TRUE NORTH INSTITUTE

Will AI deliver more alpha to institutional investors?

Abstract

This white paper explores the impact of artificial intelligence (AI) on institutional investing and asset management. It examines how AI is changing investment practices, including data analysis, risk management and asset allocation. The paper also explores the role of AI in asset manager selection and equity security selection, highlighting the challenges and opportunities involved. It discusses the views of prominent experts in the field, including those from Bridgewater Associates, Two Sigma, and GIC. The paper concludes by highlighting the key features that any AI-driven investment system designed to trade financial markets should possess and lists leading data providers that are incorporating AI into their offerings.

Definition of AI

There is a general consensus among institutional investors about what constitutes Artificial Intelligence ("AI"), with the "core capabilities" being generative AI (gen AI), large language models (LLM), natural language processing (NLP) and machine learning (ML) models. The most recent development, generative AI models, encompass deep neural networks that learn the nature of the input, training data to then generate new data that has similar characteristics. Well-known examples of generative AI models include GPT-4 for textual applications and DALL-E for image applications.

Exhibit 1: Machine learning, natural language processing and generative AI are all specific sub-branches of AI.
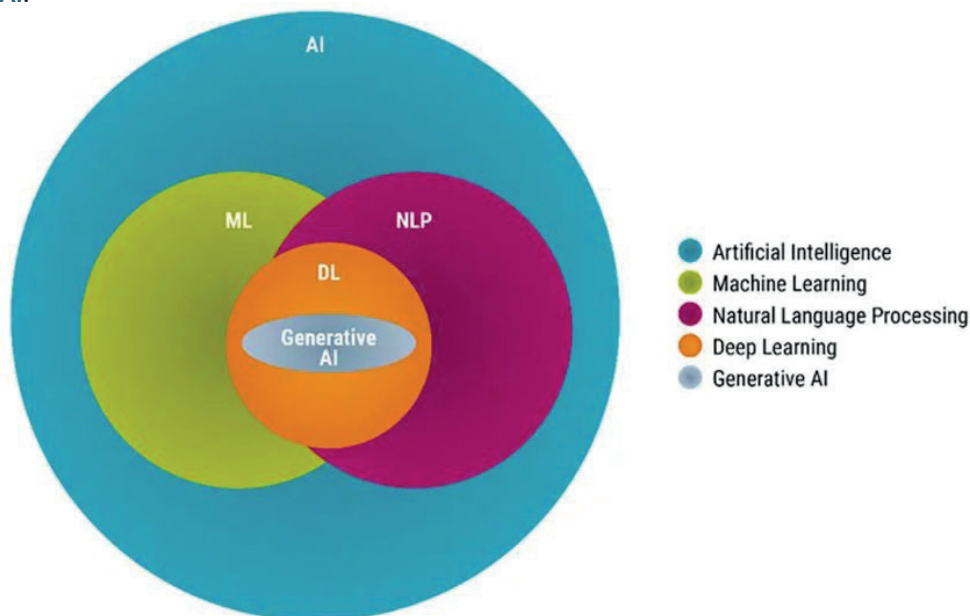
Source: Robeco

As investors, we think of AI as a major development in the ongoing process of integrating technology into the investment management process, albeit a major step change warranting additional resources among asset owners and asset managers.

There are five highly relevant topics on AI for investors, which include:

1. the likely development of the technology,

2. the macro-economic impacts (on growth, employment, sectors, etc.),

3. how institutional investors will be impacted,

4. how asset managers will need to evolve and,

5. in what businesses should we invest? (where in the AI stack – models, infrastructure, AI tools, chips, compute providers, applications, power, etc).

The focus of this whitepaper is on how AI will affect institutional investors ("allocators") and asset managers. But all five layers of insight on this topic are relevant to any institutional investor.

The Macro-economic impact of AI

Henry Kissinger, America's pre-eminent statesman, Eric Schmidt, the former boss of Google, and Daniel Huttenlocher, an expert on artificial intelligence at MIT, write in their 2021 book, "The Age of AI," that the most important way that AI will change society is by redefining the basis of knowledge. "Whether we consider it a tool, a partner, or a rival, AI will alter our experience as reasoning beings and permanently change our relationship with reality," the authors write. "The result will be a new epoch." Coming from anyone else, this would be considered hyperbole.

While estimates of these impacts are wide ranging, on average, managers currently using AI expect a US$14 trillion boost to the global economy by 2030, broadly in line with other notable forecasts, which represents a 9% increase in global GDP, or 1.2% pa.

In the next 10 years, AI is expected to significantly impact various sectors of employment. While AI will bring new opportunities, it may also lead to the displacement of certain jobs, especially those that are repetitive, data-driven, or rely heavily on pattern recognition. Sectors likely to be most affected include manufacturing and logistics, retail and customer service, finance and accounting, healthcare, legal services, IT, media, agriculture and education. No sector will be unaffected. Hence, this the importance of this topic to address AI's growing relevance to investing and how to integrate AI into an institutional investment strategy.

The impact of AI on investment management - high level views

The dominant impact AI will have on investment management will be to drive investors to look further afield and to dig deeper to discover truly unique and highly relevant data sources. In the years ahead, AI will continually level the playing field on access to data and on extracting insights from analysis of that data. The bar will continuously go up on what is unique and relevant data to the existing investment process and decisions.

AI will impact every component of every business' value chain to one degree or another. For each industry, it is incumbent upon the incumbents to ascertain where in their value chains AI can make the biggest difference to their long-term competitive position and bottom line. This is true of the institutional investment (allocators) industry and the world of asset managers across all asset classes, as well.

On the next page, in Exhibit 2, we lay out the institutional investors' value chain and describe the ways in which each stage will be impacted by AI. Most importantly, this chart underscores the extensive degree to which all of our jobs will need to change. Alpha, very likely, will be most significantly influenced by the pace and success of AI integration into the institution's investment processes. To the extent that manager sourcing and selection (due diligence) drive alpha for most allocators, successful AI integration in these two stages of the value chain will be most important. Not far behind will be integrating AI into the overall portfolio risk management process including taking advantage of more dynamic asset allocation opportunities.

Differentiation or competitive advantage will come from leveraging **manager sourcing databases** to then focus on the more human aspects of manager assessment and access, which will carry on being a key source of alpha, with or without AI. However, due diligence can be most differentiated by discovering unique and novel sources of data and information, combined with the most scientific AI-enhanced tools for evaluating past performance, whether that is inside the track record of a public equity, private equity, private credit or property investor. One example would be to assess a private equity firm's success at growing a portfolio company's earnings. With the help of AI, the earnings growth of a given small private business could be compared against the earnings growth of a custom-built set of peers who replicate their mix of businesses, potentially adjusted for geographic market mix.

By their nature, Large Language Models (LLMs) function as "consensus engines and makes alpha even more elusive." LLMs are trained by processing billions of data points, learning to prioritise information based on how past training has sorted through data to arrive at conclusions. This process inherently averages out extreme or outlier perspectives, often leading to a safe but potentially uninspired consensus. While this may reduce risk, it also risks filtering out innovative or contrarian viewpoints, potentially yielding conclusions that lack depth or fresh insight.

Some investors site the growing consensus via AI to be an investment opportunity by taking the contrarian view. This only works where the AI generated consensus is wrong. The consensus answer provided by something like ChatGPT is generally more likely to be right than wrong when the information comes from well-established fields or widely agreed-upon knowledge. Such answers are typically based on a large pool of existing information and expert sources. There is a latency element to LLM models like ChatGPT as they rely on data that is current up to its training cutoff and does not have real-time access unless browsing tools are used. This can limit accuracy on fast-changing topics (like current events) or nuanced, context-dependent questions.

For highly complex, ambiguous, or philosophical questions, the consensus may not always capture deeper insights or emerging ideas. In fields where there is genuine disagreement (like cutting-edge science or ethical dilemmas), ChatGPT might reflect the most mainstream perspective, which could miss novel or contrarian viewpoints.

The correctness of the consensus answer also depends on the quality and breadth of the sources the model was trained on. On well-researched topics with established facts, the chances are high that the answer is correct. However, for niche or new topics, there's a greater chance that the consensus might not be entirely accurate.

In summary, for big questions with a clear factual basis or strong scientific consensus, LLMs are more likely to provide a correct answer. For less settled or speculative topics, it may be less reliable. The former becomes just what you need to know to stay in the game, and alpha will only come where asset managers can prove that consensus is wrong. So clearly, the degree of difficulty for alpha generation will continue to be elevated as AI develops.

Exhibit 2: Institutional Investor (Allocator) Value Chain and impact of AI on Alpha Generation.

Investment Strategy	• Enhanced macro research and risk monitoring capabilities allow for more dynamic asset allocation (TAA) • A broader set of risk factors comprised in portfolio construction • Technology capabilities feature as source of competitive advantage • Competitive advantage focused on finding novel sources of data and incorporating into investment decisions
Macro Research	• Use enlarged universe of unstructured data to better forecast macro dimensions (growth, inflation, rates, etc.) • Engage more third-party macro experts with AI-based insights • Detect trends not easily identified by humans from complex non-linear relationships among broadening set of inputs including sentiment and behaviour science
Asset Allocation	• Improved estimates of key inputs of factor or asset class expected returns, correlations and risk • More factors identified and tracked and allocated to • Portfolio construction tested against vast number of risk scenarios • AI assisted Tactical Asset Allocation (TAA)
Manager Sourcing ★	• More comprehensive external manager databases provides visibility to virtually all managers with customised screening capabilities • Access to best managers tied to non-AI human processes of relationship building, spin-out monitoring
Manager Due Diligence ★	• Managers will compete more on transparency and enhanced performance attribution analysis providing more data to LPs • Enhanced quantitative models to draw patterns from historical performance attribution data • More sources of external unstructured data (NLP, social media, news, conference transcripts) to validate manager's expertise and ethical standards • Algorithms to forecast range of future manager performance against various scenarios
Investment Execution	• Robotic Process Automation powered by AI manages most repetitive operational tasks including trade execution and compliance checks, reducing operational costs and increasing accuracy • Fewer trade errors as AI automatically review trades against orders and guardrails for normal trades sizes, asset classes, markets, etc.
Monitor, Optimize & Rebalance Portfolios ★	• Ongoing monitoring of manager risks tracking movement in underlying positions, flagging style drift, leverage, risk exposure levels and financial market moves that alter manager portfolio risk. • Automated rebalancing triggers portfolio adjustments based on market changes, ensuring portfolios are continuously optimized for risk and return objectives
Reporting & Compliance	• Automatically review trades and transactions for compliance with evolving regulations, reducing legal risks • Automatic filing of regulatory information

The AI-Integrated Asset Managers

The use of AI in asset management is not a new phenomenon but it is becoming increasingly widespread. Mercer published its AI Integration in Investment Management report in January 2024 which was based on their survey of 150 CIOs. This report concluded that 90% of managers are already using AI — or are planning to — as part of their investment and research process.

While hedge funds and quantitative strategies have been using AI for many years, the use of AI is expanding to fundamental strategies as well. Managers are using machine learning, large language models, natural language processing, and generative AI to expand data sets and analysis, generate ideas, and identify proxy signals for missing information.

Managers are optimistic about the potential of AI to improve investment decision-making and alpha generation. However, there are also a number of risks and barriers to the successful implementation of AI, including data quality and availability, integration and compatibility, ethical and legal considerations, security and privacy risks, lack of explainability and transparency, lack of skilled talent, and the danger of bias and discrimination.

Managers also assume we are in the very early innings of the impact AI will have on investing. Most managers have not yet launched AI-related investment strategies. However, a significant minority of managers are already using AI to develop and implement new investment strategies. Exhibit 3 shows the most common usage of AI currently.

Over the next couple of years, we are most likely to see progress in performance reporting and attribution as a starting point, with advances in risk management over the next two to three years. Beyond these areas, broader portfolio optimisation will focus on early identification of market risks, liquidity crisis in the portfolio and the timing of J-curve reversals.

Exhibit 3: Incorporating alternative data sets, developing future indicators, analysing market indicators, and generating investment ideas are the main areas firms are currently using AI. (answers from only companies currently using AI)
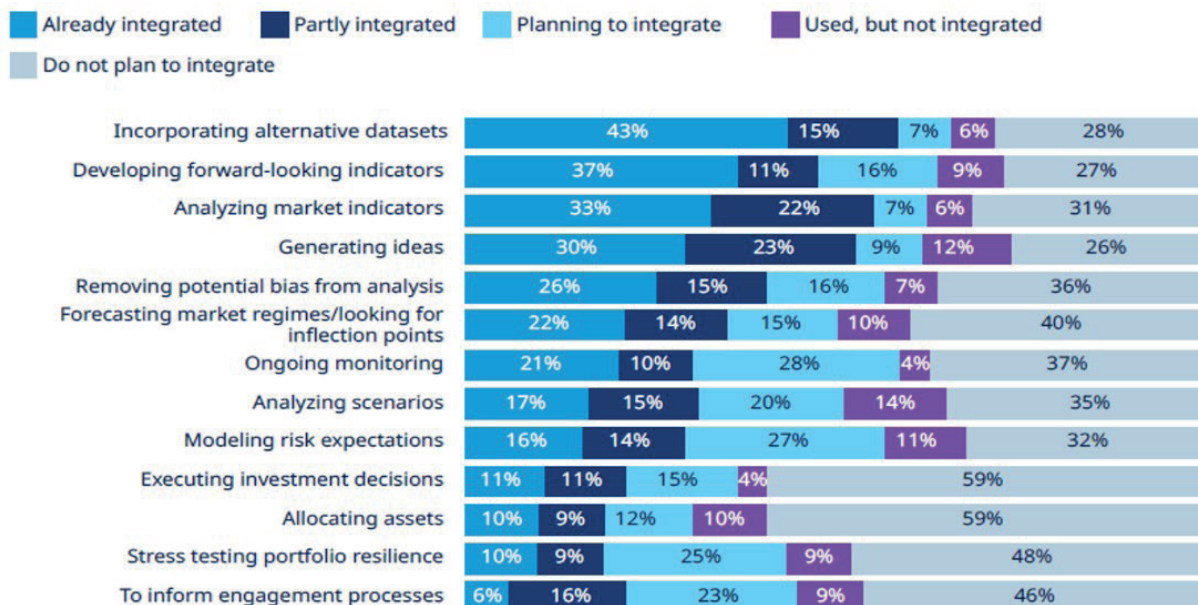
Source: 2024 global manager survey by Mercer Investments

In the manager due diligence process, the institutional investor's research team will be tasked with assessing each asset manager's "AI-lens," looking for the following three attributes of an the fully "AI-integrated" asset manager:

1) A deep understanding of the technological advancements driving AI and its broadening applications in each major business sector. This expertise will be critical for evaluating a company's competitive position relative to its peers, directly influencing security selection. To achieve this, asset managers will need to either develop or acquire a robust "horizontal" AI knowledge base and embed it within their existing technology integration processes. With or without a dedicated cross-sector AI skill set, sector specialists will need to continuously develop nuanced, industry-specific insights into how AI is reshaping competitive dynamics within their respective sectors. Similarly, allocators must refine their due diligence processes by incorporating AI expertise, allowing them to better assess asset managers' capacity to gauge AI's impact on company performance and sectoral shifts.

2) The research process clearly splits tasks between humans and machines, delegated the assimilation and summarisation of publicly available data largely to machines. This allows human analysts to focus on higher-order skills like management assessment, incentive alignment, identifying unique data sources, and engaging in human-to-human interactions to gain insights. Analysts will continue to excel at understanding the perspectives of decision-makers, conducting novel analyses to address key issues, and drawing insights grounded in real human experience. The real value lies in ensuring humans retain their unique edge—particularly in interpreting nuance and deploying empathy, areas where AI currently struggles to match human understanding.

3) The AI-integrated asset manager will make use of the best third-party data sources delivered with AI-generated insights and enhance them with their own unique and novel data sources. The dominant trend in the investment industry, driven by AI, is the exponential increase of publicly available information and AI-generated analysis. Much of this will be derived from subscription-based data providers, reducing the amount of truly unique data for investors to discover. Accessing the best third-party data bases with AI-generated investment insights will be "table stakes" for most managers and as such will not provide them with a competitive advantage. As a result, asset managers and allocators must elevate their strategies to uncover more distinctive, relevant and proprietary data sets. In this environment, the challenge of active management becomes increasingly complex and competitive.

AI will accelerate and alter the competitive race among third-party data providers with deep specialisation within industry sectors (e.g., Evaluate Ltd in biotech, CB Insights in tech) as well as generalist investment data providers such as Bloomberg, Refinitiv, FactSet, Morningstar, S&P Global, Preqin, PitchBook, Albourne, et al. The race will accelerate on two dimensions – quantum of data with a high proportion being unique and novel, and the AI-driven intelligence and analysis provided on that data. One would think that ever better AI-driven investment data bases could arm investors with better tools for generating alpha, but the broad availability of these data services means that these are required subscriptions for asset managers and allocators to stay in the game and are not sufficient to win the game. This does raise the minimum efficient scale for asset managers to the extent that data bases and AI services will have a cost that many small managers may not be able to afford.

10 years ago, Partners Capital dedicated its client annual meeting to the special topic of how technology was revolutionising investment management. We had some of our most tech-integrated asset managers speaking on the topic of alternative data ("alt-data") which included geolocation data, "data scraping" from the internet (eg, job postings), satellite imagery, social media and data exhaust (cookies, digital footprints) etc. and we all predicted that those who made the greatest use would find the alpha. 10 years later, alt-data is a relatively minor driver of insight with asset managers. The question is whether AI applied

to these alternative sources of data can give managers an edge in the years ahead.

Partners Capital recently surveyed many of their equity managers on their use of AI and we describe three examples below:

Emerging Tech Equity Long-Short Manager: Trained their own LLM on their research management system. For now, the LLM is mostly used for identifying key words in company transcripts believed to be investment thesis catalysts. In the future, the manager expects LLM will help to make better portfolio sizing and trading decisions.

Generalist Quant Equity manager: Manager has integrated ML and LLM for 10+ years, seeing increase generation of investment signals. Have used NLP for sentiment assessments. Use AI to boost coding productivity. Have built an AI tool that searches academic papers to support thesis development.

Multi-sector Equity Fund: Use Gemini OpenAI for idea sourcing with sector models. In primary research, it helps identify and size industry profit pools. It's especially helpful in sourcing primary companies and finding firms that operate in specific geographies or sectors. Accelerates process for finding experts and other key people in fundamental research process. Use Microsoft and Google tools to streamline communication across the team.

The AI-Integration plan for Institutional Investors

Artificial intelligence will play an enlarged role in institutional investing, firstly with a focus on assessing each asset manager's own level of AI-integration. Secondly, AI will enhance overall portfolio risk management, with portfolio management algorithms and stress tests becoming more AI-driven. This enables perpetual portfolio risk management, with more frequent prompts for dynamic asset allocation. These two capabilities will obligate the CIO to focus on enlarging the universe of relevant data with asset manages being the primary source – focusing on ever-increasing levels of transparency into the underlying holdings and their factor drivers. Data quality and security takes on a whole new level of importance.

Virtually every investment firm has the problem of data management and data governance lagging behind the sheer scale of data being collected. In their book, The Technology Investor, Ashby Monk and Dane Rook have a great quote: "For any investor, the ultimate superpower is mastery of its data." Their research found that "nearly all investors they studied feel they are 1) not using their data as efficiently as they could, and 2) unsure that they are maintaining suitable levels of data quality." The authors go on to say that "some investors believe that they sacrifice at least 100 basis points in gross returns per year due to problems of managing and governing data." Institutions who crack the data management and governance challenges, generally will be the most successful in integrating AI into their data analysis to gain the advantages laid out in Data management covers how data resources are structured and controlled, whereas data governance stipulates responsibilities for looking after the data.

The action implications for institutional investors (allocators) include the following:

1) AI integration is no longer optional. Once the domain of hedge funds and quantitative strategies, AI is now expanding into fundamental investment strategies. 91% of asset managers are either currently using or planning to use AI in their investment processes (Mercer). AI will no longer be a niche tool but is rapidly becoming a core component of most investment strategies, for asset managers and institutional asset owners.

2) Designate the in-house AI team. The internal tech team should be fully resourced for the AI effort and should develop the skill set required to work with the investment team members to maximise the scale and utility of the data bases. The most critical data set is "knowing what you own" in the form of fund look through exposure to individual holdings, but also basic fund information like aum changes, portfolio turnover, risk metrics, team movements, regulatory submissions, etc. to be provided by the manager to the investor.

For the institutional investor, the AI specialists on the data or tech team will have the responsibility to train the investment research team members who are focused on manager due diligence and monitoring. That tech team "AI Captain" should be the expert on all five layers of understanding on AI -- understanding the tech, macro impact, impact on institutional process, impact on asset managers and the specific investment opportunities that we want to Ongoing learning for the AI Captain and the research team may best come from a handful of current asset managers that are ahead of the curve on both incorporating AI into their processes and in understanding how it will impact different industries.

3) Prepare for the move from structured to unstructured data bases to largely obsolete existing systems.
Investment institutions are continuously accumulating more and more data all the time from underlying asset managers, the companies and assets we own, and from the external financial markets, including a growing base of third-party data providers. The pace at which we integrate and assimilate that data almost always lags behind the pace at which the universe of data is growing. The present technology toolkit for asset owners seeks to structure data in ways that it can be easily accessed and then produces reports that investors can use to make better alpha-generating decisions. A major change from AI for institutional investors will be that AI can work with unstructured data, find its various uses and answer questions posed to an unstructured system. Existing systems may largely become obsolete and new AI technologies will replace them.

The software used today will also be largely replaced. Current portfolio management software is largely rules-based, with large effort put into capturing and structuring data, often using large data teams. The future of software will be AI-based, utilising data that has been automatically extracted from multiple sources using GenAI capabilities – AI on top of GenAI.

4) Data quality is paramount. The most significant barrier to unlocking AI's full potential is data quality and availability. Investors must prioritise data governance and invest in robust data management systems to ensure data accuracy & consistency, generating reliable insights and mitigating risks associated with biased or incomplete data.

The battle between GPs and LPs for maximum transparency and information sharing will increasingly favour the LP. Differential access should be the goal, but regulatory constraints around treating clients equally will generally democratise the access for all LPs equally. But to not take advantage of growing transparency from asset managers will be the crime.

5) Ensure data security. Prioritise data privacy and security and establish robust data governance frameworks and ensure compliance with relevant regulations. There are legitimate fears of proprietary "client" data becoming part of the training set running serious regulatory risk.

6) Recognise that Large Language Models (LLMs) function as "consensus engines." These AIs are trained by processing billions of data points, learning to prioritise information based on how past training has sorted through data to arrive at conclusions. This process inherently averages out extreme or outlier perspectives, often leading to a safe but potentially uninspired consensus. While this may reduce risk, it also risks filtering out innovative or contrarian viewpoints, potentially yielding conclusions that lack depth or fresh insight. **In this way, AI "levels the playing field" for all investors and alpha will become even more elusive.**

7) Third Party data can be a significant source of alpha for Allocators, but only when augmented with proprietary data and analysis. Just as we described above for asset managers, AI will accelerate the competitive race among third-party data providers, particularly manager databases such as S&P Global, Morningstar, Albourne, E-vestment, Preqin and Pitchbook. To date, little is being done to fully mine these cross-manager databases. S&P Global may be the exception at this moment in time. When these data providers more fully deploy the growing universe of AI-tools, institutional investors should be working closely with these data providers to merge their own proprietary data into their models.

8) AI will significantly enhance the insights derived from the analysis of the institutions own historical databases. AI will enhance the level of insight from historical performance analysis linked to external macro-economic factors (for example), customised portfolio risk analysis, liquidity stress testing, manager pipeline management, manager engagement tracking, and cost and fee analysis. All of the normal analytical process involved with institutional portfolio management should be enhanced. One could argue that differential levels of value will be gained mostly from marrying third party data with unique internal data. Examples would include proprietary overall portfolio risk models that take look-through exposure data from managers and models valuation scenarios to test against liability structures, cash flow requirements and stress limits that are unique to the asset owner. Additionally, internal historical performance data should be analysed to identify patterns, trends, or insights that may not be immediately evident from third-party manager data alone.

9) Identifying AI-integrated asset managers is key. Institutional investors should prioritise identifying asset managers who most effectively integrate AI into their investment processes as described above. To summarise, three key attributes to look for in an AI-integrated asset manager are: (1) strategic use of third-party data sources combined with proprietary data sets to generate unique insights; (2) deep understanding of AI's technological advancements and their impact on various sectors, and (3) effective use of AI to automate research processes, freeing analysts to focus on higher-order skills, such as management assessment and identifying unique data sources.

10) There will be many operational enhancements provided by AI including automated trading and rebalancing, legal due diligence, compliance filings, AI-driven cyber security and automated portfolio risk management. For example, AI tools are being added to private equity cash flow management tools like Carta, that automate complex private equity capital call and distribution processes by extracting and organising important financial data and documents. There are also tools which can analyse subscription document and flag non-standard terms.

11) Implementation effectiveness of AI will be a major source of outperformance for asset owners. While we underscore how AI levels the playing field by democratising information availability, we fully expect some institutional investors will make far better use of AI than others through the successful management of the AI integration process.

One AI vision would be for our portfolios to have ongoing 24/7 risk management capability that is taking in real-time external economic, financial, geopolitical and other news, and marrying that with internal portfolio risk metrics identified by the AI with quantified sensitivities to various mixes of external data. While establishing clear causality links remains a challenge, over time, we expect advancements will significantly reduce portfolio risks. This could either lead to improved risk-adjusted returns or drive markets to adjust by lowering returns in line with decreased risks. Enhanced alpha may be the result where successful implementation at a fast clip is achieved.

On the 7th of November 2024, True North Institute held a conference attended by 12 highly respected institutional CIOs from around the world including CIOs of large endowments, foundations, and sovereign

wealth funds. They reacted to this whitepaper with their own experience deploying AI in their portfolios. We have grouped their collective response into the list below which may serve as a useful checklist for other institutions.

Examples of How Institutional Investors are Using AI

Asset Manager Due Diligence and Monitoring

- Meeting notes summarisation and evaluation; set up questions for next meeting
- Pattern recognition; flagging inconsistencies between communications
- Manager one-pager generation
- Full manager background checks (regulatory violations, personal life integrity gaffs, etc.)
- Basic analytical analysis of niche investment spaces (e.g., attractiveness of life settlements, sports team ownership, etc.)
- Automated data-room mining tools (see Fund Cogito Solutions which consolidates all fund documents in one place)
- More intelligence factor models -- find more nuanced relationships tied to external environment
- Monitor AI applications from quant funds and look for relevance other managers or overall portfolio management (e.g., macro factor flags)

Overall Portfolio Management

- Investment Management "bot" to answer all questions about overall portfolio (e.g., what is our total China exposure, Mag7 exposure, small cap exposure, etc.)
- Macro-economic analysis – add proprietary databases to existing market tools (e.g., AI to find links between market sentiment and tactical asset allocation moves).
- Assess biases of CIO or Investment Committee members from IC meeting notes, transcript

Asset Manager AI Integration Examples

- Evaluation of management messaes in earnings calls (transcript interpretation)
- Trading data analysis for each portfolio manager to identify negative and positive patterns of behavior (e.g., sell winners too early)
- Trader prompts
- More trading alpha from ongoing position sizing and rebalancing models tied to external events.
- Overall portfolio construction optimisation – position sizing, factor mix, tracking error monitoring, etc.

Operational Benefits

- Internal Audit can be one continuous automated process flagging internal control violations
- Automated regulatory filings
- Automated regulatory compliance monitoring – flag violations
- Coding productivity enhancements

True North Institute

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