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Alt Insider
Market Intel & Insights

Welcome to the second edition of MUFG Investor Services quarterly newsletter, **Alt Insider.** This edition will highlight MUFG Investor Services' internal integration of ChatGPT through an interview with Chief Technology Officer, Evangelos Skianis, explore applications of Chat GPT in financial services and discuss the trade off between usage, risk and resource that arise by implementing the technology.

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Alt Insider is curated by MUFG Investor Services Business Consulting Group (BCG), established in 2022 and created to help clients identify critical gaps in their infrastructure. This is a courtesy service designed to help clients create scalable operating models and implement solutions to improve business outcomes.

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An Automated Way Forward?

A Conversation with Evangelos Skianis, Chief Technology Officer

BCG: As mentioned in the foreword, we are joined this quarter by Evangelos Skianis, Chief Technology Officer at MUFG Investor Services. Evangelos thank you for joining us, let us start by touching on the family of AI tools and discussing where ChatGPT fits into the MUFG Investor Services business.

ES: ChatGPT is built on top of Open AI's large language model called GPT. ChatGPT is a conversational robot that predicts and then generates the next set of words. The technology predicts the sequence based on previous words which are either part of a prompt given by the user, or part of the answer that ChatGPT builds.

The tool was first released in late 2022 and since then has gained huge attention as it has been applied for consumer and commercial use cases, especially with Microsoft owning a stake in Open AI. It is worth noting, the entire family of related AI tools is still evolving, as are the use cases. Since the tool has gained attention, MUFG Investor Services has examined a few use cases for internal application.

BCG: Diving a bit deeper, let's discuss how MUFG is **leveraging the technology?**

ES: It is important to emphasize that we primarily utilize ChatGPT for internal processes rather than to access client data, external communications, or client interaction. For example, MUFG Investor Services is evaluating using ChatGPT as a code generation tool to augment capacity within development teams and automate early-stage development projects.

Additionally, we are considering applying the technology to refresh training materials based on updated policies, procedures, and guides.

MUFG Investor Services is focused on investing in use cases that do not have sensitive data or customer data to mitigate the possibility of client data leaks.

While the technology continues to evolve, our application of ChatGPT will evolve with a focus on streamlining internal processes, always within a controlled environment, considering information security and data privacy as a core consideration prior to implementation.

BCG: Now let's shift to **caveats and cautions**...how should users of ChatGPT mitigate risk?

ES: Prior to adopting ChatGPT, it is important that firms decide whether they will start using these technologies within their business and define internal policies to govern proper use and clearly communicate polices to employees.

As financial services managers and providers integrate ChatGPT into processes and workflow, it is key to ensure the models are continuously evolving by fine tuning them and collecting metrics on the impact of ChatGPT to the business. Given these tools are still nascent, a few additional considerations are outlined as follows.

First, it is important that companies incorporate ChatGPT into lower risk processes. Second, as these integrations occur, it is key to have employees check the outputs of these tools before proceeding with broader application.

Another important consideration in the adoption of ChatGPT is the enhanced due diligence of vendors supporting the process. For example, some vendors host a manager's models and perform the processing. In this model, the vendors may maintain a copy of the data for internal purposes. Others might provide the technology, but the processing takes place in a firm's private data center. Therefore, in the latter model firms have greater control of the data residency and retention.

Likewise, from a governance perspective, it is important for management to ensure a robust audit trail, ensure confidential data stays within an organization's control and the model's track record can be explained. Finally, it is important to consider quality control, specifically related to

hallucinations. Hallucinations occur when an AI model refers to mistakes in the text that are factually incorrect or nonsensical. While hallucinations are a fault of the nascent technology, they can be minimized by implementing human oversight to the process.

At this moment, it is worth noting that other industries outside of financial services are leveraging ChatGPT to enhance developer productivity tools which check for code vulnerabilities, code improvements and code generation, I expect that this will change over time across multiple industries due to the power of the technology and its relative ease of use compared to other machine learning models which are built to solve a single use case.

BCG: What other considerations are important as managers and providers within financial services consider implementing ChatGPT into workflow?

ES: It is important to consider the cost and time of implementing ChatGPT or similar technologies. Given the technology is still maturing, experts expect the models to learn exponentially throughout 2023. Additionally, it is possible other similar technologies will be released as this cohort of technologies continues to receive attention and investment.

While touched upon earlier in the conversation, another key consideration is the location of the data and model and preservation of privacy, particularly with respect to models that include sensitive data.

BCG: Any last thoughts? Predictions?

ES: While some critics are reticent to adopt AI tools because of their ability to overtake humans, I would speculate that the next generation of AI tools, like ChatGPT will propel humans rather than replace them. Lastly, I also expect that personal devices will become more powerful. For example, it is possible we will be able to run AI on our mobile phones and automate day-to-day tasks without our personal data being exposed.

The Decision Making Process:
Risk and Resource

Given the application of ChatGPT in pop culture, ChatGPT has become a buzzword. As financial services companies begin to integrate it into workflow, given the sensitive nature of the data, the trade-off between risk and resource arises. Likewise, as financial services companies evaluate the use of ChatGPT, a few questions should be asked. For example, does the use of ChatGPT, introduce needless risk? Are there unintended consequences of adopting the technology (i.e., is the firm creating a problem by solving a problem?). Is ChatGPT going to lower net production due to increased scrutiny needed to mitigate mistakes? The trade-off and hypothetical questions are aspects of the decision making process important to explore prior to adoption.

Risk Tolerance

As businesses consider ChatGPT integration, risk appetite, and more specifically risk appetite per function can dictate if and where the technology is leveraged in the business. Thus, the business's risk tolerance will dictate its adoption of ChatGPT. For example, operations will have a different risk tolerance than treasury or investor relations. In some cases, 95% success rate or 5% failure rate might be manageable, conversely, for others, 5% failure rate likely excludes ChatGPT as a solution given the risk and need for precision. For example, when the output goes externally to a client or internally to management. Depending on the end user and the accuracy required of the output, risk needs to factor into the usage of ChatGPT.

" We see both significant benefits and risks related to ChatGPT. For example, users can get answers quicker using ChatGPT technology but if users are making a critical decision based on it, they need to be ready to accept that sometimes ChatGPT's results are not precise. Also, users need to be aware that there may be an additional cost to confirm ChatGPT's answers. Users need to clearly understand their risk tolerance related to ChatGPT's mistakes."

Mike Medvinsky, CEO of Nedelma, data aggregation and visualization technology company and adviser to managers and investors leveraging ChatGPT.
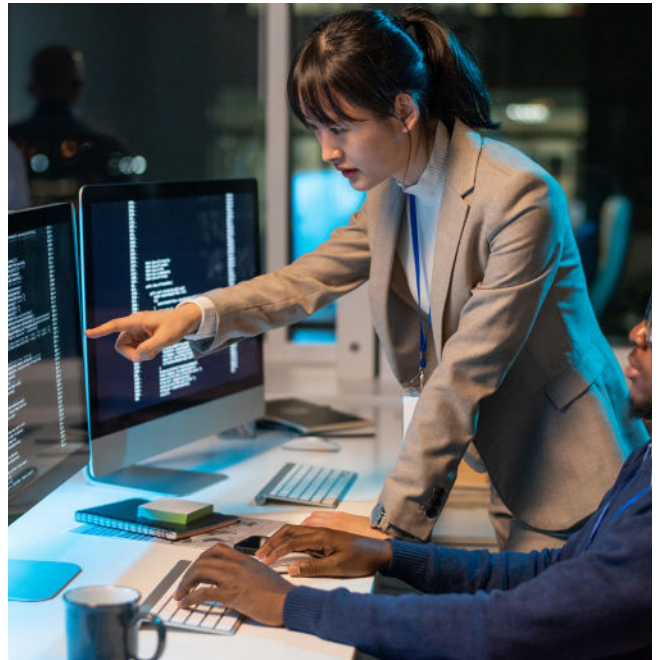
Resource Availability

Diving deeper into the ChatGPT application within financial services, as firms consider adopting ChatGPT, it is important to ensure the availability of adequate resources. Prior to committing to ChatGPT, it is important for firms to evaluate if they have appropriate resources to test ChatGPT functionality in development, before rolling into production. Further, while ChatGPT produces output quicker than humans, it is important that human oversight be inserted into the workflow. Thus, it is key to designate a team or individual responsible for confirming the accuracy of the model. It is important for firms to recognize validation of ChatGPT adds an additional cost. Lastly, to the naive observer, one might speculate that ChatGPT produces quicker results than humans, but after factoring in the length of time it takes to produce the model, validate the output, and incur the additional costs, ChatGPT can unsuspectingly exceed the costs of manually performing the task.

Final Thoughts

Business use cases for ChatGPT across financial services continue to evolve, as does the implementation of oversight. As businesses consider ChatGPT in their workflow, it is key to consider if the benefits outweigh the risks and challenges of effective use of the technology, particularly the development of human oversight of the model and related activities.

The above was gathered from conversations with Nedelma during the months of May and June.

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ChatGPT Use Case – Regulatory Audits

Cause and Effect – Using ChatGPT to Harmonize Databases & Improve Regulatory Response Time

Given the active regulatory environment, in recent years, many alternative managers have been subject to regulatory inspections. Data and document requests, which is the typical starting point for inspections, can often span many different departments and systems. To solve for this challenge, since the introduction of ChatGPT, some managers have attempted to streamline the reporting needs of regulatory inspections using ChatGPT.

Stage 1 - Enhancement of Search Functions

Prior to the implementation of ChatGPT, to gather information, users searched on key words or phrases in email and disparate systems to extract data that requires a manually intensive manner to build an analysis. ChatGPT has enabled businesses to connect all components of the infrastructure in which documents and data reside (i.e., email, SharePoint, etc.), enabling full indexing of all PDFs, documents, and email. Thus, the use of large language models, like ChatGPT, is creating efficiencies within the alternatives community to enhance productivity. While this use case is still evolving, as ChatGPT continues to improve, the precision of the model will grow. Using the large language model, users can extract connected information based on the search criteria in a way that is much faster and more productive. These enhancements to the search function are being used across financial services, specifically in the initial document request as outlined below.

Stage 2 - ChatGPT Search - Streamlining Regulatory Response

As many of our readers understand, audits require requests for information, often which are defined by set rules and policies. Through ChatGPT firms can map inquiries to

existing policies, automatically populating responses to reports with structured fields. Through ChatGPT searches functionality users can write a series of commands to compile answers based on the audit inquiries. ChatGPT then creates detailed output, in the form of graphs, charts or lists with requested responses, while also pointing to the underlying source of the information. Thus, lowering the resource necessary to search and compile information in use cases like regulatory audits thorough ChatGPT. While still evolving, ChatGPT is gaining adoption among alternative managers. Further, as this use case is adopted, it will allow for significantly less disruption and lower resource deployment to the business.

The above was gathered from conversations with RFA during the months of May and June.

About MUFG Investor Services

MUFG Investor Services is a leading asset servicing provider for the global alternative investment management industry. From 14 locations around the world, MUFG Investor Services, through its suite of solutions, helps clients mitigate risk, execute seamlessly, and increase efficiencies in their pre- and post-trade operations. With over $770 billion in assets under administration, MUFG Investor Services is one of the top fund administrators globally. Its nearly 500 clients represent hedge funds, asset managers, private equity, private debt, real assets, real estate, fund of funds, and more, and benefit from a broad range of additional solutions including fund financing, foreign exchange, custody, trustee services, depository, middle-office outsourcing, securities lending, and other banking services. MUFG Investor Services is a division of Mitsubishi UFJ Financial Group, Inc (MUFG) one of the largest banks in the world with $3.3 trillion in assets.

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