



7 Lessons for Investment
Managers Deploying AI to
Gain Competitive Advantage

Many industries have embraced artificial intelligence solutions to help them meet their business goals. According to [McKinsey & Company's 2020 survey](#) on artificial intelligence (AI) adoption, more than 50 percent of respondents across a number of industries said they had adopted AI in at least one function. Despite this, many sophisticated leading players in the wealth and investment management industry have yet to advance their strategies to incorporate AI into their front or back office functions. A [2020 survey by Accenture](#) of 100 strategy, digital and technology executives at wealth management firms across North America found that while most wealth managers see the opportunities AI presents, **more than 80 percent remain stuck when it comes to scaling AI beyond the proof of concept stage.**

It is already becoming clear that early adopters of AI – across industries – are poised to capture the greatest potential benefits AI can have for both the top and bottom line. Here we'll look at some of the challenges investment managers face when it comes to AI adoption and offer some insight on how to overcome them based on our work with Alberta Investment Management Corporation ([AIMCo](#)), one of the largest institutional investment managers in Canada.

Use Cases: The Key Element Holding Investment Managers Back

When it comes to AI adoption in investment management, there is a diverse range of investment and experiences. Some investment management organizations have invested heavily in highly sophisticated innovation teams who proactively scope, experiment and deploy AI-powered solutions as a natural expression of their culture. The data shows, however, that many more acknowledge the high-level benefits of AI but have deferred any tangible commitments until they can better understand how to effectively implement the technology.

Generally, investment managers have been cautious about deploying complex AI and machine learning (ML) – based models into their investment strategies. Investment managers are ultimately responsible for all investment decisions within their control, so it is critical that all models that impact their core business results are interpretable and explainable. And the complexity of models supporting investment strategies is even greater with the use of advanced deep learning and other neural network-based technology. This drives a need for even higher levels of transparency to build sufficient confidence in the models before deployment.

In such a highly automated, data-driven industry, it may appear counter-intuitive that so many investment managers have yet to take the leap into AI. But the reasons behind this apparent lack of innovation are complex.

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“At AlphaLayer, we build AI-enabled solutions for the investment management industry, which has provided us with insight into some of the hurdles investment managers face when it comes to AI,” says Chad Langager, General Manager of AlphaLayer. “Overall, one common theme among investment managers who haven’t yet started their AI journey has become very clear: many investment managers simply haven’t identified specific use cases that meet their organizations’ business goals.” Add to this the fact that many managers are under immense pressure to demonstrate tangible, successful AI initiatives to their clients, investors and employees, and the need for a strong use case becomes even more clear.

What AI Can Do for Investment Managers

If we assume that investment managers are not resisting the AI wave so much as trying to find a foothold in terms of where to start, it can help to look at some of the possibilities for AI to enhance the investment management business. According to a report by Deloitte, there are four key areas that investment managers are targeting for the use of AI.

1. Improving Operational Efficiency

AI tools can be quite beneficial in helping to automate manual and repetitive tasks that rely on unstructured data. Examples of this include tools for information extraction (IE), optical character recognition (OCR) technologies, and natural language processing (NLP). Many of these are very well-established and have proven to be highly accurate for automating highly manual functions such as document processing and correspondence for capital calls, distributions, and derivatives. This automation can free up significant staff time to focus on value-added activities, which can then lead to enhanced staff engagement.

2. Enhancing Alpha Portfolio Performance

ML models can be used to build or augment new and innovative trading models. IE and NLP can rapidly collect structured and unstructured data from previously underutilized sources to provide market signals, and to build alternative datasets that complement traditional market and financial indicators. The goal is to create tools to improve investment performance.



3. Strengthening Risk Management

AI can help investment managers predict and assess a more complex set of inherent risk factors by automating data collection, analysis, and risk modeling. Using techniques like clustering, this automation can improve the quality and timeliness of investment analysis, which is especially critical with evolving market dynamics. Anomaly detection can leverage AI and ML technology to help to manage investment risk and can support adherence to regulatory requirements. Better risk visibility and assessment can also help investment managers keep up with evolving ESG requirements.

4. Improving Product and Content Distribution

AI can help wealth and investment managers reach underserved segments of the market by helping firms better understand clients' buying behaviours and preferences. This can form a foundation for delivering tailored investment solutions on a timelier basis. Advanced robo-advisors can be considered as one of the outcomes of these improvements.

Any one of these opportunities has the potential to generate strong ROI depending on a business's unique differentiators, investment management model, investment strategy, trading volumes, data sources and technology footprint. Of course, AI is not a "silver bullet" solution. It is important for organizations to spend the time up front to understand areas where AI can truly help support business opportunities. This includes assessing the ROI potential of these opportunities, as well as other associated non-financial criteria.

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"We view AI as another tool in our toolkit," says AIMCo CIO Dale MacMaster. "I've seen countless innovations over the course of my career, but the best investors use all the tools available to them. We believe AI has tremendous potential, but that doesn't stop us from looking for other ways to add value for our clients, or from using established processes that have been successful for us in the past."

How AlphaLayer and AIMCo Are Successfully Implementing AI Solutions for Investment Management

As a \$130 billion investment manager for more than 32 pension, endowment, and government funds plans, AIMCo is one of the largest institutional investment managers in Canada. In 2018, AIMCo made the decision to review several of its longstanding manual back-and-middle-office procedures to consider what could – or should – be automated using ML and AI.

The following year, after a careful review of options, AIMCo partnered with Edmonton-based AltaML, an AI leader with a large client base in healthcare, resources, and government. The partnership combined AIMCo's domain expertise and data with AltaML's team of AI and machine learning professionals with the aim of tackling business problems in the investment management space.

"AIMCo's journey started with a small and relatively simple step: identifying a few tactical opportunities that could be suited for AI," Langager says.

In the early stages, AltaML helped AIMCo validate and experiment with pilot use cases. Momentum grew with early successes, and soon AltaML was guiding AIMCo through to full adoption with early projects. And more projects followed. The result? Since that time, AIMCo has adopted roughly 20 new solutions supporting operational efficiency, increasing portfolio performance, and enhancing AIMCo's investment risk assessment capabilities.

"Pretty early on, we developed efficiencies by incorporating AI into some operational processes – and the value of that should not be underestimated," MacMaster says. "But everyone is keen to see AI and machine learning boosting investment returns. I can say now with some confidence that we have a trading strategy that is using AI to process data and identify opportunities and it's adding value to our clients' portfolios."

As a result of the successful partnership, AltaML and AIMCo joined forces in 2019 to launch AlphaLayer, an AI solutions practice dedicated to investment managers and built on the foundation of early solutions created with AIMCo. Since that time, the venture has grown rapidly. Despite the challenges of a global pandemic, AlphaLayer has increased its staff to 20, and expanded the organizational footprint beyond Edmonton to include Calgary, Vancouver, and Toronto.



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AIMCo's success at defining and adopting high impact AI solutions can serve as a case study for others in the industry. It is important to note that succeeding at AI goes beyond the technology itself – it is a process and an ecosystem in which all parts must work together to initiate and execute a successful AI strategy. Here is what AIMCo has learned in its AI journey that helped make it a success.

1. Start Small

Many companies envision a first step into AI with a bold “moonshot” project. It is best to start small and rack up some quick wins. This supports learning, builds momentum around AI within an organization and establishes the framework that can help attract further investment.

“At AlphaLayer, we think of this as a cycle, where new ideas and use cases are always in the development pipeline, helping to propel innovation and continuously improve competitive advantage,” Langager says.

2. Identify Strengths and Weakness

Large organizations may be inclined to go it alone with an AI solution by setting up their own internal AI/ML department which requires investment in talent, including data scientists, machine learning developers and software developers. Some organizations choose to hire the AI development knowledge and skill through an AI development firm. It is important that an investment manager weighs the strengths and weaknesses of the model they choose.

Some organizations choose to assign accountability for their AI/ML initiatives to their IT groups. While this approach intuitively makes sense, this structure can silo ML from the business expertise and the important sponsorship required to drive successful deployment of applied AI solutions

“Building successful AI solutions goes beyond the algorithms themselves; along with specialized AI/ML expertise, an AI partner can also deliver project management and a pool of qualified programmers, data scientists, and quantitative specialists. An AI partner can also help educate the investment manager’s teams to better understand the big picture, thus accelerating that internal program and setting it up for success,” Langager says.

3. Build and Maintain Executive Support

Because an AI program typically requires significant investment, executive sponsorship is critical for starting and sustaining such a program. As a rule, investment and risk professionals do not embrace AI and ML, particularly when ROI is not clear at the outset. Delivering quick results from applied AI at the outset is key – and far more important to executives than delivering AI-powered research. Quick wins – even small ones – can help foster enthusiasm and build the kind of momentum that leads to further investment. Executives often look favourably to a “walk before you run” philosophy to new technology. This is another reason to initially take small steps into AI.

4. Commit Time and Teamwork

The AI development lifecycle requires tight and transparent coordination amongst the AI/ML experts and investment management teams. While they may not have AI/ML development knowledge, investment managers have critical specialized domain knowledge of their own business that is necessary to develop impactful solutions that create true value. Thus, the investment managers need to allocate appropriate time and focus to all stages of the process.

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“The AlphaLayer partnership has amplified innovation and collaboration efforts across AIMCo,” says Dale MacMaster, CIO at AIMCo. The work has involved many different teams and allowed the organization to learn about the capabilities of AI and machine learning.”

5. Find the Right AI Partner

Not all AI partners are the same. Thus, it is important for an investment manager to research an AI partner organization in advance to make sure they know the partner’s strengths and what they can bring to the table. A key component for alignment is understanding that some firms focus on AI research and education, while others are experts in applied AI which is purpose-built to solve specific business problems.

6. Target Appropriate Problems and Opportunities

Often the excitement of new technology encourages early adopters to target solutions before considering the problems they need to solve. A key learning is for investment managers to take the time up front to identify the foundational business problems they want to solve before generating specific ideas for AI. AI experts can help validate and refine those problems to find use cases best suited to AI solutions. Also, important to keep in mind is that, usually, the problems best-suited for AI are very data centric. Having the right amount of data for experimenting and testing is critical. Also, to garner sponsorship, it is important to target problems and solutions that can earn a strong ROI.

7. Beware of AI Myths

Investment managers should understand what their AI algorithms do, but they don’t need to know how to program them. In fact, they probably do not have the technical programming knowledge and experience to do so. With that, it can be very useful for investment managers to have a strong understanding of what AI can and cannot do. For example, many organizations believe that AI can solve any business problem they

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are facing. That is a common myth. AI is not the answer to every business problem out there. Each potential problem needs to be assessed according to strong criteria, including ROI.

Another common misconception is that AI will take over decision-making, a level of delegation most investment managers are (rightfully) uncomfortable with. In fact, AI solutions help investment managers make more informed decisions in a shorter time by helping to spot patterns, make predictions and perform complex analysis using large amounts of data.

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Is AI Right for Your Organization?

Whether your organization is ready for AI is a big question, but if it is not ready to take the first steps soon, it might be too late. AI is an iterative process that continues to build momentum over time.

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Organizations in every industry are already reaping the benefits of AI and ML solutions. For those in investment management, there is much to be gained through higher operational efficiency, new and innovative trading models, and enhanced risk management, among other things.

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