

Getting data right

Harnessing data opportunities
in investment management



Investor
Services

Introduction

Across the Canadian investment management lifecycle, organizations are struggling to get data right. While data has long been discussed as a strategic priority, few have managed to put that ambition into practice—and many are realizing their data strategies are not fit for purpose. The investment industry relies on clean, trusted data to support every aspect of the investment process. As a result, consequences are compounding as firms face heightened expectations from stakeholders, regulators and clients alike.

Where is the data gap—and opportunity?

Drawing on exclusive insights from a market-wide survey conducted by RBC Investor Services and the ValueExchange and extensive interviews with industry leaders, this report looks to explain what data means for Canadian investment managers and owners. From data access and architecture to accountability and ownership, we lay out what's holding firms back and what forward-looking leaders are doing to move ahead.

These insights are key as the ability to *get data right* is fast becoming the new baseline for operational resilience and strategic growth.

From the survey responses, it's clear that many firms' data flows have room for improvement:

- 36% claim that their levels of operational efficiency are “low” or “very low” and need attention—with 15% needing urgent attention
- more than a quarter of asset owners (like pension funds and insurance companies) say they face urgent operational challenges that require transformation—yet too often, their efforts focus on short-term fixes rather than addressing the root problem: fragmented, under-governed data environments that can't keep pace with business needs
- data residency is also seen as a top change driver for asset owners and managers—and increasingly, client agreements are insisting that all data remains within Canadian borders

The role of data is foundational to the success and failure of the entire investment process. Trusted data is essential for firms to generate insights to support decision making, improve oversight and enhance portfolio performance. Seamless and frictionless data flows are an enabler to portfolio beta and alpha—and a weakness if not managed correctly.

But the key question is *where and how to start*. It's important to diagnose where organizations underperform so the right actions can be taken to prepare Canada's trade processing for decades to come.

As guardians of clients' highly valuable portfolio data—the new gold—RBC Investor Services is leveraging RBC's vast technology resources to enable data for clients as part of our robust data and digital capabilities. We are looking at

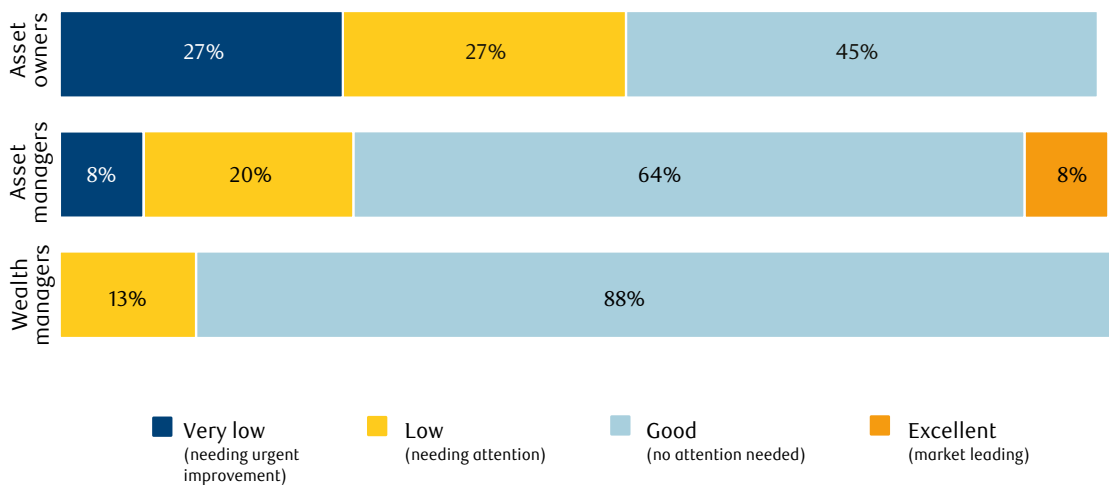
clients' assets through a data lens and are creating a trusted, single source of truth to support our clients' needs. Whether it's asset managers, asset owners, insurance companies or investment counsellors, clients rely on RBC Investor Services to deliver quality data—part of trusted datasets that are commonly referred to as ABOR (accounting book of record), IBOR (investment book of record) and CBOR (custody book of record).

“Our clients don't just want data. They want decisions they can trust, powered by data they can rely on.”

Christine Knott
Head, Data, Digital & Client Solutions

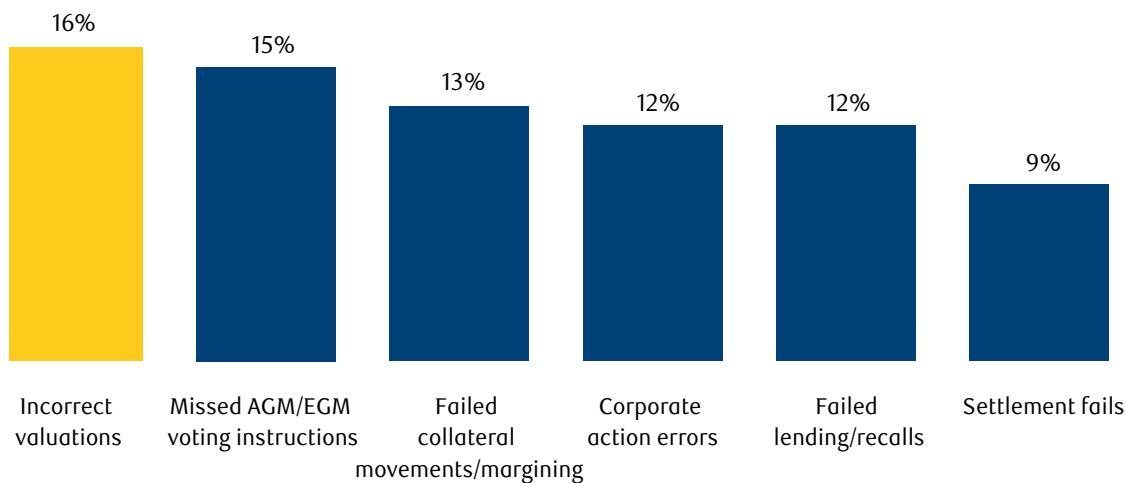


Average levels of efficiency in investment operations by segment



Key areas where errors are worse than expectations

(% of respondents citing each area)



How did we get here?

So why are organizations' data flows at a breaking point today? This section outlines five ways the industry is changing and creating new pressures on investment efficiency.

Exploding points of interaction

As Canadian investment portfolios access new asset classes and global markets, the number of data connections has grown exponentially. For example, an investment manager may historically have relied on a single custodian to perform traditional functions for their investments. Today, managers have many demands and can face multiple providers providing different functions (each managing individual markets or third-party mandates). As well, alternative asset classes often demand attention from specialist providers of risk management or valuations. Every new connection poses the risk of a new vulnerability.

More assets, more markets, more data

As organizations diversify their portfolios by investing in new markets and asset classes, they not only increase their data connections—but also the types and complexity of data they need to manage. For example, a single portfolio will rely on market close prices, broker quotes and benchmark rates. The introduction of any new asset classes, data sources or service providers makes it harder to create a unified view of the portfolio and increases the complexity of managing the assets. As another example, the more diverse the portfolio, the more data types and rules are required to create a cash projection—and with that, the risk of relying on the projection to make business decisions.

RBC Investor Services aggregates and normalizes data from multiple sources, giving clients access to accurate, near real-time cash projections to manage their portfolios and make more confident investment decisions.

Regulation raising the stakes

And what happens to all these tables when a regulator changes the rules? Regulatory shifts like T+1 settlement and new reporting requirements under Europe's Securities Financing Transactions Regulation (SFTR) and the SEC's Rule

10c-1a are forcing firms to rewire their data flows and increasing demand for real-time reporting. T+1 demands real-time updates across the trade lifecycle, while transaction reporting now requires new data sets to be created to report every trade (including 155 new fields for SFTR) at increasing levels of frequency. In Canada, growing volumes of regulatory inspections and data requests (e.g. from OSFI) are already a common challenge, while ongoing consultations around mandatory trade reporting and fails discipline will only increase data management pressures. Legacy systems are being pushed beyond their limits to meet these growing demands.

Expectations changing fast

It's not just regulators driving the change. Investors and clients now expect greater levels of visibility and control; they prefer real-time, self-service dashboards, not static, end-of-day reports. With the onus shifting from reporting to empowerment, investment and wealth managers are now being managed and selected based on the scalability and resilience of their data infrastructures. Today's expectations are about flexibility and delivery channels—meeting an organization's individual needs while stayed anchored in a trusted, single source of truth.

Rising demand for instant data accuracy

Internally, the bar for acceptable risk and delay is significantly higher than it once was. As the velocity of markets accelerates, data demands have increased exponentially. Firms can no longer afford to reconcile exceptions weekly or monthly; every inconsistency should be resolved in real time. With the focus that used to go into a month-end valuation now part of everyday operations, previously acceptable levels of tolerance breaks or issues are now attracting daily attention, driving the need for remediation.

“Every client wants data that’s fast, clean and ready to act on. That’s what we deliver.”

Joel Kornblum

Head, Business Development & Relationship Management

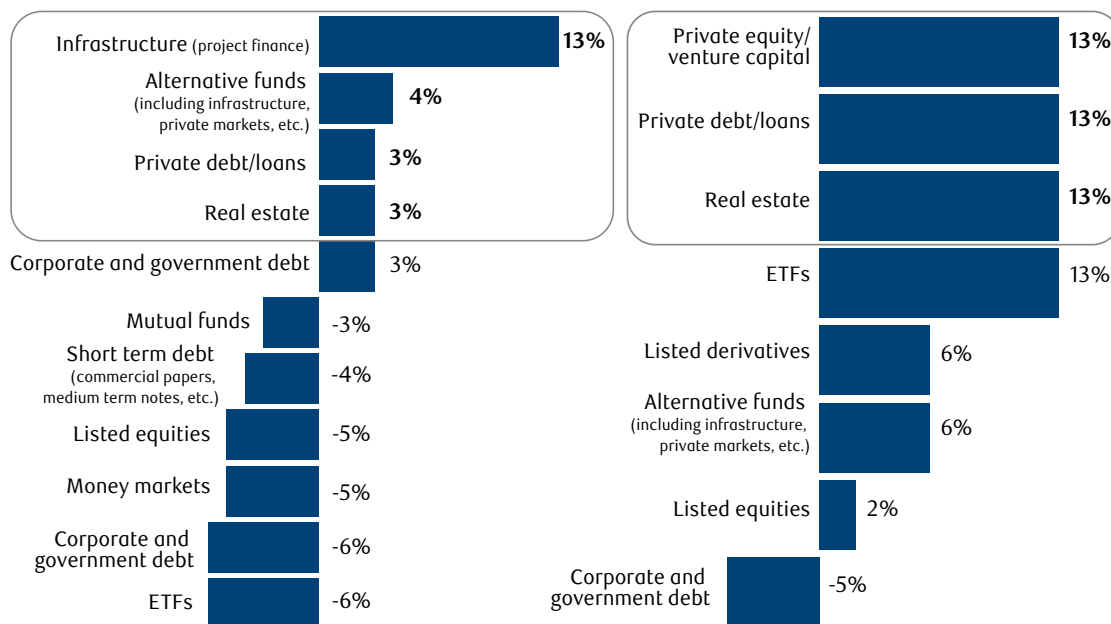


Where can data make an impact?

While multiple data-related pressures are hitting Canadian firms, where is the opportunity for data management to make a real business impact? This section outlines four areas where great data enablement is driving alpha and operational beta across Canadian portfolios.

AUM exposure changes for asset owners
(average expectation for next three years)

AUM exposure changes for asset managers
(average expectation for next three years)



1. Convergence of public and private markets: A critical need for automating data flows

One of the most significant trends is the rapid growth of alternative and unlisted assets. Across all investment manager profiles, these assets are the fastest growing, with holdings expected to increase by up to 13% by 2028. This growth means operational beta for those who can optimize their data flows—and a performance drag for those who cannot.

Historically, private and public assets have existed in parallel worlds—held in separate fund structures, managed by separate teams, booked in separate platforms and even financed on separate ledgers. While costly to maintain, this separation allowed for differences in market practices between public and private markets (e.g. valuation frequency) and helped reduce errors.

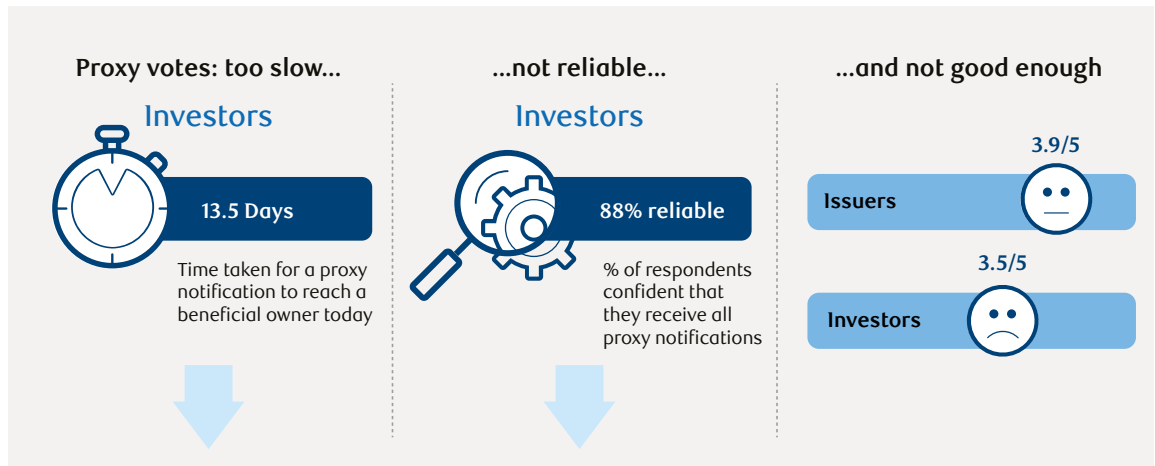
Different asset classes have different valuation frequencies and methodologies that need transparency: conventional assets may be valued daily or intra-day, while others—like real estate and private equity—are priced quarterly or even annually. To avoid mismatches in asset allocation views or exposures, firms are having to source new data types and data management automation initiatives that can accelerate the validation of data across all investment types. These initiatives are shining new light on existing dependencies, including current manual processes. Automation will help firms remove critical timing mismatches in their asset allocation views and drive greater investment performance.

“You can’t manage risk or returns if you don’t have access to a single source of truth.”

Anunaya Ritwik

Managing Director, Data, Digital & Portfolio Experience





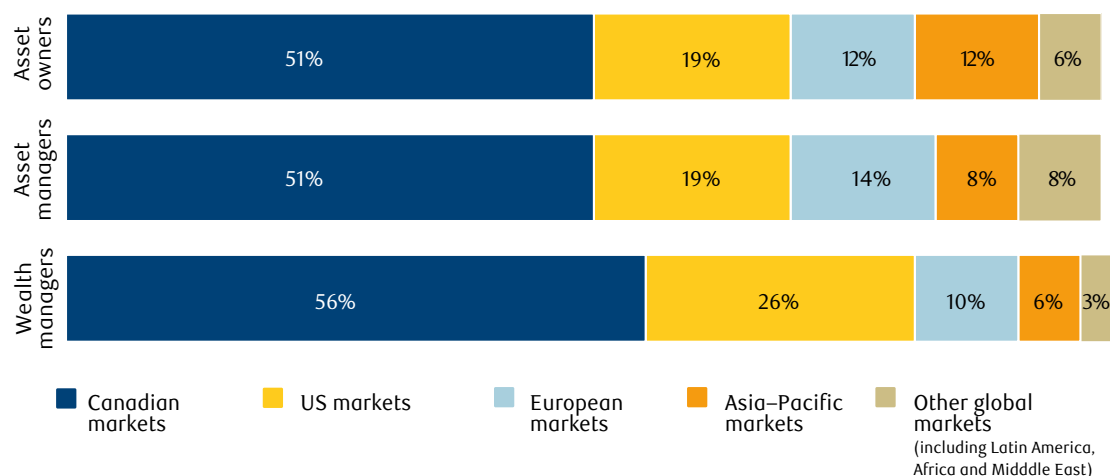
2. Shareholder engagement: Strengthening the investment mandate

The second most problematic issue for Canada’s investment operations teams appears to be proxy votes, which 15% of respondents deem to be too error prone. And in a world where ESG investment mandates include specific requirements around shareholder engagement, this lack of efficiency risks becoming a critical weakness for investment managers.

Respondents say it takes more than 13 days to push an annual general meeting notification through to end investors, with every 20th notification getting lost. Dependent on a complex chain of transfer agents, custodians, brokers and investors, the proxy lifecycle is riddled with opaque omnibus accounts and gaps in automation that often trigger delays and errors. The end result? Asset managers getting notifications too late, failing to exercise their vote and then losing investment mandates as a result.

With retail shareholder engagement growth fuelling a 30% year-on-year increase in global voting problems, these issues are set to accelerate. Investment managers need to work with their service providers to source faster and more reliable information on proxy votes if they are to avoid losing valuable business to their more advanced competitors.

Global distribution of Canadian investment portfolios by segment



3. T+1: Data driving investment beta

As Canada and the US transitioned to T+1 settlements in 2024, the shift is about much more than the ability to settle a trade faster. With more than 80% of the previous settlement window now closed, Canadian investment managers depend on real-time trade processing—from trade execution to foreign exchange (FX), middle office to settlements, and inventory to corporate actions.

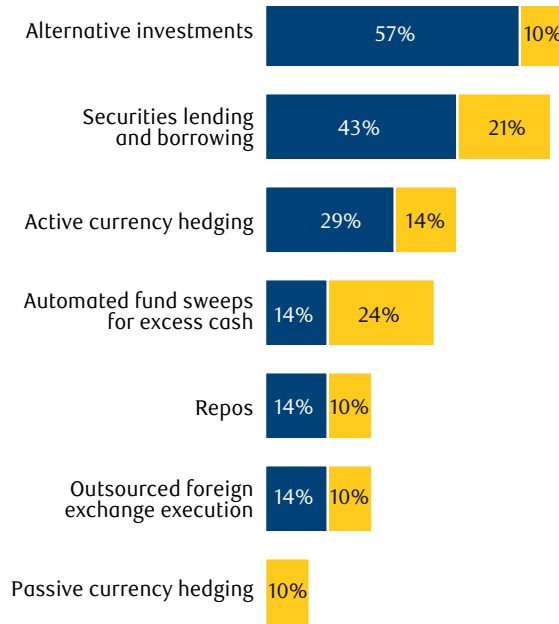
Firms that have successfully accelerated their data flows ahead of T+1 are gaining competitive edge. They're improving securities lending, which is reliant on real-time inventory management, and cash management by redeploying cash faster. This is helping them drive beta from both securities and cash in the portfolio.

In contrast, firms that haven't invested in data are facing higher costs and risks. With less time to manage complex processes around securities lending, recalls and FX, fail rates have grown by up to 11% and headcount costs have increased by up to 14%, dragging down portfolio performance.

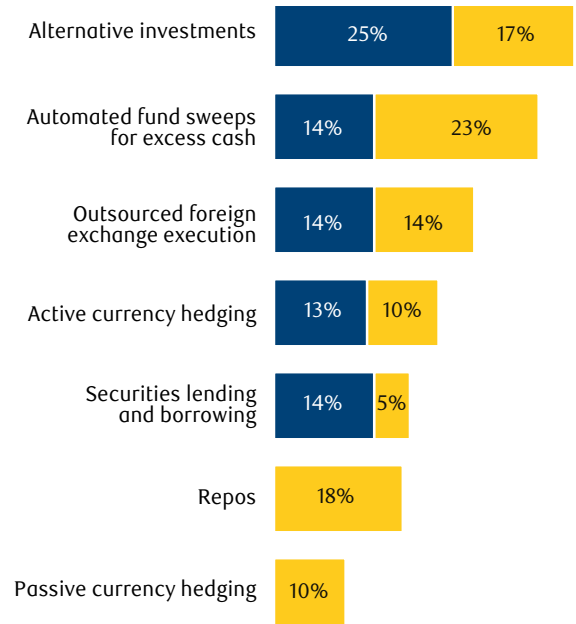
Treasurers, too, are under huge pressure to accelerate their cash and funding management to avoid costly overdrafts or short positions, both of which can further impact fund performance.

So far, T+1 has only been implemented in two major global markets. With up to 30% of Canadian investment portfolios still due to transition to T+1 (i.e. Canadian investments into securities listed in the UK, Europe and Asia-Pacific) from 2027 onward, the data pressures created by accelerated settlement will continue to grow.

Average use of portfolio enhancement strategies by asset owners



Average use of portfolio enhancement strategies by asset managers



■ Using today ■ Planning to use

4. Portfolio enhancement

Up to 21% of respondents are turning to portfolio enhancement strategies (e.g. securities lending, FX hedging, overlays and cash sweeping) to get incremental returns from their investments. While these tools can contribute to overall portfolio alpha, organizations are also focused on operational alpha—driven in part by the need to neutralize the growing costs of regulatory compliance and process automation.

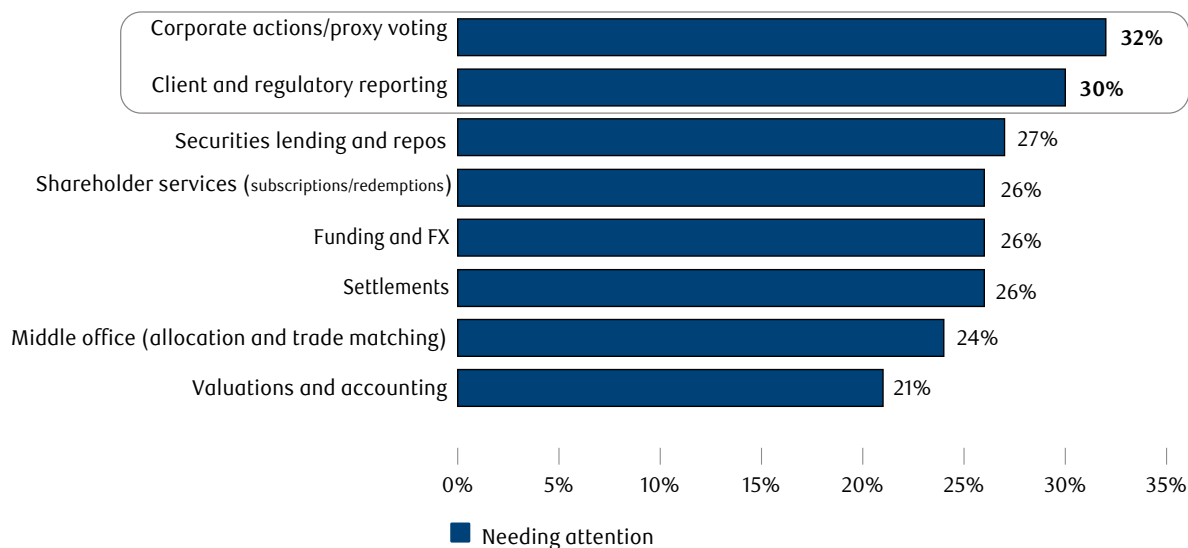
With more complete, end-to-end data flows, organizations are better able to act defensively rather than reactively. Once data is clean, trusted and valid, organizations can begin to leverage artificial intelligence and predictive modelling to move from reactive to predictive management (of future cash flows, anomalous trade events, predictive trade fails, etc.), further extending their lead over less automated peers. One practical application is in anomaly detection.

RBC Investor Services has begun leveraging applied analytics to anticipate whether trades are likely to fail based on prior events, enabling us to help our clients reduce risks and increase efficiency.

The road to getting data right

The case for data management and automation may be compelling, but what does the journey look like in practice? This section highlights the steps firms can take in their journey toward seamless data automation.

Average % of each activity “needing attention”



1. Tackling corporate actions and client/regulatory reporting

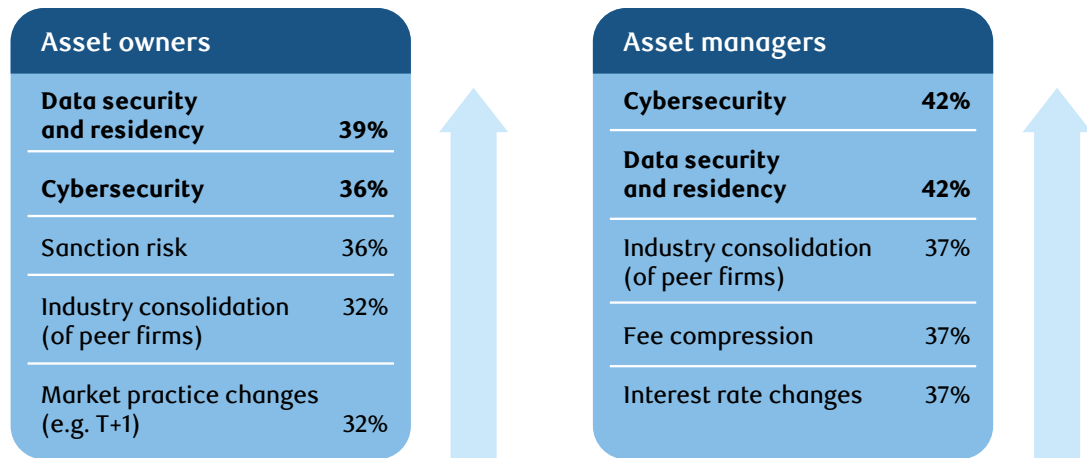
Based on our research survey, two areas in most urgent need of attention in Canadian investment operations are corporate actions and client/regulatory reporting. Both are fundamentally data driven and are unavoidable starting points for data transformation.

In the corporate actions space, the average firm carries an annual cost of more than USD 1 million to USD 2 million in errors—60% due to incorrect, late or incomplete data.

Like many industry participants, RBC Investor Services recognizes corporate actions as an important area for improvement. With our team of long-tenured corporate actions specialists, we’ve been modernizing and automating our front- and back-end workflows, allowing us to offer our clients efficient processing and specialist expertise.

What’s more, few would dispute the need for automation and greater flexibility in client and regulatory reporting. Firms now face mounting pressures—from increased local audits and new regulations to real-time position statements and 24-hour trading reports—all requiring faster, more accurate data.

Core change drivers today



2. A new form of due diligence

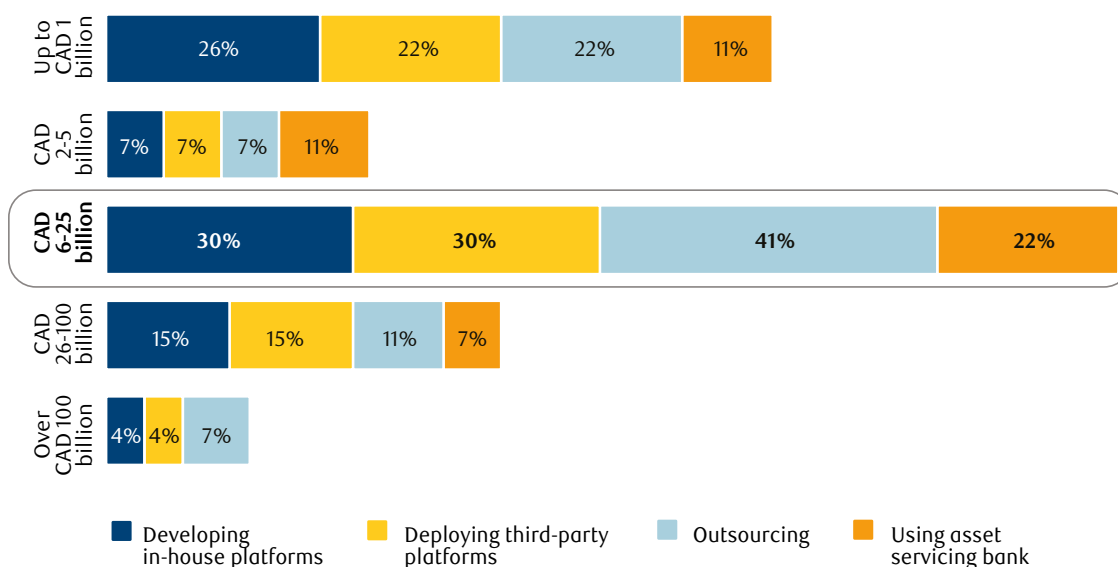
Data transformation is no longer just about getting more data into the system or helping it to move around more freely. Following extensive regulatory pressures over the last several years, the primary considerations for investment operations teams are whether data can be accessed safely and where that data resides.

After years of highly publicized hacking incidents, the advent of DORA (and similar, imminent regulations in North America) means that firms are now responsible for their own due diligence on the safety and resilience of their third-party providers. If a firm is taking in real-time pricing updates from a vendor, it must ensure it's fully aware of and actively managing the risks involved in that data transfer. Equally, if client data is shared in a cloud-based platform, the investment firm is accountable for ensuring the security of that platform. This shift in responsibilities (and liabilities) is driving an industry-wide transformation in how firms approach IT and cyber risk management.

Data residency is also a critical consideration, driving investment managers to ask and define exactly where their data is to be stored and managed for the first time. With a growing number of client agreements defining requirements around residency (including many that require all critical data to reside in Canada), the pressure on firms to manage due diligence and an increasing audit burden is one of the most significant changes in the ways that data is to be managed in the 21st century.

Proactive management of these considerations is now a core competency for all operations teams.

Which firms are driving change in data and technology today?



3. Data governance critical as firms grow

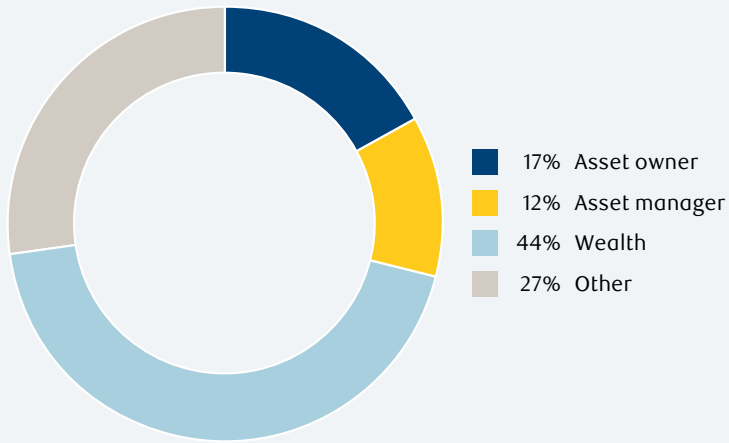
The pressures around data governance and transparency are hitting all firms, but those with assets under management (AUM) of CAD 6 billion to CAD 25 billion are being disproportionately impacted. While smaller firms are largely able to escape many of the pressures described above (leveraging low-cost and simple operating models), firms reaching this AUM level face a clear threshold where data governance becomes a core competency. At this stage, they need to implement new procedures, put new operating models in place and create new oversight mechanisms. While different firms choose to respond in different ways (e.g. outsourcing, new system builds and greater cooperation with custodians), the need for change at this stage is very clear.

It's important for firms to anticipate this threshold. Several Canadian investment managers have recently reached it only to realize they needed to overhaul their front-to-back processing platforms—an expensive and disruptive process. Planning ahead by prioritizing scalable data architecture from the start allows for faster data flow, easier integration and long-term flexibility.

RBC Investor Services has a robust governance model in place across our data lifecycle to manage and control data, ensuring it's safe, secure, accurate and trusted by clients. Data accountability resides within the RBC Investor Services business, and our Data Management Office plays an important role in the adoption and execution of enterprise-wide data standards and best practices. A central, multi-disciplinary governing body oversees our data activities, ensuring they align with business objectives.

Our methodology

275 responses



The insights contained in this report are based on the findings of an extensive market-wide survey conducted by RBC Investor Services and the ValueExchange in October 2024. Gathering unique, statistical insights from more than 270 specialists across the Canadian investment operations landscape, this survey is designed to be a pulse check for the Canadian back office today.

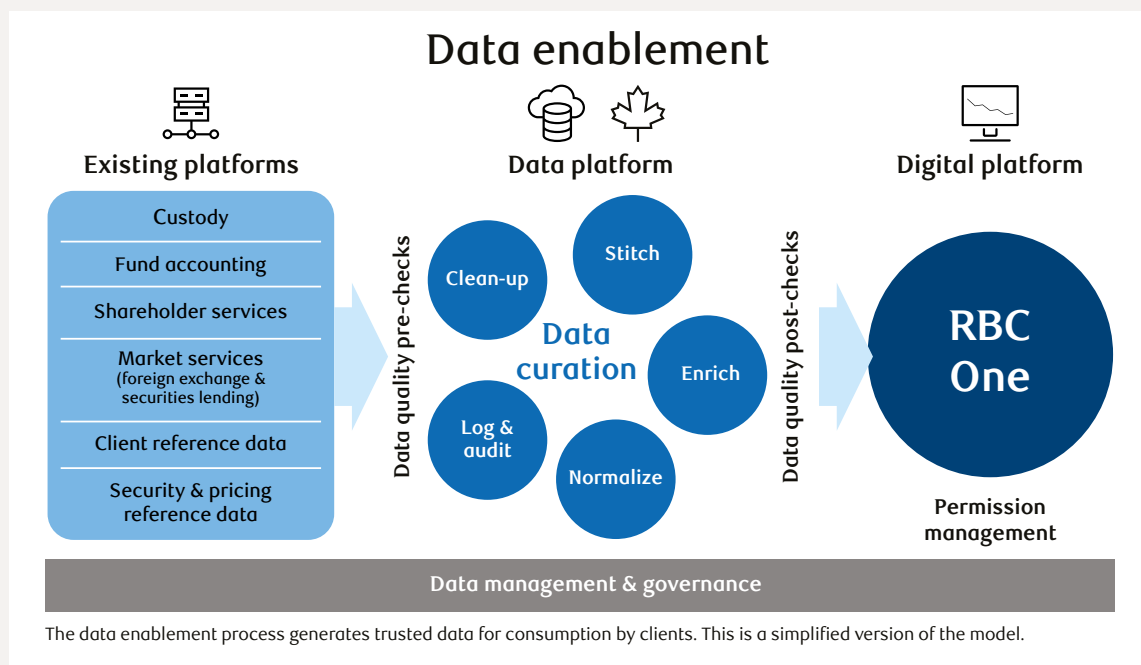


How RBC Investor Services can help

Today's clients face a long list of challenges, ranging from rising costs and new regulatory requirements to more stringent governance considerations—not to mention ongoing market volatility and political tensions. Clients are demanding access to clean data that generates differentiated insights for decision making, helping to improve oversight and enhance portfolio performance.

Enabling client data

Enabling clean data for our clients is one of RBC Investor Services' key objectives. Data enablement is part of an end-to-end model that starts with collection and assessment of the raw data from our existing platforms. The ultimate objective is to generate trusted data that can be delivered to clients across multiple channels, where and when they need it to help facilitate informed decision making.



1. Collecting and assessing the data

The first step in data enablement is to collect and assess data from the existing platforms. As an asset servicer, RBC Investor Services is home to a broad range of highly valuable client data, including holdings, transactions, cash and corporate actions. This raw data, supplemented by external security and pricing data, must undergo a comprehensive curation process prior to consumption by clients.

Upon ingestion into our central, cloud-based platform, the raw data is subjected to an extensive set of in-built, automated pre-checks. This includes approximately 250 different validation rules to detect, correct and prevent any issues with the data, ensuring that it's ready for curation. Data contained in the cloud platform and virtually all other RBC Investor Services applications is resident in Canada.



250

data quality pre-checks



Canadian data



175

data quality
post-checks

2. Curating the data

Once the pre-checks are complete, we enhance the data's quality and usability as part of the data curation process. Curation brings together relevant information into structured, searchable datasets, enabling clients to glean important business insights from the data. Data curation requires careful attention to detail, including the use of specialized tools and algorithms.

3. Conducting final data checks and facilitating access

Following curation, the data must pass approximately 175 additional automated quality post-checks. Appropriate governance around data access is key to data management. We use a secure permission management application that protects data from unauthorized access, disclosure or modification.

Upon completion of the post-checks and based on the client's customized permission criteria, the clean data is provided to clients for consumption based on their channel of choice.



“Data curation enhances the quality and usability of data.”

Anunaya Ritwik

Managing Director, Data, Digital & Portfolio Experience



Delivering value through data

Transformative technology and advanced data management are enabling RBC Investor Services to deliver quality data to our clients through their channel of choice. Clients are using this data to gain differentiated insights and make informed decisions about their investments—particularly important in today's highly volatile environment.

RBC Investor Services manages multiple technology platforms to support different business needs, delivering a comprehensive suite of asset services to our clients. This technology has been battle tested over time, dependably processing high volumes of transactions. We're transforming the raw, fit-for-purpose data from these platforms into clean, quality and accessible data for our clients.

Effective data management is key to the enablement process. It's about managing and connecting the data across multiple domains in a way that's transparent to our clients. We help insulate clients from the challenges and complexities of data management and enablement.

Unlocking business value

Asset managers, asset owners, insurance companies and investment counsellors rely on RBC Investor Services to deliver quality data. This data enables clients to make the right decisions about their investment functions, which range from portfolio management and construction, performance analytics and risk management, to compliance, reporting and board preparation. Our digital platform, RBC One is at the core of our client enablement model.

Tapping into RBC's technology

RBC's significant technology resources play a vital role in providing RBC Investor Services with the skills, technology and business tools to deliver quality data to our clients.

RBC makes substantial investments in technology and innovation each year, and we consider technology to be a core competency. In an environment of technological change that's occurring at warp speed, a large pool of RBC employees focuses on emerging technologies, including artificial intelligence and cloud computing.

Talent is central to RBC's success, and we invest heavily in digital teams across the enterprise. Cybersecurity is a key priority, and RBC has strong fintech relationships that span the financial and nonfinancial sectors.

RBC Investor Services clients are reaping significant benefits from the bank's vast digital resources. Modern technology and data enablement tools, supplemented by strong data governance, are central to the value that we deliver to our clients.



“Clients increasingly look to data as an important enabler, with some even referring to it as a new asset class.”

Christine Knott

Head, Data, Digital & Client Solutions



RBC Investor Services

RBC Investor Services delivers investment servicing solutions to Canadian asset managers and asset owners, insurance providers, investment counsellors and global financial institutions. With more than 1,500 employees and offices across the globe, our focus is on safeguarding the assets of our clients and enabling their growth. Part of Royal Bank of Canada, Canada's largest bank¹, RBC Investor Services has over CAD \$2.6 trillion of assets under administration. Learn more at rbcis.com.

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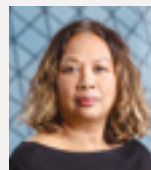
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¹ As at January 31, 2025. Source: Bloomberg.

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