INFOSYS
BANK TECH INDEX

VOLUME 2 — MAY 2024

Infosys®
Navigate your next

Infosys® | Knowledge Institute

Contents

Introduction

Introducing the Infosys Bank Tech Index

Dennis Gada
EVP, Global Head, Banking & Financial Services

Welcome to Volume 2 of the Infosys Bank Tech Index.

It will not come as a surprise to read that AI is the fastest growing area of spend for banking technology. However, this should be seen in the context of an overall slowing of spending on technology: our banking respondents have told us that reducing costs is their main strategic priority.

AI is a fascinating area. It will help banks grow as well as reduce costs. However, the growth of AI brings with it a growth in concerns around ethical, data and cybersecurity risks, and as such, we have found that cybersecurity is the biggest area of technology investment, the growth of AI notwithstanding.

We see this very much as a turning point for banks, and this edition of the Bank Tech Index captures both the opportunities and the concerns banking leaders are seeing and responding to. We think this is both an exciting and a challenging time for the industry, and the Bank Tech Index will help bring clarity to leaders seeking to understand this inflection point.

The findings from this index will help executives understand:

- How senior executives decide to spend their budgets across different technology areas.
- The effectiveness of technology spending.
- The evolving technology talent demand within banks.

We will continue to track these trends in the coming quarters. If you have any questions or if you would like to discuss these trends, please reach out to us.

Key findings — summary

AI tops banks' technology agenda

Finding 1: AI spend rising the fastest

- Artificial intelligence (AI) spend is growing fastest. Banks reported their intentions to grow AI spend by 6.2% in the first quarter of calendar 2024, as compared with 4.3% for cybersecurity budget.

- Almost a quarter of bank tech budgets are focused on cybersecurity, followed by AI, which accounts for 20% of budgets on average.

- However, technology recruitment is more focused on cybersecurity. Almost 40% of the increased technology headcount in the first quarter of 2024 was expected to be in cybersecurity; hiring in AI follows closely at 29% of headcount.

- AI talent is the most difficult to find with a difficulty score of 27 (a higher score means the skill is harder to acquire). However, this score has fallen by 7 points since Volume 1 of the Bank Tech Index. Cybersecurity follows closely with a difficulty score of 26 which has increased by 12 points since Volume 1.

Finding 2: Tech investment is muted with 3% median growth expected, yet nearly 40% of banks lean toward higher spend

- The median growth of tech spending slowed from 10% in Volume 1 to a tepid 3% in Volume 2.

- 37% of banks indicated that they are likely to grow tech spending over 5%.

- One in 10 banks are expected to grow tech spend by 10% or more.

Finding 3: Cost reduction as a strategic priority has increased in focus

- Reducing costs has increased in strategic importance by 10 points since fourth quarter of calendar 2023.

- North American banks are significantly more concerned about cost reduction than banks in the rest of the world.

- This focus on cost reduction in North America comes at the expense of innovation, but peers in the rest of the world are comparatively prioritizing transforming the business model, innovation and supporting growth.
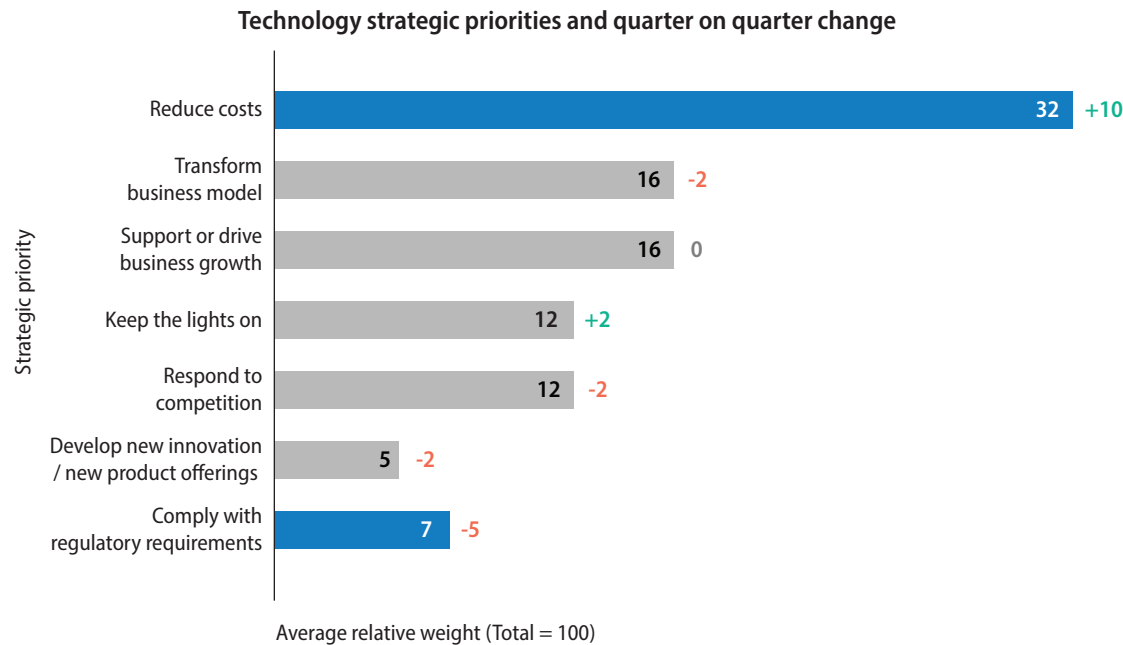
Please note: Much of the data from this report is not directly comparable to Volume 1 because we have expanded the sample to include more banks from APAC, as well as those from Middle East and Latin America. This has resulted in a change to how we measure performance, details of which can be found in the Appendix.

Technology strategic priorities

Priorities pivot to reducing costs

Comparison with Volume 1

Banks of every size increase priority of reducing costs

Technology strategic priorities and quarter on quarter change

Strategic priority

Reduce costs	32	+10
Transform business model	16	-2
Support or drive business growth	16	0
Keep the lights on	12	+2
Respond to competition	12	-2
Develop new innovation / new product offerings	5	-2
Comply with regulatory requirements	7	-5

Average relative weight (Total = 100)

Notes: 1. N = 324, where N is the total number of banks that participated in the survey.

Reduce costs and keep the lights on increase in priority — Cost reduction's strategic priority increased by 10 points compared to Volume 1 of the Bank Tech Index. The only other strategic priority to increase since last quarter was "Keep the lights on." However, this change is within the margin of error.

Regulatory compliance has become a lower priority — Banks have significantly decreased their focus on regulatory compliance by 4 to 6 points compared to Volume 1 of the Bank Tech Index.

Technology strategic priorities by region

Irrespective of the region, optimizing costs is a focus area

Technology strategic priorities by region

Strategic priority	Overall	APAC	Europe	Latin America	Middle East and Africa	North America
Reduce costs	30	29	30	29	25	35
Transform business model	16	17	15	17	18	15
Support or drive business growth	15	16	16	16	12	14
Keep the lights on	13	12	13	13	16	12
Respond to competition	12	12	11	12	12	11
Develop new innovation / new product offerings	8	9	7	9	12	4
Comply with regulatory requirements	6	6	7	4	5	8
	Average relative weight (Total = 100)	Average relative weight (Total = 100)	Average relative weight (Total = 100)	Average relative weight (Total = 100)	Average relative weight (Total = 100)	Average relative weight (Total = 100)

Notes: 1.   N = 324, where N is the total number of banks that participated in the survey.

Reducing costs is a top priority among North American banks — While cost reduction is the #1 priority across regions, it is more of a priority among North American banks. Cost reduction is comparatively less of a priority among Middle East and African banks.

Innovation less of a focus among North American banks — Innovation was the last strategic priority that North American banks focus on versus banks from other regions. Innovation is comparatively more of a priority among Middle East and African banks.

Technology spending report

CapEx takes the lion's share of budgets
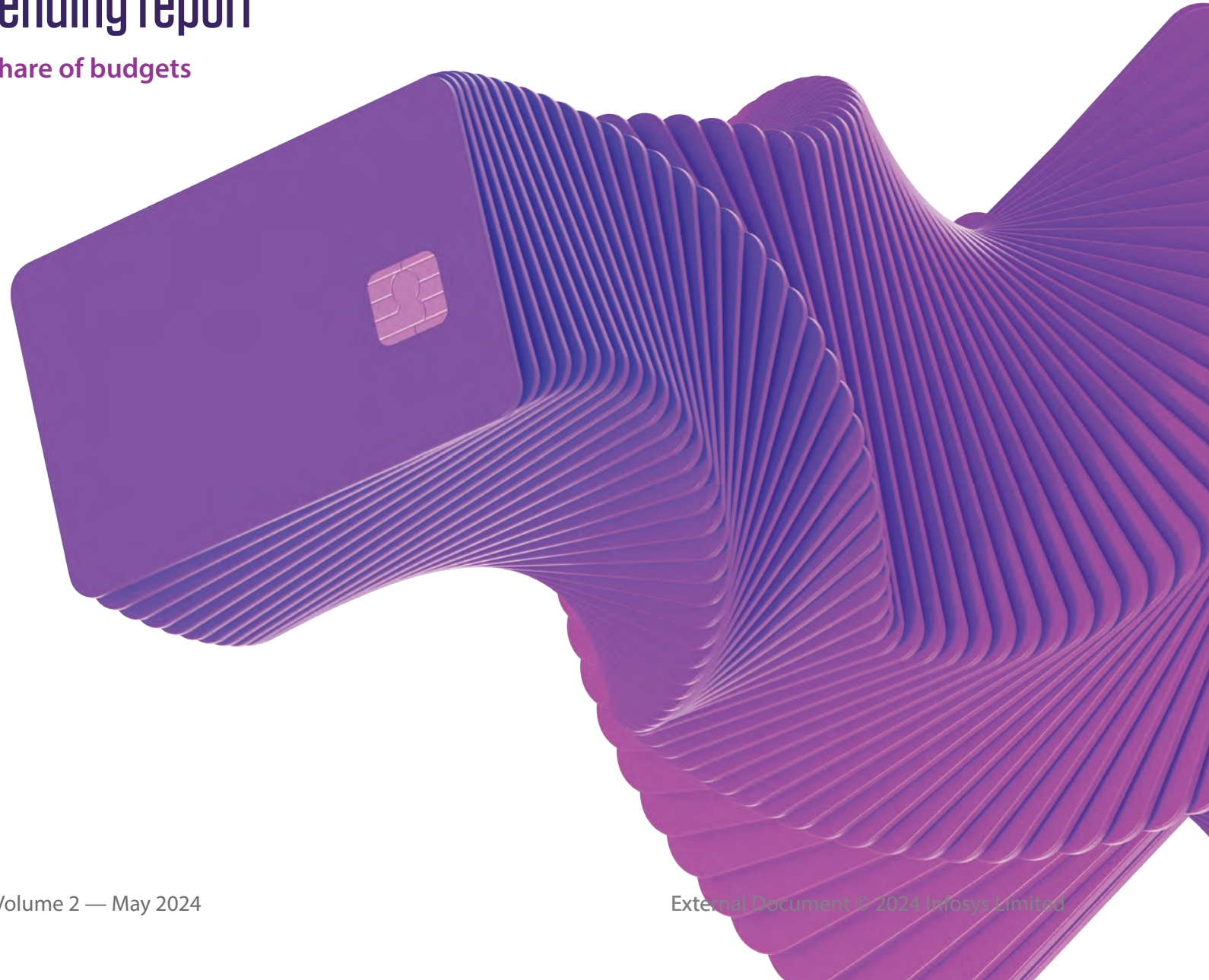
Total technology spending by category and type

Total technology spending across our sample is $60 billion

Total technology spending by category and type

Estimated technology spending

Estimated technology spending by category and type
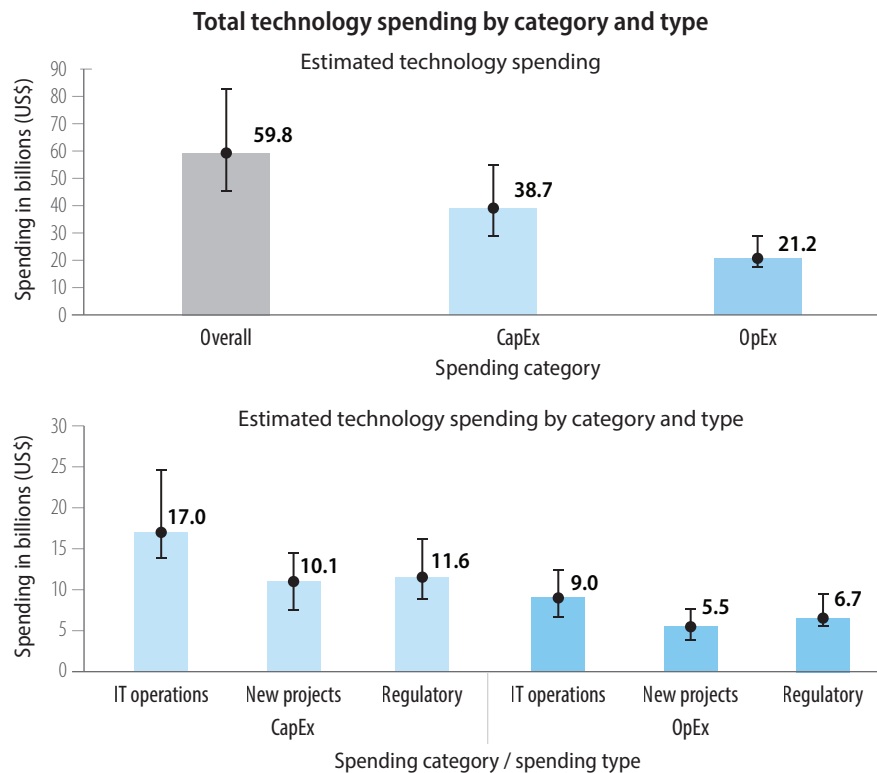
Notes: 1. *N = 320, where N is the total number of banks that responded to spending questions.*
2. *Error bars indicate the possible range of spending reported by banks in the survey.*

Total tech spending stood at $60 billion in fourth quarter of calendar 2023 — Our best estimate is that banks in our survey spent nearly $60 billion on technology in Q4 of 2023 but the true value could be anywhere between $45 billion and $85 billion.

CapEx accounted for two thirds of total tech spend — CapEx spending was at $39 billion and accounted for 65% of total technology spending. OpEx spend was at $21 billion and accounted for the remaining 35%.

IT operations represented the largest component of technology spending — Total IT operations spending was $26 billion and accounted for 43% of total technology spend. New projects accounted for the least of total spend at 26%.

Technology spending change

37% of banks to grow tech spending by over 5% in the first quarter of 2024

Expected change in technology spending

- Nearly 40% of banks expect tech spending to increase by 5% or more.
- The average expected tech spending growth is 4.1%, the median is 3%.

Percentage of banks

5% | 6% | 27% | 15% | 12% | 14% | 5% | 3% | 4% | 2% | 3% | 1% | 2% | 2%

0% | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 11% | 12% | 13% or more

Expected change in technology spending
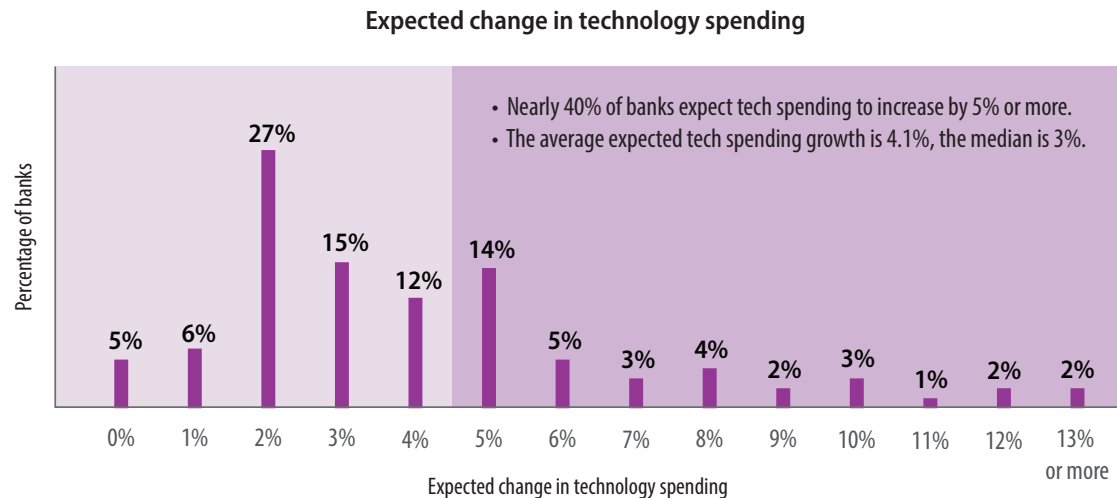
Notes: 1. N = 320, where N is the total number of banks that responded to spending questions.

2. Percentages do not add up to 100% because of rounding.

Nearly two-fifths of banks intend to increase technology spending more than 5% — The median growth of tech spending is muted at 3% in Volume 2, slowing from 10% seen in Volume 1. Yet nearly 40% of banks said they intended to grow tech spend by 5% or more in the first quarter of calendar 2024, with 9% indicating they expected it to grow by 10% or more.

Median tech spend versus average tech spend — The average of the expected change in technology spending for the first quarter of calendar 2024 is 4.1% while the median expectation is 3%. These both may be overestimates as we can see in the distribution that the most common expectation is a 2% increase.

Total technology spending by performance

High performers spend the most on technology

Average technology spending by performance and total assets

Total asset category

Performance category	$10 bn to $50 bn	$50 bn to $250 bn	More than $250 bn
Higher performer	25.2	42.8	83.2
Average performer	6.6	34.1	49.7
Lower performer	1.8	9.0	53.9
	Average estimated technology spending in millions (US$)	Average estimated technology spending in millions (US$)	Average estimated technology spending in millions (US$)
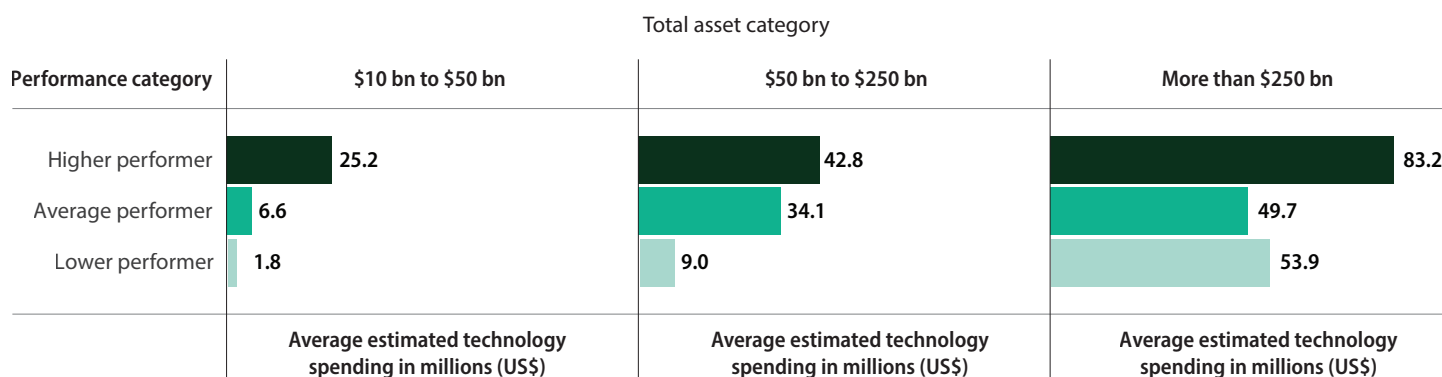
Notes: 1. N = 320, where N is the total number of banks that responded to spending questions.
2. Number values are approximated to one decimal place.

Average performers among banks with total assets between $50 billion and $250 billion buck the trend — Average performing banks with assets totaling less than $50 billion or more than $250 billion spend more like lower performing banks on technology on average. However, the mean tech spending by average performers among banks with between $50 billion and $250 billion in assets is closer to those of higher performing banks on average.

Technology budget forecast

AI is set to overtake cybersecurity as the highest spend category
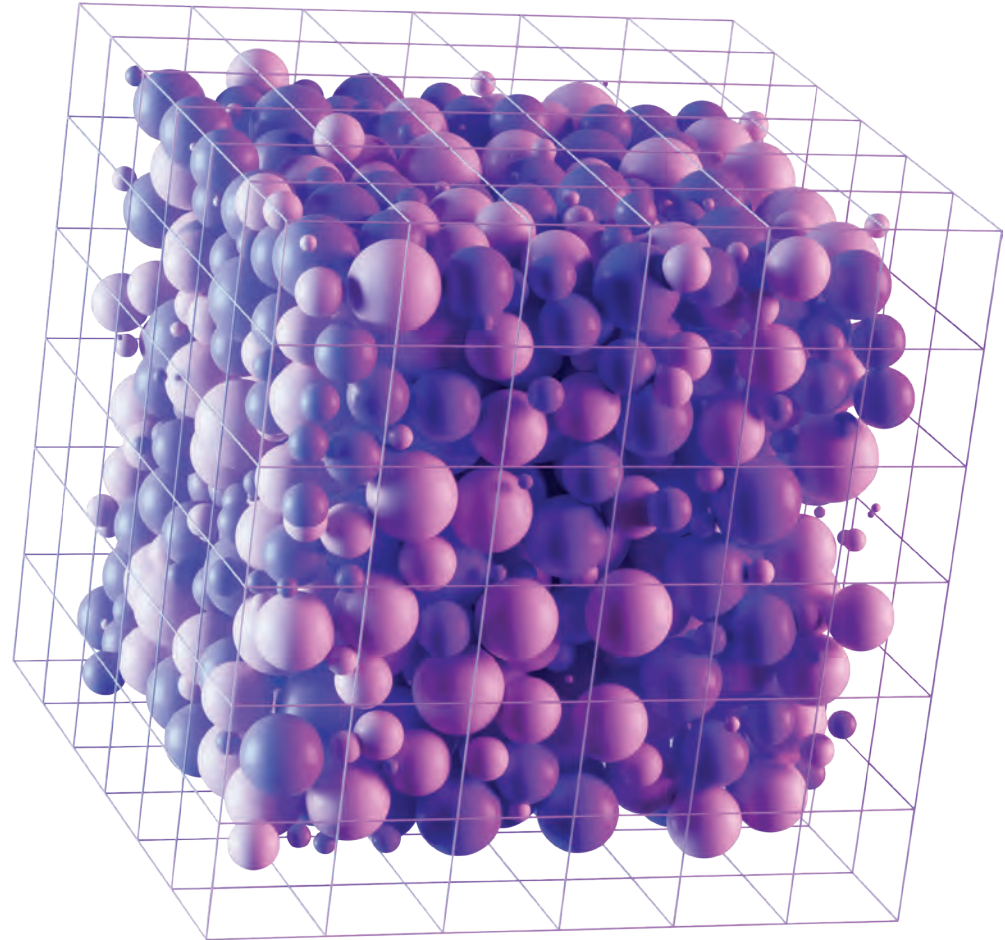
Technology budget distribution by economic status

AI and cybersecurity encompass 50% of technology budgets for banks in emerging economies

Proportion of budget spend on technology in most recent reported quarter by economic classification

Average investment allocation (%)

Technology (y-axis label)

Cybersecurity: 24% / 24% / 24%
AI*: 20% / 15% / 26%
Open banking or APIs: 14% / 14 / 13%
Cloud computing: 11% / 15% / 7%
Banking as a service platform: 9% / 11% / 7%
Real-time payments: 8% / 10% / 6%
Robotic process automation (RPA): 5% / 4% / 6%
Blockchain: 3% / 2% / 4%
Quantum computing: 3% / 2% / 3%
Voice technologies: 1% / 1% / 2%
Virtual or augmented reality: 1% / 1% / 1%

AI breakdown:
8% / 7% / 5% — 20%
6% / 5% / 4% — 15%
10% / 10% / 6% — 26%

■ AI and ML
■ Deep learning or neural networks
■ Large language models (LLMs)

■ Overall
■ Advanced economy banks
■ Emerging or developing economy banks

Emerging economy banks concentrate budget on AI — Banks in emerging or developing economies allocate 26% percent of their technology budget to AI, much higher than banks in advanced economies (15%).

Cybersecurity isn't in the back seat — Advanced and emerging economy banks allocate nearly 25% of their technology budgets to cybersecurity.

Notes: 1.   *AI includes machine learning (ML), deep learning or neural networks, and LLMs.
        2.   N = 324, where N is total number of banks participated in the survey, with 177 banks in advanced economic regions and 147 of banks in emerging or developing economic regions.

Intended technology budget change

Bank AI budgets to grow more than all other technologies
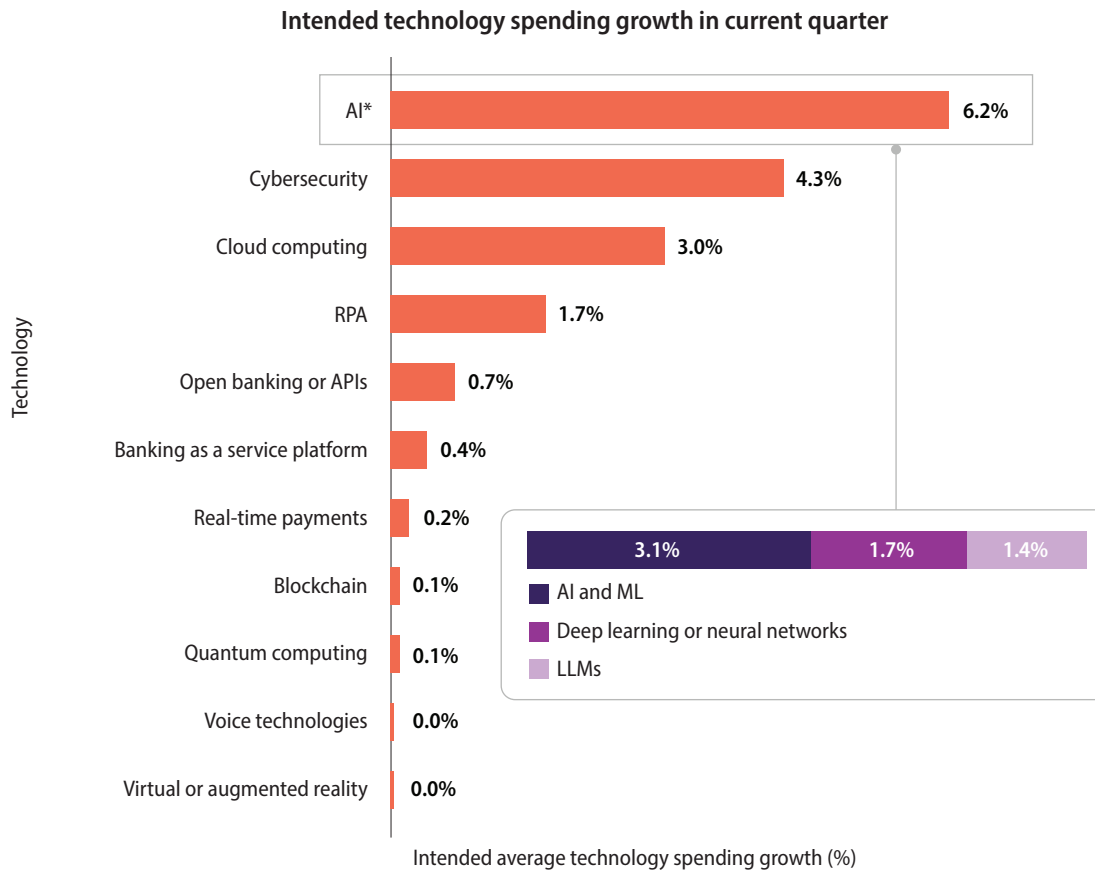
Intended technology spending growth in current quarter

Technology	Growth
AI*	6.2%
Cybersecurity	4.3%
Cloud computing	3.0%
RPA	1.7%
Open banking or APIs	0.7%
Banking as a service platform	0.4%
Real-time payments	0.2%
Blockchain	0.1%
Quantum computing	0.1%
Voice technologies	0.0%
Virtual or augmented reality	0.0%

AI* breakdown: 3.1% AI and ML | 1.7% Deep learning or neural networks | 1.4% LLMs

- AI and ML
- Deep learning or neural networks
- LLMs

Technology (y-axis)

Intended average technology spending growth (%)

Notes: 1. *AI includes ML, deep learning or neural networks, and LLMs.
2. N = 324, where N is the number of banks that surveyed in this research.

AI leads the race on budget growth

— Growth in AI budgets was expected to increase at 6.2% in the first quarter of calendar 2024. This is nearly 200 basis points higher than the expected growth of cybersecurity budgets and over double the expected growth in cloud budgets.

Intended technology budget change by region

APAC and Latin American banks expected to grow AI budgets the most

Intended technology spending growth in current quarter by region

Technology	Overall	APAC	Europe	Latin America	Middle East and Africa	North America
AI*	6.2%	7.4%	5.9%	7.4%	6.8%	4.0%
Cybersecurity	4.3%	4.0%	5.1%	4.6%	3.4%	4.3%
Cloud computing	3.0%	2.7%	3.6%	2.3%	2.5%	3.5%
RPA	1.7%	2.2%	1.5%	1.7%	2.0%	1.0%
Open banking or APIs	0.7%	0.5%	1.6%	0.0%	0.5%	0.8%
Banking as a service platform	0.4%	0.3%	0.5%	0.0%	0.4%	0.6%
Real-time payments	0.2%	0.2%	0.3%	0.1%	0.3%	0.2%
Blockchain	0.1%	0.2%	0.0%	0.0%	0.4%	0.0%
Quantum computing	0.1%	0.1%	0.1%	0.1%	0.2%	0.0%
Voice technologies	0.0%	0.0%	0.2%	0.0%	0.0%	0.0%
Virtual or augmented reality	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Region

Technology

Intended average technology spending growth (%)

Notes: 1. *AI includes ML, deep learning or neural networks, and LLMs.
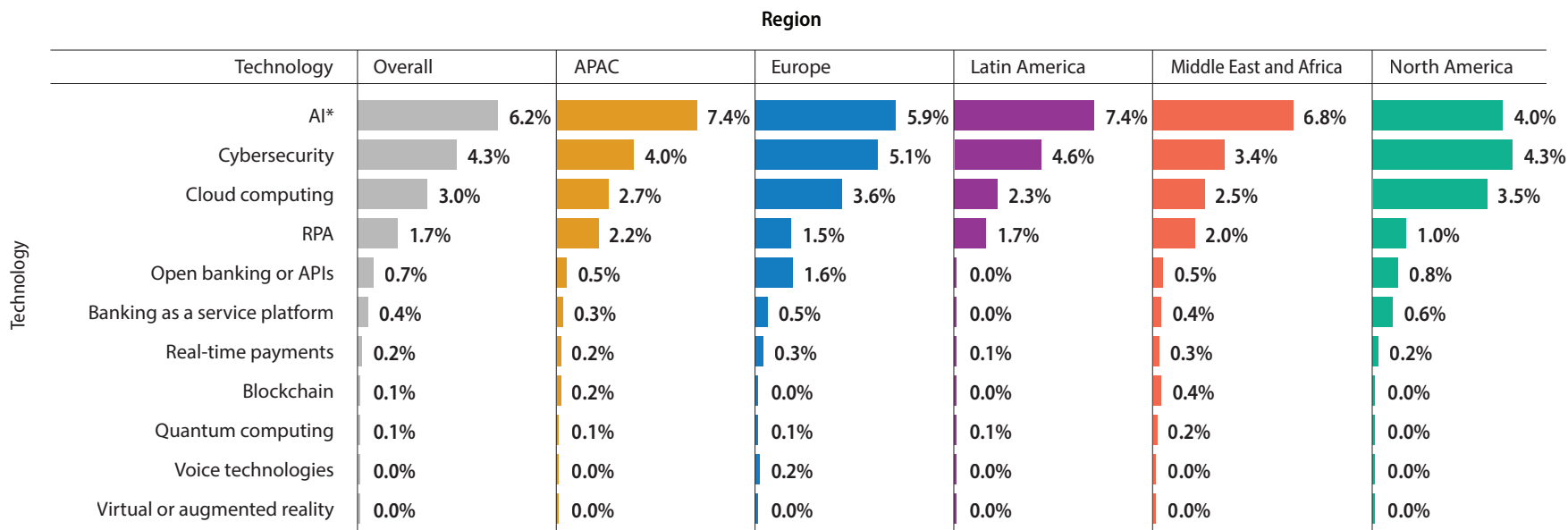2. N = 324, where N is the number of banks that surveyed in this research.

APAC Latin America lead growth in AI budgets — Banks in APAC and Latin America expect to grow AI budgets by 7.4%, higher than overall average of 6.2%. North American banks expect to grow AI budgets by 4%.

Europe and North American banks lead on cloud budget growth — European and North American banks expect to increase cloud budgets the most at 3.6% and 3.5%, respectively.

European growth is focused on cybersecurity — European banks expect to increase cybersecurity budgets by 5.1%, followed by Latin American (4.6%) and North American (4.3%) banks.

Regional technology budget forecast

Technology budget distribution for APAC

Proportion of budget spend on technology in most recent reported quarter by APAC banks

Technology	Overall	APAC banks
Cybersecurity	24%	22%
AI	20%	24%
Cloud computing	14%	13%
Open banking or APIs	11%	9%
Banking as a service platform	9%	11%
Real time payments	8%	7%
RPA	5%	6%
Quantum computing	3%	3%
Blockchain	3%	3%
Voice technologies	1%	1%
Virtual or augmented reality	1%	1%

Average technology budget allocation (%)

Overall · APAC banks

Intended technology spending growth in current quarter by APAC banks

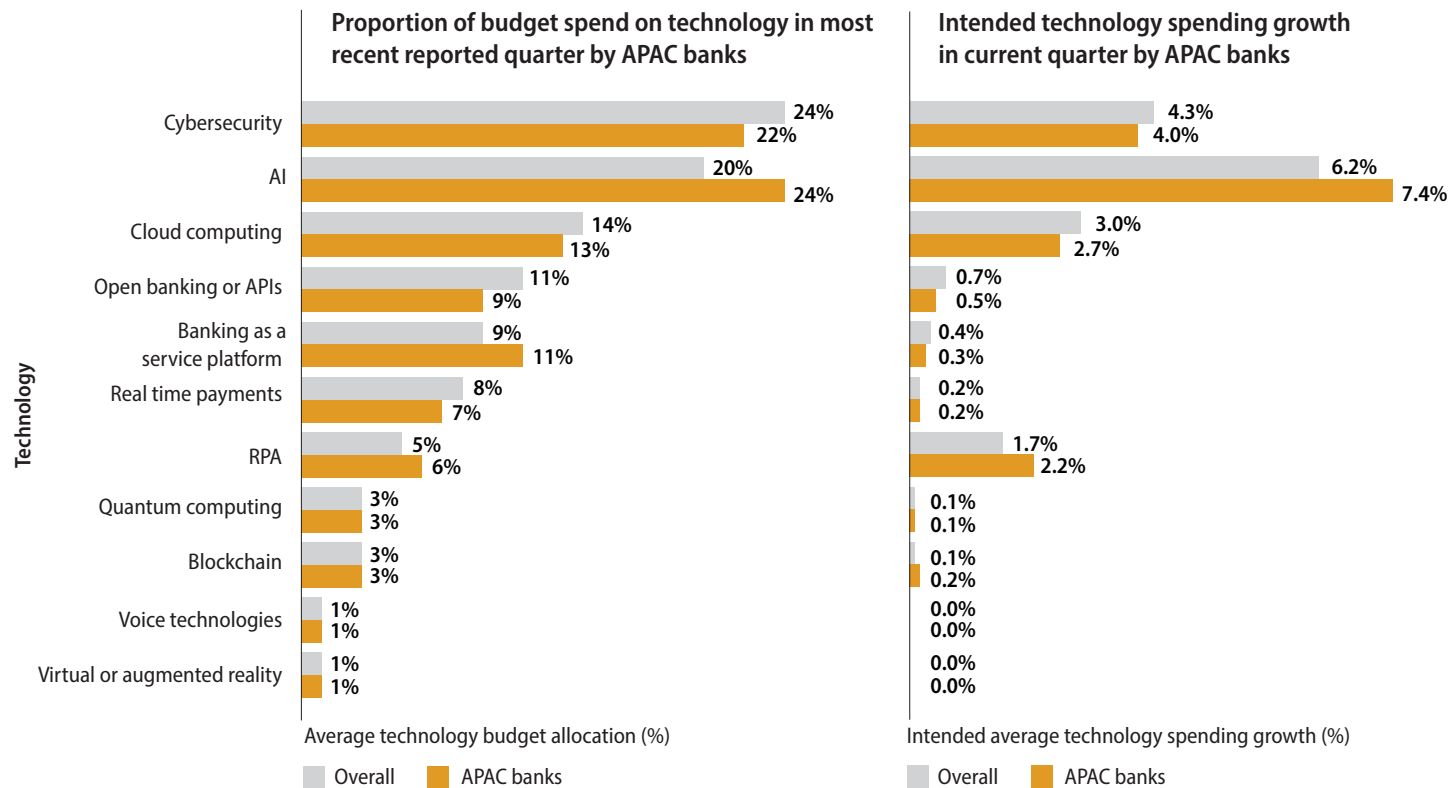| Technology	Overall	APAC banks
Cybersecurity	4.3%	4.0%
AI	6.2%	7.4%
Cloud computing	3.0%	2.7%
Open banking or APIs	0.7%	0.5%
Banking as a service platform	0.4%	0.3%
Real time payments	0.2%	0.2%
RPA	1.7%	2.2%
Quantum computing	0.1%	0.1%
Blockchain	0.1%	0.2%
Voice technologies	0.0%	0.0%
Virtual or augmented reality	0.0%	0.0%

Intended average technology spending growth (%)

Overall · APAC banks

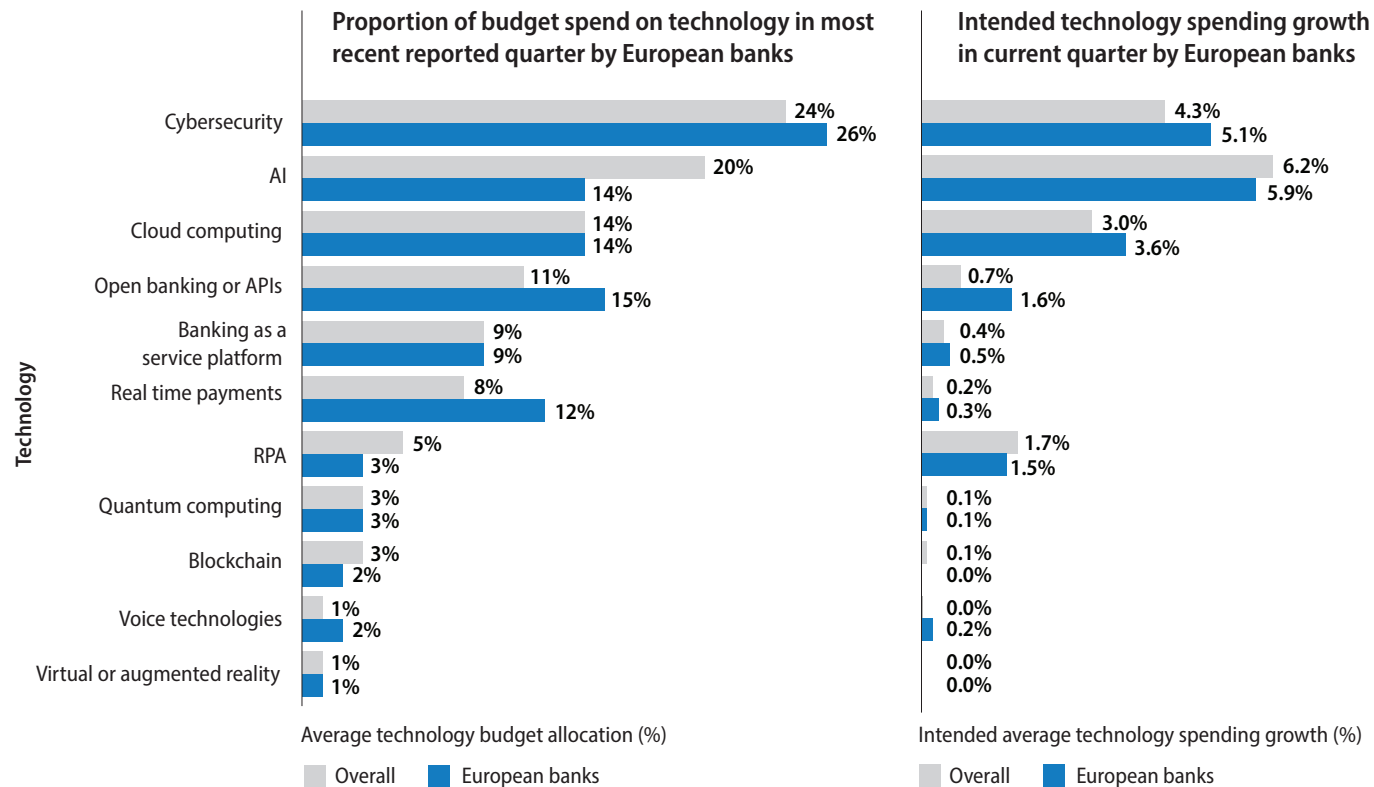**APAC banks equally focused on AI and cybersecurity —** Banks allocated similar budget to cybersecurity and AI in their most recent reported quarter.

Banks set to boost spending on AI — The spending on AI by APAC banks is likely to increase to 7.4% which higher than the overall average of 6.2%.

Increasing focus on RPA — APAC banks are looking to increase spending on RPA more than the average bank in our survey.
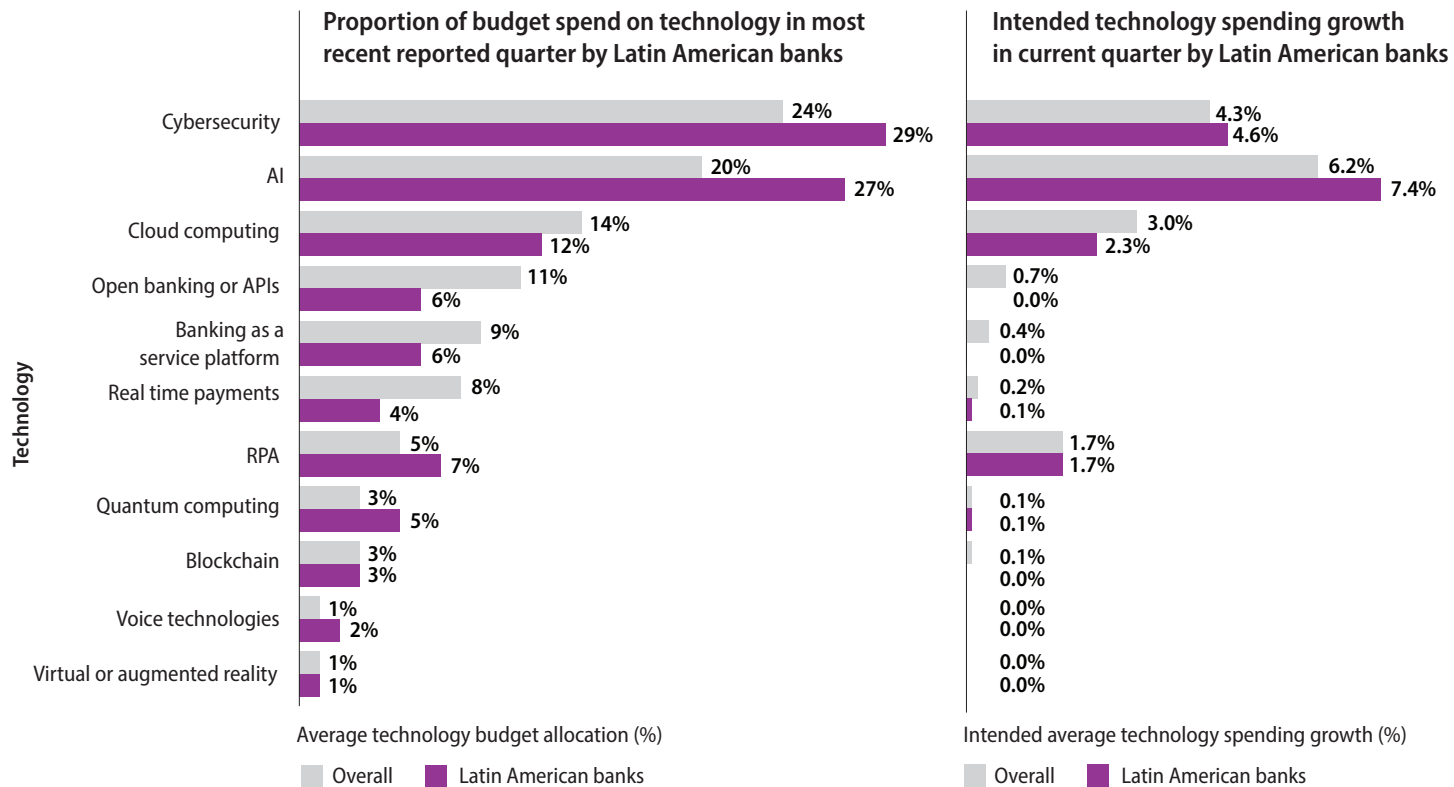
Technology budget distribution for Europe

Proportion of budget spend on technology in most recent reported quarter by European banks

Technology	Overall	European banks
Cybersecurity	24%	26%
AI	20%	14%
Cloud computing	14%	14%
Open banking or APIs	11%	15%
Banking as a service platform	9%	9%
Real time payments	8%	12%
RPA	5%	3%
Quantum computing	3%	3%
Blockchain	3%	2%
Voice technologies	1%	2%
Virtual or augmented reality	1%	1%

Average technology budget allocation (%)

■ Overall ■ European banks

Intended technology spending growth in current quarter by European banks

Technology	Overall	European banks
Cybersecurity	4.3%	5.1%
AI	6.2%	5.9%
Cloud computing	3.0%	3.6%
Open banking or APIs	0.7%	1.6%
Banking as a service platform	0.4%	0.5%
Real time payments	0.2%	0.3%
RPA	1.7%	1.5%
Quantum computing	0.1%	0.1%
Blockchain	0.1%	0.0%
Voice technologies	0.0%	0.2%
Virtual or augmented reality	0.0%	0.0%

Intended average technology spending growth (%)

■ Overall ■ European banks

Europe is more focused on open banking or APIs and real-time payments — European banks have allocated budget more to open banking or APIs and real-time payments compared to the overall global average.

Banks are likely to increase spending on cybersecurity and open banking or APIs — European banks are likely to increase spending on cybersecurity (5.1%) and open banking or APIs (1.6%) more than banks in the rest of the world.
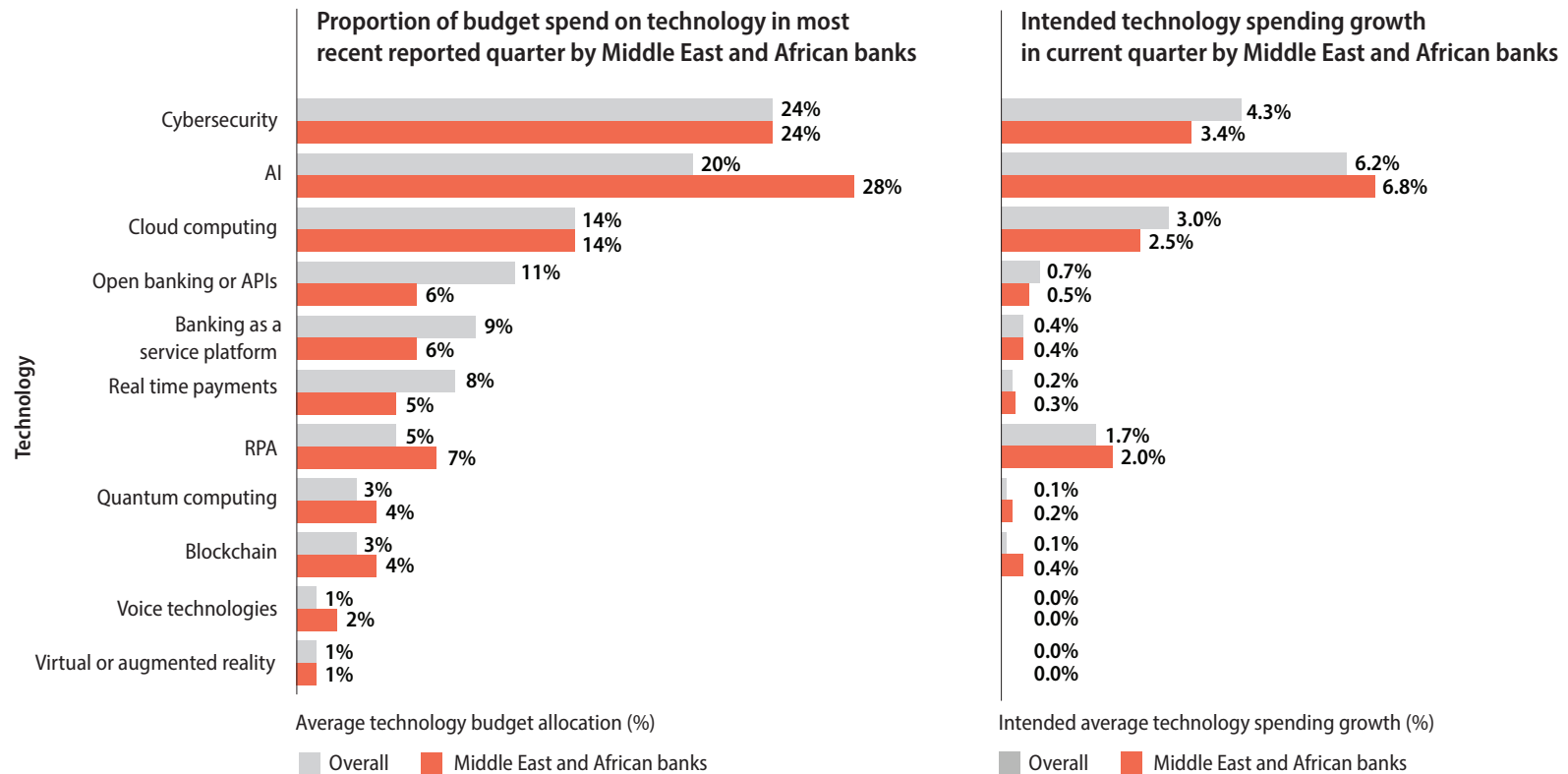
Technology budget distribution for Latin America

Proportion of budget spend on technology in most recent reported quarter by Latin American banks

Technology	Overall	Latin American banks
Cybersecurity	24%	29%
AI	20%	27%
Cloud computing	14%	12%
Open banking or APIs	11%	6%
Banking as a service platform	9%	6%
Real time payments	8%	4%
RPA	5%	7%
Quantum computing	3%	5%
Blockchain	3%	3%
Voice technologies	1%	2%
Virtual or augmented reality	1%	1%

Average technology budget allocation (%)

Overall ▮ Latin American banks

Intended technology spending growth in current quarter by Latin American banks

	Overall	Latin American banks
	4.3%	4.6%
	6.2%	7.4%
	3.0%	2.3%
	0.7%	0.0%
	0.4%	0.0%
	0.2%	0.1%
	1.7%	1.7%
	0.1%	0.1%
	0.1%	0.0%
	0.0%	0.0%
	0.0%	0.0%

Intended average technology spending growth (%)

Overall ▮ Latin American banks

Latin American banks are primarily focused on cybersecurity and AI — Latin American banks allocate a total of more than half of their budget to cybersecurity (29%) and AI (27%).

AI is likely to see a considerable increase in spending — The Latin American banks are expected to continue their focus on AI with an average increase in spending of 7.4% in the current quarter.
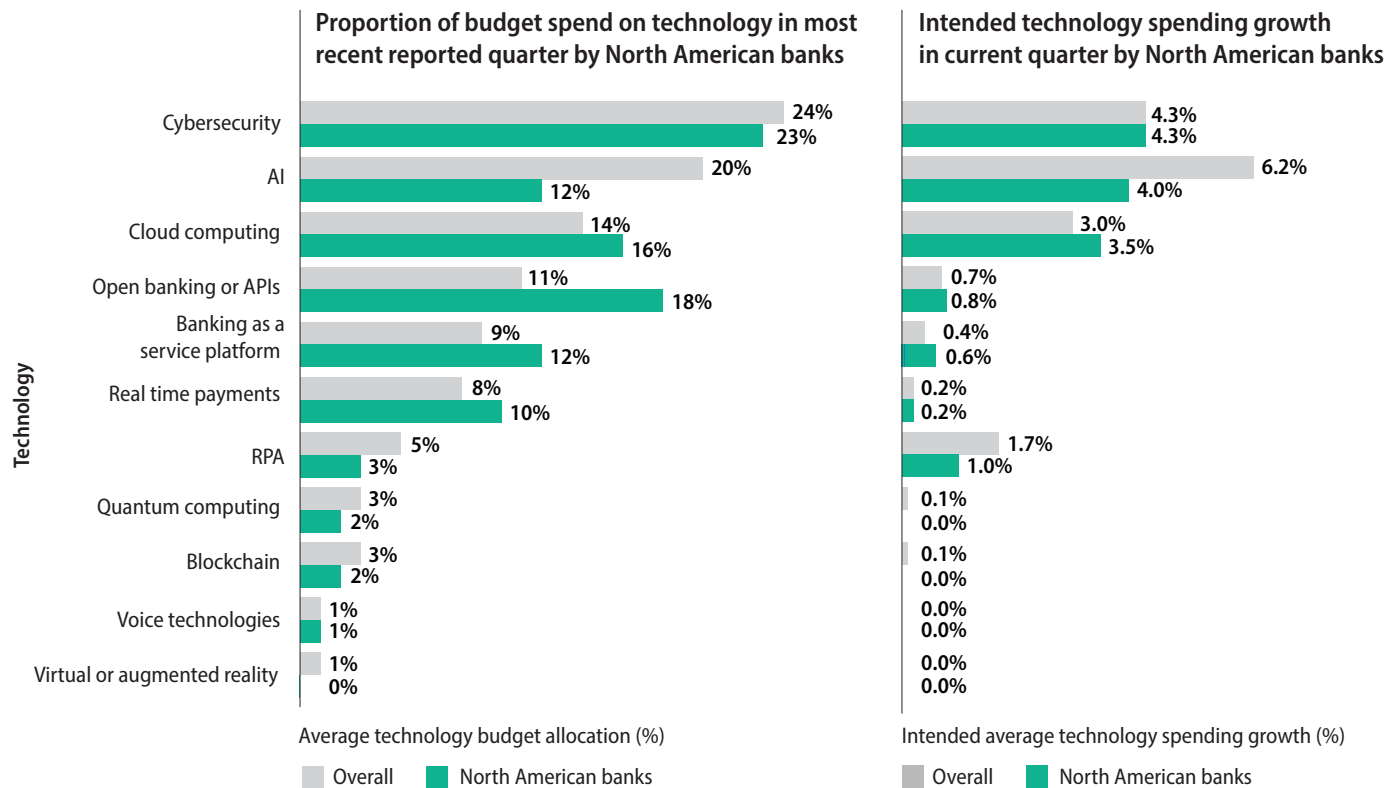
Technology budget distribution for Middle East and Africa

Proportion of budget spend on technology in most recent reported quarter by Middle East and African banks

Intended technology spending growth in current quarter by Middle East and African banks

Technology (y-axis)

Technology	Overall	Middle East and African banks
Cybersecurity	24%	24%
AI	20%	28%
Cloud computing	14%	14%
Open banking or APIs	11%	6%
Banking as a service platform	9%	6%
Real time payments	8%	5%
RPA	5%	7%
Quantum computing	3%	4%
Blockchain	3%	4%
Voice technologies	1%	2%
Virtual or augmented reality	1%	1%

Average technology budget allocation (%)

■ Overall ■ Middle East and African banks

Technology	Overall	Middle East and African banks
Cybersecurity	4.3%	3.4%
AI	6.2%	6.8%
Cloud computing	3.0%	2.5%
Open banking or APIs	0.7%	0.5%
Banking as a service platform	0.4%	0.4%
Real time payments	0.2%	0.3%
RPA	1.7%	2.0%
Quantum computing	0.1%	0.2%
Blockchain	0.1%	0.4%
Voice technologies	0.0%	0.0%
Virtual or augmented reality	0.0%	0.0%

Intended average technology spending growth (%)

■ Overall ■ Middle East and African banks

Banks in Middle East and Africa are primarily focused on AI — The Middle East and African banks are primarily focused on AI, more than any other technology. AI is likely to see a larger increase in spending for the current quarter compared to other technologies.

RPA is likely to see growth as technology — The Middle East and African banks are likely to increase their budgets on RPA more than the rest of the world, with the intended spending growth likely to increase to 2% compared with the overall average of RPA (1.7%).

Technology budget distribution for North America

Proportion of budget spend on technology in most recent reported quarter by North American banks

Technology	Overall	North American banks
Cybersecurity	24%	23%
AI	20%	12%
Cloud computing	14%	16%
Open banking or APIs	11%	18%
Banking as a service platform	9%	12%
Real time payments	8%	10%
RPA	5%	3%
Quantum computing	3%	2%
Blockchain	3%	2%
Voice technologies	1%	1%
Virtual or augmented reality	1%	0%

Average technology budget allocation (%)

Intended technology spending growth in current quarter by North American banks

Technology	Overall	North American banks
Cybersecurity	4.3%	4.3%
AI	6.2%	4.0%
Cloud computing	3.0%	3.5%
Open banking or APIs	0.7%	0.8%
Banking as a service platform	0.4%	0.6%
Real time payments	0.2%	0.2%
RPA	1.7%	1.0%
Quantum computing	0.1%	0.0%
Blockchain	0.1%	0.0%
Voice technologies	0.0%	0.0%
Virtual or augmented reality	0.0%	0.0%

Intended average technology spending growth (%)

North America is focusing more on open banking or APIs than peers — Open banking or APIs witnessed higher allocation of the technology budget in the most recent reported quarter for North American banks compared to the global average.

North American banks are less focused on AI — Banks in North America spent significantly less of their technology budget on AI compared the global average. They are expected to increase their spending on AI in the current quarter less than other banks.

Infosys | Knowledge Institute

Technology talent

AI and cybersecurity are the most difficult skills for banks to acquire

Recruitment gaps and challenges

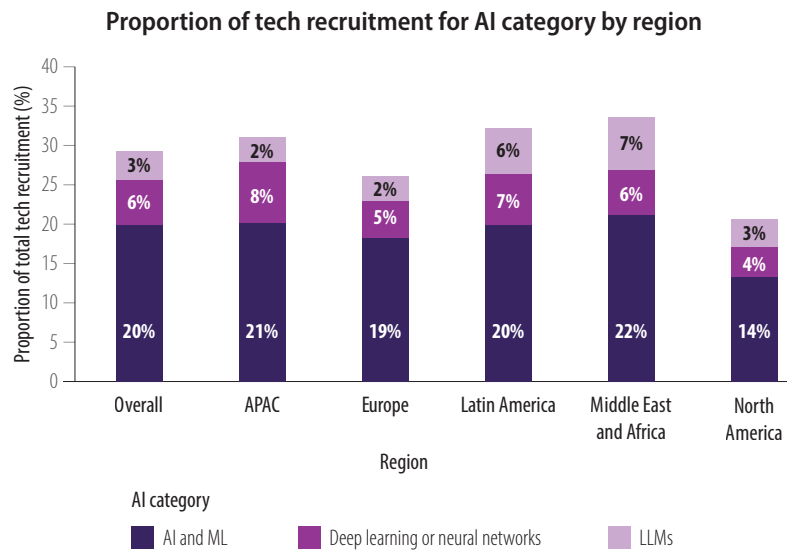## In-demand technologies pose recruitment challenges for banks

Intended staff recruitment in current quarter

Technology	Proportion of intended tech recruitment
Cybersecurity	37%
AI*	29%
Cloud computing	10%
RPA	7%
Real-time payments	6%
Banking as a service platform	4%
Open banking or APIs	2%
Quantum computing	2%
Blockchain	2%
Virtual or augmented reality	1%
Voice technologies	1%

AI* breakdown: 20% AI and ML, 6% Deep learning or neural networks, 3% LLMs — 29%

Technologies by difficulty to acquire last quarter

Technology	Tech skill difficulty score	
Cybersecurity	26	+12
AI*	27	-7
Cloud computing	10	
RPA	10	
Real-time payments	6	
Banking as a service platform	6	
Open banking or APIs	7	
Quantum computing	4	
Blockchain	2	
Virtual or augmented reality	1	
Voice technologies	1	

AI* breakdown: 14 AI and ML, 8 Deep learning or neural networks, 5 LLMs — 27

Legend: ■ AI and ML   ■ Deep learning or neural networks   ■ LLMs

Cybersecurity and AI talent are hardest to acquire — Two-thirds of technology positions banks are recruiting relate to cybersecurity or AI. At the same time, banks report that these technologies are the hardest for them to recruit talent.

Acquiring cybersecurity talent is getting more difficult, but AI is easier — When comparing data from Volume 2 to Volume 1, the relative difficulty of recruiting cybersecurity talent has increased 12 points while the same measure has decreased 7 points for finding talent in AI. The difficulty in recruiting in other technology areas has remained relatively the same.

Notes:
1. *AI includes ML, deep learning or neural networks, and LLMs.
2. N = 324, where N is the common number of banks that surveyed in volume 2 , i.e. current research.
3. **Proportion of intended tech recruitment:** This is the proportion of technology vacancies banks are recruiting for. For example, 37% of technology positions banks are recruiting for are expected to come from cybersecurity.
4. **Tech skill difficulty score:** This shows the difficulty banks face in acquiring human resources for a technology compared to other technologies. This is based on the average weight given to a technology when respondents were asked which technology areas were the most difficult to recruit for.

Intended AI recruitment by region

North America and Europe lag on AI recruitment

Proportion of tech recruitment for AI category by region

Proportion of total tech recruitment (%) — by Region

Region	AI and ML	Deep learning or neural networks	LLMs
Overall	20%	6%	3%
APAC	21%	8%	2%
Europe	19%	5%	2%
Latin America	20%	7%	6%
Middle East and Africa	22%	6%	7%
North America	14%	4%	3%

AI category
- AI and ML
- Deep learning or neural networks
- LLMs

Notes: 1.   N = 324, where N is the total number of banks that participated in the survey.

North America expected to recruit a smaller proportion of AI positions — Banks in North America are expected to recruit a significantly smaller proportion (21%) of talent in the field of AI than banks in the rest of the world (29%).

Europe and North America are investing fewer resources into deep learning and LLMs — Europe and North America intend to hire relatively fewer (7%) deep learning and LLM positions compared to other regions.

Tech hotspots — our Bank Tech Intensity Barometer

Cybersecurity leads the intensity barometer
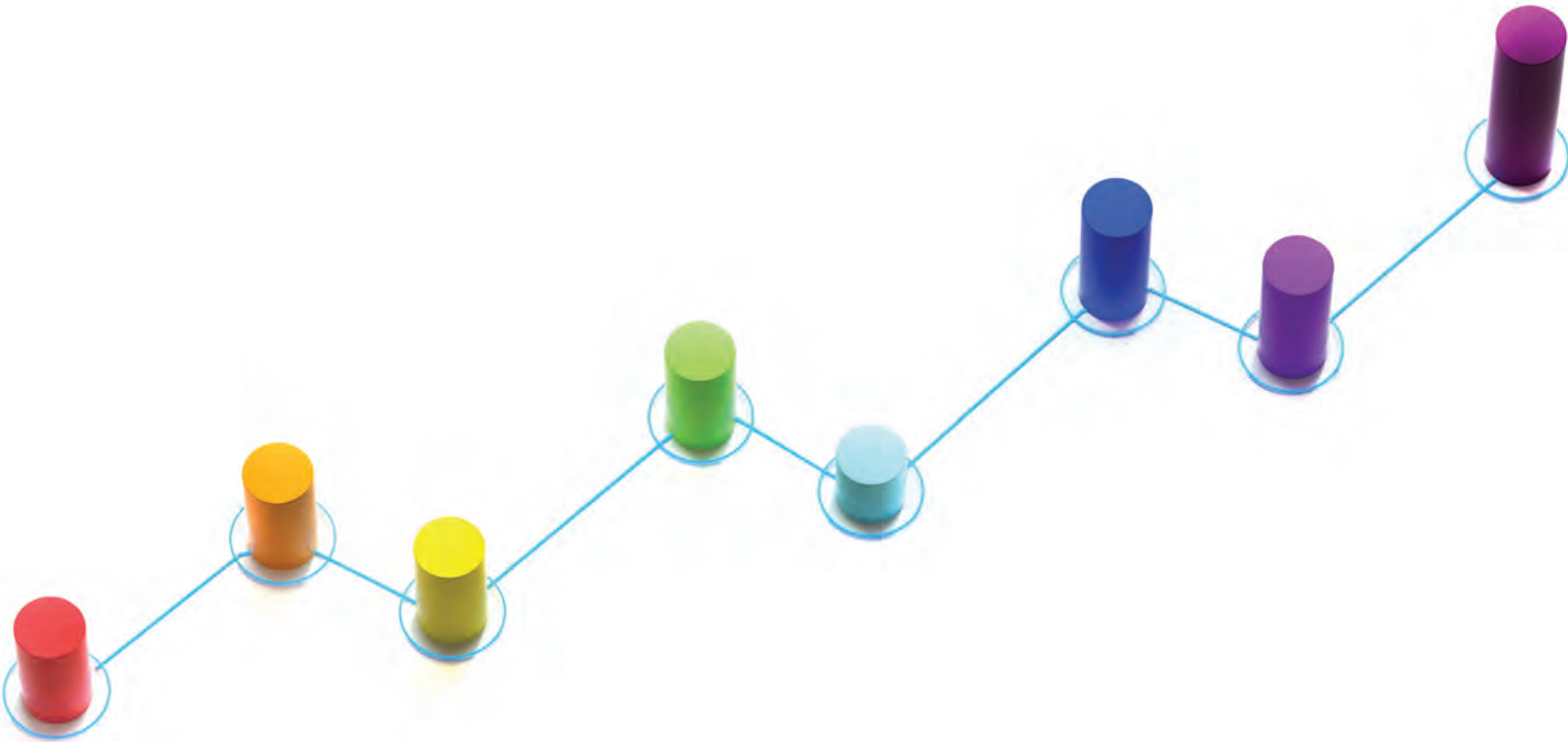
Technology intensity barometer

Spending, growth, and talent intensity by technology

Technology intensity barometer

Technology	Weighted score out of 100	Category
Cybersecurity	95	High
Cloud computing	61	High
AI and ML	60	High
Open banking or APIs	50	Medium
Deep learning or neural networks	49	Medium
RPA	49	Medium
Banking as a service platform	47	Medium
Real-time payments	46	Medium
LLMs	42	Medium
Quantum computing	37	Low
Blockchain	35	Low
Voice technologies	32	Low
Virtual or augmented reality	31	Low

Weighted score out of 100

Notes: 1. The "technology intensity barometer" measures the importance of a technology to banks in our survey, where 0 indicates the least importance and 100 indicates the most importance. The components of the barometer are (a) tech spending in the last quarter (40%), (b) expected tech spending growth in the current quarter (10%), (c) technology staff expected to be added in the current quarter (10%), and (d) difficulty in acquiring staff for each technology area (40%). The measurement is expressed as a score out of 100.

2. N = 324, where N is the number of banks that surveyed in this research.

Cybersecurity's importance outstrips all other technologies — With a score of 95 out of 100 points, cybersecurity ranks as the most important banking technology. Cloud computing and AI and ML follow next.

AI is one of the most important technologies for banks — AI and ML are ranked third in importance and are categorized as 'high importance.' Deep learning and LLMs both are categorized as 'medium importance' with scores of 48 and 42, respectively.

Technology intensity barometer by region

Technology intensity barometer by region

Technology	Overall	APAC	Europe	Latin America	Middle East and Africa	North America	
Cybersecurity	95	94	97	95	90	93	High
Cloud computing	61	61	62	58	61	68	High
AI and ML	60	65	59	65	71	50	High
Open banking or APIs	50	48	54	45	43	61	Medium
RPA	49	52	46	54	60	44	Medium
Deep learning or neural network	49	54	46	53	52	47	Medium
Banking as a service platform	47	50	49	43	40	53	Medium
Real-time payments	46	45	52	41	42	51	Medium
LLMs	42	42	43	50	48	42	Medium
Quantum computing	37	39	39	40	39	38	Low
Blockchain	35	36	36	39	39	36	Low
Voice technologies	32	32	34	33	32	34	Low
Virtual or augmented reality	31	32	34	33	32	33	Low

Notes:
1. The "technology intensity barometer" measures the importance of a technology to banks in our survey, where 0 indicates least importance and 100 indicates most important. The components of the index are (a) tech spending in last quarter, (b) expected tech spending growth in current quarter, (c) technology staff expected to be added in current quarter, and (d) difficulty to acquire staff for each technology area.
2. N = 324, where N is the total number of banks that participated in the survey.

Technology intensity barometer by region

Europe leads the barometer on cybersecurity — European banks lead the barometer on cybersecurity, followed by Latin America (95 points).

AI and cloud go neck to neck on importance — With a score of 61 out of 100 points, cloud ranks almost equal to AI and ML (60).

North American banks are more focused on cloud — North American banks lead the barometer on cloud with 68 points.

North America and European banks lag other regions on AI and automation — AI and ML, deep learning, RPA, and LLMs rank lower in importance for banks in North America and Europe versus banks in other regions.

Middle East and Africa place more importance on AI and RPA — Middle East and African banks lead on AI and RPA with 71 points and 60 points, respectively.

APAC banks concentrate more resources on deep learning — APAC banks lead the barometer on deep learning and neural networks, closely followed by Latin American banks.

Latin America places more importance on LLMs — Latin American banks lead the barometer on LLMs, followed by Middle East and African banks.

Technology project success

Smaller banks have more project success than larger banks

Technology project success by region and size

Most banks have less than 50% of their technology projects on track

Technology project success by region and size

Region	Proportion of projects on track	Banks (%)
Overall	0% to 25%	37%
	25% to 50%	59%
	>50%	4%
APAC	0% to 25%	43%
	25% to 50%	52%
	>50%	5%
Europe	0% to 25%	36%
	25% to 50%	61%
	>50%	3%
Latin America	0% to 25%	29%
	25% to 50%	67%
	>50%	5%
Middle East and Africa	0% to 25%	40%
	25% to 50%	60%
	>50%	0%
North America	0% to 25%	32%
	25% to 50%	64%
	>50%	4%

Banks (%)

Total assests category

- $10 bn to $50 bn
- $50 bn to $250 bn
- More than $250 bn

Notes: 1.   N = 324, where N is the total number of banks that participated in the survey.

Nearly 96% of banks report less than half of their projects on track — Regardless of region or asset size, nearly all banks in our index reported that less than 50% of their projects were on track. For banks with more than 25% of their tech projects on track, Latin America and North America lead the pack with 72% and 68% of their banks in that category respectively. APAC banks trail in this category with only 57% of their banks having more than 25% of their technology projects on track.

Technology project success by region and size

Larger banks experience lower project success

Proportions of projects on track by size

Proportions of project on track

0% to 25%	37% (Overall)
	24% ($10 bn to $50 bn)
	52% ($50 bn to $250 bn)
	34% (More than $250 bn)
25% to 50%	59% (Overall)
	70% ($10 bn to $50 bn)
	48% ($50 bn to $250 bn)
	61% (More than $250 bn)
>50%	4% (Overall)
	6% ($10 bn to $50 bn)
	1% ($50 bn to $250 bn)
	5% (More than $250 bn)

Banks (%)

Total assets category

- Overall
- $10 bn to $50 bn
- $50 bn to $250 bn
- More than $250 bn
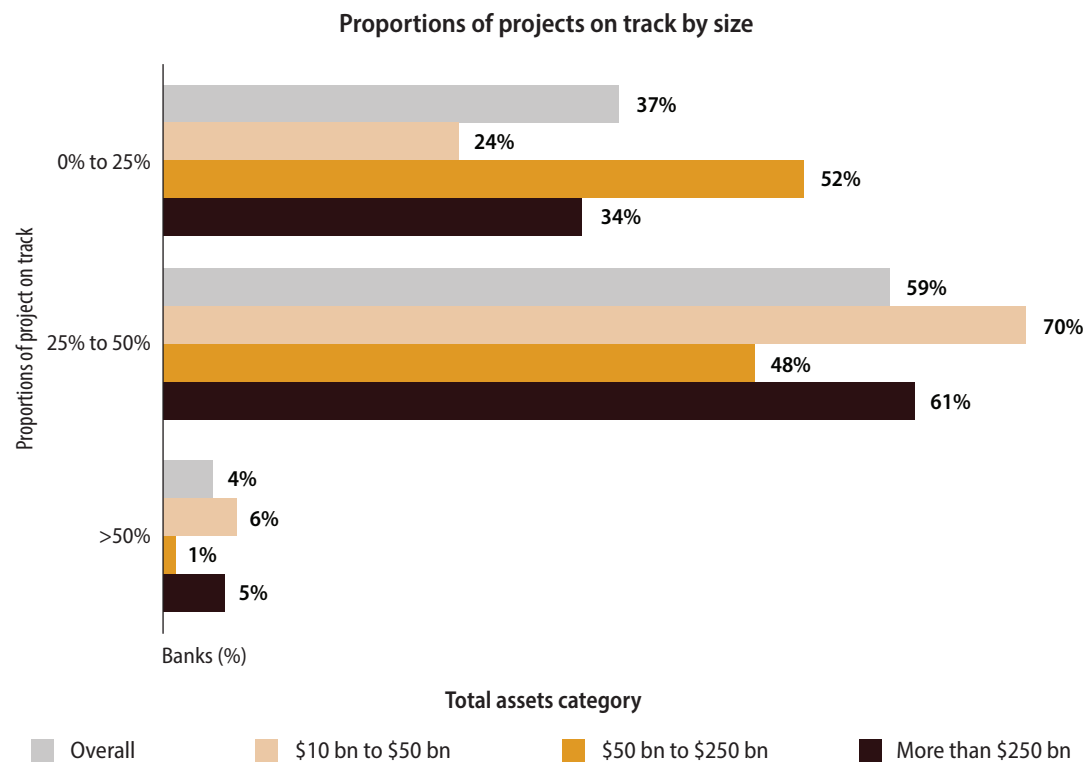
Notes: 1. N = 324, where N is the number of banks that surveyed in this research.

Smaller banks experience more project success than larger banks —

76% of banks with total assets between $10 billion and $50 billion report more than 25% of their projects are on track, compared with nearly half of banks with $50 billion to $100 billion in assets and two-thirds of banks with more than $250 billion in assets.

Appendix
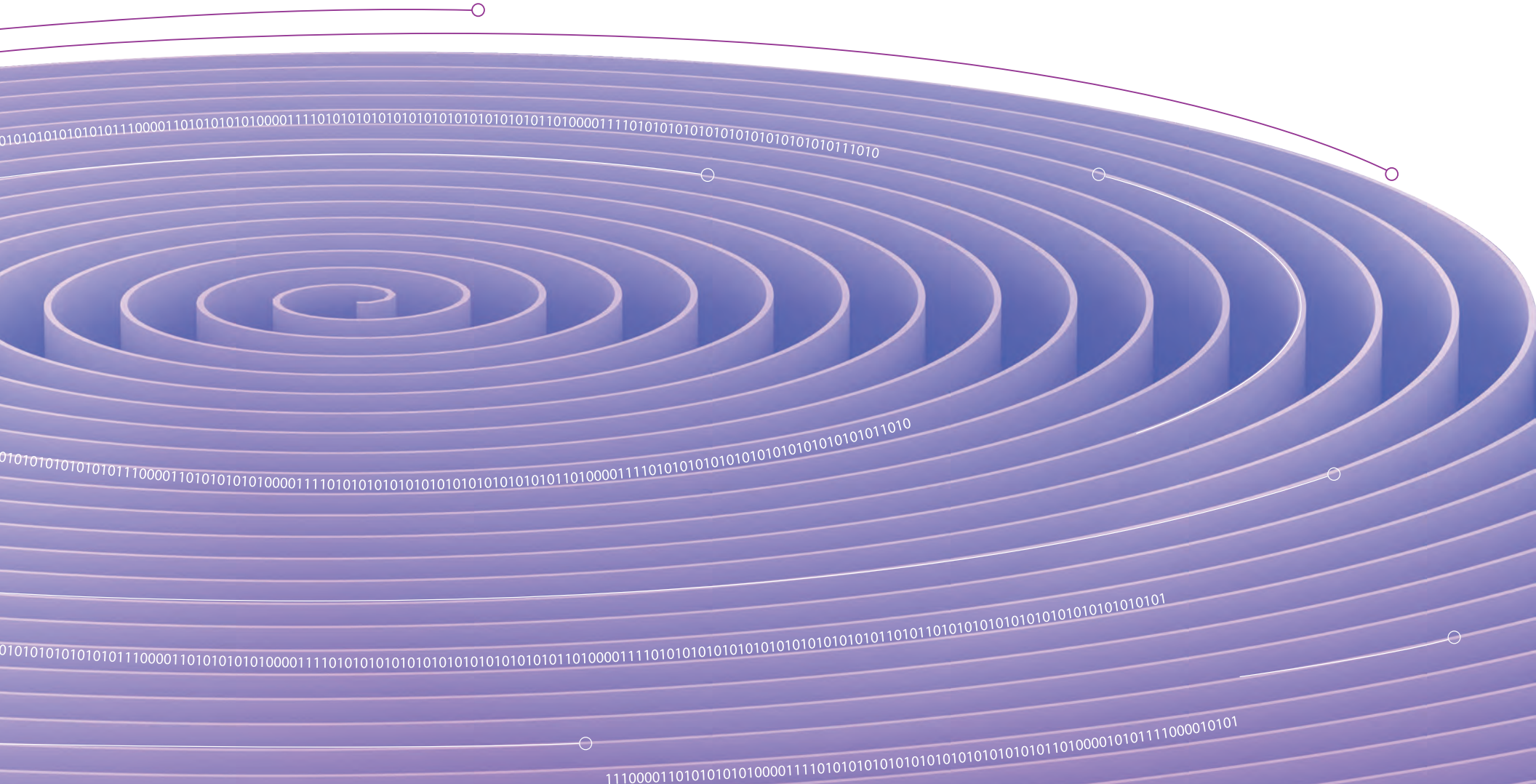
Appendix A: Performance framework

Banks in advanced economies tend to have lower asset turnover ratios
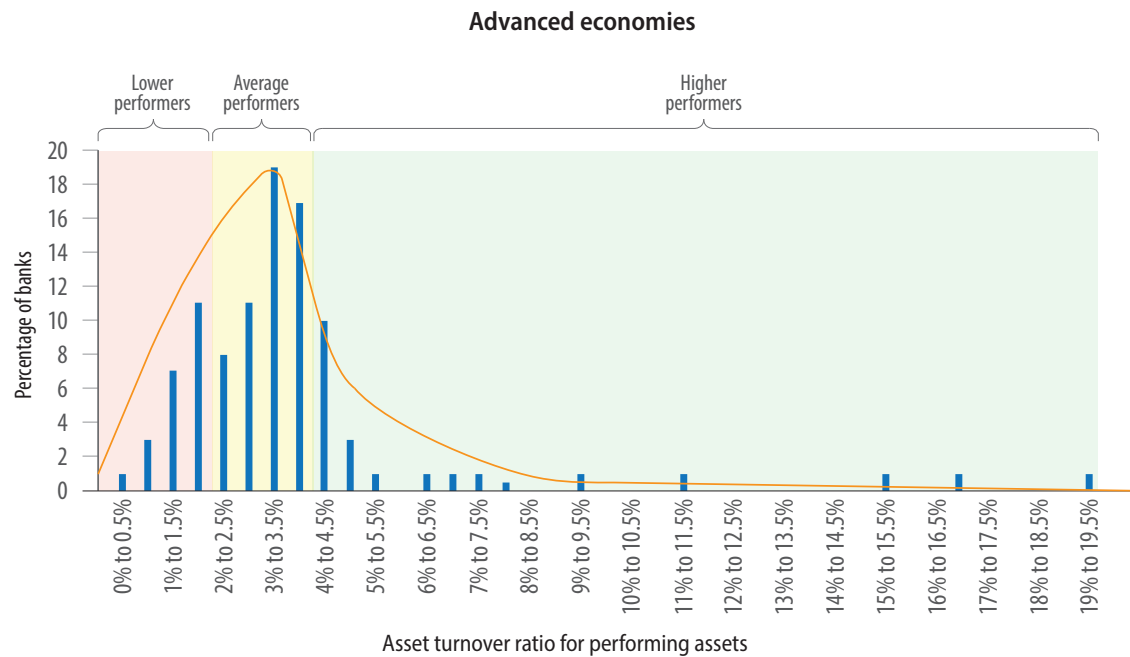
Advanced economies

Notes: 1.   Performance is defined as asset turnover ratio, calculated as revenue divided by total net assets (total assets less non-performing assets).
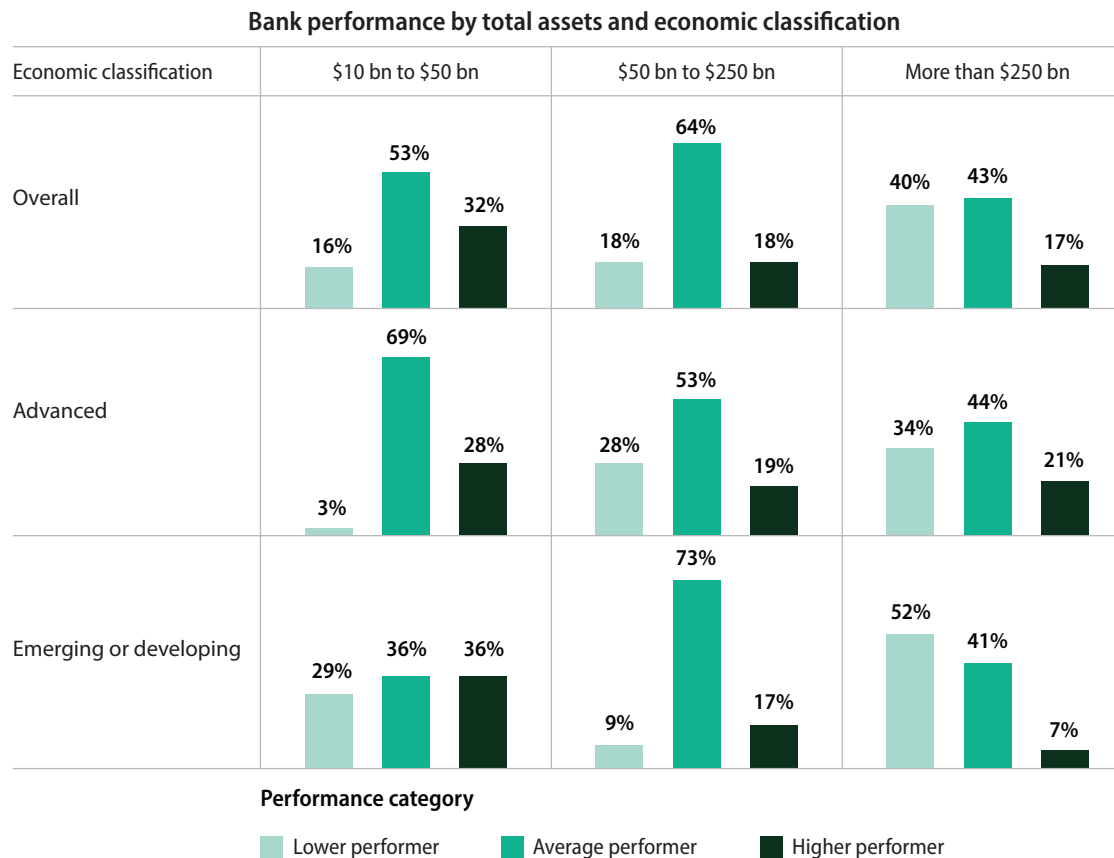2.   N = 324 , where N is the total number of banks that surveyed in this research.

A new performance framework —
We recognize that banks in advanced economies operate in a different set of circumstances than those in emerging or developing economies. This has led us to create a new performance framework based on this difference.

We see that the asset turnover ratio for banks in advanced economies is clustered around 3% and the number of banks with higher asset turnover ratios quickly falls off after 4%.

Conversely, the distribution of asset turnover ratios for banks in emerging or developing economies is more widely spread and has a longer, fatter tail of banks with higher asset turnover ratios.

Appendix A: Performance framework

Banks in emerging or developing economies tend to have higher asset turnover ratios
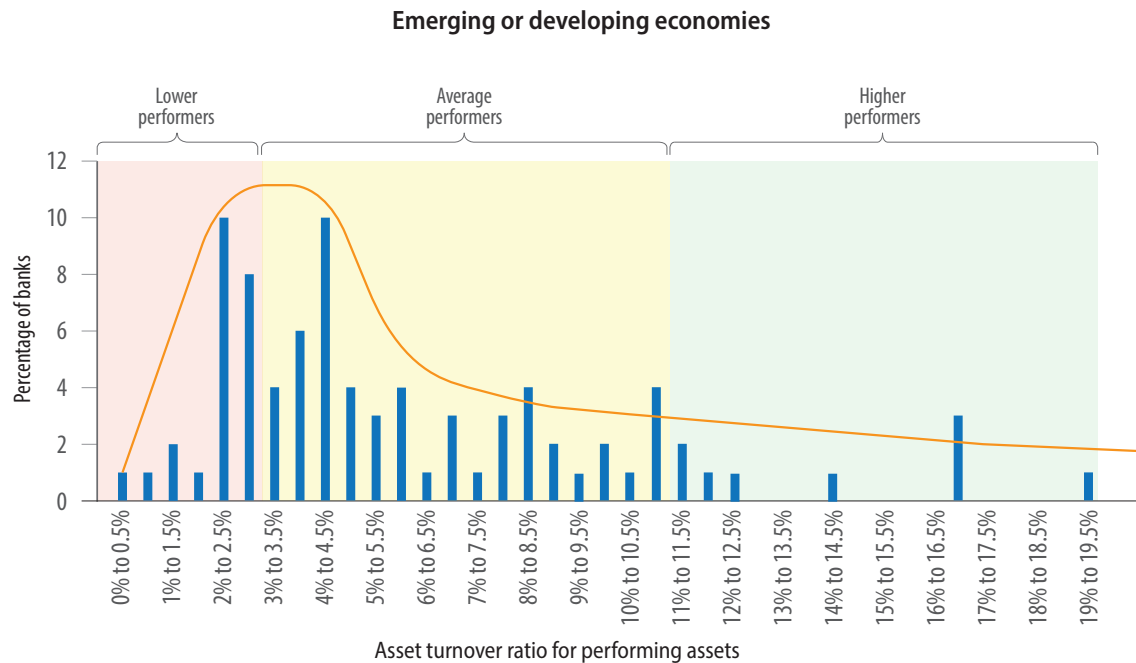
Emerging or developing economies

Notes: 1. Performance is defined as asset turnover ratio, calculated as revenue divided by total net assets (total assets less non-performing assets).
2. N = 324 , where N is the total number of banks that surveyed in this research.

We consider banks in advanced economies with an asset turnover ratio of less than 2% to be lower performers. This equates to the bottom 25% or quartile of these banks. For banks in emerging or developing economies, banks with an asset turnover ratio of less than 3% are considered lower performers. Again, this equates to the bottom quartile of these banks.

Higher performers in advanced economies are those with an asset turnover ratio of 4% or greater. The similar group for banks in emerging or developing economies have an asset turnover ratio of 11% or more.

All other banks are considered average performers.

Appendix B: Performance by total assets size

Smaller sized banks perform better

Bank performance by total assets and economic classification

Economic classification	$10 bn to $50 bn			$50 bn to $250 bn			More than $250 bn		
Overall	16%	53%	32%	18%	64%	18%	40%	43%	17%
Advanced	3%	69%	28%	28%	53%	19%	34%	44%	21%
Emerging or developing	29%	36%	36%	9%	73%	17%	52%	41%	7%

Performance category

- ■ Lower performer
- ■ Average performer
- ■ Higher performer

Note:
1. Performance is determined by asset turnover ratio which is calculated using revenue divided by total net assets (Total assets less non-performing assets).
2. N = 324, where N is the number of banks that surveyed in this research.
3. Refer to Appendix A to see definition of performance categories.

Smaller banks more likely to be higher performers — Banks with assets between $10 billion and $50 billion are more likely to be in the average or higher performer categories.

Appendix C: Methodology

The Infosys Bank Tech Index is a quarterly, survey-based research report that indexes technology investment and talent trends across the banking industry.

The second edition gathers quantitative data from 324 of the largest banks by total assets in Asia Pacific, Europe, Latin America, Middle East and Africa, and North America. This group of banks represents 88% of total banking assets for banks with over $10 billion in assets. This quarterly research gathers insights on technology spending, staffing, and performance from a panel of leading banks.

Our executive panelists are key decision makers for their respective bank's technology investments and talent strategies. Panel respondents will remain confidential to maintain data privacy and ethical considerations.

The research delves into the following areas:

1. **Technology strategic priorities:** Current priorities of banks related to growth, operational efficiency and transformation.
2. **Technology spending report:** Investment levels across CapEx and OpEx, IT operations, New Projects and Regulatory.
3. **Technology budget forecast:** Current technology budget distribution and intended technology budget distribution
4. **Tech hotspots — our bank tech intensity barometer:** A measure of intensity to identify where technology investment and hiring is pressuring the supply of talent.
5. **Technology talent:** The distribution of technology vacancies for which banks are looking to acquire human resources.
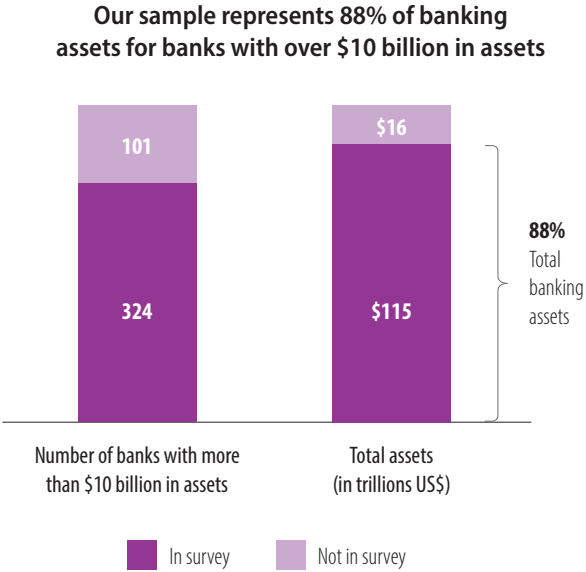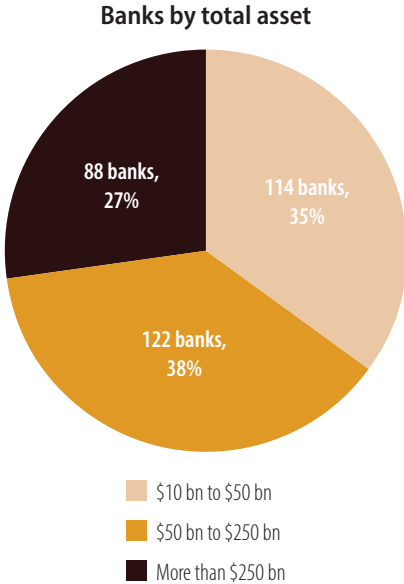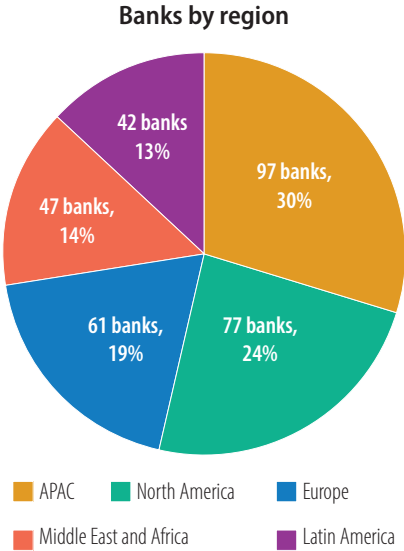
6. **Technology project success:** The proportion of technology projects that are on track.

As data is gathered in subsequent quarters, this research will provide a dynamic view of the trends, track evolving patterns, and help decision-makers at banks make informed decisions about technology and talent.

We asked our panel to provide the spending estimates for their last reported quarter. This generally covers July to September 2023 and October to December 2023. Forecasts for spending cover the period of January to March 2024.

In this report we refer to banks' "performance," calculated through the asset turnover ratio (revenue divided by net total assets) to provide a consistent measure of operational performance across the sample.

Appendix D: Panel distribution

Banks by region

- 97 banks, 30%
- 77 banks, 24%
- 61 banks, 19%
- 47 banks, 14%
- 42 banks, 13%

Legend: APAC, North America, Europe, Middle East and Africa, Latin America

Banks by total asset

- 114 banks, 35%
- 122 banks, 38%
- 88 banks, 27%

Legend: $10 bn to $50 bn, $50 bn to $250 bn, More than $250 bn

Our sample represents 88% of banking assets for banks with over $10 billion in assets

Number of banks with more than $10 billion in assets: In survey 324, Not in survey 101

Total assets (in trillions US$): In survey $115, Not in survey $16

88% Total banking assets

Legend: In survey, Not in survey

Authors

Samad Masood | Infosys Knowledge Institute, London

Sharan Bathija | Infosys Knowledge Institute, Bengaluru

Dylan Cosper | Infosys Knowledge Institute, Dallas

Analysis and production

Isaac LaBauve | Infosys Knowledge Institute, Dallas

Pramath Kant | Infosys Knowledge Institute, Bengaluru

About Infosys Knowledge Institute

The Infosys Knowledge Institute helps industry leaders develop a deeper understanding of business and technology trends through compelling thought leadership. Our researchers and subject matter experts provide a fact base that aids decision making on critical business and technology issues.

To view our research, visit Infosys Knowledge Institute at infosys.com/IKI or email us at iki@infosys.com.

For more information, contact askus@infosys.com

Infosys®
Navigate your next

Infosys.com | NYSE: INFY

Stay Connected