Conversations with Commerce Trust

Investing in Artificial Intelligence

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David Hagee: Hello, and welcome to Conversations with Commerce Trust, our show about the markets, investment themes, and economic insights that matter to you. I'm David Hagee, Chief Investment Officer with Commerce Trust.

Today, we're discussing artificial intelligence, or AI, with Tara McConkey, our Director of Portfolio Management for the Eastern region here at Commerce. Welcome to the podcast, Tara.

Tara McConkey: Hello, thanks for having me.

David: Thanks for being here. We've had a lot of conversations in the past about AI, and we continue to have many, many conversations today about AI and where things are going. I think it'd be helpful to have a little bit of foundational work around what artificial intelligence is and how it works.

Tara, maybe you could walk us through exactly what artificial intelligence is, and we can get through some use cases as well.

Tara: Sure. So artificial intelligence, or better known as AI, right, is the technology that allows machines to perform tasks that humans would normally do or requires human intelligence. This includes everything from recognizing patterns, from understanding languages, making decisions.

So, you know, in the past, you used to program a computer step by step. Now AI uses data and algorithms to learn and improve over time. Current uses for AI would be automated tasks, anything that's repetitive. It can do it faster and usually with less errors than the human touch.

It finds patterns, so it can take huge amounts of data that is hard for people to process and find those patterns and analyze the data. You've probably seen it on Amazon (Amazon.com Inc.), where they've done product recommendations, or Spotify (Spotify Technology SA), where they give you playlist recommendations.

Chatbots. Probably everybody sees chatbots every time they go into any website, especially when you want to talk to a human, you get the virtual assistant instead. So it's very good at looking at all those patterns. But it is also at this time still pretty narrow and specialized. So, for instance, AI that recommends your products or your Spotify playlist is not the same AI that drives a car. AI currently still needs massive amounts of data to learn effectively. It is good at finding trends and predicting outcomes through like kind of pattern recognition, but it does require a lot of oversight.

David: Yeah, you know, it is very interesting that as this launched in 2022 and really captured the public's imagination with ChatGPT coming out, you could do anything you wanted. I'm sure kids were writing papers that they ended up making their own but got a good start there with ChatGPT.

We've seen a transition inside the industry from pre-training models, which was extraordinarily expensive, to now we're moving more towards inferencing and reasoning on the models. So even in just these quick three years since Chat GPT's launch, we've seen AI processing change fairly radically over that time. You know as we talk about AI, it's interesting to hear some use cases that you're starting to see at the beginning here.

You know, certainly inside the healthcare industry, you're seeing some changes. Maybe you could walk us through a couple of the use cases right away.

Tara: Yes, right. AI is being implemented already. It's available in everyday life. You might not always see it. It is [an] extremely helpful tool, but it is limited and specialized currently. So, for instance, in healthcare, we're seeing it implemented by being able to diagnose diseases within scans, setting up treatment plans. It helps to speed up drug discovery again because of the massive amounts of data it can process.

We're seeing it in businesses, using for fraud detection, certainly chatbots. It helps with supply chain optimization. So kind of logistics. We've seen it, of course, in self-driving cars in the transportation industry. You've probably seen it in your home with thermostat devices and speakers.

And then again, you know, education, you know, tutoring, grading assignments. So it is being implemented across almost every single industry you can think of in some fashion. Again, it's still certainly limited and specialized. So, AI that recommends products for on Amazon or your playlist is not the same AI that drives a car. You know, currently it needs massive amount of data to do this for the implementation to be good at finding those trends and predicting the outcomes.

And it just requires a lot of oversight compared to where we see the future of AI going, which will not need as much oversight. It'll become more of your kind of partner, your collaborator in the future than where it is today.

David: So that's a great segue into the future for AI. Is it a Terminator-type scenario where we're going to be, you know, ruled by the machines? Or are we all going to have jobs? You know exactly where do you see AI going?

Tara: Right. I mean, there is that fear as you mentioned, right? AI could kill critical thinking. It could have a bias depending on the data going into AI, right? Because it's what comes in is what's coming out. You're going to see some kind of routine job displacement, and there could be some privacy concerns with AI.

But we do see it as it continues to move forward. It could actually invent new technologies, certainly medicines and solve problems that humans haven't been able to for like cancer. Because it can take all this information and it can just constantly analyze that data of everything that comes in. So it's pretty amazing where it can go.

And I think that would be, of course, everybody's highlight would be, wow, could we really actually get to a place where this thing will, you know, cure diseases by the amount of data that goes in? But again, you know, you see that, you know, kind of emerging opportunities within healthcare.

You could see that on the creative side. It could be content creation. They could start making films and video games, all by AI. Robotics, as we all know, The Jetsons. The flying cars could become a thing. Obviously, drones and delivering packages is getting better and better. We certainly, myself, really included, really wants that household service robot to clean the house.

But again, even, you know, cybersecurity is going to be a big issue and the better AI gets, it'll be better at, you know, stopping fraud before it hits companies' websites. Certainly, climate is an issue it could look to try to solve too on global warming.

And then again, you know, something in the future, and it's still probably easily 10 years off, is kind of quantum AI, which is taking AI and mixing up with quantum computing, which just becomes extremely fast and powerful. And again, that could lead to a lot of solutions that humans aren't able to do today. Or, again, even with drug discovery, that could take go from taking decades upon decades to mere months using these two together.

David: And so, you know, aside from Rosie from The Jetsons being part of our life in the future, as I look forward on where we're at in the cycle here, it still is very early stages for us.

Transitioning a bit over to investments right now, it appears we're in the phase of people building out a lot of infrastructure. Maybe you could talk to exactly what that lifecycle could look like on AI.

Tara: Most choose the cloud platform, right? Because it's scalable, it's efficient, it's lower upfront cost. It usually has the latest technology and so you've got faster deployment. However, you know, downside there is kind of the ongoing costs, privacy of your data we're all concerned about because once it's out there, you can't retrieve it.

So you know you've got to be very confident in the provider choosing to store your third-party data. So it's and it's got limited, you know, kind of customization. The big guys, you know, guys like Apple (Inc.) and Microsoft (Corporation), they have full control, right? Everything is on-premises. They, you know, have the servers, they have the large language models, very expensive, maintenance is really high. So and there is just of course some capacity constraints.

So most companies are kind of taking that hybrid approach, so using the cloud for a lot of their AI needs. But then again, in order to protect their data, they bring that in-house. So it's kind of a hybrid approach. So you're touching all the big players again, whether it's NVIDIA (Corporation) or Microsoft or Google (Alphabet Inc.), all those guys are the big players kind of on those platforms and the infrastructure to build it out.

You know, and then you've got the difference between, right, graphic processing units, which are really general-purpose processors. They do different tasks. They can run in a parallel environment, meaning doing several things at the same time. Or you've got something like a Broadcom (Inc.) that does ASICs (application-specific integrated circuits), you know, which is application-specific integrated circuits. Those are much more custom-focused and limited, so a lot of cryptocurrency uses ASICs.

So those are your big ones. Google's got its own custom chip for AI. And then you know it's cloud infrastructure, so massive data centers. And then it's data infrastructure, which is like a snowflake. So you've got a lot of players and more coming into this business every single day as people kind of continue to build out AI.

David: And so, you know, as I look at things right now on sort of this hyper scaling moment that we're at right now, where people are building all that infrastructure, you listed data centers, dumping money into training models into building up this AI. So far, we've seen about $2.9 trillion invested into new data centers and AI adjacent technologies, and we're seeing about $50 billion in revenue so far off of this. So not a lot of return on investors' capital inside the AI space so far.

As we're thinking about the investment environment, maybe we could walk through some of the items we mentioned. You know, certainly, the semiconductor aspect with NVIDIA and having their, you know, exceptional graphic processing units or these microchips that are powering AI. How about we talk a little bit about you know the infrastructure play as well as the computing play here.

Tara: Certainly, infrastructure and computing power, you have your NVIDIAs, your Broadcoms, really taking up a majority of their space. They're kind of the AI darlings of the world, and they kind of give all you the computer power. And then you've got anything from like cloud infrastructure, and of course, Microsoft, Amazon, Google all have that. You know, surprise out of nowhere, you know, with kind of the database, Oracle, within the last few weeks came out with massive contracts that were announced for multiple customers and the big guys.

Billions of dollars. No one even saw it coming. So again, this is a field that will continue to explode. Obviously, Meta (Meta Platforms, Inc.) is big in this area too, with AI and more of application-driven. So there are multiple players, of course, as you may have guessed, they tend to be your top seven holdings in the S&P 500 Index. You know, the huge difference between kind of this, because I know everybody worries about AI and is it a bubble? I mean, the technology is already here. It is already powerful. It is already widely deployed. I mean, from Google Translate to medical imaging.

Companies are already making billions of dollars off of this, compared to like the dot-com (bubble) that you know most of us live through, where you know the infrastructure was weak and expensive, and there was just a promise of the future. There was no real technology. There was no revenue. There was no profitability. There was kind of vague business plans. AI is very different in [the] fact that it's already here and people continue to build on it. And you will continue to see new players come into this space, as we continue to explore AI and the different models that could be used. But it does tend to, again, right now, center on those top few names in the S&P 500 Index.

David: Yeah. As we look at the investing landscape on AI, I think that that's [an] important aspect that that's really the bleeding edge. It's either the semiconductors through NVIDIA or the implementation through Microsoft, which is the largest investor in Open AI the Chat GPT's parent company.

You know, MIT, right now, Massachusetts Institute of Technology, finds that about 95% of organizations are getting zero return from investments in generative AI. Obviously that needs to change for this trend to continue. You need to start to see some traction. What are other areas of the AI wave that investors have been able to utilize here?

Tara: To the electricity side. Something like an nVent (nVent Electric plc) which supplies, obviously electric producer, but supplies a lot to the data centers. So, you know, we did see that last year too. We saw a lot of electricity stocks run based on the fact that this takes so much power.

And now, I kind of mentioned quantum computing. Quantum computing uses actually very little power. So right now and like easily for the next decade, it's going to take a lot of electricity using these supercomputers and running AI compared to what it will be in the future. Again, everything will become more efficient as players enter into this business, but that has certainly been an offshoot of it from the electricity side that people have been playing. Just again, because currently and for the foreseeable future, we'll be generating a lot of power for this AI to run.

David: So, yeah, I think that that's a great overview of a bit of the landscape here on AI. I think it comes down to that fundamental question of: At valuations at these levels, are they going to be able to continue to generate the growth? And as you mentioned, all these use cases out there, it seems like there's a path for growth. But growth at this level to be able to justify these valuations.

As we sit today, since ChatGPT was launched in 2022, the U.S. stock market is up about $21 trillion. The three names out there, Amazon, Broadcom, and NVIDIA, account for about 55% of that total rise. So they've definitely been the recipient of investor dollars out there, as you've seen a tremendous amount of enthusiasm for AI and AI-related securities.

Thanks for the interesting discussion today, Tara. For more on this topic, please visit www.commercetrustcompany.com for additional commentary. If you've enjoyed what you've heard, you can subscribe to our show on Apple Podcasts, Spotify, Amazon Music, or wherever you get your podcasts from.

Thank you again for joining us on Conversations with Commerce Trust. I'm David Hagee. We'll talk again soon.

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