Research @ Citi Podcast, Episode 9: AI in Software — A Multiplier or Subtractor?

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Transcript:

Lucy Baldwin (00:02)

Welcome to the Research @ Citi Podcast. I'm Lucy Baldwin, Global Head of Research at Citi. In each podcast episode, we bring you our thought-leading views and analysis across asset classes, sectors, and economies from around the globe. Now, let me hand you over to our host today.

Rob Rowe (00:21)

Hi everyone, and welcome to Research @ Citi Podcast. My name is Rob Rowe. I am the U.S. Regional Director of Research here at Citi. And thanks everyone for participating. With us on the call today is Tyler Radke, our co-head and senior software analyst here at Citi. Tyler, let's talk software, let's talk AI, let's talk GenAI — let's talk all of those exciting topics because they're clearly front and center in terms of everybody's focus and attention. And I would even say that you know, people's perception of this software sector as well as AI and GenAI is what's driving a lot of the ups and downs in the stock market. But before we go there, let's talk a little bit about where you see the software market right now in terms of June quarter earnings, and I know that you just finished that, but that you're probably going to be starting up on July quarter earnings. How are you thinking about the state of software demand heading into the second half and into 2025?

Tyler Radke (01:22)

Yes. Well, thank you, Rob. Thanks for having me, and hello, everyone. So, the software space, it's been an interesting year, right? We talked a lot about the GenAI headlines. There's been no shortage of hype, that's for sure, in terms of GenAI out there. But I think as you step back, I mean, it's been a pretty choppy start to the year, right, whether it was the interest rate head fakes kind of impacting software valuations, budget flush that we saw in Q4 kind of go away in Q1, and we put together a CIO survey every quarter. And what we saw in terms of the June quarter results was that IT budget growth worldwide actually slowed a little bit relative to the first quarter, and particularly in Europe, there was some weakness that we picked up in our survey. So, it wasn't a dramatic slowing. We're talking about ten basis points of IT budget slowing, and again, there's this possibility for rounding errors, but the long story short is that it's still very choppy out there. I think as I look at some of my coverage that is reported, some names are doing better than others, but it's not like a rising tide or lifting all boats. So I think it's very mixed. Really what it comes down to is I think enterprise companies out there are operating under a constrained IT budget environment, but they are looking to prioritize generative AI and what are going to be the future-proofed investments, if you will. So, things that may not be in the top three priorities, those things are starting to get more scrutiny. Sales cycles are taking longer, you're hearing things like deal delays, deal push-outs. But if you are in the top position for that AI budget dollar, those projects are getting green-lit, deal cycles are happening, and business trends are good. So, it's definitely an environment of picking your spots carefully, and I really think as we look at the priorities of IT spending and software

spending, you're seeing it in cybersecurity, you're seeing it in sort of getting your data ready for AI, clearly, spending money with public cloud companies, setting up models and in generative AI models. That's where the focus is. So, it's pretty choppy. Our view is that probably continues through year-end, especially given some of the political and geopolitical uncertainties, so, really comes down to a lot of company-specific stock picking here.

Rob Rowe (04:01)

So Tyler, when we think about 2025, I know we just published a Must C report on the digital transformation of the economy. I know that when you look back over the past decade or so, there's been extraordinary growth in both tech and innovation, AI as well, I think, in our economy, and certainly that part of the economy is becoming bigger and bigger as a percentage of GDP. So when you look at 2025, do you think given where valuations are now, that we will actually continue to see stronger growth on the back end of GenAI, or do you think there's a little bit of a waiting period here before we move forward?

Tyler Radke (04:44)

Yeah. So I think as we go into 2025 — and obviously, the economy and state of the world and employment rates and everything are huge caveats because I think those are closely being watched, as are interest rates — but as I just think about sort of the secular drivers, if I look out at where some of the leading research organizations, industry analysts are forecasting IT budgets to grow, they're actually projecting effectively the strongest three to five year period of IT spending that we've seen since the 90s or early 2000s. And while in some ways, that might cause a little bit of flashing warning signals just given how we know how that ended up, I think what it tells you is that — and by the way, those growth rates are significantly higher than the budgets that we're seeing today: they're in the range of 6–8%. Right now, we're around 3, maybe 4%, depending on who you look at. So, the industry folks are projecting that. As we hear from a lot of our software companies, there is an enormous amount of pipeline and customer conversations are not the issue. The issue really is budget and getting things green-lit. So that sort of makes me think some of this comes down to just a financing and maybe perhaps a macro or interest rate considered decision. I also think the other thing to keep in mind, at least as I look at it from the software perspective, is we're still very, very early, right? As I look across my coverage, there's only maybe one or two out of and frankly, across all publicly traded companies, probably only a handful of software companies that actually have AI revenue streams today. And I think what that means is over the next few years, you're going to see a lot more of those. Right now, a lot of these companies are spending a lot of money, they're hiring engineers. They're spending capex to buy GPUs. They're reserving cloud capacity. They're buying data to train models, they're buying models — all this sort of building work. And so I think you start to see this monetization come more into the picture, maybe by the second half of this year, but I think definitely into 2025. So, we are bullish, I think is the interest rate backdrop — again, hopefully that cooperates. That does sort of support the valuation side of the equation. And then as these AI revenue streams start to roll in and customers have a little bit more confidence on their budgeting, I really do think you could see growth rates pick up.

Rob Rowe (07:25)

And Tyler, two more things on AI and GenAI: So you mentioned that there's a handful of companies that are now kind of at least generating revenue from providing AI and GenAI. Two questions around there is one, which sectors are showing an early start there? What sectors do you expect — you mentioned cybersecurity, but what other sectors do you think will come online

in terms of that? And then I guess, lastly, how much of this is also dependent on outside or more external things to software such as semis, hardware, data centers, et cetera?

Tyler Radke (08:04)

Yeah. Yeah, so on that first point, again, and what I was referencing was software as a whole, which covers cybersecurity, application software, data management, analytics, front office, back office, vertical software, right? This is a broad-based statement. But I think what's interesting is you think about who those end customers are. Who is actually buying the software? Who are the ones that are setting up these use cases? It's incredibly horizontal, right? I mean, it's like, It's like saying, who is the target customer for Excel? Well, obviously, us finance junkies are big users of it, but it's the finance department at a biotech, finance department at a restaurant, right? So, as I think about AI, really, it's the next layer of automation. If you think about software, that's really what it is doing. You're automating processes and workflows. AI and GenAI is kind of the next layer of that. So where do you deploy it? I think you deploy it in areas where you have a lot of inefficiencies, where you have a lot of cost. So one area where we're really seeing a lot of traction there is contact centers. You think about these call centers, customer support. It's very much a cost center where you have folks and a lot of investments to support incoming requests. It could be for an IT help desk. It could be for a reservations line, customer service for credit card processing or credit card collections, right? Those are a bunch of different industries. You even see it in the developer space. So companies that are leveraging different Copilot-like capabilities to help make their developers be able to write code, track projects, and ultimately code faster and be able to deliver more applications and value for organization. Those are some big use cases. So really, it's across the board. I've seen it in financial services, across the pharma space, even areas like hospitality and even construction. So I think it's pretty broad based.

Rob Rowe (10:22)

And what about the supporting cast? Like we wrote a lot about in our digital transformation of the economy piece, we wrote a lot about power grid, data centers, semis, hardware. Is there an issue that the proliferation of this needs those areas of support as well?

Tyler Radke (10:45)

Yeah. No, absolutely, and honestly, it's funny when I talk to some of my investing client peers and — oftentimes over the last few months, they've been spending just as much time understanding the nuances of the power market or perhaps the semiconductor market if they're not as deep in that as they are in software, because that's where a lot of the money is going today, right? I sort of think of the analogy is, where we are in the cycle is we're building the house, right? What are we doing? We're laying the groundwork, we're putting in the foundation, laying the rebar, pouring the concrete. Software is more about the lights and fixtures and paint, right? So we haven't really decided exactly what paint color we're doing. And by the way, the models in GenAI infrastructure is orders of magnitude larger from a power consumption, even data center footprint capacity, than your typical server- or CPU-based architecture. And the thing is, every model iteration, as we think about some of the GPT-3 versus GPT-4o, they are almost exponential leaps in the amount of processing power and compute in raw power needed, right? So this problem is in some ways only going to get worse as these models get more intensive. So I think unlike or perhaps a contrast to other cycles is just how much other sectors and other resources are going to be required to sort of stand this thing up.

Rob Rowe (12:22)

And Tyler, let's step away a little bit from secular, although this is really a debate between secular and cyclical, I suppose, because I guess the question I always wonder about is, the secular influences, are they, can they overpower the cyclical ones? So let's look at this from a macro lens. Our Citi house views coming up right now is that we should see some rather substantive cuts in monetary policy, so we're looking at maybe two 50-basis-point cuts going into the end of the year and then starting in December, we're probably looking at five 25-basis-point cuts, that would be our forecast, and that's really on the basis that we may see a recession as early as Q3 or Q4 of this year, and see potentially negative real GDP growth. If you think about that context, does this affect in any way the secular changes that we've been talking about?

Tyler Radke (13:21)

Yeah. Now it's a great question and it's honestly something that we're asking ourselves and asking management teams and certainly we'll be asking our management teams at the conference that we have coming up. But as I look back at what's happened in software the last two, three years. As you mentioned, Rob, I mean, coming out of Covid, Software had this unbelievable bull market run, right? I mean you sort of saw this, forced, forcing function of Covid accelerating digital transformation, pulling forward a lot of this spend. And so what that meant is interest rates crept back up in '21 and '22. Software really did go through a recession. I mean, I would say close to 70, 80% of my coverage had to do layoffs of employees who had over-hired, everyone sort of saw the budget pressure out there. And certainly a lot of that was felt more in the tech space, the consumer space, digital native space. But even blue chip companies had maybe over-provisioned cloud capacity or overbought the number of seats of applications, for instance. So, I think in some ways, software has already been through a recession and customers' budgets have been right-sized. Certainly we've seen that in some of the CIO survey work. Now, again, if we go into a deep recession, which I don't believe our house view is calling for, if it's sort of a mild-to-moderate recession, I think it's not going to be too different from what we have. Maybe on the margin, things get a little bit worse. But I think IT budgets are already pretty constrained. Unless there's some disruption in this GenAI optimism, I don't really see CEOs and executives taking their eye off the ball. This is really a board-level and C-level conversation. I mean, you see some of the communication coming out of the Jane Fraser level. This is a priority for everybody out there. Long story short, I think it is a risk, but if it is a mild recession, I don't think there's going to be a significant disruption. But obviously, if the wheels fall off the economy, I think there's definitely a lot of potential downside.

Rob Rowe (15:37)

And Tyler, in terms of sort of the geopolitical situation or just looking at this globally, is there, would you say, because I know there's a chip rivalry, as they say, you know, around the world. Is there a software rivalry or is there a — you know, is the U.S. the principal driver of software development or do you think that it's more broadly based now?

Tyler Radke (16:04)

Yeah, it's a great question. So what's interesting and I know the global research team has put out some interesting reports on this in the past. I think we talked about the rise of India years ago. The reality is, if you sort of look at the TAM and aggregate spending of all software

companies and look at where they're domiciled today — so first, I'll start off with the perspective that most of software customers, roughly 55% or so, comes from outside the U.S. in terms of those organizations buying software, which sort of makes sense if you look at the global distribution of GDP. Now, in terms of the companies that are collecting that revenue and selling and making the software, it is much, much more U.S.-centric. Obviously, the large mega caps in the U.S., we all know who they are. You really only have a handful of other large companies — some in Europe, a couple in Australia. So it's very much a largely centered U.S. phenomenon. We all know Silicon Valley. You even have what's called Silicon Alley here in New York City, a lot of interesting startups that have now become multi-billion-dollar revenue companies. Now what I would say is a lot of the entrepreneurs oftentimes are foreigners, but the access to capital, the network, and frankly, the enterprise customer base of the U.S., I think really makes it a destination. So it's something to watch and I think obviously getting into immigration policies and all that is another subject, but those are the things that have sort of made the U.S. a leading spot for the software industry.

Rob Rowe (17:55)

And lastly, we're coming up on time, Tyler, but last question: Because we concentrated so much of this discussion around GenAI, are there other developments in software that we should be aware of, that are kind of, I guess you could call it non-GenAI or that are interesting that we're sort of, maybe not paying attention to?

Tyler Radke (18:14)

Yeah, well, look, I think it's — you're absolutely right. I feel like GenAI has dominated the headlines. We've sort of forgot that there's other things going on. So, what I would say, certainly cybersecurity is super important, right, and you've seen that with the number of the high-profile incidents this year with outages, and I think that problem is only going to get worse. Now, I think it gets interesting in terms of once you start combining GenAI with cybersecurity, and not only could that lead to more sophisticated cyberattacks, but also the ability to detect and respond in more efficient manners. So, I think that's super important. I'd say a bit longer term, what happens with quantum computing — I mean, those are things very much still in academia and very early on, but I would sort of summarize it, Rob, and just say, it's not just GenAI as a whole. It's sort of GenAI applied to each industry. And I think there'll be interesting new technologies coming out of that. So, we talked about security, there could be developer approaches. There could be the consumer approaches too. So, yeah, there's a lot, but I think it's sort of, whereas the — as this technology gets more mature, what are going to be those new use cases that this unlocks.

Rob Rowe (19:37)

Fantastic, Tyler. Thanks so much for your insights, and thanks everyone for participating today.

Tyler Radke (19:43)

Thank you.

Lucy Baldwin (19:46)

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