Artificial Intelligence and the Workforce: The Case of Chatham-Kent

FINAL REPORT

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About this Report

This report presents Forum Research's analysis of the impact of artificial intelligence (AI) on Chatham-Kent's workforce. The Chatham-Kent Workforce Planning Board sponsored the report.

The report is based on multiple research methods, including a literature review, an analysis of secondary source and primary data in the form of a household survey of Chatham-Kent residents and interviews with local employers and workforce development experts.

Acknowledgement

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Highlights of the Report

Artificial Intelligence Development is Moving Fast

Artificial intelligence (AI) is a fast-advancing general-purpose technology with the potential to reshape how work is organized, how tasks are performed, and the skills required across the economy. Although AI capabilities are developing rapidly, the real-world economic effects emerge more slowly due to adoption costs, workflow redesign, reliability concerns, and organizational readiness. AI today is transformative in potential, but largely incremental in practice.

Adoption in Canada Lags the United States

Nationally, Canada lags the United States in AI adoption. Only about 15 per cent of Canadian employers plan to use AI in production over the next year, compared with roughly three-quarters of U.S. firms. Adoption remains highly uneven across sectors, with information-intensive industries (finance, information and communication technologies (ICT's), professional services) far ahead of manufacturing, construction, and wholesale trade. Occupational impacts are also highly differentiated: data-heavy administrative, technical, and analytical roles face higher automation pressure, while health care, education, social services, and personal services are poised for significant augmentation gains.

AI is Likely to Result in a Small Negative Net Job Loss in Next 5 Years

Using employers' own expectations of workforce impacts, our report estimates that by 2031 AI will create approximately 124,000 new jobs in Canada and eliminate about 287,000, resulting in a modest net decline of roughly 1 per cent of national employment. Although the aggregate effect is small, significant churn at the occupational and individual levels is expected.

Chatham-Kent Adoption Rate Exceeds That for Canada with Similar Modest Net Job Losses

Chatham-Kent stands out for its comparatively high AI adoption rate: 40 per cent of local employers plan to implement AI in the next 12 months—more than double the Canadian average. Adoption is strongest in transportation, warehousing, manufacturing, and professional services.

Despite media narratives suggesting extreme disruption, local employees report that AI is improving productivity more than eliminating jobs. Over 60 per cent expect no negative impact on job security, and 20 per cent foresee positive effects. Importantly, 60 per cent of employees using AI receive formal employer-provided training.

Chatham-Kent's industrial and occupational structure moderates its exposure to automation risks. The region has fewer jobs in highly exposed professional/technical fields and more in sales, service, and labour-intensive occupations that require human interaction—areas where AI is more likely to augment than replace work. As a result, projected workforce impacts by 2031 are similar to Canada's modest – negative 1 per cent net effect.

Getting the Most out of AI While Mitigating Risks

To position Chatham-Kent to benefit from AI while mitigating risks, the report recommends a three-lane strategic model:

- **Fast Lane:** Improve information flows through enhanced EmployerOne AI questions, establish an employer AI roundtable, and create an education–employer AI forum to align skill needs.

- **Middle Lane:** Expand micro-credentials in AI literacy and soft skills, track training uptake, and improve recognition of informal AI competencies.

- **Slow Lane:** Modernize curriculum and pedagogy across the education system to better integrate AI, human-centred skills, and evolving employer demands.

By focusing on augmentation, improving coordination across workforce institutions, and rapidly reducing information asymmetries, Chatham-Kent can leverage AI to drive productivity and workforce resilience while minimizing disruption.

Introduction

Artificial intelligence (AI) is a major technological breakthrough that will have a significant impact on the Canadian economy. AI is a general-purpose technology (GPT), meaning it has a range of applications across all sectors of the economy. Previous GPT's, like steam power, drove major changes in agriculture, manufacturing, and transportation. AI will have a similar cross-sectoral impact.

AI has the potential to improve productivity and will likely change the way production is organized. In terms of the workforce, AI improves the productivity of some jobs, raising their value. But AI may also automate jobs, leading to falling wages and redundancies in some occupations.

Jobs that are prone to automation face major disruption. For instance, in 1900, about 40 per cent of Canada's employees worked in agriculture.[1] Waves of mechanization had the effect of reducing agriculture's share of employment to around 1 per cent today. However, this change occurred over decades, which allowed the workforce time to adjust to newly created jobs in manufacturing and services. The concern with AI is that it might automate jobs at a very rapid pace. This means that, unlike previous waves of GPT's, the adjustment time will be compressed.

To illustrate the pace of change, consider the huge investments in AI over the last few years. Stanford University estimates that global private investment in AI has increased thirteen-fold in the decade between 2014 to 2024 and continues to increase by about 25 percent per year.[2] These investments are now over $US 250 billion per annum worldwide and are estimated to reach as high as $US500 billion by 2030.

Private investments are driven by expected returns. To date, the primary economic impact of AI has been through AI investment spending. Large global technology companies like Meta, Google and Microsoft are recycling cash from their highly profitable legacy businesses into a wager on AI. The return on these investments depends on AI being used extensively and intensively across the economy. These investors need AI tools to become transformational to justify their huge investment.

[1] Statistics Canada, Historical Statistics of Canada and Labour Force Survey.
[2] Stanford University, Economy.

Still, the underlying business case for AI is a work-in-progress. AI products are in their infancy. As we explain in this report, AI is technically feasible, but technical feasibility is different from economic feasibility. AI pricing is still developing so it is difficult to say how much it will cost. Most certainly current "introductory" pricing is far too low to generate an adequate return on AI investments. Aside from the cost of AI products themselves, AI imposes transformation costs on adopting organizations. These too must be taken into consideration in any cost-benefit analysis of AI.

All that is to say, AI is in a speculative phase of development. AI promoters have an incentive to hype the technology. This report seeks to separate the AI hype from reality. The uncertainty of AI development and adoption creates a risk to the workforce and more broadly to society. This report explores the nature of that risk. It suggests an approach to risk mitigation to ensure that the workforce gets the most out of AI while mitigating its negative impacts.

The report analyzes the effects of AI on Canada's workforce overall and provides a detailed analysis for the southern Ontario community of Chatham-Kent. Although AI is a global phenomenon, its effects are primarily felt in local labour markets. Local markets have characteristics that expose them to a unique set of risks. In addition, the school-to-work transition tends to be localized for much of the Canadian labour force. Hence, sub-regional analyses, like the one here, help our understanding of how the workforce development system needs to adjust to AI.

Methodology

This report is based on a multi-pronged methodology. We began with a thorough review of the literature and data, including Chatham-Kent Workforce Planning Board's EmployerOne survey in which we added questions on AI adoption.

We complemented these secondary sources with Forum Research's primary data. Forum conducted a household survey of employed individuals in Chatham-Kent in October 2025. There were 103 respondents to this survey. We then conducted interviews in two tranches during the fall of 2025. One tranche (10 interviews) was conducted with employers in Chatham-Kent. A second tranche involved interviews (12) with experts with knowledge of the workforce development system in Chatham-Kent.

A Guide to the Report

We develop the report in a series of interrelated chapters:

AI and the Workforce develops a conceptual framework to understand how AI might affect the workforce. Here we discuss the nature of AI, its likely development and how AI theoretically impacts the workforce.

AI in the Canadian Context applies this conceptual framework to the case of Canada. We consider how AI is likely to affect the Canadian labour force.

AI and Chatham-Kent analyzes the unique characteristics of Chatham-Kent's economy that either helps it realize productivity gains or exposes the workforce to disruption.

Adjusting to AI, considers workforce development strategies to get the most out of AI while mitigating risks.

AI and the Workforce

Chapter Summary

➢ *AI is the simulation of human intelligence through computer power, models and big data.*

➢ *Different types of AI are distinguished by their approach to simulation. Traditional AI relies on existing content whereas Generative AI (GenAI) creates new content.*

➢ *AI affects the economy by automating tasks previously performed by labour, by assisting labour with tasks (augmentation) or improving the efficiency of existing automation (deepening automation). These forces combine to create economy-wide job creation and destruction.*

➢ *Currently these forces are having modest aggregate effects on the labour market although specific industries and occupations are being affected.*

➢ *The workforce development system needs to avoid developing people for occupations that are likely to be automated while preparing people for jobs that are likely to benefit from AI.*

Although AI has been in development for decades, it only recently reached the commercialization stage. Machine learning products such as recommendation engines and image recognition are about a decade old. Commercialized large language models (LLM's) and popular chat boxes like ChatGPT are just 3 years old. Recently the pace of development has been extremely rapid with thousands of companies working on applications of the core technologies. The situation is highly fluid and therefore a key challenge is to forecast the trajectory of these technologies.

In the last 5 years, economists have developed a good conceptual understanding of AI technologies and their theoretical impacts on the labour market. Much of this work has been conducted at leading US universities that are adjacent to companies developing AI technologies. Some of the leading AI companies, like Anthropic, have established their own research institutes, which further adds to our understanding of the economics of AI.

In this section we lay out a conceptual framework for AI adoption and some preliminary data that shows how it is affecting the workforce.

What is AI?

AI technologies simulate (hence artificial) human capacities to learn, comprehend, solve, make decisions, and perform tasks (hence intelligence). AI does so by marrying computer processing power, models (large language models), and enormous data sets. Although AI has been investigated for 70 years, only recently has the theory been put into practice.

Recent developments across the three parameters that make AI possible, namely computer power, models and datasets, have made AI a reality today. Information and communication technologies (ICT's) have developed in such a way as to generate massive amounts of data. Every day the world produces four hundred terabytes of data.[3] But the technology to use this data in a productive way has lagged data creation technology. AI technologies are a major step in making practical use of so-called big data.

AI differs from traditional computing. In traditional computing, programmers create detailed algorithms that tell a computer how to perform tasks. AI differs in that it uses its embedded "intelligence" developed through training on large data sets and models to make decisions. It "thinks' its way to a solution without having to be told every step. That is an advantage because the model effectively adjusts to new situations without needing to be told what to do. But the downside is that AI occasionally produces unusual or baffling results, which engenders concern about the reliability of AI products. Anyone who uses a chatbot will be familiar with this warning on reliability.

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[3] Tabrizi, From Theory to Practice.

Exhibit 1
What is Artificial Intelligence?

ARTIFICIAL INTELLIGENCE

MACHINE LEARNING

Supervised Learning classification, regression

Unsupervised Learning clustering, dimensionality reduction

Reinforcement Learning agents, rewards, policies

DEEP LEARNING

subset of ML, uses neural networks

Convolutional Neural Networks (CNNs) vision, image reccognition

Recurrent Neural Networks (RNNs, LSTMS) sequence, time-series, NLP

Transformers modern NLP, large language models (LLMs)

OTHER AI APPROACHES

Expert systems rule-based reasoning

Symbolic AI knowledge, graphs, logic

Evolutionary Algorithms genetic algorithms, swarm intelligence

Hybrid AI combing symbolic + statistical methods

Source: Forum Research

There are many ways to distinguish different kinds of AI. One way is the approach to learning, particularly the extent to which the method involves mimicking human intelligence (Exhibit 1). A key distinction is between machine learning, which works best with structured data and deep learning which uses a complex system of neural networks to recognize patterns in unstructured data. Other ways include depth of application and the approach to content creation (Exhibit 2). Depth of application essentially lays out the future state of AI.

Exhibit 2

Ways to Classify Artificial Intelligence

Type of Processing	Nature	Example
Machine Learning (ML)	The engine of modern AI; systems that learn from data.	Forecasting stock prices based on historical trends.
Deep Learning (DL)	A subset of ML using deep neural networks.	Speech recognition and image recognition
Natural Language Processing (NLP)	Enabling machines to understand, interpret, and generate human language.	Translation apps and chatbots like Copilot and ChatGPT
Computer Vision	Enabling machines to "see" and interpret visual information (images, video).	Self-driving cars reading traffic signs.

By Depth of Application	Description	Status
Narrow AI (Weak AI)	Designed and trained to perform a specific, single task or narrow set of tasks.	Currently being used today
Strong AI (Artificial General Intelligence)	Hypothetical AI that possesses the ability to understand, learn, and apply its intelligence to solve any problem, like a human being.	Theoretical (Not yet achieved)
Super AI	Theoretical AI that surpasses human intelligence in virtually every aspect, including creativity, general wisdom, and problem-solving.	Theoretical (Not yet achieved)

Content Creation	Model Architecture	Examples of Current Tools
Text	Large Language Models (LLMs - e.g., GPT, Gemini, Claude)	ChatGPT, Google Gemini, Claude
Images/Art	Diffusion Models (e.g., DALL-E, Stable Diffusion)	Midjourney, DALL-E, Stable Diffusion
Code	Specialized LLMs	GitHub Copilot, Amazon CodeWhisperer
Audio/Music	Various (e.g., Jukebox)	Suno, Google's Lyra, Murf.ai

Source: Forum Research

To illustrate, as venture capitalist Marc Andreessen points out, the current versions of AI have an Intelligence Quotient (IQ) of around 130-140.[4] To set this in context, average

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[4] Ratchitsky, The Real AI Boom.

IQ in Canada is around 100.[5] Humans have a theoretical limit of about 160, roughly the same as Albert Einstein. Yet future versions of AI may reach 200 to 300.

For instance, Meta justified its massive AI investments to position itself for the super intelligence version of AI, which is still theoretical[6]. In fact, Yann LeCun, Meta's top AI scientist, suggests that today's large language models (LLM's) have severe limitations in the way they mimic human intelligence, which means the current approaches will likely never reach the stage of artificial general intelligence (AGI)[7].

This is because, as the name suggests, LLM bases its understanding on language. LeCun says "there's a lot of tasks that we accomplish where we manipulate a mental model of the situation at hand, and that has nothing to do with language… Most of our knowledge is derived from that interaction with the physical world". LeCun suggests that an entirely different approach may be required to create AGI, such as Joint Embedding Predictive Architecture (JEPA).

There is an important distinction between traditional AI and Generative AI. Traditional AI relied on existing data for training. Generative AI creates new content that forms part of its knowledge base. This makes it potentially more powerful and better able to mimic human capabilities in creative thinking and pattern recognition. Traditional AI focuses on the analysis of data and automated decision-making, whereas Generative AI creates new content like text, images, or code based on learned patterns. Another important distinction is between Generative AI and Agentic AI. Agentic AI seeks to use intelligent agents to perform specific tasks.

How Production is Organized in an Economy

An economy produces goods and services through three factors of production – labour, capital and technology. In economic terms, technology is the methods, processes, and knowledge that goes into the way capital and labour are combined to transform inputs into final goods and services.

Demand stimulates producers to supply goods and services. Organizations produce products and services with characteristics that satisfy customers or clients. They create

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[5] World Population Review, Average IQ 2026.

[6] See Vanian, Zuckerberg Defends AI Spending.

[7] Fridman, Yann Lecun: Meta AI, Open Source, Limits of LLMs.

workflows to transform inputs into these products and services. Workflow is divided into specific work tasks that can be performed in various configurations of labour and capital. For labour, work tasks are typically reflected in job descriptions.

These workflows are usually designed by employers, so they set a context for the use of employee skills. Less than 15 per cent of employed Canadians are self-employed, so most people have to consider employers' work design and that includes the way they use AI in workflows.[8] That is why surveys focus on employer adoption of AI as this sets the context for hiring practices. The logic is adoption first, which determines the nature of workflow, then human resource practices that align to adoption.

Exhibit 3
How Production is Organized in an Economy
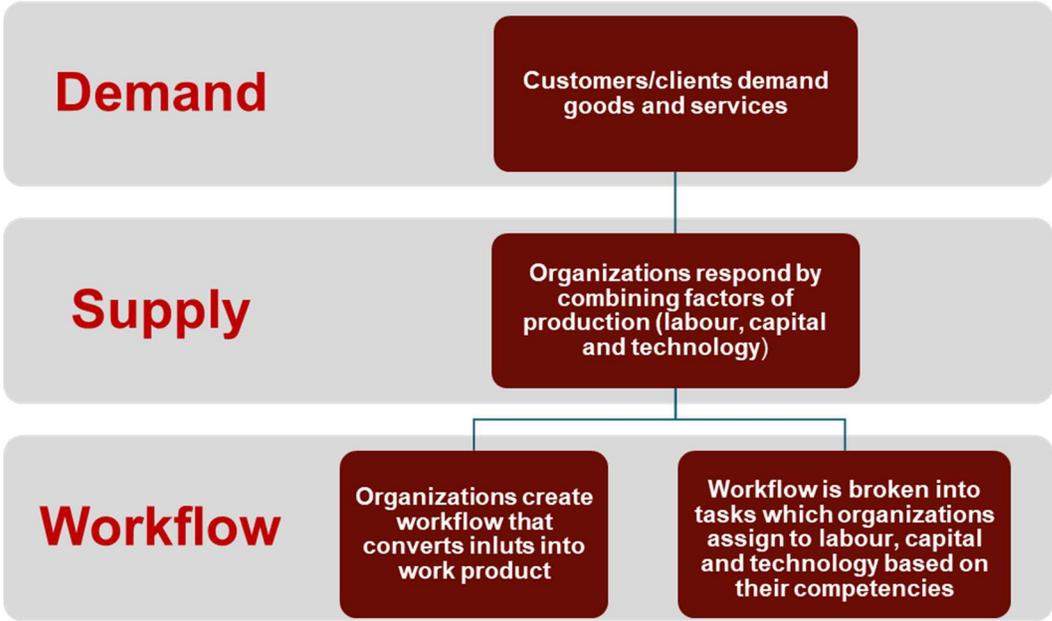
Source: Forum Research

Workflows and tasks are refined through a process of trial and error over years. Some organizations invest significantly in workflow processes to ensure they are extremely efficient and reliable, through methods like Six Sigma.[9] Organizations with controlled

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[8] Statistics Canada Table 14-10-0027-01. In 2024, only about 13 per cent of employed Canadians were self-employed.

[9] Six Sigma means reducing variation so that a process produces fewer than 3.4 defects per million units. It is organized around client-defined quality parameters.

processes are unlikely to adopt radical changes unless they can be shown to significantly improve performance, as defined by customers quality parameters.

Technology is employed to improve the efficiency of production, allowing producers to get more goods and services out of existing capital and labour. This is called productivity and economists measure it in two ways. *Labour productivity* (the amount produced per hour worked) and *Total Factor Productivity* (TFP), the total output produced by the employed capital stock and labour force hours.

How Technology Affects Production

Technological innovation has four effects that, in concert, have implications for employment and payments to labour and capital. Three of these effects occur at the organizational level, namely:

Augmentation: Workers use technology to become more productive for every hour of work. This makes workers more valuable, which raises their employment and wages.

Automation: Technology is used to perform tasks that were previously performed by humans. This has the effect of reducing employment and wages for people who perform those tasks. This has a displacement effect on the workforce.

Deepening automation: Technology is used to improve tasks that have already been automated. Capital deepening increases the payments to capital without displacing labour.

These forces impact the way organizations assign workflow tasks. Technology like AI influences this through workflow design.

Jobs are collections of tasks. Competency is the ability to perform tasks, and this competency can apply to labour, capital, and technology. When it is applied to labour it is called skill. Of course, workforce development is primarily interested in ensuring that the workforce has the skills to perform the tasks that employers demand.

When AI assumes a substantial number of job tasks, those jobs may be made redundant. But when AI assumes a smaller portion of the previous tasks, jobs are more likely to be redefined rather than eliminated. The redefinition of jobs involves redeploying labour whose time is freed up by AI taking over some tasks. For instance, a lawyer who uses AI

to undertake case research may be freed up to spend more time in face-to-face meetings with clients.

At an economy-wide level there is a fourth effect, specifically:

Economy-wide job creation and destruction: AI adopting jurisdictions raise overall productivity. AI creates efficiency gains and growth opportunities for the organizations that use it effectively. This creates higher income across the economy, which supports demand for a wide range of goods and services. Some of these goods and services are new. For instance, the digitization wave resulting in growth in personal services like Pilate studios that did not exist before.

But depending on adoption, these economy-wide effects may also be negative. For instance, if firms in a country are slow to adopt new innovations they may lose market share to other countries with higher rates of adoption. This would see productivity lag competitor countries which may lead to lower employment and wages in the non-adopting country.

At an economy-wide level, the net effect of these forces may result in relatively little change even though at the individual level people may be subject to a great deal of change. For instance, in Canada the digitization phase of technological innovation has not reduced the share of the population 25 years and over in work over the last 35 years.[10] A study for the United States found that there was only a slight change in the occupational mix during the digitization era, as only 7 per cent of the labour force in 2002 would have to switch occupations for the labour market to look as it did in 1996.[11]

To illustrate, Autor highlights the effects of the introduction of automatic teller machines in the United States in the 1980's.[12] One might reasonably expect that this innovation would have devasting implications for the employment of human tellers. But in the 30-year period between 1980 and 2010, teller employment increased from

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[10] See Statistics Canada CANSIM Table 14-10-0020-01. In 1990, the employment-to-population ratio for Canadians aged 25 and over was 61.8 cent and in 2024 it was 62.4 per cent. This was despite major changes in the use of information and communication technologies over this period. The business cycle, specifically periodic recessions, has a far greater impact on the employment-to-population ratio than technological innovation, which tends to affect the distribution of jobs and wages more than overall employment.

[11] Gimbel et. al. Evaluating the Impact of AI.

[12] Autor, "Why are There Still So Many Jobs?".

around 500 thousand to 550 thousand. The ATM's transformed teller employment from low value dispensing of money and account balance information to "relationship banking," essentially higher value banking services including sales. The number of teller jobs increased slightly over time, but tasks changed and hence teller skill requirements.

In this process, total employment may stay the same, but there is still a risk of job losses if people cannot adjust. Even people who, theoretically, are in occupations that clearly benefit from augmentation may lose their jobs if they are unable or unwilling to use AI in the workplace.

For instance, Acemoglu and Restrepo show that about half of employment growth in the US over 1980–2015 took place in occupations in which job titles or tasks performed by workers changed. Thus, a key challenge in workforce development is to ensure that workers are positioned to take on new tasks that emerge as technology evolves.

The concern with AI is that its effect will be vastly different from our experience with digitization. Specifically, the concern is that the automation effects will overwhelm the other effects. The concern is especially pronounced for agentic AI. There is also a concern about how AI's human-like thinking will be combined with mechanization of human tactile skill. Two specific examples are robotics and autonomous vehicles, also known as embodied AI.

How AI Affects Production

Today, AI is starting to assume some of the tasks that have traditionally been performed by humans and will affect the number and type of jobs available and the content of jobs and tasks. Unlike previous technologic waves that affected blue collar agriculture and manufacturing employment, AI is having a disproportionate impact on white-collar service sector jobs. The following 24 tasks provide some examples of how AI is reforming tasks, by job type:

1. **Administrative Positions**
   1. Data entry and processing.
   2. Scheduling and calendar management.
   3. Document summarization.
2. **Customer Service Professionals**

4. Chatbots and virtual assistants: Responding to customer inquiries, troubleshooting, and guiding customers.

5. Sentiment: Detecting customer sentiment to prioritize responses.

6. Call center automation: AI-driven voicebots for basic inquiries.

3. Marketing & Sales Professionals

7. Personalized recommendations: E-commerce platforms use AI to suggest products.

8. Ad targeting and optimization: Automated bidding and audience segmentation.

9. Content generation: Writing product descriptions, social media posts.

4. Manufacturing and Logistics Managers

10. Predictive maintenance: Monitoring equipment to prevent breakdowns.

11. Supply chain optimization: Forecasting demand and managing inventory.

12. Robotics: Automated assembly lines and warehouse operations.

5. Healthcare Practitioners and Researchers

13. Medical imaging analysis (MRA): Detecting anomalies in X-rays, MRIs.

14. Administrative tasks: Automating patient record and billing.

15. Drug discovery: AI models accelerate research and simulation reactions before human trials.

6. Banking and Finance Officers and Traders

16. Fraud detection: Real-time monitoring of transactions.

17. Credit scoring: AI-driven risk assessment.

18. Wealth management advice.

7. Computer Coders and Technicians

19. Code generation and debugging: AI tools assist in writing and fixing code.

20. Automated testing: Running test cases and reporting bugs.

8. Creators

21. Image and video editing: AI tools for background removal, color correction.

22. Music composition: Generating melodies or soundtracks.

23. Design assistance: Creating layouts and prototypes.

Part of the concern about the automation of white-collar jobs is that these jobs have traditionally been viewed as 'skilled' employment requiring many years of education and associated credentials. But at this stage in development, existing professionals in these areas appear to be using AI as a tool to improve their productivity, in other words, augmentation. That does not mean, however, that all professionals will benefit from augmentation because some may not have the required skills to use AI effectively

Hence, it is important not to confuse economy-wide effects with occupational or individual effects. For instance, Handa et. al. found no evidence of *aggregate* employment displacement from AI in the US in the period 2010 to 2023.[13] That does not mean that jobs were unaffected. The study found that when AI can perform most of the tasks that make up a job, the share of people in that role within a company falls by about 14 per cent. Yet when AI only assumes few of the tasks in a job, employment tends to increase because it allows employees to move on to more pressing tasks where people have a comparative advantage.

Specifically, the study found that exposure to AI is greatest in relatively high-paying roles, which often involve information processing and analysis – tasks that AI can perform reliably. Many high paying jobs like management, engineering and computer science were most affected. These types of jobs shrank by between 2 and 4 per cent over 5 years. Yet jobs in legal services grew by over 6 per cent over 5 years due to productivity gains. Research at the Yale Budget Lab confirms that in the 33 months since the introduction of ChatGPT, there has been no significant *aggregate* impact on the US

Since there are countervailing forces at play, it may mean that we do not see much impact at the aggregate level while there are still fundamental changes occurring at the occupational and individual levels.

labor market. The authors found that AI has had no impact on the employment to population ratio.

They use data from ChatGPT and Anthropic (Claude) to identify the occupations that are most at risk of automation due to Generative AI. And yet they find that there has been no discernible change in the employment prospects of the occupations most

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[13] Handa, et. al. AI and the Labor Market.

exposed to AI. In the words of the report "most implementations don't drive headcount reduction, but (successful organizations) are beginning to see selective workforce impacts in customer support, software engineering, and administrative functions."[14] It is those "selective" impacts that will expose individuals to risk.

That is the key point. Since there are countervailing forces at play, it may mean we do not see much impact at the aggregate level while there are still fundamental changes occurring at the occupation and individual levels. Workforce planning is not generally focused on aggregate outcomes. It is about minimizing disruption for all workforce participants by ensuring their skills align to current employer demand.

How the Workforce Adjusts to AI

The workforce performs tasks in which humans have a comparative advantage over capital and related technology. Jobs or occupations are defined by job descriptions, which are essentially collections of tasks. Skill is simply the ability to execute these tasks.

Economists have developed nomenclatures for defining the task content of occupations. A well-known one is O*NET (Occupational Information Network), a database developed by the U.S. Department of Labor.[15] It provides detailed information about occupations, including:

Job Descriptions: Tasks, responsibilities, and work activities.

Skills and Knowledge: What skills, abilities, and knowledge areas are needed for each occupation.

Education and Training: Typical requirements for entry and advancement.

Work Context: Conditions under which the job is performed (e.g., physical demands, work environment).

Wages and Employment Trends: Salary ranges and job outlook.

Interests and Work Styles: Personality traits and preferences suited for the role.

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[14] Challapally et. al. The GenAI Divide, 4.

[15] US Department of Labor. https://www.onetonline.org/. The Canadian version of O*NET is called the Occupational and Skills Information System (OaSIS), developed by Employment and Social Development Canada. OaSIS is based on O*NET.

Technological progress has the effect of changing the human skills that are in demand. Automation tends to reduce the demand for human skills in some tasks. Augmentation tends to increase the demand for humans who know how to use technology to complete tasks. New job creation tends to call forth new skills for new tasks.

In today's context, humans are generally better than machines at:

- complex thinking and problem-solving;

- planning;

- contextualized analysis;

- programming and machine operation/programming;

- tasks involving dexterity;

- human communication (flexible, empathetic communication);

- understanding the world;

- persistent memory and retrieving information based on memory; and

- personal and business services that require a human touch.

The workforce development system has three challenges. Ensuring the workforce is not exposed to automation risk, ensuring the workforce can use AI effectively (augmentation) and positioning the workforce to embrace new opportunities that arise as AI improves productivity.

Those are the skills that humans need to be successful in today's labour market. The fact is many human skills are not easily automated. Humans have ways of knowing, common sense and intuition that have evolved over thousands of years. Current versions of AI struggle with many of these truly human capabilities. But many jobs still have routine tasks that are more easily automated, especially those related to programming, researching, database management and the like.

The workforce development system has three challenges when faced with AI

1. Ensuring that the workforce is not exposed to automation risk;

2. Ensuring that the workforce has the skills to use AI effectively to perform tasks that are likely to involve some combination of the workforce and AI (augmentation);

3. Ensuring that the workforce is positioned to grasp new opportunities that arise as productivity growth increases income and creates new occupations (spillover).

Chart 1
Per Cent of Responding Organizations that Use AI in at Least 1 Business Function
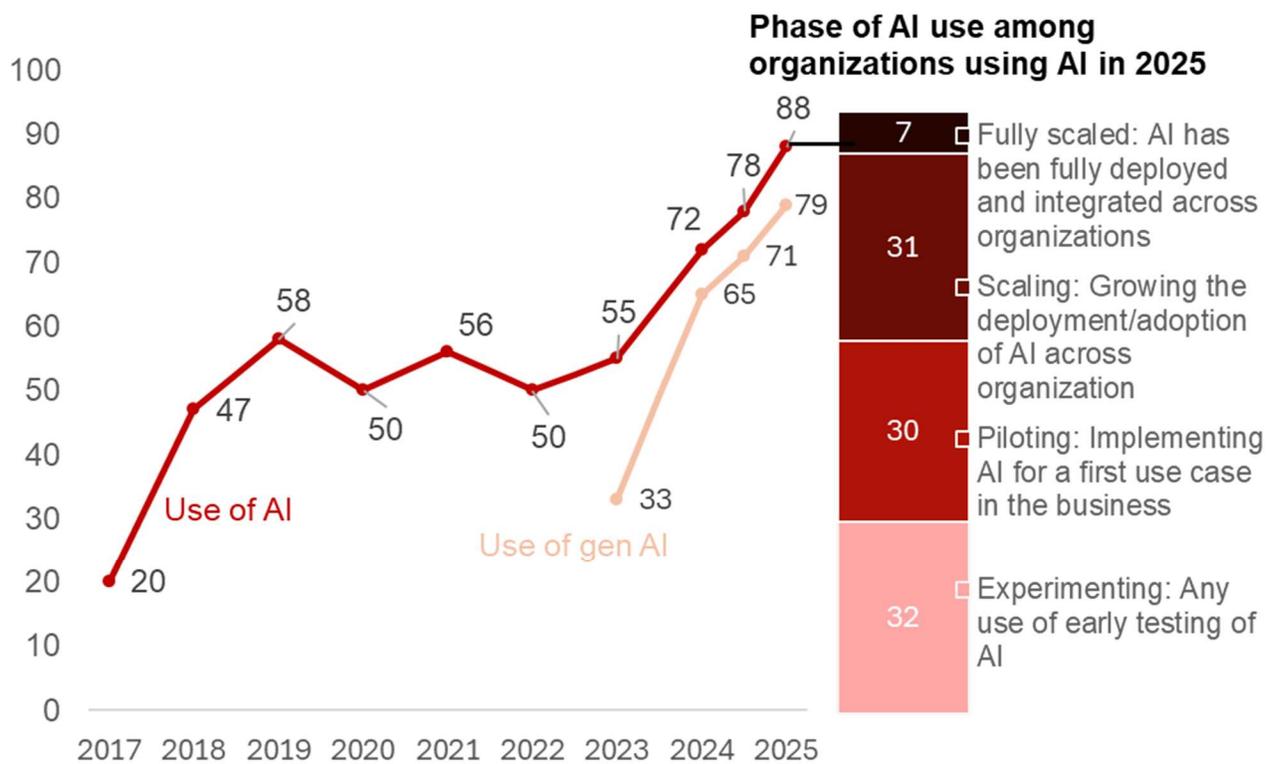
Source: McKinsey and Co.

Why AI Adoption is not Always Smooth Sailing

AI is the next wave of technological innovation that will impact the functioning of the economy. Its ultimate impact depends on how the technology evolves and how it is adopted, specifically how it is employed in the economy.

There is no doubt that AI technologies are being adopted. In Summer 2025, the consulting company McKinsey and Company conducted a global survey to determine use of AI. Over 80 per cent of respondents (n=1,993) were using AI in at least one business function (Chart 1) which was fairly consistent around the advanced economies of the world. The findings also show that most organizations are in a piloting phase of AI adoption.

Exhibit 4
Stages of AI Adoption

	Process	**Timelines**
Stage One: Shallow *Experimentation*	AI tools are used to improve productivity. For instance, people use chatboxes to do research.	First chatboxes released in November 2022 and has reached penetration in about 70 per cent of companies
	Jobs remain roughly the same. Modest change in productivity fails to encourage fundamental changes in workflows.	Chatboxes have seen the fastest adoption of any new technology.*
Stage Two: Deep *Workflow redesign*	Organizations start to think more strategically about changing workflows to accommodate AI capabilities. They also reassign work to account for the improvement in productivity from existing headcounts.	5-10 years
Stage Three: Transformative *Structural change*	Workflows are fundamentally re-engineered to take full advantage of AI capabilities. This changes organizational structure, management, the organization of people and the role of people versus machines. Labour is fundamentally restructure and released to new uses.	10 to 15 years

Source: Forum Research
*See Hamlin et. al.

The McKinsey sample is skewed toward large businesses which are more likely to use AI, so may not be considered representative of overall business use. Yet a broader survey from Stanford University found essentially the same adoption as 78 per cent of responding organizations in the US used AI. There undoubtedly is a high rate of

adoption among large businesses around the world and employers in the United States.[16]

The world economy is in a phase of shallow adoption and experimentation (Exhibit 4). Recall that organizations that have developed their workflow processes over years are unlikely to upend their approach unless there is incontrovertible evidence that the new way of doing things works much better than the old. The new must work much better because there are costs and risks to changing workflows from the existing approach.

Not only is AI in an experimental phase, but there is evidence that the existing experiments are not encouraging transformational adoption. An MIT study published in July 2025 found that despite $30–40 billion in enterprise investment in GenAI, 95 per cent of the organizations surveyed generated zero return from AI investment. About 5 per cent of AI projects create millions of dollars in value, while the rest have no impact. The high failure rate was ascribed to "brittle workflows, lack of contextual learning, and misalignment with day-to-day operations."[17]

Some large companies heralded their aggressive approach to AI, only later having to walk back their efforts in the face of implementation problems. For example, in 2024, SalesForce planned to reduce customer service headcounts from 9,000 to 5,000 through the use of Agentic AI. Yet by the end of 2025, SalesForce had realized that current versions of large language models were too unreliable to assume that level of responsibility.[18] As such, they are increasing headcounts and moving toward a more deterministic (i.e., algorithmic) approach to automation.

The fact is that it takes time to figure out how to get the most out of AI technologies. AI is far from perfect and needs oversight to ensure it produces the right results. Organizations cannot stop operations in the meantime— they have to pilot in real time, which is costly.

As Canadian economist and AI expert Dr. Rogayeh Tabrizi suggests most AI projects fail because the organizations piloting AI maintain barriers to successful adoption.[19] These include bad data design, poor incentives, weak governance, and general

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[16] Stanford University, 2025 Index Report.

[17] Challapally et. al. The GenAI Divide.

[18] Holmes and McLaughlin, Salesforce Executives Say Trust has Declined.

[19] Tabrizi, From Theory to Practice.

resistance to change. Under these conditions. AI has the effect of amplifying organizational noise as opposed to improving the signal.

The issue of resistance to change is particularly relevant because, for probably the first time in history, the proponents of a technology forecast widespread disruption and social dislocation. Forecasting that level of disruption does not seem to be the wisest strategy if you want to encourage adoption of your technology.

Organizations are inherently social and probably do not want to assume the reputational risk of widespread redundancies from their AI projects. They want to keep their employees happy and so may be reluctant to upset existing work teams for an uncertain gain. If the goal is reductions in headcounts, that is easier to manage through attrition, specifically gearing back new hires in the face of inevitable retirements. That explains why there is some concern that AI will affect the entry-level job market more than currently employed people. So, as we will explain later, existing employee attitudes toward AI are a key consideration as to whether it is adopted and how.

> *If the goal is to reduce headcount, that is easier to manage through attrition than layoffs. This means that AI may have more impact on the entry-level job market than current employees.*

Another rarely discussed influence on adoption is the competitive landscape. Some industries are highly competitive, meaning that they cannot afford to delay adoption if the technology becomes a competitive imperative. Delays in adoption in this instance will see late adopters lose market share. However, many parts of the economy are characterized by monopolistic and oligopolistic market structures where the competitive imperative is simply not as strong. We would expect organizations in these type of markets to have fewer incentives to adopt AI technologies, especially in an aggressive way.

A similar argument can be made about regulated occupations. Labour market regulation in the form of licensing and legal standards of practices may protect some

licensed occupations from facing the full force of AI adoption. This is especially true when occupational regulation is combined with regulated markets as it is in healthcare.

Why Productivity Gains Lag Adoption

In terms of its impact on the economy, we expect AI will follow the same pattern as the last wave of technological change, the digitization era circa late 1980's until 2000.

Growth economist Robert Solow is famous for his observation that you can see the computer age everywhere but in the productivity statistics. This observation was made in 1987 and came to be known as the Solow Paradox. Major technological innovations operate with a delay because adoption entails indirect costs that are not factored into the cost of the new technology.

Exhibit 5

The J Curve Effect on Productivity
Skewed measurement of productivity growth after a major technology is introduced
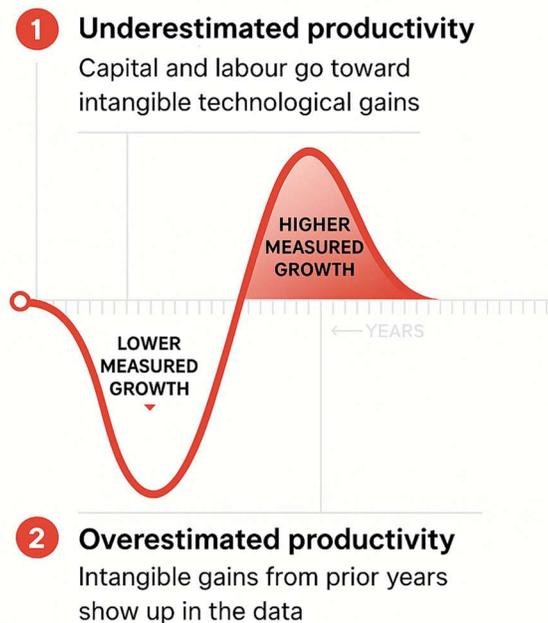
Source: Forum Research

Hence, productivity follows a J-curve configuration (Exhibit 5). The idea of the J-curve is that organizations productivity initially suffers in stage one (experimentation) and stage two (deepening) phases of adoption. In stage one, poorly designed and executed

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experiments with AI absorb resources and produce inconsistent results. However, a relatively small number of organizations are successful and their experiences shape the next stage. These successful models eventually become more widespread in the deepening phase. But here too, organizations have to make intangible investments to re-engineer workflows and in workforce training that are not adequately captured in the investment data.

Eventually these intangible investments pay off, resulting in a spike in productivity. For information and communication technologies (ICTs), many of the investments made in the 1980's failed to show up in the productivity statistics until the mid-1990's. It took 15 years to realize the full benefit of the technologies.

It is an open question as to whether AI investments will take this long to impact overall productivity. But models that factor in adoption challenges show modest productivity gains from AI. For instance, in 2024 MIT economist Daron Acemoglu used a task-based model to estimate total factor productivity gains over a 10 year period. He estimates that total factor productivity increased by between 0.55 per cent and 0.71 per cent over this period, which translates into GDP growth of roughly 1 to 2 per cent over the same time.[20] That is rather modest effect for a technology for whose proponents suggest will be transformational.

Conclusion

This section has reviewed the fundamentals of the relationship between AI technologies, the economy, and the labour market. At this point there is a yawning gap between the views of proponents, which lean toward the disruptive, and the actual data, which leans toward the mundane.

This is not to suggest that the spectacular promise of AI will not eventually be realized, but rather that is not going to happen as quickly as the proponents suggest. Despite the foreboding headlines forecasting widespread disruption, AI is not currently disruptive and, in our view, will not be truly disruptive in the next 5 years. The reason is that it takes much longer to reach a stage of transformational adoption than the proponents of AI technologies suggest.

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[20] Acemoglu, The Simple Macroeconomics of AI.

The short-term impact on the economy is driven by the nature of adoption and the underlying structure of the economy and the labour market. In the next section we review these parameters for the Canadian economy before moving on to an examination of the specific case of Chatham-Kent.

AI in the Canadian Context

Chapter Summary

➢ *The impact of AI depends on how it is adopted by employers. Canadian adoption lags that of the United States and large employers globally.*

➢ *Work in Canada has focused primarily on technical adoption. In this approach, if AI can perform tasks, it will. This differs from economic adoption, which factors in all the forces that drive actual real-world adoption.*

➢ *Assessments of technical adoption are useful as they show how AI may evolve over time. Economic adoption is about the current reality of adoption.*

➢ *We find modest aggregate employment impacts in Canada because adoption is low. But many industries and occupations are exposed to automation risk and may benefit from augmentation over time.*

Individual countries have unique approaches to AI adoption and associated impacts. This happens for two reasons. First, they have different industrial structures which expose them to different incentives. As we have shown, AI has a differential impact across industries and occupations. So, a country's industrial structure largely determines the incentives for applying AI technologies. Second, countries have different organizational cultures that are either open or averse to adopting new innovations like AI. Adoption of the technology is a precursor to workforce impacts. The pattern of adoption very much determines how the workforce is affected.

In this section we take these factors into consideration in an analysis of how the Canadian economy is likely to be affected by AI technologies. We consider adoption first and then work through the implications for the Canadian workforce. AI adoption changes the nature of the workplace. For the vast majority of workers, employer adoption practices set the context for their work experience.

Canadian Adoption Lags the US

One of the challenges to measure AI adoption in Canada is that AI investments are not parsed from general computer investments. Remember that estimates of productivity

depend on estimates of the capital stock. We simply do not know what the capital stock for AI investments is as they are a portion of a general category of investment that Statistics Canada calls "computer and computer periphery equipment and software".

That category of investment has been growing steadily for 40 years. It was less than 2 per cent of all business and government investment in 1985 and in 2025 was 12.4 per cent.[21] These investments are being used to automate and augment workflows. Although we know computer technologies are being used, we cannot split out the share attributable to AI.

One way around this identification problem is to indirectly measure AI investment intentions through separate surveys. Statistics Canada has been doing this through its quarterly Survey of Business Conditions. The most recently available data for the third quarter of 2025 clearly show that Canada significantly lags the United States in adoption.

Recall that Stanford University found that about three-quarters of US organizations had adopted AI. That finding sharply contrasts with the Statistics Canada survey of Canadian businesses in the second quarter of 2025, which found that only 14.5 per cent of businesses intended to use AI in the production of goods and services in the following 12 months. The Canadian number was only up 4 percentage points from a year earlier, suggesting sluggish Canadian adoption of AI.

It may be that Statistics Canada's way of measuring adoption is different than that of Stanford University. But it's also doubtful that definitional differences could completely account for such a large gap. Moreover, this adoption gap is consistent with the last wave of technological innovation, digitization. There is a long history of Canadian companies being conservative when adopting new innovations. This also is seen in their research and development investments, which also lag the US.[22]

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[21] Statistics Canada. Table 36-10-0108-01 Gross Fixed Capital Formation, Quarterly, Canada.

[22] See Grant, Financing Innovation by Established Businesses in Canada.

Table 1

Per Cent of Respondents Reporting Current and Planned Use of AI in the Production of Goods and Services

	2024	2026 (Planned) %	Change 2024-2026
All industries	6.1	14.5	8.4
Mining, quarrying, and oil and gas extraction	1.6	3.4	1.8
Agriculture, forestry, fishing and hunting	0.7	4.9	4.2
Retail trade	4.2	5.7	1.5
Transportation and warehousing	2.3	6.6	4.3
Manufacturing	3.7	7.2	3.5
Wholesale trade	8.1	7.8	-0.3
Other services (except public administration)	3.9	8.7	4.8
Construction	1.9	9.2	7.3
Administrative and support, waste management and remediation	10.5	11.6	1.1
Accommodation and food services	0.9	14.8	13.9
Arts, entertainment and recreation	7.7	15.2	7.5
Health care and social assistance	5.9	23.2	17.3
Real estate and rental and leasing	8.1	24.4	16.3
Professional, scientific and technical services	13.7	26.3	12.6
Finance and insurance	10.9	31.5	20.6
Information and cultural industries	20.9	38.6	17.7

Source: Statistics Canada, Business Condition Survey, Table: 33-10-1004-01 and Table: 33-10-0825-01

It is worth noting that the adoption rate varies considerably by industry, which is consistent with other international surveys (Table 1). This buttresses our notion that AI has differential effects on sectors and that a country's industrial structure shapes AI adoption.

Information-intensive industries clearly have more use for AI because it is core to their operations, hence the higher rates of adoption in areas such as cultural industries, finance and insurance and engineering and technical services. Perhaps surprisingly, the intentions among industries such as manufacturing and wholesale trade are not only low in the most recent survey but are lower than a year earlier. That may very well reflect a dissatisfaction with initial experiments in AI usage that we alluded to earlier.

Table 2

Per Cent of Respondents Planned Use of AI and Forum Research's Forecast of AI Use

	2026 Planned	2031 Forecast %	Potential
All industries	**14.5**	**27.2**	**29.7**
Agriculture, forestry, fishing and hunting	4.9	16.4	20.3
Mining, quarrying, and oil and gas extraction	3.4	14.9	30.8
Construction	9.2	20.7	21.9
Manufacturing	7.2	18.7	38.7
Wholesale trade	7.8	19.3	39.2
Retail trade	5.7	17.2	27.3
Transportation and warehousing	6.6	18.1	26.9
Information and cultural industries	38.6	50.1	64.3
Finance and insurance	31.5	43.0	47.5
Real estate and rental and leasing	24.4	35.9	36.5
Professional, scientific and technical services	26.3	37.8	45.1
Administrative and support, waste management and remediation	11.6	23.1	28.6
Health care and social assistance	23.2	34.7	38.6
Arts, entertainment and recreation	15.2	26.7	41.7
Accommodation and food services	14.8	26.3	32.6
Other services (except public administration)	8.7	20.2	26.8

Source: Forum Research, Statistics Canada, Business Condition Survey, Table: 33-10-1004-01 and Table: 33-10-0825-01

We calculated the potential use of AI by sector for the next five years and compared the current usage to this potential (Table 2). We believe the potential to be the number of organizations that are currently using AI plus the number who recognize its potential but who face adoption barriers.

We leave out those organizations who do not see the technology as relevant to their operation. Over 65 per cent of all respondents to Statistics Canada's survey indicated that reason. [23]

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[23] Statistics Canada. Table 33-10-1046-01 Reasons business or organization does not plan to use artificial intelligence (AI) in producing goods or delivering services over the next 12 months, third quarter of 2025. 78% of respondents not currently using AI reported that AI is not relevant to production of goods and services.

Using these factors and recent adoption trends, we forecast where we believe adoption is headed by 2031. As barriers to adoption fall, we expect adoption to reach its potential which would see Canada's adoption rate almost double in the next 5 years. This exercise shows that information and cultural industries, finance and insurance,

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As barriers to adoption fall, we expect adoption to reach its potential, which would see Canada's adoption rate almost double in the next 5 years.

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professional and scientific services are most likely to reach their potential in the next 5 years.

We think this is a conservative estimate of adoption because many organizations that do not see it as relevant today will be forced to if their competition adopts it.

Occupational Effects are Highly Differentiated

We have suggested that occupational effects are more relevant to workforce development than industry effects. The workforce development system is mainly organized around occupations. For instance, the post-secondary and apprenticeship systems are occupationally based. So, it behooves us to consider how industry adoption affects occupations from both automation and augmentation perspectives.

Statistics Canada has published studies which attempt to show occupational exposure to either automation or augmentation. Occupations exposed to automation are more likely to see job losses and workflow redesign. Meanwhile those exposed to augmentation are likely to see productivity gains and higher demand for labour. These scenarios present different challenges for the workforce development system which we discuss later in the report.

In terms of automation, occupations with a high share of tasks dedicated to data creation, management, manipulation and presentation are at a very high risk of having those tasks automated (Chart 2). AI can already do a reasonably good job of performing many of those tasks. The main issue is reliability. So now those occupations are expected to provide oversight of AI work product to ensure that it conforms to their organization's standards.

Chart 2

Per Cent of Jobs with High Exposure to Task Automation, by Occupation, Canada

Professional occupations in education services
| 12 |

Engineers
| 13 |

Technical occupations in health
| 13 |

Sales and service supervisors
| 19 |

Professional occupations in law and social community and government services
| 24 |

Architects and statisticians
| 25 |

Support occupations in law and social services
| 32 |

Technical occupations related to natural and applied sciences
| 34 |

Occupations in art culture recreation and sports
| 46 |

Office support and co-ordination occupations
| 76 |

Service representatives and other customer and personal services occupations
| 77 |

Administrative occupations in finance insurance and business
| 82 |

Sales representatives and salespersons in wholesale and retail trade
| 89 |

Computer and information systems professionals
| 100 |

Professional occupations in business and finance
| 100 |

Source: Statistics Canada (2024) Experimental Estimates of Potential Artificial Intelligence Occupational Exposure in Canada [Data Table]
* *High risk of automation implies a 70% or higher chance of a job becoming automated in the future.

The impact on computer and information systems is an interesting case. For perhaps the first time, the technology industry has created a product that will likely reduce employment *in their own sector*. That was definitely not the case in the digitization era which created thousands of technology jobs. In general, back-office technology functions are very likely to be increasingly automated over time.

Yet it is also instructive to consider the occupations which are not as likely to be automated. AI is unlikely to touch occupations where human tactile skill and emotional intelligence is at a premium. We see that service occupations in health, education, social

services, recreation, law and personal services are unlikely to be automated. In fact, given the current stress on public services, AI is much more likely to improve workflow than reduce headcount. The same argument can be used to other parts of the economy that struggle with labour shortages.

Chart 3

Per Cent of Jobs with High Exposure to Task Augmentation, by Occupation, Canada

Sales representatives and salespersons in wholesale and retail trade
11

Technical occupations in health
18

Administrative occupations in finance insurance and business
18

Sales and service supervisors
27

Occupations in art culture recreation and sports
33

Support occupations in law and social services
34

Technical occupations related to natural and applied sciences
40

Architects and statisticians
75

Professional occupations in law and social community and government services
76

Professional occupations in health except nursing
86

Management occupations
87

Engineers
87

Professional occupations in education services
88

Physical and life science professionals
99

Professional occupations in nursing
100

Source: Statistics Canada (2024) Experimental Estimates of Potential Artificial Intelligence Occupational Exposure in Canada [Data Table]
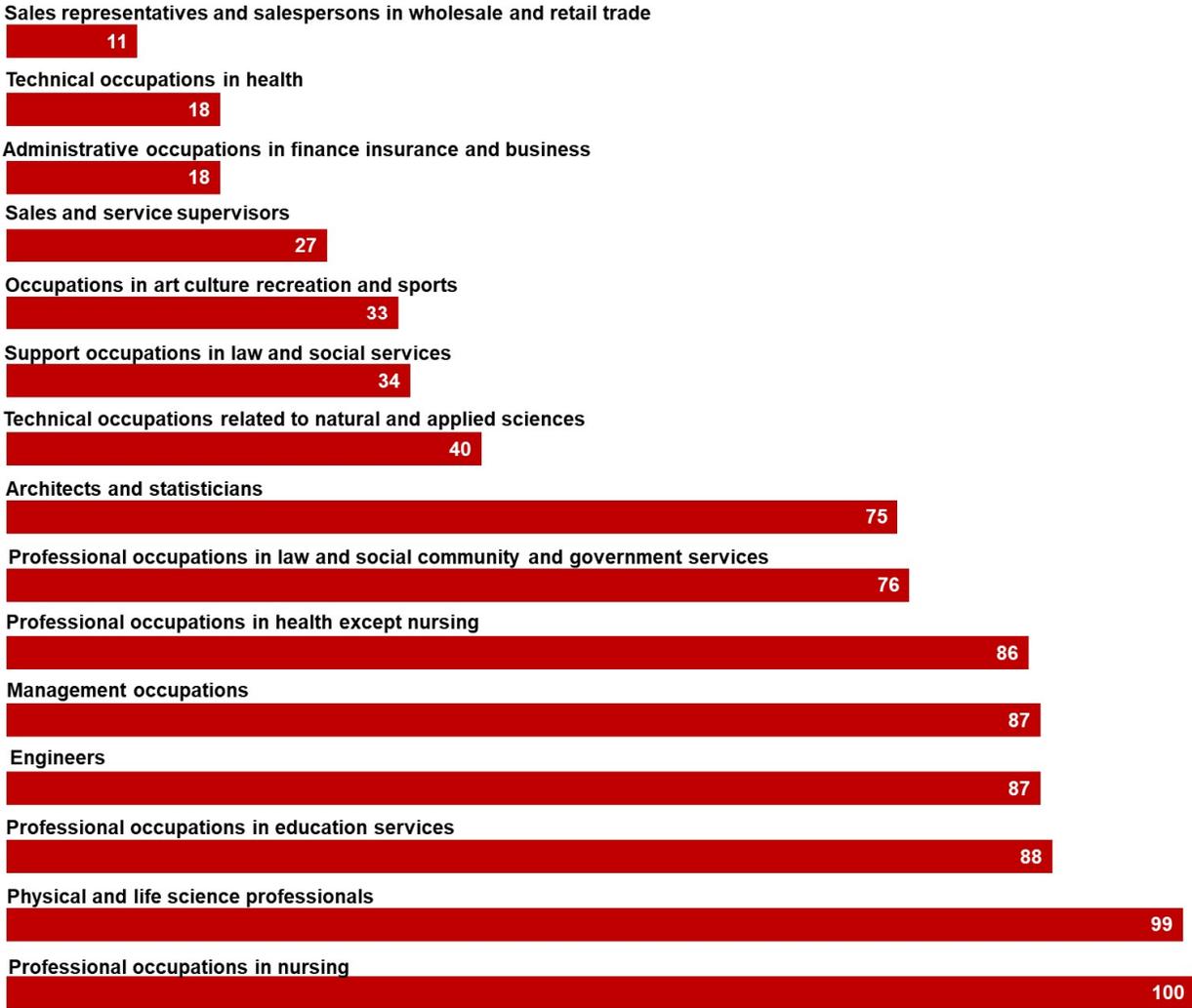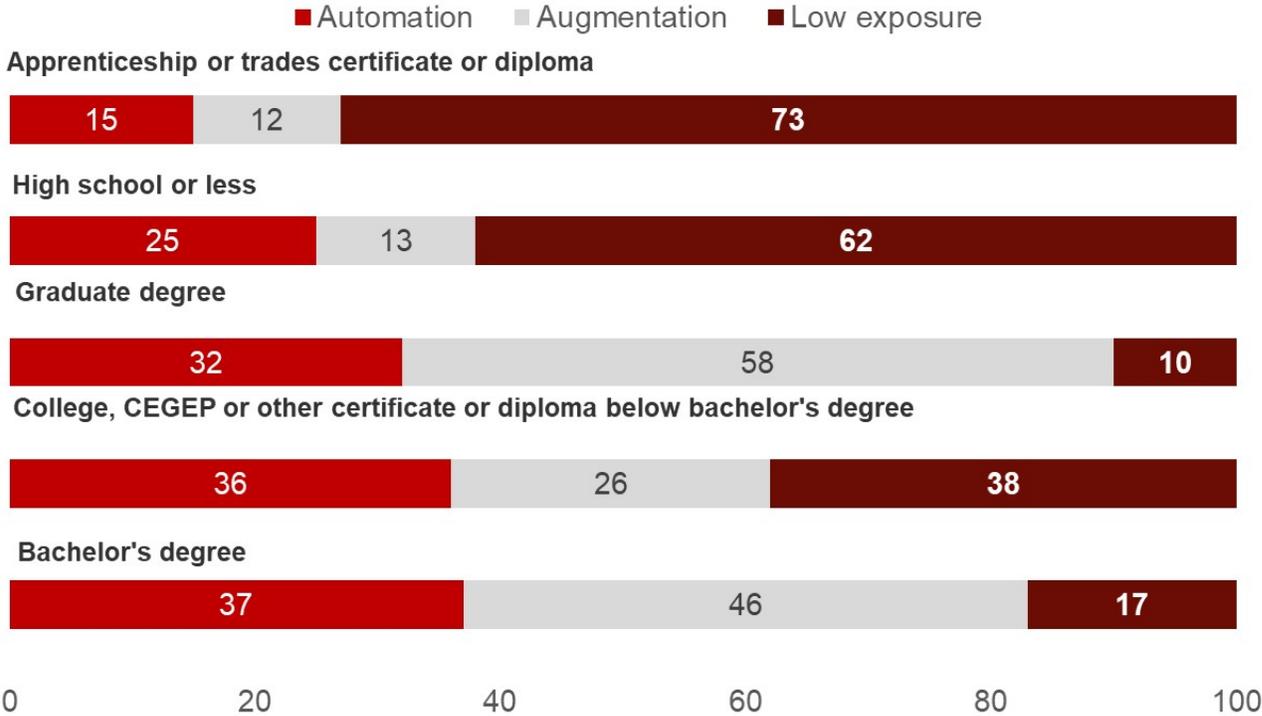
We can see this in the findings on augmentation (Chart 3). Health care, in particular, has well-known queuing problems. AI has the potential to transform in both patient record management, diagnostics and treatment. The service levels in nursing, physician and

surgical care have the potential to be significantly improved through AI. Essentially any profession that combines high level analytics with an essential personal service is likely to be greatly improved through AI. In most personal and professional services, people want to interact with other people, not robots. AI frees these occupations from mundane tasks so that they can spend more time with people.

One rarely discussed aspect of AI is its impact on skilled labour. Traditionally, skilled labour has been defined by the years of education required to enter an occupation. That is a rough proxy for "skill" as actual skill, in terms of competency to perform tasks at a high level, is developed mostly through workplace experience rather than time spent in school. But the years of schooling set people up to enter occupations that develop their skill in a workplace setting.

Chart 4
Per Cent of Jobs with Exposure to Automation and Augmentation, by Educational Attainment, Canada

■ Automation   ■ Augmentation   ■ Low exposure

Apprenticeship or trades certificate or diploma

Automation	Augmentation	Low exposure
15	12	73

High school or less

| 25 | 13 | 62 |

Graduate degree

| 32 | 58 | 10 |

College, CEGEP or other certificate or diploma below bachelor's degree

| 36 | 26 | 38 |

Bachelor's degree

| 37 | 46 | 17 |

0   20   40   60   80   100

Source: Statistics Canada (2024) Experimental Estimates of Potential Artificial Intelligence Occupational Exposure in Canada.

Traditionally, a major concern of the workforce development system has been the plight of the less formally educated, who traditionally face fewer job prospects and lower pay.

But AI is turning that on its head. According to Statistics Canada, higher levels of education are most exposed to disruption through AI (Chart 4). This is a unique aspect of AI— it exposes the higher educated to the most risk. Lower educated people tend to go into service occupations where human-to-human contact or manual labour is still prized. Higher educated people tend to be in jobs that require tasks that are "analytical" in nature, and those analytical capabilities are being taken over by AI.

Forum's Calculation of Labour Market Impact

Earlier, we noted the essential difference between economic adoption and technical adoption. Economic adoption factors in all the things that companies consider before they incorporate new technology into their workflow, including indirect costs. Employers tend to do a form of cost-benefit analysis when deciding whether to adopt new technology.

Technical adoption essentially ignores these calculations and focuses on the workflow tasks that AI is theoretically capable of assuming. Typically, in these studies, jobs are broken down into tasks using a typology like the aforementioned O*NET. If AI can assume those tasks, then the assumption is that employers will adopt AI to take over those tasks. That is essentially the approach Statistics Canada took in their occupation analysis that we just reviewed.
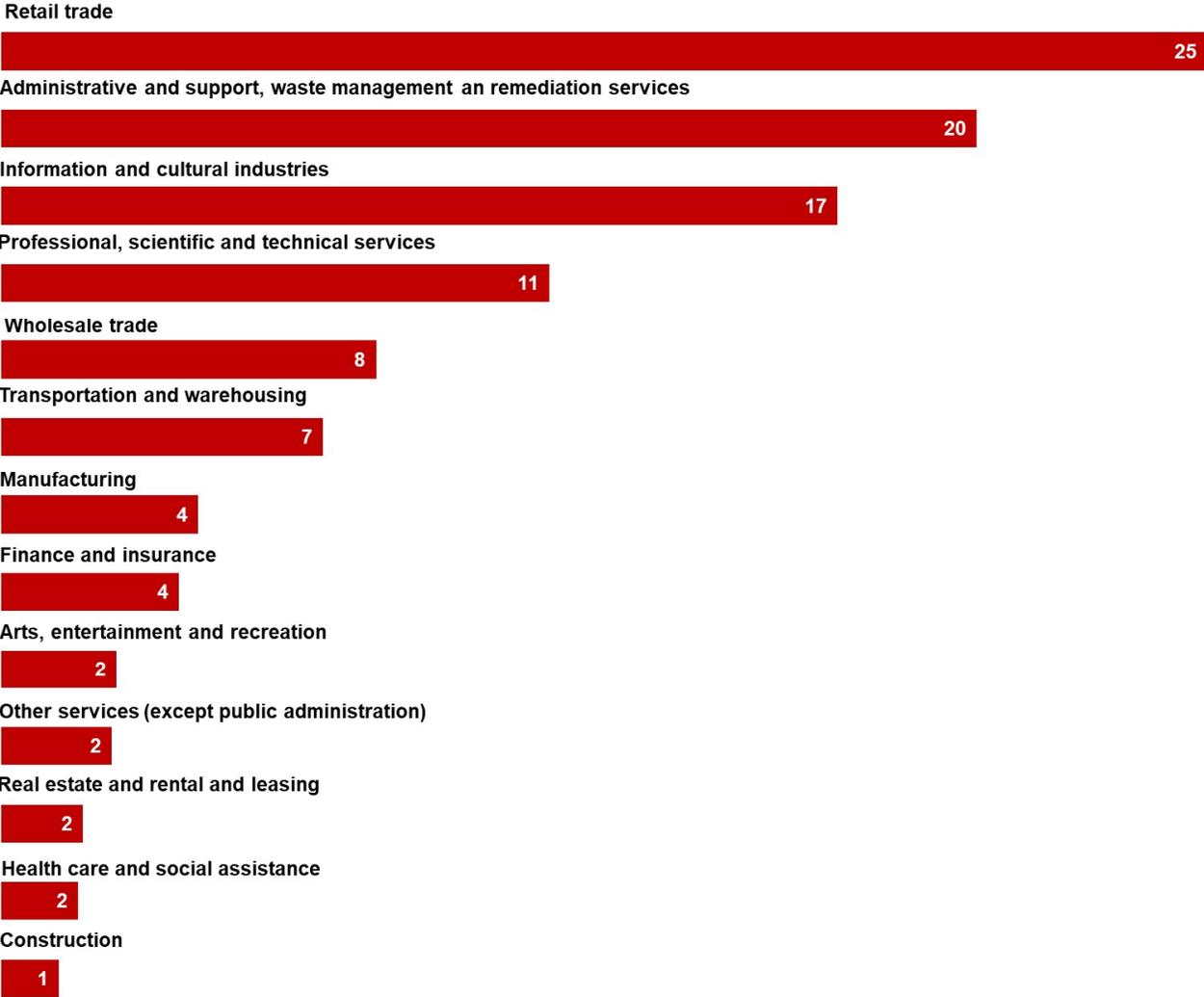
These very different approaches to adoption help explain why different task-based studies will produce very different results. The analyses tend to be assumption-driven by imposing adoption in the model in a, frankly, arbitrary way.

We prefer to base our calculations of employment impact on actual adoption and employers' views of how adoption affects their workforce. Conveniently, Statistics Canada asks a direct question about how employers view the relationship between AI adoption and employment. That allows us to model the workforce impacts directly based on employer responses as opposed to technical theoretical adoption assumptions.

To be sure, we also need to make our own assumptions because Statistics Canada's question is a bit ambiguous. Statistics Canada asks employers whether they think their AI investments will have a positive, negative or no impact on employment. They never ask *how* positive or *how* negative.

Per Cent of Businesses Who Have Adopted AI Who Think it Will Increase Employment

Retail trade
| | 25 |

Administrative and support, waste management an remediation services
| | 20 |

Information and cultural industries
| | 17 |

Professional, scientific and technical services
| | 11 |

Wholesale trade
| | 8 |

Transportation and warehousing
| | 7 |

Manufacturing
| | 4 |

Finance and insurance
| | 4 |

Arts, entertainment and recreation
| | 2 |

Other services (except public administration)
| | 2 |

Real estate and rental and leasing
| | 2 |

Health care and social assistance
| | 2 |

Construction
| | 1 |

Source: Statistics Canada. Table 33-10-1047-01 Business' or organization's expectation of the impact of artificial intelligence (AI) use on total employment, third quarter of 2025

In our approach, we use the answer to that question to generate an estimate of likely employment impacts for Canada. Here is the relevant data from Statistics Canada's latest Survey of Business Conditions:
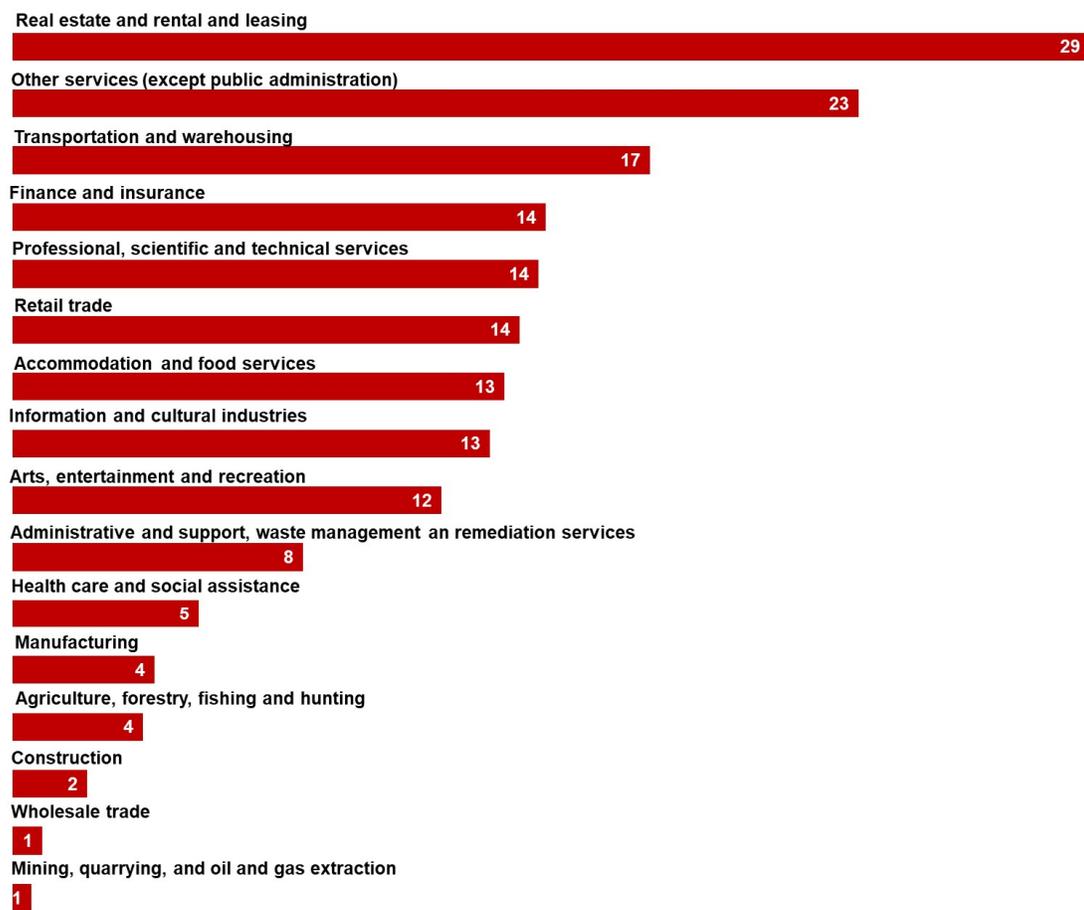
- 69.9 per cent of businesses expect to have no impact on employment in the third quarter of 2025, largely unchanged from 2024;

- 7.3 per cent of businesses expect to increase employment, down from 11.1 per cent the year before;
- 12.2 per cent expected to decrease employment, up from 2024; and
- The remaining 10.6 per cent of respondents did not know how it would affect employment.

Charts 5a and 5b show the industries that expect to increase employment because of AI compared to the industries that expect to decrease employment due to AI.

Chart 5b

Per cent of Business Who Have Adopted AI Thinking it Will Reduce Employment

Real estate and rental and leasing — 29

Other services (except public administration) — 23

Transportation and warehousing — 17

Finance and insurance — 14

Professional, scientific and technical services — 14

Retail trade — 14

Accommodation and food services — 13

Information and cultural industries — 13

Arts, entertainment and recreation — 12

Administrative and support, waste management an remediation services — 8

Health care and social assistance — 5

Manufacturing — 4

Agriculture, forestry, fishing and hunting — 4

Construction — 2

Wholesale trade — 1

Mining, quarrying, and oil and gas extraction — 1

Source: Statistics Canada. Table 33-10-1047-01. Business or organization's expectation of the impact of artificial intelligence (AI) use on total employment, third quarter of 2025

We developed a model to calculate the likelihood of job gains and losses based on a combination of actual adoption and employer views of impact of adoption on jobs.[24]

Table 3

Forum's Model Results of AI's Impact on Employment, Canada, 2031

	By 2031	
	(count, jobs)	% of Total
Business adoption		
Total businesses in Canada	1,021,815	
Businesses expected to have adopted AI technologies	303,752	29.7
Businesses by expected impact on employment		
Decrease	40,095	3.9
Increase	19,136	1.9
Impact on Employment		
Total employment	22,914,000	
Average Employment/Business	22	
Jobs at adopting businesses	6,811,585	29.7
Persons employed by businesses expected impact on employment		
Decrease	899,129	3.9
Increase	429,130	1.9
Jobs with high exposure to automation	287,721	32.0
Jobs with high exposure to augmentation	124,448	29.0
Total Impact on Employment	**163,274**	**0.7**

Source: Forum Research, based on Statistics Canada , Table: 33-10-1047-01 (Business Conditions Survey, AI impact on employment), Table: 33-10-1046-01 (Business Condition Survey, Reasons Not Planning to use AI),Table: 33-10-1004-01 (Business Conditions Survey, AI Use, Q3 2025),Table: 33-10-0825-01 Business Conditions Survey, AI Use, Q3 2024), 33-10-0270-01 (Active Businesses) and Table 14-10-0023-01 (Labour Force Data), Experimental Estimates of Potential Artificial Intelligence Occupational Exposure in Canada [Data Table]

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[24] Anticipated job losses are calculated at the industry level. First, the model estimates the number of businesses that can be expected to adopt AI in the next five years and the total number of people they employ. Then, we break those into businesses that can be expected to decrease employment and those that will increase employment. For businesses that intend to reduce employment, we apply share of jobs (continued from previous page) that are exposed to automation by industry to their estimated employment levels to get a total reduction in jobs. We then apply the share of jobs that will be augmented by AI to estimated employment levels at businesses expecting to increase employment to get an estimate of the number of jobs that will be added to the workplace.

Table 3 presents the findings of our model. Canada will have over 1 million employer businesses in 2031. Given current adoption trends, only about a third of those jobs are exposed to risk due to AI adoption. Based on our forecast of adoption for 2031 and employers' views of how AI impacts employment, we calculate job losses of over 287 thousand through automation. This is offset somewhat by job gains of over 124 thousand as AI makes some jobs more productive.

The net result of AI is modest as the net job losses are less than 1 per cent of Canadian employment.

Conclusion

This section has reviewed the evidence as it pertains to AI impact on the Canadian labour force. Clearly that impact depends heavily on the level and nature of adoption among Canadian employers. Canadian employers have a track record of being relatively slow to adopt new technology and this appears to be the same with AI. Canadian adoption rates are considerably lower than in the US and are not growing as rapidly. Clearly, sector differences in incentives to adopt AI tend to be reflected in fairly large and significant inter-sectoral rates of adoption.

Of course, adoption trends shape the workplace and the demand for labour. In some instances, sufficient tasks are automated for employers to redefine jobs away from those tasks, leading to reduced employment in those occupations. Given the slow rate of adoption, those job losses are not great in the context of the larger Canadian labour market and are easily managed through attrition versus widespread layoffs. In addition, the job losses are mitigated somewhat by job gains as AI improves the productivity of some occupations, making them more valuable to employers.

Although the net effect is not great, that does not really matter for local workforce development for two reasons. First, workforce development is primarily organized around occupations and secondarily around industries. When there are large differences in the occupational effects there are consequently significant implications for workforce development even if the net impact is zero.

Second, if the local workforce development system is not up to the task of adjusting to AI technology, other local jurisdictions may be up to this task, so responsive jurisdictions gain the employment benefits of AI over the laggards. A local jurisdiction exposes itself to hollowing out if it does not adjust. So even if the net effect of AI in say,

Ontario, is neutral or slightly positive, we are likely to observe inter-jurisdictional differences within Ontario between jurisdictions whose workforce development systems adapt well and those that do not.

This is why the special case of Chatham-Kent, as jurisdiction with its own workforce dynamics, is so important. We turn to that case now.

AI and Chatham-Kent

Chapter Summary

➢ *Chatham-Kent has a higher rate of AI adoption than Canada. They are about twice as likely to say that they will implement AI technologies in the next 12 months than employers in Canada overall.*

➢ *Chatham-Kent employers are in the early stages of AI adoption. It is primarily being used as an analytical tool. There are some initial experiments where it is being used to directly service clients and to improve workflows.*

➢ *Even though adoption is relatively high, the structure of the Chatham-Kent workforce exposes it to less automation risk than other jurisdictions.*

➢ *Chatham-Kent employers see AI has a productivity enhancement tool as opposed to a way to significantly reduce headcounts over the next 5 years.*

➢ *Employees are generally skeptical of AI impact on the workforce. But as they move from general awareness to actual use, attitudes toward AI become more favourable and they become less concerned about it being disruptive.*

This report's aim is to determine the impact of AI technologies on Chatham-Kent's workforce. Although it may be instructive to reflect on global or Canadian trends, these simply provide a context for Chatham-Kent. AI has a differential impact on local labour markets because local markets have unique adoption, sector and occupational characteristics that may deviate from the overall Canadian economy.

There is no "Canadian" labour market *per se*. The Canadian labour market is an amalgamation of local markets. Labour markets are organized locally or regionally because people tend to live in the communities where they work and, unlike in the US, Canadians rarely move to jobs outside their region for work.

Employers tend to recruit locally and have well-developed relationships with local educational institutions, meaning the school-to-work transition is also localized. Chatham-Kent's experience is highly relevant to the challenges that workforce development systems in Canada and elsewhere face due to AI.

That explains why most of our primary research effort is dedicated to understanding Chatham-Kent from the perspective of employees, employers and workforce development organizations. This primary research is relevant to the way AI is likely to be adopted in Chatham-Kent and the appropriate response of the Chatham-Kent workforce development system.

AI Adoption in Chatham-Kent

Following the same logic as our analysis of Canada, we consider AI adoption in Chatham-Kent first and then work through the implication for the workplace and later, workforce development.

Chatham-Kent Workforce Planning Board added a question on AI adoption to its Fall 2025 EmployerOne survey. It followed the wording of Statistics Canada's adoption question which allows us to compare the EmployerOne data with Statistics Canada's national data.

Perhaps one of the more surprising findings from our investigation is that Chatham-Kent has a *higher* AI adoption rate than Canada overall. This finding is based on an analysis of Chatham-Kent's employer survey that was further verified by Forum Research's interviews with the Chatham-Kent employers.

Chatham-Kent employers are over twice as likely as Canadian employers to say that they will implement AI technologies in the next 12 months.

Chatham-Kent's employers are over *twice as likely* as Canadian employers to say that they will implement AI technologies over the next 12 months. About 40 per cent of Chatham-Kent employers are implementing AI technologies compared to 15 per cent Canada wide. Chart 6 shows significant variation in adoption by sector. For instance, transportation and warehousing, manufacturing, professional services and administrative services all have adoption rates that are far greater than the national average.

Interestingly, Forum Research's household survey of employed Chatham-Kent residents found that about a quarter of respondents used AI at work. This suggests that

actual use by employees may differ somewhat from overall adoption because sector level adoption is not weighted by employment. Another reason employer-level adoption may not strictly align to employee adoption is because AI may be used to either automate processes that were already automated (deepening automation) or create new automated processes that did not exist. This means AI may be added to the capital part of the production process without employees using it directly.

Chart 6

Business Intent Use AI Technologies in the Production of Goods and Delivery of Services in the Next 12 Months, Chatham-Kent Compared to Canada (Per Cent of Respondents)
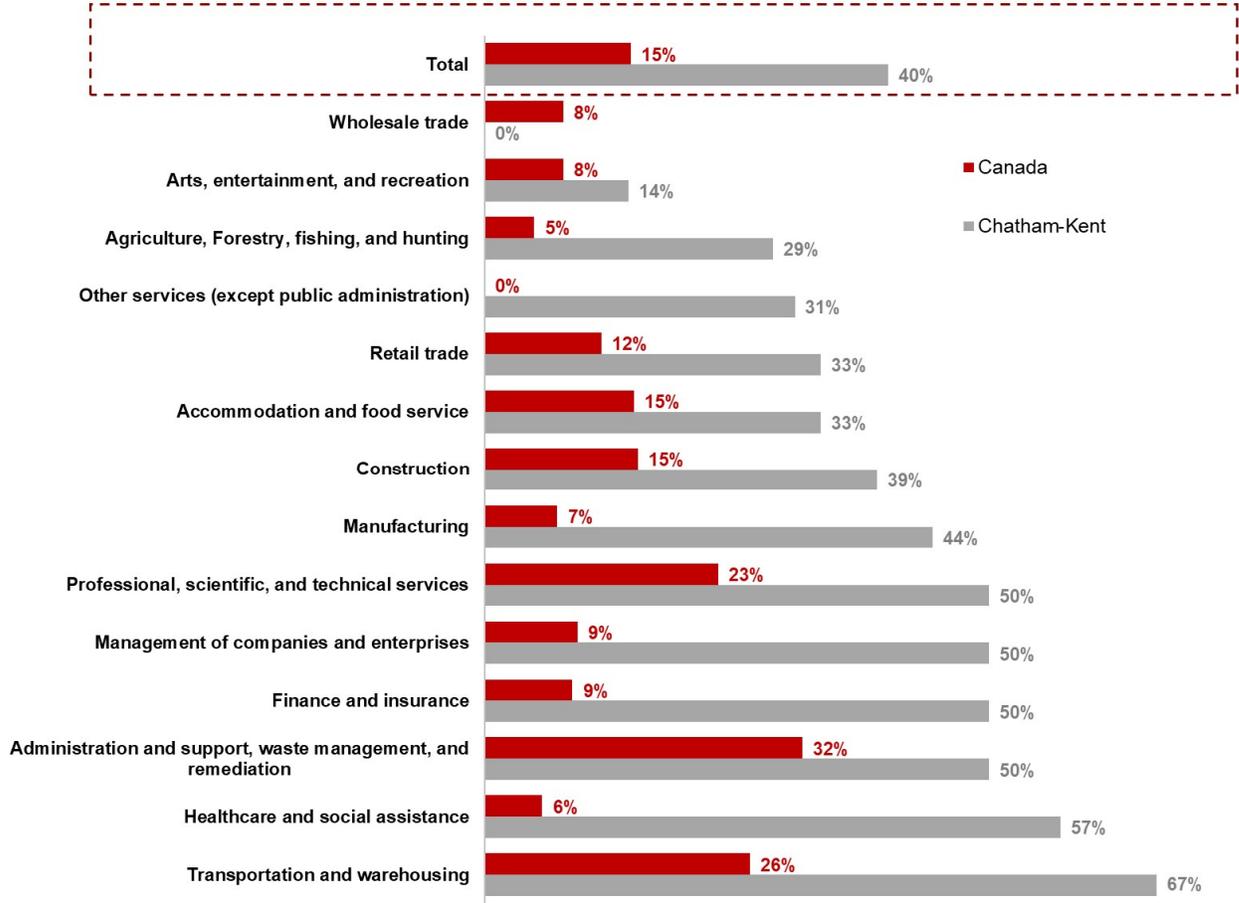
Source: Statistics Canada. Table 33-10-1045-01 Use of artificial intelligence (AI) by businesses or organizations in producing goods or delivering services over the next 12 months, third quarter of 2025. Chatham-Kent EmployerOne Survey, 2025.

For instance, one Chatham-Kent employer told us about how they use AI to improve quality control (QC). This employer was in the home service business. They use AI on tablets to record the interaction between service technicians and customers. AI would then analyze the call based on the employer's QC metrics and provide improvement advice. This was a task that used to be performed by a supervisor undertaking periodic audits of calls. Hence AI was being used to create a new process which freed the supervisor to focus managerial effort elsewhere.

In fact, our interviews revealed a wide range of AI applications being used in Chatham-Kent today and some interesting speculation on what could be used in the future (Exhibit 6).

Exhibit 6
How AI is being Used in Chatham-Kent

Today

Chatbots for summarizing documents

GenAI to create content for emails

Office efficiency in manufacturing

Quality control

Patient record management

Design of marketing programs

Agentic AI in customer service/ call centre

Safety monitoring in trucking

The Future

Software coding

AI robotics in manufacturing

AI autonomous vehicles

Improving managerial efficiency through process analytics

Deriving intelligence from internal data

Source: Forum Research Employer Interviews

The Chatham-Kent EmployerOne survey provides further details of how Chatham-Kent employers use AI today (Chart 7). AI is being used in the workplace as analytical and production tool. The more advanced uses are when AI moves from supplementary functions to more integral to the production of a good or service. A good example of the

latter is Agentic AI being used to address customer queries. In this instance, AI is not merely a back-office tool but a method for directly serving customers.

Based on our analysis of AI's potential by industry and Chatham-Kent's industrial structure and actual adoption, we forecast that, given current AI technology and adoption, that Chatham-Kent will come very close to reaching its potential AI adoption by 2031. We use the same methodology to calculate the potential in Chatham-Kent as we did for Canada.
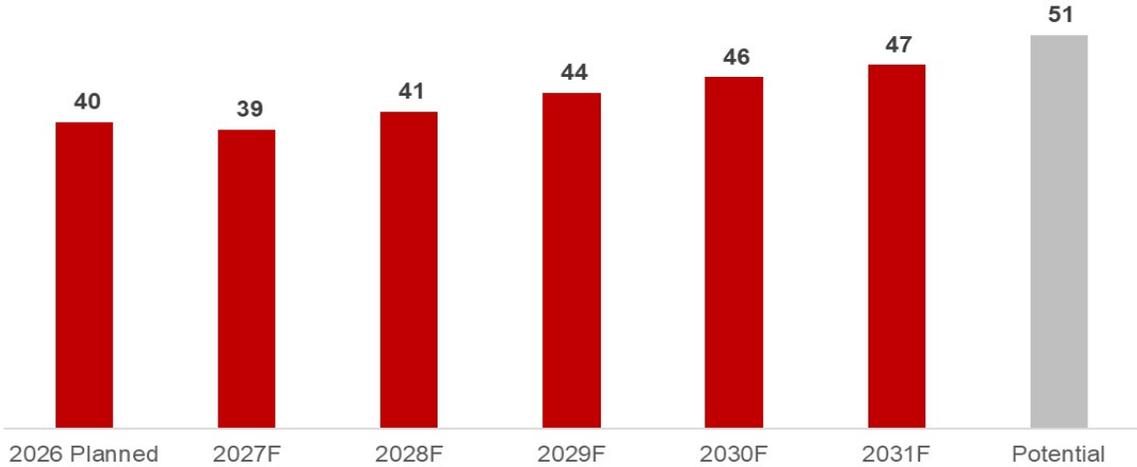
Chart 7
Per Cent of Respondents using AI, by Type of AI Use*, Chatham-Kent
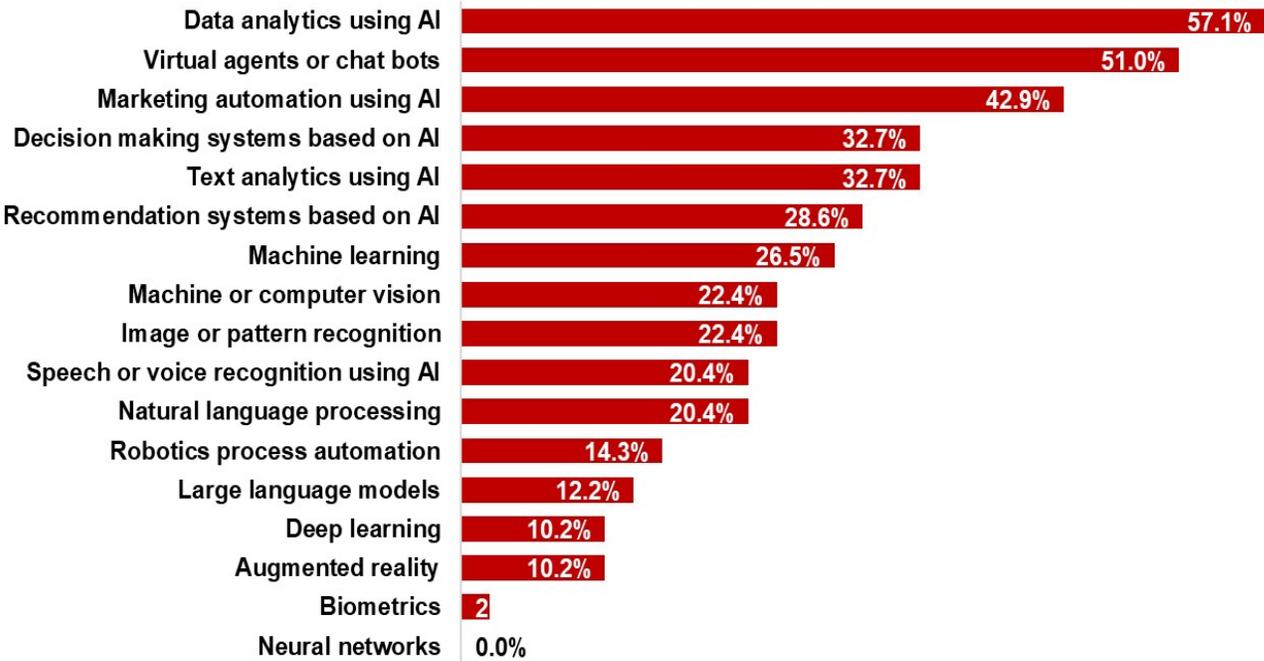
Source: Chatham-Kent EmployerOne Survey, 2025
*Will sum to greater than 100% because respondents may be using multiple AI tools.

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Chart 8

Per Cent of Businesses that Will Use AI Technologies in the Production of Goods and Delivery of Services, Chatham-Kent, 2026-31

Source: Source: Forum Research calculation, based on Chatham-Kent EmployerOne Survey and Statistics Canada. Table 33-10-1046-01 Reasons business or organization does not plan to use artificial intelligence (AI) in producing goods or delivering services over the next 12 months, third quarter of 2025

AI Adoption Challenges in Chatham-Kent

It is fair to say that AI adoption, although relatively high compared to Canada overall, is still in a relatively experimental phase in Chatham-Kent, which is consistent with how it is being implemented elsewhere around the world. The ongoing development of AI in Chatham-Kent will require employers to deal with a variety of challenges as adoption becomes deeper and more transformative.

AI Governance and System Design

All our employer interviewees recognized that AI needs to be managed because it is a largely unconstrained technology with no human-like common sense. This may mean that AI gets used in ways that are counter to sound client management or, in the worst case or ethical management. Moreover, AI is well known to occasionally produce inaccurate or otherwise baffling results (also known as hallucinations). Hence, AI cannot be left to its own devices and employees must provide oversight.

Chatham-Kent employers understand that AI systems need guardrails to ensure that the organization gets the most out of the technology while mitigating risks. They do so through AI governance systems and policies. The surprising thing was how quickly employers put these governance systems into place. Many times governance and policy would be put in place in weeks or a few months. The speed at which employers operate has been facilitated by numerous sources for guidelines, including ones created by Ontario and Canadian governments. The point is that AI governance is key, but can be addressed expeditiously.

Employers also manage AI in other ways. For instance, we interviewed a social services manager who limited employees to 3 GenAI products. This helped the employer to stay on top of things and offer support in an organized way.

Another aspect of governance is privacy and confidentiality. Large Language Models feed on new information and users may not always be aware that the information they put into an AI product becomes part of the information set of the model. As such, it is not appropriate to put private information into, say, a chatbot. One Chatham-Kent consultant promoted innovative ways to deal with confidentiality, including AI products that were ring fenced to run on local servers versus the standard cloud computing approach.

Dealing with Employee Resistance

One of the unusual things about AI is the way its proponents sell it as a source of widespread disruption. It seems every day there is another media report about how AI will end employment as we know it.

AI proponents' steady drumbeat forecasting radical change has understandably created angst. We see this in our household survey (Chart 9a). The net impression of AI is somewhat negative given that the sum of the somewhat negative and very negative respondents (37 per cent) is greater than the sum of the somewhat positive or very positive respondents (23 per cent). Even then, only 14 per cent of respondents thought that AI would worsen the workplace over the next 5 years.

Chatham-Kent Employed Residents' Attitudes Toward Using AI in the Workplace
Per Cent of Respondents, n=103, Fall 2025
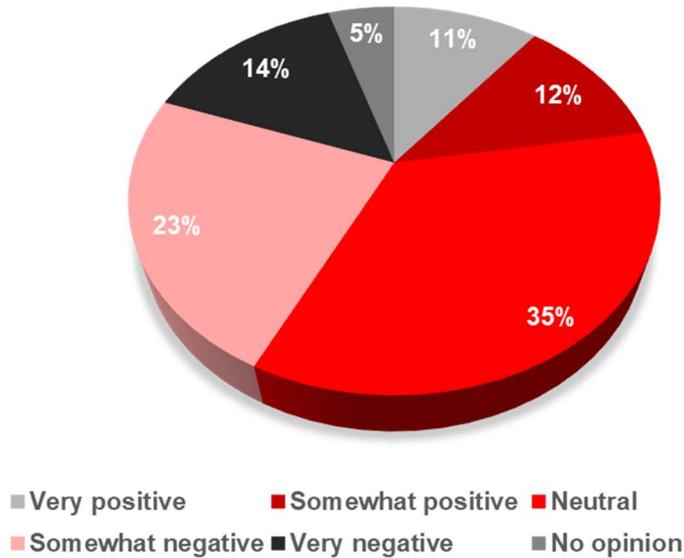
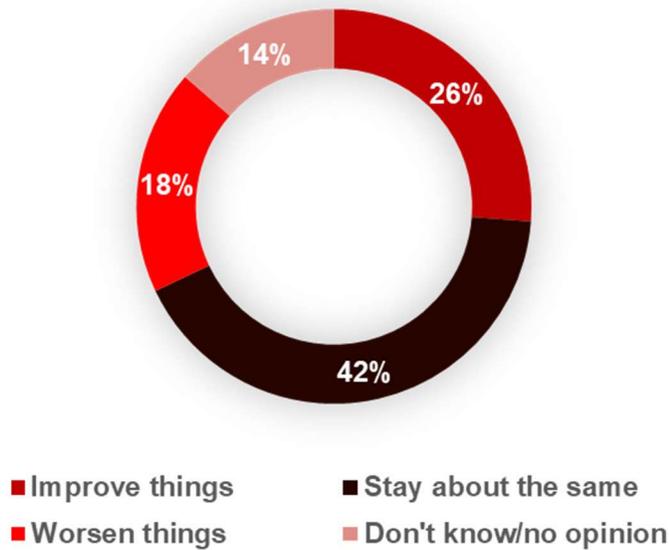Source: Forum Research Household Survey

Chart 9b

Chatham-Kent Employed Residents' Views on How AI Will Affect Work in the Next Five Years
Per Cent of Respondents, n=103, Fall 2025

Source: Forum Research Household Survey

Yet we found that Chatham-Kent employers are now introducing AI in a way that does not threaten existing employees. It is mostly being used to make employees' lives better through productivity gains, as opposed to automating their jobs. Moreover, employers are in fact improving AI skills through training. In our household survey we found that 60 per cent of the employees who use AI at work receive formal training from employers.

The vast majority of Chatham-Kent employees are sanguine about the disruptive aspects of AI technologies. Over 60 per cent of the sample that had an opinion said that AI would have no impact on their job security.

The vast majority of Chatham Kent employees are sanguine about the disruptive aspects of AI technologies. When asked how AI was likely to impact their job security over the next 5 years, over 60 per cent of the sample that had an opinion said it would have no impact. The number that said it was positive (20 per cent) was double that who feared automation (10 per cent).

Even in applications where there is some "big brother"-like concerns, like the quality control application for in-home service, once the employee sees that the tool is helpful and, in many ways preferable to human supervision, then they quickly move from skeptic to enthusiast, at least according to the employer we interviewed.

Although only a quarter of household survey respondents use AI tools, the ones that do use them regularly, daily or several times a week. This builds employee trust and competency using the tools and employees can see how the tools can improve their work lives.

As one moves from opinions shaped by media reportage of AI to opinions shaped by actual use in the workplace, one tends to see less dramatic opinions of AI's disruptive force. This suggests that Chatham-Kent employers that continue to pursue sensible approaches to AI adoption in conjunction with enlightened training should be able to manage employee concerns about these technologies.

Passing the ROI Test

As Chatham-Kent employers are in an experimental phase of AI adoption, they are looking for the technology to generate a return on investment (ROI).

In some instances, the ROI is easily established. For instance, an employer told us that their agentic customer inquiry AI solution cost about $24,000 per year, which is a fraction of what a human solution costs. The issue is not really one of apples-to-apples cost comparison, as AI is clearly more economic on that basis. Rather, the issue is whether the AI solution is comparable quality and reliability to the human option. Some employers we spoke to clearly were averse to replacing their human-based customer service approach with a "cold" AI solution for this reason. That is a quality consideration.

Like other forms of automation, the economics of AI is often based on its 24/7 availability and consistency. For instance, agentic AI does not charge more for working an evening or weekend shift. It does not complain if it has to work on Thanksgiving Day weekend. AI will often get used in these difficult-to-fill time scenarios. Another employer told us how she saw AI as a solution to chronic labour shortages in certain back-office functions. She was therefore experimenting with AI to relieve these stresses. This is how automation often occurs, slow than fast.

Impact on Chatham-Kent Workforce

Following the same method as our Canadian analysis, we calculate the impact of AI adoption on Chatham-Kent's workforce. The actual impact on Chatham-Kent's workforce depends both on the rate of adoption but also the structure of employment. For instance, a jurisdiction may have a relatively high AI adoption rate but if the structure of employment is biased towards occupations that are less exposed to AI disruption, the ultimate effect may be muted.

We already know that AI adoption rates exceed the Canadian overall rates but lag US rates. Consider the industrial structure of employment in Chatham-Kent (Table 4). This data is based on the Canada 2021 census. Although somewhat dated, it is the best source for understanding the structure of the Chatham-Kent workforce.

Table 4

Industrial Structure of Chatham-Kent Employment Compared to Canada, 2021

	Chatham-Kent		Canada	
	Total Employment	**% of Jobs**	**Total Employment**	**% of Jobs**
Health care and social assistance	5,775	15.9	2,161,155	14.3
Retail trade	4,970	13.7	1,836,100	12.2
Manufacturing	4,935	13.6	1,362,200	9.0
Agriculture, forestry, fishing and hunting	2,955	8.1	341,490	2.3
Educational services	2,620	7.2	1,252,670	8.3
Accommodation and food services	2,165	6.0	799,575	5.3
Public administration	1,785	4.9	1,081,895	7.2
Construction	1,555	4.3	630,045	4.2
Professional, scientific and technical services	1,370	3.8	1,403,565	9.3
Other services (except public administration)	1,305	3.6	626,315	4.2
Wholesale trade	1,285	3.5	528,165	3.5
Administrative and support, waste management and remec	1,260	3.5	471,920	3.1
Transportation and warehousing	1,200	3.3	608,245	4.0
Finance and insurance	965	2.7	773,105	5.1
Utilities	750	2.1	125,615	0.8
Information and cultural industries	665	1.8	333,525	2.2
Real estate and rental and leasing	350	1.0	285,335	1.9
Arts, entertainment and recreation	330	0.9	233,640	1.6
Mining, quarrying, and oil and gas extraction	105	0.3	164,440	1.1
Management of companies and enterprises	15	0.0	42,625	0.3

Source: Statistics Canada. Table 98-10-0491-01 Place of work status by industry sector, work activity during the reference year, age and gender: Canada, provinces and territories, census divisions and census subdivisions of work

Table 5

Employment by Job Level, Chatham-Kent and Canada, 2021

Occupation Type	Chatham-Kent		Canada	
	Jobs	**% of Jobs**	**Jobs**	**% of Jobs**
Professional and Management Roles	5,495	12	2,473,240	15
Professional Scientific Roles	5,105	12	2,856,625	17
Administrative Roles	7,005	16	2,642,025	16
Sales Roles	10,190	23	3,998,020	24
Labour Intensive Roles	16,200	37	4,992,620	29
Total	**44,000**	**100**	**16,962,530**	**100**

Source: Statistics Canada. Table 98-10-0594-01 Labour force status by occupation minor group, industry sectors, age and gender: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts

Table 5 considers structure from the perspective of occupations as opposed to industry.

Chatham-Kent has fewer jobs in industries that are most exposed to disruption through AI. It also has more jobs in areas that are unlikely to compete directly with AI, like labour-intensive occupations.

Two key conclusions can be drawn from these tables. First, Chatham-Kent has far fewer jobs (3.8 per cent) in the most exposed industry to AI, namely professional scientific and technical services, than the rest of Canada (9.3 per cent). Second, Chatham-Kent's workforce has more of its labour force in roles that are less likely to be affected by AI, specifically sales and labour-intensive roles where humans are more adept than AI. Some 60 per cent of the total jobs in Chatham-Kent are in these roles compared to 53 per cent nationally.

Table 6

Top 10 Occupations in Chatham-Kent at Technical Risk of Automation, by Total and Per Cent of Jobs at Risk

Occupation	Employment	Technical Risk of Automation	%
Service representatives and other customer and personal services occupations	4,265	3,284	77%
Sales representatives and salespersons in wholesale and retail trade	2,640	2,350	89%
Administrative occupations in finance insurance and business	2,560	2,099	82%
Professional occupations in business and finance	920	920	100%
Support occupations in law and social services	2,235	715	32%
Professional occupations in law and social community and government services	2,235	536	24%
Technical occupations related to natural and applied sciences	1,290	439	34%
Sales and service supervisors	1,730	329	19%
Occupations in art culture recreation and sports	525	242	46%
Computer and information systems professionals	170	170	100%

Source: Statistics Canada. Table 98-10-0594-01 Labour force status by occupation minor group, industry sectors, age and gender: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts and Statistics Canada (2024) Experimental Estimates of Potential Artificial Intelligence Occupational Exposure in Canada [Data Table]

Table 6 and 7 show the *technical* exposure of the top ten occupations to either automation or augmentation effects based on the number of jobs exposed. We argue

that this is merely the theoretical exposure to AI based from technical adoption versus economic adoption that is reflected in the survey statistics. Nevertheless, it is important to keep this technical exposure in mind because as AI evolves, these are the occupations that are more likely to be affected through either automation or augmentation going forward.

Table 7

Top 10 Occupations in Chatham-Kent Technical Benefit from Augmentation, by Per Cent of Jobs that Will Benefit from AI Use.

Occupation	Employment	Potential Technical Augmentation	%
Professional occupations in law and social community and government services	2,235	1,699	76%
Professional occupations in nursing	1,640	1,640	100%
Support occupations in law and social services	2,235	760	34%
Technical occupations related to natural and applied sciences	1,290	516	40%
Sales and service supervisors	1,730	467	27%
Administrative occupations in finance insurance and business	2,560	461	18%
Sales representatives and salespersons in wholesale and retail trade	2,640	290	11%
Engineers	320	278	87%
Management occupations	290	252	87%
Professional occupations in education services	230	202	88%

Source: Statistics Canada. Table 98-10-0594-01 Labour force status by occupation minor group, industry sectors, age and gender: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts and Statistics Canada (2024) Experimental Estimates of Potential Artificial Intelligence Occupational Exposure in Canada [Data Table]

Table 8

Expected Impacts of AI on Chatham-Kent's Workforce by 2031

	By 2031	
	(count, jobs)	**% of Total**
Business adoption		
Total businesses in Chatham-Kent	3,248	
Businesses expected to have adopted AI technologies	1,399	51.3
Businesses by expected impact on employment		
Decrease	177	5.4
Increase	72	2.2
Impact on Employment		
Total employment	39,392	
Average Employment/Business	12	
Jobs at adopting businesses	16,970	43.1
Persons employed by businesses expected impact on employment		
Decrease	2,141	5.4
Increase	870	2.2
Jobs with high exposure to automation	651	30.4
Jobs with high exposure to augmentation	261	30.0
Total Impact on Employment	**390**	**1.0**

Source: Forum Research, based on Statistics Canada , Table: 33-10-1047-01 (Business Conditions Survey, AI impact on employment), Table: 33-10-1046-01 (Business Condition Survey, Reasons Not Planning to use AI),Table: 33-10-1004-01 (Business Conditions Survey, AI Use, Q3 2025),Table: 33-10-0825-01 Business Conditions Survey, AI Use, Q3 2024), 33-10-0270-01 (Active Businesses) and Table 98-10-0594-01 (Labour Force Data), Experimental Estimates of Potential Artificial Intelligence Occupational Exposure in Canada (2024) [Data Table] and Chatham-Kent Employer One Survey (2025)

Yet when we calculate the workforce impacts today, we must factor in actual adoption rates and how actual adoption affects automation and augmentation today, based on the real-world experience of employers. When we do that, we get findings like the ones presented in Table 8. As for Canada, we show modest aggregate employment impacts that amount to negative 1 per cent. Although that is the aggregate effect, there will be a lot of change at the employer and individual level within that net effect.

Conclusion

In this section, we have reviewed the likely impact of AI technologies on Chatham-Kent's workforce in the next 5 years. We found that Chatham-Kent employers are

adopting AI at a higher rate than in Canada, albeit lagging the US rate of adoption. That adoption is in an experimental phase, and Chatham-Kent employers are most likely to see AI as a productivity enhancing tool as opposed to a way to reduce headcount today and in the next 5 years.

But in the longer term it is likely that AI adoption rates will increase and that AI itself will evolve. That is why it is important to be aware of those occupations that may be exposed to the technical risk of automation and those that may benefit from technical augmentation. Even though current adoption practices do have a large impact on those occupations in the short-to-medium term, over the long term those same occupations may be exposed to disruption.

We now turn to how Chatham-Kent's workforce development system should position itself to respond effectively to AI.

Adjusting to AI

Our study has shown that AI adoption and its ramifications for the workforce is a moving target. Massive investments continue to be made in the core technologies, meaning that they will improve, albeit at an uncertain pace. Employer adoption will expand and AI will become more integrated into core functions. The workforce's AI experience will track employer adoption, meaning some parts of the workforce will become highly competent in using AI while other parts will remain inexperienced.

In this section we work through the implications of AI for workforce development in Chatham-Kent. We lay out the core strategic challenge and then present a well-known analytical framework, called the Johari Window for evaluating strategic options. We work through the framework to how Chatham-Kent may design a system that allows its workforce development system to get the most out of AI while mitigating its risks.

Elements of the Workforce Development System

Chatham-Kent's workforce development system is designed to ensure that its workforce has the necessary skills, knowledge, attitudes and abilities to improve employability and earnings potential.

The workforce development system is organized around three subsystems,

1. *Pre-employment formal education* is mostly provided by public secondary and post-secondary (colleges and universities) institutions.

2. *Workforce training* which includes formal and informal employer training and various government and non-government skills upgrading programs.

3. *Ancillary programs* for people who are out of the workforce, but who need to upgrade skills so they can reintegrate into the workforce. This includes employment service agencies who seek to match people to available jobs. These services are provided by a variety of government, non-government and private organizations. These may be targeted at special circumstances (the chronically unemployed) or specific occupations or industries.

An important part of the ancillary system is job search and matching. The systems interviews revealed that AI technologies are also being used to sort candidates, so it is important for applicants to be aware of how AI technologies do this.

These components serve different roles but are all aimed to ensure the workforce demand is aligned to supply.

The Strategic Objective

The strategic objective for workforce development as AI is adopted is straightforward—improve augmentation for occupations that are likely to benefit from AI while minimizing disruption for occupations that are exposed to AI automation risk.

The objective should not be to simply channel people away from occupations that use AI as this will forgo the productivity gains from AI and the associated spillover benefits to the broader economy. At the same time it is unwise to develop skills that directly compete with AI and that therefore are likely to be automated.

The Strategic Challenge

As a general-purpose technology (GPT), AI will have a wide impact on the skill requirements of many occupations. AI will either automate tasks, so that workers do not require those skills, or it will augment tasks, so workers need to know how to use AI to perform tasks. Workers who are in augmenting occupations, but who do not adapt, are prone to the risk of being unemployed or underemployed.

It is difficult to forecast how AI will evolve. The current version of AI is most certainly not the one we will ultimately be using. Hence, there is technological uncertainty.

There is also adoption uncertainty, specifically the way Chatham-Kent employers will use AI as they move through experimental to transformational stages. AI is not one thing—it is thousands of things in thousands of different circumstances. As such, AI skills depend very much on the nature of adoption, which remains unknown to much of the workforce and even the education and training system.

Traditional workforce planning is often based on a pipeline designed around predictable demographics (new entrants and retirees) and reasonably stable industry and occupational demand. A typical approach is to undertake a long-range forecast of occupational needs and adjust education and training system programs to produce the required number of people for those occupations.

The pipeline approach works well for incremental technological changes that are easily incorporated into the education and training systems. But it is not as effective when

faced with a technological shock like AI that may lead to a fundamental change in occupational skills and the occupational mix. Although the demographics may be predictable, AI will have an unpredictable impact on long-term demand for skills.

The other challenge presented by AI is that it upsets the notion of "skilled" versus "unskilled". We've always thought that "skilled" people were the ones that spent the most time in formal education, graduating with the highest educational credentials. That system is based very much on mastering subject matter, with the mastery becoming more specialized with additional years of schooling. AI is assuming the mastery of subject matter expertise and even moving from subject matter expertise to critical analysis.

This means that workers need to develop other skills that AI is less likely to master, like the skills we discussed earlier in the report, human-specific skills like commonsense, judgement, context, empathy and human-to-human communication. These skills are called many names including soft-skills and employability skills.[25] Yet these type of skills are not directly credentialed in the formal education system. They tend to be screened by employers' recruiting systems after formal education. AI will probably change the mix of hard and soft skills that employers are looking for.

A Framework for Dealing with the Challenge

The challenge is one of adapting the workforce development system under conditions of uncertainty and imperfect information.

A Johari Window framework is a good way of thinking about change in a world of uncertainty and imperfect information. The Johari Window was developed in the 1950's by Joseph (Jo) Luft and Harrington (Hari) Ingham.[26] It was originally designed as a psychological assessment tool for self-improvement and enhanced group dynamics. Over time, the framework has been modified to deal with management challenges where there is a lack of information or information asymmetry (i.e. some parties know things other parties do not know).

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[25] See the discussion in Grant, Aligning Skills Development.
[26] Luft and Ingham, The Johari Window.

Exhibit 7

A Johari Window Applied to the Challenge of Workforce Development with AI

Open Area

Known by workers, employers, educators and trainers
- Today's AI
- Occupations are starting to be automated
- People are using AI to improve their productivity
- Continuous learning will be required as technology evolves

Blind Area

Known by employers but not by workers or development system
- Workflow redesign plans
- Automation plans
- ROI for AI
- Recruitment and promotion practices in an AI world

Hidden Area

Known by students/employees not known by education system/employers

- Disguised use of AI at work
- Fear of AI automation and task redesign
- Actual skill through informal AI usage

Unknown Area

Not known by any stakeholders
- Tomorrow's AI
- New skill combinations lead to new occupations
- Productivity creates secondary spending and demand for new jobs
- Long-term career pathways change

Source: Forum Research based on Luft and Ingham.

The Johari Window helps workforce planning boards identify what is known, hidden, overlooked, and unknowable and to formulate tactics for each situation. That is where we are at with AI's impact on the workforce in Chatham-Kent. So, this is a good strategic framework for understanding the workforce development challenges.

The Johari Window is based on a two-by-two matrix which seeks to categorize different states of knowing. Exhibit 7 presents the model and populates the cells with the sort of challenges presented by AI.

The upper left quadrant is the **Open Area**. This is the area that contains the information that is widely known in the workforce development community. Readers will know that AI is being used in Chatham-Kent in an experimental way to enhance productivity. It is not having a disruptive impact yet. But we also know that adoption is likely to increase and that AI will be increasingly transformative to workflows as adoption develops. Workflow redesign has implications for skill demand.

The upper right quadrant is the **Blind Area**. This is the area where employers have most of the information on how they are using AI and their plans for the future. Employer surveys give us a rough understanding of how AI is being used but as AI use becomes more transformational it may be challenging to develop a full understanding of employer practices and how they are affecting workforce recruitment and career paths.

The **Hidden Area** is the area that is known by students and employees but not by employers or other stakeholders in the workforce development system. Employees may disguise their use of AI. They may have fears of automation that may make them resist using AI. We saw some of this fear in our household survey findings.

Another hidden area is the AI skills of the workforce because people may develop skills informally and they remain unverified in a credential. For instance, our systems interviews found that educators are somewhat aware there is AI usage among the student body but the actual nature of this usage remains a mystery. The problem is this usage is not formally incorporated into curriculum or pedagogy. Student usage may, in fact, lead be suboptimal in the sense that they are not developing the AI skills sought by employers.

Finally, the **Unknown Area** contains all the unpredictable developments in AI and its impact on the workforce and the economy in general. We simply do not know how AI is going to evolve and when it's going to evolve. The existing model of AI based on LLM's is also likely to change. The full potential of marrying AI with robotics, called embodied AI, has yet to be fully realized. All these unknowns have implications for the long-term impact of AI, which is likely to be quite different from its impact in the next 5 years.

System Interviews Reveal Information Asymmetry

Our system interviews revealed some of the informational challenges that either prevent effective action or misdirect action.

For instance, the general consensus of Chatham-Kent workforce development experts was that AI adoption among Chatham-Kent employers was *slower* than in larger jurisdictions.

However, we have found that is *not* the case given that AI adoption is higher in Chatham-Kent than the Canadian average. This is a matter of employers' practices being hidden from other parts of the workforce development system. With these views, educators and trainers may feel that they can take their time adjusting curriculum and pedagogy when, in fact, they probably need to *speed up*. We found that educators and trainers seem more concerned about the theoretical drawbacks of AI than its' implications for workforce development.

A similar misconception is that many interviewees thought that AI was going to automate "low skill" administrative jobs and that "high skill" jobs would benefit through augmentation. Yet our analysis shows that many occupations that may be considered "high skill" (e.g. software developers) may be exposed to automation risk. This may mean young people, who often are poorly informed about career paths, may continue to pursue careers that they think are "skilled" but that are exposed automation. Given that these programs of study may be years in length, an inability to adjust quickly may end up affecting many peoples' work experience.

Employers generally move faster to adopt AI than the rest of the workforce development system. That is because employers and educators operate in different markets that create different incentives for adoption. For instance, the clients of the education system are young people with no line of sight into what AI skills employers seek. Meanwhile employers have a more diverse range of clients and compete with other providers to satisfy those clients. They have an immediate incentive to use AI if it improves their operation. This explains why employers put governance systems in place in a matter of months compared to the education system which may take years.

In the meantime, students are using AI, largely in a haphazard manner and possibly in ways that are developing the wrong type of skills. Employers do not need people that know how to get a Chatbot to write an essay. They need people who can take a business problem and craft an intelligent series of queries for AI to help solve the problem. They need people with a good sense of judgement to oversee AI results and relate them to colleagues and clients. Employers need people who understand the ethical limitations

of AI and who don't need to be convinced about the need to put ethical guardrails around AI projects.

Some educational instructors understand the challenge and have begun to modify their courses to reflect the new reality. But this instructor-led approach is likely to result in a hodgepodge of practices when what is required is a systems level re-engineering of curriculum and pedagogy. Several systems interviewees recognize this reality. And yet they have grown accustomed to incremental change. They seem skeptical that the current system is up for the sort of deep structural changes that may be required. Our interviews revealed a gap between the understanding that reform is needed and the actual likelihood of reform happening today. In our view, this gap needs to be closed.

In fact, we found that the primary and secondary school systems are somewhat more advanced than the postsecondary system in thinking of how to incorporate AI into pedagogy. Some high schools are now encouraging its use as a "thought partner" recognizing that they are better off embracing AI than having students use it clandestinely.

Moving from Strategy to Action at Different Speeds

Think of the movement from strategy to action as a three-lane highway, with each lane operating at different speeds.

The fast lane has to deal with immediate information problems that hinder effective action. The idea is to move as much information from the **Blind** and **Hidden** areas into the **Open** area.

The middle lane needs to move expeditiously to address current skills gaps that are subsequently revealed. There is a need for the workforce development system to work together to address the changing nature of skills based on the likely trajectory of employer adoption. This will involve a collaborative and adaptable approach involving all the stakeholders in the Chatham-Kent workforce development system. These include employer training, private training and adult continuing education departments of colleges and universities.

The slow lane involves significant reform of the education system so that it channels resources away from skills that are likely to be automated and towards skills that are likely to be in greater demand as AI reaches its potential for adoption.

In terms of the fast lane, we have argued that employer AI adoption is the key to determining what skills are required. Hence, the **EmployerOne survey already surveys employers annually and should continue to monitor AI adoption practices**. The survey should be extended to **ask employers how adoption is affecting the demand for skills** by occupation, especially for entry level employees as we believe these are the people who are most likely to be affected by AI technologies in the coming years.

Employers should also **be asked about the skill set of new recruits and where these may be lacking in relationship to their AI investments**. Finally, the system needs to know to what extent employers are likely to address skill gaps through their own training or whether these need to be addressed in other parts of the workforce education and training system.

In addition to the annual survey, it makes sense for the Chatham-Kent Workforce Planning Board to establish an **Employers Roundtable on AI**. The roundtable would share best practices of adoption and required workforce adjustments. It would be a forum for sharing best practices within Chatham-Kent but also to reflect on approaches being used in other jurisdictions in Canada and the United States.

In fact a second roundtable, an **Employers-Skills Development Roundtable**, could help bridge the gap between employer practices and the curriculum and pedagogy of educators and trainers. As with the Employers Roundtable on AI, the AI Forum For Education and Training would both share information as well as seek to adopt best practices from leading practitioners in Canada and the United States.

In terms of the middle lane, there is a need for the workforce development system to **develop short-duration training solutions to get workers quickly up to speed** on the key AI technologies that are being used by Chatham-Kent employers. There is a need for **micro-credentials that verify the workforce's ability to use AI** in an effective way in the workplace. There also needs to be a better system for **gauging and credentialling people's soft skills** as Chatham-Kent employers told us that they often hire people for these skill and then train them on their AI solutions after they are hired.

The slow lane involves a **fundamental reassessment of public education curriculum and pedagogy**. **All children need to have some competency in AI technologies**. The understanding of the technologies need to become **more advanced especially in post-**

secondary school and particularly for those parts of post-secondary that steer people toward specific career paths.

Our system interviews demonstrate that this will not be easy because there is ongoing debate within the education system of the efficacy and ethics of AI technologies. To the extent we did find the education system moving in the desired direction, it tended to be at the elementary and secondary levels than at the post-secondary level where people are preparing to work. We recognize that this will take time, but given the likely pace of employer adoption, it is essential that the current approach to curriculum and pedagogy be modernized to account for AI.

Exhibit 8

KPI's Aligned to Strategic Lanes

Fast Lane: Employer Practices

- Employer adoption rates
- Number of employees using AI
- Type of AI usage
- Demand for AI augmentation skills
- Employer satisfaction with new recruit AI skill set
- Evolving skill requirements by occupation
- How employer training is filling the skill requirements
- Best practices on adoption and workforce adaptation

Middle Lane: Workforce Development System Adaptation

- Number of people taking micro credentials on AI and soft skills
- Training solutions for AI and take up rates in Chatham-Kent
- Workforce satisfaction with AI skills
- Informal skills development of workforce and alignment to employer need

Slow Lane: Formal Education Redesign

- Graduate survey on AI preparedness for the workplace
- Best practices in instructor-led course modifications
- Progress on colleges and university curriculum and pedagogical reforms

Key Performance Indicators (KPI's)

The approach proposed here is inherently dynamic, adjusting to new information as it becomes available. The idea is to shrink the unknown, build out the known and take action on the known.

The Chatham-Kent Workforce Planning Board would be well advised to put in place a system **of key performance indicators (KPI's) to monitor workforce development system and identify the areas most in need of attention**. KPI's are usually organized into a dashboard aligned with different lanes of the strategy. These can be tracked annually and drive workforce planning board deliberations.

Some examples of these are presented in Exhibit 8.

Conclusion

This section has addressed the strategic considerations facing Chatham-Kent's workforce development system. AI presents a challenge because of its potentially profound implications for skill demand. The strategic objective is fairly straightforward, to promote augmentation in occupations where it is likely to happen and to avoid channeling people into occupations that are likely to be automated.

The actual achievement of this objective is a non-trivial exercise for a variety of reasons. Part of the problem is that the stakeholders in the workforce development system do not have a common set of information. A lack of agreed facts is driving a sub-optimal response at the student, institution, employer and training provider levels. This is making it difficult to get the workforce development system "on the same page" and to take coordinated and effective action.

That is why we suggest maximizing the Open Area of known information and to organize this information into strategic lanes that operate at different speeds. This data can then be monitored to judge the evolution of employer skill demand and the performance of parts of the workforce development system in skills in such a way that Chatham-Kent gets the most out of AI going forward.

References

Acemoglu, Daron. "The Simple Macroeconomics of AI." Economic Policy, vol. 40, no. 121, 2025, pp. 13–58.

Acemoglu, Daron, and Pascual Restrepo. "Modeling Automation." AEA Papers and Proceedings, vol. 108, May 2018, pp. 48–53. American Economic Association. https://doi.org/10.1257/pandp.20181020.

Acemoglu, Daron, and Pascual Restrepo. "Automation and New Tasks: How Technology Displaces and Reinstates Labor." Journal of Economic Perspectives, vol. 33, no. 2, Spring 2019, pp. 3–30. https://doi.org/10.1257/jep.33.2.3

Acemoglu, Daron, and Pascual Restrepo. "The Wrong Kind of AI? Artificial Intelligence and the Future of Labor Demand". NBER Working Paper No. 25682, National Bureau of Economic Research, Mar. 2019. http://www.nber.org/papers/w25682

Acemoglu, Daron, and Pascual Restrepo. "Artificial Intelligence, Automation, and Work." The Economics of Artificial Intelligence: An Agenda, edited by Ajay Agrawal, Joshua Gans, and Avi Goldfarb, University of Chicago Press, 2019, pp. 197–236. http://www.nber.org/chapters/c14027

Agrawal, Ajay, Joshua Gans, and Avi Goldfarb. "Artificial Intelligence: The Ambiguous Labor Market Impact of Automating Prediction." Journal of Economic Perspectives, vol. 33, no. 2, Spring 2019, pp. 31–50. https://doi.org/10.1257/jep.33.2.31

Appel, R., McCrory, P., Tamkin, A., McCain, M., Neylon, T., & Stern, M. (2025). The Anthropic Economic Index Report: Uneven geographic and enterprise AI adoption. Anthropic. Retrieved from https://www.anthropic.com/economic-index

Autor, David H. "Why Are There Still So Many Jobs? The History and Future of Workplace Automation." Journal of Economic Perspectives, vol. 29, no. 3, Summer 2015, pp. 3–30. https://doi.org/10.1257/jep.29.3.3

Brynjolfsson, Erik, Tom Mitchell, and Daniel Rock. What Can Machines Learn and What Does It Mean for Occupations and the Economy? MIT Initiative on the Digital Economy Research Brief, vol. 4, 2018. https://ide.mit.edu

Brynjolfsson, E., Rock, D., & Syverson, C. (2019). The productivity J-curve: How Intangibles Complement General Purpose Technologies. MIT Initiative on the Digital Economy Research Brief, Vol. 2. Retrieved from http://www.nber.org/papers/w25148

Brynjolfsson, Erik, Bharat Chandar, and Ruyu Chen. "Canaries in the Coal Mine? Six Facts about the Recent Employment Effects of Artificial Intelligence." Stanford Digital Economy Lab, Aug. 2025. https://digitaleconomy.stanford.edu/publications/canaries-in-the-coal-mine/.

Challapally, Aditya, Chris Pease, Ramesh Raskar and Pradyumna Chari. The GenAI Divide: The State of AI in Business in 2025. MIT NANDA. July 2025.

Felten, Edward W., Manav Raj, and Robert Seamans. "A Method to Link Advances in Artificial Intelligence to Occupational Abilities." AEA Papers and Proceedings, vol. 108, May 2018, pp. 54–57. https://doi.org/10.1257/pandp.20181021.

Fridman, Lex. "Yann Lecun: Meta AI, Open Source, Limits of LLMs, AGI & the Future of AI". Podcast. March 7, 2024. https://lexfridman.com/yann-lecun-3-transcript.

Gimbel , Martha, Molly Kinder , Joshua Kendall and Maddie Lee. Evaluating the Impact of AI on the Labor Market: Current State of Affairs. Yale Budget Lab. Discussion Paper. October 1, 2025.

Grant, Michael. Aligning Skills Development With Labour Market Need. Ottawa: The Conference Board of Canada, 2016.

Grant, Michael. Financing Innovation by Established Businesses in Canada. Ottawa: The Conference Board of Canada. 2013.

Handa, Kunal, et al. Which Economic Tasks Are Performed with AI? Evidence from Millions of Claude Conversations." arXiv preprint, arXiv:2503.04761, Feb. 2025. https://arxiv.org/abs/2503.04761.

Holmes, Aaron and Kevin McLaughlin. "Salesforce Executives Say Trust in Large Language Models Has Declined". The Information. December 2025.

Hampole, Menaka, Dimitris Papanikolaou, Lawrence D.W. Schmidt & Bryan Seegmiller. Artificial Intelligence and the Labor Market. NBER Working Paper 33509. February 2025.

Howitt, Peter. Mushrooms and Yeast: The Implications of Technological Progress for Canada's Economic Growth. Toronto: C.D. Howe Institute, 2015.

Humlum, A., & Vestergaard, E. (2025). Large language models, small labor market effects (NBER Working Paper No. 33777). National Bureau of Economic Research. Retrieved from http://www.nber.org/papers/w33777

Kost, Danielle. "Most Gen AI Players Remain 'Far Away' from Profiting: Interview with Andy Wu". Working Knowledge. October 25, 2025. Accessed on November 5, 2025. https://www.library.hbs.edu/working-knowledge/

Luft, Joseph, and Harrington Ingham. "The Johari Window: A Graphic Model of Interpersonal Awareness." Proceedings of the Western Training Laboratory in Group Development, University of California, Los Angeles, 1955

McKinsey and Co. The State of AI in 2025: Agents, Innovation and Transformation. New York: Author. 2025.

Medhi, Tahsin, & Rene Morissette, Experimental Estimates of Potential Artificial Intelligence Occupational Exposure in Canada, Statistics Canada Analytical Studies Branch Research Paper Series, September 3, 2024.
See: https://www150.statcan.gc.ca/n1/pub/11f0019m/11f0019m2024005-eng.htm

Oschinski, M., and R. Wyonch. 2017. Future Shock? The Impact of Automation on Canada's Labour Market. C.D. Howe Commentary no. 472. Paris: OECD Publishing.

Patwardhan, Tejal, et al. "GDPval: Evaluating AI Model Performance on Real-World Economically Valuable Tasks." OpenAI Research, 2025. https://evals.openai.com.

Ratchitsky, Lenny. "Marc Andreessen: The real AI boom hasn't even started yet". Lenny's Podcast. January 29, 2026. https://www.lennysnewsletter.com/p/marc-andreessen-the-real-ai-boom

Spirlet, Thibault. "Sam Altman predicts AI will take customer service jobs first — and speed up a 'historical' rate of job turnover". Business Insider.

Statistics Canada. CANSIM Tables.

Statistics Canada. Canadian Survey of Business Conditions. See: https://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5318

Statistics Canada. Historical Statistics of Canada. Publication 11-516-X. Ottawa: Author. 1983.

Stanford University Human-Centered Artificial Intelligence. The 2025 AI Index Report. https://hai.stanford.edu/ai-index/2025-ai-index-report/economy.. Accessed December 13, 2025.

Tabrizi, Rogayeh. "From Theory to Practice Understanding AI Through an Economist's Lens". Webinar for the Association of Professional Economists of British Columbia. November 6, 2025.

US Department of Labor. O*Net. https://www.onetonline.org/.

Vanian, Jonathan. "Meta CEO Mark Zuckerberg defends AI spending: 'We're seeing the returns". CNBC. www.cnbc.com. October 29, 2025.

Welch, Suzie. Is Gen Z Unemployable? *Wall Street Journal*. September 24, 2025.

World Population Review. Average IQ by Country. Referenced February 20, 2026. https://worldpopulationreview.com/country-rankings/average-iq-by-country