

# Morgan Stanley Technology, Media and Telecom Conference

## Company Participants

- Amy Hood, Chief Financial Officer, Executive Vice President

## Other Participants

- Keith Weiss, Analyst, Morgan Stanley

## Questions And Answers

### Q - Keith Weiss {BIO 6993337 <GO>}

Excellent. Thank you everyone for joining us. My name is Keith Weiss, I run the US Software Research Group here at Morgan Stanley, and very pleased to have with us this morning Amy Hood from -- CFO from Microsoft. So, Amy, thank you for joining us.

Before we dig in, I do have to read a brief disclosure. For important disclosures, please see the Morgan Stanley website at [www.morganstanley.com/researchdisclosures](http://www.morganstanley.com/researchdisclosures). So Amy thank you so much for joining us.

Always an interesting conversation with Microsoft between the commercial side of the equation, the consumer side of the equation. You cover such a broad swamp of what's going on in software and technology. I want to dig in on the macro side of the equation, first. And it'll take in two parts. Absent sort of the Ukraine-Russian conflict, what was the Microsoft you heading into 2022 in terms of the overall spending environment, particularly on the commercial side of the equation?

### A - Amy Hood {BIO 18040963 <GO>}

I think it's not dissimilar to what we shared really in January, which in some ways very consistent with how we talked about the demand environment for the past couple of years. The reality that customers around the world have of modernizing business process at a fundamental level to enable growth and to enable competitiveness, have been underlying demand, I think on a consistent basis.

Those pressures to modernize and be competitive maybe come from different places, depending on what industry you're in or where you are around the world. But the process that we have -- I think, sort of, call digital transformation for a lack of a better term for it, I think sits at the bottom of the demand curve, and we feel good about the signals, the conversations with customers remain very consistent on that

front. Maybe taking on different levels of urgency depending on what industry you're in, where you feel like you are in that competitiveness curve.

And competitiveness is defined, I think oftentimes we say and use and think about cost or cost per or how does you do something more efficiently, effectively. I think it's also about growing faster. What new markets can you be in. Can you quick up, Can you patient or quick in the pace of innovation, can you launch new products faster. Can you do simulations faster. Like, what is the goal.

And so I think that probably sits maybe on a consistent way for me and for the company. You always have ebbs and flows from other things that impact demand, but I think overall, it feels pretty consistent.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it. So right now there is a big other thing hanging over us, Ukraine-Russian conflict. Can you first talk about the immediate Microsoft response? You guys put out a press release about operations in Russia and Ukraine. What does it actually that you disclose and any kind of sort of sizing of the impact that you could talk to us about what that would mean in terms of how much of Microsoft's businesses in Ukraine and Russia?

**A - Amy Hood** {BIO 18040963 <GO>}

Sure. Maybe we should start with the most important thing which is, the war in the Ukraine and the unjust and unjustifiable and illegal envision is the most important point that we released in our statement. We've been entirely focused on a couple of things. Number one is life safety of our employees in the Ukraine and being able to just provide cybersecurity services which are part of our ability to provide help, where help is needed.

I think ultimately, our ability to contribute to what will be a -- and here is a humanitarian crisis remains something that both us and our industry and every industry can contribute to helping alleviate. We did announce that, of course, we're complying with government sanctions. And then secondly, we've stopped new sales in Russia -- to customers inside Russia through our Russian subsidiaries.

In terms of impact, I think for this audience, you mean revenue. I tend to start with everything else, and revenues. That was the least important concept, you talk about when it comes to this topic. But Russia represents less than 1% of our revenue and I assume that there will be an impact to that less than 1% of our revenue. But frankly, it would not be a focus.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it, got it. There is just a broader concern amongst investors of contingent, resource crisis are going higher, consumers could get scared out of spending. In your view, we talked about these digital transformation initiatives. We've seen your bookings do really well in the back of these digital transformation initiatives, which tend to be multi-year endeavors by these enterprises.

How do you feel about the durability of those digital transformation projects even in a more disruptive sort of macro environment or even with the threat of potential recession in Europe?

**A - Amy Hood** {BIO 18040963 <GO>}

Yeah, I think in general, and we've talked about this. Whenever there are -- I think the question generally has been asked about labor was the first input costs that we got asked, would it impact digital transformation? I think other inflationary pressures such as I think, in this instance probably energy pricing tends to be the first one, people talk about.

The best way we know how to help customers talk through how to control costs, how to be more effective, how to make every dollar you spend, be spent in the right place with the most impact is in fact technology. It's always been a way to address fundamental challenges. In some ways, I think that's true across many topics being able to speed the pace of addressing those challenges.

And so I think for us the conversations tend to still be around that. It's about how do I get the most out of my workforce? How do I get the most out of the unit of input? How do I get the most out of my COGS pricing, right? How do I find a way to make sure I'm running the most impactful programs, whether those programs are our marketing program, sales program, engineering program, a pricing change? And I think that tends to be the conversations we do in fact still have and so.

In many ways, it's hard to put what's happening into the bucket of -- disruption is not the right word. But I do believe in the durability of a transition that says, as we talked about tech will be a larger percentage of GDP, a significantly larger percentage of GDP, tech enabled change will continue to be a tailwind for those that are well positioned across segments and industries and across the globe to deliver that to customers and so because I believe that is a durable trends, it keeps me pretty grounded. And I think it keeps the customer -- our employees focused on the right things amongst other distractions, whether that's a question around how do I -- how can I help a customer? That's the right question. How can I help a customer address their biggest challenge?

And while you may have a labor challenge, the right question is, let me make the most of what you have. Let me show you tools that don't require advanced engineering degrees or computer science degrees to be effective, right. And so I feel really good about those underlying trends for us.

**Q - Keith Weiss** {BIO 6993337 <GO>}

It sounds like you're talking a lot about -- you said, to get the most out of -- get more out of it is productivity enhancing types of technologies. It reminds me of what Satya has been saying about software being a deflationary technology in an inflationary environment.

**A - Amy Hood** {BIO 18040963 <GO>}

I think that's, yes. He's -- I think that is, in a summary, how he thinks about it. And then when you think about deflationary pressure and I think productivity is a way of saying it. I think in our world, where people say productivity, they think about the Microsoft 365 Suite and really what it is that so much broader than that. It's like wait, if you can cut the time to develop a new product, I guess that's productivity.

It's not the standard definition of productivity that people use when they apply it to Microsoft, or maybe you can do business process work with non-CF degree employees to change the process and take out some steps and how it be done in half the time. That's productivity. It's not productivity in the way, I think that -- people people think about us. So I guess productivity suite, it's fundamental enhancement to productivity. Maybe, which is the curve everybody has been trying to actually improve for decades.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it. So I want to shift gears a little bit and really dig into some of the biggest opportunities ahead for Microsoft. We recently did a big report on Microsoft looking out kind of over the next five years in our view and what were the big growth opportunities are and we cut the report to kind of two segments. One was leveraging the broad user base of Microsoft.

I think you guys reported over \$400 million commercial office users out there within your base. And there's a lot of your initiatives that are bound sort of the user and sort of more solutions you could drive into that user. The second bucket, we put it into with the platform. Right. And that's sort of building larger solutions on top of Azure.

Starting on the user base side of the equation. I think, one of the key focal points for investors is obviously Office 365 and where we are in the transition? And can you talk to us about kind of where are we in terms of sort of moving over to Office 365? The seat growth in the overall commercial base I think has surprised people the upside, is there still more room to go on there? I mean we'll start on the Q side of the equation, how the seats growing?

**A - Amy Hood** {BIO 18040963 <GO>}

Keith, your questions are sometimes so long. I need to bring a notebook. But I think we start -- I got through most of it and then I just even with my real focus on your speech, I got pulled this straight. I think what you actually asked was the Q, that part I remember, and I'm guessing, since that was the key, it's about seat growth and really -- and then we'll get to, I'm guessing prices. The P-times Q that -- so you could've just asked me (multiple speakers) about I could've really killed it.

Equation to how I work. I mean, I'm going to have you do an excel at time. It's just to be easier for me. So back to users. There's really -- I think in some ways, if I look back a decade almost, to how long we've been talking about Office 365 or Microsoft 365 and our ability to land a solution, I think we probably underestimated the number of people for which this was applicable, and our ability to build new solutions to address them.

So what you've heard talk about recently, and you've seen that in our seat growth, especially over the past, I would say, two years where people have been surprised with this durability is that, the ability of that solution set to reach into two places more directly.

First would be small and mid-sized businesses, which for us tends to be -- a definition of that would be entities with less than 300-ish seats. Right. So they are still a pretty big, but we would call that small to mid-sized in our language that we use.

And then secondly frontline worker. And there is about 2 billion of those around the world for whether you can address with different types of solutions that really make a difference to that fundamental productivity we've been talking about. So when you're seeing the seat growth, and is it durable and how far we along the journey, we just have a long way to go, with solutions that can I think, really add fundamental value to their productivity, to the joy of doing your job, being able to complete that job easier, feeling empowered in your job and so I'm excited about the progress there. And so that's the Q. I don't want to guess. But if you can ask about the peanuts, I'm ready.

**Q - Keith Weiss** {BIO 6993337 <GO>}

All right. Next question, what's the P look like? I just keep it short enough.

**A - Amy Hood** {BIO 18040963 <GO>}

Here we call back Keith at work. We call that the growth mindset, because when you get feedback, you take it in and you learn and I get feedback a lot of work on this topic and I was just going to say, you did great.

So on the peak, which in this sense, I'll talk about as both pricing, which I know we get asked about and price changes. And then secondarily, our ability to have users adopt more of the suite or more solutions to raise price overtime.

So first I feel really -- I feel good about where we are on pricing. We have some price changes go into effect, again, this month, beginning at next month. I lose track of March this month. Great. It's March. And so the ability to realize that price, I feel strongly about there is a ton of value and the SKU. We continue to add value and so I think that's being well executed.

The more exciting part has always been the ability to add new value to SKU for users and companies around the world to feel and get more value. In some ways, I think we've talked a lot about security. So people always kind of start and stop with security as the value and because we've given more I think, revenue points on that, people have an understanding of how big that opportunity is for us.

Beyond that I think compliance and there's a lot of room, I think, to continue to move people as we've said E5. So, security, compliance, analytics value, power of BI is really the default tool for analytics and it's to come that, we've seen great growth, I feel really good about our progress on that.

And then finally one we've been talking about a little more lately, Teams Phone, which we've talked about as voice and telephony. We've seen really strong growth there as well. And those pillars, I think, add a lot of opportunity for us, right, to both cut costs for customers, and let them have a better and more integrated experience.

And so we've got some room for sure on ARPU as well, and the job there is to continue to make sure people understand the full value of the suite. All four legs of that E5 tool have a ton of utility to them and they are quite competitive on their own. And then if you think about them as a suite, certainly offer very compelling value. So we've got some good room there as well.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it. Is there ever a time when will see in E7 SKU of that more functionality comes into the suite?

**A - Amy Hood** {BIO 18040963 <GO>}

It's interesting. I get asked that a lot. And I could see why in excel, if you go 135, there's a decent question on 7. And so I would tell you though, right now, there's been a lot more focus on whether or not -- and we continue to think through this, and you've seen us move a little bit down this path, whether you're better off offering some standalone solutions that you would sell in addition to E5 and may be not call it a suite.

I say things like that, Viva, it is a terrific example. Viva will be monetized mostly outside of the suites. That experience is resonating incredibly well with customers around the world that we've just really started talking about, it releasing very early components. The desire for employers to be able to have a real pulse in terms of employee engagement, employee learning and skilling, right, that blasts the type of, I think, example where I would think. I'm not sure that's the right move is to put it in a suite. Got a great standalone value, people should adopt it and deploy it directly. Having that be a direct sale makes a ton of sense to me.

The other thing to think about is a lot of the new -- I would call productivity tools, may in fact look a little bit more like consumption that you would normally associate with Azure, maybe you have on the backend, limits, right, and that would be -- deploy it and the more you use the more you put pay. Otherwise -- and I guess it's value pricing. But it's -- I think I tend not to limit the scope of Microsoft 365 or Office 365 to a concept that says it has to be in the suite and it must be for user. It's pretty narrow. It's actually -- I wouldn't say pretty narrow, I now believe it to be narrow and too narrow for what that cloud opportunity and footprint can be.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it. What came into my head, did not in necessarily E7 offering, but like a natural extension of what we've seen, Power VI is going to be in E5 suite, the power of platform more broadly. There are two other legs of that stool that we're hearing good indications on that. There is a lot of customer demand for that are automating

those processes. Can you dig in a little bit in terms of the sort of the opportunity around Power Platform and where you guys are seeing the initial fraction of that?

**A - Amy Hood** {BIO 18040963 <GO>}

Yeah, I think it is if -- you were to ask me, hey, in terms of proactive conversations with customers, where they bring tools up, this would be near the top of the list. I think for very good reason. We just talked about, if you define the desire for deflationary pressure, is the ability to adjust business process effectively with a quick time to value, using labor that is closer to the problem as a subject matter experts,

Let's say, you look at that problem set and say, gosh, what would be a good tool? Well, it would be Power Platform, being able to take a far broader parts of the organization, no matter what organization or industry you're in, apply that work in those workers who are closest to the workflow to the problem solving, being able to have them deploy tools. I think, which people like to call low-code no-code but it makes people like me, to be able to deploy business process adjustments.

If I can do it, it means, trust me that many, many people can do it. In our finance organization we see it every day. Our finance team is able to capture those business changes without needing. Although I love our core engineering and IT organization. If we're capable, we should do it and if you get compliance and security by default through those processes, there's really no better people to be adjusting and making those decisions.

So I think what we see in our own organization or in my own organization is certainly what customers are seeing and I think it's a great opportunity for us as a company to especially in a place where labor and labor-constrained is a real challenge, to be able to have a product that is in the right place.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Right. Is it -- I mean is that where you're seeing the initial question, like when we think about sort of RPA tooling, robotic process automation and low-code, oftentimes it's starting in the finance department and the accounting organizations. That's the whole true for Power Platform as well?

**A - Amy Hood** {BIO 18040963 <GO>}

I'm not sure I could narrow it in that direction. We've seen it -- seen that in marketing departments. We've seen that in supply chain. We've seen that in finance. I think there's a lot of places. I think it more -- I have always felt like, it's not necessarily about the certain processes are easier to apply it to, it's more about the desire of an organization to effect change.

So I might answer that with more of a culture comment than necessarily certain products or industries or more. It's easier or not. It's just more I think a world view.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it. I want to touch on two other of the more kind of user base products. One is LinkedIn, which I think has surprised a lot of guys to the upside in terms of...

**A - Amy Hood** {BIO 18040963 <GO>}

Lot of people,

**Q - Keith Weiss** {BIO 6993337 <GO>}

A lot of people, the upside, that -- the lot of people to the upside in terms of the durability of growth and that solution hitting the -- really hitting the right nodes in terms of sales enablement, but also kind of recruiting, particularly in labor market. Can you give us a little bit of an update on kind of where we are with like the software side of the equation when it comes to LinkedIn?

**A - Amy Hood** {BIO 18040963 <GO>}

Yeah. It's interesting. It may have surprised people, I would say, probably didn't surprise us as much. LinkedIn is an indispensable tool for millions and millions of people around the world to find their economic opportunity. So if you boil down the purpose of an entity to allow people to better themselves to their families and better their security, by finding the right job opportunities for them, by getting the right skills.

The application of that tool then is quite broad. And the utility is quite needed. And so if you think about -- really and I think what Ryan and the team have done there is quite extraordinary in terms of their execution and relentless focus on mission that matters, which is to deliver that experience in a better and better way everyday.

And so I think what you've seen is real growth in users but also real growth in engagement. There is fundamental things then provide -- as long as you're providing and you keep it your core that mission, it then has utility for recruiters and HR organizations around the world, has utility for marketing teams around the world in terms of business to business connections and you've seen that in some of the ad growth numbers we released.

We now have the four businesses that LinkedIn all reaching that billion dollar threshold and the organization itself, still growing at a very healthy clip given its scale. And I think it derives from a relentless focus on the member. And as long as I think the team is focused on that, adding value and whether that's through mobile capabilities or whether it's investing and really critical things when you have a pretty remarkable labor market, maybe skills based hiring which I think people are going to hear more and more about, adding tools to address that to make sure people can find the exact right talent regardless, maybe of some of the other more historic ways to find talent. So I'm pretty optimistic about LinkedIn business.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Excellent. I wanted to talk about Dynamics 365. And I think it's a under-appreciated part of the story. I math sort of the growth trajectory of Dynamics 365 versus the



other sort of big SaaS companies that we think about ServiceNow, Salesforce and Workday, Dynamics 365 is right along with the leader ServiceNow within that, as I said it passed through \$4 billion kind of annualized run rate has been as good as anything we've seen in SaaS.

What's working on that side of the equation? You re-platform a couple of years ago. How are you guys, able to scale like that and what's the potential on a go-forward basis?

**A - Amy Hood** {BIO 18040963 <GO>}

Yeah, I think in -- and I think we're taking a journey down the P&L, which is interesting. And so next, literally, visually, in the P&L it's (inaudible) So it makes sense in my excel spreadsheet. So this team has done a nice job. Five years ago, as you said, we did a re-platforming, but more importantly I think what we realized is that we needed to make Dynamics 365 in addition to the most modern business process reinvention application set.

It needed to be module -- I can't ever say this word, [ph]mod juvarized. I'm not even sure that's the word. Now that I've said it. The point being, we needed to make smaller more consumable pieces, right, easier to deploy, quicker time to value, more applicable to your industry or solutions that.

When the team has done that, it's both -- how does that has a great tool and a more focused go to market. Then you say, well, what really can make Dynamics 365 different? Those two things make a lot of difference. But of course, it's also its applicability of the Microsoft Cloud and what problem that you are really trying to solve and you start by saying, number one, you need to focus on data problem. You need access to the right data to make good business process decisions.

Secondly, you want to apply AI where you can to that problem to make decision making more -- with more effective and more efficient. And finally, you want to make the tool accessible. And I think Dynamics is focused on those things, enabled by the fact that the Microsoft Cloud has a lot of ability sitting at the platform layer to help the Dynamics team achieve those goals, and I think in a really innovative way.

It also took frankly some investment on the sales side. Sales process is a little different for business applications. It takes some time, but more importantly you sell to different people. We thought a lot of people in the buying community inside an organization. But there is members of people who have budgets inside orgs that we didn't spend as much time with by the nature of the business as we were in. And really when you think about where is the Dynamics applicable, Judson, our Head of Sales, often says it's applicable in every room of your house and I think that's a good way of thinking about it. Meaning it's applicable at every component of the business, every budget and so the ability for us to address those needs to really focus on customer solutions, focus on customer problems, it's been a focusing point for the cloud story even beyond just the Dynamic story.

And so I think you've seen that in our results. I think it's a place where there continues to be very -- there is a lot of opportunity for us to continue that growth. I think you'll see us talk a lot about more industry level applicability, helping people understand exactly what problem they can solve in their industry, not necessarily by adding technology but we're adding context which matters a lot.

So I think it's one of the places I started with Power Platform. I was excited about that. And we're excited about LinkedIn. So now I'm excited about Dynamics. I'm excited to -- you're asking about next. You're on a good streak.

**Q - Keith Weiss** {BIO 6993337 <GO>}

One more question on Dynamics, the target customer for their, I think a lot of investors think of it more as a mid-market.

**A - Amy Hood** {BIO 18040963 <GO>}

I know, it's not.

**Q - Keith Weiss** {BIO 6993337 <GO>}

I think all that for saying that...

**A - Amy Hood** {BIO 18040963 <GO>}

No, it's not about folding. This for me is a 100% -- the only proof is the who's adopting it.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Yes.

**A - Amy Hood** {BIO 18040963 <GO>}

Right. As I said like, I'm a data person. So we develop products maybe historically, as you know that team was developed through acquisitions done long time ago. And the acquisitions we did were more focused in the mid-market. I would say, not sure how to define it exactly, mid markets a fair term.

But really what this does is, these are about -- the ultimate department deployments. Maybe organization deployments. They run alongside other business applications. They may be one next to or around, maybe it's -- and so I think now it's safe to say, we've seen some of the largest organizations in the world adopting Dynamics to solve a problem.

So I think it's absolutely fair for people to have thought that's the market. I think we actually even told people that was the market. I think at this point the market is, if there is a problem that can be solved by a module that this best does, then that's a good customer for us. And we should help them do that.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it. Want to shift gears to more platform side of the equation and talking about sort of the big growth driver in our model at least which is Azure. And the market opportunity ahead for Azure, Jason Zander, the EVP of Azure, he talked about a top-down market for Azure, the TAM being as highest \$4 trillion, \$1 trillion if you look at it just from an IT specific. These are massive numbers. Can you help us understand where does the budget dollars come from?

**A - Amy Hood** {BIO 18040963 <GO>}

It's interesting. I think, if we go back, and I think Satya and I both talked about this relatively consistently. Every time we've thought the market with size excess usually been bigger on this topic. And it's almost as if you took every line item, literally everyone not like the P&L, I mean literally every PO, purchase order opened, every process run inside any company around the world.

And said, can this be run more effectively, more efficiently? And the answer likely is yes. And the tool to do that is likely technology. So then when you ask somebody how do you define how big that market is? The answer is it's a very big. And then you ask, okay the two other -- are there businesses that are possible because, you can now run a distributed system with real-time data, enabled by AI, are there businesses that are possible, absolutely.

And so I think it's why you see -- I think most people feel incredibly optimistic over any period of time about the size of the market. I don't think anyone feels constrained by market TAM. You take other constraints, not that one.

**Q - Keith Weiss** {BIO 6993337 <GO>}

So when you're talking to a customer about Azure, and then I know customers are thinking about it in terms of sort of where does the budget come from. Traditionally we've seen -- we've said it comes from servers and storage and not buying anymore, but then it expanded to the software stack and are buying the databases anymore and that's coming through Azure. But I'd imagine it also extends to telco and networking and human cost and administration. Do the customer see it that way or do they understand sort of the full value replacement that comes with Azure?

**A - Amy Hood** {BIO 18040963 <GO>}

Interesting. I would tell you, most of the conversations do not start with, where does the budget come from? I'm not trying to be dismissive of budget. I love the budget, trust me, really take great pride in budgeting. But customer conversations tend to start with, I like to grow faster. I'd like to win more. I'd like to better serve a customer. I'd like to improve customer state. I'd like to reduce churn. I'd like to grow price. I'd like to retain margin. I mean it's just not about cost in the way that the questions raised. It's much more about like the problem to be solved. And the problem to be solved, hence they take about language to it.

The implementation is generally and can be Azure, Dynamics or Office 365 or other security, it can be a bucket of good to that problem. But it tends to not start there. And so when people say, okay, well, how does it get paid for? It may be, to your point, replacement dollars moving your budget priorities around. It may be that you say, gosh, I mean, if you can lower churn by 0.5 point, there's a lot of top-line growth to afford costs. As you get room room in the system, so I feel like, I don't know that I've been in many conversations where that's been the energy of the room I'm in. But I'm sure that it lands somewhere, right, ultimately, but it's much easier, I always say to find money in their budget, when the passion of the team is around growth. You can find the money, even if it's hard.

**Q - Keith Weiss** {BIO 6993337 <GO>}

To me, it's -- it sounds like over the past four or five years, the conversations that Microsoft is having and I'm assuming like the contracting behind that is shifting from being a technology provider to a more strategic relationship you're forming with these companies like in Albertson or forward who are looking to really drive change in their business. Is that -- the structure of the contract of structure of that relationship today different than it was five years ago or 10 years ago when Microsoft was more of a technology provider?

**A - Amy Hood** {BIO 18040963 <GO>}

Interesting, Keith. I want to say yes to that. The reason I say it's different, but maybe not materially different. We've always tried to have customer -- to have contracting reflect customer desire for that structure. Having said, as you all know, because you can see it in sort of the rhythm of our exploration base, I get to drone on about on the quarterly call is, there is a reality to the three-year contract, especially on the office side or on-premise part of the business or the Office 365 business.

What we are seeing and I think that's what you're alluding to is maybe on the Azure side of the business, are those contracts taking a very different flare? And do we try to make them look like the old? The answer is you tried really hard not to make them look like the all, because it's not the right answer for the customer. So you may actually and we've talked about it, you may get these big long contracts, you know, and you'll hear us talk about the remaining RPO with longer than a year, less than a year and all of that is just the nature of that transition.

So, yeah, you got some big ones with commitments made upfront. Maybe you do it for price reasons or maybe you do it because you want to work and have laid out specific workloads and that made the contracting a better tool or maybe frankly you're really large customer or you just prefer Pega and pay as you go, right, maybe that's just your preferred method. That's okay too,

I remind people that Azure is unique in that regard. Right. I mean you got to use it for it to show up on the P&L. So whether you contracted it and it's sitting at book -- sitting in the RPO, it only really really counts, if it gets deployed use loved and adds value, which is revenue. And so the contracting language far more important to just make sure you're getting workloads deployed and the customer is getting value far, far more than it is two years, three years, five years, seven years, two weeks.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it, got it. How should investors think about the Azure growth equation evolving in terms of, is it workload growth, is it -- or the mix between sort of what's workload growth, how much of it is moving from sort of more core services like infrastructure service up to the platform services, like a database or machine learning service on top of it? And I guess it comes back to the Ps and Qs, is it more of a Q equation still on a go-forward basis or now are we getting higher value services becoming a bigger part of the mix and that's increasing the P?

**A - Amy Hood** {BIO 18040963 <GO>}

Yeah, I think if you go back to TAM, if you assume you have a market this large, I don't generally feel a gap. There is a Q challenge, right. Q in this instance on a consumption model is just literally growing usage of workloads and adoption. Right.

And the workloads you picked and are they expanding and I think that tends to not be the constraints, would be, I think what you're asking is pricing and margin actually tend to be the bigger nuances, right. When you've got Q growth, it does depend where it lands in order to how really gross margin looks.

I still feel good about platform. But what I think you would call core infra growth. But you are saying and we have seen obviously very good growth in our data platform layers and increasingly other what we would call premium service layers. And it's not just workloads shifting, right. I think Q feels constrained to people who feel like it's left hand, right hand, right.

Take on-prem workloads that exist, shift them like shift right. That is not what being seen today, right. It's new workloads, new things that frankly weren't being considered before and so you don't see that just a shift of spend, it's a shift plus new, And it looks quite different, so. I think -- and when you see those shift to new, it's a combination of data generally and core platform overtime.

Sometimes people ask me which one would be bigger? I know that I have an answer to that. I expect Q to grow in both. Growth may look better on the data side, just because it's off a smaller relative base given when the transitions happen, But I'd have to think more about that one.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Even if it has been getting in education on how consumption models work, right. This is definitely different firm. We've gone through perpetual licenses to subscription now functions that I think we're doing a lot of learning. How should we think about or how do you think about price performance. Right. How much price performance are you looking to push that to the end customer, so they consistently see sort of increasing value from the platform. How much sort of price performance and efficiencies that you've garnered from Azure become better gross margins?

**A - Amy Hood** {BIO 18040963 <GO>}

I'm trying to think which of your questions, I'll start with. I think number one, we -- this is a competitive market, where prices are set by the market. So I don't tend to think of it as, hey, wait, we have all these efficiencies. We've gained where do they sit. A better way to think about it is consumption mark -- it's a marketplace like any other in some ways.

It's a competitive market with lots of big players competing aggressively, means prices move down with time and new prices with new workloads, new capabilities, whether it's higher differentiation tend to have more margin and others have less.

I don't -- and then I separately believe in a competitive market that you should and do, spend a lot of time making sure your fundamentals are terrific, which means you focus on cost per unit of work. You've seen that in the gross margin improvements. Team has done a great job frankly on that front and continues to do a great job on that front.

The reason you focus on that is because ultimately in a competitive market, cost is price. Right. You want to make sure you continue to address in fundamentals, great service, great quality, easy deployment, low cost, low cost to deploy and differentiation lets you have leverage in margins.

So we'll stay focused on gross margin. We will stay focused on winning. We'll stay focused on taking share. And we'll stay focused on the fact this is a very large market, that can have I think, a lot of good tailwinds and we're well positioned in it. So sort of, you have gives and takes on that on the margin side, but in general, we focus on, I think where it's controllable.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Right. One last question on the commercial side. I want to touch on a couple of consumer and more corporate strategy questions. Within server and tools, that's been a much more durable grower than a lot of people imagined. Hybrid cloud advantage has been a great program for Microsoft, unlocked a lot of sort of I would say latent demand, if a -- CIOs and sort of your customers not getting locked into one side of the equation and the other. Does there come a point where the customer takes advantage of that hybrid cloud advantage and start shifting more to Azure versus on premise and that starts to become a headwind?

**A - Amy Hood** {BIO 18040963 <GO>}

I don't know, I would call that happening a headwind. The way we've always thought about the hybrid program was really customer needs, customer need and desire to run the workloads in the most effective place to run the workload and where they want to run -- where frankly they want to run it.

The enablement of that flexibility is what we call the hybrid program. And so for us, and I really do believe this, as why I focus on the overall KPI even though everybody really just doesn't want to do that, it's because that's how customers purchase. And so if you want to -- and that so I'm always saying like listen, adopt flexibility.

If you don't know when you want to move workloads, if you don't know, but you're committed to Windows and you're committed to stipple, then this is a great and flexible option to give customers the absolute most control. Now overtime, I guess they move more to Azure, I would quote unquote heavy headwind to on-prem revenue. I don't know in my world view that the headwinds strategically.

That just customers continuing to use our products and services in the best way that works for them. It would likely show up as Azure revenue and it would then not show up on-prem revenue. I don't feel badly about that and I -- don't lose a lot of sleep over it. If the reason that you see flowing on-prem growth is you're seeing faster shift to Azure, I view that is a good thing.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it. Moving to more personal computing.

**A - Amy Hood** {BIO 18040963 <GO>}

We got there. We've got three minutes left, my friend. I mean, almost made it through the P&L. We're going to get through it.

**Q - Keith Weiss** {BIO 6993337 <GO>}

I'll shorten my questions even more. I would say over the last two conference calls, the tone from you and Satya on PCs has been surprisingly strong about sort of the changing nature of PCs on a go-forward basis. And probably a question I get a lot from investors is like what are they saying that we're not. So, if you talk to us a little bit about that more positive tone on PCs.

**A - Amy Hood** {BIO 18040963 <GO>}

I think in some ways, the bigger issue and you just hearing a positive turn on PCs is frankly the deliver or which is made. I should have been talking about Windows. Absolutely, the role of large screen devices to your productivity and your ability to do your job every day. What we saw in the past two years was proof that that's true, and have been true.

The utility of that device in my inability to accurately explain it, may in fact either is issue, people are just now realizing, wow! she just figured out. Windows matters. No, I just figured out how to talk about it. And so the reality is, a large screen device over the past couple of years, we've all been reminded of the role it plays. There are more PCs for household and more time being spent on PCs. We're continuing to see that even with hybrid.

And so there are just jobs to be done and it plays a great role in many jobs to be done. Windows 11, I think it's a great investment and having a modern beautiful user experience for Windows. We're seeing good response to it. But people love Windows 10 too, and that's great. I'm thrilled, in fact, that what you're seeing is a more holistic version of what Windows and the experience should be for user.

The difference that that world view is made is evident, I think in many places. It's evident in the strength of the Microsoft 365 Consumer subscriptions. It's evident in browser share grant games. It's evident in the search numbers. It's the simplicity of having Windows work for you as a user, and it being a meaningful positive experience. That makes your days better.

I have said, you know, Excel may brings me joy. But other things bring other people joy that they do on a PC. Gaming is a terrific example. Windows has always been the place people games, always. And bring you up your back, integrating it into a user experience. I don't know, I find it, I think in some ways, this is one where whatever review form I got this year should say, she forgot about to talk about Windows for a long time. And now we're going to remedy that because you're seeing it in users. You're seeing it in usage. You're seeing it in the market.

We've had eight quarters of demand that's never been seen before. People talk about supply constraints or absolutely as supply constraints in the system. This is the eight highest quarters of PC demand we've seen ever of shipments. So the market is stepping up. Partners are stepping up. But there is more demand than there is supply, even with record shipments. And so, I feel good about -- I am optimistic. I'm more optimistic about Windows can mean to a user. And how we can continue to make it better, more integrated, make it easier to do the things you like to do. For me that's Excel, for others maybe something else is fun.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Got it. I want to sneak in one last question on OpEx. I think people have been very impressed by your ability to both trying to fund the growth within Microsoft but also continually find efficiencies within the business to grow operating margins. Is there still kind of room on the efficiency side of the equation as to fund that equation on a go-forward basis?

**A - Amy Hood** {BIO 18040963 <GO>}

Well, I mean, we had 16% head count growth last quarter. So in many ways, we -- I'm excited to be able to do that. We spent, I don't know 40 minutes talking about our optimism over any long period of time on revenue and the opportunity that exist. In order to capture that ultimately you need people, you need people who are excited to work on it. People who want to sell. People who want to help customers deploy. And so I actually feel really good about that investment.

Even more so, I also still believe you can spend dollars better. I mean the team, -- I mean, I don't know, I just always think if you're not reinventing yourself, if you're not moving your dollars around, if you're not asking yourself every single day, can you do better, can we move things around, can it make me -- maybe we don't have all the right bets on the table.

If you don't move it, ask yourself, I mean I love it. I mean, that's like. I mean. Okay, second to excel, I love headcount budgets. Because to ask about asking yourself every day can you do better? Can you do better for customers? Can you do better for the engineering team? Can you make their process work differently? Can you



change your customer acquisition costs? If I move this team, would they get something shift faster? Like it's just, I don't know to yeah, nobody is also hooked you, Keith. I can still find ways to be more efficient. We can still do things better. And yes, we still need to grow.

All those things can happen and still have good operating leverage. But the best thing to do is top line growth mix everything else is here. So if we execute at the top and makes a lot of moving around far, far easier day to that, so.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Outstanding. Well, Amy, unfortunately, there just to the end of our allotted time slot. But thank you so much for joining us. Again, a fascinating conversation.

**A - Amy Hood** {BIO 18040963 <GO>}

Well, Keith. Thank you. I'm sorry, I changed your question little but, and thanks, everybody, good to see everybody.

**Q - Keith Weiss** {BIO 6993337 <GO>}

Thank you.

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