

2022 Technology Survey



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EXECUTIVE SUMMARY



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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 Forty-five percent say they're worried about their organization's reliance on outdated technology.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

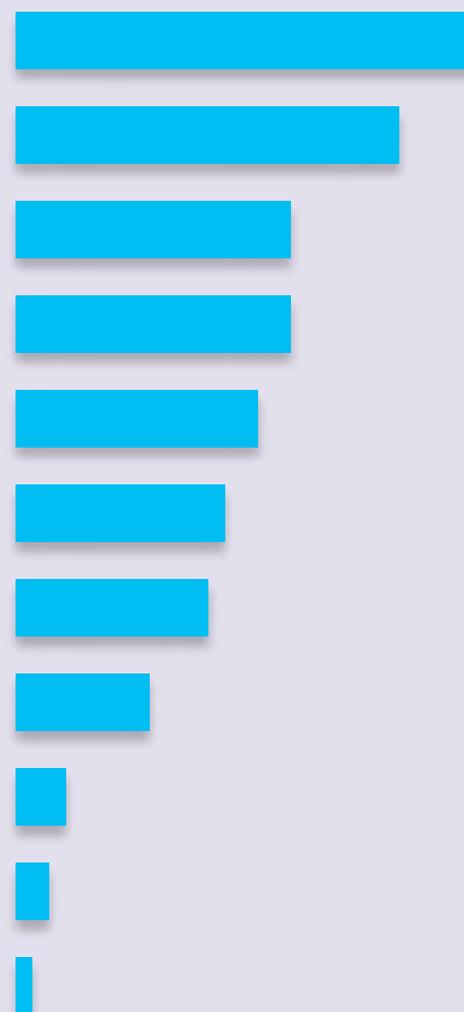
More than half of respondents view technology companies as vendors only, as opposed to collaborating with or investing in these firms. Thirty-nine percent, primarily representing banks over \$1 billion in assets, say their institution has collaborated with technology providers on specific solutions. 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?

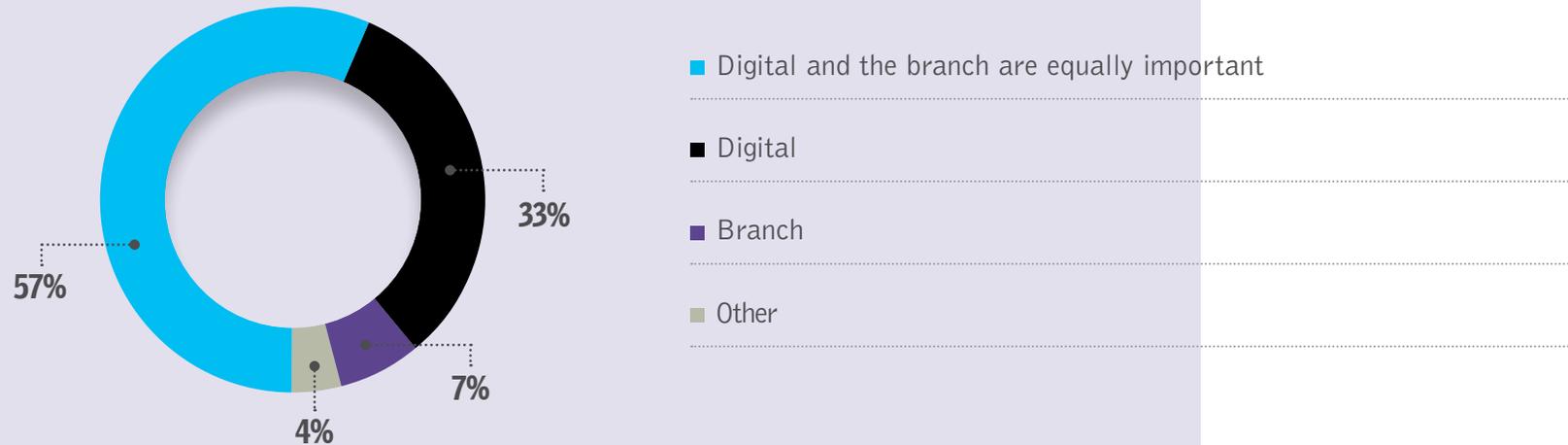
Respondents were asked to select no more than three options.

56%	Local banks and/or credit unions
46%	Big/superregional banks
33%	Big tech companies such as Apple and Google (Alphabet)
33%	Digital, nonbank business lenders
29%	Digital payments providers such as Square and Paypal
25%	Neo/challenger banks that attract consumer deposits
23%	Digital, nonbank mortgage lenders
16%	Retailers such as Amazon.com and Walmart
6%	Digital, nonbank consumer lenders
4%	Other
2%	Digital wealth management providers



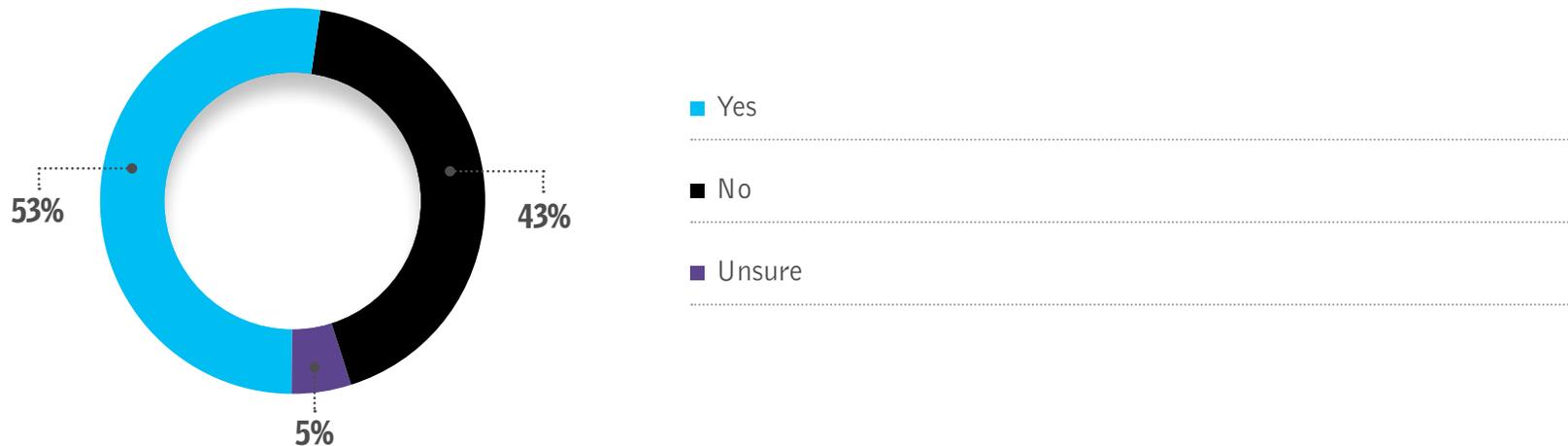
2. Which delivery channel is more critical to your bank's growth strategy?

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



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.



SERVING CUSTOMERS

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

Retail deposit accounts



Retail loans (mortgages, consumer loans, etc.)



Small business deposit accounts



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



Commercial loans



- Yes, fully digital
- Yes, partially digital
- No
- N/A

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.



Payments capabilities



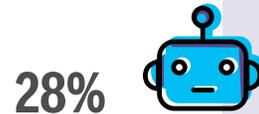
Digital retail account opening



Digital consumer or mortgage lending



Digital business account opening



Chatbots or similar automated communications



Fraud resolution



Direct digital communications with bankers



Personal financial management/digital budgeting capabilities



Digital business lending



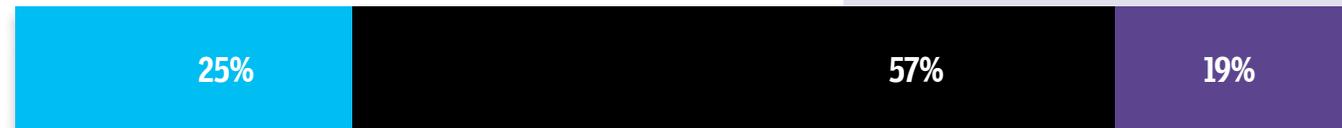
Other digital banking services



Digital wealth management capabilities

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

Gen Z (16-25 years old)



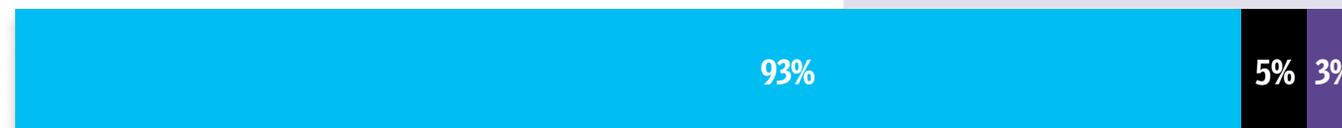
Millennials (26-40)



Generation X (41-56)



Baby Boomers (57-75)



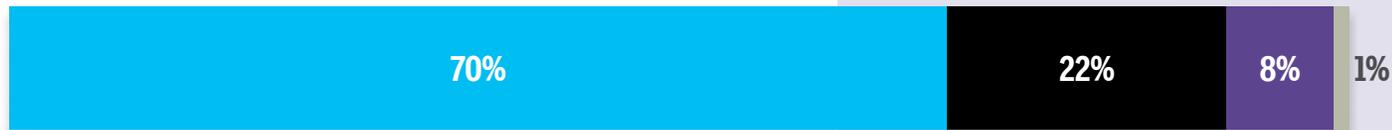
■ Yes

■ No

■ Unsure

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

Small businesses



Mid-sized businesses



Large, commercial enterprises



■ Yes

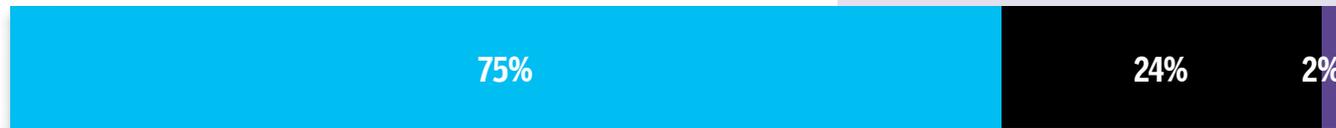
■ No

■ Unsure

■ Not applicable

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?

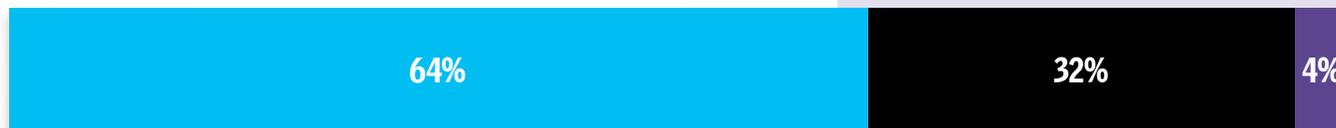
Cryptocurrency/digital assets



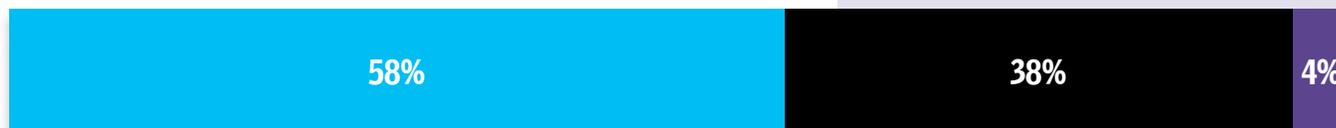
Blockchain



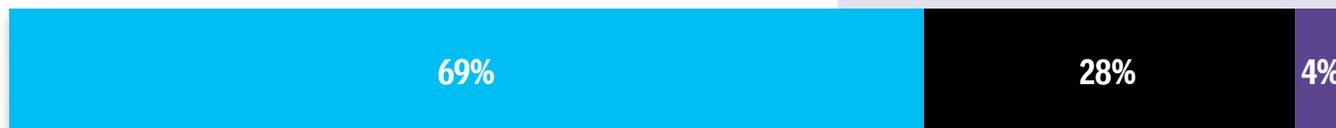
Banking as a service



Cannabis



Environmental, social and governance (ESG)



■ Yes

■ No

■ Unsure

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.

89% Cybersecurity/information security

62% Security/fraud

56% Data/analytics

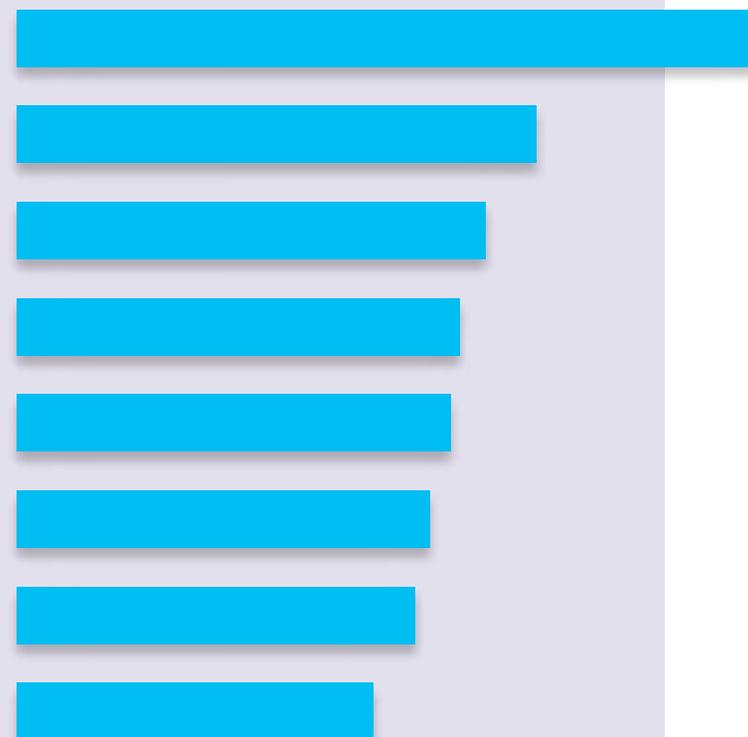
53% Risk and compliance

52% Audit/accounting

49% Loan underwriting/credit risk

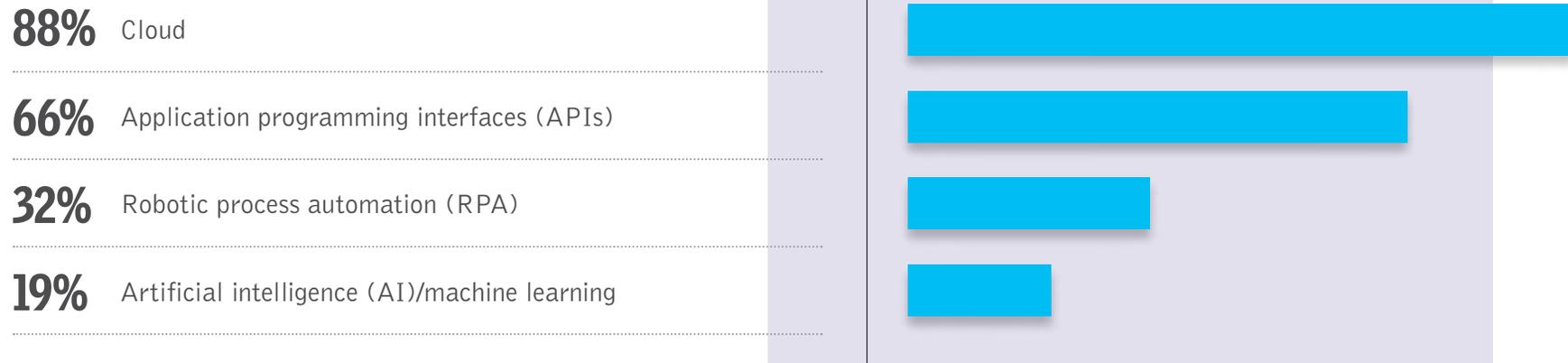
47% Marketing

43% Human resources



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.



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

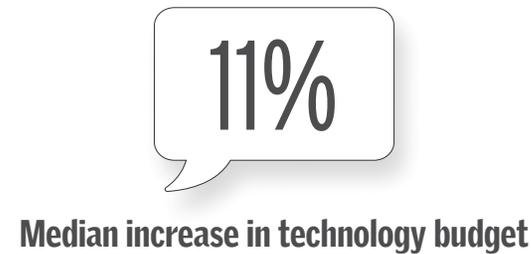
\$1,000,000

Median amount budgeted for technology

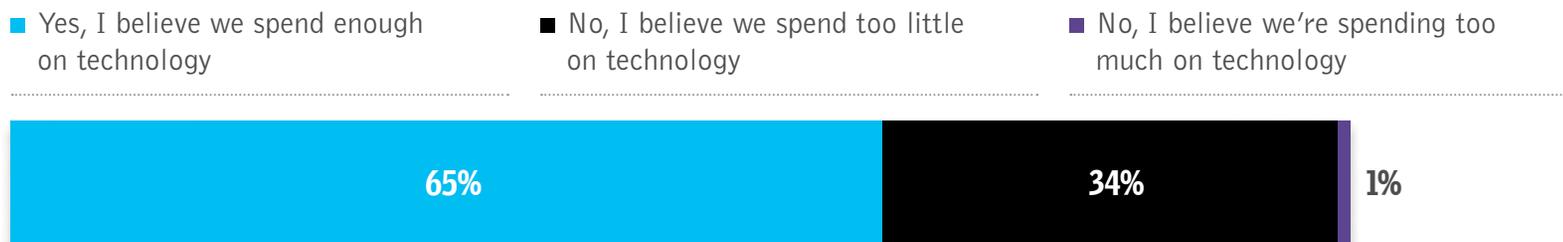
12. Did your bank increase or decrease its budget for technology in FY 2022 compared to its technology budget for FY 2021?



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

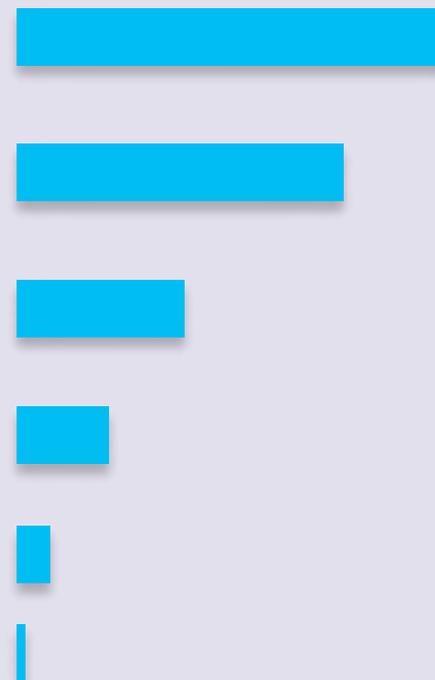
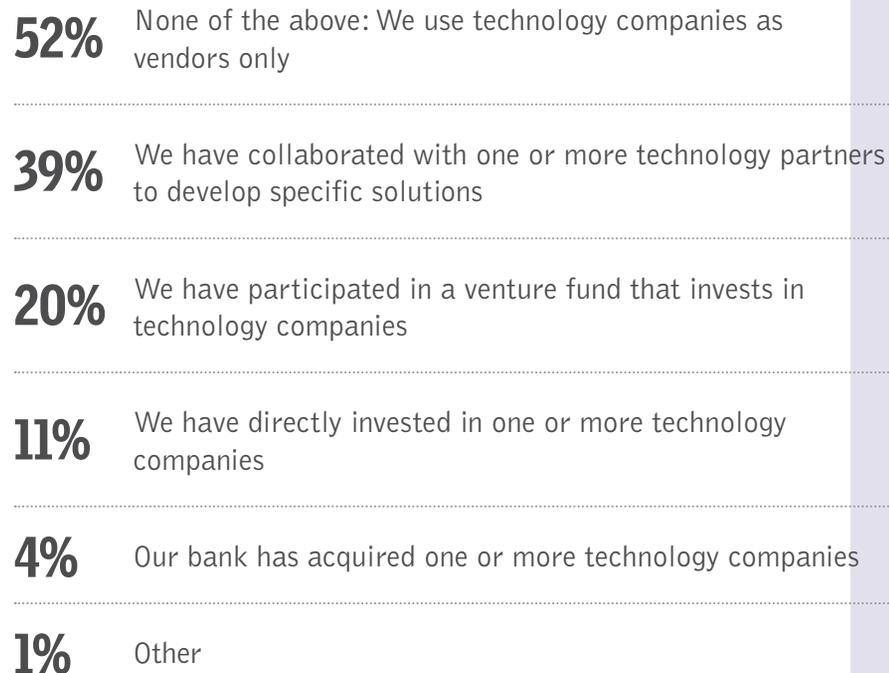


14. Do you believe that your bank is spending enough on technology, relative to its strategy?



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.



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?



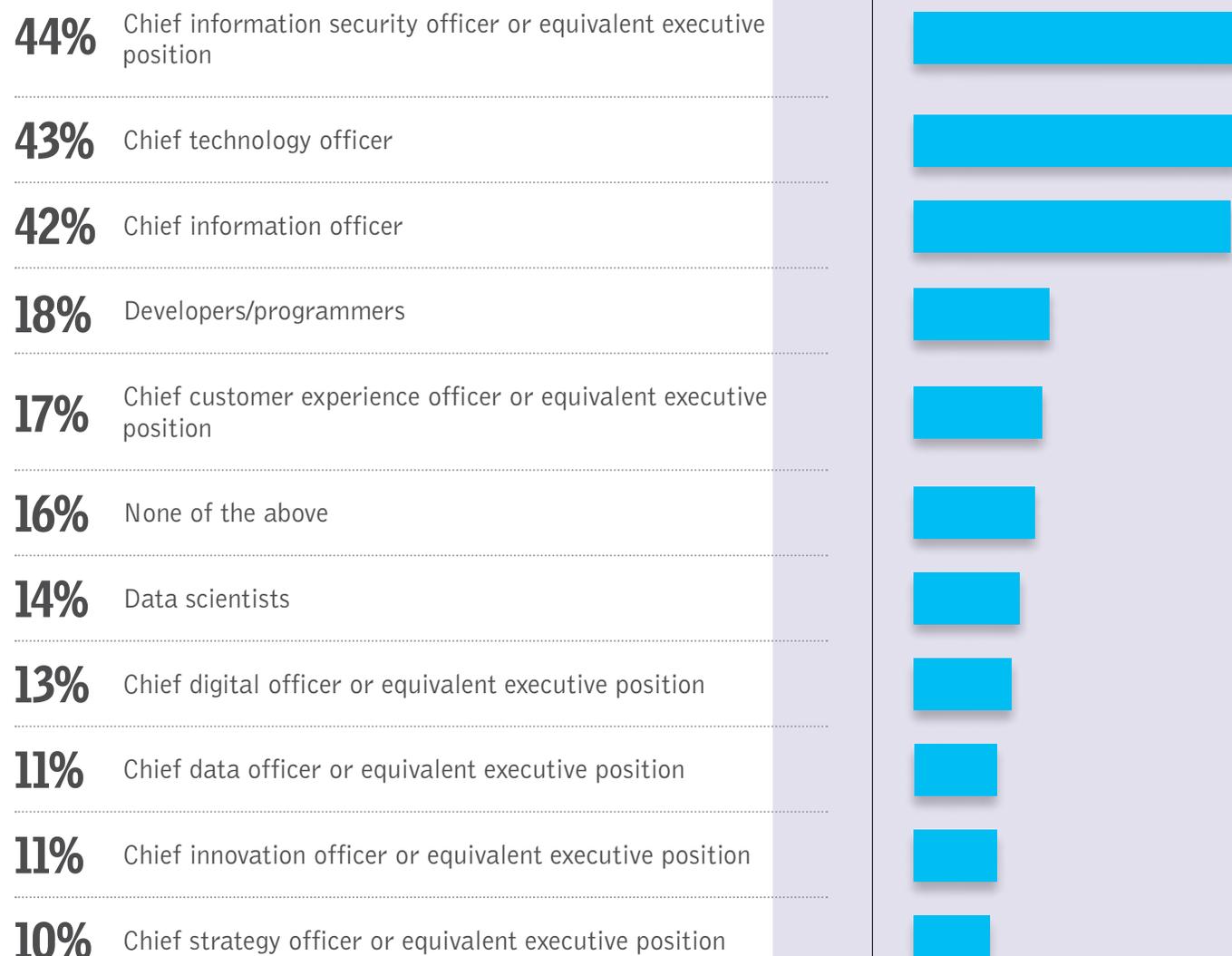
LEVERAGING EXPERTISE

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



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.



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

Respondents were asked to select all that apply.



Not effectively using/aggregating our bank's data



Inadequate understanding of how emerging technologies could impact our bank



Reliance on outdated technology



Inability to identify specific technologies to help our bank achieve its strategic goals



Product constraints and shortages



Inability to identify specific companies/resources to help our bank achieve its goals

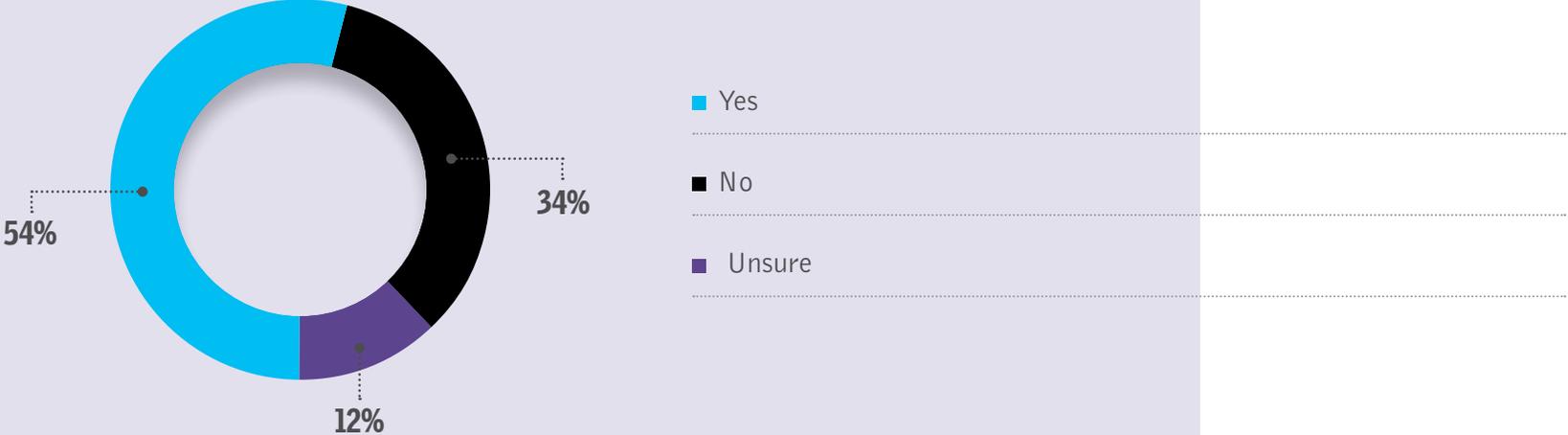


Other

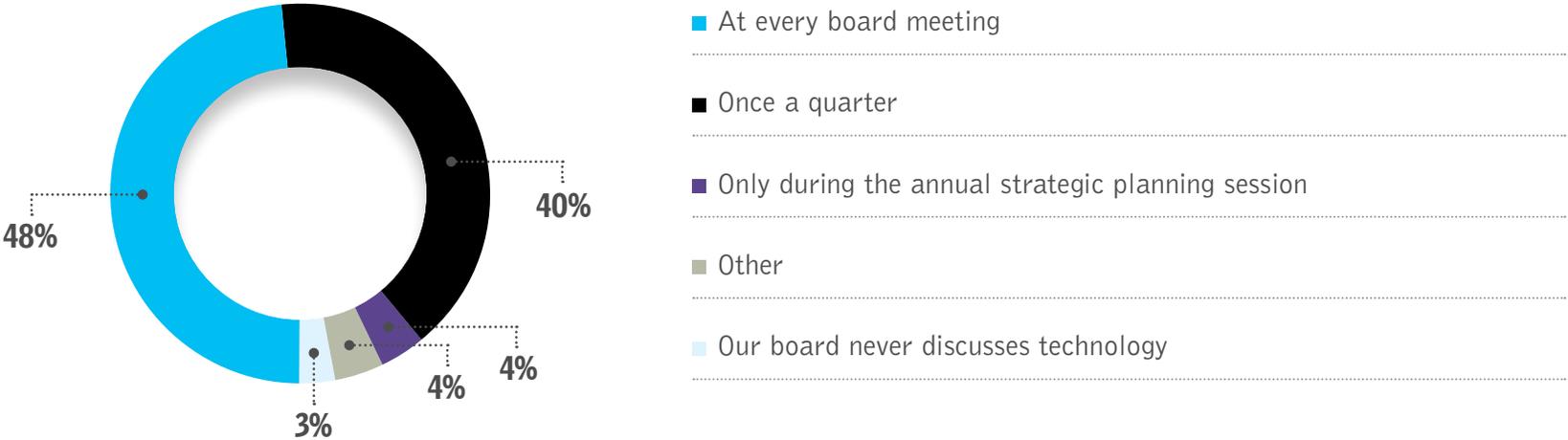


Ineffective vendor due diligence

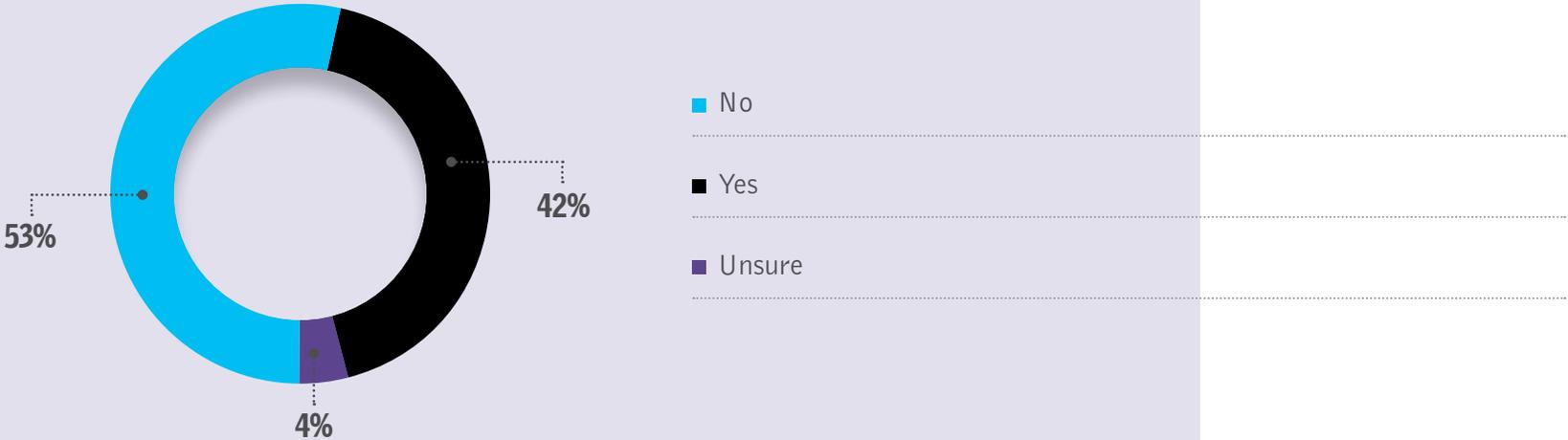
20. Overall, do you believe your bank allocates sufficient resources to technology and innovation?



21. How frequently does your board discuss technology?

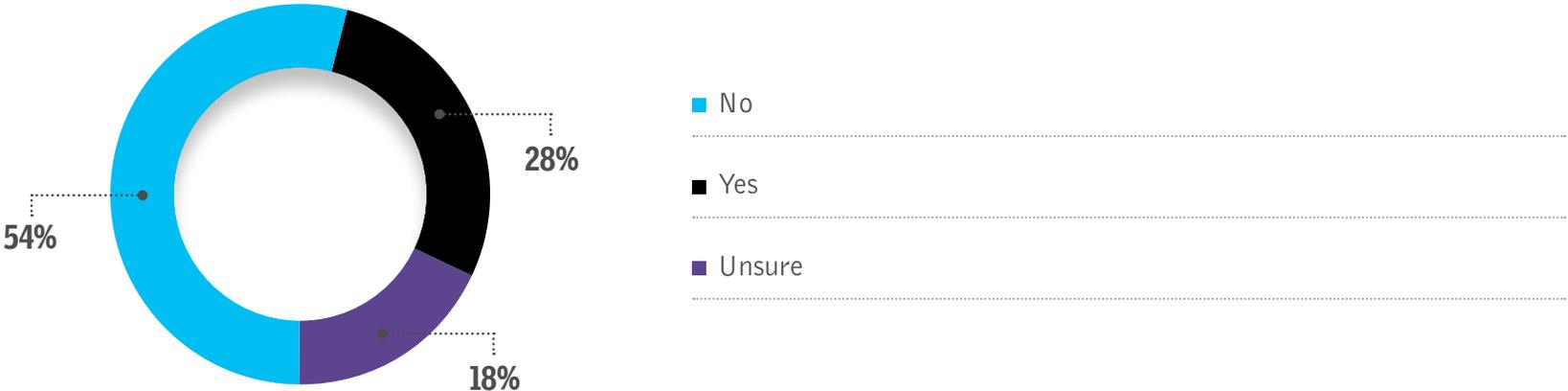


22. Does your board have at least one member who you would consider to be an expert in some area of technology, including digital transformation, user experience and/or data analytics?



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

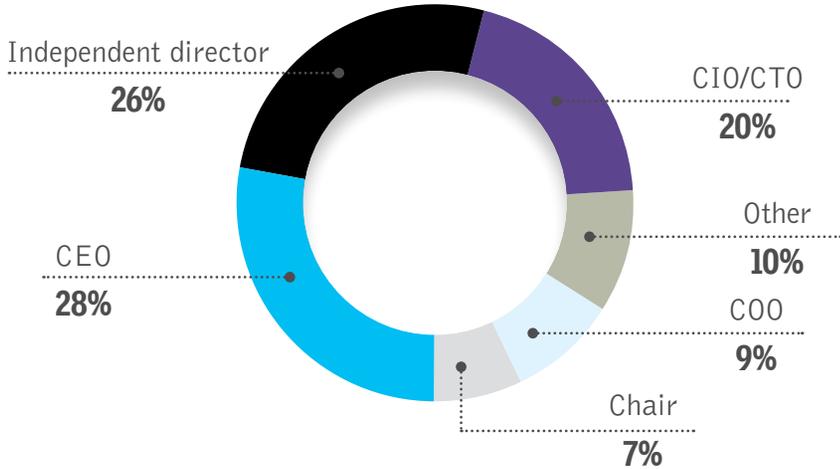
Respondents indicating that they were unsure about technology expertise in their boardroom were not asked this question.



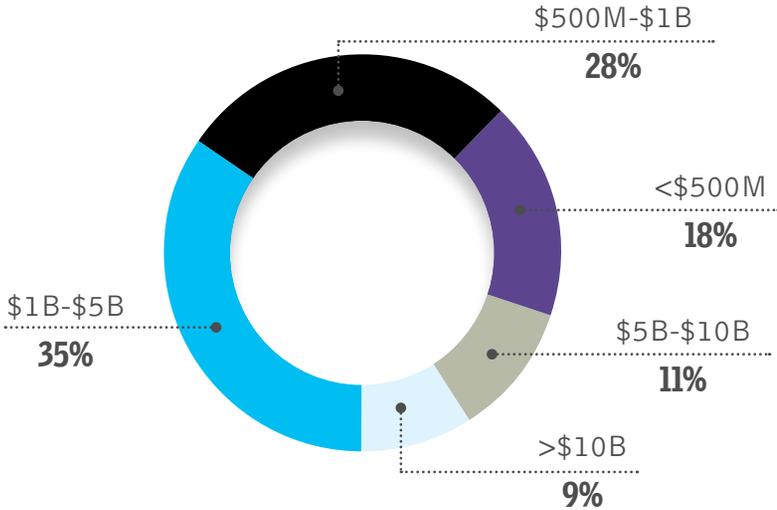
ABOUT THE SURVEY

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.

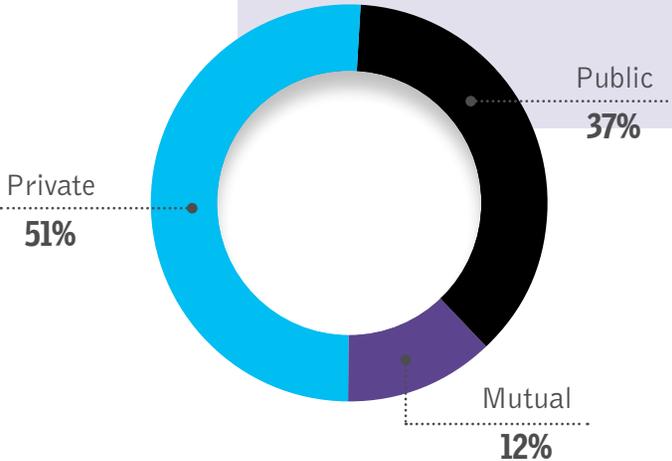
TITLE



ASSET SIZE

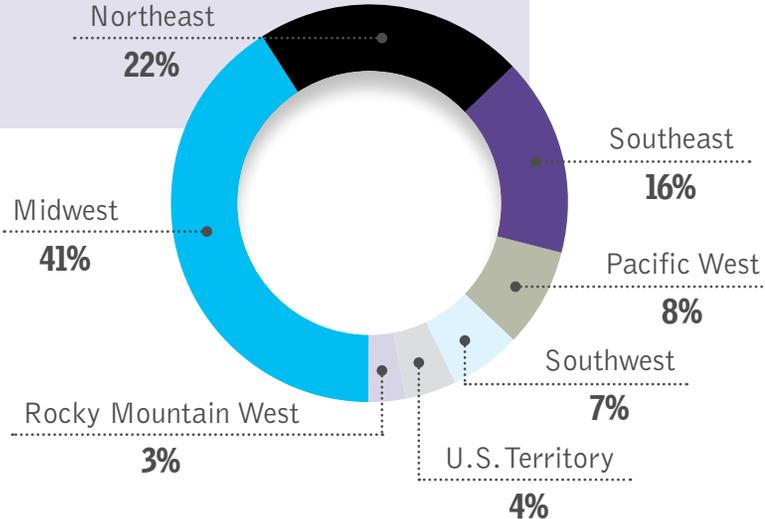


OWNERSHIP STRUCTURE



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)