



Project Insights Report

Laying Foundations: Technological Maturity in Canada's Construction Sector



PARTNERS

Brookfield Institute for Innovation + Entrepreneurship



LOCATIONS

Across Canada



INVESTMENT

\$100,000



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Executive Summary

Canada's construction sector lags behind other major industries in its overall adoption of and cultural attitudes toward new technology in the workplace resulting in lower productivity overall. The competitiveness of Canada's construction sector is central to a large number of challenges such as housing affordability, infrastructure build-out and climate resiliency.

In this research project, the Brookfield Institute conducted interviews and surveys with 14 industry leaders from 11 firms spanning three broad sub-sectors across the country. The objective was to improve understanding of what is contributing to the low uptick of technological innovation in the construction sector.

Causes of low technological adoption in the construction sector have been identified through the project as:

- Probability of physical mishaps that increase risk aversion to implementing new technologies
- Risks to delaying already long timelines by trying something new
- A highly competitive environment which diminishes information sharing and potential for innovation.

Increasing the adoption of technology that enhances productivity in the construction sector requires careful planning, forward thinking leadership, flexible culture and industry-wide solutions and collaboration. These learnings can be applied to other sectors of the economy.

KEY INSIGHTS

- 1 Only 3% of construction firms surveyed said they had automated certain tasks, compared to 12% in agriculture and forestry.
- 2 Low technical maturity is having a detrimental effect on productivity in the sector.

▶ The Issue

New technologies in the workplace are becoming ever more commonplace across industries and sectors of Canada's economy. Organizations are incorporating digital technologies that can lead to new and improved approaches to day-to-day operations, productivity measurement and even how they train their employees.

While the Canadian construction industry, specifically, has made efforts to expand its digital capabilities and increase technological integrations over the last few decades, it lags behind other major industries in its overall adoption of and cultural attitudes toward new technology in the workplace. This is resulting in lower productivity overall. The competitiveness of Canada's construction sector is central to a large number of challenges such as housing affordability, infrastructure build-out and climate resiliency.



🔧 What We Investigated

This project conducted interviews and surveys with 14 industry leaders, to improve understanding of the factors contributing to the low uptick of technological innovation in the construction sector.

✔ What We're Learning

The construction sector often features complex projects with long time horizons. These factors are playing a role in dampening the sector's adoption of productivity-enhancing technology.

Participants in interviews and surveys described the main sources of low technological adoption as:

- Probability of physical mishaps that increase risk aversion to implementing new technologies
- Risks to delaying already long timelines by trying something new
- A highly competitive environment that is diminishing information sharing and potential for innovation.

Increased adoption of new technologies, including in the construction sector, necessitates forward thinking leadership and a flexible culture that promotes innovation. In particular, gains in productivity can be enhanced through a culture that enables the successful integration and deployment of technology. Industry-wide solutions and collaboration that break down silos can help mitigate sector-specific risks to technological adoption in construction.

★ Why It Matters

For decades, Canada's productivity growth has lagged its OECD counterparts, driven in part by low productivity in the construction sector. The fact that the construction sector is particularly slow to adopt and use new technologies is a key factor underpinning the sector's weak productivity growth.

To enhance adoption of productivity-enhancing technology in the construction sector requires careful planning, forward thinking leadership, flexible culture and industry-wide solutions and collaboration. These are lessons that hold true for other sectors of the economy.



State of Skills: Innovation in Training, Recruitment and Upskilling for Skilled Trades

Canada needs to address long standing shortages of skilled tradespeople to advance policy priorities around decarbonization, affordable housing and transforming industry to add more value to what we produce.

► What's Next

The insights gleaned from this research suggests that the construction industry, and potentially others, has some work to do in terms of mitigating the aversion to implementing new technologies.

There is potential also for the industry to collaborate and share ideas possibly through councils and associations to spur innovation and build adoption of technology into a sector-wide strategy.

Have questions about our work? Do you need access to a report in English or French? Please contact communications@fsc-ccf.ca.

How to Cite This Report

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The Future Skills Centre acknowledges that the Anishinaabe, Mississaugas and Haudenosaunee share a special relationship to the 'Dish With One Spoon Territory,' where our office is located, bound to share and protect the land. As a pan-Canadian initiative, FSC operates on the traditional territory of many Indigenous nations across Turtle Island, the name given to the North American continent by some Indigenous peoples. We are grateful for the opportunity to work in this territory and commit ourselves to learning about our shared history and doing our part towards reconciliation.