Payroll in focus:
The future of payroll

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Background

The Canadian Payroll Association represents over 40,000 payroll professionals covered under individual or organizational memberships, working with employers, payroll service and software providers (PSSPs), and governments to make payroll legislation and administration more efficient and effective. The Canadian Payroll Association is also committed to sharing knowledge and insights regarding the role and value of payroll and payroll professionals. The Canadian Payroll Association has partnered with PwC to further their goals of raising the profile of payroll in Canada, providing input on key policy issues, engaging members and stakeholders, and providing professional development. In this regard, The Canadian Payroll Association commissioned PwC to conduct a comprehensive study, the results of which are being shared in a series of three reports on key topics related to payroll in Canada.

This report, entitled *The future of payroll* lays out a vision of what the future of payroll will look like, including analyzing the current state of payroll, and key trends that will shape the future. This report identifies the implications of future payroll models for organizations, payroll professionals, and the Canadian Payroll Association. A previous report, entitled *The economic impact of payroll professionals in Canada*, assessed the importance of payroll to the Canadian economy. The second report, *The cost of employer compliance and public policy implications*, measured the impact on employers of their obligations to collect and remit hundreds of billions of dollars in personal income taxes, Canada Pension

Plan contributions, Employment Insurance premiums and other premiums through payroll. That report quantifies the cost of these remittance and compliance obligations to Canadian employers, and explores key policy issues including provincial harmonization of employment and labour standards, policy responses to COVID-19, and a digital payroll solution.

The future of payroll

Payroll is an often misunderstood function within Canadian organizations and, given the effectiveness with which it is executed, it is often seen as invisible. As long as payroll runs smoothly, it tends to be overlooked by different levels of management. The challenge is that payroll is a tremendously critical function within organizations, responsible for one of the most important aspects of the employee experience: compensation.

To help understand the current state of payroll today and to understand what payroll will look like in the future, the Canadian Payroll Association engaged PricewaterhouseCoopers LLP (PwC, we or us) to conduct an independent assessment of:

- The current state of the payroll function in Canada;

- Key trends affecting the payroll function;

- How the payroll function is expected to evolve in the future and the implications on Canadian organizations; and

This report on the future of payroll is the final report in a series of standalone yet connected reports exploring the importance of payroll to the Canadian economy, the challenges faced by payroll professionals across the country, and how payroll is expected to evolve in the future. The first two reports include: *The economic impact of payroll professionals in Canada* and *The cost of employer compliance and public policy implications.*
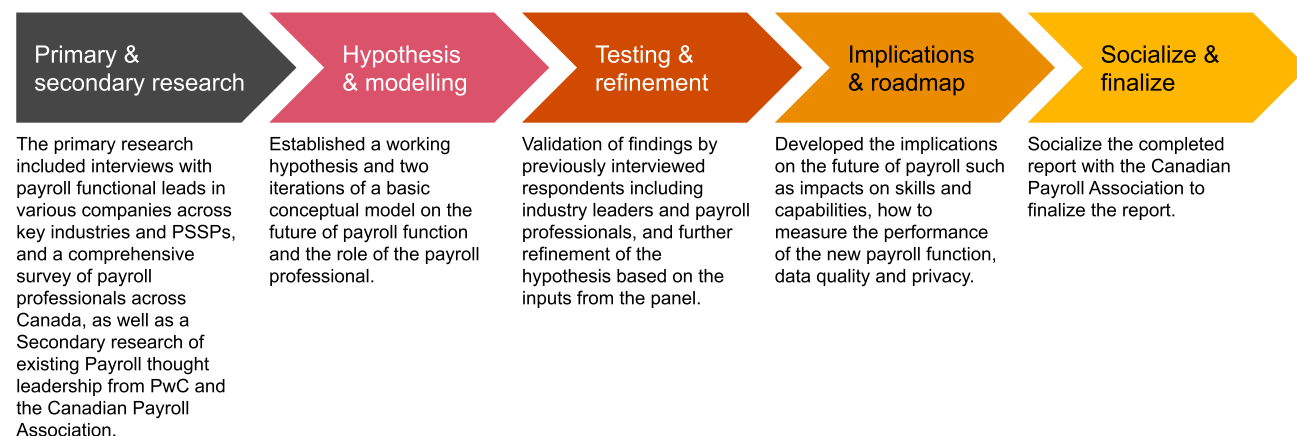
- The implications and supports required to enable the transformed payroll function, including upskilling requirements, technology supports and data usage.

Our approach

Our approach to understanding the current state of payroll in Canada involved extensive primary and secondary research, including conducting a comprehensive survey of over 2,400 payroll professionals from 12 dominant industries in Canada, facilitating eight focus groups involving 55 participants, conducting in-depth interviews with 13 industry executives and PSSPs, and an in-depth review of secondary research materials.

Summary of key findings

Based on our study, we concluded that organizations today often do not recognize the value that a high functioning, upskilled payroll function can provide. This is, after all, the function through which all workforce data and HR transactions ultimately flow. We also concluded that, while much of a payroll professionals' work today will be automatable in the medium to long-term, organizations will benefit hugely from investing in payroll to gain insights from the vast amount of data available to the function. Through these investments, payroll can be a driver of technological adoption, innovation, and growth.

Primary & secondary research	Hypothesis & modelling	Testing & refinement	Implications & roadmap	Socialize & finalize
The primary research included interviews with payroll functional leads in various companies across key industries and PSSPs, and a comprehensive survey of payroll professionals across Canada, as well as a Secondary research of existing Payroll thought leadership from PwC and the Canadian Payroll Association.	Established a working hypothesis and two iterations of a basic conceptual model on the future of payroll function and the role of the payroll professional.	Validation of findings by previously interviewed respondents including industry leaders and payroll professionals, and further refinement of the hypothesis based on the inputs from the panel.	Developed the implications on the future of payroll such as impacts on skills and capabilities, how to measure the performance of the new payroll function, data quality and privacy.	Socialize the completed report with the Canadian Payroll Association to finalize the report.

Current state of payroll

The following are key features of how payroll operates today:

- The **role of the payroll professional** today is primarily transactional and administrative in nature. Our activity analysis of a day in the life of payroll professionals in Canada showed that, on average, 60 per cent of payroll activities are administrative and supportive in nature, while only 10 per cent are focused on more strategic activities like payroll projects, operational excellence and continuous improvement.

- We observed that there is a **lack of a clearly understood payroll operating model** in most Canadian organizations today. In all but 24 per cent of Canadian organizations the roles within payroll, the channels of access to payroll, and the interaction points with other parts of the business are not clearly defined.

- There is a very **diverse adoption of outsourcing and technology**, and a wide diversity of providers within payroll, despite the dominance of a couple of PSSPs.

- Only **60 per cent of organizations track key performance indicators** (KPIs) in relation to payroll, and these are mainly related to the timeliness of payroll submissions. Few organizations track KPIs related to tracking root causes of payroll errors, cost per payslip or even more strategic workforce measures.

Impact of technology on payroll operations

Technology will disrupt the world of payroll and automation and will impact the role of the payroll professional. We deployed an analytical tool called Faethm on 2016 Canadian census data to predict the impact of technology and automation on the role of the payroll professional. The tool predicts that as much as **40 per cent of the payroll administrator** role could be automated over the next five years.

It is clear that **the payroll professional of the future will be working alongside machines and bots.** The payroll professional will need to upskill and be able to develop insights and tell stories with the vast data to which they have access.

Future of payroll

Over the course of this project, we learned that currently there are no distinguishable sets of payroll operating models that are common across Canadian organizations. A payroll operating model defines how payroll is run, which processes the team is accountable for, how systems are used, what is outsourced or kept in-house and the technology being used. The skills and responsibilities of payroll professionals vary, and the structure of payroll teams is unique, depending on the organization. However, the symptoms of shortcoming and the trends in areas of opportunities pointed us to a similar conclusion: the future of payroll will require major changes in the following four areas:

1. **Payroll professionals job architecture:** While most payroll professionals acknowledge that technology will significantly change their world, they are unclear on what that means for the role of the payroll professional and do not have any plans to address this lack of clarity.

   The new job architecture for the payroll professional will need to clearly articulate how they will work alongside machines and bots, what capabilities they will need, and how they will enable a more effective service delivery.

2. **New operating models for payroll emerging:** Lack of a well-defined payroll operating model will prevent payroll from being perceived as a strategic partner to the business.

   The new payroll operating model will likely have a digital core, with payroll professionals taking a highly consultative role, seamlessly integrated with the HR/ finance/ strategic arm of the organization, and directly providing workforce and productivity insights for enhanced decision making.

....
[1] Sum of direct and indirect impacts

3. **Measure of success:** With most organizations not consistently measuring KPIs (and the majority of the ones that are measured are operational/ tactical), the true value of payroll is lost in translation— payroll is perceived as a back-office transactional processing centre.

   New strategic business metrics need to be defined and actively monitored to measure the business impact of workforce and payroll data on the organization and is a key success factor for the future of payroll — ad hoc operational KPIs will not suffice.

4. **Focus on employee experience:** Payroll is seen as important on pay day but does not positively impact the overall employee engagement. Most participants felt payroll was invisible and they were only contacted when something went wrong.

   The future employee demographic will demand an intuitive user experience through accessible and easy to use applications. This will be increasingly important so employers can attract, engage and retain top talent.

From our research it was apparent that there is significant room to enhance the real and perceived value of payroll by defining a formal payroll operating model. A formal model documents the tiers of support, the channels of access to payroll, and the role and responsibility delineations between teams and vendors. It was notable that many of our participants were not clear on exactly what services had been outsourced to vendors or the logic behind those decisions. While a well-defined and thought through operating model will add value today it was also instructive in helping us think through how payroll would change in the world of tomorrow.

When hypothesizing over the future possibilities for payroll, two distinct models emerged: enhanced payroll operating model and payroll 2.0 (digital payroll factory). Both models have unique considerations and permutations based on organizational size, maturity, complexity of employee population and payroll and industry imperatives which will be further explored in the report. The table below provides a quick overview of each model.

Table A: Future state models for payroll

Enhanced op-model two to three years	Payroll 2.0 three to six years
Well-defined payroll operating model, integrated to broader organization's HR and finance function, with clear role delineations, optimal utilization of cloud technology and automation, with clear service performance measures.	Digital payroll operating model, where artificial intelligence is the main source of value creation and delivery, by converting data into predictions and insights, making critical decisions, and guiding and automating operational workflows.
Why have these options emerged?	
Our research informs that the payroll function has much more room to grow through marginal optimizations on governance, structure, role and responsibility delineation, interaction model, reporting and use of technology.	The digital transformation trajectory will certainly impact and outpace the marginal optimizations that can be gained through any traditional operating model, specially on scope of services, economies of scale, and pace of learning.
Quick comparison	
• Traditional Operating Model • Humans make operational decisions • Process driven • Focus on "super" specialization and institutionalized Payroll knowledge	• Digital operating model • AI algorithms make operational decisions • Data driven • Focus on universal set of digital capabilities: "data sourcing, processing, analytics, and algorithm development"

The enhanced payroll operating model (expected over the next two to three years)

The enhanced payroll operating model is a stepping stone from today's realities to tomorrow's possibilities. The enhanced payroll operating model introduces a formal structure and interactions model for payroll, an elevated payroll professional's role with clear role delineation, improved technology and use of analytics, continuous improvement facilitated through service performance, and an enhanced employee experience. While few organizations are consistently operating in this mode today and tap into the true potential of the payroll function, this model is not entirely novel. It is already in practice for some of the larger sized organizations with mature HR and finance operations. Hence we believe it is an achievable target for organizations to aspire to within the next two to three years.

## Figure A: Enhanced payroll operating model
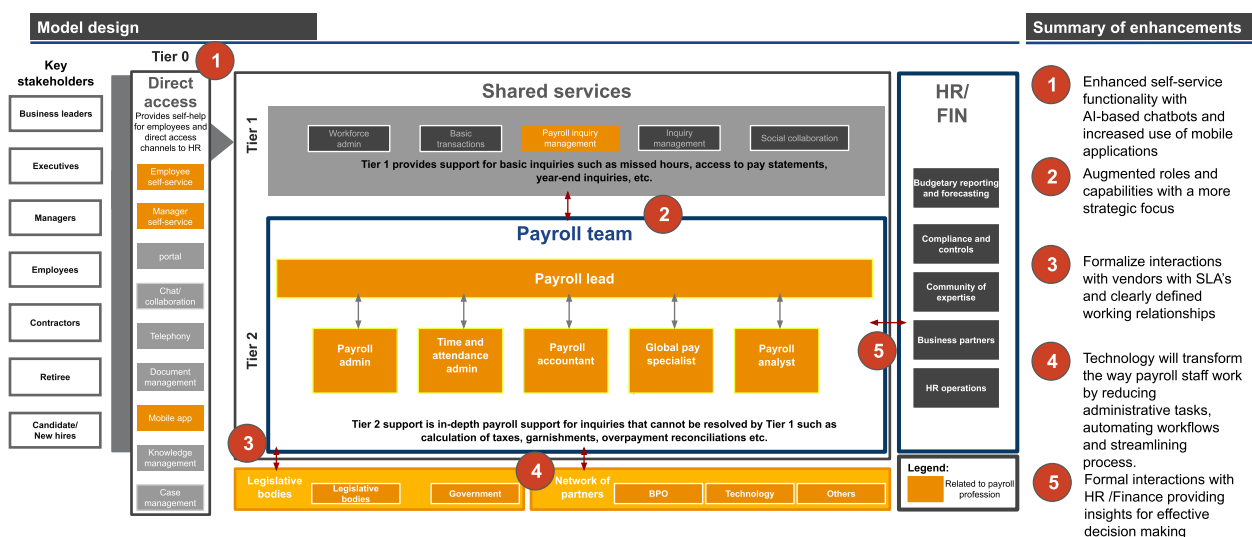
The digital payroll factory (expected over the next five years)

While the enhanced payroll operating model will significantly boost payroll's efficiency and value to the organization, it will not future proof the payroll function against the digital disruptions ahead. The digital payroll factory is a radically agile approach in payroll without the operating constraints that limit the traditional payroll operating model, allowing the payroll function to adapt and change much faster. Disruptive technologies are accelerating the pace of change; the digital payroll factory will use artificial intelligence and automation as the main source of value creation and delivery by converting data into predictions and insights — thus supporting critical decisions and guiding and automating operational workflows. Payroll professionals will fully leverage the digital core to augment and elevate their role and the value of payroll to the organization.

While at the first glance this model might seem too radical and futuristic, many organizations, particularly in retail, financial services and technology have started moving their front-office functions towards this direction. The COVID-19 pandemic and the urgency of digital resiliency has significantly accelerated this move, especially for the corporate back-office functions: think of the pace and scale to which many organizations had to react during business uncertainty to onboard or terminate employees, calculate final pays, issue ROEs, have a live and transparent line of sight into who is working for them and where, what jobs can be remote versus on-site, and create a pragmatic return to work plan. Hence we believe that, while this model is still quite progressive for many organizations, the imposed pace of change will move us towards this way of working within the next five years and beyond.

Figure B: Payroll 2.0: Digital payroll factory
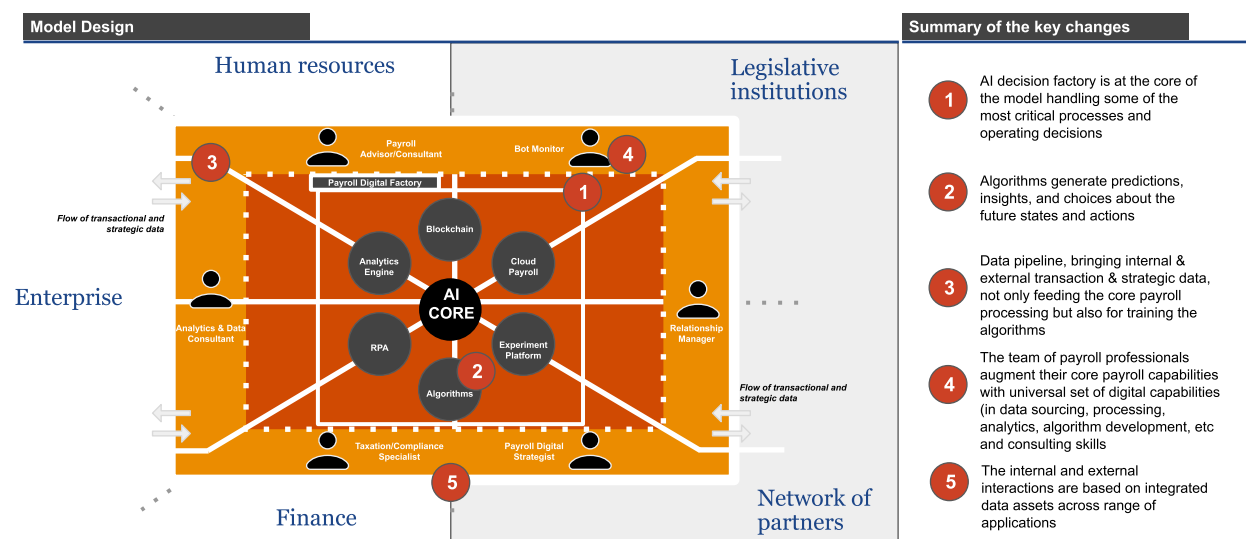
Both models have unique considerations and permutations based on organizational size, maturity, complexity of employee population and payroll and industry imperatives.

Embracing the future

This research provides a point of view into the future of payroll, informed by a comprehensive quantitative and qualitative current state study. The research signifies the value of the payroll function and role of professionals, while highlighting some of the systematic and operational challenges they deal with. It clearly necessitates a fit-for-purpose operating model for payroll to address the root cause of some of the major issues impeding the payroll function. Either of the two presented future state payroll operating models (enhanced payroll operating model and the digital payroll factory — payroll 2.0) require a dedicated focus on transforming the structure, redefining the payroll professional's role, and relentless investment in technology. The following implications are common to both of the models:

- **Embracing automation:** Both of the model options require a dedicated focus on automating the administrative high volume tasks and creating capacity for the professionals to focus on higher value activities.

- **Internal and external partnerships:** Payroll cannot be effective on its own and needs to extend its capabilities and influence through internal (HR, Finance, IT) and external (technology vendors, legislative bodies) partnerships.

- **Changes to payroll professional's job architecture and capability framework:** Knowledge of how to work with data and analytics (extraction, manipulation, visualization, storytelling) and knowledge of the payroll technology market and trends will be important components of the role going forward. The payroll professional of the future will also be effective at working with and alongside the technology (cloud, robotic process automation, anomaly detection, and artificial intelligence), have a continuous improvement mindset, and have the consultative and advisory skills to influence others.

- **Talent pipeline:** Based on the emerging capabilities, either of the proposed models require a fresh thinking on how to re-brand payroll and recruit and develop the next generation of payroll professionals — the talent pipeline and career path into payroll might change (e.g. computer science, system design, consulting).

- **Economic impact:** The future of payroll (as predicted by the two proposed models) will have an even greater economic impact with a more direct role in monitoring and enhancing workforce productivity and improving the employee experience. The future of payroll is not just about delivering with accuracy and efficiency, but delivering a different level of value to the business.

Introduction

Background

The Canadian Payroll Association represents over 40,000 payroll professionals covered under individual or organizational memberships, working with employers, payroll service and software providers (PSSPs), and governments to make payroll legislation and administration more efficient and effective. The Canadian Payroll Association is also committed to sharing knowledge and insights regarding the role and value of payroll and payroll professionals. The Canadian Payroll Association has partnered with PwC to further their goals of raising the profile of payroll in Canada, providing input on key policy issues, engaging members and stakeholders, and providing professional development. In this regard, the Canadian Payroll Association commissioned PwC to conduct a comprehensive study, the results of which are being shared in a series of three reports on key topics related to payroll in Canada.

This report, entitled *The future of payroll* lays out a vision of what the future of payroll will look like, including analyzing the current state of payroll, and identifying key trends that will shape the future. This report identifies the implications of future payroll models for organizations and payroll professionals. A previous report, *The economic impact of payroll professionals in Canada*, assessed the importance of payroll to the Canadian economy. The report, *The cost of employer compliance and public policy implications*, measured the impact on employers of their obligations to collect and remit hundreds of billions of dollars in personal income taxes, Canada

Pension Plan contributions, Employment Insurance premiums, and other premiums through payroll. The report quantifies the cost of these remittance and compliance obligations to Canadian employers, and explores key policy issues including provincial harmonization of employment and labour standards, policy responses to COVID-19, and a digital payroll solution.

The future of payroll

To help clarify the future role of the payroll function, the Canadian Payroll Association engaged PricewaterhouseCoopers LLP (PwC, we or us) to conduct an independent assessment of:

- The current state of the payroll function in Canada;

- Key trends affecting the payroll function;

- How the payroll function is expected to evolve in the future and the implications for Canadian organizations; and

- The implications and supports required to facilitate the transformed payroll function, including upskilling requirements, technology supports, and data usage.

Our approach

The report's key objectives include assessing the current state of payroll; identifying major technological, economic and social trends and determining how these trends are impacting the payroll function and payroll professionals; and creating a vision of what the future of payroll will look like in Canada.

Our approach to determine the future of payroll involved four key steps:

1. **Data collection:** During the first step, we conducted extensive primary and secondary research to establish the landscape of the current state of payroll, which included over 1,700 organizations and more than a dozen industries in Canada. Our data collection step included the following key activities:

    *   Facilitating eight focus groups with a combined total of 55 participants;

    *   Conducting 13 in-depth interviews with executives of PSSPs;

    *   Undertaking an extensive review of secondary research to support the focus group and interview findings; and

    *   Creating hypotheses and conceptual models.

3. **Conceptual modelling:** During the second step, the insights gathered during data collection were used to create hypotheses and conceptual models of what the future of payroll could look like. These insights and hypotheses were validated by the Canadian Payroll Association's Steering Committee as well as the project's Client Advisory Committee (CAC). The CAC included eight senior executives with cross-functional industry experience.

4. **Model validation survey:** During the third step, we conducted a comprehensive survey with over 2,400 respondents in order to test and validate our initial hypotheses.

5. **Reporting:** As part of step four, we developed this report which discusses the current state of payroll in Canada, how the payroll operating model will evolve in the future, and the implications of the transformation of payroll for Canadian organizations.

Primary and secondary research	Hypothesis and modelling	Testing and refinement	Finalizing the future of payroll
Targeted interviews, focus groups and a large-scale survey with payroll professionals, along with secondary data from payroll professionals surveys, employment data from sources like Statistics Canada, and our survey.	Based on primary and secondary research we developed initial working hypotheses and models on the future of payroll.	We tested the hypotheses by presenting the models to the CAC (previously interviewed payroll executives), along with the Canadian Payroll Association executives. Based on their reviews, we made necessary edits.	A holistic understanding of the future of payroll was created based on these insights and results from the survey, focus groups and interviews.

Assumptions and limitations

In a constantly evolving world like payroll, any new information or facts that arise would have to be considered to revise the overall report. With information available through the various data sources, the report outlines an overview of the current state as of June 2020 and would model the future state based on this available data. Similarly, this report should be read in conjunction with two separate reports developed by PwC as a part of this study, including *The economic impact of payroll professionals in Canada* and *The cost of employer compliance and public policy implications.*

Current state of payroll

While the role of the payroll professional is slowly evolving within Canadian organizations, the primary objective of payroll remains the same: to pay employees accurately and on time. The challenge is that as long as payroll is running smoothly, both payroll functions and the activities of payroll professionals tend to go unnoticed by executives and other employees within organizations. This often leads to a lack of investment in payroll improvement until a process or technology fails completely.

In order to shine a spotlight on the current state of payroll in Canada, we conducted interviews, focus groups, a comprehensive survey, and a significant amount of secondary research. In this section, we share our findings based on five key components of payroll:

Payroll service delivery

As part of our review of payroll service delivery, we looked at current operating models, the use of centralized and decentralized payroll operations, the payroll reporting relationship, the use of insourcing and outsourcing, and payroll headcount and key roles.

Payroll service delivery	Technology and data analytics	The role of payroll professionals:	Service performance	Employee experience
The structure of payroll organizations, how they operate, and how they interact within and outside of payroll.	The extent to which technology, digital channels, and workforce data is used to support payroll operations and other operational activities (e.g., core business operations).	The current roles, responsibilities, and core competencies of payroll professionals.	How payroll's effectiveness and impact are measured and reported.	The impact of payroll on the overall employee experience of organizations.

Operating model

Our research revealed that a standard, well-defined payroll operating model is lacking. Unfortunately, while payroll is considered an instrumental part of every organization, the lack of a formal payroll-specific operating model contributes to the perception that payroll is a transactional, back-office function. This misunderstanding often prevents payroll from being considered a true strategic partner to the business — to the detriment of the entire organization.

Currently, most Canadian organizations have an informal payroll operating model (see Figure 1), whereby the payroll team deals directly with employee inquiries through a range of ad hoc channels that are independent of the severity level of the employee issue. Only 24 per cent of the Canadian organizations we surveyed said that they have a formal payroll operating model or shared services model with appropriate tiers of escalation and the formal tracking of requests. Of these respondents, 13 per cent said that they have a true shared services model whereby employee inquiries are escalated through HR or finance service delivery "tiers" for a variety of functions within the organization and then distilled to the payroll function. In comparison, 11 per cent said that they have a payroll functional model whereby employee inquiries are escalated through a tiered approach, but only for the payroll function.

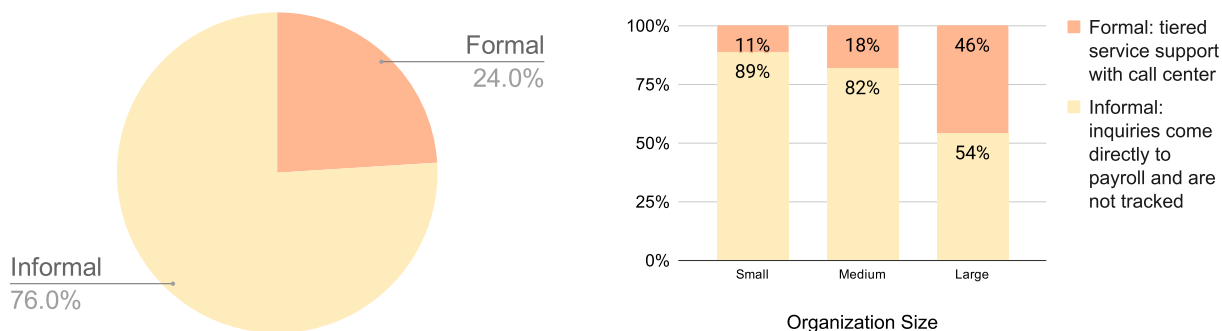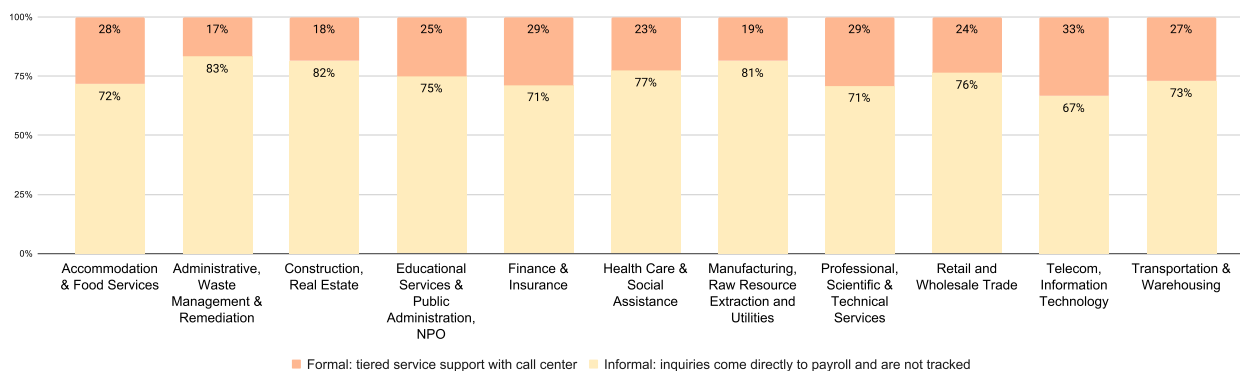## Figure 1: Formal versus informal operating model (N = 1751 (left), 1560 (right))

Figure 2: Formal versus informal operating model by industry (N = 1560)

As can be seen in Figure 2, the use of formal operating models was far more prevalent in large organizations (46%) compared to medium-sized organizations (18%) and small organizations (11%). This is not surprising, given that large organizations typically have more formal structures and processes than their smaller counterparts.

From an industry perspective, approximately 30 per cent of respondents from more progressive industries like telecom, professional, scientific and tech services, and finance and insurance have formal operating models (see Figure 2). Meanwhile, approximately 18 per cent of respondents from more traditional industries like administrative, waste management and remediation, construction and real estate, manufacturing, resource extraction, and utilities have formal operating models.

Centralized vs. decentralized payroll operations

A centralized payroll approach, which involves running payroll and paying employees from a central location, is more common in Canadian organizations today compared to a decentralized payroll approach. A majority (68%) of respondents to our survey said that they have a centralized payroll operating model (see Figure 3). Centralized payroll operations allow payroll experts to maintain control of the payroll function which, in turn, promotes standardization, streamlines processes, ensures employee and payroll data integrity and reduces the risk of error or payroll leakage.

Approximately one-third of survey respondents said that they have decentralized payroll operations, which means payroll data is gathered, administered, and inputted directly into systems in various locations, instead of sending information to a central location for processing. Quite often a decentralized approach can result in duplication of efforts as centralized operations are typically still responsible for collating and auditing data from the decentralized locations.

Among the 32 per cent of respondents with decentralized payroll operations, the most common decentralized activity identified was time collection and approval — a relatively low-risk activity often enabled through basic manager or employee self-service functionality.

Decentralized operations are more common in large organizations (40%), compared to small (26%) and medium-sized organizations (28%) (see Figure 3). This may be because large organizations are more likely to have enabling technologies (e.g. human capital management systems) that allow different departments and individuals to enter their specific information (e.g. employee changes, time records). According to our survey, the use of centralized or decentralized payment operations was fairly even across sectors, with slightly higher use among telecom and IT (36%), and finance and insurance (36%) companies (see Figure 4).

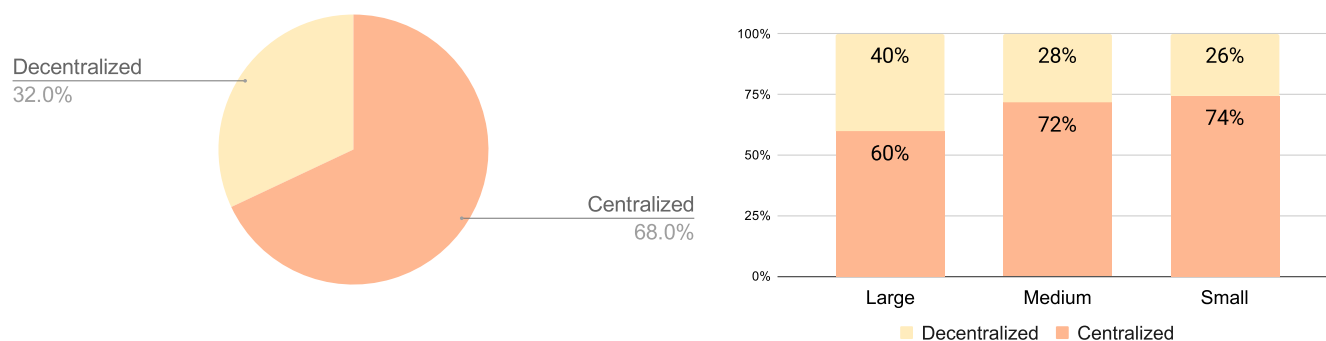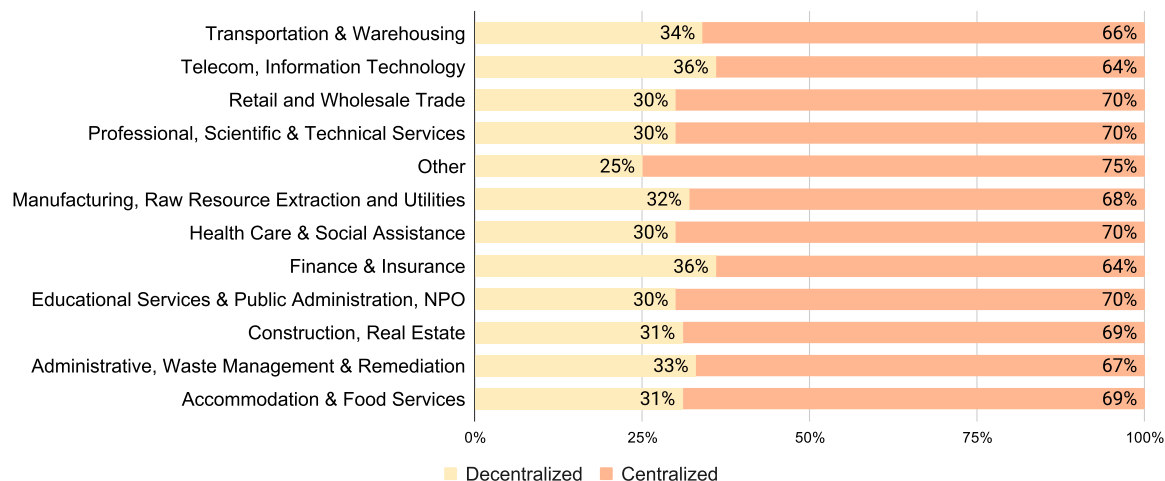## Figure 3: Centralized versus decentralized operating model (N = 1812 (left), 1667 (right))

Decentralized 32.0%

Centralized 68.0%

	Large	Medium	Small
Decentralized	40%	28%	26%
Centralized	60%	72%	74%

Decentralized ■ Centralized

Figure 4: Centralized versus decentralized by industry (N = 1667)

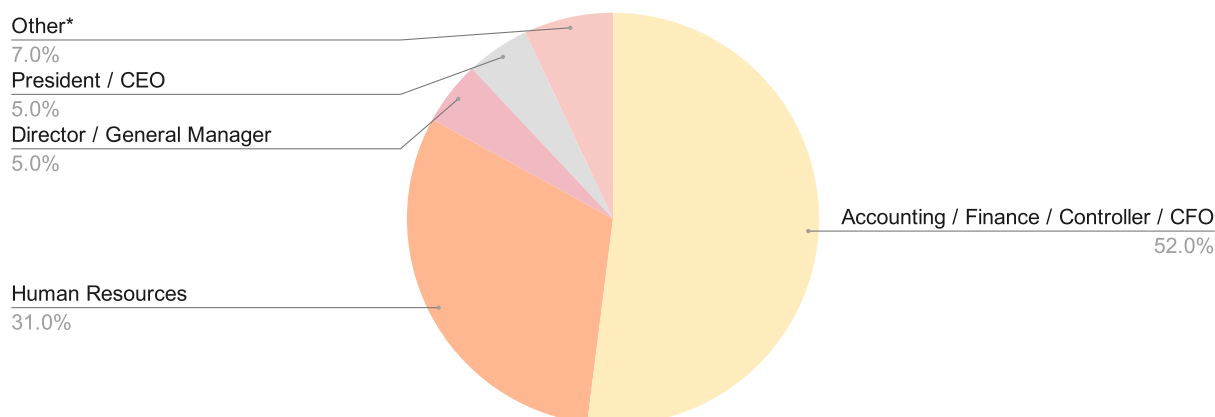| Industry	Decentralized	Centralized
Transportation & Warehousing	34%	66%
Telecom, Information Technology	36%	64%
Retail and Wholesale Trade	30%	70%
Professional, Scientific & Technical Services	30%	70%
Other	25%	75%
Manufacturing, Raw Resource Extraction and Utilities	32%	68%
Health Care & Social Assistance	30%	70%
Finance & Insurance	36%	64%
Educational Services & Public Administration, NPO	30%	70%
Construction, Real Estate	31%	69%
Administrative, Waste Management & Remediation	33%	67%
Accommodation & Food Services	31%	69%

◼ Decentralized ◼ Centralized

Payroll reporting relationship

According to our survey, over half (52%) of payroll functions report into finance (see Figure 5). Payroll typically involves complex tax regulations and the use of defined controls, activities that finance professionals are well-equipped to manage.

Additionally, payroll also involves several accounting activities (e.g. posting to the general ledger, conducting accruals, coordinating with banks) —

and the responsibility for balancing the books ideally rests with finance. The results of our survey align with the recent National Payroll Week (NPW) 2019 Professional Research Survey, which found that a majority of payroll respondents report to accounting/finance (55%) while 34 per cent report to HR.[1]

Figure 5: Who payroll reports to (N = 1663)

- Other* 7.0%
- President / CEO 5.0%
- Director / General Manager 5.0%
- Accounting / Finance / Controller / CFO 52.0%
- Human Resources 31.0%

[1] Framework Partners and The Canadian Payroll Association. The *Canadian Payroll Association NPW 2019 Professional Research Survey, Full Results*. Framework, 2019.

Significantly more large organizations (43%) have payroll reporting to HR, as compared to small (15%) and medium-sized (38%) organizations (see Figure 6). This is likely because it is more common in large organizations to have an integrated, cloud-based Human Capital Management (HCM) solution — of which the HR function would typically have custodianship. These types of HCM solutions typically incorporate the required controls and business processes to ensure compliance and operational rigour. In large organizations, having payroll report to HR can also enhance the employee experience by providing employees with a more integrated experience that offers enhanced insights and transparency into the entire payroll.

Figure 6: Who payroll reports to by organization size (N = 1663)
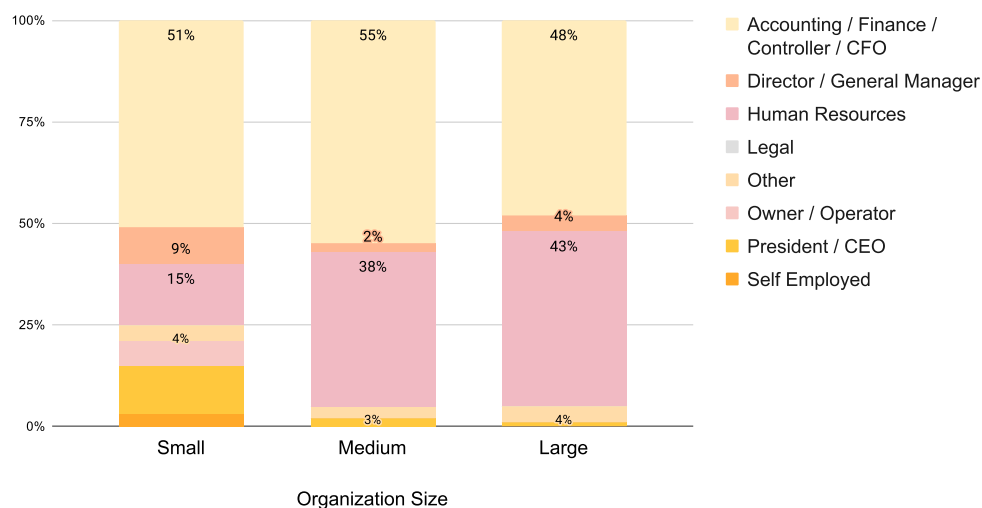
The Bloomberg 2019 Payroll Benchmarks Survey, while focused on the U.S. market, shows similar results: 59 per cent of the payroll functions in small and medium-sized organizations (i.e. less than 1,000 employees) report to finance, as compared to 53 per cent of large organizations (i.e. more than 1,000 employees).[2]

[2] Bloomberg Tax & Accounting. *2019 Payroll Benchmarks Survey Report*. Bloomberg, 2019.

Figure 7: Who payroll reports to by industry (N = 1663)

Legend:
- Self Employed
- President / CEO
- Owner / Operator
- Other
- Legal
- Human Resources
- Director / General Manager
- Accounting / Finance / Controller / CFO

Industry	Values
Accommodation & Food Services	3, 23, 3, 29
Administrative, Waste Management & Remediation	1, 1, 2, 6
Construction, Real Estate	4, 1, 22, 3, 66
Educational Services & Public Administration, NPO	17, 132, 28, 246
Finance & Insurance	2, 7, 42, 4, 40
Health Care & Social Assistance	2, 9, 49, 12, 110
Manufacturing, Raw Resource Extraction and Utilities	6, 7, 106, 10, 120
Other	1, 1, 1, 2
Professional, Scientific & Technical Services	12, 5, 52, 11, 94
Retail and Wholesale Trade	5, 6, 48, 6, 74
Telecom, Information Technology	1, 16, 20
Transportation & Warehousing	1, 3, 33, 6, 51

As shown in Figure 7, having payroll report to finance is more common for organizations in construction and real estate (66%), health care (58%), and education and public sector (56%). By contrast, in the finance and insurance industry, it is slightly more common for payroll to report to HR (40%).

Insourcing versus outsourcing

Traditionally, organizations have partially or fully outsourced payroll, as they believe they do not have the technology, resources or expertise to process payroll in-house. Partially outsourced models are those where organizations pick and choose which services they would like to outsource and are relatively low cost or cost-effective, hence a more common option than full outsourcing.

According to our survey, 44 per cent of Canadian organizations use a partially outsourced model (see Figure 8). In comparison, only four per cent of organizations fully outsource their payroll — meaning that the vendor is responsible for all payroll activity (i.e. payroll inputs, interfaces, gross to net calculations and processing, employee payments, e-statements, remittances and tax filings). Vendors in a fully outsourced model are also responsible for service delivery activities, including answering all employee inquiries and providing payroll governance.

While outsourced and partially outsourced payroll models have been more prevalent historically, our survey shows a shift towards in-house payroll processing. Over half (52%) of respondents reported that they process payroll in-house. This shift is likely due to the increasing availability of high-quality payroll software and Enterprise Resource Planning (ERP) solutions — whether off-the-shelf or customized.

Bloomberg's 2019 Payroll Benchmarks Survey, which focuses on the U.S. market, shows a similar percentage of U.S. organizations fully outsource payroll as compared to our results for Canadian organizations. The U.S. data, however, shows a much higher use of partial outsourcing (65.8%) and a lower percentage of insourcing (30.7%) as compared to our results.[3]

The Alight/NGA 2019 Global Payroll Complexity Index Report, which focuses on the global market, shows results similar to our survey, reporting that 43 per cent of organizations process payroll in-house, while 46 per cent partially outsource payroll, and 11 per cent have fully outsourced payroll.[4]

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[3] Ibid.
[4] Alight & NGA Human Resources. *2019 Global Payroll Complexity Index Report.* NGA HR, 2019.

Figure 8: Insource versus outsourcing (N = 1611)

Fully Outsourced
4.0%

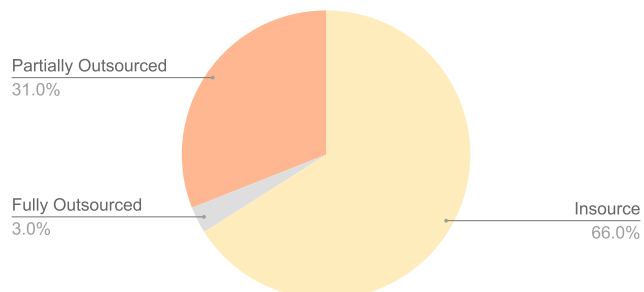Partially Outsource
44.0%
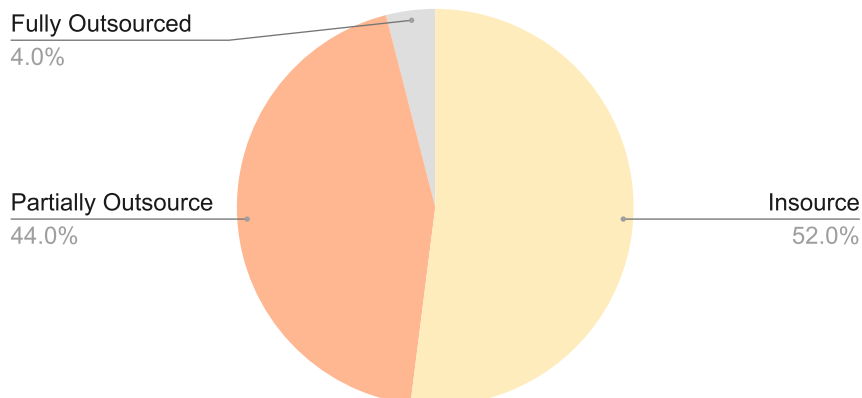
Insource
52.0%

We found that it is more common for small and medium-sized organizations to partially outsource payroll services as compared to large organizations. This can be partially attributed to the flexibility that such an option provides, as organizations can pick and choose which services they want to outsource based on their existing resources, technical capabilities, and limitations. Partial outsourcing is also relatively cost-effective while also reducing risks for the organization.
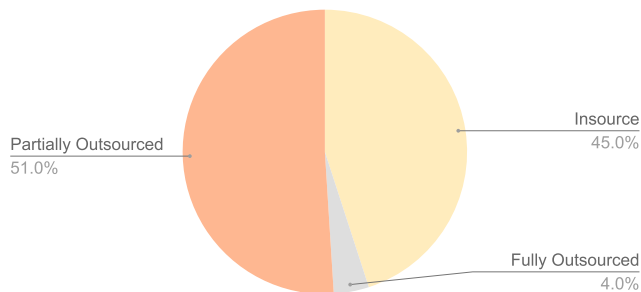
Large organizations, meanwhile, tend to insource their payroll. This model gives the organization full ownership of the payroll software and the ability to configure it to meet their unique organizational needs. Large organizations are also more likely to invest in enterprise-wide solutions (e.g. ERP solutions), which have the proper infrastructure, governance and workflows to support in-house payroll activities.

Figure 9: Insource versus outsourcing across organization sizes

Large Organizations (N = 473)

Partially Outsourced
31.0%

Fully Outsourced
3.0%

Insource
66.0%

Medium Organizations (N = 491)

Partially Outsourced
51.0%

Insource
45.0%

Fully Outsourced
4.0%

Small Organizations (N = 647)

Partially Outsourced
49.0%

Insource
45.0%

Fully Outsourced
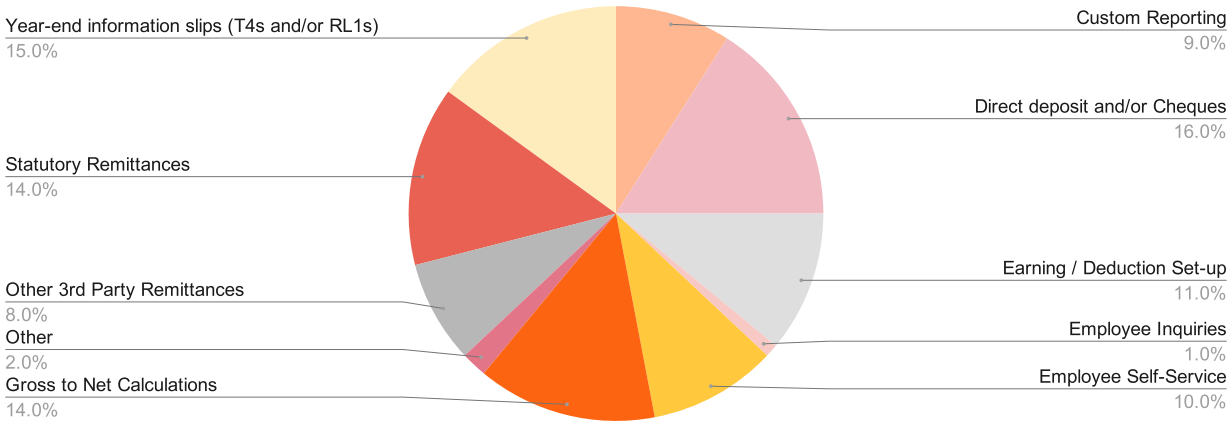6.0%
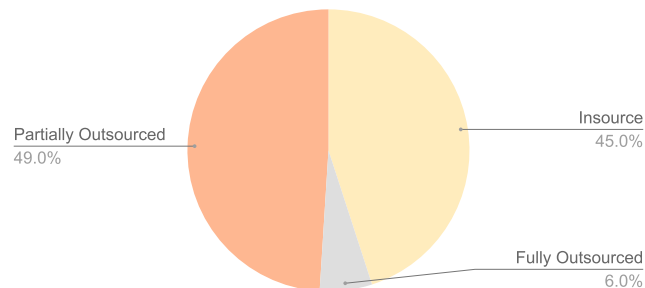
As mentioned previously, outsourcing is a common model for conducting payroll operations. According to our survey (see Figure 10), 16 per cent of Canadian organizations outsource production of their pay statements (i.e. direct deposit statements or cheques), while 15 per cent outsource production of their year-end statements (e.g. T4, RL1). Outsourcing of these activities is relatively low cost, particularly compared to the effort and cost of printing and mailing these transactional statements in-house. Organizations have found electronic preparation of year-end statements to be costly and choose to outsource to eliminate the function entirely.

Dealing with statutory remittances is another common payroll activity that Canadian organizations outsource (14%), likely because it relieves the organization of the regulatory burden of meeting legislative deadlines and keeping up to date on changes. Organizations also outsource a variety of other standard payroll services, including gross to net calculations, earning and deduction set-up and custom reporting. Only one per cent of the Canadian organizations surveyed said that they outsource employee inquiries. This is not surprising given that this is typically a service only provided under fully outsourced payroll models.

Figure 10: Payroll services provided by a third party (N = 5005)

Year-end information slips (T4s and/or RL1s)
15.0%

Statutory Remittances
14.0%

Other 3rd Party Remittances
8.0%
Other
2.0%
Gross to Net Calculations
14.0%

Custom Reporting
9.0%

Direct deposit and/or Cheques
16.0%

Earning / Deduction Set-up
11.0%

Employee Inquiries
1.0%
Employee Self-Service
10.0%

Payroll headcount and roles

Across all industries, large organizations have significantly fewer payroll full-time equivalents (FTEs) per 1,000 employees than do small and medium-sized organizations (see Figure 11). This is likely due to the significant economies of scale that large organizations typically have. Large organizations often also have better integration between their payroll solutions and their core HR systems (e.g. higher usage of HCM/ payroll platforms as opposed to standalone payroll solutions).

According to our survey, there is one payroll FTE to 53 employees in small organizations, one payroll FTE to 200 employees in medium-sized organizations, and one payroll FTE to 500 employees in large

organizations. Looking at the data from a different perspective, the median of payroll FTEs to 1,000 employees is approximately 20 for small organizations, five for medium-sized organizations, and two for large organizations.

Among large organizations, the administrative, waste management and remediation industry category has the highest payroll FTE ratio per 1,000 employees (4.0) — almost twice the average. Smaller organizations in the same industry category also have the highest payroll FTE ratio (33.5) — which is 1.5 times higher than the average.

Figure 11: Payroll FTEs per 1,000 employees versus industry (N = 1366)
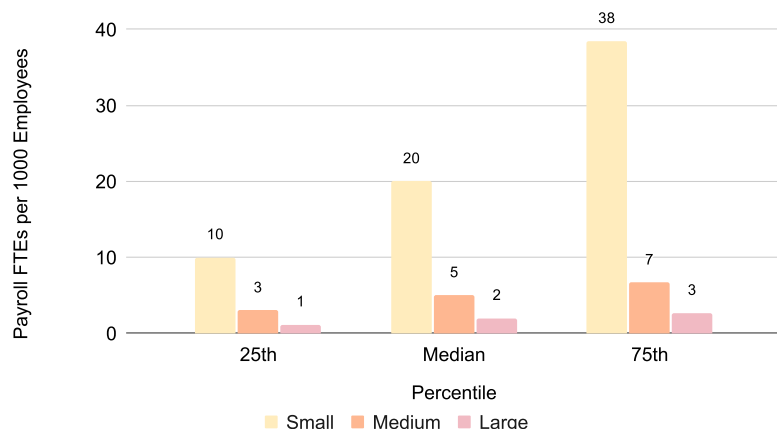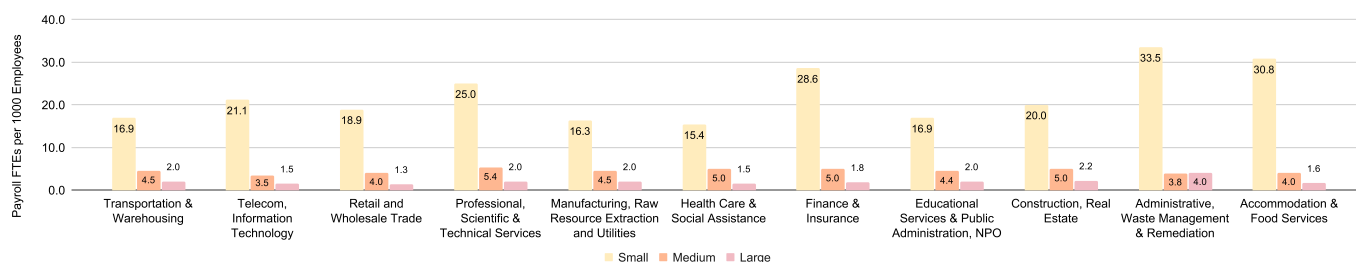

Figure 12: Payroll FTEs per 1,000 employees (N = 1366)

Payroll resources

Given the many hats that payroll professionals wear, it is not surprising that respondents listed many different job titles or positions when answering our survey (see Figure 13). Payroll administrator was the role survey participants identified with the most (26%), followed by payroll manager (15%). Only 10 per cent identified as accounting clerks and bookkeepers.

To better understand and differentiate between the different roles and responsibilities of our respondents, we grouped the various positions listed into three main role categories (see Figure 14), including:
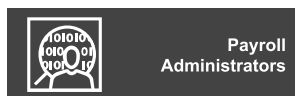
Payroll Administrators

Roles focused on payroll administration, including payroll coordinator, payroll benefits administrator, accountant/accounting clerk, bookkeeper, HR administrator/specialist/coordinator, and payroll administrator.

Payroll management

Roles focused on payroll management, including payroll supervisor, payroll manager/director, accounting supervisor/manager/director, finance officer/manager, HR supervisor/manager/director.

Senior payroll management

Roles related to senior management, including controller, chief financial officer (CFO), vice president, and director.

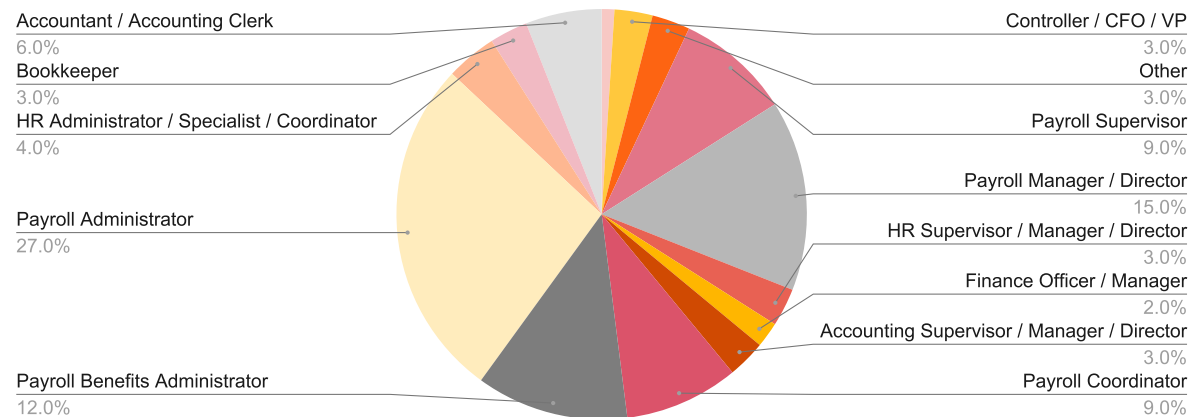**Figure 13: Payroll position breakdown by survey respondents (N = 1667)**

Accountant / Accounting Clerk
6.0%
Bookkeeper
3.0%
HR Administrator / Specialist / Coordinator
4.0%
Payroll Administrator
27.0%
Payroll Benefits Administrator
12.0%

Controller / CFO / VP
3.0%
Other
3.0%
Payroll Supervisor
9.0%
Payroll Manager / Director
15.0%
HR Supervisor / Manager / Director
3.0%
Finance Officer / Manager
2.0%
Accounting Supervisor / Manager / Director
3.0%
Payroll Coordinator
9.0%

Figure 14: Payroll position grouping breakdown by survey respondents (N = 1667)

Senior Management
3.0%
Other
3.0%
Management
33.0%
Administrator
61.0%
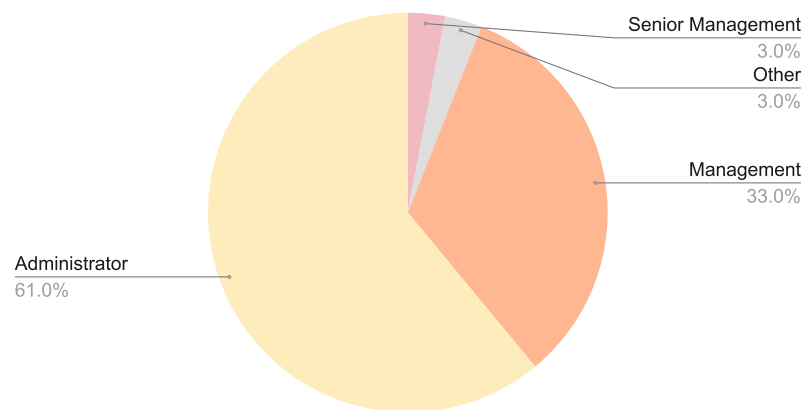
Payroll administrators

Payroll administrators are primarily responsible for day-to-day payroll activities within an organization. Among other activities, their responsibilities typically include:

- Conducting payroll planning activities — including verifying, processing and inputting additions or changes to employee data that affects employee income, deductions, taxation, and payment distribution;

- Conducting payroll calculations and processing — including performing the accurate calculation of all payments, maintaining payroll and taxable benefit records, and managing payroll

corrections (e.g. overpayments, missed hours); and

- Conducting payroll post-processing — including distributing payments and pay advice to employees, preparing and distributing payments, benefits, taxes, and payroll deductions, preparing and disseminating third party remittances and reporting, and responding to tier 2 payroll inquiries.

Payroll managers

Payroll managers typically have a wide range of responsibilities within an organization. These responsibilities might include:

- Managing overall payroll operations, including ensuring payroll is managed and processed efficiently and accurately;

- Overseeing payroll vendor management (if applicable);

- Developing payroll strategy and policy;

- Auditing payroll transactions to ensure all amounts and payment dates are accurate;

- Coaching and mentoring team members;

- Gathering operational data (i.e. metrics and KPIs) to examine and assess business performance and effectiveness;

- Ensuring compliance with all relevant payroll and tax laws;

- Collaborating with HR and finance departments to establish strategic direction and create payroll reports and forecasts;

- Approving permanent changes in payroll (e.g. payroll codes); and

- Maintaining payroll guidelines by writing and updating payroll policies and procedures.

Senior payroll management

The responsibilities of senior payroll management tend to be focused more on strategy than operations. For example, their responsibilities might include:

- Overseeing the development, implementation and ongoing maintenance of payroll operations;

- Managing the workflows related to payroll processing to ensure optimal efficiency and maintain high standards of customer service;

- Ensuring payroll processing is timely and accurate in accordance with government regulations and specific company policies;

- Reviewing and analyzing current payroll and tax procedures in order to recommend and implement changes leading to best-practice;

- Collaborating with finance and HR to create payroll reports and forecasts;

- Conducting random audits of the payroll, benefit process and other activities to ensure accuracy and compliance with regulatory requirements;

- Staying informed of federal and provincial employment legislation and regulations to ensure company compliance; and

- Managing relationships with vendors, including selecting providers and brokers and ensuring customer service levels are met.

Our research highlighted that key payroll roles will need to evolve — not only to meet future demand but to adjust to shifting trends, such as the increase in remote work and the growing number of companies focused on international expansion. These and other shifting trends are significantly increasing the complexities associated with managing payroll. For example, payroll professionals need to spend significantly more time to deal with the needs of globally mobile employees (e.g. determining tax withholdings, reporting compensation and conducting year-end processing than they do for domestic employees).

During our interviews, senior management participants suggested that payroll professionals will need to take on an expanded advisory role in order to deal with these increasing complexities and other challenges. In order to do this, however, they recognized that payroll professionals would need reskilling.

Technology and data

As part of our review of payroll technology and data analytics, we looked at the shift to cloud payroll technology, the use of standalone payroll technology and the integration of payroll technology with HCM solutions, the timing of technology upgrades, the use of payroll vendors, and the use of integration and automation.

Shift to cloud payroll

While the payroll function lags behind the rest of HR domains in terms of technology modernization, there has been a noticeable shift towards the use of cloud payroll technology. More than half (53%) of organizations we surveyed are now using cloud-based payroll technology as opposed to on-premise technology (see Figure 15). An even greater percentage (almost 60%) of respondents have their payroll technology integrated within an HCM platform as opposed to using a standalone solution (see Figure 16).
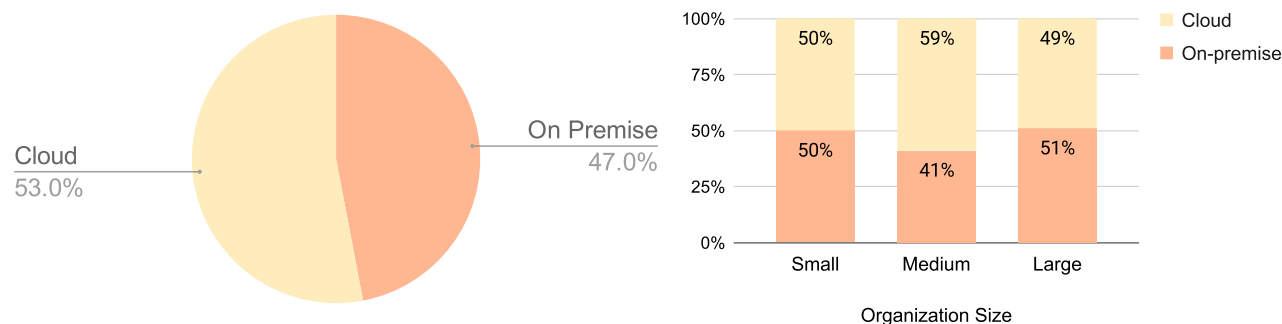
Cloud-based payroll, which is now embedded into most payroll solutions, provides a significant amount of flexibility. Therefore, it is no surprise that more and more Canadian organizations are taking advantage of it and moving away from housing their payroll data on-premise. Whereas IT departments once resisted the use of cloud-based technology, many now insist on cloud-based solutions. For organizations, cloud-

based payroll solutions offer a number of benefits, including reducing the need to invest in and maintain on-premise software.

With portable or cloud-based data, organizations can establish a central and accessible repository of payroll data. The ready availability of this data allows for increased data analytics related to payroll delivery, which can enhance predictive capabilities, data analytics related to historical data and data-as-a-service offerings. Access to these new and constantly evolving data analytics capabilities will help drive the shift from where payroll is seen as a simple processor to where it is a highly valuable strategic business partner.

A 2019 whitepaper developed by PwC's Australia Payroll Consulting team identified data portability as a key change area for payroll over the next five to 10 years. New privacy legislation, such as the General Data Protection Regulation (GDPR) in Europe, is driving a shift in how personal data is handled — moving it away from organizations or employers and directly into the hands of the individual. Benefits identified by the whitepaper included the development of a one payment summary and superannuation statement across all employers and the ability for employers to determine the employee tax withholding without having to create a new Tax File Number Declaration each time. In the Australian context, the basis for this repository already exists through Single Touch Payroll, SuperStream and MyGov.[5]

Figure 15: Cloud versus on premise technology (N = 1562 (left), 1464 (right))

Cloud 53.0%
On Premise 47.0%

Cloud
On-premise

| Organization Size	Cloud	On-premise
Small	50%	50%
Medium	59%	41%
Large	49%	51%

[5] PwC Australia Payroll Consulting Team. *The Power of Payroll.* PwC Australia, 2018.

Standalone versus HCM

While single HCM systems are becoming more prevalent within Canadian organizations of all sizes, they are still most common to large organizations. Sixty-seven per cent of survey respondents from large organizations said they are using HCM systems, compared to 64 per cent from medium-sized organizations and 50 per cent from small organizations.

Figure 16: Standalone payroll versus HCM (N = 1598)
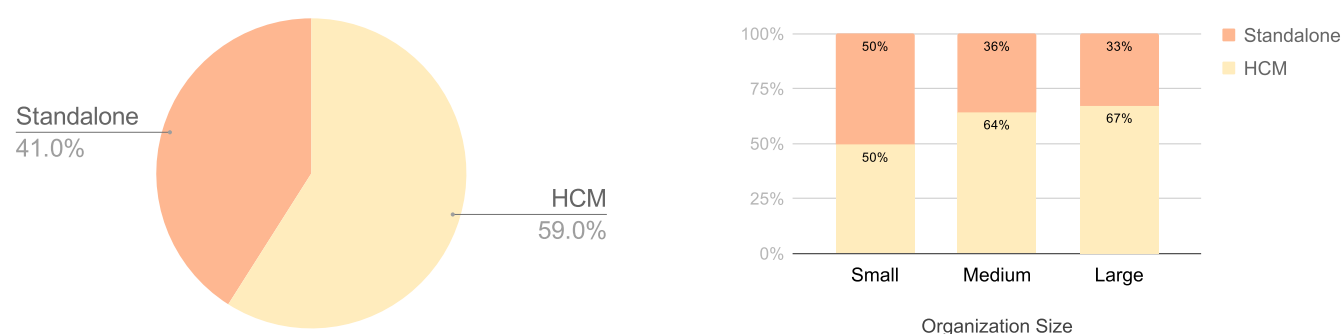

Recent tech transformation

Despite the rapid evolution of technology, including innovation within the payroll market, the payroll technology being used by organizations today is often outdated and limited in capability. As can be seen in Figure 17, only 44 per cent of the respondents in our survey said that they have gone through a recent technology transformation (i.e. within the past five years). This finding supports the hypothesis that there is a lack of investment in payroll modernization. While it is evident that technology is essential to the success of a modern payroll operation, the movement away from manual processes and toward automated solutions, integrated systems, well-defined and streamlined payroll functions, and the use of advanced data analytics is still a relatively slow process within many Canadian organizations.

As outlined in the 2019 Forrester Tech Tide™: Cloud Human Capital Management survey, payroll is a very mature area with frequent new offerings in the market. Although 81 per cent of the survey respondents indicated high maturity and 42 per cent expected lower business value, 79 per cent recommended clients to maintain payroll investments toward cloud based vendors. In a recent American Productivity & Quality Center (APQC) survey that looked at factors driving the financial agenda in general accounting and reporting, 61 per cent of people highlighted "payroll" as a key element of growth, more specifically outlining activities like cutting costs and implementing new technologies/capabilities rated as essential or high priority by 63 per cent and 52 per cent respectively.[7]

Figure 17: Recent tech transformation (N = 1777)

No
56.0%

Yes
44.0%
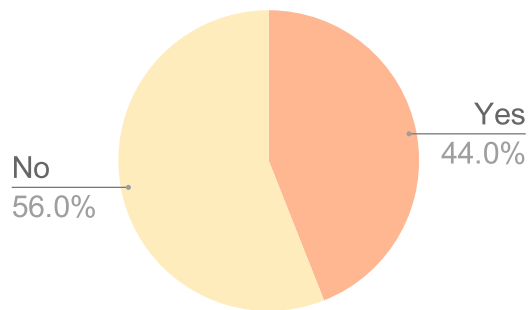
Payroll vendors

According to our survey, payroll technology providers ADP and Ceridian dominate the payroll services market in Canada, representing 37 per cent of the Canadian market (see Figure 18). These two vendors are the most commonly used by small, medium, and large organizations (see Figure 19). Sage, Payworks, Peoplesoft, Ultimate, Workday, Avanti, Quickbooks and SAP account for 30 per cent of the market share and based on feedback during our focus groups, they have a potentially growing market share for their latest cloud-based offerings.

Our findings are supported by a Regulatory Compliance Costs Survey by the Canadian Payroll Association, which also found ADP and Ceridian to be the most popular third-party payroll service providers. Since the majority of the respondents in the Canadian Payroll Association's survey were small and medium-sized organizations (i.e. 79% of the organizations surveyed had less than 1,000 employees), the results are better aligned to the organizational size graphs displayed in Figure 19.[8]
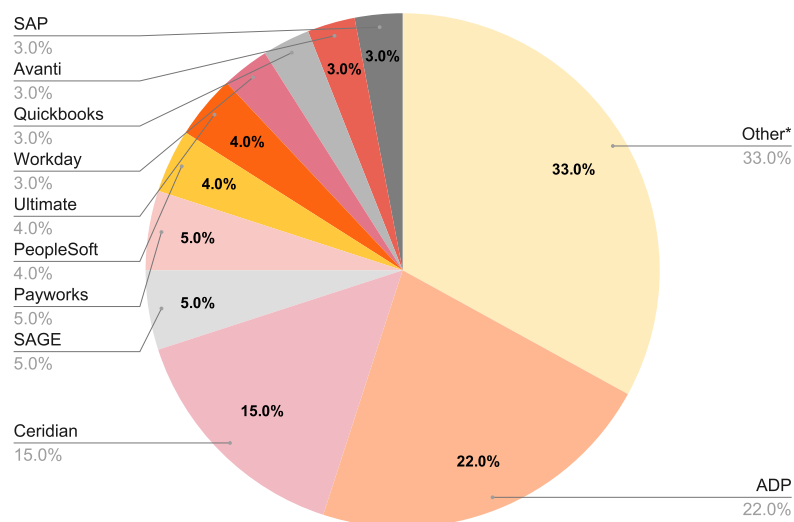
Our survey also found that a significant number of respondents (33%) use other payroll technology vendors. Included in this "others" category are any vendors that have less than a two per cent market share and several niche payroll technology providers with less than one per cent of the market share (i.e. close to 110 vendors had less than 1% of the market share), which highlights the incredible diversity of players in this space.

Among small organizations, 20 per cent use accounting packages like SAGE and Quickbooks, a method basically non-existent in medium-sized and large organizations. At the same time, 35 per cent of large organizations use an ERP solution like Workday or SAP, which is higher than the 24 per cent combined total of payment technology providers ADP and Ceridian. Interestingly, the "others" category still accounts for a significant share of the market among large organizations (42%).

The major concerns with having a large number of niche payroll vendors in the market are the breadth, depth of functionality, flexibility and configurability of solutions, in addition to the financial viability of some of the vendors. Based on our observations and field experience working with clients, some niche payroll technology vendors could find it difficult to provide viable solutions and services during times of major business uncertainty, such as the recent COVID-19 pandemic.

....

[8] The Canadian Payroll Association. *Regulatory Compliance Costs.* The Canadian Payroll Association, 2011.

Figure 18: Payroll technology (N = 1558)

- SAP 3.0%
- Avanti 3.0%
- Quickbooks 3.0%
- Workday 3.0%
- Ultimate 4.0%
- PeopleSoft 4.0%
- Payworks 5.0%
- SAGE 5.0%
- Ceridian 15.0%
- Other* 33.0%
- ADP 22.0%

These findings, when compared to a 2011 Canadian Payroll Association Regulatory Compliance Costs Survey, show us that ADP and Ceridian have continued to dominate as a third-party payroll service provider for the better part of the past decade.[9]

Figure 19: Payroll technology by organization size

Large Organizations (N = 474)

- Ultimate 6.0%
- Workday 8.0%
- SAP 9.0%
- Ceridian 8.0%
- PeopleSoft 11.0%
- Other 42.0%
- ADP 16.0%

Medium Organizations (N = 540)

- SAGE 4.0%
- Avanti 4.0%
- Payworks 4.0%
- Ultimate 5.0%
- Ceridian 17.0%
- Other 41.0%
- ADP 25.0%

Small Organizations (N = 544)

- Desjardins 3.0%
- Payworks 8.0%
- Quickbooks 9.0%
- SAGE 11.0%
- Ceridian 17.0%
- Other 27.0%
- ADP 25.0%
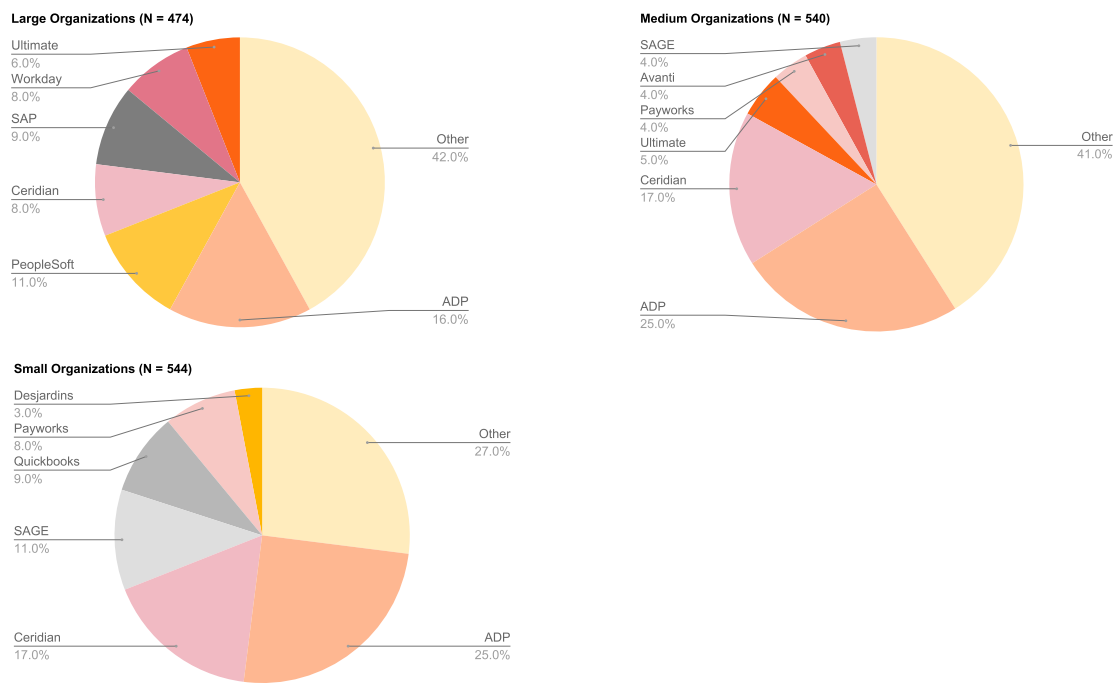
[9] The Canadian Payroll Association. *Regulatory Compliance Costs.* 2011.

Integration and automation

Some level of integration between payroll, HR and time and attendance systems is becoming increasingly popular in Canadian organizations as it allows organizations to access the same information without duplicating work, files, or data. In general, any integration creates efficiencies that save time and money and reduce liability. According to our survey, however, only 33 per cent of organizations have full integration, which means their HR, payroll and timekeeping information is seamless (see Figure 20).

Full integration can reduce the risks associated with data inconsistency and eliminate duplication errors.

Figure 21 suggests that smaller organizations have more limited technology and more manual processes. Only 59 per cent of small organizations have some or full integration, as compared to 78 per cent of medium-sized organizations and 94 per cent of large organizations, with some or full integration capabilities.

Figure 20: Level of integration available for payroll, HR and time & attendance systems (N = 1118)

- Full Integration - Integrations are built in, with data flowing seamlessly between systems
- No Integration - Duplicate data entry between systems
- Some Integration - Integration is achieved through Excel files or a similar process

33.0%

43.0%

24.0%
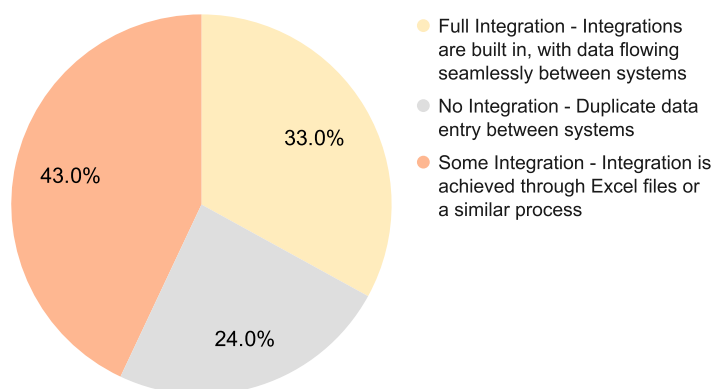
Figure 21: Level of integration by organization size (N = 1118)

- Some Integration - Integration is achieved through Excel files or a similar process
- No Integration - Duplicate data entry between systems
- Full Integration - Integrations are built in, with data flowing seamlessly between systems

	Large	Medium	Small
Some Integration	33%	33%	34%
No Integration	7%	29%	63%
Full Integration	46%	32%	23%
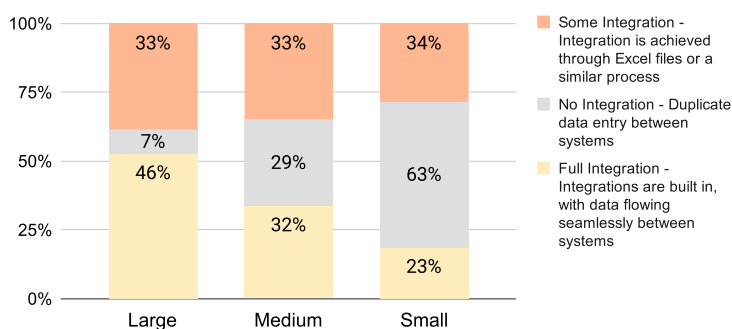
The amount of organizational data is growing on a daily basis. Having all this data contained and available within one system means that automated reports can easily access data to compile analytics for monitoring, compliance and continuous improvement initiatives. Payroll data, particularly when combined with HR and time and attendance data, can provide a wealth of insights about an organization's operations.

PwC Australia's whitepaper *What does the future hold for payroll?* discusses this idea further, suggesting that the employee lifecycle should be viewed as an integrated offering, with payroll, time and attendance and human resource management (HRM) systems passing data seamlessly amongst each other. This seamlessness appears to be an increasingly popular offering with the shift to cloud-based payroll. Seamless integration between systems can have a tremendous impact on payroll as it eliminates confusion as to the source of truth within varied systems and leadership.[10]

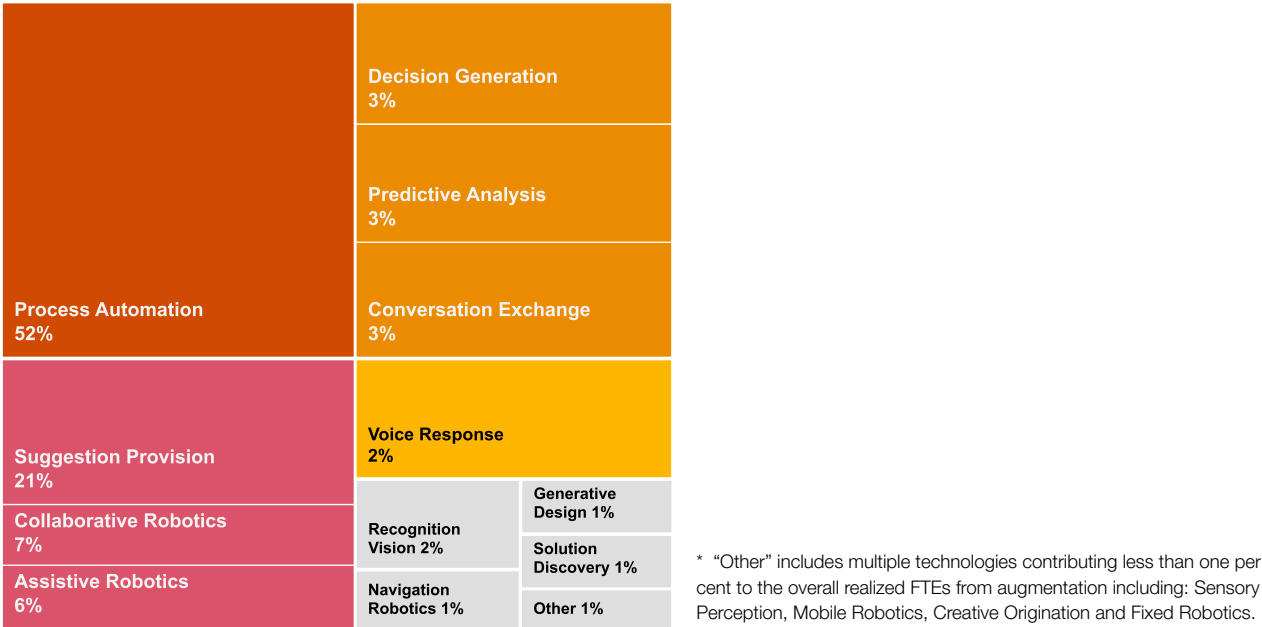While payroll may be a goldmine of workforce and financial data, few organizations today are leveraging and analyzing their data effectively to drive strategic business decisions. Currently, the payroll function tends to be consulted primarily on standard activities, such as annual budgeting and forecasts. With the right data and data analytics tools, however, payroll can be instrumental in assessing true costs, determining the organizational impacts of business decisions, and planning for the future.

Effectively leveraging data analytics requires more than an investment in the right technology. It also requires strong analytical capabilities within the payroll team.

Technology augmentation

Faethm is an AI platform used to predict the workforce impact of dynamic forces such as artificial intelligence and robotics on current and future jobs. Using payroll related data obtained from the latest Canadian Census (2016), it was hypothesized that within the Canadian payroll workforce, three main technologies will represent nearly 80 per cent of the potential capacity gain derived from augmenting technologies by 2025.

Figure 22: Key technologies driving capacity gain (measured in share of total realized FTEs) derived from augmenting technologies implemented by 2025

Process Automation 52%

Decision Generation 3%

Predictive Analysis 3%

Conversation Exchange 3%

Suggestion Provision 21%

Voice Response 2%

Collaborative Robotics 7%

Recognition Vision 2%

Generative Design 1%

Solution Discovery 1%

Assistive Robotics 6%

Navigation Robotics 1%

Other 1%

* "Other" includes multiple technologies contributing less than one per cent to the overall realized FTEs from augmentation including: Sensory Perception, Mobile Robotics, Creative Origination and Fixed Robotics.

[10] PwC Australia. *What does the future hold for payroll?* PwC Australia, 2019.

Faethm also predicted that by 2035, process automation and collaborative robotics represent 65 per cent of the automating benefit within the Canadian Census payroll roles. This will account for approximately $14 billion of potential savings for Canadian organizations.

Figure 23: Technology timeline: cost savings through automation across all industries by 2035 (Based on 2016 Canadian Census data)
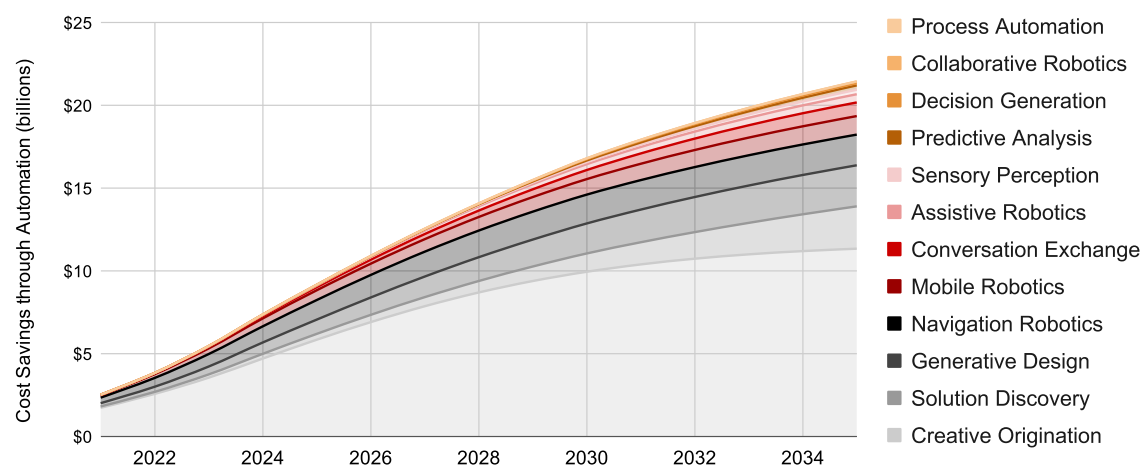
Role of the payroll professional

Payroll professionals are an integral part of every organization in Canada. They add significant value to organizations, although their key priority remains paying employees correctly and on time. During our focus groups, we learned that payroll professionals in Canada are very passionate about their work, but many feel trapped by the perception that they are paper-pushers and button-punchers. Too often, payroll professionals are invisible when payroll operations run smoothly; they only receive attention when something goes wrong.

Payroll activity analysis

Not surprisingly, the majority of payroll professionals spend most of their time on administrative tasks and the least amount of time on strategic activities, even at a senior management level. But as compared to administrators and management, senior management did spend more time on strategic and advisory activities.

As part of our survey of payroll professionals, we included an activity analysis as an effective measure of how the payroll professional's role is actually being practiced in the field. Our activity analysis focuses on six broad categories of activities:

| Strategic	Advisory	Operational	Supportive	Administrative	Non Domain/ Internal Management
Focused on macro workforce and talent issues at PwC by setting the HR vision and strategy and operationalizing it within the business	Coaching, advisory and consultation support provided to solve strategic business and people problems and improve organizational performance	Involvement in Business as Usual (BAU) or strategic program delivery, deployment, project management, change management and reporting	Focus on day to day inquiry management and issue resolution, triage, escalation and closing	Administrative activities that focus on routine and day to day HR operations, and are critical to keeping the lights on or done in lieu of effective systems and processes in place	Internal Management Activities, or non HR related activities.

Time spent by activity type

The majority of payroll professionals in our survey said that they spend the highest percentage of their time on administrative tasks and the least amount on strategic activities — even at the senior management level (see Figure 24). Those in the senior management group, however, spend more time on strategic and advisory activities than those in the other key groups.

Figure 24: Activity type by position grouping (N = 1667)
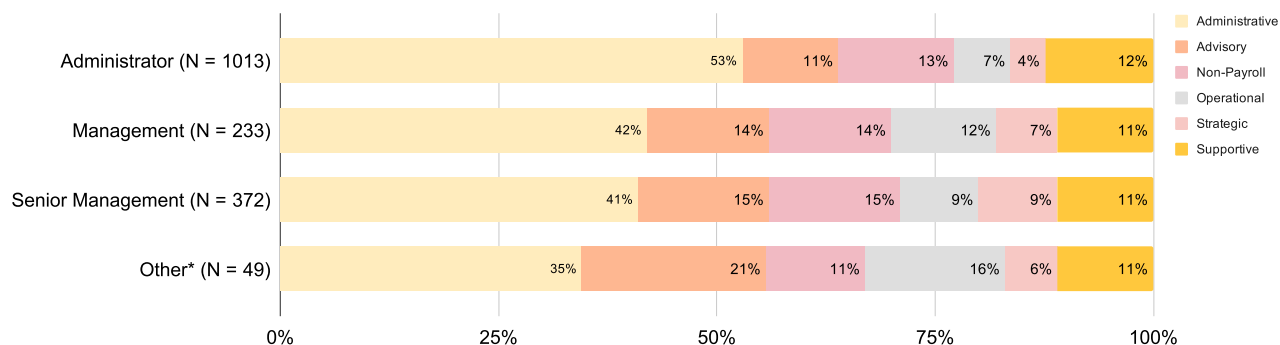
According to our activity analysis (see Figure 25), payroll professionals within larger organizations, which typically have newer technologies and more decentralized operations, spend less time on administrative tasks than their counterparts in small and medium-sized organizations. The amount of time they spend on strategic activities, however, is very similar.

Figure 25: Activity type by organization Size (N = 1592)
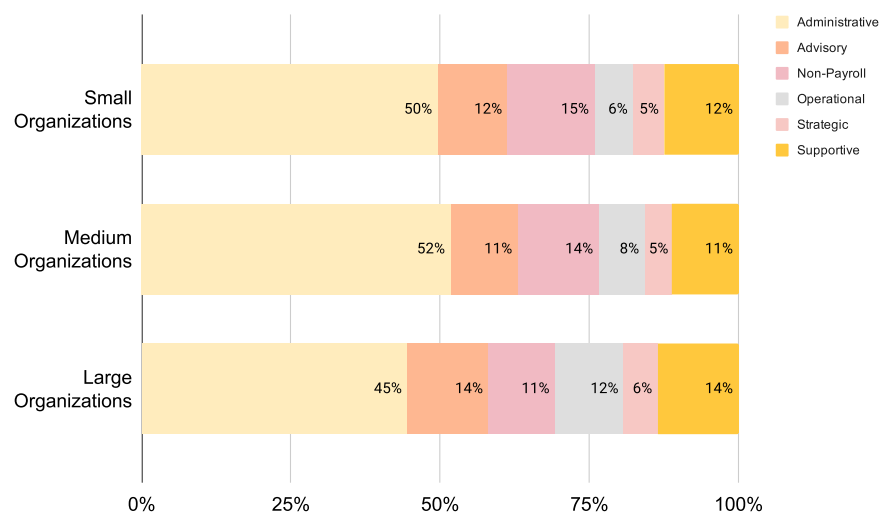
In small organizations, administrators spend more than half (52%) of their time on administrative tasks (see Figure 26). Interestingly, management and senior management in small organizations also spend a considerable amount of time on administrative tasks: 46 per cent and 43 per cent respectively. These results reflect the fact that small organizations tend not to have dedicated payroll roles. This, combined with the fact that small organizations often have less-modern technologies and processes, means administrators and management at these organizations spend considerable time on administrative or manual tasks. Given the varied duties of payroll professionals in smaller

organizations, it is not surprising to see that they also spend approximately 15 per cent of their time on non-payroll related tasks.

As expected, within medium and large organizations — which typically have dedicated and more-defined payroll roles and responsibilities — administrators spend much more time on administrative tasks than management and senior management (see Figure 27). Similarly, those in senior management spend a greater percentage of time on strategic activities: 15 per cent at medium-sized organizations and 16 per cent at large organizations.

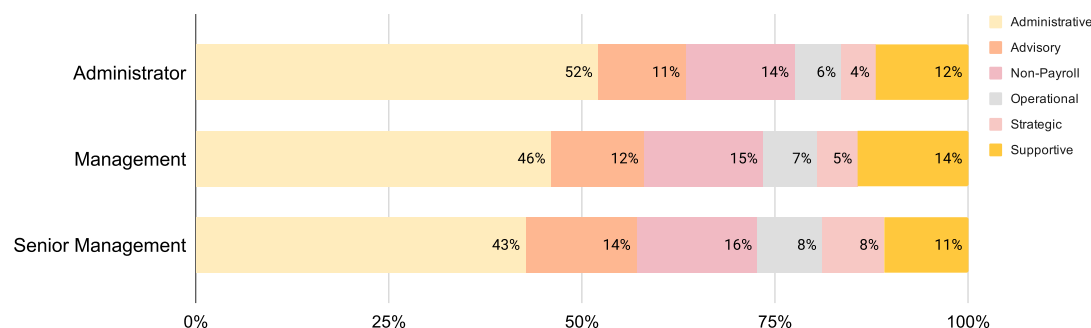**Figure 26: Activity type by position grouping in small organizations (N = 558)**

Figure 27: Activity type by position grouping in medium organizations (N = 515)
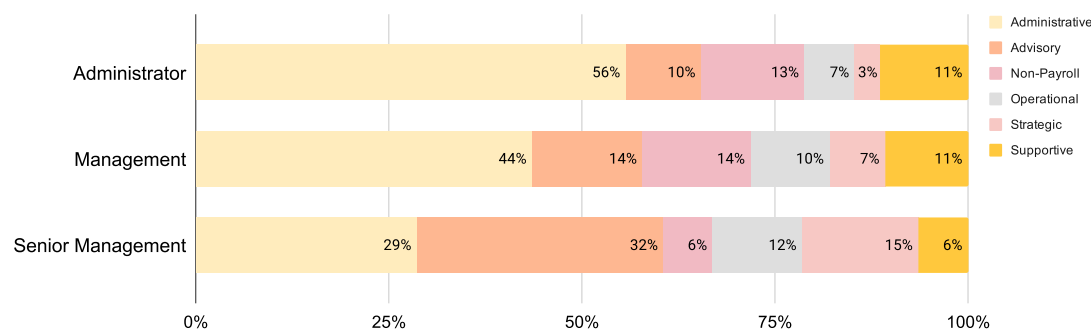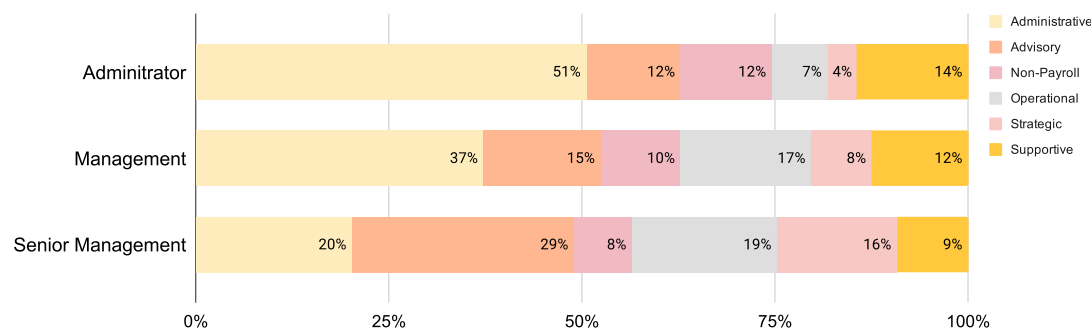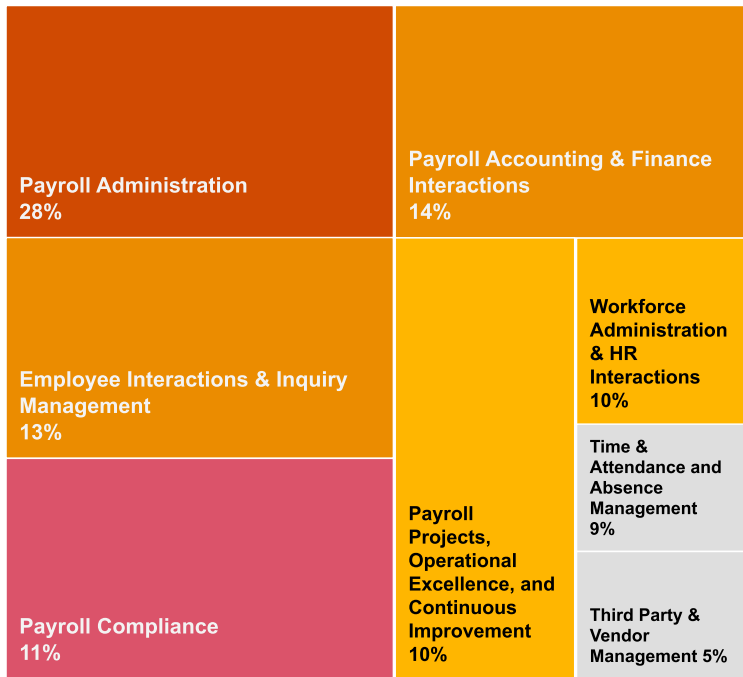

Figure 28: Activity type by position grouping in large organizations (N = 541)

Interestingly, even though 48 per cent of all organizations partially or fully outsource their payroll, only five per cent of the time of payroll professionals, typically payroll managers, is spent on vendor management. This highlights the need for increased governance and formalized Service Level Agreements (SLAs).

Figure 29: High-level activity distribution (N = 1659)

Payroll Administration 28%	**Payroll Accounting & Finance Interactions** 14%

Employee Interactions & Inquiry Management 13%	**Payroll Projects, Operational Excellence, and Continuous Improvement** 10%	**Workforce Administration & HR Interactions** 10%
		Time & Attendance and Absence Management 9%
Payroll Compliance 11%		**Third Party & Vendor Management 5%**

As mentioned previously, payroll professionals spend the highest percentage of their time on administrative tasks, regardless of the size of their organization. At small organizations, where payroll professionals often have a diverse set of responsibilities, payroll professionals spend 18 per cent of their time on payroll accounting and finance interactions, as compared to 13 per cent in medium-sized organizations and 10 per cent in large organizations (see Figure 30). At the same time, payroll professionals in large organizations tend to spend more time on payroll projects, operational excellence and continuous improvement activities (14%), as compared to nine per cent in medium-sized organizations and seven per cent in small organizations.

Figure 30: High-level activity distribution by organization size (N = 1633)
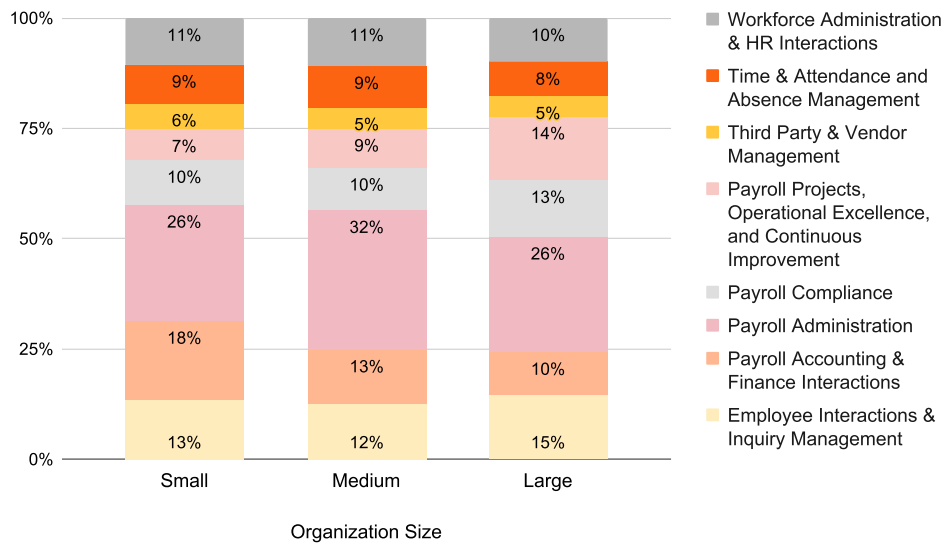
Looking at the analysis results from an industry standpoint, it can be seen that payroll professionals at telecom and IT organizations tend to spend less time on payroll administration and more time on payroll projects, operational excellence and continuous improvement (see Figure 31).

Figure 31: High-level activity distribution by industry (N = 1651)
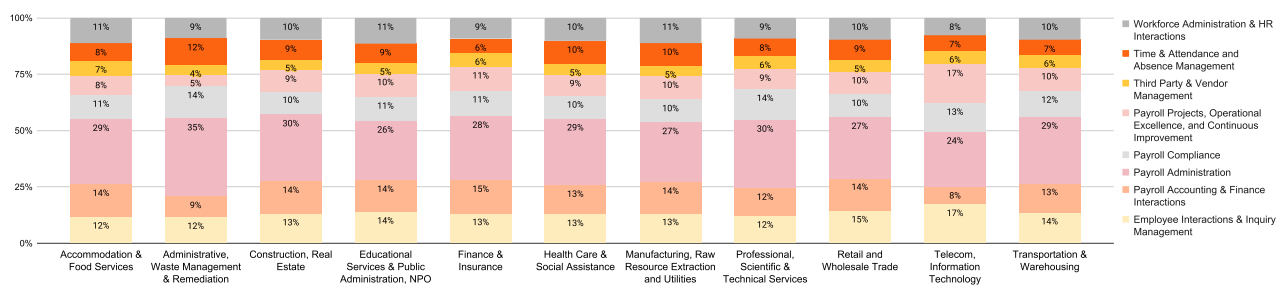
Error correction

During our focus groups, we heard that most payroll professionals do not spend a significant amount of their time addressing errors. This was supported by our activity analysis, which showed that 62 per cent of payroll professionals spend less than 10 per cent of their time correcting errors, while 90 per cent spend less than 25 per cent of their time correcting errors. Only two per cent spend more than 50 per cent of their time correcting errors (see Figure 32).

Time spent on correcting errors was similar across all role groups, with more than half of payroll professionals in all role groups spending less than 10 per cent of their time correcting errors. Interestingly,

eight per cent of payroll professionals classified as "other" spent over 50 per cent of their time correcting errors, as compared to three per cent of administrators, one per cent of management, and two per cent of senior management. This may be because the "other" role category includes business analysts and IT. Practitioners in these roles typically spend more time implementing new functionality and making configuration changes — activities that require testing and error correction.

Figure 32: Time spent on errors (N = 1664)

- Less than 10% of my time
- 10 - 25% of my time
- 25 - 50% of my time
- Over 50% of my time

2%
7.0%
29.0%
62.0%
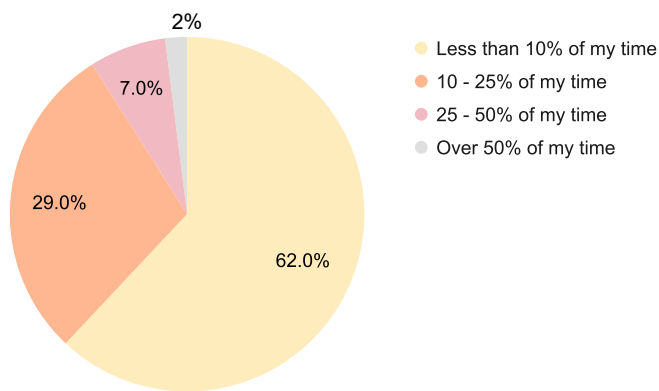
Figure 33: Position versus time spent on errors (N = 1664)

	Less than 10% of my time	10 - 25% of my time	25 - 50% of my time	Over 50% of my time
Senior Management	66%	26%	7%	2%
Management	65%	27%	7%	1%
Administrator	60%	30%	7%	3%
Other*	58%	25%	8%	8%
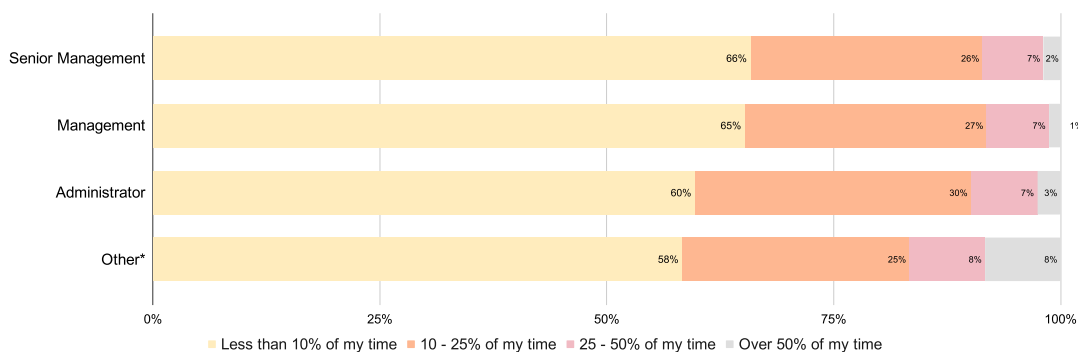
While the majority of respondents to our survey said that they do not spend a significant amount of time on error correction, the reality is that errors do still occur. During our focus groups, we learned that most errors are caused by downstream activities such as incorrect or late information or last-minute requests. Our survey results aligned with this finding; 38 per cent of respondents said the top root cause for payroll errors was incorrect or late information, while 16 per cent said timesheet changes and 12 per cent said departmental communication.

Figure 34: Top root causes for payroll errors (N = 2399)

Figure 34: Top root causes for payroll errors (N = 2399)

Category	% of Mentions
Incorrect or late Information	38%
Data Entry Errors	20%
Timesheet changes	16%
Departmental Communication	12%
Payroll System	6%
Adherence to Timelines	5%
Attention to Detail	2%
Lack of knowledge	1%
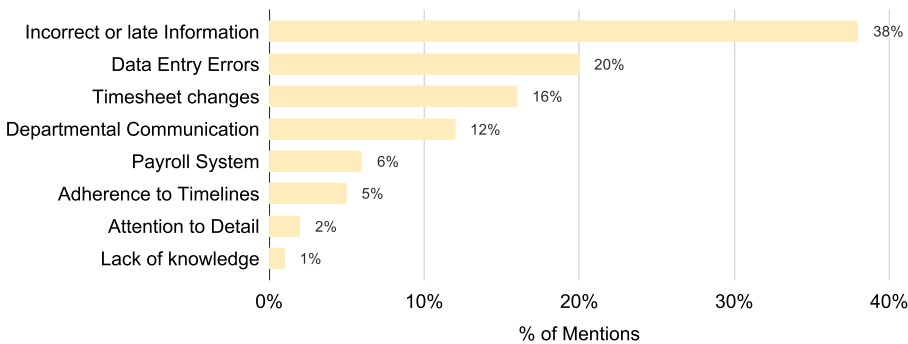
Future activities — rethinking what payroll professional do

As previously noted, Faethm is an AI platform used to predict the workforce impact of dynamic forces such as artificial intelligence and robotics on current and future jobs. As the graph below indicates, over the next five years, 41 per cent of payroll administrators' roles will be automated, seven per cent of their roles will be augmented with new skills or responsibilities and 52 per cent of their activities will remain unchanged.

Figure 35: Faethm analysis of the impact of automation by occupation

Occupation	Automated	Augmented	Unimpacted
Payroll administrators	40.7%	7.4%	51.9%
Customer services representatives	34.9%	10.0%	55.0%
Other financial officers	33.0%	5.9%	61.0%
Accounting technicians and	31.7%	5.7%	62.7%
Accounting and related clerks	31.5%	5.6%	62.9%
Purchasing and inventory control	25.5%	9.6%	64.9%
Receptionists	19.8%	13.3%	66.9%
Medical administrative assistants	19.3%	13.0%	67.7%
Collectors	24.5%	7.5%	68.0%
Administrative assistants	22.2%	5.2%	72.7%
Administrative officers	22.0%	5.1%	72.9%
Legal administrative assistants	23.4%	3.3%	73.3%
Executive assistants	13.6%	12.0%	74.4%
Human resources and recruitment	4.5%	17.9%	77.6%
Human resources professionals	4.5%	17.8%	77.7%
Supervisors, finance and insurance	9.0%	11.6%	79.4%
Supervisors, general office and	8.8%	11.2%	80.0%
Human resources managers	0.3%	15.7%	84.0%

% FTE

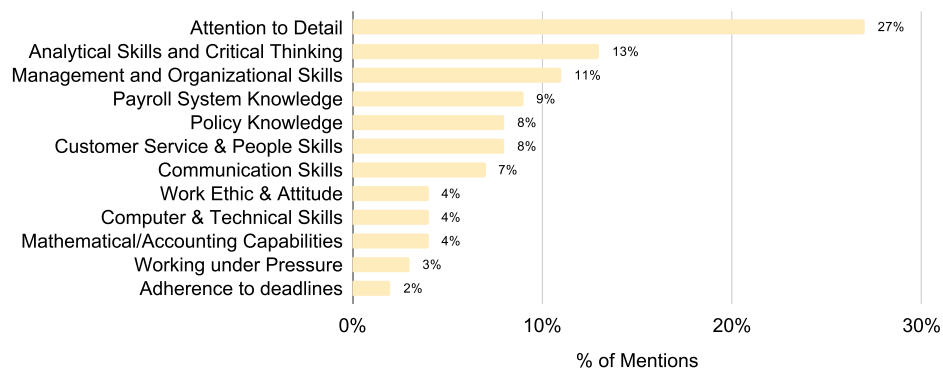■ Automated   ■ Augmented   ■ Unimpacted

Capabilities

In order to provide the most value to an organization, payroll professionals require a unique set of capabilities and skills. The challenge is that these capabilities are constantly evolving, even as technologies and the complexity of the payroll function evolve.

Current capabilities

According to our survey, the top capabilities or skills perceived to be critical for a payroll professional today reflect the traditional perception of payroll (see Figure 36), including attention to detail, analytical skills and critical thinking. Capabilities such as process improvement, data analysis and operational analytics were not identified as required skills for today's payroll professional.
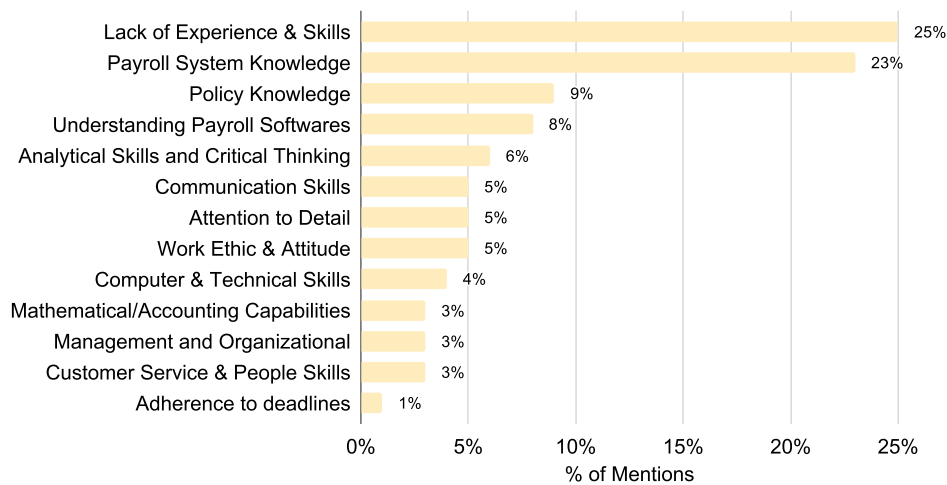
Figure 36: Top capabilities of payroll professional (N = 2407)

Capability	% of Mentions
Attention to Detail	27%
Analytical Skills and Critical Thinking	13%
Management and Organizational Skills	11%
Payroll System Knowledge	9%
Policy Knowledge	8%
Customer Service & People Skills	8%
Communication Skills	7%
Work Ethic & Attitude	4%
Computer & Technical Skills	4%
Mathematical/Accounting Capabilities	4%
Working under Pressure	3%
Adherence to deadlines	2%

% of Mentions

During our focus groups and interviews, we learned that the recruitment of payroll professionals is a major challenge for Canadian organizations, especially recruitment for more senior roles. Our survey results align with and clarify this finding (see Figure 37);

25 per cent of survey respondents said that the lack of experience and skills was the top capability gap for payroll professionals, followed closely by payroll system knowledge (23%).

Figure 37: Top capability gaps of payroll professionals (N = 1516)

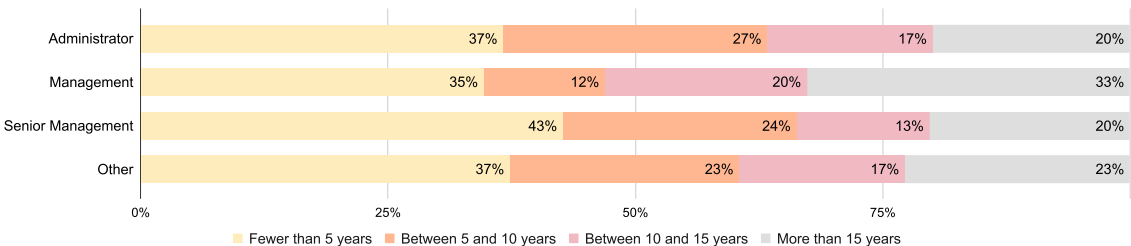| Capability	% of Mentions
Lack of Experience & Skills	25%
Payroll System Knowledge	23%
Policy Knowledge	9%
Understanding Payroll Softwares	8%
Analytical Skills and Critical Thinking	6%
Communication Skills	5%
Attention to Detail	5%
Work Ethic & Attitude	5%
Computer & Technical Skills	4%
Mathematical/Accounting Capabilities	3%
Management and Organizational	3%
Customer Service & People Skills	3%
Adherence to deadlines	1%

According to our focus groups, many Canadian organizations are already struggling with the recruitment of payroll professionals. With an increasingly tenured workforce (see Figure 38), recruitment is only expected to get more challenging as aging employees retire and need to be replaced.

Our focus group research suggested a number of reasons why it is likely difficult to recruit payroll professionals, including the perceived lack of

investment in payroll — not only from a technology perspective, but also from a training and upskilling perspective. Better defining the role and skill-set of payroll professionals and investing in appropriate training and reskilling could help shift the perception of the role in the eyes of potential recruits — elevating it from administrative paper pusher to strategic business partner.

Figure 38: Position grouping versus tenure (N = 1665)

Position	Fewer than 5 years	Between 5 and 10 years	Between 10 and 15 years	More than 15 years
Administrator	37%	27%	17%	20%
Management	35%	12%	20%	33%
Senior Management	43%	24%	13%	20%
Other	37%	23%	17%	23%

Future capabilities — a role ready for disruption

The role and perception of the payroll function, and payroll professionals themselves, is ready for disruption. While the primary mission of the payroll function continues to be compensating employees, the reality is that payroll is becoming about far more than simply calculating pay and reconciling statutory filings.

In 2018, Tracy Angwin, the CEO of the Australian Payroll Association, explained that with ever-changing regulations, heavy penalties for payroll errors and a myriad of different systems in play, organizations around the world are demanding more from their payroll professionals. She suggested that there is no longer a high demand for the ability to extend timesheets or process operational payroll, but rather, organizations are looking for payroll professionals to take on a more strategic role. They are looking for payroll professionals who can confidently present their payroll data and who have a holistic understanding of their function within an organization.[11]

Angwin stressed the importance of employers investing in this shift by encouraging their payroll team to attend payroll manager forums, annual end-of-year seminars, additional certification programs — and to follow new advancements in the field. She also said that practitioners themselves need to recognize the importance of elevating the strategic role of payroll, and proactively seek out opportunities to enhance their capabilities.

The need to enhance the capabilities of payroll professionals is as true in Canada as it is in Australia. The reality is that as the payroll process becomes more complex and time-consuming, manual functions get automated through the use of modern, seamless and data-driven solutions, payroll professionals will be required to expand their knowledge and capabilities well beyond what they are today.

Over time, the role of payroll professionals will increasingly emphasize the flow, integration and management of payroll data, in addition to the understanding of legislative and industry changes and the financial repercussions for non-compliance. To be able to conduct these tasks and drive added value, payroll professionals will need to further develop and enhance their analytical and technical skills.

Payroll professionals will also need to develop new skills and capabilities as they take on more of an advisory role. Soft skills such as communication skills, customer service and people skills will become more important as payroll professionals become a stronger contributor to the delivery of the employee experience.

Employee expectations, similar to consumer expectations more broadly, are increasing rapidly; in the future, employees will expect intuitive and personalized support, in addition to timely, accurate, easy to use and transparent payments solutions to be the norm. Consequently, providing timely and knowledgeable service and demonstrating a desire to make things right will be an important quality for payroll professionals in the future if they want to enhance the employee experience and build employee trust in the payroll team.

Measuring the service performance

Measuring results is important for any organization to track performance, recognize success and make improvements. It is impossible for an organization to know whether it has successfully delivered on its objectives if success measures have not been defined and tracked. This logic also applies to the payroll function. Metrics can help with reporting on the complexities of payroll delivery, identifying payroll inefficiencies, and measuring the value of improvement activities.

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[11] PwC Australia Payroll Consulting Team. *The Power of Payroll.* PwC Australia, 2018.

Metrics can also help demonstrate the value payroll professionals contribute towards an organization, which is often overlooked. One of the reasons for this is that their value has rarely been measured or communicated. To help enhance the understanding and perceived value of what they do, payroll professionals need to embrace the use of metrics for both strategic and operational activities.

Current metrics

Our survey shows that a strong majority of Canadian organizations are not currently measuring strategic KPIs. While 60 per cent of respondents said that their organization formally tracks KPIs, only 29 per cent of those organizations are tracking strategic KPIs. Without these metrics, it is not surprising that the true value of payroll is lost, leaving payroll to be perceived as a transactional back-office processing centre.

To report on the value that payroll offers to an organization, certain metrics must be tracked. There are many different types of operational and

strategic metrics that payroll can track. For example, one common operational metric is meeting target deadlines. A complimentary, yet more strategic, metric would be tracking the cost to a department or the organization of not meeting target deadlines (e.g. cost of rework, possible turnover due to employee dissatisfaction). Another common operational KPI is tracking the number of inaccurate pays. A more strategic KPI would be tracking the reasons for inaccurate pay in order to identify and implement improvement strategies.

From our analysis of the KPIs currently tracked by organizations (see Figure 40), we found that approximately 40 per cent of KPIs deal with the timeliness of processes (e.g. response times for payroll inquiries, timely remittances), while 30 per cent focus on the accuracy of payroll. Only 30 per cent of the KPIs currently being tracked are truly strategic (e.g. dealing with payroll operational costs).

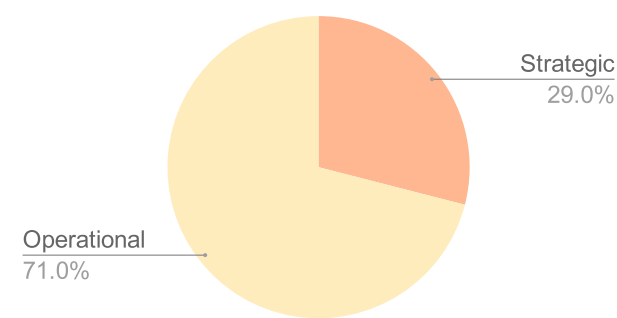**Figure 39: Strategic versus operational KPIs (N = 1436)**

Strategic
29.0%

Operational
71.0%

Figure 40: KPIs and operational metrics (N = 1478)

Other
33.0%

Cycle time to process payroll
17.0%

Timelines in submissions of statutory remittances
12.0%

Payment errors as a percentage of total payroll payments
11.0%

Days to resolve payroll errors
8.0%

Number of payroll inquiries
9.0%

Time to respond to inquiries
10.0%
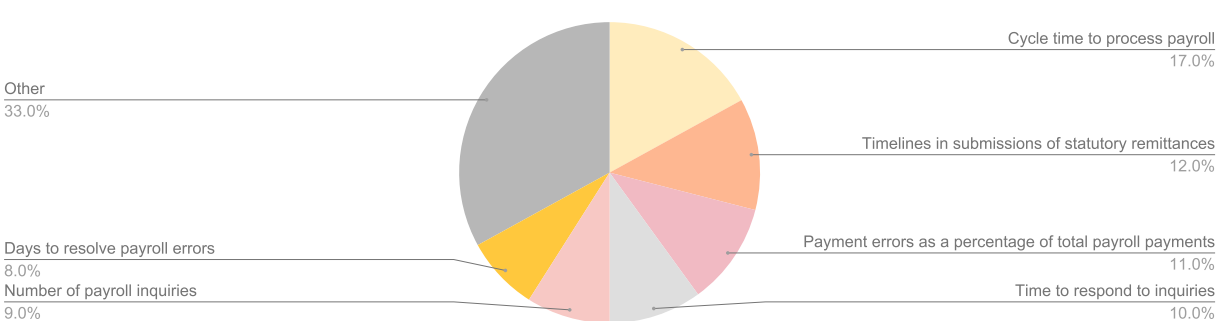
Figure 41: KPI breakdown (N = 1936)

Untimely payroll payments as a percentage of total payroll payments
.0%

Cost of payroll systems as a percentage of total payroll costs or per employee
.0%

Percentage of payroll payments that include pay adjustments
.0%

Percentage of accurate statutory remittances filings
.0%

Average overall cost of producing pay statements
.0%

Manual/voided/stop payments as a percentage of total payroll payments
.0%

Days to resolve payroll errors
.0%

Number of payroll inquiries
.0%

Cycle time to process payroll
17.0%

Timelines in submissions of statutory remittances
12.0%

Payment errors as a percentage of total payroll payments
11.0%

Time to respond to inquiries
10.0%

When metrics are measured, tracked and reported, the resulting data can be used to uncover and identify valuable trends. These trends, in turn, support more effective decision-making at all levels of an organization. Metrics can also provide a baseline for future measurements and benchmarking activities and can be used to develop a performance scorecard for an organization.

Metrics are also an excellent means for driving process improvement, identifying weaknesses and risks in the overall payroll cycle, and identifying activities that could be enhanced. For example, an organization might have a good payroll system and a professional payroll team that delivers compliant and accurate reports. However, if the organization also has an ineffective finance process in place, then improving the finance process will lead to payroll cost savings and less over-time, to better service delivery.

In the future, payroll professionals need to view metrics as a necessary component of service delivery, using them to not only demonstrate and communicate the value of payroll to the organization, but also as a means to improve both processes and business decision-making.

If payroll is to become a strategic business partner rather than a transactional function, tracking ad hoc operational KPIs will not suffice. Payroll needs to define and actively monitor new metrics that capture the business impact of workforce and payroll data on the organization as a whole — and find better ways to analyze data and communicate results, such as by using a visualization engine.

Beyond supporting reliable compliance and efficient payroll operations, the true value of analyzing 100 per cent of an organization's payroll data in a visualization engine lies in the opportunities and strategic insights that can be shared with leadership.

Leading data analytics and visualization empowers:

- **Strategic workforce optimization:** scheduling and rostering your workforce in a manner that better meets business needs.

- **Predictive analytics:** using actual data to inform strategic planning, such as determining future recruitment and training needs.

- **Strategic performance management:** identifying strategic goals and business initiatives to ensure organizational goals are being met.

- **Labour cost scenario planning:** evaluating the impact of compensation changes, entries and leavings, promotions or employer's contributions on the total labour costs.

- **Modelling of future enterprise agreements:** forecasting the impact of proposed scenarios on future labour costs and assessing the impact of proposed agreements.

Employee experience

Payroll plays a tremendous role in shaping the employee experience as it is responsible for one of the most important facets of work to an employee: their compensation. Payroll provides an essential, consistent and regular touchpoint for employees — whether through employee inquiries, self-service tools, or other touchpoints. The availability, responsiveness, and value provided by payroll through these touchpoints can have a significant positive or negative impact that affects an employee's holistic employee experience.

Employee inquiries

Employees expect timely, accurate and transparent payments — so any negative touchpoints, such as unreliable payroll processes, can have a dramatic adverse impact on employee trust and engagement.

While employees trust organizations to get their pay right, mistakes can and do happen. When they do, employees need to feel confident that they will get timely answers to their payroll questions and quick resolution of any issues. When payroll addresses issues quickly and to the satisfaction of the employee, the negative impact of the original mistake can be ameliorated.

According to the Canadian Payroll Association's annual survey of payroll professionals, over 85 per cent of employee inquiries are regarding their pay (see Figure 42). As the NPW 2019 Employee Research Survey outlines, 43 per cent of working Canadians are currently living paycheque to paycheque, meaning any inquiries need to be addressed quickly and fixed in a transparent and responsible manner.[12] Paramount to providing an exceptional employee experience with respect to employee inquiries is a formal operating model so that all employees know where to direct their inquiries and have confidence that their issues will be handled in a professional manner.

Given the rapidly changing demographics of the workforce, attracting, engaging and retaining employees will become a high priority for all functions within all organizations — if it isn't already.

Figure 42: Types of inquiries to payroll (N = 1720)

Type of inquiry	% of payroll professionals
Understanding pay	85%
Record of Employment (ROE)	77%
Year-end reporting	76%
Personal information updates	72%
Statutory withholding	70%
Taxable benefits	69%
Terminations	68%
Questions related to benefits	63%
Employment/Labour standards	59%
Garnishments	51%
Requests for payroll best practice recommendations	34%
Other	5%

% of payroll professionals

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12 Framework Partners and The Canadian Payroll Association. *NPW 2019 Employee Research Survey, National Press Release Results.* Framework, 2019.

According to PwC's Annual Wellness Survey 2019, financial matters are the biggest cause of stress for today's employees since many of them live paycheque to paycheque. This financial stress, as outlined by the NPW 2019 Employee Research, costs the Canadian economy $16 billion annually.[13]

Potential employees will expect the organizations they work with to provide them with the same exceptional experiences that they receive from other organizations in their daily lives. This means Canadian organizations will need to provide a personalized employee experience, transparent processes, and readily accessible information in the manner employees want it. To a large extent, this transparency and accessibility begins with payroll.

Self-service

In *HR Tech Conference Market Landscape: Payroll* (2019), employee do-it-yourself (DIY) and mobility topped the list of five must-have payroll system features. When done well, self-service features make it easier for HR and payroll professionals to create positive engagement and an enhanced employee experience. This aligns well with what we heard during our focus groups, where participants stressed both the importance of self-service and the ability to access self-service features across devices.[14]

According to our survey, the current most commonly used self-service activity is viewing pay statements and year-end statements (see Figure 43). In the

future, enhanced self-service functionality and mobile access to real-time data and intuitive tools to understand the data will likely become the norm.

One emerging trend to be aware of that will increasingly affect the employee experience is on-demand pay. Our secondary research implied that with the evolution in the gig economy, the concept of on-demand payroll, driven by platform employers such as Uber, Airbnb and Airtasker, will become increasingly important as the expectations of gig workers begin to increase.[15]

An organization's ability and flexibility to pay employees on-demand and to showcase the value of non-monetary benefits is becoming a differentiating factor when attracting talent. Flexible compensation models such as on-demand pay, pay transparency and a higher focus on total rewards versus direct compensation are important to the younger demographic (i.e. millennials and the generations following in their footsteps). When done well, the use of such payroll models can set organizations apart in the eyes of potential employees.

Figure 43: Self-service activity type (N = 3812)

Dependent Changes 6%	Benefit Management 6%	Direct Deposit Info 9%	Time and attendance 15%	Personal Information 18%	Year-end E-statements 22%	E-pay Statements 24%
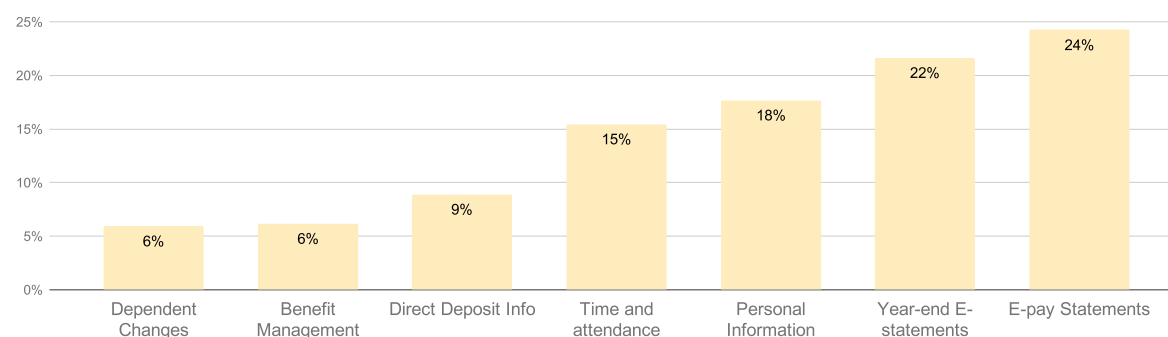
[13] The Canadian Payroll Association. *2019 National Payroll Week Survey Results*, 2019.

[14] McFarlane, Trish & Hammond,Tom. *HR Tech Conference Market Landscape: Payroll*. Paychex, 2019.

[15] PwC Australia. *What does the future hold for payroll?* PwC Australia, 2019.

This is in line with a recent Deloitte survey on U.S. Payroll Operations (2018), which suggests that 89 per cent of respondents have online payroll self-service technology and 83 per cent of respondents offer employees the ability to view their pay statements online.[16] Self-service features make life easier for HR and payroll professionals by driving positive engagement and employee experience. Respondents reiterated that the ability to experience these self-service features across devices is also key.[17]

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[16] Deloitte. *The 2018 Payroll Operations Survey*. Deloitte, 2018.

[17] McFarlane, Trish & Hammond, Tom. *HR Tech Conference Market Landscape: Payroll.* Paychex, 2019.

Executive spotlight — the trends reshaping payroll

In the previous section, we took a deep dive into the current state of payroll and touched on how key components of payroll — like payroll activities, payroll professional capabilities, and service delivery — are expected to evolve. The question remaining was: how do these thoughts align with the vision of payroll leaders?

The payroll executives we interviewed agreed that technology will disrupt the payroll world. However, their views were quite varied on the transformation's path and its resonating impact on the payroll function and payroll professionals. At the same time, executives spotlighted four key trends that will have a major role in reshaping payroll in the future.

Payroll will have an increasingly important role in the overall employee experience

The employee experience is the holistic experience an employee has when working for an organization. In the future, providing an exceptional employee experience will be a high priority for all functions, but particularly for payroll. This is because nothing creates disharmony and disengagement quicker than payroll errors or delays.

To enhance the employee experience, it will become critically important for payroll to provide employees with transparent and accurate payroll information, personalized interactions, and timely responses. The ease of use of self-service payroll tools, the clarity of

of mechanisms for making payroll inquiries, and the quick resolution of any issues will be essential to this process.

In addition to accurate and timely pay, employees will demand ready access to information regarding payroll initiatives through the channels they will prefer. For example, they will increasingly expect employers to provide them with real-time data, total reward statements, and intuitive tools like self-service and mobile access.

Innovative technologies will transform the payroll function and payroll capabilities

Payroll technology will evolve into a true single database architecture with the ability to continuously calculate pay. Organizations will use on-demand pay as a way to differentiate themselves in the market and potentially to attract new hires. On-demand pay will allow employees to access their pay without waiting for the standard payday, thereby helping them to better manage their finances and relieving them of some of the financial stress associated with timing bill payments or having to deal with unexpected emergency situations.

Innovative technologies like machine learning, robotics process automation (RPA), and artificial intelligence (AI) will replace repetitive and mundane tasks and manual payroll processes. Machine learning and pattern recognition will help

organizations detect data anomalies, reduce manual auditing and prevent payroll leakage, while AI will be used to manage routine tasks and to identify trends within data.

As outlined in the 2019 APQC Webinar on Finance Shared Services Benchmarks and Trends, accounts payable, general accounting, financial reporting, accounts receivable, and customer invoicing are the top processes for RPA and intelligent automation applications.[18] A great example of this can be seen with the ANZ Banking Group that shifted jobs, such as payroll administration and invoice processing, from India to automated bot processes. In doing this, they reduced headcount from 40 to just two. The employees were essentially fixing the same errors daily, which the bots mimicked. Rather than this leading to a job reduction strategy, the bots paved the way for these workers to refocus efforts elsewhere to drive more value.[19]

Payroll will become a strategic partner to the business

Payroll will take on a more strategic focus, using accessible and real-time data to drive informed key business decisions. The transition to cloud payroll and integrated database models will underpin this shift by providing streamlined, trustworthy workforce data.

Payroll professionals will be able to utilize data visualization tools to tell the right story with data. They will spend more of their time on strategic initiatives, conducting deeper analysis and performing more value-added work for the organization as a whole. This will allow them to form strategic partnerships with HR and finance in order to provide more value to the organization as a whole.

The role of payroll professionals will evolve, requiring new skills and capabilities

AI, RPA, and machine learning will significantly change the role of the payroll professional in the future by automating manual and repetitive tasks and giving payroll professionals the time and support they need to focus on providing critical thinking and higher-level analysis.

Although automation may not result in job loss, the responsibilities of the payroll professional role will change. The work payroll professionals do will become more technical, analytical and consultative — and different skills will be required. Artificial intelligence will not replace the payroll professional. It will empower them with the data and analytics they need to serve their organizations in a more strategic and valuable manner.

[18] DeMent, Brad & Robinson, Trey. *Finance Shared Services Benchmarks and Trends.* APQC, 2019.

[19] APQC. *Embracing robotic process automation (RPA) for Finance.* APQC, 2018.

Insights for the future of payroll

Earlier in this report, we discussed the current state of payroll in Canada and highlighted what we learned from our in-depth secondary research and from participants in our survey, focus groups, and interviews in terms of how payroll and the role of payroll professionals are evolving.

We used these findings to identify a number of conclusions as to how payroll will change in the future — which we then used as a basis for identifying the future state operating models expected to emerge for payroll. In this section, we share these conclusions before detailing the two potential future state models.

Five aspects of payroll that are changing

In order to identify the future state operating models emerging for payroll, we needed to draw conclusions as to how the payroll function is going to evolve and what particular components will require enhancements versus a total overhaul. Subsequent to our secondary research, interviews, focus groups, surveys and validation with the Client Advisory Committee, it became clear that major shifts are required for the payroll industry in the following five areas:

Payroll professional job architecture

In the future, the role of payroll will be elevated. While payroll's primary role will remain ensuring that employees receive accurate and timely pay, payroll will also take on a more strategic role in helping organizations fully leverage their workforce and payroll data to make better decisions. Doing this will allow them to become a valued strategic partner within the organization, contributing to the achievement of operational and functional goals.

In the future, a payroll professional will likely require a professional designation, qualification or certification, and the ability to confidently present payroll data and strategic advice to senior leadership. They will also need a holistic understanding of payroll technology, a good cultural fit, and an outstanding customer service work ethic. The new job architecture for a payroll professional will need to clearly articulate how they will work alongside machines and bots, what capabilities they will require, and how they will enable and deliver more effective service delivery.

1. Payroll professional job architecture

2. Payroll operating model

3. Technology

4. Measures of success

5. The employee experience

In order to find payroll talent with the required experience and capabilities, role delineation will be necessary. To raise the profile of payroll professionals, qualified development, skills and capabilities, and capacity and quality expectations will need to be defined. Payroll administrators will become strategic advisors, continuously measuring business productivity and people costs. Payroll management will focus on governing vendors, measuring operational performance and working with other functions to drive new business value.

Advanced analytics capabilities will shift payroll from being a simple processor to being a strategic business advisor. Payroll professionals will contribute to strategic workforce administration, with direct inputs into how to optimize employees' schedules to better meet business needs while optimizing costs. They will use predictive analytics to inform future recruitment, training and labour needs. Through the provision of accurate and data-driven forecasting of labour costs, payroll professionals will help organizations manage overtime costs — while scenario planning will allow them to forecast the impact of proposed scenarios on labour costs.

Payroll operating model

In order to become a strategic business partner and enhance the employee experience, payroll will move from an informal operating model to a formal interaction model in the future. This operating model will include:

- Clear payroll governance, defining the decision rights, service expectations, and operational excellence framework (vendor management, risk management, service performance reporting, business disruption plan, etc.);

- Right-sized tiers of support, aligned with organizational capacity and available in-house and external capability;

- Augmented and well-defined payroll roles and responsibilities, with a deliberate spread of various activity types (strategic, advisory, supportive, operational, administrative) — this

includes the activities that are expected to be administered by technology;

- Detailed metrics which are actively monitored and communicated — this includes both operational service performance indicators, as well as metrics that are tied into business performance and organizational imperatives;

- Capability framework for the payroll professional at all levels;

- Formalized interactions with third-party vendors, including established SLAs with clearly defined working relationships, and transparent and well-defined working relationships with key stakeholders; and

- Strategic relationships with HR and finance to provide insights for effective decision-making.

Technology

Innovative technologies will act as a building block for enhancing the role of payroll and will have a significant impact on any future payroll operating model. The future of payroll will require a technology stack that runs through various tiers of payroll, which not only delivers the table stakes (e.g. automation of administrative tasks, integration, operational reports) but augments the payroll professionals intelligence and decision-making capabilities (e.g. extension of payroll customer service, anomalies detection, insights into process and policy optimization).

Technology will transform the way payroll staff work by reducing the time required for administrative tasks, automating workflows and streamlining processes. AI will become more prevalent, detecting payroll anomalies and helping to answer basic queries. AI and machine learning will be used for predictive workforce analytics, rapid detection of payroll anomalies, "smart" time verification, and payroll reconciliation. Enhanced self-service functionality through mobile applications will become more widespread, eliminating manual inputs by the payroll team and ultimately improving employee engagement and the employee experience.

Measure of success

Embracing metrics as a way of measuring the true impact of payroll will be essential for ensuring success and improving payroll processes and strategies. Strategic business metrics will be defined and actively monitored to measure the business impact of workforce and payroll data on the organization as a whole. Future strategic payroll metrics might include: the cost of payroll/cost per payroll run; the number of payroll inquiries, including the reason for the inquiry and the time to resolve; and the number and amount of overpayments and the reasons why.

Focus on employee experience

In the future, payroll will be an essential contributor to the provision of an exceptional employee experience. Employees will demand a more memorable experience, on-demand services, accurate information and quick responses to inquiries — and it will be the work of payroll to meet these demands in a timely and transparent fashion that earns trust.

Key components of the employee experience delivered by payroll will become differentiators for attracting, engaging, and retaining talent — such as flexible and on-demand pay, intuitive and mobile payroll tools and self-service functionality.

Emerging models for payroll

What has informed our hypotheses

As a part of this project, we conducted extensive research, including reaching out to over 1,700 organizations across more than 12 industries in Canada, to gain insights into the current state of payroll and to formulate hypotheses and conceptual models as to what the future of payroll could look like.

We learned that, currently, there is no common or standardized operating model for payroll. The skills and responsibilities of payroll professionals vary and the structure of payroll teams is unique depending on the organization.

From our research, it was apparent that there is significant room to enhance the real and perceived value of payroll by increasing standardization; optimizing governance structures, role and responsibility delineations, and the payroll interaction model; enhancing analytics and reporting; and leveraging innovative technology.

As there are many variations of the payroll operating model being used today, our hypothesized operating models reflect a combination of the many enhancements that we see benefiting payroll professionals.

When hypothesizing over the future possibilities for payroll, two distinct models emerged:

The enhanced payroll operating model (expected over the next two to three years)

The enhanced payroll operating model is a stepping stone from today's realities to tomorrow's possibilities. The enhanced payroll operating model introduces a formal structure and interactions model for payroll, an elevated payroll professional's role with clear role delineation, improved technology and use of analytics, continuous improvement facilitated through service performance, and an enhanced employee experience. This model does not exist in today's payroll world and is needed to level-set the payroll profession.

The digital payroll factory (expected over the next five years)

While the enhanced payroll operating model will significantly boost payroll's efficiency and value to the organization, it will not future proof the payroll function against the digital disruptions ahead. The digital payroll factory is a more agile approach, allowing the payroll department to adapt and change in an instant. Disruptive technologies are accelerating the pace of change; the digital payroll factory will use artificial intelligence as the main source of value creation and delivery by converting data into predictions and insights — thus supporting critical decisions and guiding and automating operational workflows.

In the next two sections, we will explore these two models in more detail, highlighting the key components of each model and providing key model considerations.

Enhanced payroll operating model

Overview of the model

The enhanced payroll operating model is developed to build on the foundation of the variety of payroll operating models being used today. Similar to traditional operating models, it is process-driven with humans making operational decisions. One key differentiator of the enhanced payroll operating model is a formalized structure, including:

- Clear governance formulating decision rights, service performance expectations, and operational excellence framework;

- Appropriate tiers of support;

- Optimized team structure;

- Augmented and well-defined payroll roles and responsibilities;

- Established metrics which are monitored and communicated;

- Formalized interactions with third-party vendors with established SLAs that are regularly monitored; and

- Clearly defined working relationships with key stakeholders.

In this model (see Figure 44), the role of the payroll professional will shift to a more advisory and operational focus, as payroll increasingly meets and exceeds operational and functional goals, utilizes technology to its capacity for automation and driving standardization, and incorporates more defined metrics that not only keep the operational risks in check but also quantifies the true value of payroll (within and outside of the payroll function).

There are many factors to consider before moving to the enhanced payroll operating model, and we will provide a walkthrough of the model and key considerations, such as organizational size, inherent payroll complexities and organizational readiness, in the remainder of this section.

It is important to recognize that what is presented here is a baseline "north star," which is not a mere suggestion of a one-size-fits-all model. The components of this model must be contextualized to the organization's business imperatives. While factors such as size, complexity of payroll, and business readiness can substantially impact the model (in some cases simplify, or further complicate it), we did not find evidence to believe the model will significantly change based on industry. We have specifically detailed some such considerations and factors in this report, and in particular, present an alternate model for small size organizations.

Figure 44: Enhanced payroll operating model
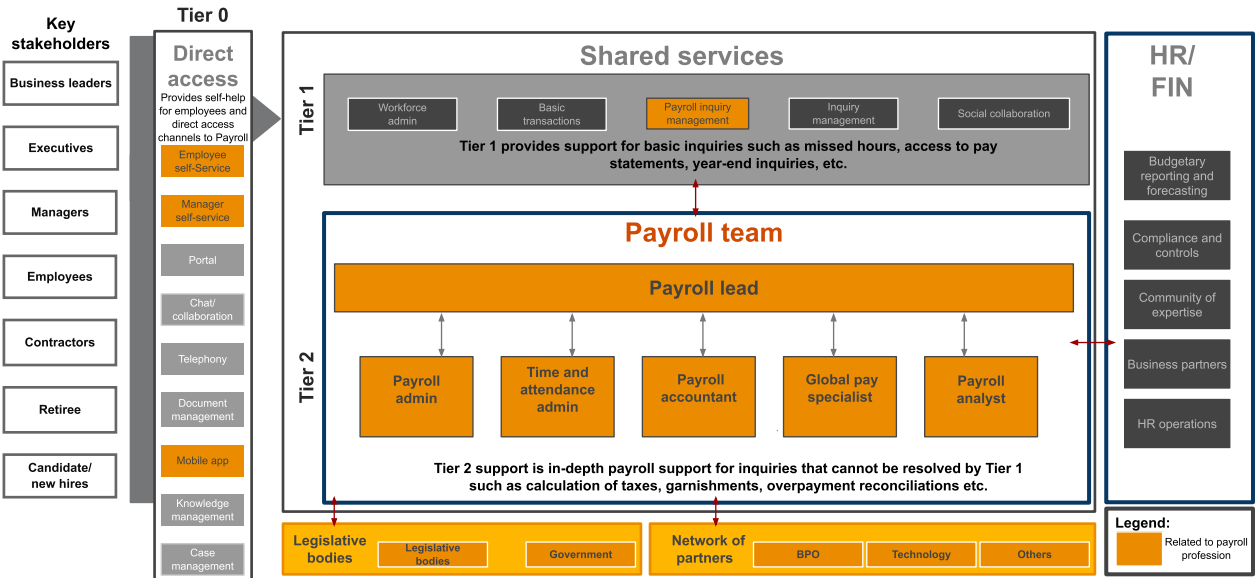
Appendix F includes examples of common payroll processes (use cases) and illustrates how the enhanced operating model brings these use cases to life.

Walkthrough of the enhancements

Governance

Formal payroll governance is established from the payroll (or often "total rewards") strategy of the organization. The governance orchestrates all activities that need to occur to achieve the strategic and service performance expectations of the payroll function. In particular, payroll governance contains the following three components:

1.   Standardized set of governing practices

Escalation process	Change control process	Issue and risk management	Performance management	Transition and transformation oversight
Process that prescribes how, when and to whom series of operational and strategic decisions should be escalated to as per the decisions rights framework	Process of managing the identification, approval and implementation of changes to payroll operations (process, policy, technology configuration, etc.)	Process of proactively and rapidly identifying, addressing and mitigating risks or issues that might affect or impact the successful delivery of payroll operations	Process for collecting, compiling, validating and reporting performance results to support issue identification and ongoing decision-making (includes performance metrics and service level agreements)	Process that supports transition planning and provides change management oversight to enable any payroll transformation/major enhancements

2.   Governance structure and responsibilities

Bodies	Responsibilities
Governance council	• Provides oversight and guidance, setting strategy and direction, including technologies • Executive-level and financial oversight, establishes business priorities, including the approval of technology-related requests • Issue resolution/decision making • Oversights/reviews vendor performance, including application support performance
Change advisory board	• Directs strategy implementation • Reviews enhancement requests and approves changes to operations • Ensures ongoing operations excellence, including the review of service levels agreement • and KPIs • Reviews financial performance • Issue resolution or escalation
Payroll Center of Excellence (CoE) leadership team	• Manages the relationship with the business and monitors customer feedback • Monitors performance dashboard and status reporting, issues and changes control log • Controls the technology roadmap (and releases where applicable) • Performs root cause analysis and issue escalation • Conducts technology and process maintenance
Production support organization	• Monitors tier 2/3 issues (specialized tiers of support), including break/fix and issue resolution • Monitors integration errors/ issue resolution/related technical architecture/ configuration/ report/integration requests • Manages the development processes and release management (where applicable) • Coordinates/liaises with payroll technology/BPO vendors for updates/regression testing/ analysis of new functionality, etc

3.   Decision rights

- Decision rights tools and framework
- Organizing decision-making and execution by setting clear roles and accountabilities
- Assigning clear decision rights allowing companies to ease complexity, ensuring decisions are made promptly and result in effective actions
- Driving the decision-making approach (e.g. escalations)

Mandate and structure

The model optimizes the structure of the payroll function with right-sized tiers of support. The tiers of support may vary between organizations based on a series of critical factors such as: payroll customer excellence, organizational size, complexity of payroll (e.g. geographic disparity, language, applicable regulations, workforce type, disparity of policies and practices, etc.), and depth and breadth of capability.

- **Tier 0** (self-help): key stakeholders, such as business leaders, employees and retirees, will have direct access (tailored to their "behavioural personas"), access to self-help (one-stop-shop

and easy to access policies, knowledge articles and FAQs), self-service to the payroll system to view entitlements or initiate changes, or service requests. A robust tier 0 will significantly reduce the burden on the payroll function in responding to inquiries or transactional activities that can be done through self-service.

- **Tier 1 support** (intake centre): this model encourages a multi-domain shared services Intake Centre that can address basic payroll related inquiries (amongst other domains such as employee workforce administration, benefits administration, finance, etc.) as well as basic transactions (non-payroll production). The key

differentiators of this tier of support compared to a traditional contact centre are:

1. Being equipped with a robust case management tool that is fully integrated to the payroll and HR system(s), which helps channel the cases to the right tier of support, balances the workload, and provides transparency to employees.

2. Providing contextualized training for the agents to develop the right breadth of capabilities and customer service aptitude so that the majority of the inquiries channelled to this group can be addressed without the need for escalation to other specialized tiers of support.

3. Appropriate structure and configuration within tier 1 (language proficiency, Collective Bargaining Agreement (CBA)/policy proficiency, agent rotation protocols, specialists on-point for specific business units or employee populations with complex policies).

- **Tier 2 support** (payroll production team): a team of payroll professionals with a variety of expertise that is on-point for escalated inquiries (under 20% of their focus) as well as the end-to-end payroll production, payroll accounting, operational reporting and payroll analytics. This team is the heart of the payroll function with a focus on operational excellence, compliance and continuous improvement, and with minimal client-facing responsibilities. Depending on the size of the team and the complexity of payroll, this team can have further sub-tiers to create the right depth of specialization on complicated transactions, complex employee populations, unique knowledge areas, and to create capacity for special projects.

Mandates, roles and responsibilities

Within an enhanced payroll operating model, the composition of the payroll team could include payroll administrators, time and attendance administrators, payroll accountants, global payroll specialists, payroll

analysts and payroll lead (i.e. management). The exact composition of an organization's payroll team will vary depending on the size of the organization, complexity and its industry. For example, organizations in industries like financial services or telecom might not have time and attendance administrators, as most employees in these industries are salaried, so tracking of time would be on an exceptional basis.

The primary responsibilities of each role on the payroll team within an enhanced payroll operating model include:

Payroll administrators

- Verify, process and input additions or changes to any employee information that affects employee income, deductions, taxation and payment distribution;

- Perform accurate calculation of all payments and maintain payroll and taxable benefit records;

- Manage payroll corrections (e.g. overpayments, missed hours);

- Distribute and prepare payments, benefits, payroll deductions (including statutory withholdings such as income taxes);

- Responsible for third party remittances and reporting; and

- Respond to escalated payroll inquiries.

Time and attendance administrator

- Compile employee time, production, and payroll data from electronic records;

- Monitor time and other information in order to detect and reconcile payroll discrepancies (technology to play a key role in anomalies detection);

- Verify attendance, hours worked and pay adjustments, and post information onto designated records;

- If required, post relevant work hours to client files for billing purposes; and

- Respond to tier 2 payroll inquiries.

Payroll accountant

- Accountable for all remittances and account reconciliations;

- Analyze payroll data to ensure it is posted correctly to the general ledger;

- Conduct job costing and prepare payroll journal entries;

- Responsible for payroll audits and ensuring payroll compliance;

- Complete quarterly, annual and ad hoc legislative reporting requirements;

- Review and manage the payroll accounting function and propose enhancements of accounting procedures;

- Manage special projects in support of various payroll initiatives; and

- Approve payroll funding.

Global payroll specialist (where applicable)

- Maintain a solid knowledge of global employment, payroll, and benefit and pension-related legislation;

- Prepare and administer payroll for employees globally while auditing payroll processing reports for accuracy;

- Act as a global CoE of payroll, following trends and implementing where applicable, including external market practices;

- File employees' maintenance records, regulatory compliance records and internal reporting;

- Review and certify international payroll transactions to ensure all recommended payments accurately reflect current compensation levels and withholdings in accordance with local labour laws and requirements;

- Communicate professionally and regularly with international payroll support vendors to ensure timely results, accurate processing, and knowledge of local requirements (if applicable);

- Process and record payroll and related transactions in accordance with monthly deadlines; and

- Respond to escalated inquiries and research and propose resolutions to global payroll issues.

Payroll analyst

- Deliver payroll services in compliance with federal, provincial and territorial legislation;

- Act as a payroll subject matter expert for the organization and as the key point of contact for all payroll related escalations;

- Prepare internal and external reporting to meet regulatory and management reporting requirements, while optimizing processes and identifying cost efficiencies;

- Control and analyze payroll daily, weekly and monthly, and manage input/output to and from the payroll system with other system feeds (e.g. HR, finance);

- Identify key trends within the organization, providing insights that allow payroll to proactively better manage and engage employees;

- Ensure the integrity, accuracy and consistency of payroll data flow by generating variance/change reports to conduct quality control reviews and compare to the appropriate data sources;

- Participate in complex projects with multiple work streams and multiple stakeholders;

- Ensure data quality and accuracy;

- Assist in defining project scope, identifying approaches, and executing major strategic projects; and

- Establish, monitor and communicate KPIs using a dashboard or similar tool.

Payroll lead

- Oversee the development, implementation and ongoing maintenance of payroll operations;

- Manage the workflow of payroll processing to ensure optimal efficiency and maintain high standards of customer service;

- Ensure payroll processing is timely, accurate, and in accordance with government regulations and company policy;

- Review and analyze current payroll procedures in order to recommend and implement changes leading to best practices;

- Collaborate with finance and HR to create payroll reports and forecasts;

- Conduct random audits of the payroll, benefit process and other activities for accuracy and compliance with regulatory requirements;

- Stay informed of federal and provincial/territorial employment legislation and regulations to ensure the company's compliance;

- Manage relationships with vendors, including selecting providers and brokers, and ensure customer service levels are met;

- Responsible for payroll's operating efficiency and organizational impact;

- Manage complex projects with multiple work streams and multiple stakeholders; coordinate payroll strategy discussions with senior leaders;

- Assist in defining project scope, recommending approaches, and managing the execution of major strategic projects;

- Develop and apply appropriate methodologies for upstream and downstream processes, create metrics and establish SLAs to improve or enhance payroll operations; and

- Manage and conduct secondary research to analyze the global payroll environment.

Capabilities

The payroll function will shift to a strategic understanding of how payroll contributes to operational and functional goals. It is strongly recommended that the payroll professional have a professional designated qualification or certification. This will require the design of new education programs that are future-oriented and open to ongoing changes. Not only will the payroll professional be a strategic advisor, but they will have to be able to confidently present payroll data and strategy to senior leadership. As technology continues to evolve at an increasing pace, they will need to have a holistic understanding of payroll technology and how payroll data and technology interacts with other departments. Finally, the payroll professional needs to be a good cultural fit with an outstanding customer service ethic.

We saw, in our current state assessment, that the capabilities of payroll professionals typically focused on payroll basics — such as attention to detail and organizational skills. As payroll shifts to become a more strategic function, payroll professionals will require a variety of new skills, including data analysis, data visualization, public speaking, and presentation skills.

Companies will need to conduct an honest and objective assessment of the current talent and capabilities within their organization, and identify gaps. For example:

- Under the enhanced payroll operating model, older technologies will be replaced and there will be more emphasis on the flow, integration and management of data. As a result, payroll professionals will likely need enhanced analytical and technical skills: data analysis (extraction, manipulation, visualization, story-telling), knowledge of cloud payroll (and upcoming releases), knowledge of automation tools (RPA), etc.;

- As the role of payroll professionals shifts to become more advisory, payroll professionals will likely also need enhanced customer service skills (e.g. communication, relationship management, confidentiality and ethics) in order to provide an enhanced employee experience; and

- Since payroll at its core requires operational rigour, knowledge of operational excellence tools and techniques (e.g. root cause analysis, quality assurance, value stream analysis and continuous improvement) to ensure payroll is run seamlessly is critical.

Organizations can use the skill gap analysis as a basis to redefine skill requirements, identify or devise appropriate and effective upskilling programs (e.g. training programs, certificate programs), upskill or reskill their existing talent and, if necessary, acquire new talent. Organizations will also need to redefine the role of payroll professionals and create new job descriptions or update existing ones to reflect the shift in roles and responsibilities.

Insourcing versus outsourcing

Our current state study of payroll functions of various sizes showed that most organizations do not have a payroll strategy that has informed the viability of insourcing versus outsourcing payroll operations. Given not all organizations have the right depth of capability in payroll, economy of scale, technology infrastructure and sustainment model, or the right controls and protocols in place to de-risk the operation, the insourced payroll model is not always the best choice. On the other hand, organizations that have fully or partially outsourced their payroll are not always clear of what services they should be expecting from the vendors, which often results in building a shadow team internally to fill in the service gaps. This breaks the business case for outsourcing the payroll in the first place. A thorough assessment of insourcing versus outsourcing payroll informs the configuration of the enhanced payroll operating model. A thorough business case will determine the financial viability of each option.

Organizations that insource their payroll have ownership of the payroll software and have further flexibility to configure software to meet their organizational needs. They also have direct access and control of payroll and underlying calculations. Under this approach, the internal payroll team must be in tune with the payroll technology vendor's roadmap, upcoming releases/updates, and have a robust plan to test and operationalize the changes. While some cloud technology vendors provide legislative updates through releases (mostly covered for Canadian payroll), for organizations that are still leveraging on-premise payroll technology or with global payroll operations, the payroll team could

be accountable for system legislative updates. The insourced payroll team is expected to have a well-defined payroll technology sustainment model in place that orchestrates all payroll service and change requests, maintenance (configuration and integrations), enhancements and major projects.

Organizations that insource their payroll require deep internal payroll expertise and rigour at various levels. Under the enhanced payroll operating model, the payroll team is fully responsible for payroll customer inquiries within all tiers of support, which requires a robust case management tool, as well as customer service aptitude. There would also need to be rigorous process controls, well-defined workflows and an operational excellence framework that governs day-to-day activities.

Organizations that fully or partially outsource their payroll can pick and choose the services that they wish to have a third-party vendor to manage (e.g. gross to net calculations, direct deposits and cheques, payroll inquiry management, government remittances, year-end reporting, etc.). The outsourced services catalogue should be informed by the outsourcing strategy, to determine what activities are best to be retained versus outsourced. These organizations rely on the vendor for accurate and timely delivery of payroll. As a result, organizations that outsource their payroll require clear payroll governance which defines vendor management, contract management, financial and commercial management, issue and dispute management, service performance expectations, and formalized interactions with vendors with clearly defined working relationships.

While organizations that fully outsource their payroll no longer have the need for a full payroll team, they still require select designated roles for vendor management, payroll analytics, and providing policy expertise (for escalated issues). Vendor management activities within the enhanced payroll operating model will include activities like monitoring SLAs, conducting risk management, ensuring payroll accuracy, managing the contract, liaising change requests and enhancements with the vendor, and ensuring an optimum employee experience. While

there may be cost savings associated with not having a full payroll team, the corresponding costs of fully outsourcing payroll can be substantial — hence a detailed cost-benefit analysis should be done in advance to avoid any financial surprises.

Partial outsourcing allows organizations to pick and choose which services are best kept in-house versus which to outsource. These decisions are typically made based on the organization's existing technology, resource constraints or desire to reduce operational risk. Depending on the services outsourced, some level of payroll expertise is still required by members of the payroll team.

In summary, the choice of insourcing, partially outsourcing or fully outsourcing payroll will have an impact on the structure of the enhanced payroll operating model. Organizations will need to consider the various factors associated with each option when designing and implementing their model.

Interactions within and outside of the enterprise

To significantly boost payroll's efficiency and value to the organization, payroll needs to extend its working relationships with HR, finance and the businesses they support. Payroll is where all business, employee and job-related data and transactions come to life, and on the same token, any issues that stem from HR and finance surface. For payroll to be operationally and strategically effective, it needs to know how to interact with other functions in a seamless operation. A well-defined payroll operating structure that is integrated with the organization's HR and finance functions is imperative.

Payroll regularly interacts with both HR and finance, with HR owning the employee lifecycle (i.e. hire to retire) and finance owning reconciliation, budgetary controls and cost projections. Payroll, HR and finance all share the same common denominator — data — so formal interactions between HR and finance will enable stronger insights for more valuable decision making. An enterprise data architecture should define ownership and responsibilities for various data sets — it should be established based on data stewardship and integrity guiding principles.

The payroll governance and the business processes that are designed to simplify and rationalize payroll activities need to clearly articulate the role and responsibility delineations, and hand-offs between each team.

As described previously, organizations that outsource their payroll require rigorous vendor management. The payroll governance should articulate role delineations between the organization and the payroll outsourcing vendor. The same discipline will also need to apply to interactions with other stakeholders outside of the organization, such as legislative bodies and other vendors. Technology will transform these interactions from ad hoc or loosely defined exchanges to automated workflows using streamlined processes.

Enablers to the model

As with any transformation, before moving to an enhanced payroll operating model, organizations must undertake a significant amount of planning, to identify and make enabling investments, and to retool and reskill/ upskill employees so that they are equipped to succeed within the new model. Without such "enablers," any well-designed operating model will fail to last before old ways of doing things creep back in. In this section, we highlight two critical enablers of the transformation to an enhanced payroll operating model: technology and collaboration.

Technology

Technology is one of the most important — if not the most important — enabler of the enhanced payroll operating model. It will empower payroll functions to evolve and become valued business advisors. While the transition to the cloud has become commonplace across all industries and organizational sizes, currently, there is a wide range of innovative solutions available in the market to enhance payroll operations (e.g. e-payroll solutions, payroll anomalies detection, chatbots). Still, adoption among Canadian organizations has been quite slow. We can summarize the role of technology in the enhanced operating model through the following five dimensions:

Automation	This is the most well-known case for the use of technology. The technology is meant to automate all high volume, routine, administrative activities and tasks within payroll during all stages of payroll: from set up and pre-processing, to payroll processing and post-production. The primary case for automation is to release capacity from the payroll team and enable them to shift focus to more operational and advisory activities. While Enterprise Resource Planning (ERP) technologies have been a game-changer in supporting organizations' automation journeys, seeking opportunities to automate should not cease with the ERP go-live. The payroll team should have a clear mandate for continuously finding opportunities to automate — this often requires simplification of policies and business processes to reduce human discretion and involvement in payroll administration.
Self-service	One of the key differentiators of cloud technology is the overhaul of the front end "engagement" layer and the user experience that it invigorates. Empowering customers of payroll to have direct access to their entitlements (anytime and anywhere), the ability to trigger self-service transactions, and having transparency to know how their requests are being addressed is the "north star" of many HR and finance organizations in having employee experience at top of mind.
Standardization of practice	Channelling all transactions through a single source of truth is one of the most effective methods of enforcing standardization of practice and policy. By reducing manual administration and the number of exceptions that are handled outside the system, the organization is encouraged to consistently follow through a standard set of processes and steps in their end-to-end payroll journey. Sponsorship and consistent messaging from the leadership on decoupling unnecessary complexities and avoiding customized/patch workarounds is key in achieving standardization of practice.
Data integrity	Having reliable data retained in a single source of truth is one of the key reasons behind many HR, payroll and finance technology transformations. The importance of data integrity is twofold: first, timely (ideally, live) and reliable data is the lifeline of any accurate payroll. Our survey results showed that data issues from time and attendance, on-boarding and benefits are the biggest reasons behind retroactive payroll adjustments and payroll anomalies. Hence, if governed appropriately, technology can support maintaining data integrity to acceptable standards. Secondly, organizations have recently realized the wealth of data that exists in payroll systems and within the payroll team, which can be used to provide strategic value to an organization's executive team such as enhancing productivity, refining total rewards policies and programs, enhancing compensation equity, preventing payroll and compensation leakage. Solutions can now track every key payroll data point within an organization, from salary ranges within each department to average RRSP contributions, and combine them to provide in-depth organizational insights. Payroll can use this information to provide a more complete view of an organization's human capital and to share higher-value strategic insights with executives. Driving business performance insights from payroll data is a relatively untapped potential, which can be enabled by a seamlessly integrated technology stack.
Intelligence	Augmented intelligence through AI and predictive analytics is an area that is already mainstream in some HR domains such as HR customer service, recruitment, performance management and coaching. Our report finds that payroll lags other areas of HR in leveraging more sophisticated technology frontiers. While the enhanced payroll operating model is still established based on the traditional payroll business processes, it leaves the door open to leveraging such advancements to further extend the capabilities of the payroll team. Some of the tier 1 payroll technology vendors already offer functionality such as chatbot for payroll inquiries, payroll anomalies detection, benchmarking, and intelligent on-demand policy recommendations.

Before moving to the enhanced payroll operating model, many organizations need to conduct a thorough technology diagnostics to establish a realistic picture of whether their current stack can support payroll's strategic aspirations and ultimately plan for enhancing or replacing outdated and limited payroll technologies. They need to invest in more modern technologies and make sure they can fully utilize enhanced functionalities. As a part of this work, it is critical for organizations to conduct an in-depth review of current processes and future state requirements and business needs. The reality is that innovative technology solutions will not fix poor processes.

Collaboration

Currently, payroll within most organizations largely operates in a silo, with little regular interaction with other business units. Within the enhanced payroll operating model, success will be dependent on how agile payroll is and how well it responds to the dynamic business needs of the organization. To foster this transition, organizations need to work hard to remove operating silos and create a seamless integration (i.e. either technology or process-enabled) between payroll and other business units.

Before implementing the enhanced payroll operating model, leaders across the organization must endorse and support the transformation. They will need to establish new ways of working across the organization, support changes by acting as vocal champions, and demonstrate agility through their actions. Organizations that move forward with the transformation to an enhanced operating model will also need to focus on mitigating risks — such as deploying the right technologies, upskilling or reskilling employees in advance of changes, comprehensive change management and communications strategy and plan, sharing best practices and lessons learned with everyone affected, and collaborating on transformation initiatives with all affected, including those on broader teams.

Factors to consider

The proposed enhanced payroll operating model will take different permutations based on additional factors that are inherent to each organization. Our research indicated that the model was industry agnostic, applicable across all industries and public or private sectors. However, organizational size, inherent payroll complexities (due to company culture or employee type/population) and organizational readiness will require adjustments to the proposed model to ensure it is "fit for purpose."
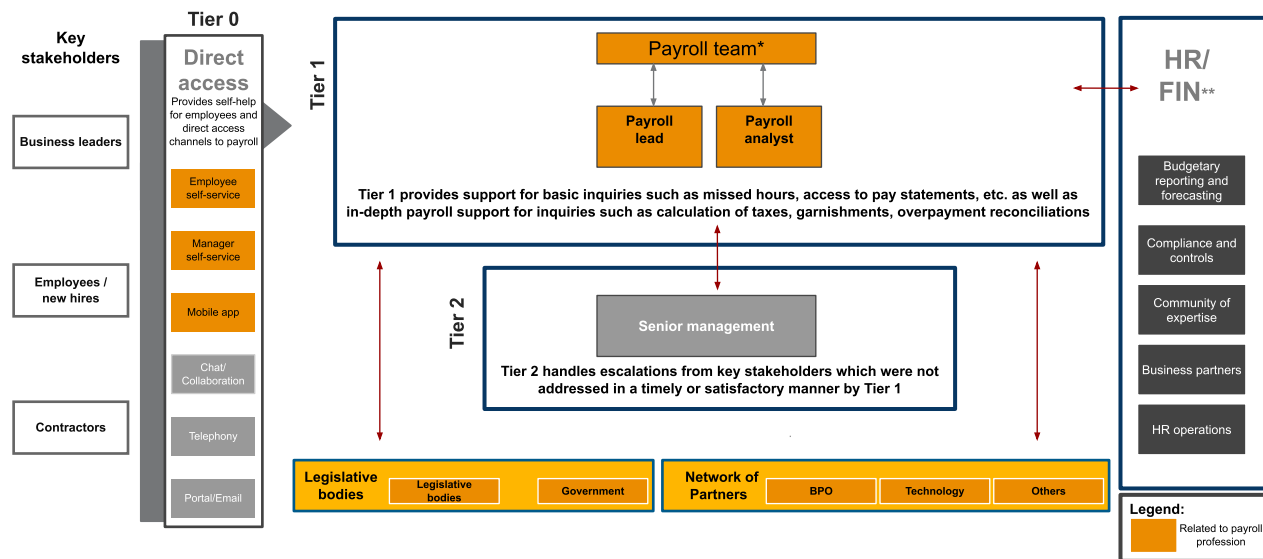
Organization size

Organization size will impact the payroll team composition and operating model. In a small size organization it is expected that a small payroll team wears multiple hats at the same time. For example, a payroll lead role may not exist in smaller organizations or the payroll analyst role might only be part of individuals' daily activities. In mid-sized and large organizations, the team will be more robust, sophisticated and include further specialty roles. As a result, tier 1 and tier 2 support will be quite different depending on organizational size.

In small and some mid-sized organizations, the tier 1 support is responsible for both the end to end inquiry management as well as the payroll production. This includes addressing basic inquiries such as missed hours, access to pay statements, as well as in-depth payroll support for inquiries such as calculation of statutory deductions, garnishments, overpayment reconciliations, etc. In mid to large-sized organizations, tier 1 support will be provided by the shared services organization due to a higher volume of basic inquiries.

The tier 2 support in small to mid-sized organizations consists of the senior management (which is likely overseeing other functions such as total rewards or components of finance) who are on point for escalated issues by tier 1 (payroll team) or other stakeholders.

Figure 45: Enhanced payroll operating model showing support tiers

Inherent complexities

Payroll complexity can vary significantly from organization to organization. While some aspects of payroll are fairly routine, such as gross to net calculations and processing payroll, other factors can greatly impact payroll complexity within an organization and, therefore, the transition to an enhanced payroll operating model.

Examples of inherent complexities that organizations should consider when making the transition to an enhanced payroll operating model include:

- **Organizational policies:** Company policies, such as paid time off policies, collective bargaining agreements and overtime policies can greatly impact the complexity of payroll. If an organization's policies are complex and difficult to interpret, the volume of inquiries to tier 0, tier 1 and tier 2 support will likely be much higher. In some organizations, specialized knowledge or specific roles may be needed to administer these policies effectively. Organizations should clearly understand any specialized requirements and integrate them into the development of their new operating model.

- **Payroll configuration:** The configuration of payroll within an organization, such as pay frequency (e.g. weekly, bi-weekly, semi-monthly, monthly) and pay timing (i.e. current versus arrears), can increase payroll complexity. For example, organizations that pay current often have increased challenges — particularly if they have high employee turnover. While organizations should strive to streamline pay configuration prior to switching to a new operating model, there may be legitimate business reasons for using specific configurations. Organizations should consider their unique configuration requirements and determine how those will need to be accounted for within their new model (e.g. size of the payroll team, model structure).

- **Corporate structure:** Corporate structure can have a major impact on payroll complexity. When transitioning to the new enhanced payroll operating model, organizations should consider a number of key questions related to corporate structure, including:

  - Are there multiple legal entities?

  - Are there different general ledger systems — and are GL entries at a summary or a detail level?

- Is the organization centralized or decentralized?
- Is the workforce hourly or salaried?
- Are employees within the company union, non-union, or a mix of both?

The answers to these questions should inform the development of the new model, such as designing of key interactions.

While these examples are not an extensive list, they illustrate the importance of understanding the organization's inherent complexities before developing and implementing the enhanced payroll operating model.

Organizational readiness

Before undergoing any major organizational change, such as the implementation of the enhanced payroll operating model, organizations must commit to the changes and be well-prepared to provide compelling reasons or benefits for the changes to employees and other critical stakeholders. Unless the employees and managers realize the direct benefits of such transformations, they will not adapt to the new ways of working, which will significantly jeopardize the success of the model.

The implementation of the new operating model will not only impact the payroll team, it will affect the entire organization, optimally increasing the effectiveness of the entire company. Payroll touches every employee in the organization. Hence the perception of success (or failure) in transforming it is significantly amplified compared to other functions with limited exposure to employees. In order for the transformation to the new model to be successful, it should be treated like a significant project — with the appropriate planning, management and oversight, communication, training, reviews of processes and analyses of technology solutions.

Before beginning what is likely to be a major transformation journey, organizations should take a deep and honest look at critical factors that could support or hinder their transformation at the current

time. These include organizational size, industry, the current level of adoption of technology, company policies, other change initiatives and the success or failure of other recent projects.

To help with this process, organizations may choose to undertake an organizational readiness assessment to measure their preparedness for the transformation to the enhanced payroll operating model. A readiness assessment typically includes the assessment of resources, employee expectations and concerns, leadership support, adaptability to change, and project governance structures and risks. Such assessments can help an organization identify and address potential issues in advance — so they do not cause major roadblocks as the organization moves forward with the change.

Implications of the model

In this section, we look at the implications of the enhanced payroll operating model on the role of the payroll professional, service performance and the employee experience.

Role of the professional

In the enhanced payroll operating model, payroll professionals will have augmented roles and capabilities, with a more strategic focus. They will spend less time on data entry and other repetitive work, which will free up their time so that they can focus on higher-value activities. Human interaction and problem-solving will remain necessary in some areas, such as interpreting regulatory changes, dealing with exceptions and liaising with key stakeholders. At the same time, automation will allow them to enhance their focus on dealing with strategic issues, such as business forecasting, data analytics and influencing executive decisions.

The next generation of payroll professionals will need to have an aptitude for technology and an acceptance of how new automated technologies will allow them to do their jobs better. Technologies like AI and RPA will free the payroll team from mundane, repetitive work, so they will need to be equipped and

trained to focus on business-critical activities and goals. Use of such technologies will be inevitable in gaining a competitive advantage. The HR and payroll leadership must rethink and redraft the role description of the payroll professional, augmented with such technologies.

Payroll professionals will need to upskill and re-skill in order to perform their role successfully in the future. Appropriate training and certification will be crucial, and it may be necessary for organizations to recruit from a wider, less traditional talent pool. Enhanced skills and capabilities such as deep industry knowledge, the ability to solve problems creatively, strong data analytics skills and people skills will become integral for payroll professionals.

Service performance

Service performance will facilitate continuous improvement and help to raise the profile of payroll in organizations. Embedded in service performance will be Key Performance Objectives (KPOs) and Key Performance Indicators (KPIs) that set targets and drive efficiency and optimization within organizations; the results from the strategic KPIs will be some of the most important achievements of payroll. To this end, it is important for such metrics to not only measure basics like cost, productivity, efficiency and compliance, but also to include the ones that directly tie into company goals and help inform strategic plans and decisions. Both operational and strategic KPIs will serve to provide a baseline for internal and external benchmarking and assist in the development of the organization's business scorecard.

With greater visibility and access to real-time data and performance results, payroll professionals will be better equipped to offer detailed assessments and recommendations for improving payroll operations. Beyond payroll operations, payroll professionals will also become more equipped to make valuable contributions to their organization's overall performance and future goals.

Employee experience

As the focus on employee experience increases, organizations will implement an increasing number of experience-focused initiatives, such as flexible hours, wellbeing programs, social activities and superior digital experiences. These new offerings stem from employees' "payroll experience journey maps" — a compilation of all moments that matter to employees in their payroll-related journey. Such journey maps must be overlaid on top of the traditional payroll business processes. While reliance on the payroll business processes is still critical, the payroll professionals need to extend their line of sight to the end-to-end experiences that employees deem valuable.

Payroll will play a major role in delivering an enhanced customer experience. In the enhanced payroll operating model, payroll customer's behavioural personas must be studied and embedded in designing the access channels to payroll. Payroll can then focus on identifying "tailored" ways to positively affect the employee experience.

Deployment considerations

Before deploying the enhanced operating model, there are several factors an organization will need to consider. These include:

- **Support structures:** Paramount in the enhanced payroll operating model is a robust tier 0 support structure built around bots and automated inquiry management, in addition to clearly defined tier 1 and 2 levels of support. Interactions with HR and finance must also be formalized, with a clearly defined strategic mandate to inform business decisions and facilitate continuous improvement.

- **Technology investments:** Somewhat dependent on the chosen HCM/payroll technology, organizations will need to consider what activities to outsource versus those to keep in-house. Regardless of the in-house or outsourced solutions chosen, organizations will likely need to invest in technology to replace

the limited and outdated technologies most use today. For example, cloud-based solutions can enable information exchange between systems and provide easy access to data from anywhere and at any time.

- **Self-service and automation requirements:** Full self-service functionality, with appropriate workflows and approvals, will need to replace manual data entry in order to provide increased capacity for payroll professionals to focus on strategic initiatives rather than on administrative tasks.

- **Training and development:** With payroll professionals' jobs changing to become more technical, analytical and consultative, they will need to be given the opportunity to develop new capabilities or skill sets. Recruitment processes will also need to be changed accordingly, based on a refreshed set of competencies.

- **Education and socialization:** In order to be recognized as a strategic partner, payroll will need to have an active mandate that focuses on automation, continuous improvement (i.e. through tracking of KPIs), and data management. More importantly, payroll will need to educate the business as to the value it can provide, educating other functions on payroll's capabilities and strategic value.

Critical success factors

In addition to the deployment considerations identified previously, there are several factors critical to the successful deployment of the enhanced payroll operating model that organizations should consider when making the transition. These critical success factors include:

- **Inspiring vision:** Delivering an inspiring view of the future state is important for helping everyone in the organization embrace the transformation and take ownership of its success.

- **Recognizing the needs of key stakeholders:** While all employees will be impacted by the transformation in some way, it is critical for organizations to understand upfront who the key stakeholders are, how their roles will be impacted, and the level of support they require to make the transition. Understanding and managing the unique needs of key stakeholders upfront can help with fostering buy-in for the change.

- **Ongoing and effective communication:** Communication is utterly essential to the success of the transition to a new enhanced payroll operating model. When developing their transformation communications strategy, organizations should specifically think about how to reduce the fear of change and address change resistance. Identifying potential strategies in advance can help keep a transformation on the right track.

- **Reward new behaviours:** As a result of the transformation, an organization's core infrastructure will change. That change will need to be solidified through redefined job descriptions and performance management plans. Organizations should identify ways to encourage change and reward new behaviours.

- **Training and development:** Training will be a critical success factor for ensuring the new model is efficient and effective. At the same time, organizations should recognize that training and development will need to continue even after the new model is implemented. Changes and enhancements to the model in order to support continuous improvement will require ongoing training, coaching and communication to all stakeholders.

- **Celebrating successes:** Transformations are incredibly challenging endeavours. Organizations should find ways to identify and celebrate successes over the course of the transition to an enhanced payroll operating model. By celebrating successes, employees can see how well change is working, which can help renew their commitment to any ongoing change processes.

Next generation of payroll operating model — digital payroll factory

Reinvention of payroll operating model — payroll 2.0

Overview of the model

The digital transformation trajectory will certainly impact and outpace the marginal optimizations that can be gained through any traditional operating model — especially scope of services, economies of scale and the pace of learning. As digital networks and algorithms are woven into the fabric of organizations and their core business, industries are beginning to function differently.[21] More and more traditional organizations in any industry, confronted by new digital rivals, move towards AI-based operating models — tapping extensively into data, algorithms and digital networks. It does not matter if organizations are working as a start-up or as a traditional enterprise. It is essential to understand and acknowledge the revolutionary impact AI has on operations and their strategy, and plan for new ways of working accordingly. While the AI transformation is becoming mainstream in the front office functions (e.g. sales and marketing, digital supply chain, etc.), the digitalization of functions such as HR, finance, and payroll is inevitable in the near future.

While the proposed "enhanced payroll operating model" has the potential to significantly boost payroll's efficiency and value to the organization, it will not be able to future-proof the function against the digital disruptions ahead. This requires a fundamental rethinking of the payroll operating model — where AI is at the core of a "digital payroll factory," orchestrating the day-to-day activities without the constraints of the traditional operating models. In this digital operating model, AI is the main source of value creation and delivery, by converting data into predictions and insights, making critical decisions, and guiding and automating operational workflows.

Similar to the presented enhanced payroll operating model, it is important to recognize that what is presented here is a baseline "north star," which is not a mere suggestion of a one-size-fits-all model. The components of this model must be contextualized to the organizations' business imperatives. We find that enterprise readiness, as a whole, is a key factor in the applicability and adoption of this model. Contrary to what it might appear, both small and large organizations have a unique case for adopting this model, which will be detailed in the report. We find the technology and telecommunication, retail and financial service industries ahead of the curve in transitioning to this model, due to the fierce competition they are already facing from smaller digital organizations that are disrupting their markets.

Comparison to the enhanced payroll operating model

The digital payroll operating model differs from the enhanced operating model in many areas, but particularly in the following four aspects:

- The enhanced operating model is still based on the traditional ways of decision making and transacting. In the digital operating model, AI treats decision-making as a science by converting internal and external data into

predictions, insights and choices, which in turn guide and automate operational transactions.

- In the enhanced operating model, humans are at the core of all day-to-day operational decision making (regardless of complexity and frequency). In the digital operating model, AI algorithms make all operational decisions, while humans monitor the AI and enhance its pace of learning and scope of services.

- The enhanced operating model is still process-driven, based on how traditionally payroll is run. The digital payroll factory is data-driven. While the workflows are built on payroll business processes (and regulatory requirements), the scope of services and how they are delivered to payroll customers are based on data trends and insights.

- The capability pipeline into the payroll team within the enhanced operating model is based on "super" specialization and institutionalized payroll knowledge. In contrast, the digital payroll operating model focuses on a universal set of digital capabilities such as data sourcing, processing, analytics, and algorithm development that drive its competitive advantage.

Key components of the digital payroll factory

The following are the key components of the digital payroll factory:

- **AI** is at the core of the factory, acting as the operating brain of the model handling some of the most critical processes and operating decisions.

- **Algorithms** generate predictions, insights and choices about the future states and actions. The seamlessly integrated technology stack includes **RPA, blockchain, cloud payroll engine, analytics engine and experimentation platforms**. Together they operate the daily payroll function.

- **Data pipeline** brings internal and external transaction and strategic data, not only feeding the core payroll processing but also for training the algorithms.

- The team of **payroll professionals** augment their core payroll capabilities with a universal set of digital capabilities (in data sourcing, processing, analytics, algorithm development, etc.) and consulting skills. They build, train, maintain and extend the capabilities of the digital core, while representing organizational and business needs.

- The **internal and external interactions** are based on integrated data assets across a range of applications. Payroll extended its value chain through further internal and external partnerships.

Appendix F includes examples of common payroll processes (use cases) and illustrates how the digital payroll factory brings these use cases to life.

Deep dive into the model

AI core

The AI decision factory is at the core of the model, handling some of the most critical processes and operating decisions. The AI algorithm:

- Orchestrates payroll set up and processing;

- Detects payroll anomalies;

- Addresses employees' basic inquiries;

- Identifies root causes for macro issues based on the volume and nature of inquiries;

- Leverages ecosystem of providers to pull in relevant benchmarks and market comparators;

- Conducts financial reconciliations;

- Escalates issues to the payroll professionals (payroll advisor, bot monitor, senior management team, etc.)

- Automates new processes; and

- Provides recommendations on policies and programs.

Figure 46: Payroll 2.0 Digital payroll factory
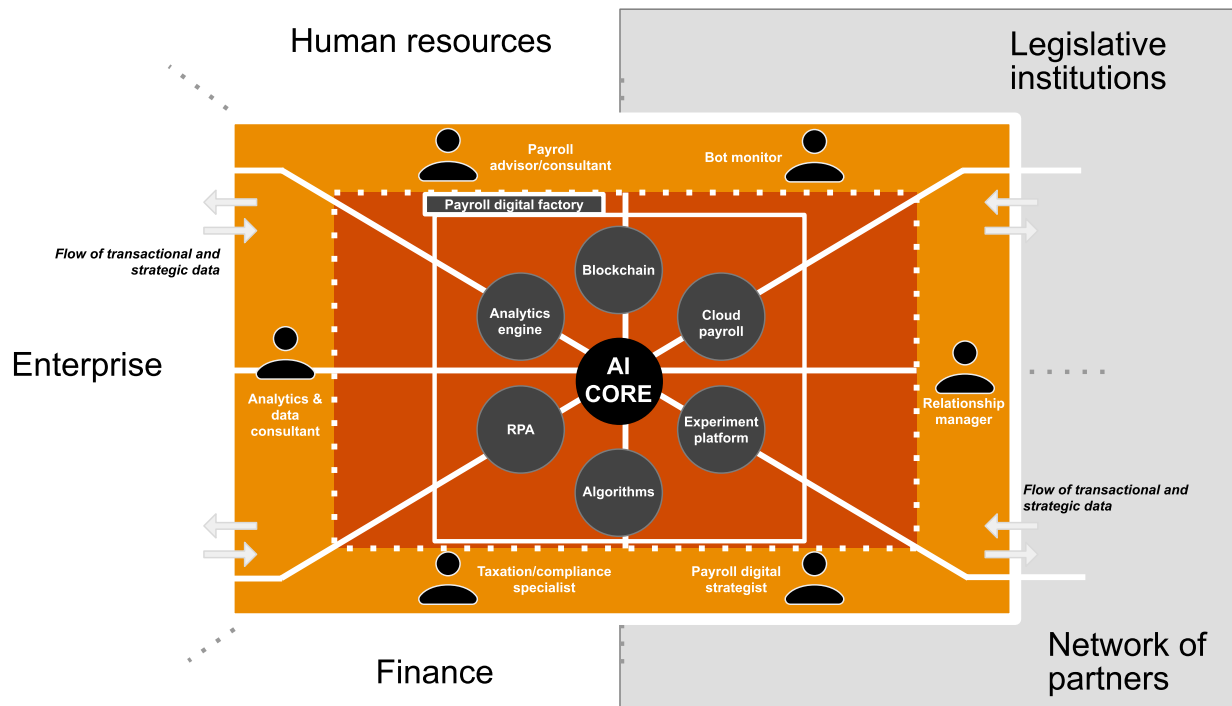
Though it might appear that the AI capabilities referred to here are the stuff of science fiction and mimic human reasoning (strong AI), most activities are not sophisticated in nature and require basic tasks traditionally handled by humans (weak AI). This has already become mainstream in most front-office functions for the top tier global technology companies, when handling end-to-end management of information businesses, or in many e-commerce businesses, when orchestrating the build, delivery and operations of actual physical products.

Technology stack

Enabled by the analytics platform, RPA, cloud payroll and blockchain, and governed by the payroll team, the technology stack allows the payroll function to radically change the scale, scope, and pace of learning that historically measures any payroll function's "operating performance." The technology stack of the digital factory allows AI-driven processes to be scaled much more rapidly than traditional ones (think of adding more payees to a new payroll

group, with a specific range of pay attributes and pay related questions). They allow for much greater scope because they can be connected with other digitized businesses from other functions (think of connecting all "unstructured" payroll customer inquiries to payroll transactions or policy changes, without the need for human intervention). They can create incredible opportunities for learning and improvement (like the ability to produce ever more accurate and sophisticated payroll customer-behaviour models and then tailor services accordingly).

The case for each technology stack could be different depending on the enterprise technology strategy, but in general:

- **Algorithms:** generate predictions about the future state or payroll actions. Every past transaction or data point from previous searches will improve the predictions that the algorithm can make.

- **RPA:** enables automation of routine tasks within payroll or between payroll and its extended partners. The identification and prioritization of RPA opportunities can be orchestrated by AI.

- **Analytics engine:** feeds on internal and external operational and workforce data, converting them to actionable insights, particularly to monitor performance against payroll SLAs, nudge the payroll team or employees, trigger a transaction or workflow, or provide strategic insights to leadership.

- **Blockchain:** drives any reconciliation activities within the organization (e.g. time & attendance and payroll, finance and payroll, bank deposits, year-end reconciliation, remittances to third parties, legislative reporting, etc.).

- **Experimentation platform:** on which hypotheses regarding new algorithms are tested to ensure that their suggestions are having the intended effect.

Data pipeline

The data pipeline continuously brings internal and external operational/transactional, as well as structured and unstructured data, through a semi-automated process that gathers, cleans, integrates and safeguards the data in a systematic, sustainable and scalable way. This data is the lifeline of the digital operation, not only for transactional purposes, but more importantly, to train the AI algorithms for better predictions.

New roles and capabilities for the payroll team

The team of payroll professionals augment their core payroll capabilities with a universal set of digital capabilities (in data sourcing, processing, analytics, algorithm development, etc.) and consulting skills. New roles will emerge, such as:

- **Bot monitor:** responsible for overseeing the deployed bots, fixing issues and reviewing use cases for further bot development. A case

consultant role will support the bot specifically in relation to the management of serious conduct matters (that are non-standard).

- **People analytics and data consultant:** responsible for designing and delivering payroll management information that will be used across the business, and addressing key data and systems requirements, security, reporting and analytics as well as testing and updating systems.

- **Payroll digital strategist:** responsible for scanning the technology market and identifying new levers to automate and embed technology across payroll, HR and finance. This role may work with third parties to co-create products. The digital strategist also looks at how machines and people work in partnership to ensure an effective employee experience.

The emergence of another set of roles such as payroll advisor, relationship manager, and payroll compliance specialist is due to the elevation of the traditional roles away from pure administration and operations, towards the strategic and advisory side of payroll:

- **Payroll advisor:** oversees the payroll operation and particularly payroll customer service. This role is on point for escalated issues, yet acts as an advisor to HR, finance and business on payroll related policies, programs and practices. The payroll advisor provides specialist knowledge where necessary, and designs innovative solutions that become digital services.

- **Payroll relationship manager:** closely integrated with the business, this role focuses on providing strategic payroll insight and input to the business. The relationship manager develops a solid understanding of the business needs and acts as their voice into the payroll team — particularly in enhancing or developing new digital solutions.

- **Payroll compliance specialist:** ensures compliance with federal, provincial and territorial and global taxation and legislative regulations (as

applicable); oversees global payroll operations and expat payroll (if applicable) and oversees business traveller tax compliance.

It is important to note that these new roles might not be dedicated to the payroll function, and occasionally multiple roles can be taken on by one resource. Some roles will also be dependent on the size of the organization and whether or not they operate globally.

Interaction model

As the move to this operating model will have to be coordinated across multiple functions (front office, back-office), all such functions will be based on a new, integrated foundation of data, analytics and software. This means data assets (core HR, benefits, time & attendance, absences, etc.) will be integrated across a range of applications to maximize their impact.

The true differentiator of the digital payroll operating model is outside of the typical payroll value chain: the value it creates within the internal and external network of partners. By connecting payroll and operations data, new insights into business productivity can be generated. By connecting benefits and payroll data, employees can optimize and adjust their benefits plan and program enrolments, and organizations can provide more competitive total rewards offerings that are of actual value to employees. By connecting payroll data to external benchmarks and market insights (e.g. through third-party vendor offerings), organizations can continuously bring leading practices and course-correct their payroll practices. The novelty of all of this is that it can be done without constant human intervention.

Governance

The governance of the digital assets and network will become critical in this model, with well-defined protocols and planned collaborations across various disciplines and functions. Internal and external legislative bodies will govern and regulate the data

privacy, algorithmic biases and cybersecurity risks inherent to the model. Governance will integrate to the legal and corporate affairs function, which may even be involved in product and technology decisions for any legal and ethical challenges (e.g. what data should be stored and preserved and what data should not).

Factors to consider

The digital payroll factory is a radical concept to consider for many organizations. It requires overcoming many cultural, technological and investment barriers. The transition from a traditional operating model to an AI-driven one cannot be spearheaded by payroll individually — it requires a holistic effort. The proposed baseline model can vary based on a multitude of factors, but namely organization size, the current operating model and organizational readiness.

Organization size

Contrary to preliminary belief, the digital operating model can be viable for both large and small organizations, as each has a starting advantage in becoming digital.

While small organizations might not have the sophistication in payroll that necessitates the move to this model, they can be far more nimble and agile in transitioning to a digital operating model — not just for payroll purposes (and not even just for HR and finance functions), but as an overarching business model. Many start-ups embrace digitalization to gain an accelerated edge over larger traditional firms that have been in that industry for a while. For many such start-ups, the cost of entry to digital operating models is lower compared to traditional firms that have to drag their legacy systems and processes. AI is already setting prices, making recommendations, qualifying vendors, detecting anomalies, enabling customer service bots and delivering other high-value activities. Moving payroll to a digital operating model is certainly not out of reach for them. However, the model might become simpler for such organizations:

- Many of the prescribed digital roles will not be dedicated to the payroll function only (e.g. payroll bot monitor, analytics and data consultant and the digital strategist). Such roles will support the entire digital enterprise (including payroll).

- The payroll analyst will wear multiple hats within this model: overseeing the operations, providing consultation and taxation advisory, leveraging insights from the digital core to support business decisions and changes to policies and practices, etc.

- Based on the level of payroll sophistication, the digital core technology stack is simpler than the presented model — perhaps the cloud payroll engine can provide a lot of the features and attributes of the digital core.

For larger organizations, the case for change is typically imposed by the market competition to stay cost-competitive and relevant. While they have to overcome a larger inertia to move to digital, there is an excellent chance that some of the front office functions have already planned for, or are transitioning toward such an operating model. The main challenge for larger sized organizations is to adapt the payroll function to a common digital base: an integrated foundation of data, analytics and software. This requires a degree of centralization and a lot of consistency. Data assets should be integrated across a range of applications to maximize their impact.

Existing operating model and organizational readiness

Where the organization is starting from impacts how fast they can implement and adapt to the new digital operating model. In particular:

- Organizations that currently do not have a formal payroll operating model would first need to establish one and perhaps aspire to move to the enhanced payroll operating model. The journey to move to a digital model will be longer.

- Organizations with significant decentralized payroll activities and autonomy will have a harder time aligning to this model, which mandates common foundational data and coherence of practice in data architecture and business processes.

- Organizations with outsourced payroll will not require the same construct of payroll team and sophistication of digital core. It is expected that the outsourcing vendor itself had to transition to such an operating model to provide services to its clients and stay relevant. However, at the receiving end of services, the organization must be able to receive the operational and strategic data feed from the vendor to support its digital agenda. The AI core can monitor compliance with contractual obligations and flag contractual breaches or service performance issues when things start behaving in unexpected ways.

- The transition to a digital operating model requires a consistent top-down mandate and a single enterprise-wide strategy to architect the company's operating model and inspire many bottom-up efforts involved. Not all organizations and industries are there yet. Driven by fierce competition and external trends, we see financial services, telecommunications and technology, and retailers already moving towards digital business models. Hence, the organizational readiness for such transformation is higher in these industries.

- Organizations with an existing footprint in people analytics, digital strategy and supply of "digital talent" benefit from further maturity to transition to this model and inherently have higher organizational readiness.

Implications of the model

The direct impact of the digital payroll factory operating model on employee experience, service performance, operational resilience and the organization as a whole is self-evident. The following factors deserve highlighting:

Building new capabilities

While the core payroll competencies will still be essential, AI-powered functions thrive on a universal set of capabilities in data sourcing, processing, analytics and algorithm development. These capabilities entirely reshape strategy, business design, and even leadership. This model moves away from an era of core competencies that differs from industry to industry to an age shaped by data and analytics, and powered by algorithms. This requires reskilling and educating a traditional function from the top leadership to all front line staff, which is a significant undertaking and is one of the largest barriers to success.

To this end, some organizations that are going through such large-scale digital transformation are launching internal digital academies, which typically incorporate classroom work (on-line or in-person), workshops, on-the-job training and even site visits to experienced industry peers. Most academies initially hire external support to write the curriculum and deliver training, but they also usually put in place processes to build in-house capabilities. Every academy is different, but most offer four broad types of instruction:

Leadership — Most academies strive to give senior executives and business-unit leaders a high-level understanding of how AI operating models work and ways to identify and prioritize initiatives. They also provide discussions of the impact on workers' roles, barriers to adoption, talent development and offer guidance on instilling the underlying cultural changes required.

Analytics — The focus here is on constantly sharpening the hard and soft skills of who will be responsible for data analytics, data governance and building the AI solutions.

"Business" translators — Analytics translators often come from the business staff and need fundamental technical training—for instance, in how to apply analytical approaches to payroll problems and particularly developing payroll AI use cases. Their instruction may include online tutorials, hands-on experience shadowing veteran translators, and a final "exam" in which they must successfully implement an AI initiative to traditional payroll processes.

Frontline staff and end-users — Frontline workers may need only a general introduction to new AI tools, followed by on-the-job training and coaching in how to use them. The senior management (payroll, HR, finance) may require higher-level training sessions that incorporate real business scenarios in which new tools improve decisions.

New competency framework and recruitment strategy

The digital payroll factory operating model requires a different genre of skill sets — both technical and business acumen. Organizations need to systematically hire a very different kind of talent and set up career paths and incentive systems for those employees. Though this can be initiated by a small number of motivated, knowledgeable people in data science and advanced analytics, it won't be sufficient and sustainable. This requires four fundamental changes:

- **Establishing a new set of competencies:** The role description of the payroll professional in the payroll 2.0 model is substantially different from any traditional ones. This requires a new set of competency frameworks to be established for various roles to help recruitment, on-boarding, re-skilling and career development. Lack of well-defined skill sets and expectations will result in confusion in roles and responsibilities and capability bottlenecks down the line.

- **New performance management model:** The new payroll team consists of individuals with a diverse spectrum of capabilities. Given such diversity and particularly during the infancy of the model, the required resources might be reporting to various departments (before the full transition

into the model). Based on organizational size and the complexity of payroll, some of the new roles might not ever be fully dedicated to the payroll team. The interdisciplinary nature of the digital payroll factory operating model requires a different approach in assessing performance: shifting away from individual to team performance. This requires establishing shared values, transparent team goals, free flow of information and feedback within the team, and people being recognized for their capabilities and skills rather than their position.

- **Building new career paths to/from payroll:** If not planned for, not having a healthy talent pipeline can become a bottleneck to a resilient payroll operation. External competition for a rare breed of talent with the right core payroll competencies and the required data and analytics background can be fierce. Hence, organizations must come up with creative ways of creating internal career paths from other functions to payroll and vice versa. Establishing rotational programs where resources with data science and analytics backgrounds can work on novel digital payroll projects, while resources with core payroll and finance competencies can learn about robotics and AI. This can create engagement, excitement and most importantly, the necessary business resilience to mitigate talent attrition risks.

- **Rethinking the recruitment strategy and brand for payroll:** The digital payroll factory model requires a new genre of professionals with vastly different capabilities, competencies and career interests. This requires rethinking the employment brand and recruitment strategy for the next wave of payroll professionals (from on-campus hires to experienced professionals).

Deployment considerations

The following is an overview of the conditions that are required, obstacles that must be removed and actions to take for an organization when considering the digital payroll factory:

- **One enterprise strategy:** The transition from a traditional payroll operating model to an AI-driven one cannot be spearheaded just by the payroll function (or even just by HR/finance). This requires re-architecting a company's operating model (typically driven by front office functions) and rebuilding each function on a new, integrated foundation of data, analytics, and software through a consistent top-down mandate.

- **Clear architect:** A new approach based on data, analytics and AI requires some centralization and a lot of consistency. Data assets should be integrated across a range of applications to maximize their impact. Fragmented data will be virtually impossible to safeguard consistently, especially given privacy and security considerations.

- **Governing coalition within the execution team:** Creating a joint task force across payroll, HR/ finance, business, IT and analytics will ensure collaboration and shared accountability regardless of how roles and responsibilities are divided. Within this task force, many interdisciplinary teams will bring the necessary diversity of perspectives and solicit inputs from the front line staff as they build, deploy and monitor new AI capabilities.

- **Agile "product focus":** Building an AI-centric payroll operating model is about taking traditional processes and transforming them into software. Developing a product-focused mentality is essential to getting this done. This means the HR, finance and IT teams deploying AI-centred payroll applications should have a deep understanding of the use cases they are enabling.

Critical success factors

Many organizations have already dabbled in AI as the cost of entry has dropped and the technologies that support AI, like development platforms, vast data storage and processing power, have significantly advanced. Indeed, it is estimated that AI will add $13 trillion to the global economy. Despite this potential,

many organizations fail to scale the use of AI to core practices that support widespread adoption. Most manage to run few pilots or apply AI in a single business process. The following are critical success factors and lessons learned from taking on large scale digital and AI projects in overhauling organizations' operating models:

- **Explaining why:** A compelling story helps organizations understand the urgency of change initiatives and how all will benefit from them. This is particularly critical with digital projects because the fear that AI will take away jobs increases employees' resistance. Leaders have to provide a vision that rallies everyone around a common goal.[22] The payroll team must understand why AI is important to the function and how they will fit into a new, AI-oriented culture. In particular, they need reassurance that AI will enhance rather than diminish or even eliminate their roles — the majority of the team will need to adapt to using AI rather than be replaced by AI.

- **Anticipating unique barriers to change:** Project leads must identify any institutionalized barriers to change and address them upfront. Given the multidisciplinary nature of the digital payroll factory concept, any siloed processes (e.g. payroll, total rewards, HR, finance) can inhibit the broad adoption of AI. Organizations that assign budgets by function or business unit may struggle to assemble interdisciplinary, agile teams, for example.

- **Budgeting as much for integration and adoption as for technology (if not more):** Organizations that have successfully implemented and adopted digital operating models spend more than half of their analytics budgets on activities that drove adoption, such as workflow redesign, communication, and training. This is particularly important in simultaneously investing in helping the payroll team's transition to the new approach, training and on-the-job coaching in the new skills needed.

- **Balancing feasibility, time investment, and value:** The implementation of the digital payroll factory is a long journey that can only be achieved in multiple phases over a couple of years. In balancing complexity versus value, organizations should develop a portfolio of initiatives (grouped in phases) with different time horizons. Automated processes that do not require human intervention, such as AI-assisted payroll anomaly detection, can deliver value in a shorter time (compared to initiatives that require human involvement, such as AI-supported payroll customer service, with a longer pay off period). Prioritization should be based on a long-term view and take into consideration how several initiatives with different time-lines could be combined to maximize value.

- **Walk the walk:** Role modelling is essential. For starters, leaders can demonstrate their commitment to AI by attending academy training. But they also must actively encourage new ways of working. AI-based operating models require experimentation, and often early iterations don't work out as planned. When that happens, leaders should highlight lessons learned from the pilots. That will help encourage appropriate risk-taking. The most effective role models are humble, ask questions and reinforce the value of diverse perspectives.

- **Accountability spectrum:** When implementing a large scale AI project, such as the digital payroll factory, it is not uncommon to perceive the enterprise analytics staff accountable as the product owner. However, the accountability spectrum should shift towards payroll, as it is payroll that should lead the implementation, map out roles, and guide it from start to finish.

- **Closely track and facilitate adoption:** Comparing and contrasting results of decisions that are made with or without AI can encourage wide-spread adoption for payroll customers as well as the payroll team. This will also enable the team that monitors the implementation to course-correct as needed.

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[22] Harvard Business Review. *Building the AI Powered Organization.* HBR, July - August 2019.

Implications of the future of payroll

Cost of compliance

Both the enhanced operating model and digital payroll factory will result in reduced time spent on compliance-related activities for the payroll professional. The activities will be focused on the integration of technology and advisory work in specialty areas of statutory requirements and compliance. The focus will be a shift to value-add compliance-based activities and will contribute to the transition of the payroll professional's role away from its administrative duties. Both the enhanced operating model and digital payroll factory will come with increased costs, one-time and upfront, in order to transition and implement the new operating model. In the short-term, costs may increase with the assessment that annual cost savings will outpace the initial increase in cost.

Digital payroll compliance mandates by the government will require an initial investment for planning, development, and implementation but will ultimately achieve annual reductions in cost. The digital payroll factory will prepare organizations to best take advantage of these future legislative requirements. The systematic sharing of transactional information between the employer and governments will increase an organization's compliance and the accuracy of the reporting — reducing the volume of audits and the time spent responding to audits. The digital core will be an investment in the preventive measures to keep the annual cost of compliance low through an agile technology that will adapt to legislative changes seamlessly, as opposed to the significant resources currently required. It will also assist the government in more effectively delivering critical programs that benefit Canadians, such as the income replacement programs necessitated by the COVID-19 pandemic.

Future economic contributions

In the future, we see payroll as playing a more central function in key aspects of employer operations. Payroll will be a driver of performance and growth for employers through using data and technology to effectively manage costs, unlock strategic insights and contribute to attracting and retaining talent. Payroll will play a more instrumental part in the employee experience by continuing to provide a high-quality service to employees, and by being a part of innovative initiatives such as flexible hours, wellbeing programs, social activities and superior digital experiences.

The digital payroll factory and, to a lesser extent the enhanced operating model, will both require significant investment in technology. Both during the transition and on an ongoing basis, we foresee increased economic activity from investments in software, hardware, and associated training. This will also recognize scalability based on organization size. Smaller organizations should not feel their size is an impediment to making these necessary advancements to make them more operationally efficient.

We envision that payroll will act as a leader in technology adoption within organizations and provide a model of how operational functions can transform themselves and create continuous improvement.

Upskilling

Both the enhanced operating model and digital payroll factory model will require substantial upskilling and reskilling of payroll staff, as well as related functions such as HR, to adapt to new technology and ways of working. Access to relevant training and certification will be an important part of ensuring a smooth transition. As employers recruit new payroll professionals, they will likely look to a wider, less traditional talent pool, possessing different skills than those sought in the past. Enhanced skills and capabilities such as deep industry knowledge, the ability to solve problems creatively, effective data analysis and people skills will become integral additions to the payroll professional's mandate.

Employment

As outlined in the two operating models, the content of payroll roles is expected to change significantly. This is in line with other research. For example, the Faethm model predicts that over the next five years, 41 per cent of the payroll administrator role will be automated, seven per cent of their role will be augmented with new skills or responsibilities and 53 per cent of their activities will remain unchanged.

As more routine tasks are automated, there will be more focus on working with and interpreting data, managing technological systems, and high-value interactions with employees.

Conclusions, implications and next steps

The objective of payroll has always been straightforward: to pay employees accurately and on time. Historically, payroll has been seen as a back-office function. As long as it is running smoothly, it goes unnoticed by senior management. However, Canadian organizations should better recognize the value that payroll professionals provide and the critical role they provide today and the critical role they will continue to provide in the future. Technological advancements, data analytics, performance measurements and a changing

employee demographic will provide the opportunity for organizations to take a serious look at their payroll function. The potential for payroll to be a valued contributor to an organization's success has never been greater.

At the very basic level, organizations have a responsibility to ensure employees receive their correct entitlements and payroll plays a critical role in maintaining trust between employees and their organization. Payroll has the potential to deliver real insight and value into an organization and this opportunity has never been more prevalent than right now. The time has come to raise the profile and potential of payroll.

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Appendix C: Limitations

Receipt of new data or facts: PwC reserves the right at its discretion to withdraw or revise this report should we receive additional data or be made aware of facts existing at the date of the report that were not known to us when we prepared this report. The findings are as of June 2020 and PwC is under no obligation to advise any person of any change or matter brought to its attention after such date that would affect our findings.

Use limitations: this report has been prepared solely for the use and benefit of, and pursuant to a client relationship exclusively with the Canadian Payroll Association. We understand that the Canadian Payroll Association may share our report with third parties. The Canadian Payroll Association can release this report to third parties only in its entirety and any commentary or interpretation in relation to this report that the Canadian Payroll Association intends to release to the public either PwC's written consent or has to be clearly identified as the Canadian Payroll Association's own interpretation of the report or the Canadian Payroll Association is required to add a link to the full report. PwC accepts no duty of care, obligation or liability, if any, suffered by the Canadian Payroll Association or any third party as a result of an interpretation made by the Canadian Payroll Association of this report.

Further, no other person or entity shall place any reliance upon the accuracy or completeness of the statements made herein. In no event shall PwC have any liability for damages, costs or losses suffered by reason of any reliance upon the contents of this report by any person other than the Canadian Payroll Association.

This report and related analysis must be considered as a whole: selecting only portions of the analysis or the factors considered by us, without considering all factors and analysis together, could create a misleading view of our findings. The preparation of our analysis is a complex process and is not necessarily susceptible to partial analysis or summary description. Any attempt to do so could lead to undue emphasis on any particular factor or analysis.

We note that significant deviations from the above listed major assumptions may result in a significant change to our analysis.

Appendix D: Abbreviations

AI: *Artificial intelligence*

APQC: *American Productivity & Quality Center*

BAU: *Business As Usual*

BPO: *Business Process Owner*

CAC: *Client Advisory Committee*

CBA: *Collective Bargaining Agreement*

CFO: *Chief Financial Officer*

CoE: *Center of Excellence*

CPA: *The Canadian Payroll Association*

DIY: *Do-it-yourself*

ERP: *Enterprise Resource Planning*

FAQ: *Frequently Asked Questions*

FTE: *Full Time Equivalent*

GDP: *Gross Domestic Product*

GDPR: *General Data Protection Regulation*

HCM: *Human Capital Management*

HR: *Human Resources*

HRM: *Human Resource Management*

IT: *Information Technology*

KPI: *Key Performance Indicators*

KPO: *Key Performance Objectives*

NPW: *National Payroll Week*

NPW: *National Payroll Week*

PSSPs: *Payroll Service and Software Providers*

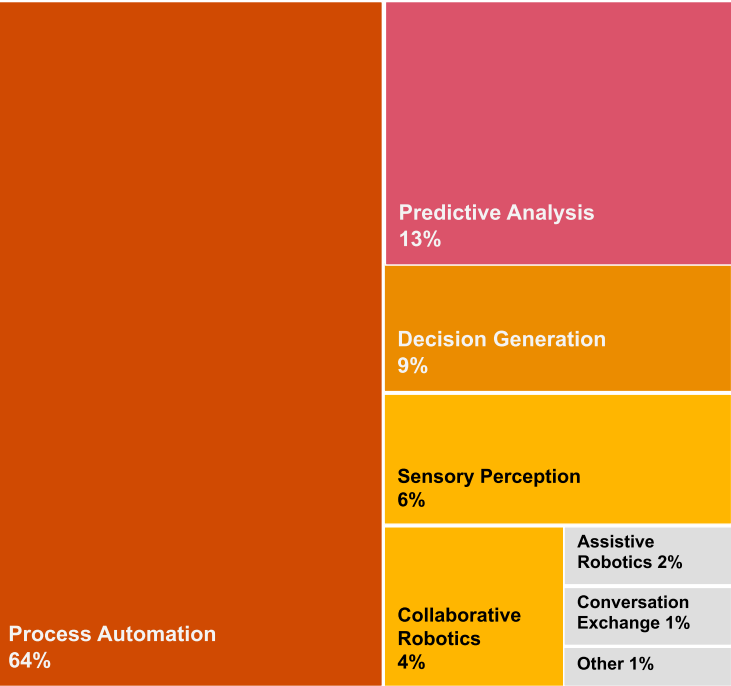**PwC:** *PricewaterhouseCoopers, LLP*

RPA: *Robotic Process Automation*

SLA: *Service Level Agreement*

Appendix E: Five-year view — Automation

Among the current Canadian workforce, three main technologies represent more than 86 per cent of the cost savings derived from automation by 2025.

Key technologies driving the cost savings derived from automating technologies implementation by 2025

Process Automation 64%	**Predictive Analysis 13%**
	Decision Generation 9%
	Sensory Perception 6%
	Collaborative Robotics 4% / **Assistive Robotics 2%** / **Conversation Exchange 1%** / **Other 1%**

* "Other" includes multiple technologies contributing less than one per cent to the overall salary impact of automation, including: Mobile Robotics, Navigation Robotics, Solution Discovery, Generative Design & Creative Origination.

Appendix F: Use cases

Payroll process and use case description	Traditional approach	Enhanced payroll operating model	Digital payroll operating model
Employee inquiry An employee believes they were not paid for their worked overtime (OT) hours.	Employee reaches out to the supervisor or: 1. Employee contacts payroll administrator to advise that OT hours were missed; 2. Payroll administrator investigates (i.e. was OT paid, was employee eligible for OT, etc.) 3. Payroll administrator takes corrective action (i.e. advises employee that hours were actually paid or issue manual payment).	1a. Employee views online pay statement to confirm that hours were not paid. 1b. Employee opens a ticket to advise OT hours were missed. 2. Tier 1 support confirms the employee was OT eligible and hours were missed — ticket is forwarded to tier 2 support. 3. Tier 2 support takes corrective action (i.e. issues manual payment or process hours on next pay). Ticket is closed with appropriate workflow notification back to the employee.	1. Employee launches the chatbot Helpdesk app on his or her cell phone and poses the inquiry (text or speech). 2. The chatbot pulls in the components of employees' pay and checks eligibility rules (AI core) — detects employee's eligibility and missed OT hours. 3. Automatic transaction is triggered for retroactive adjustment through the Payroll engine (by the AI core) with a notification to the payroll advisor on the adjustment. 4. Chatbot updates employee on adjustment amount and date (within moments). If eligible for on-demand pay, the adjustment will be deposited the next day.
New hire A new employee has been hired mid pay period.	1. Hiring manager completes new hire paperwork (paper or on-line forms) and submits to payroll. 2. Payroll administrator inputs new hire information into the payroll system and manually makes salary adjustments. 3. Employee receives first payment (semi-monthly) prorated.	1a. Hiring manager inputs new hire information into the payroll system using Manager Self Service functionality or 1b. HR (recruiting, HR Business Partner, etc.) enters the new hire information into the HCM/ payroll system. 2. Payroll administrator is notified of new hire and reviews information for accuracy (system generated review highlighting potential errors). Salary pro-ration is system generated. 3a. Employee receives "welcome email". 3b. Employee receives first semi monthly payment (prorated).	1a. The new hire transaction is triggered by the manager through direct access or 1b. The new hire transaction is triggered by HR (recruiting, HRBP, etc.) through direct access. 2. Chatbot updates employee's record on the cloud payroll — checks for any taxation or implications on board and travel eligibility (updates other systems if applicable). 3. Department manager's organizational workforce dashboard is automatically updated. 4. Chatbot confirms the update to the employee

Payroll process and use case description	Traditional approach	Enhanced payroll operating model	Digital payroll operating model
Employee Change An employee has recently moved and wants to change their address	1. Employee notifies payroll administrator of change of address. 2. Payroll administrator changes address in payroll system.	1. Through employee self-service functionality, employee updates their address. 2. Employee receives notification that the address change was successfully completed.	1. Employee launches the chatbot Helpdesk app and changes the address (speech or text). 2. Chatbot updates employee's record on the cloud payroll — checks for any taxation or implications on board and travel eligibility (updates other systems if applicable). 3. Chatbot confirms the update to the employee (within moments).
Termination An employee has resigned and provided their manager with the intent to leave.	1. Employee's manager completes termination paperwork and submits it to payroll. 2. Payroll administrator inputs termination information into the payroll system, manually makes salary adjustments (if necessary), manually calculates final pay and generates ROE. 3. Payroll admin notifies other key stakeholders (i.e. benefits and pension providers).	1a. Employee's manager inputs termination information into the payroll system using MSS functionality or 1b. Termination information is entered into the HCM/ payroll system by HR or employee's manager. 2. Payroll administrator is notified of termination and reviews information for accuracy (system generated error messages). Final pay and ROE are system generated. 3. Through appropriate workflows, other key stakeholders (i.e. benefits, pension, IT) are notified. 4. Request for exit interview and exit procedures are sent to the employee.	1. The termination transaction is triggered by the manager through direct access. 2. AI core launches appropriate transactions (final pay calculation, absence/ other entitlement checking, benefits/ pension termination, access terminations, asset collection, ROE, etc.) with notification to the payroll advisor and HRBP. 3. Short survey sent to employee's cell. 4. HRBP is sent insights on potential reasons for the departure (based on survey results and other trends that the AI core has identified) in advance of the exit interview. 5. Department manager's organizational workforce dashboard is automatically updated.
Compliance reporting The organization recently received a PIER report.	1a. The payroll manager or payroll administrator investigates the PIER report and responds to CRA or 1b. The payroll manager decides to pay PIER amount owing without further investigation.	1. The payroll analyst implements the PIER report and responds to the CRA. 2. The payroll analyst implements measures or processes to minimize future discrepancies. 3. The payroll analyst establishes and monitors KPIs related to PIER reporting	1. The AI core receives notification of the anomalies that have triggered the investigation. 2. Compliance specialist and the payroll advisor are notified — automatically provided with the insights and recommendations on the response. 3. Based on the outcomes of the investigation and corrective actions, the system (algorithm engine) learns to enforce an additional set of controls and KPIs (as a proactive measure).

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