unsure | 11% | - | 14% | 4% | 5% | 8% |

| Banking as a service | | | | | | |
|----------------------|---------|------------|-----------|-------------|---------|-------|
| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
| Yes | 56% | 73% | 72% | 56% | 59% | 64% |
| No | 22% | 27% | 22% | 44% | 41% | 32% |
| Unsure | 22% | - | 6% | - | - | 4% |

Cannabis

| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|---------|------------|-----------|-------------|---------|-------|
| Yes | 25% | 18% | 70% | 63% | 64% | 58% |
| No | 50% | 73% | 30% | 37% | 32% | 38% |
| Unsure | 25% | 9% | - | - | 5% | 4% |

Environmental, social and governance (ESG)

| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|---------|------------|-----------|-------------|---------|-------|
| Yes | 100% | 82% | 78% | 62% | 41% | 69% |
| No | - | 18% | 19% | 31% | 55% | 28% |
| Unsure | - | - | 3% | 8% | 5% | 4% |

INVESTMENT

9. Over the past 18 months, in which areas has the bank deployed new technology or upgraded its capabilities to build more efficient processes?

Respondents were asked to select all that apply. *Indicates a count of less than 10 within a category.

89% Cybersecurity/information security

62% Security/fraud

56% Data/analytics

53% Risk and compliance



| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|------------------------------------|---------|------------|-----------|-------------|---------|-------|
| Cybersecurity/information security | 89% | 100% | 97% | 77% | 86% | 89% |
| Security/fraud | 56% | 64% | 69% | 54% | 62% | 62% |
| Data/analytics | 100% | 64% | 63% | 39% | 43% | 56% |
| Risk and compliance | 44% | 36% | 63% | 42% | 62% | 53% |
| Audit/accounting | 78% | 91% | 60% | 27% | 38% | 52% |
| Loan underwriting/credit risk | 78% | 55% | 60% | 35% | 33% | 49% |
| Marketing | 22% | 36% | 71% | 42% | 29% | 47% |
| Human resources | 67% | 55% | 49% | 35% | 29% | 43% |

10. Does your bank currently use any of the following technologies to generate efficiencies within the organization?

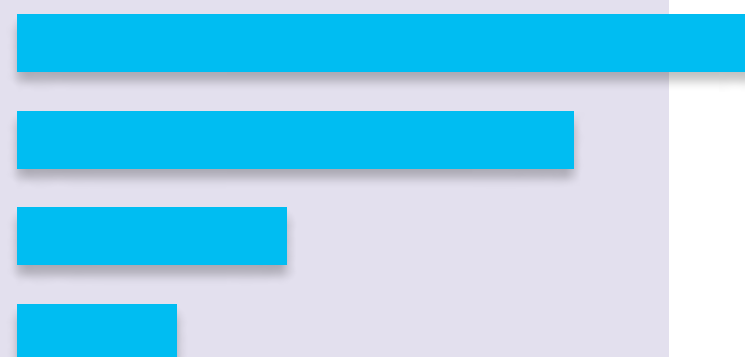
Respondents were asked to select all that apply. *Indicates a count of less than 10 within a category.

88% Cloud

66% Application programming interfaces (APIs)

32% Robotic process automation (RPA)

19% Artificial intelligence (AI)/machine learning



| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|---|---------|------------|-----------|-------------|---------|-------|
| Cloud | 78% | 80% | 91% | 95% | 81% | 88% |
| Application programming interfaces (APIs) | 100% | 100% | 75% | 48% | 31% | 66% |
| Robotic process automation (RPA) | 56% | 60% | 41% | 14% | 6% | 32% |
| Artificial intelligence (AI)/machine learning | 11% | 40% | 25% | 19% | - | 19% |

11. How much has your bank budgeted for technology in fiscal year 2022?

Median values reported. *Indicates a count of less than 10 within a category.

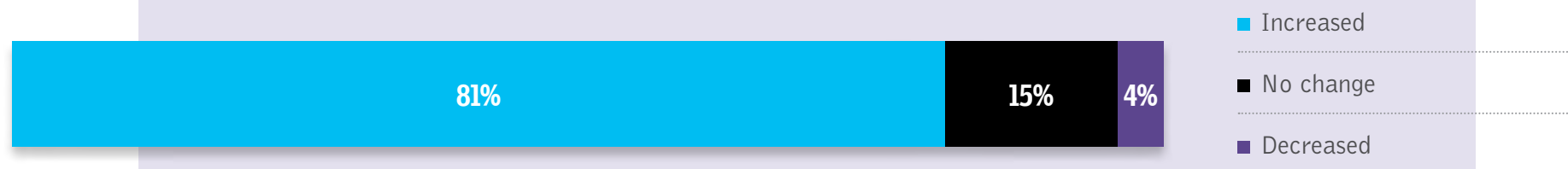
\$1,000,000

Median amount budgeted for technology

| Bank Asset Size | >\$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B* | <\$500M | Total |
|--------------------------|--------------|--------------|-------------|--------------|-----------|-------------|
| Median technology budget | \$25,000,000 | \$10,000,000 | \$3,700,000 | \$375,000 | \$250,000 | \$1,000,000 |

12. Did your bank increase or decrease its budget for technology in FY 2022 compared to its technology budget for FY 2021?

**Indicates a count of less than 10 within a category.*



| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|---------|------------|-----------|-------------|---------|-------|
| Increased | 100% | 90% | 82% | 67% | 85% | 81% |
| No change | - | 10% | 9% | 29% | 15% | 15% |
| Decreased | - | - | 9% | 4% | - | 4% |

13. By what percentage did your technology budget increase for FY 2022, compared to your bank's technology budget in FY 2021?

*Median values reported. *Indicates a count of less than 10 within a category.*

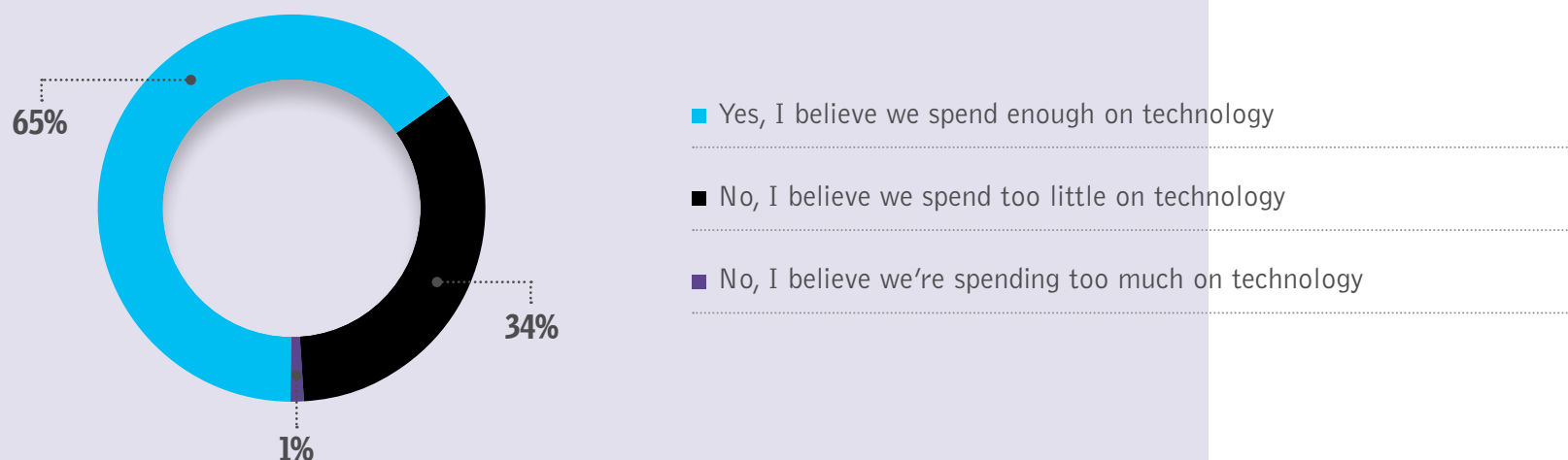
11%

Median increase in technology budget

| Bank Asset Size | >\$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B* | <\$500M | Total |
|-----------------------------------|---------|-------------|-----------|--------------|---------|-------|
| Median technology budget increase | 15% | 15% | 10.5% | 10% | 15% | 11% |

14. Do you believe that your bank is spending enough on technology, relative to its strategy?

**Indicates a count of less than 10 within a category.*



| Bank Asset Size | >\$10B* | \$5B-\$10B | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|---|---------|------------|-----------|-------------|---------|-------|
| Yes, I believe we spend enough on technology | 67% | 60% | 69% | 67% | 60% | 65% |
| No, I believe we spend too little on technology | 33% | 40% | 28% | 33% | 40% | 34% |
| No, I believe we're spending too much on technology | - | - | 3% | - | - | 1% |

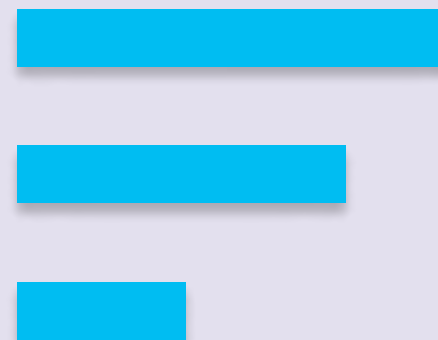
15. Over the past five years, has your bank partnered with financial technology companies in any of the following ways?

Respondents were asked to select all that apply. *Indicates a count of less than 10 within a category.

52% None of the above: We use technology companies as vendors only

39% We have collaborated with one or more technology partners to develop specific solutions

20% We have participated in a venture fund that invests in technology companies



| Bank Asset Size | >\$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|---|---------|-------------|-----------|-------------|---------|-------|
| None of the above: We use technology companies as vendors only | 22% | 22% | 38% | 63% | 90% | 52% |
| We have collaborated with one or more technology partners to develop specific solutions | 67% | 44% | 63% | 21% | 10% | 39% |
| We have participated in a venture fund that invests in technology companies | 33% | 44% | 28% | 8% | 5% | 20% |
| We have directly invested in one or more technology companies | 33% | 11% | 13% | 8% | - | 11% |
| Our bank has acquired one or more technology companies | - | 11% | 3% | 8% | - | 4% |
| Other | - | 11% | - | - | - | 1% |

16. When evaluating the performance of technology solutions used by the bank, are providers generally expected to meet clear goals that align with the bank's strategy and objectives?

**Indicates a count of less than 10 within a category.*

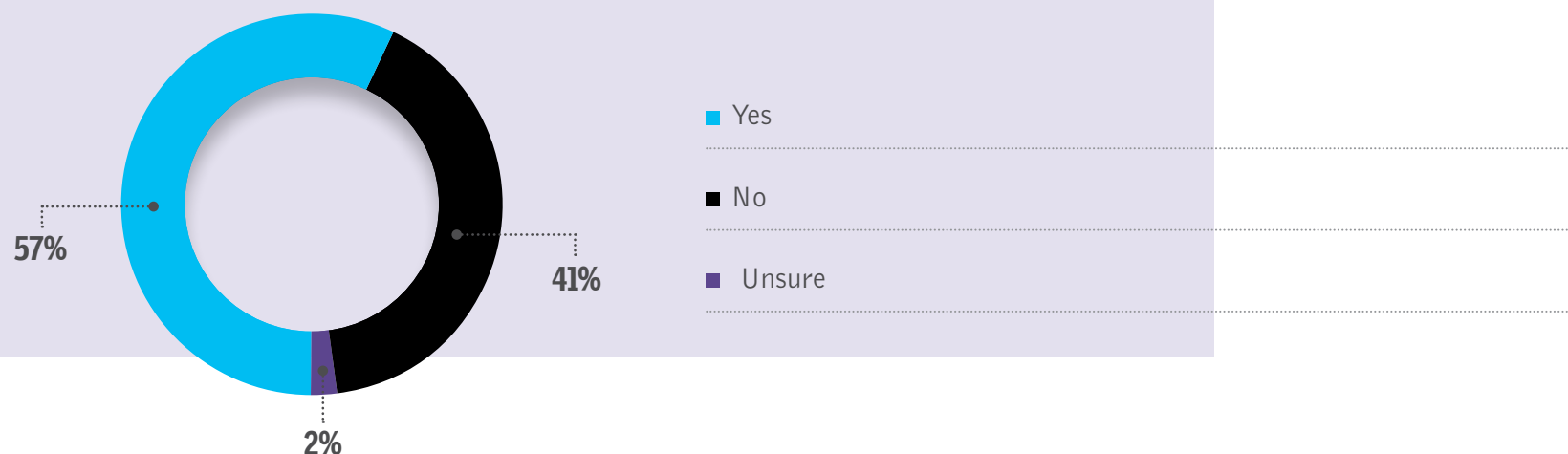


| Bank Asset Size | >\$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|--|---------|-------------|-----------|-------------|---------|-------|
| We have high expectations for our providers but are also flexible on achieving these goals | 75% | 22% | 65% | 29% | 40% | 47% |
| Yes, all solutions must meet the goals set by our team | 13% | 44% | 23% | 50% | 35% | 34% |
| We don't set clear targets for our providers | - | 11% | - | 21% | 25% | 12% |
| We don't consistently ensure that providers meet the goals set by our bank | 13% | 22% | 13% | - | - | 8% |

LEVERAGING EXPERTISE

17. Does the chief information and/or chief technology officer report to the CEO?

**Indicates a count of less than 10 within a category.*



| Bank Asset Size | > \$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|----------|-------------|-----------|-------------|---------|-------|
| Yes | 38% | 63% | 58% | 59% | 60% | 57% |
| No | 63% | 38% | 42% | 41% | 30% | 41% |
| Unsure | - | - | - | - | 10% | 2% |

18. Which of the following positions do you currently have on staff at your bank?

Respondents were asked to select all that apply, and to choose the options that best align with their technology team's roles and responsibilities. *Indicates a count of less than 10 within a category.

| Bank Asset Size | >\$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|---|---------|-------------|-----------|-------------|---------|-------|
| Chief information security officer or equivalent executive position | 86% | 63% | 46% | 41% | 25% | 44% |
| Chief technology officer | 86% | 50% | 42% | 50% | 20% | 43% |
| Chief information officer | 86% | 75% | 58% | 23% | 10% | 42% |
| Developers/programmers | 43% | 50% | 21% | 9% | - | 18% |
| Chief customer experience officer or equivalent executive position | 29% | 38% | 21% | 9% | 5% | 17% |
| None of the above | - | - | 9% | 14% | 40% | 16% |
| Data scientists | 43% | 25% | 18% | 5% | 5% | 14% |
| Chief digital officer or equivalent executive position | 43% | 50% | 9% | 9% | - | 13% |
| Chief data officer or equivalent executive position | 57% | 25% | 6% | 5% | 5% | 11% |
| Chief innovation officer or equivalent executive position | 14% | 25% | 18% | - | 5% | 11% |
| Chief strategy officer or equivalent executive position | 14% | 25% | 12% | 9% | - | 10% |

19. What are your greatest concerns about your bank's internal technology expertise?

Respondents were asked to select all that apply. *Indicates a count of less than 10 within a category.

48%



Not effectively using/aggregating our bank's data

48%



Inadequate understanding of how emerging technologies could impact our bank

45%

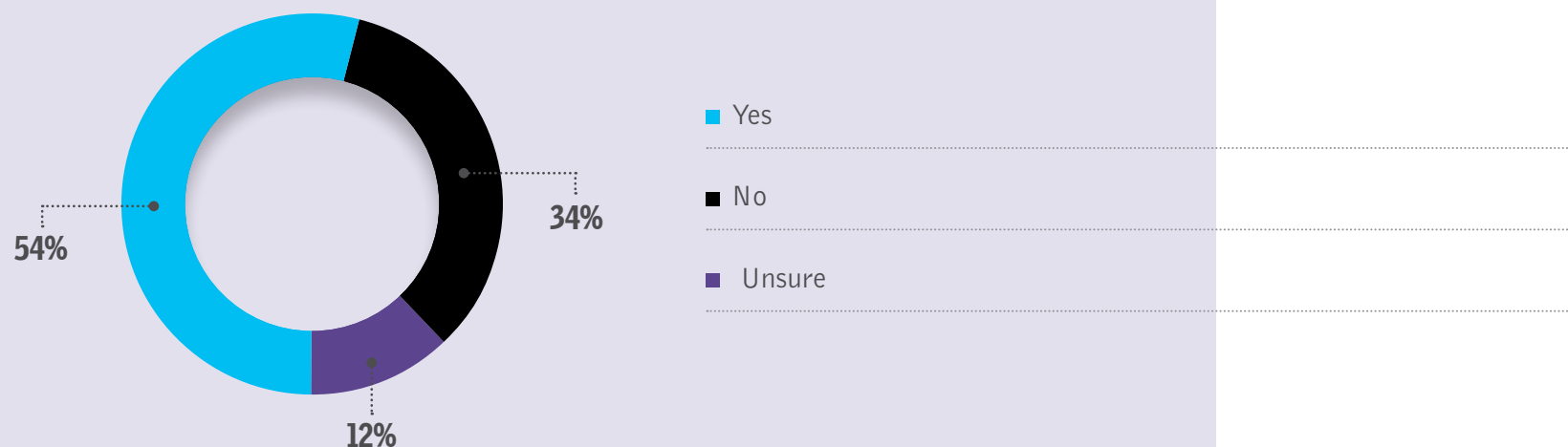


Reliance on outdated technology

| Bank Asset Size | >\$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|--|---------|-------------|-----------|-------------|---------|-------|
| Not effectively using/aggregating our bank's data | 50% | 57% | 52% | 44% | 44% | 48% |
| Inadequate understanding of how emerging technologies could impact our bank | 38% | 43% | 41% | 61% | 50% | 48% |
| Reliance on outdated technology | 63% | 57% | 48% | 44% | 28% | 45% |
| Inability to identify specific technologies to help our bank achieve its strategic goals | 13% | 14% | 38% | 44% | 39% | 35% |
| Product constraints and shortages | 25% | - | 35% | 35% | 22% | 28% |
| Inability to identify specific companies/resources to help our bank achieve its goals | 13% | 43% | 28% | 26% | 17% | 25% |
| Other | 25% | 14% | 24% | 4% | 6% | 14% |
| Ineffective vendor due diligence | 25% | - | 14% | 9% | 6% | 11% |

20. Overall, do you believe your bank allocates sufficient resources to technology and innovation?

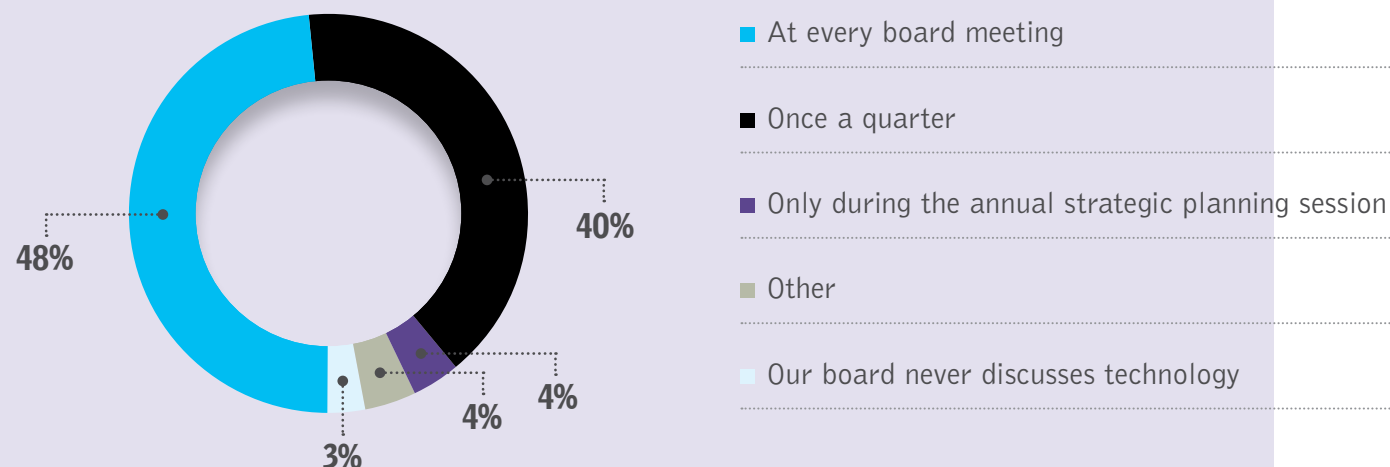
**Indicates a count of less than 10 within a category.*



| Bank Asset Size | > \$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|----------|-------------|-----------|-------------|---------|-------|
| Yes | 50% | 75% | 64% | 52% | 35% | 54% |
| No | 38% | 13% | 33% | 30% | 45% | 34% |
| Unsure | 13% | 13% | 3% | 17% | 20% | 12% |

21. How frequently does your board discuss technology?

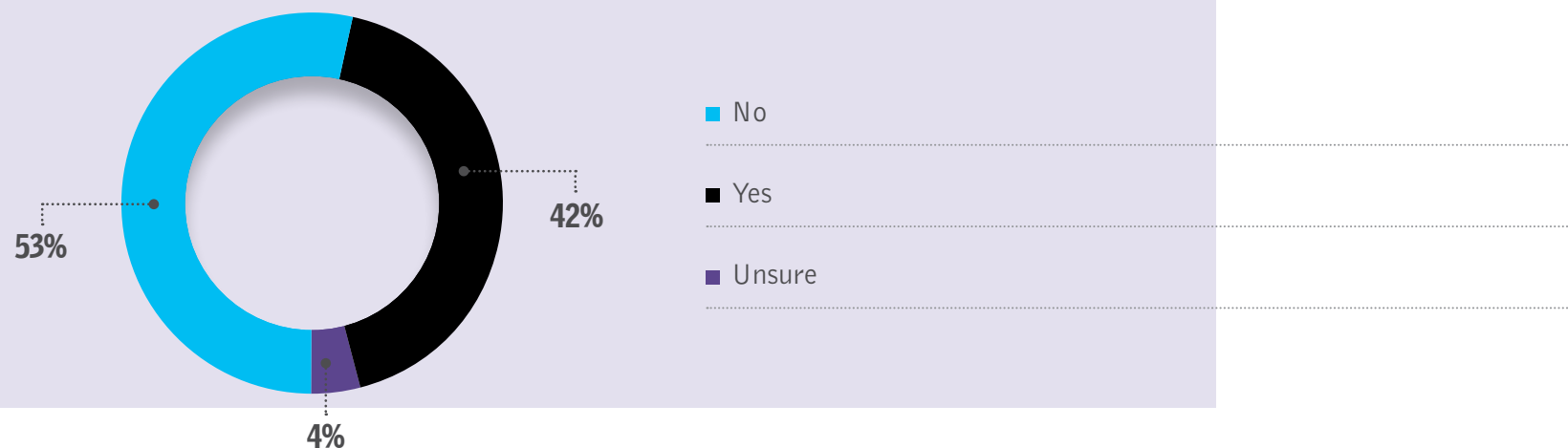
**Indicates a count of less than 10 within a category.*



| Bank Asset Size | >\$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|---|---------|-------------|-----------|-------------|---------|-------|
| At every board meeting | 50% | 50% | 52% | 26% | 65% | 48% |
| Once a quarter | 37% | 50% | 42% | 52% | 20% | 40% |
| Only during the annual strategic planning session | - | - | - | 9% | 10% | 4% |
| Other | 13% | - | 6% | 4% | - | 4% |
| Our board never discusses technology | - | - | - | 9% | 5% | 3% |

22. Does your board have at least one member who you would consider to be an expert in some area of technology, including digital transformation, user experience and/or data analytics?

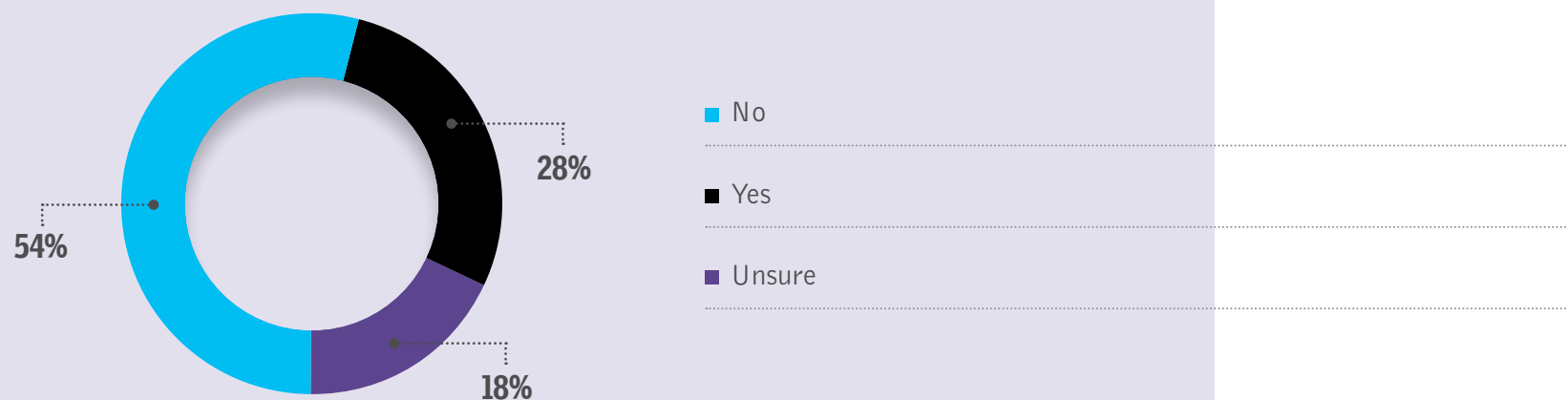
**Indicates a count of less than 10 within a category.*



| Bank Asset Size | >\$10B* | \$5B-\$10B* | \$1B-\$5B | \$500M-\$1B | <\$500M | Total |
|-----------------|---------|-------------|-----------|-------------|---------|-------|
| No | 50% | 38% | 42% | 61% | 70% | 53% |
| Yes | 50% | 50% | 55% | 35% | 25% | 42% |
| Unsure | - | 13% | 3% | 4% | 5% | 4% |

23. Are you actively seeking to add a director with technology expertise to your board?

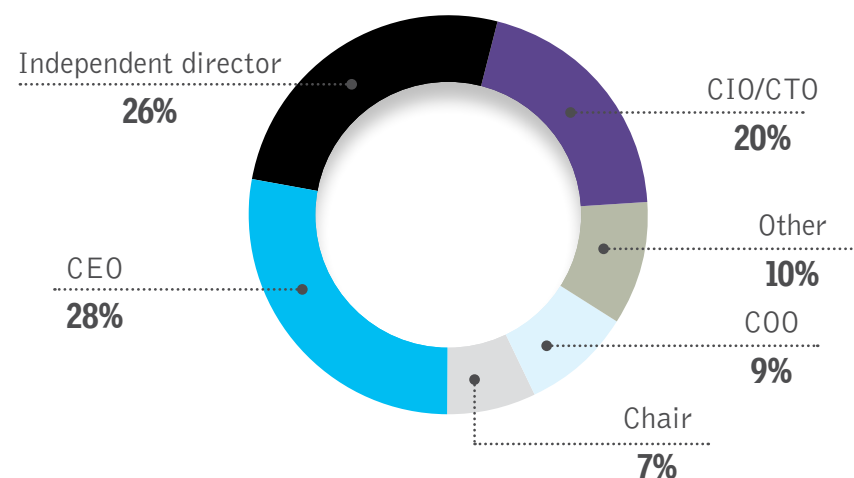
Respondents indicating that they were unsure about technology expertise in their boardroom were not asked this question.



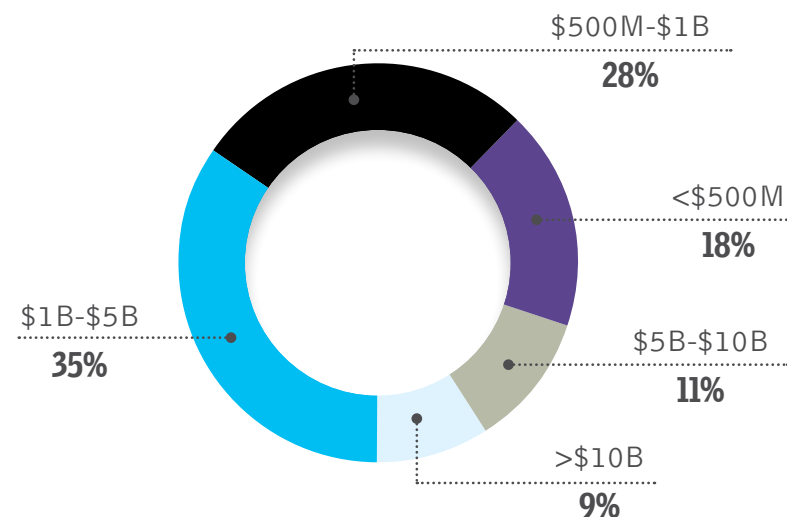
ABOUT THE SURVEY

Bank Director's 2022 Technology Survey, sponsored by CDW, surveyed 138 independent directors, chief executive officers, chief operating officers and senior technology executives of U.S. banks below \$100 billion in assets to understand how these institutions leverage technology in response to the competitive landscape. The survey was conducted in June and July 2022. Almost half of the respondents represent financial institutions below \$1 billion in assets, while 35% are from banks with \$1 billion to \$5 billion in assets and 20% represent banks over \$5 billion in assets.

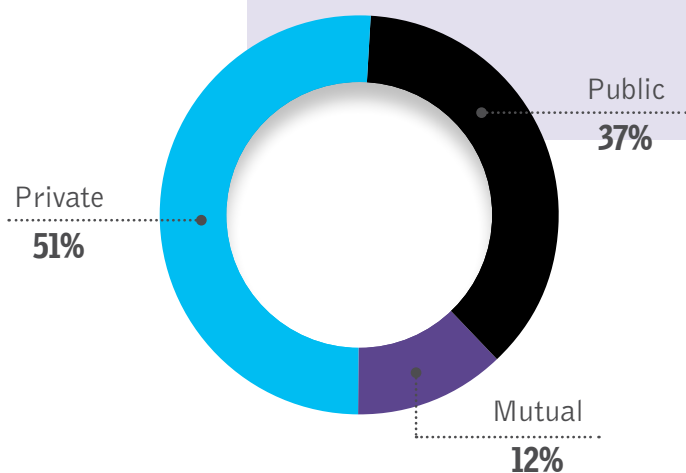
TITLE



ASSET SIZE

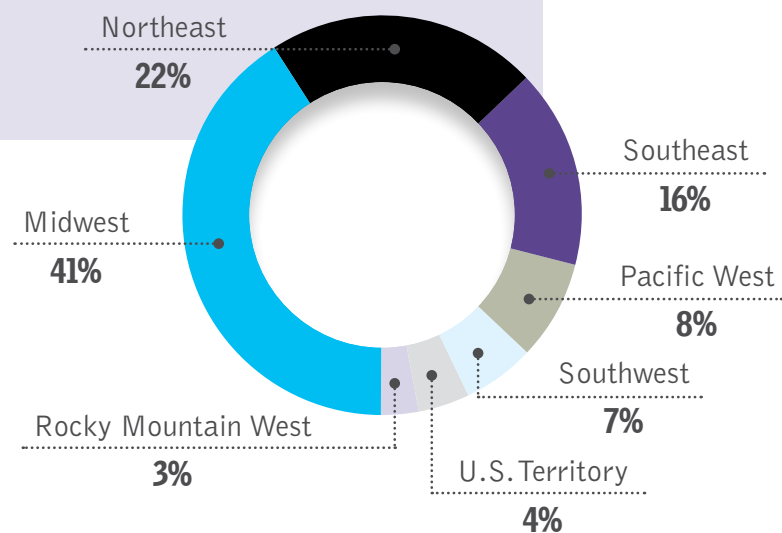


OWNERSHIP STRUCTURE



REGION*

Numbers don't add up to 100% due to rounding.



*Regions defined as follows: Midwest (IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI); Northeast (CT, ME, MA, NH, NJ, NY, PA, RI, VT); Pacific West (AK, CA, HI, OR, WA); Rocky Mountain West (CO, ID, MT, NV, UT, WY); Southeast (AL, AR, DE, DC, FL, GA, KY, LA, MD, MS, NC, SC, TN, VA, WV); Southwest (AZ, NM, OK, TX)