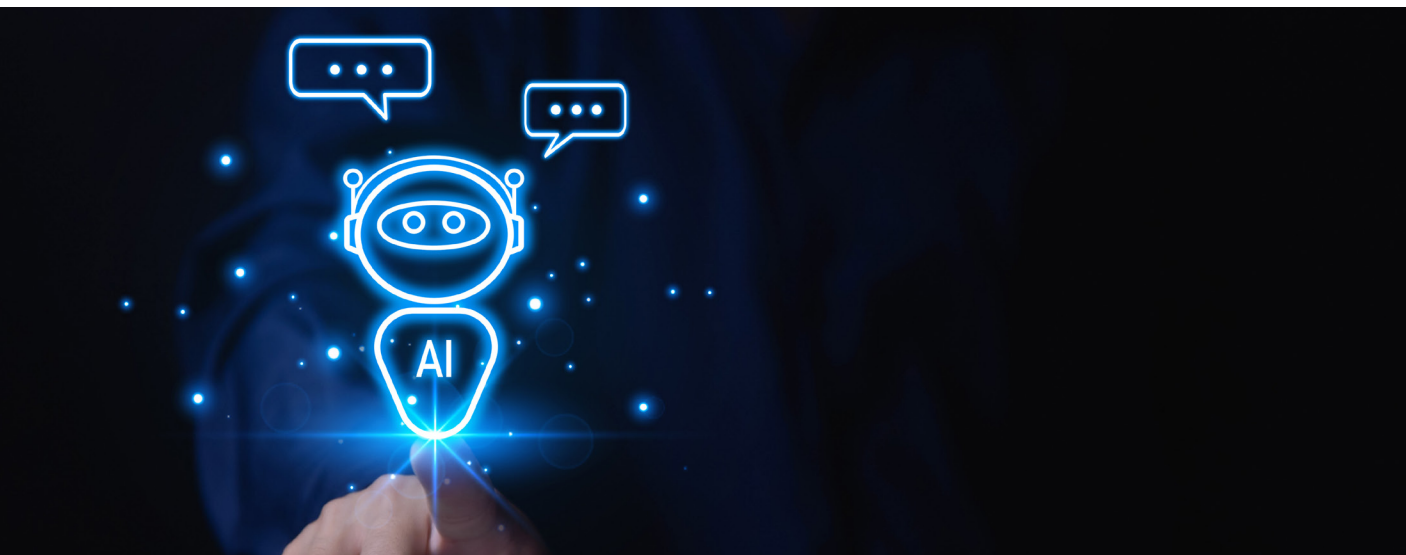


Why Businesses are Building Custom AI Bots

Artificial intelligence (AI), Generative AI (Gen-AI), and Machine Learning (ML) have quickly become buzzwords used extensively by business leaders across the globe. It seems as if professionals cannot go a day without hearing about 'leveraging AI' and 'AI-generated insights.'

Yet, when professionals look to leverage AI by employing the most widely known AI, ChatGPT, they are quickly advised it's against company policy due to cybersecurity concerns.



Why? How can we leverage AI if AI itself is a cybersecurity concern?

This article is not meant to criticize company policies. In fact, they are right; businesses are simply looking to protect their proprietary data. See the below snippet directly from ChatGPT's Privacy Policy: "We may use Content you provide us to improve our Services, for example to train the models that power ChatGPT." (Source: [ChatGPT Privacy Policy](#))

Due to the risk of using proprietary data to train future AI models and ChatGPT's lack of sources cited, which makes it difficult to validate AI responses, 75% of organizations worldwide are considering bans on ChatGPT and other generative AI applications. (Source: [Blackberry](#)).

Many of us have heard that AI is very good at diagnosing illness based on symptoms and medical history ([How AI is Disrupting Medicine](#)), but that doesn't mean I'm comfortable with pasting my medical history into ChatGPT to train their future models and risk exposing my personal data in future versions!

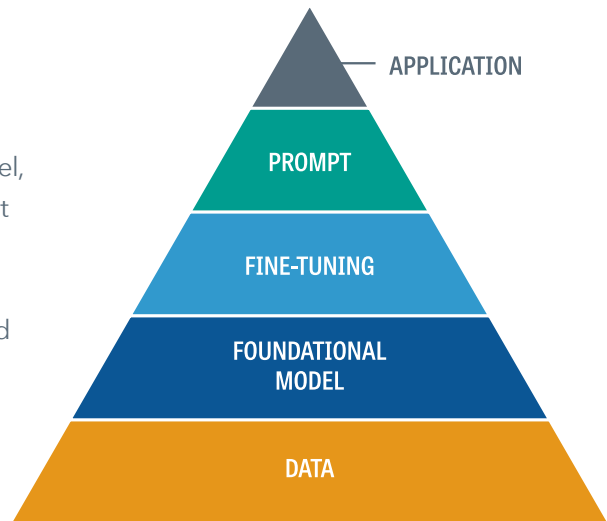
Like us, businesses don't want us providing AI with their proprietary data.

If AI providers use our data to train their models, how can my business leverage AI?

For further clarity, we will take a high-level look at software architecture.

Like all good software developers, AI developers follow a standard layered software architecture model, which means each aspect of the AI application is built upon earlier portions of the architecture.

Every generative AI on the market follows this layered architecture. To generate revenue, AI vendors have allowed businesses to build custom AI bots around their foundational model for a specific use case, which is called an Agent.



What is an Agent?

An agent is a custom bot built for a specific use case, generally a use case that requires proprietary data. Using the architecture pyramid above for reference, businesses can apply their proprietary data to a vendor's foundational AI model with custom fine-tuning to create an AI agent that achieves their use case's goal.

Let's look at customer support as an example use case.

Likely, many of us have called a support center for help with software, a product, or a service in the past. Prior to speaking with a support representative, we hear the automated message, "This call may be recorded for quality and training purposes."

Let's look at the word 'training' in this sentence.

Oftentimes, when we hear 'training' in this context, we imagine onboarding new support representatives; however, in the new AI realm, what this really allows businesses to do is transcribe phone calls over several years to be used as proprietary training data for a custom AI agent, emulating how customer service reps solve customer inquiries. This AI agent can be deployed as a support representative over the phone or as a text-based bot on a company website.

This is one out of literally thousands of use cases for AI agents. Businesses have so much niche, proprietary data related to their products and services that can be used to create customer-facing support AI agents like we've seen in the above example. However, agents can also be built to streamline operations across sales, manufacturing, and especially within treasury and capital markets.

What are some use cases for agents within Treasury & Capital Markets?

A requirement for any treasury professional to do their job at a high level is data. To properly forecast cash and liquidity, historical data is essential. However, historical treasury data, especially account numbers, is extremely sensitive, increasing the need for custom-built, in-house AI agents.

In reality, treasury’s first AI agent doesn’t have to be for a niche use case. Instead, to learn about an AI agent’s capabilities, treasury could use a ‘Treasury Insights’ agent where users upload an Excel file of raw data as input and users can ask the bot questions about insights like “Which account/entity has the most cash movement?”, “What is my seasonal trend?” and more.

As treasury becomes comfortable with using an AI agent, they can begin to specialize and create AI agents for niche use cases:

USE-CASE	DESCRIPTION	DATA (INPUT)	USER	DEVELOPMENT	OUTPUT
Internal Chatbot Assistants	Today, every organization has valuable proprietary data which has been used in the past for simple analysis. With the creation of AI, treasury professionals can leverage this data to create chatbot assistants to summarize documentation on the cloud, Q&A, etc	<ul style="list-style-type: none"> All proprietary data on organization’s cloud storage system 	All Employees	<ul style="list-style-type: none"> Leverage APIs to auto-sync AI data sources to specific folders and files on an organization’s cloud storage system 	<ul style="list-style-type: none"> Q&A Summarization Treasury-specific: Settlement Dates, Region-specific data upload frequency Training tool for new employees
Cash Categorization Mapping	Creating an initial cash categorization mapping remains a tedious, time-consuming process. Using AI, which is fundamentally a pattern matching tool, treasury professionals can have AI create an initial cash categorization map or create a mapping from existing to new cash categorizations.	Initial Cash Categorization Mapping: <ul style="list-style-type: none"> Bank Statement Codes and Descriptions Cash Categorization Mapping Update: <ul style="list-style-type: none"> Existing cash categorizations and Descriptions New cash categorizations and Descriptions 	TMS Users	<ul style="list-style-type: none"> Create a baseline data source containing frequently used cash categorizations, descriptions, grouping codes, and mappings Rely on AI’s fundamental use of pattern matching Significant model fine-tuning to reach desired accuracy level 	Initial Cash Categorization Mapping: <ul style="list-style-type: none"> List of cash categorizations, their descriptions, and their respective grouping code Cash Categorization Mapping Update: <ul style="list-style-type: none"> Mapping of Existing to New cash categorizations
ERP Import Mapping	ERP Import Mappings remain a tedious process. ERPs often have distinct codes which must be mapped to a TMS, such as account codes, industry codes, and GL codes. Time-consuming programming scripts are often created to recognize patterns amongst such codes; however, since AI is built upon pattern matching, this process can be automated.	<ul style="list-style-type: none"> Tens of examples of mapping ERP codes to TMS codes List of TMS codes and their descriptions 	TMS Users	<ul style="list-style-type: none"> Build customizable data sources Rely on AI’s fundamental use of pattern matching Significant model fine-tuning to reach desired accuracy level 	<ul style="list-style-type: none"> Mapping of thousands of ERP codes to TMS codes

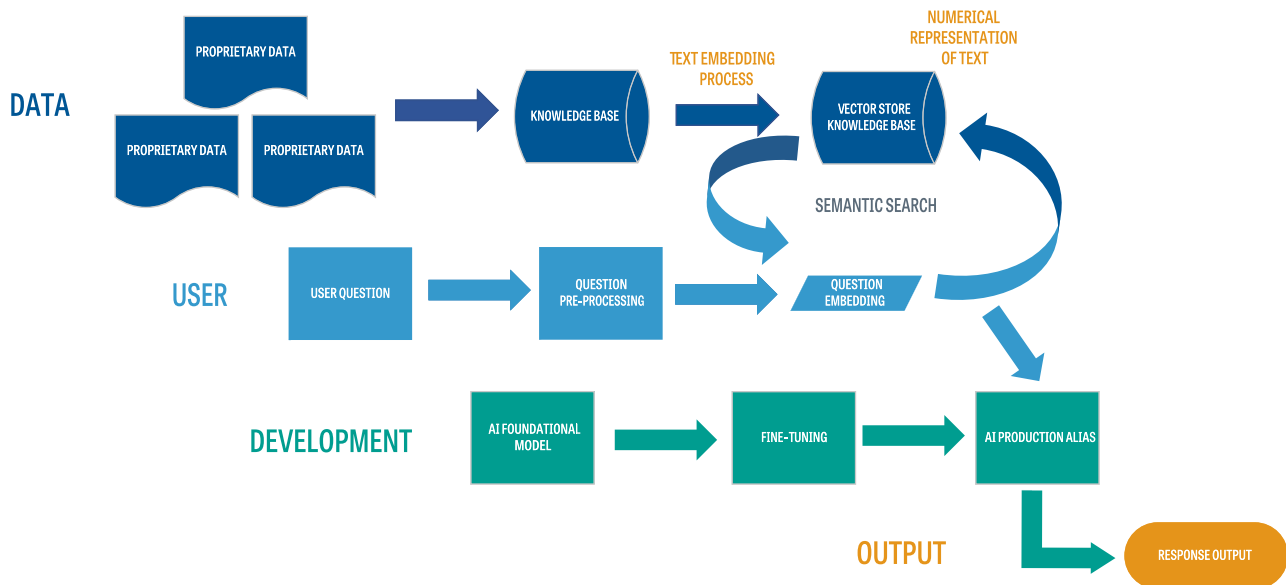
AI agents can be trained and built by following the AI agent build process diagram in the next section. For each specific use case in the table above, the Data column gives readers an idea of which proprietary data source can be used to train their agent.

So, how can my business create and deploy an AI agent?

Any organization can identify points of weakness or difficulty within its day-to-day operations. Once these points of weakness are identified, businesses can establish a list of high-priority use cases, establish a team of developers to build the agent (likely two or three developers are all that is required), collect related proprietary data to train their AI agent and fine-tune the agent to create their first AI agent application.

Numerous vendors offer the use of foundational models and an interface to streamline the agent build process. The leaders include AWS, Google Cloud, and Microsoft Azure.

The AI agent build process looks as follows:



Ultimately, AI agents allow businesses to create a bot for a specific use case, leading to increased accuracy for a specific task, allowing employees to validate AI responses with data sources, and most importantly, protecting proprietary data since the agent is built in-house under the business’ control. AI is making headlines daily with each day bringing new and thought-provoking developments. Whether it’s an AI bot passing another standardized test with an exceptional score or an AI bot officially being hired by a corporation, the AI revolution is most definitely here. The use cases discussed in this article are achievable today - imagine what may be possible only three years from now as the AI revolution continues.

For organizations to quickly adapt to better AI models, resulting in better use cases with massive upsides, organizations should become comfortable with building their own AI agents.

To start your AI journey or to optimize your existing efforts, please reach out to Actualize Consulting to learn more about AI use cases that will have the greatest impact on your organization, AI best practices and optimization, and the process for building an AI agent.