



Next-Generation Legacy Modernization

Accelerating Modernization Journeys With AI-powered Solutions



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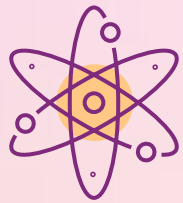


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Executive Summary

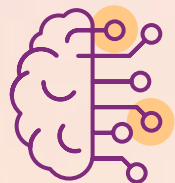
This IDC InfoBrief explores the current state of legacy modernization initiatives in Canada and the impact of AI on modernization approaches.



Evolving market dynamics and the pace of technological advancement require organizations to establish a lighter, agile IT portfolio. Across Canadian organizations, managing legacy technology is a top priority.



Traditional legacy modernization approaches are lengthy and often met with resistance owing to cost and complexity.

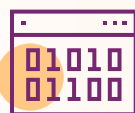


With the latest AI advancements, specifically generative AI (GenAI), modernization approaches get a shot in the arm, making a previously tedious task easier to achieve.



Legacy Systems and Technical Debt

Technical debt and legacy systems have been significant obstacles for Canadian organizations, limiting their ability to maximize their technology budgets.



Canadian organizations have an average of **56%** of legacy application code running in production environments.

Source: IDC's *Future Enterprise Resiliency & Spending Survey, Wave 1, January 2024*



Excessive technical debt and maintenance of older applications are the #1 reason for overspending on digital infrastructure in Canada.

Source: IDC's *Future Enterprise Resiliency & Spending Survey, Wave 3, March 2024*.

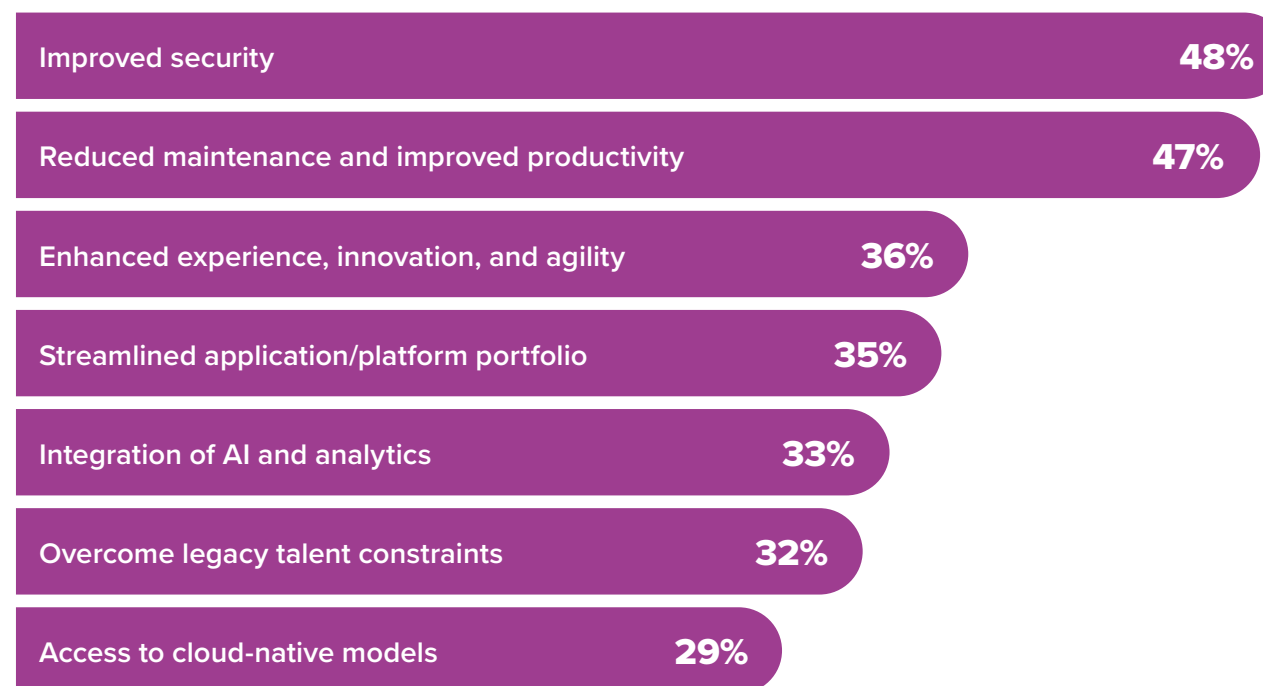


One-third of Canadian CIOs state that **technical debt and legacy systems are among top 3 challenges** to success.

Source: IDC's *CIO Sentiment Survey, October 2023*

What are the key business drivers prompting your organization to drive application modernization initiatives?

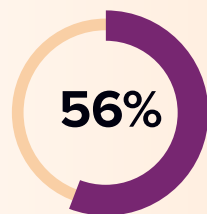
(Percentage of respondents)



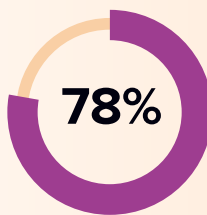
n = 304; Source: IDC's *Canada Business and IT Advisory Panel Survey N4, November 2022*

Overcoming the Legacy Problem

Overcoming reliance on legacy technology has remained a long-term focus area. High-growth Canadian organizations have been aggressively prioritizing modernization initiatives to enhance business agility, notably within back-office functions and customer-facing applications.



of Canadian organizations said application modernization was a top priority in 2023.

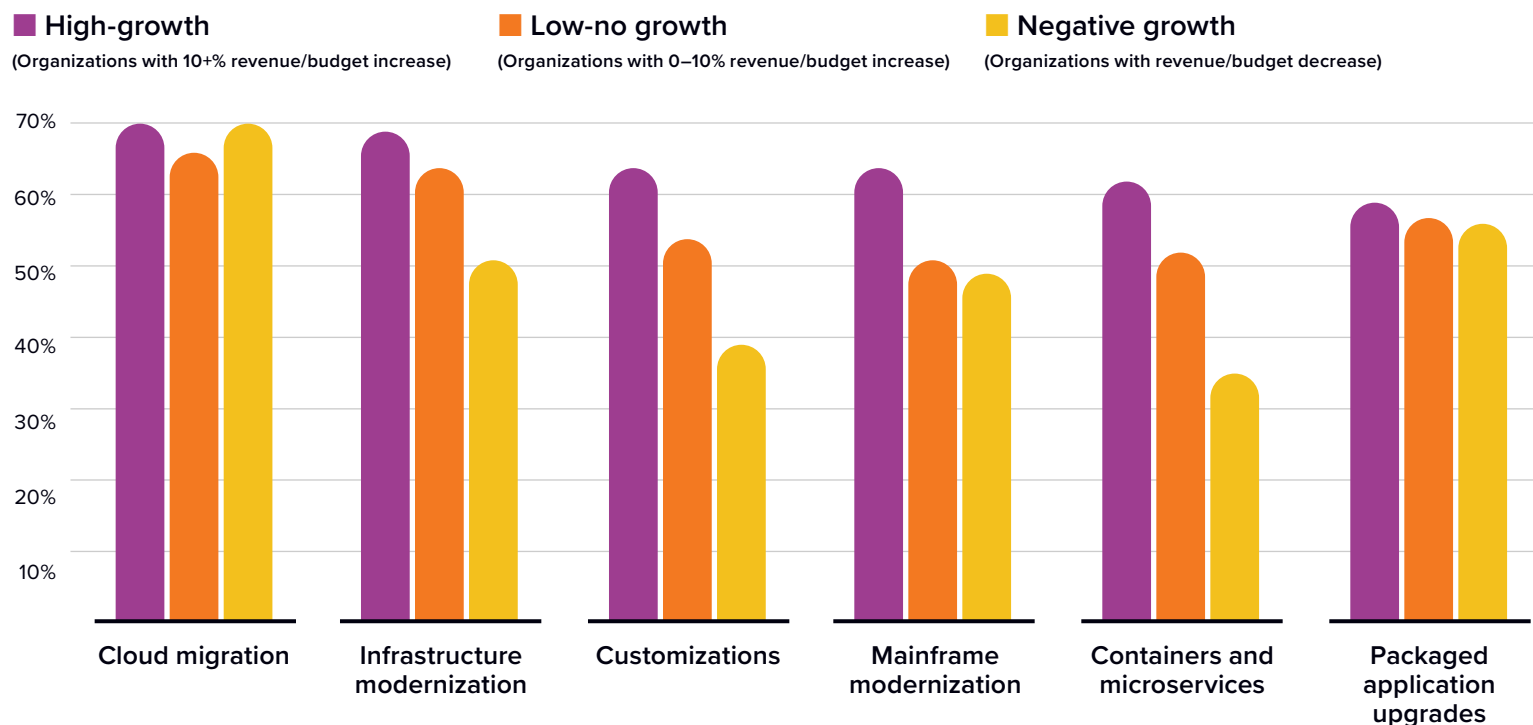


state that it will become a top priority in the next 2–3 years.

n = 298; Source: IDC's *Canada Business and IT Advisory Panel Survey N2*, April 2023

Application Modernization Initiatives as a Top Priority

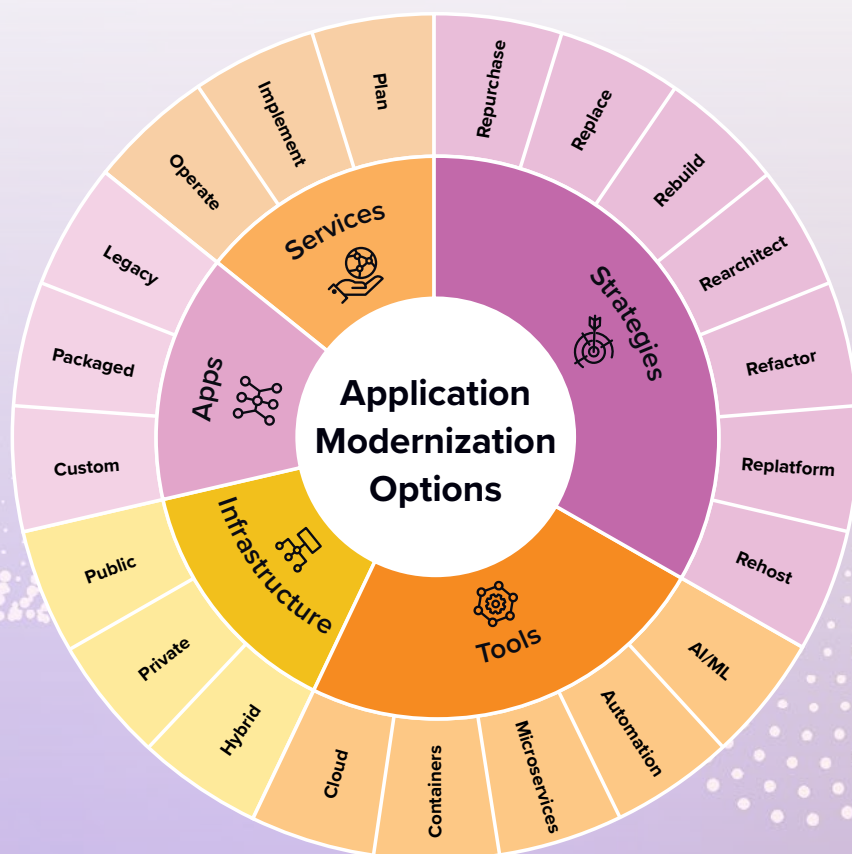
(Percentage of respondents)



n = 304 (all respondents), n = 49 (high growth), n = 230 (low-no growth), n = 25 (negative growth); Source: IDC's *Canada Business and IT Advisory Panel Survey N4*, November 2022
For an accessible version of the data on this page, see [Supplemental Data](#) in the Appendix.

The Elusive Finish Line to Modernization

Modernization requires careful consideration across various options, including strategies, tools, infrastructure, apps, and services. This leads to a long-drawn-out process, further constrained by operational complexities.



36%

of Canadian organizations with 500+ employees face challenges overcoming talent shortages in terms of application modernization.



38%

of Canadian business leaders face challenges integrating AI/ML capabilities within applications through the course of application modernization.

n = 152 Source: IDC's Canada Business and IT Advisory Panel Survey N4, November 2022

Hurdles to Transformation: Speed, Staff, and Business Case

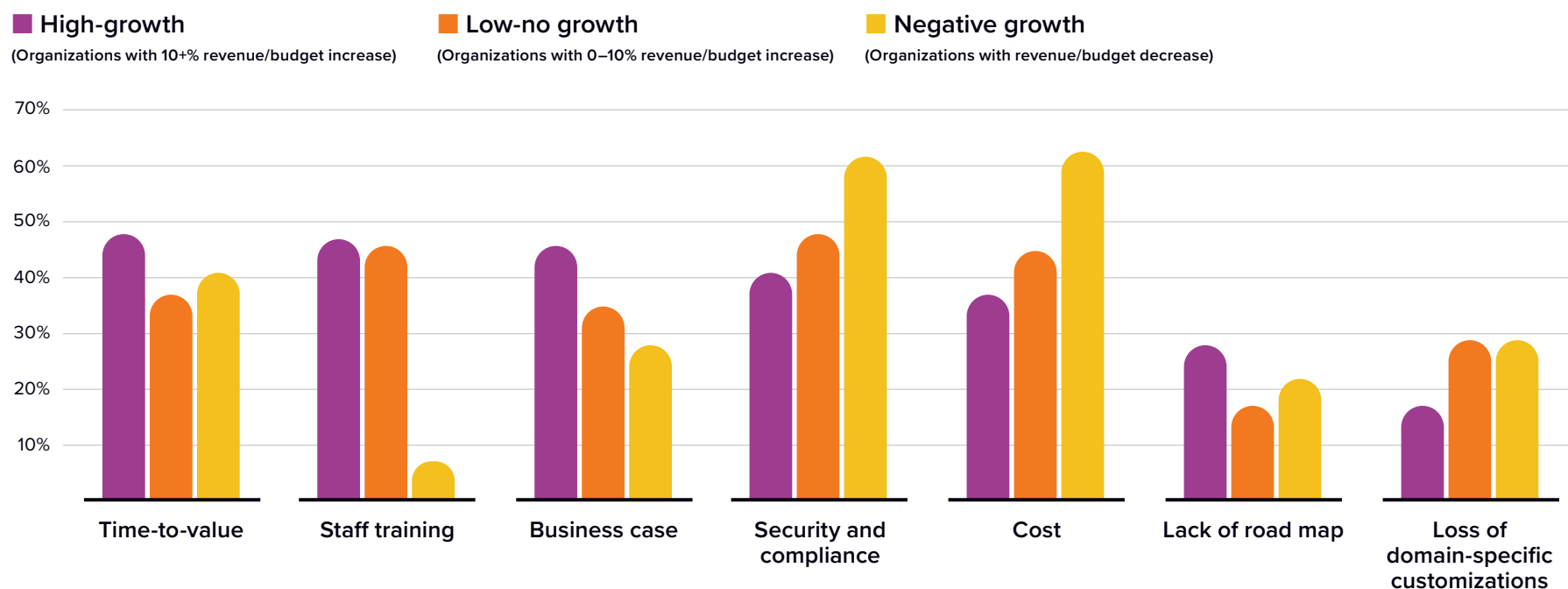
High-growth organizations face challenges with time-to-value, training staff and developing a strong business transformation case.



Companies struggling to grow are burdened by the cost of modernization initiatives, security, and time-to-value.

Key Business Concerns Around Application Modernization Initiatives

(Percentage of respondents indicating the following to be a top challenge)



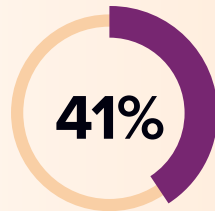
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For an accessible version of the data on this page, see [Supplemental Data](#) in the Appendix.

Enter AI: Legacy Modernization Like Never Before

AI has significantly enhanced the modernization process. Applications of small to medium complexity can be rapidly modernized, while large legacy applications that are complex and costly to transform can now be more easily tackled.



Canadian organizations believe that



of legacy application code can be eliminated with GenAI over the next 18 months.

n = 100; Source: IDC's *Future Enterprise Resiliency & Spending Survey, Wave 1, January 2024*

AI has enabled further automation of legacy modernization processes including:



Code documentation, generation, reviews, and testing



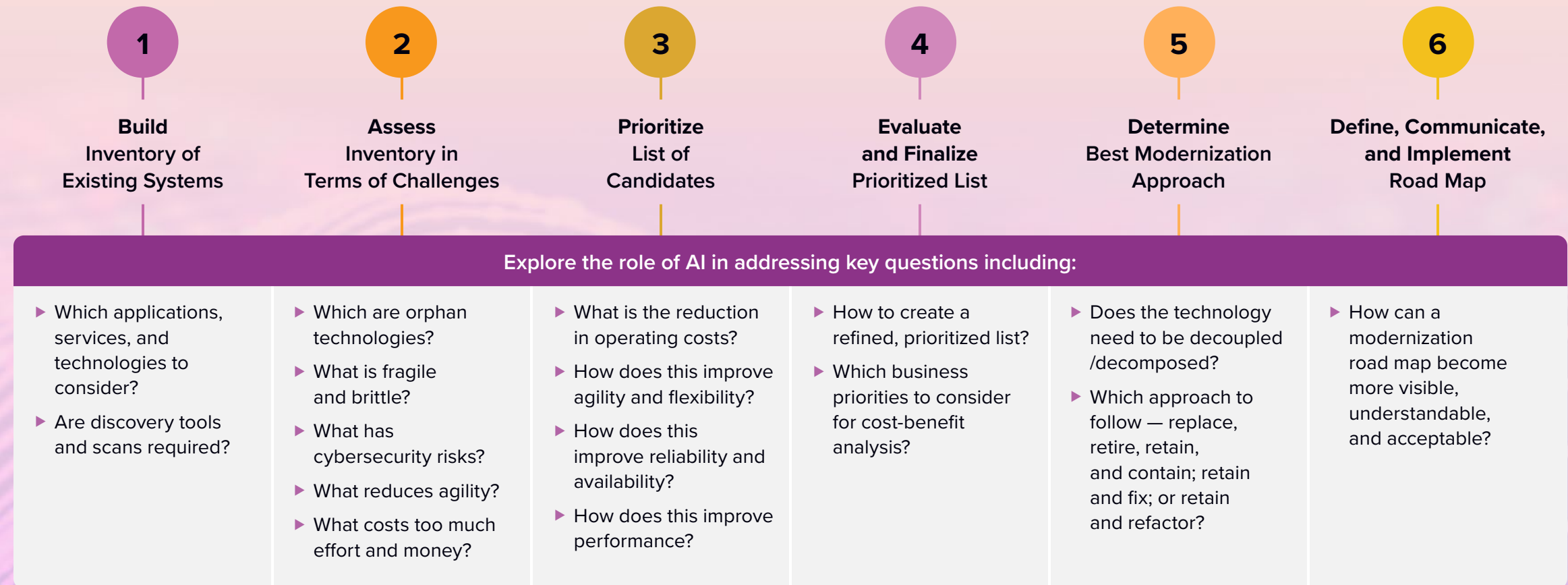
Identification of security gaps and recommendations for patches and system security enhancements



Data transformation and migration

Success Is in the Details

The various steps of legacy modernization are riddled with questions that require a nuanced approach. Integrate AI-powered innovation and technical expertise to identify the simplest, most effective means to make the most of modernization efforts.



Case Studies

Service providers like CGI are leveraging partnerships with hyperscalers such as Microsoft to bring AI-powered modernization and domain expertise to the market, as seen in the following case studies.

	CASE 1	CASE 2
Solution	<p>A large government organization required modernization of its code in a particular program to bring it up to date.</p> <p>CGI deployed a local cloud instance of Azure OpenAI utilizing GPT-4 to augment the code conversion process. The outdated UI code was copied into the bot, and the updated code version was returned.</p>	<p>A large asset management firm was spending millions of dollars every year due to inconsistencies in its new customer accounts creation solution.</p> <p>CGI migrated the legacy system to Azure and created an ML-based anomaly detection solution to identify accounts most likely to fail quality checks.</p>
Impact	<p>The solution will enhance employee productivity.</p>	<p>The solution reduced cost and improved customer onboarding experience.</p>

Key Takeaways

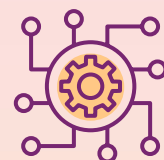
Put the pedal to the metal with **AI-powered legacy modernization.**



Canadian organizations are accelerating their modernization efforts to remain competitive. The next three years will be critical in shaping IT portfolios that enable deep operational insights, next-generation customer touch points, and rapid product deployments.



The power of AI can rapidly streamline an organization's IT portfolio. Understand how AI can transform aspects of the modernization process.



Explore AI-powered solutions for modernization to reassess strategies for legacy applications, data, and infrastructure:

- ✓ Identify and target projects that qualify for rapid modernization.
- ✓ Analyze the impact on the cost-benefit ratio of complex modernization projects and consider reallocating them to a shorter-term horizon.

Appendix: Supplemental Data

The table in this appendix provides accessible versions of the data for the complex figures in this document. Click “Return to original figure” below each table to get back to the original data figure.

SUPPLEMENTAL DATA FROM PAGE 5

Application Modernization Initiatives as a Top Priority for 2024

(Percentage of respondents)

	High-growth	Low-no growth	Negative growth
Cloud migration	70%	66%	70%
Infrastructure modernization	69%	64%	51%
Customizations	64%	54%	39%
Mainframe modernization	64%	51%	49%
Containers and microservices	62%	52%	35%
Packaged application upgrades	59%	57%	56%

n = 304 (all respondents), n = 49 (high growth), n = 230 (low-no growth), n = 25 (negative growth); Source: IDC's *Canada Business and IT Advisory Panel Survey N4*, November 2022

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Appendix: Supplemental Data (continued)

SUPPLEMENTAL DATA FROM PAGE 7

Key Business Concerns Around Application Modernization Initiatives

(Percentage of respondents indicating the following to be a top challenge)

	High-growth	Low-no growth	Negative growth
Time-to-value	48%	37%	41%
Staff training	47%	46%	7%
Business case	46%	35%	28%
Security and compliance	41%	48%	62%
Cost	37%	45%	63%
Lack of road map	28%	17%	22%
Loss of domain-specific customizations	17%	29%	29%

n = 304 (all respondents), n = 49 (high growth), n = 230 (low-no growth), n = 25 (negative growth); Source: IDC's *Canada Business and IT Advisory Panel Survey N4*, November 2022

[Return to original figure](#)

About the IDC Analysts



Jason Bremner
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Jason Bremner is Research Vice President for IDC's Worldwide Services program, providing research insights and thought leadership on the key issues and trends affecting the services markets globally. In this role, Mr. Bremner is responsible for ensuring consistency, completeness, and accuracy across forecasts and shares by working with more than 120 IDC analysts across project-oriented services, managed services and support services. The analyst team that Mr. Bremner leads helps technology vendors, IT professionals and business executives make insight-driven, strategic decisions on technology marketing, sales and deployments. Mr. Bremner is also the lead analyst IDC's Canadian Services research, providing insights and thought leadership on the key issues and trends affecting the Canadian services markets.

[More about Jason Bremner](#)



Sreenivas Duvvuri Venkata
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Sreenivas Duvvuri is a Research Analyst with IDC's Enterprise Services practice. His core research coverage includes managed IT services, applications, and infrastructure services. Sreenivas also covers topics and technologies that drive service demand, such as cloud, artificial intelligence and automation, and digital transformation. Sreenivas is responsible for syndicated research and custom projects that address the continued impact of emerging trends on technology service providers in Canada.

[More about Sreenivas Duvvuri Venkata](#)

Message from the Sponsor



CGI and Microsoft unite to tackle the challenges of legacy systems, saving businesses from the constraints of technical debt. With CGI's 40-year track record of innovation and Microsoft's cutting-edge technology, we modernize enterprise-wide applications and infrastructure, enhancing agility, reducing costs, and improving user experiences.

AI has significantly enhanced the modernization process, making it possible to rapidly modernize applications of small to high complexity. Transformations that were once complex, cost-prohibitive, and time-intensive are now increasingly feasible with shorter time-to-completion. CGI and Microsoft's unwavering commitment to client satisfaction and AI-driven cloud solutions ensure a seamless transition to next-generation capabilities.

CGI and Microsoft's partnership helps organizations through their modernization journey to achieve their strategic goals and maintain a competitive edge in an ever-evolving market landscape by driving efficiency, innovation, and sustainable growth.

[Connect with a CGI expert today](#)

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