



Construction and Workplace Transformation: Aligning People, Process and Technology in the Digital Era

An IDC Industry Brief, in research partnership with TELUS Business
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July 2019

Why Workplace Transformation is Important for Construction

As Canada's fourth largest employer, the construction industry is challenged by an ongoing need to plan and manage resources more effectively. In a hyper-competitive sector, companies that minimize costs and maximize customer satisfaction across dynamic and complex worksites hold a sustained advantage.

The construction industry has historically been "data-light" relative to other industries, but a growing number of transformational solutions are changing the nature of construction while helping businesses solve a variety of needs:

- Digital monitoring of capital equipment is helping teams improve maintenance and uptime, while eliminating theft and shrinkage through telemetry data.
- Connecting work crews, contractors, equipment and other assets enables teams to harness richer analytics (whether operational, geospatial, prescriptive or predictive) and use real-time information to improve decision making.
- The ability to concurrently track performance, increase productivity and augment safety is changing how companies manage their workforce.
- Embedding connected sensors into buildings' fabrics and supports provides a continuous feed of environmental data. This knowledge enables quicker responses to negative forces like vibration and corrosion, as well as an opportunity to improve workplace experiences while reducing costs via automated lighting and heating.



The popular perception of construction as being mainly comprised of manual labour ignores the advances made in **connected, collaborative technology that has changed how people and equipment are tracked and optimized.**

The Workplace Transformation Model

Why is this model significant?

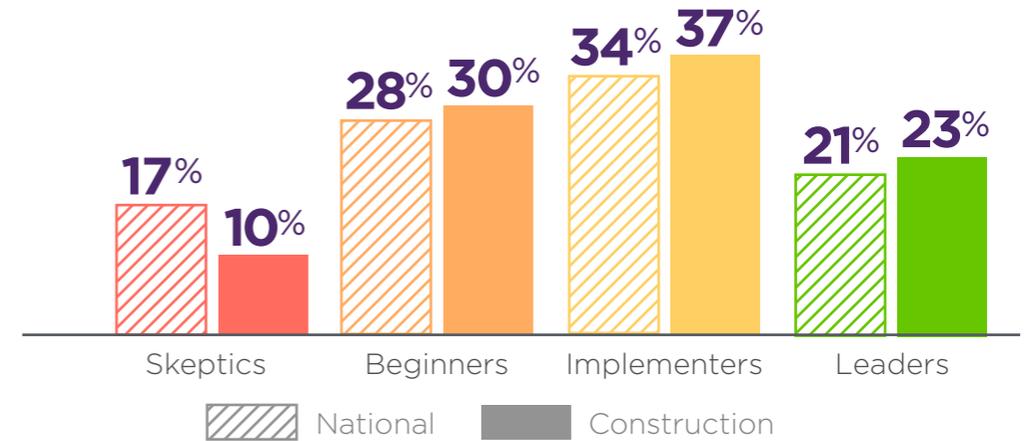
The TELUS Workplace Transformation Model showcases current realities across medium-sized businesses in Canada. A major study involving 203 Canadian organizations, each with 50–999 employees, was conducted by IDC in the second half of 2018. There were 30 construction respondents in the study.

The results are significant. They provide four distinct stages of workplace transformation, driven by priorities and investments, each with distinct results as measured by their chosen KPIs.

Overall, the construction industry is slightly further along in its workplace transformation when compared with other industries.

This Industry Brief was designed with your business in mind. Once you have recognized your placement, it provides insights, recommendations and a path to advancement.

Workplace Transformation Model
Medium-Sized Canadian Business Distribution



Note: Industry Brief figures may not equal 100% in some cases due to rounding.

Our study found four distinct stages that these businesses fall into:

Skeptics

Skeptics are unaware of, or uncertain about, the level of workplace transformation taking place today. They don't understand its advantages and how fast they are falling behind competitors.

Beginners

Beginners are just starting their transformation journey. They might be building a roadmap and readying to implement one or more foundational digital solutions.

Implementers

Implementers understand the need to transform their workplace. This group has already implemented one or more digital solutions.

Leaders

Leaders have integrated multiple digital solutions and seen sustained improvement in key metrics. They enable work anywhere/anytime, prioritizing automation and cloud-enabled solutions to improve collaboration.



People

Workplace Transformation Pillar One

Why are *people* part of the equation?

In an era when customer demand changes overnight, talented employees have never been more sought-after. Exceptional employees choose companies that provide opportunities to succeed, which means being enabled to work anywhere, anytime, on any device, with like-minded peers.

What are the findings in construction and how do they compare with the national average?

- **While Canada's skills gap is real, construction businesses appear less concerned. 37% of construction respondents report facing a skills shortage, compared with 44% across other industries.** This is intriguing, as construction industry associations have dedicated lobbying efforts (at federal and provincial levels) to creating and maintaining a pool of sufficiently skilled tradespeople. What this means is even if the skills shortage hasn't hit midsize construction yet, their own experts indicate it will be a pipeline issue soon.
- **Not expecting change.** Construction businesses are far less likely to anticipate a shift in the age and experience of their workforce, compared with other industries. **Only 3% expect very extensive change in the next three years,**

compared with 15% expecting this outside construction. Meanwhile, only 23% report expecting extensive change, in contrast to 35% of businesses nationally. Perhaps survey respondents are correct about how entrenched practices are in the sector — but what if they're wrong?

- **Somewhat prepared for change.** Despite or perhaps because of their lack of anticipation, construction businesses report being in line with other industries regarding preparation. 37% indicate they are very prepared — more than the national average. This might be due to the lack of concern mentioned above, whether rational or not.



Investing in expertise

Construction organizations are just as likely to have made major investments in IT professional services as other industries, with 47% doing so versus 44% nationally. Meanwhile, they're slightly less likely to use outsourcing (33% versus 37% nationally).



Process

Workplace Transformation Pillar Two

Why is *process* part of the equation?

The ways in which companies design, test, build, distribute, sell and service their products matters. As Marshall McLuhan said, "We shape our tools, and then they shape us." The technologies we use to get work done have evolved, but has your workflow kept pace?

What are the findings in construction and how do they compare with the national average?

➤ **Embracing physical automation.** Construction businesses are more likely than businesses in other industries to respond to workplace evolution by investing in physical automation (67% versus 56% nationally). Construction primarily invests in automation to drive productivity (65% versus 48% nationally), with less interest in reducing labour costs (10% adopt primarily for this reason) or improving quality (20% adopt primarily for this reason).

➤ **Enabling work in mobile environments.** Construction companies are more than their building sites. 70% of respondents have created or are creating collaborative areas within their workplace, compared with 72% of

businesses nationally. 67% of construction organizations have implemented or are implementing a work-from-home policy, while 23% are researching its value, just ahead of the national average. Construction businesses are slightly more likely to have invested in hoteling offices to support workplace flexibility (23% versus 20% nationally).

➤ **Ensuring infrastructure readiness.** Regularly upgrading IT, network and mobile infrastructure is critical to supporting process and automation changes that serve digital workplace initiatives. Construction businesses report being more prepared than other industries.

Characteristics/Actions of Leaders

➤ **Investing in IoT (the Internet of Things).** Leading construction firms connect their operations, assets and people. Telemetry lets management keep track of their assets and tools across time and space, improving utilization and reducing shrinkage. Predictive maintenance solutions for vehicles reduce downtime and cut capital costs. IoT can help reduce fuel costs by flagging idling time across the fleet. Smart buildings and their related systems save money through usage and tracking efficiencies. Fleet and freight telemetry enables real-time improvements to the supply

chain. IoT enhances operational efficiencies and leads to improvements in delivering on-time, on-budget projects.

➤ **Prioritizing their network.** Ensure your employees have a fast, robust, secure network backbone to support them wherever and whenever they need to be productive. Consider a cloud-managed network to automate, simplify and secure all data traffic while protecting against local outages.



Technology

Workplace Transformation Pillar Three

Why is *technology* part of the equation?

When your workforce is provided with collaboration technology, on a robust and secure network, it is given its best chance to succeed. Companies that empower their employees to be productive anywhere, anytime, on any device stand to surpass their peers in the digital era.

What are the findings in construction and how do they compare with the national average?

- **Prioritizing connected workers, tools and buildings.** Construction companies are ahead of the national average in connecting their workforce, investing in smart buildings and utilizing VoIP (voice over internet protocol) phones. Unfortunately, their collaboration efforts slightly lag behind the national average concerning the adoption of a cloud-based productivity suite, a unified communications system and a videoconferencing solution. There is a clear opportunity to advance.
- **Embracing cloud and virtual applications.** The world is moving to cloud-enabled solutions delivered to any device, anywhere, at anytime. The good news for construction companies is that their investments in technologies like mobile device management, mobile business apps and IT infrastructure (both cloud and on-premise) are on par with other industries. They do lag other industries in data and analytics investments, as well as augmented reality/virtual reality adoption.
- **Lacking a security partner.** Digital transformation opens the door to added security vulnerabilities, including areas previously considered secure, like construction equipment. Construction companies place less priority on security when investing in physical automation, but they are equally likely to work with security consultants or managed security partners than businesses in other industries. The risk is high — construction firms are equally at risk as any other industry in terms of ransomware susceptibility and losing control of their remote assets.

Characteristics/Actions of Leaders

- **Regularly upgrading network infrastructure.** This is essential to ensuring that next-gen collaboration and internet-connected solutions can co-exist with the existing infrastructure stack.
- **Turning to a security expert.** Today's security threats are evolving — attacks occur through new vectors, at a higher rate than ever before. Leaders work with security consultants or managed security partners to ensure that customers, employees, data and applications are protected.
- **Combining IP-communication channels.** Consolidating communication channels such as email, instant messaging, voice, video, screen share and presence technology (i.e., unified communications) helps Leaders streamline, scale and optimize collaboration.

Workplace Transformation Recommendations for Construction

Impact of workplace investments reported by construction companies (KPIs)

Technology and process investments pay dividends. When asked about the results of investments in digital technologies and processes to improve how employees work, medium-sized Canadian construction businesses reported a 10–32% surge in results, slightly lower than the 18–31% increase nationally. Customer satisfaction scores saw the highest gain, followed by new service offerings and customer acquisition. As construction companies accelerate their adoption of digital processes and technology — taking point from the actions driving results for Leaders inside and outside the industry — their results will improve.

Importance of closing the gap with Leaders

In most industries, market share and profits are being concentrated by the top companies. Early adoption of digital solutions and process governance has translated into increased productivity and profitability. Having a leadership position in all facets of innovation, quality and customer experience enables a business to control all competitive levers and move entire industries forward.

Those furthest behind in their workplace transformation experience the opposite cycle, leading to a reliance on price cuts to retain clients, or sacrifices in one area of the business to save another area — diminishing morale and returns. The calibre of employees remaining on a sinking ship then reduces the likelihood of a turnaround in fortunes.



Construction companies can learn much from the investments Leaders have made and are planning to make. **Workplace transformation creates an opportunity for exponential growth, and is forcing organizations to prioritize their attention, efforts and resources to it — without delay.**

Recommended Next Actions for Construction Businesses by Stage

Workplace transformation ...> Next steps

1 Skeptics

- Adopting **collaboration tools** is a strong first step toward increasing the availability and ability of your workforce to innovate — anywhere, anytime, using any device.
- Creating **collaboration areas** within the workplace gives employees the ability to form and re-form environments to suit the collaboration needs of each project.

2 Beginners

- To improve employee productivity and customer experience, your business should consider **automating key processes**, ensuring employees spend less time on repetitive tasks and more time innovating.
- Your network supports most of your workforce. Ensure you have **fast, robust, secure network technology** to power your employees and avoid downtime. Consider the advantages of a **cloud-managed network** to automate, simplify and secure all your business does.

3 Implementers

- Migrating to **cloud computing infrastructure** drives increased agility, collaboration and cost savings. To store, manage and process data in real time, more professional service businesses are turning to the cloud.
- With an influx in device usage, each additional connection to your network and applications makes your company more susceptible to attack. Given security is likely not your company's core competency, consider **cybersecurity consulting** and/or a **managed security partner**.

4 Leaders

- Harnessing **IoT** and **physical automation** helps your business monitor and manage assets in real time. Investigate connected solutions to improve processes, reduce costs and delight your customers.
- Streamlining tasks in real time adds value to employee work. Consider **knowledge-based automation**, including **industry-specific decision assistants**, **internal support systems** and **sales and support automation**.

Methodology



Survey Details

- Internet survey of 203 medium-sized Canadian organizations (50-999 employees) in October 2018.
- All qualified respondents:
 - Influenced or had decision-making authority for the technology used by employees in the organization.
 - Had detailed knowledge of both the IT and telecommunication/networking products and services used by the organization.
- 68% director or higher.
- 31% IT and 69% LOB.
- Industry demographics.
- Size demographics.



Maturity Model

- The eight questions shown below were used to build the scale. IDC equally weighted these questions.
- Questions included in the TELUS Workplace Transformation Model:
 - Number of major investments made to address workplace priorities (G03).
 - Number of workplace investments made (A03).
 - Number of workplace tech investments made (A04).
 - Level of investment in physical automation (B01).
 - Number of investments in knowledge-based automation (B04).
 - Number of talent sourcing solutions used (C09).
 - Number of major tech infrastructure investments made (D02).
 - Number of major consulting/services investments planning to be made (D04).

Message from the sponsor

Workplace transformation provides the greatest opportunity to enable a fast, agile business that innovates faster than its competitors. By aligning people and processes with measured investments in digital solutions, your organization is empowered to move at the speed of customer demand.

At TELUS, we are ready to help.

Over 10,000 Canadian medium-sized businesses trust TELUS to redefine their workplace, from initial roadmap through planning, implementation, monitoring, and optimization.

Learn more about business transformation and the technology required to redefine your workplace at telus.com/workplacereDEFINED

