



March 8, 2024

2024 CIO Survey: An Early View of GenAI Spending

Our view: We surveyed 156 IT professionals (including CIOs, CTOs, and IT managers) from companies with revenues ranging from \$250M-\$25B+ and IT budgets ranging from \$50M-\$2B+. Enterprise respondents were 72% of responses (\$1B+ in revenue) and 28% were SMB/mid-market. See our 2H23 CIO survey [here](#). Overall, we came away feeling more optimistic about macro stabilization taking shape throughout 2024 (albeit, at different paces per category), anchored by GenAI initiatives unlocking new spending.

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• Highlights on broader IT spending intentions:

- **Spending intentions in line to slightly better.** 84% of respondents expect their organizations to increase IT spending in 2024, in line with 2023 spending intentions at the time of our 2H23 CIO survey, while only 1% expect a decrease in IT spending in 2024, better than the 6% at the time of our 2H23 CIO survey.
- **Software remains a top priority.** 71% of respondents expect their organization to increase software spending in 2024 however, this was down slightly from 81% in 2023 at the time of our 2H23 CIO survey. Services spending ranked the #2 IT spending category again, while spending intentions for headcount, hardware, and communications all worsened.
- **Spending intentions by software category.** Spending intentions were most positive for AI and cybersecurity, followed by ERP/back-office applications software and CRM/front-office application software. Spending intentions were the least encouraging for CDN/Edge, UCaaS, and Enterprise Content Management.

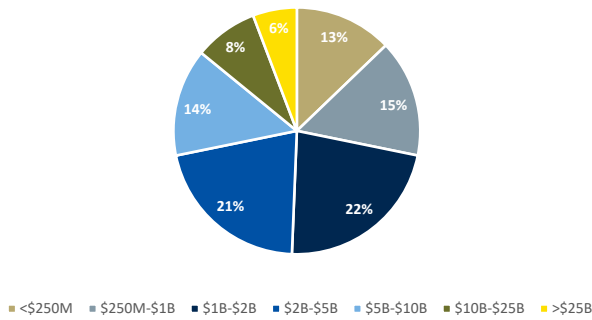
• Highlights on an early look at GenAI spending intentions:

- **Early spending intentions on GenAI technologies look overwhelmingly positive.** 30% of respondents are already in production with GenAI projects, while another 47% expect to be in production within the next 12 months.
- **Where is GenAI budget coming from?** 75% of respondents are funding GenAI projects with new budget, while 16% are replacing budget from spend in other categories for GenAI/LLM projects, and 9% are using a mix of both. This suggests more companies are creating new budget for GenAI relative to our previous 2H23 CIO survey.
- **Hyperscalers are the most likely beneficiaries of GenAI in the near-term.** 29% of respondents plan to utilize hyperscale cloud vendors (AWS, Azure, GCP, OCI) to deploy AI, whereas 22% plan to utilize application software vendors (ADBE, CRM, HUBS, NOW, WDAY) followed by data management vendors (19%), commercial pure-play AI vendors (16%), and open-source technologies (11%). Additionally, 75% of respondents are multi-cloud, roughly in line with our 2H23 survey.
- **Departmental use cases strongest in IT and front-office.** At this point, IT (72%), customer service (36%), and marketing (29%) stood out as the top three departments likely to adopt GenAI technologies in the near-term. We see this as reaffirming for DevOps toolchains (GitHub Copilot and GitLab Duo), CCaaS vendors (conversational AI/chatbots), and CRM vendors.
- **Microsoft 365 Copilot traction tracking well.** 25% of respondents are already using M365 Copilot, 47% plan to utilize the technology within the next 12 months, and 9% plan to utilize the technology in the next 12-24 months, while only 19% have no plans to use the technology. That said, we believe the footprint of initial deployments are limited based on our broader checks.
- **Data privacy remains the top GenAI concern.** 77% of respondents see data privacy as a top concern, followed by cost, copyright infringement, bias, and hallucinations.
- **Overall, we came away incrementally optimistic of macro/budget stabilization taking shape in 2024 and encouraged by the pace of early GenAI adoption.** On the following pages, we provide a more detailed analysis of the CIO survey results.
- **Read-throughs are most positive for CRWD, CRM, HUBS, GLTB, MSFT, NOW, PANW, WDAY, ZS and least positive for BOX, DBX, FSLY, and ZM.**

Survey Demographics

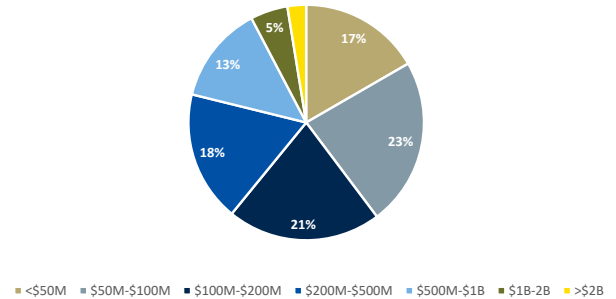
During Q1, we surveyed 156 IT professionals on their IT spending intentions. Shown in exhibit 1, the companies we surveyed have annual revenue ranging from \$250M+ to \$25B+. Shown in exhibit 2, our respondents represent a diverse mix of SMBs and enterprises. Shown in exhibit 3, the respondents operate across many industries, with Technology the most common at 44%, followed by Industrials at 17%, and Healthcare, Consumer, and Financials at ~10% each. Shown in exhibit 4, the average IT budget mix is 25% software, 21% personnel-related, 21% services, 18% hardware, and 15% communication.

Exhibit 1 - What range best describes your company's annual revenue range in 2023?



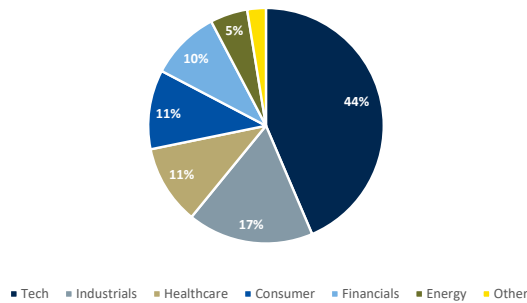
Source: RBC Capital Markets

Exhibit 2 - What best reflects your company's IT spending intentions in 2024?



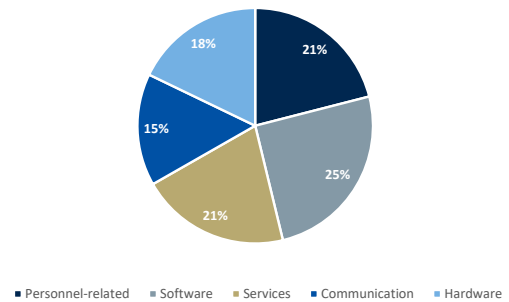
Source: RBC Capital Markets

Exhibit 3 - Which industry best reflects your business?



Source: RBC Capital Markets

Exhibit 4 - What is your best estimate for your IT budget mix in 2024?



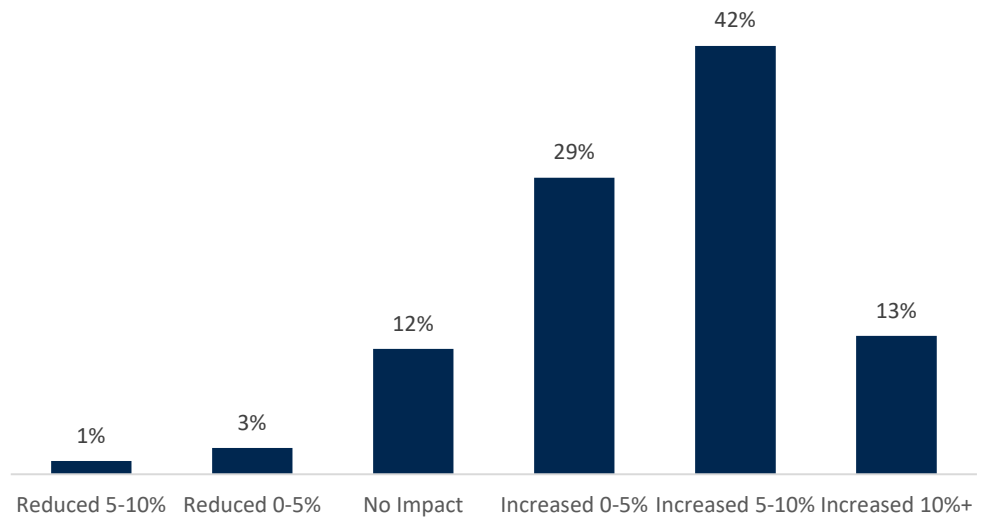
Source: RBC Capital Markets

The Pulse of IT Spending

IT Budget Spending Intentions In Line to Slightly Better

As shown in exhibit 5, a majority of our respondents expect to increase their year-over-year IT spending in 2024, with 13% expecting a 10% increase, 42% expecting a 5-10% increase, and 29% expecting a 0-5% increase. 12% of respondents expect their budget to be flat YoY, while 3% expect a 0-5% decrease, and 1% expect a 5-10% decrease. Stepping back, overall, 84% of respondents expect their organizations to increase IT spending in 2024, in line with 2023 intentions at the time of our 2H23 CIO survey, while only 1% now expect a decrease in spending vs. 6% at the time of our 2H23 CIO survey.

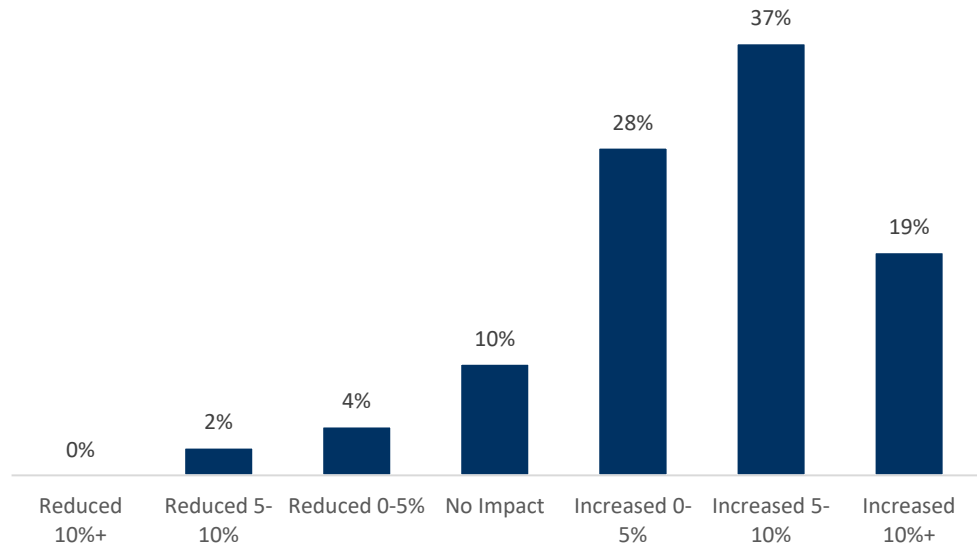
Exhibit 5 - To what extent do you expect your 2024 IT budget to change relative to 2023?



Source: RBC Capital Markets



Exhibit 6 - To what extent do you expect your 2023 IT budget to change relative to 2022?

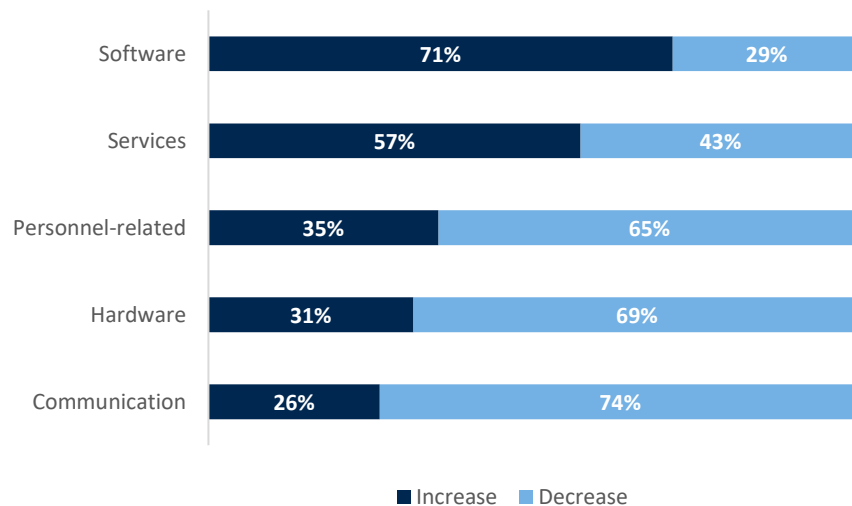


Source: RBC Capital Markets

Software Spending Intentions Remain Strong

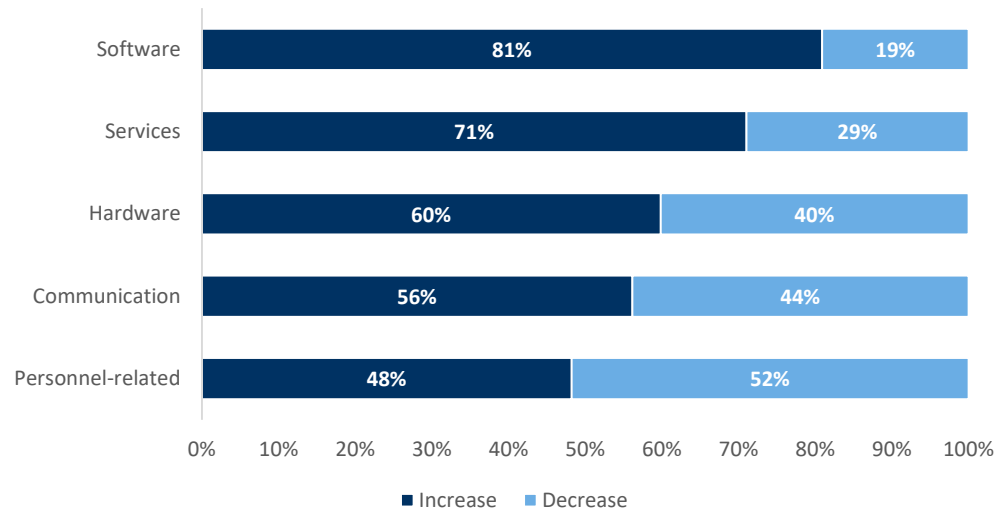
As shown in exhibit 7, **71% of the IT professionals we surveyed expect to increase their software spend in 2024, while only 29% expect to decrease.** Services spending intentions also appear strong, with 57% of respondents expecting to increase spending. On the other hand, personnel-related, hardware, and communications spending are expected to decrease on average. Exhibit 8 shows respondents' intentions from 2023.

Exhibit 7 - In 2024, do you expect to increase or decrease spend on the following areas?



Source: RBC Capital Markets

Exhibit 8 - In 2023, do you expect to increase or decrease spend in the following areas?



Source: RBC Capital Markets

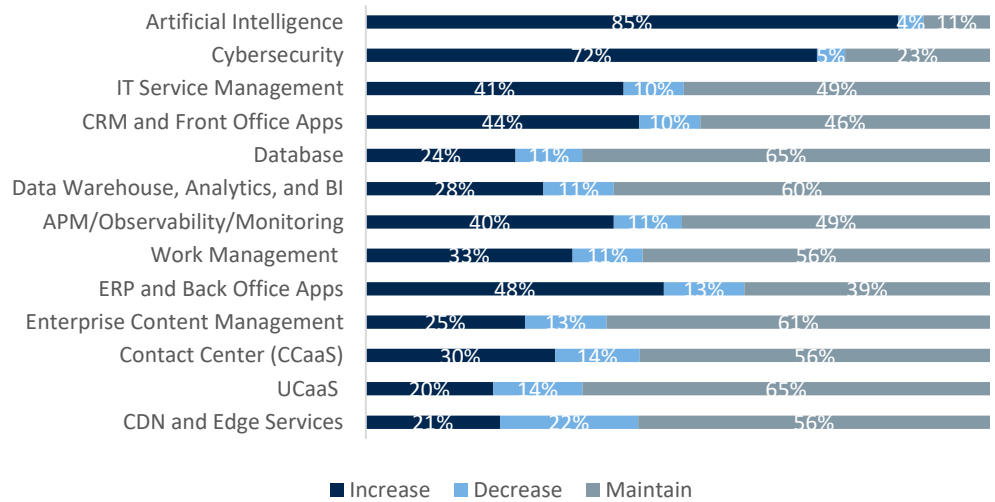
Spending Intentions by Software Category

As shown in exhibits 9 and 10, we surveyed IT professionals on **spending intentions for 13 different major software categories**. Exhibits 11 and 12 show the results from our 2H23 survey. **Our key takeaways include:**

- Net spending intentions were **overwhelmingly positive** for **AI** (81% net increase) and **cybersecurity** (68% net increase). Results were **encouraging** for ERP/back office apps (35% net increase) and CRM/front office apps (34% net increase).
- **Relative to our 2H23 CIO Survey**, we would highlight Cybersecurity saw a 5-point net spending score increase, ERP/back office application spending intentions were unchanged, and data warehouse/analytics/BI technologies saw a notable 18-point net spending score decrease, though this could be due to the reallocation of AI as a standalone category.
- Net spending intentions were **the least encouraging** for **CDN/Edge** (-1% net increase), UCaaS (6% net increase), and **Enterprise Content Management** (12% net increase).
- In terms of tickers, we view the **most likely beneficiaries** of these trends to be **CRWD, GTLB, HUBS, MSFT, NOW, PANW, WDAY** and **ZS**.
- In terms of tickers, we view the **least likely beneficiaries** of these trends to be **BOX, DBX, FSLY**, and **ZM**.

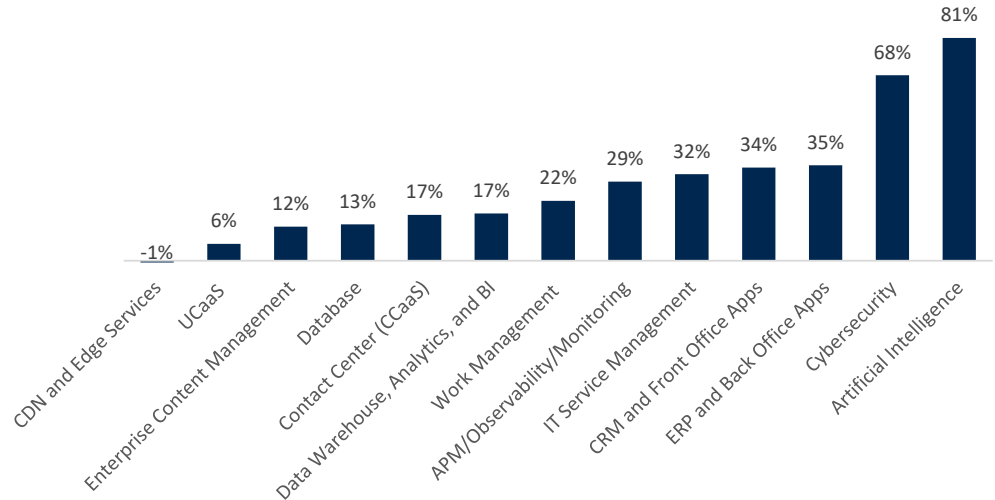


Exhibit 9 - What is your spending intentions for the following software categories in 2024?



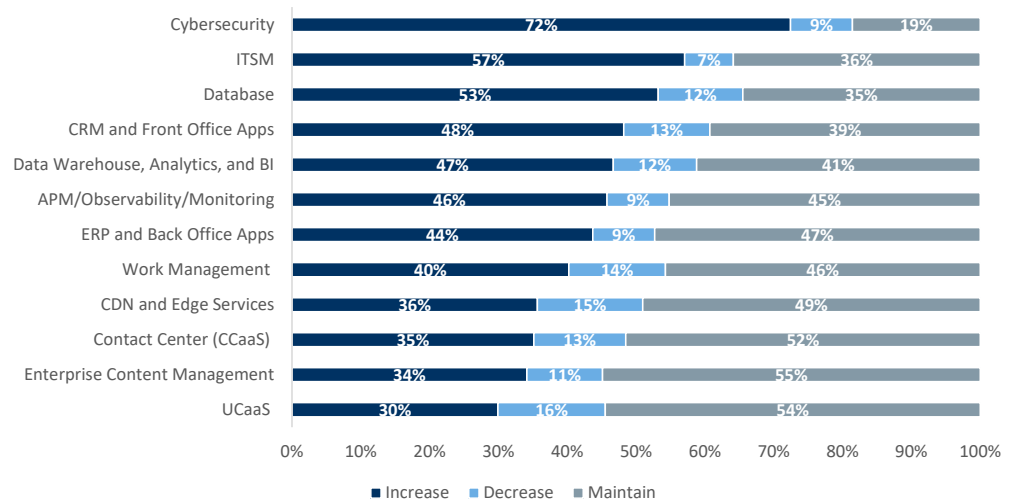
Source: RBC Capital Markets

Exhibit 10 - Category Specific Net Spending Increase Scores (2024 Spending Intentions)



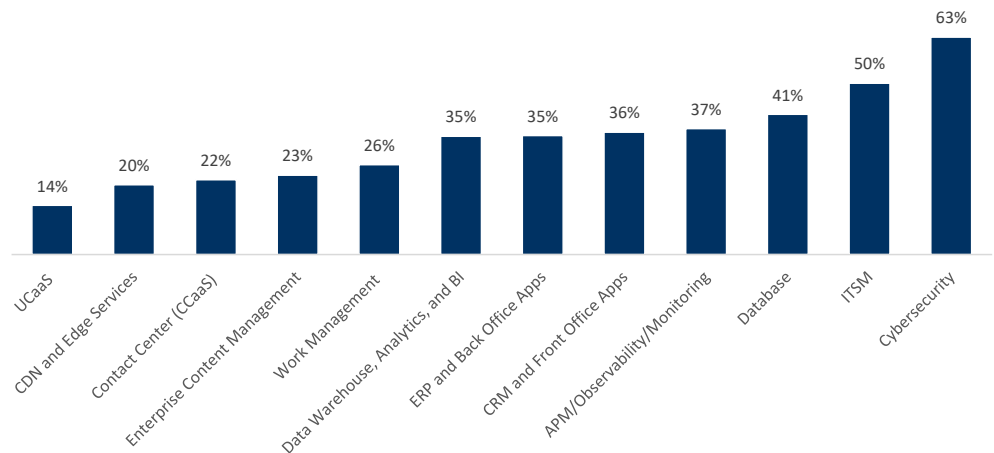
Source: RBC Capital Markets

Exhibit 11 - What is your spending intentions for the following software categories in 2023?



Source: RBC Capital Markets

Exhibit 12 - Category Specific Net Spending Increase Score (2H23 Spending Intentions)



Source: RBC Capital Markets

Software Categories Where Vendor Switching is Likely

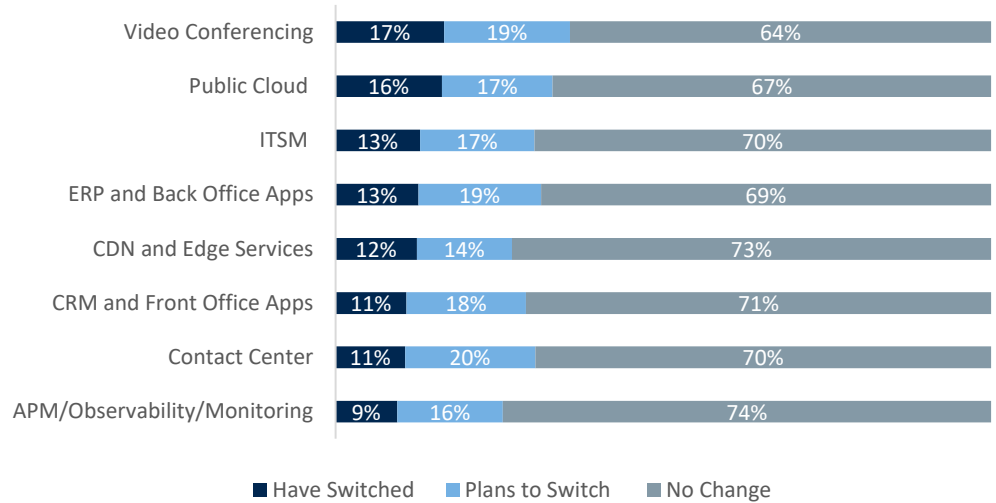
As shown in exhibit 13, we surveyed IT professionals on which software categories they have recently switched vendors or have plans to switch vendors over the next year. Our key takeaways include:

- **Video conferencing has seen the highest amount of switching the past 12 months.** We think this could be a result of respondents opting for lower priced or bundled offerings as the services have become more commoditized, and spending has been de-emphasized with return to office policies.
- **We were somewhat surprised to see public cloud voted as the second highest software category in which customers have switched in the next 12 months.** There are a few reasons



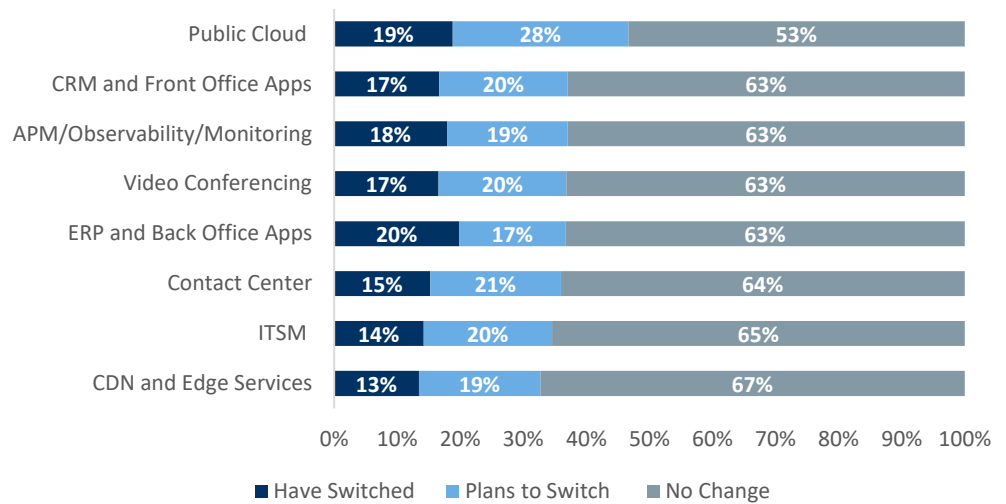
why this could be the case in our view. For example, companies could be switching cloud providers as part of ongoing cost optimization efforts, adopting secondary or tertiary cloud vendors, or companies could be switching to take advantage of GenAI capabilities, where Microsoft stands out, in our view.

Exhibit 13 - Of the following software categories, have you switched or do you have plans to switch vendors over the next year?



Source: RBC Capital Markets

Exhibit 14 - Of the following software categories, have you switched or do you have plans to switch vendors over the next year? (2023 Survey)

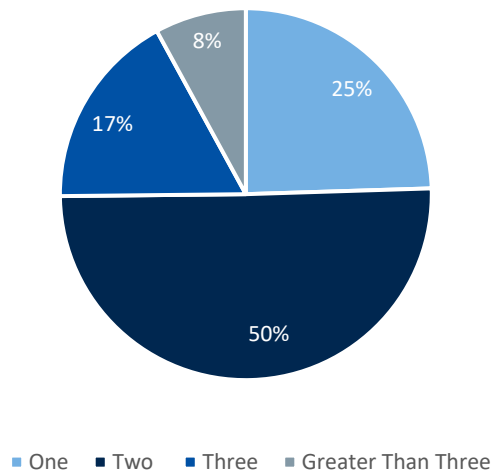


Source: RBC Capital Markets

Public Cloud Vendors

We asked our respondents how many public cloud vendors they currently utilize. Of note, 75% of organizations are using more than one public cloud vendor. Exhibit 15 below shows that **50% of respondents use two vendors, followed by 17% using three vendors, and 8% using greater than three vendors.** This highlights that we are still in the early innings of multi-cloud strategy implementation and organizations likely still have substantial investments to make. We continue to hear a number of reasons for companies to adopt multi-cloud strategies including risk mitigation, reliability/redundancy, and selecting different vendors for different features/functionality. That said, the primary reason for multi-cloud, in our view, is likely cost savings, as using multiple public cloud vendors can help to reduce total cloud spend.

Exhibit 15 - How many public cloud vendors does your company currently use?



Source: RBC Capital Markets

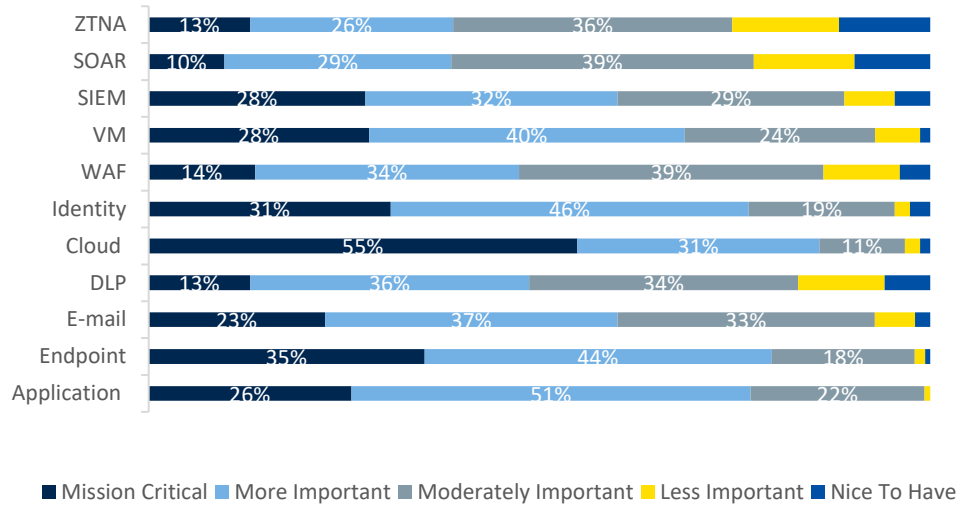
Security Spending

We asked IT professionals about the mission criticality of a number of security technologies. Our key takeaways were as follows:

- We found that cloud security spend is viewed as the most important to organizations with 55% classifying it as Mission Critical, and 31% classifying it as More Important (the second most important bucket).
- On the other hand, we found that SOAR, followed by ZTNA and DLP security technologies received the lowest percent of mission critical rankings, at 10% and 13% respectively.
- We continue to see large vendors attempting to consolidate security spend for the last decade, but the greatest amount of growth has come from pure-play solutions building platforms around core use cases and leveraging greater integration between solutions through SDKs and open APIs instead of one broader platform.



Exhibit 16 - How critical are the following security technologies?



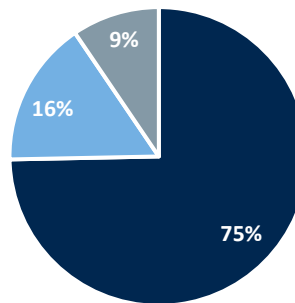
Source: RBC Capital Markets

An Early Look at GenAI Investment Initiatives

GenAI Budget Allocation

We surveyed respondents on budget allocation intentions for GenAI/LLM projects. **75% of respondents are funding GenAI projects with new budget**, while 16% are replacing existing budget from IT spend in other categories for GenAI/LLM projects. This compares to 63% of respondents creating new budget for GenAI projects in 2023.

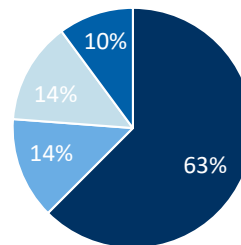
Exhibit 17 - In 2024, are you allocating budget directly to GenAI / LLM projects?



- Yes, we are creating new budget for generative AI
- Yes, we are replacing budget for IT spend in other categories
- No, we are not allocating budget to generative AI

Source: RBC Capital Markets

Exhibit 18 - In 2023, are you allocating budget directly to GenAI / LLM projects?



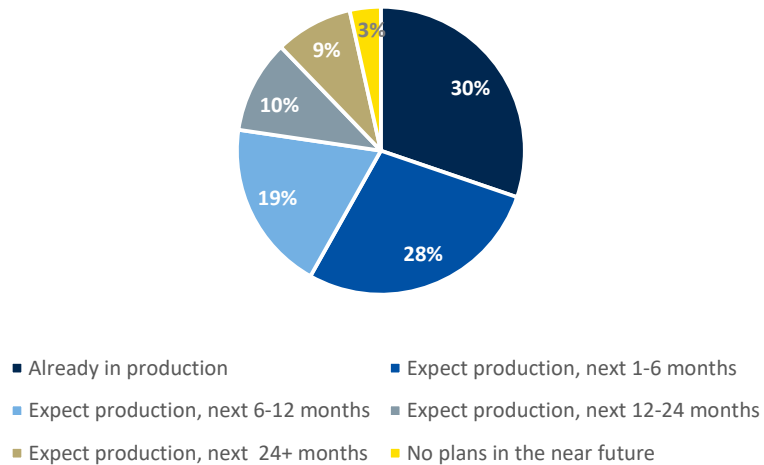
- Yes, we are creating new budget for generative AI
- Yes, we are replacing budget for IT spend in other categories
- No, we are not allocating budget to generative AI
- Yes, we are creating and replacing budget

Source: RBC Capital Markets



Next, we surveyed our respondents on when they expect to be in production with GenAI/LLM-related projects. We found that **30% of respondents are already in production, while 28% expect to be in production in the next 1-6 months**, 19% expect to be in production in the next 6-12 months, 10% expect to be in production in the next 12-24 months, and 9% expect to be in production in the next 24+ months.

Exhibit 19 - When do you expect to be in production with AI/LLM related projects?

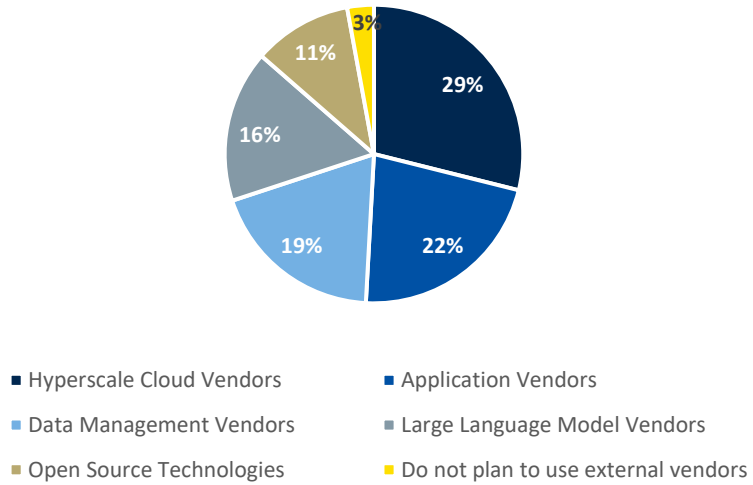


Source: RBC Capital Markets

GenAI Beneficiaries

We also surveyed our respondents on which type of vendors they plan to partner with for GenAI/LLM-related projects. We found that **hyperscale cloud vendors (Amazon AWS, Microsoft Azure, Google GCP, Oracle OCI, etc.) were the most common choice, at 29% of respondents**, followed by application vendors (Adobe, Salesforce, ServiceNow, etc.) with 22%, data management vendors (Databricks, Elastic, MongoDB, Snowflake, etc.) with 19%, LLM vendors (OpenAI, Anthropic, Cohere, Mistral, etc.) with 16%, and open source technologies (Meta LLaMA, Falcon, etc.) with 11%.

Exhibit 20 - Which type of vendor(s) do you plan to utilize to apply Artificial Intelligence/Large Language Models?

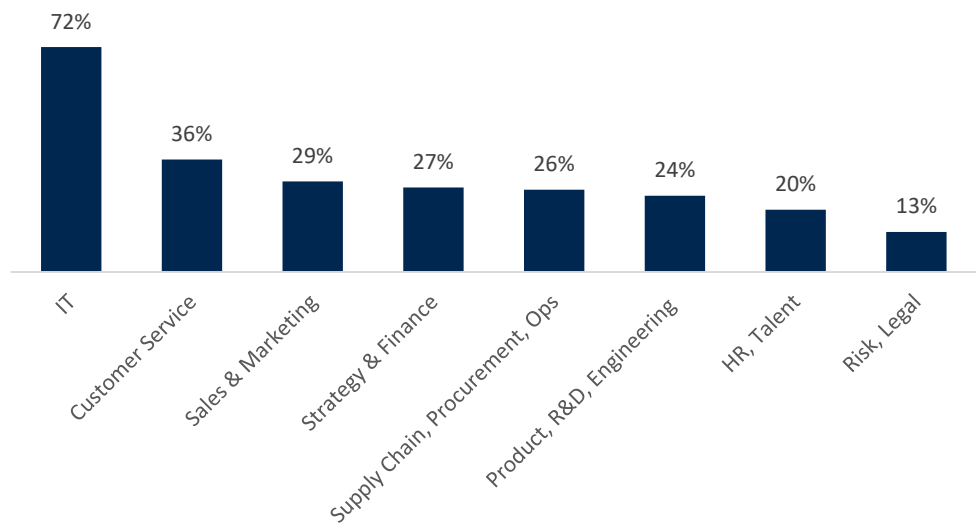


Source: RBC Capital Markets

Corporate Functions Leveraging GenAI

Next, we surveyed our IT professionals about which functions of their company they thought AI/LLMs would have the biggest impact in the near term. **Unsurprisingly, 72% of respondents expect IT departments to be impacted**, followed by customer service and sales & marketing divisions, at 36% and 29% respectively.

Exhibit 21 - Which function do you see AI/LLMs having the biggest impact on in the near-term?



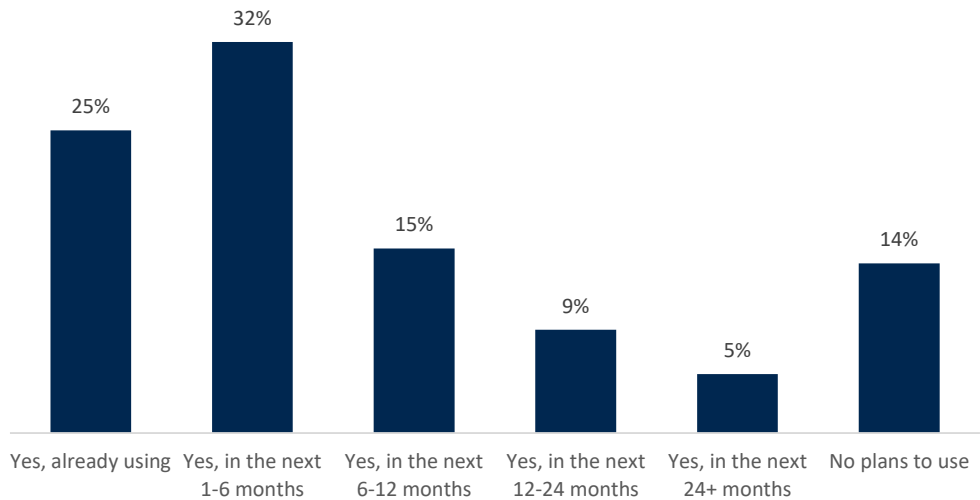
Source: RBC Capital Markets



Microsoft 365 Copilot

Next, we surveyed our IT professionals about their plans to adopt Microsoft 365 Copilot. **25% of respondents noted they are already using Copilot and 32% planning to use it in the next 1-6 months.** 15% plan to adopt copilot in the next 6-12 months, 9% in the next 12-24 months, 5% in the next 24+ months, while 14% do not plan to use it. We view these results as an encouraging proof point of Microsoft's early success, owing to the deep distribution already in place across the company's product portfolio. We caveat that some adoptions may be more limited than others. When taking a deeper look at our data, we found that the industries where Copilot has already been deployed fairly diverse (with Technology unsurprisingly being at the top, with 34% of deployments). We also found that 56% of our respondents who are already using Copilot identify as a CTO, CIO, or head of technology within their organization, which in our view, signals that senior IT leaders see the value in Copilot.

Exhibit 22 - Do you plan to adopt Microsoft 365 Copilot?



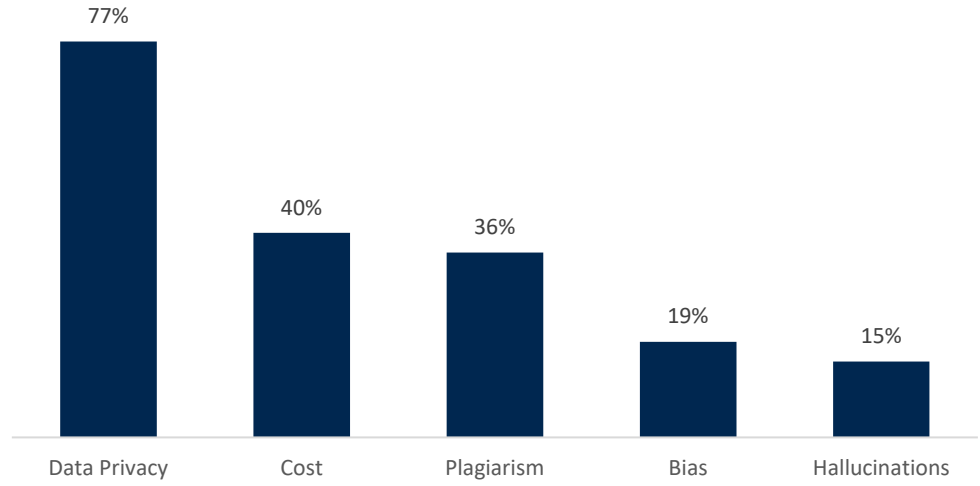
Source: RBC Capital Markets

Top Concerns With GenAI

Finally, we asked our respondents about their top concerns with implementing GenAI/LLMs. **Unsurprisingly, the top concern was data privacy,** with 77% of respondents acknowledging the concern. We then found that **cost, copyright infringement (i.e. plagiarism), bias, and hallucinations** were the next most common concerns from the CIOs we surveyed. In the exhibit below, we chart the top concerns.



Exhibit 23 - What is your top concern about using GenAI/LLMs?



Source: RBC Capital Markets



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Companies mentioned

Box, Inc. (NYSE: BOX US; \$29.74; Underperform)
CrowdStrike Holdings, Inc. (NASDAQ: CRWD US; \$329.68; Outperform)
Dropbox, Inc. (NASDAQ: DBX US; \$24.15; Outperform)
Fastly Inc (NYSE: FSLY US; \$13.50; Sector Perform)
Gitlab Inc (NASDAQ: GTLB US; \$59.08; Outperform)
HubSpot, Inc. (NYSE: HUBS US; \$612.98; Outperform)
Microsoft Corporation (NASDAQ: MSFT US; \$409.14; Outperform)
Palo Alto Networks, Inc. (NYSE: PANW US; \$286.49; Outperform)
Salesforce, Inc. (NYSE: CRM US; \$302.42; Outperform)
ServiceNow, Inc. (NYSE: NOW US; \$768.08; Outperform)
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