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**CC:** Frank X. Shaw; Jason Graefe; Chris Capossela; Caitlin McCabe; Colette Stallbaumer; Bonita Armstrong; Cynthia Thomsen; Steve Clayton; Jill Austin  
**Sent:** 2/22/2019 11:32:59 PM  
**Subject:** Quartz Microsoft Series Recap  
**Attachments:** A Complete Guide to Microsofts Comback.pdf; A list of all the lists in Satya Nadella Hit Refresh.pdf; Microsoft CEO Satya Nadella on his toughest challenges and biggest competitors.pdf; Microsoft is embracing a future where we communicate without words.pdf; Photos\_When Microsoft Ruled the World.pdf; Steve Ballmer played a powerful part in Microsoft's comeback.pdf

Satya,

Sharing a recap of the [Quartz series](#) that has been running this week covering Microsoft. Titled "The New Microsoft", the series wrapped up today and in total eight stories posted that ranged in depth, length and treatment – from the opening [State of Play feature](#) that broke down a number of strategic decisions, to an analysis of [10-K filings](#) to understand Microsoft's competitive landscape, to a [Q&A with you](#) pulled from the thought leadership event last month.

Overall, 



Below is the collection of recaps each story, organized by date. I've also attached PDF's of the stories given the paywall for your convenience.

-Steve

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**Coverage Recaps**

[Monday, 2/18](#)

[Tuesday, 2/19](#)

[Wednesday, 2/20](#)

[Thursday, 2/21](#)

Friday, 2/22

### **Monday, 2/18**

Designed to be a crash course in understanding the strategic decisions that fundamentally transformed the company, the first story sets context for the environment the company was in a few years ago - still massively profitable but facing challenges in mobile while Windows growth was slowing. Dave spends much of the story examining some of the early strategic decisions made to turn the company around, from changing the culture (though he largely breezes through this noting it's been well documented), to an embrace of open source to building the company around the cloud, accelerating the transition from a licensing model to a recurring revenue and consumption model. He quotes Mike Spencer about data centers and uses a Kroger co-development example that Gavriella discussed with him.

The second piece is a slide-show of photos from the 1990's during the PC boom when Microsoft was introducing millions of people to computing through Windows. For to those who don't follow Microsoft closely, it aims to be a refresher of the industry prior to the anti-trust case and Apple's dominance in mobile.

### **Recap: A Complete Guide to Microsoft's Comeback**

The story clocks in at nearly 4,000 words and opens with a reference to an early DevCast video from 1993 that Satya participated in, noting Satya's pitch at the time is similar to today – creating products to make businesses more efficient while making it easy for customers to use Microsoft services. Dave goes on to say that while many people attribute the resurgence of the company to the new culture, that is only part of the story; Satya “has revitalized the company for the new era of tech, when “cloud” services matter more than software licenses,” and has “fundamentally shifted its business model without sacrificing growth.”

Dave tees up tension in the story by outlining some of the issues Microsoft faced leading into Satya becoming CEO, such as challenges in mobile and consumer and the licensing model becoming outdated. As Satya stepped into CEO, he focused on culture and restructuring the company to position around the cloud. While Microsoft's entry to the cloud wasn't perfect – Salesforce carved out a good chunk of the business tools market and AWS started a few years before Azure – Dave argues that Microsoft has made a number of strategic decisions that have earned an edge:

- Hitching a Ride on Customers Growth: charging customers based on consumption allows for more flexibility, helping customers ramp up or wind down usage as they need. Additionally, by working with customers to build solutions for their businesses, Microsoft is also working as a partner. He gives the example that Gavriella provided of Kroger building a solution that Microsoft is helping co-sell to other retailers, a beneficial diversification for the grocer and opportunity for Microsoft to expand Azure usage.
- Taking Advantage of Flexible Data Centers: As needed, Microsoft is able to use excess server space run its own services, such as Skype, in the same datacenters where customers are using server space. This helps hedge bets against customer demand when building new data centers.
- Being the First to “Hybrid Cloud”: Microsoft was first to market with a hybrid cloud option and has been a major advantage. He cites James Staten/Forrester who said 95% of companies Forrester has surveyed are interested in the cloud, almost none of them wanted to move entirely to the cloud, adding that even a year advantage on AWS is a huge head start for Azure.

He goes on to briefly articulate Microsoft's AI strategy, from significant investments in research and product to how AI shows up in products – from APIs to driving new capabilities in Windows, Office, Dynamics, Cortana, and in data centers themselves. He closes out the story with a brief nod to some of the other significant areas of the company – Windows is still seeing some growth, gaming has grown into a \$10b business, and successful acquisitions such as Mojang and LinkedIn. The subscription model is driving growth in a number of areas such as Office (Office on iPad being a big milestone along with organic growth driven from Surface sales), and Teams is a further expansion into business communications, and tools like Dynamics have seen double digit growth in recent quarters. He also notes recent traction in government contracts, most notably calling out a co-development deal with the Marines “to help commanders measure combat readiness” – characterizing it as “task management for killing.” He wraps up the story noting, “it's not just who can sell the most phones anymore that wins, but who has the most computing power, and can do the most with it. And nowadays, that's looking a lot like Microsoft.”

### **Tuesday, 2/19**

One brief story this day - "Steve Ballmer played a powerful part in Microsoft's comeback," that highlights a few strategic decisions Steve made that laid "the groundwork for the Microsoft the new company is today." Arguing the narrative about Steve's tenure is too simplistic (while summarizing some of the common criticisms about mobile and Windows), he also points out Steve developed Dynamics and created Azure in 2010 (at the time declaring the company "all in" on cloud). He cites financial analyst Brent Bravelin/KeyBanc who said Steve deserves credit for planting the seeds that Satya was able to empower employees to go execute on.

### Wednesday, 2/20

Two stories posted on this day. The first is based on his interview with Brian MacDonald about Teams, centered on the evolution of communication beyond words beyond words with things like gifs and emojis. Dave writes, "what's most stark about this position is not that GIFs are being used in the workplace, but that Microsoft management is starting to situate enterprise products around cultural shifts in communication." He references a couple examples Brian provided, including his Paris Hilton GIF response to an idea he didn't like. The story is was narrower than expected and we're circling back with Quartz to explore further reporting on Teams.

The second article is outside the paywall and examines Microsoft's competitors dating back to 1986, based off of research into 10-k filings. He notes IBM has been the most consistent competitor, adding there's always been a close relationship either as competitors or partners, with IBM often following Microsoft (such as cloud-based offerings). The typical slate of big competitors are noted, such as Apple, Amazon, Google, etc., and notes that Facebook first appeared in 2014 in 2018, Microsoft named Slack as a competitor. Not much analysis beyond what was pulled from the 10-K's.

### Thursday, 2/21

Two stories posted. The first is effectively a recap of Hit Refresh, highlighting all the lists in the book (they count 13). In a way, it's a spark notes version of the book, highlighting Satya's key points around a number of issues ranging from leadership principles to culture to business priorities to AI.

As expected, Kevin Delaney published a Q&A based on highlights from Satya's two sessions at the Thought Leadership event last month. Kevin teed up the event as a rare opportunity for a group of senior journalists to hear from Satya, and he pulled a number of questions out that cover a range of issues:

- **Microsoft's Identity:** Creating more "surplus" outside the company
- **Consumer Business:** what's considered a "consumer" is very broad, have to be selective of where to enter. "Pure" consumer areas are Xbox, M365, Surface – though those last two also have enterprise ties.
- **What Unifies Microsoft's Products and Services:** Intelligent Cloud, Intelligent Edge is at the core
- **Microsoft's Ambition to be Netflix for Games:** gaming is a big investment area and we're exploring a subscription offering
- **What has Surprised or Flummoxed Him Since Becoming CEO:** Broadly, we've done what we've aimed to do – find sense of identity, have a worldview on tech, tackling unique opportunities. The details are difficult, and you constantly have to reinvent yourself. Facing the realities of Windows was tough and had to re-conceptualize it.
- **Is Windows an Obstacle to Consumer Love of Microsoft's New Hardware:** Don't think of Windows in isolation, connected to the ecosystem
- **How it Feels When Your Stock is Rising or Declining:** you pick up the worst habits when people celebrate you, I look at how we stay relevant to customers. Nothing lasts forever.
- **Microsoft's Real Competitors:** There's a lot more players and segments, and well capitalized competitors. All have different models. My focus is on helping the world succeed, because that means Microsoft succeeds.
- **Economic Nationalism:** Acknowledged that the morning view of end of globalization may have been overstated. Need a new equilibrium for globalization, and the world is much more complicated. You have to be adding value to the countries and markets you operate in; building an ecosystem. China is going to be a very important part of the global economy and keep growing.

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### Friday, 2/22

One story posted today listing resources to follow to keep up with Microsoft. It's not an exhaustive list, instead

points to a few key reporters – MJF, Tom Warren and Jordan Novet – and lists a few exec handles to follow while noting *Hit Refresh* is a great resource. I'll be pointing out to Dave that he missed Frank X. Shaw of his list of Microsoft execs to follow on Twitter.

#### Quartz Conference Call

~30 attendees. No audience questions

**Different CEOs Microsoft has had – founder Bill Gates, product engineering; Steve Ballmer, mostly a sales guy; Satya, an engineer. Do you feel there's any correlation between coming from engineering vs. sales?**

- Important to note Satya joined as a technical marketing manager. Nadella has a unique viewpoint with a deep technical understanding and history of products, but also has sales mentality and understands what it takes for a client to buy a product.

**You talk a lot about how Nadella has pushed Microsoft toward the enterprise. In the past, they pursued a lot of consumer things – and still do some – but over his tenure, what did he decide what *not* to do?**

- Biggest one by far is scaling back Nokia acquisition. It was from an era of acquisitions when Microsoft tried to overcome shortcomings. Nadella has shifted acquisition strategy to enhance strengths – LinkedIn, GitHub, etc.
- Microsoft is very much an enterprise business – many customers rely on legacy software/servers; so it's difficult to just cut things outright. Most refocusing is future-focused; building datacenters, interoperability, etc.
- First couple years were really the period of subtractive, paring down

**Microsoft working with customers to develop something together, and apply and sell within the industry – Kroger is one example. Sounds like a totally new model:**

- This was one of the most interesting things talking to a bunch of Microsoft people.
- Microsoft's main goal is to drive Azure consumption – want more people using services
- Way to drive this is to find people who are building internal tools that are specific to a vertical, like retail
- Kroger builds this software, Microsoft sees the opportunity and they partner with Kroger to sell, which benefits for Microsoft to drive more Azure consumption, and Kroger gets to diversify
- IP co-selling has been wildly successful – it's driven over 8b in sales, it's a big deal

**If I'm Kroger and I've developed software to manage inventory/distribution – is there concern about giving to competitors?**

- When I was talking to Microsoft – they said they weren't selling to other grocers. It depends on the kind of contract established with the company. Applies to companies in a different market.

**Smart speakers – Microsoft still has two consumer product businesses; Xbox and Surface. Given movement toward more enterprise focused businesses, what do you think that means for legacy consumer businesses?**

- Xbox – analysts treat as its own thing. It's moved from just gaming to entertainment; it's your entertainment platform. Big for services, Xbox Live, etc.
- Surface – this is interesting, speaking to analysts – they see a lot of sales for Surface; great platform for Microsoft services. Also have to tread a fine line to not overtly compete with OEMs.

**Hybrid cloud?**

- Allows customers to keep a balance between what they want to do/need – on prem and in cloud
- Analysts were super bullish on this; gives Microsoft an edge by being first to market – very customer-first mentality
- AWS got to the cloud first and have a big stable of customers. But Microsoft has a deep business expertise and products to scale, that they can grow into rich services to sell along with a flexible cloud.
- A few people's estimations have Microsoft exceeding AWS if you count all of Microsoft's cloud offerings (Office, Dynamics, etc.)

**Microsoft's most recent story has been the turnaround and resurgence. Lots of positive press, much well deserved. But what are some of the risks or pitfalls going forward?**

- Cloud is an extremely competitive business. The nature of technology could lead to a major shift in the industry. Security is always a concern, trust in the cloud is essential
- Azure growth has slowed a bit, but not dramatically. Investors are watching those numbers very quickly
- There's a cloud business for each tech giant, just depends on how big of a slice of the pie they get
- A Microsoft exec claimed this wasn't a concern, but an academic thinks there will be a tide change where customers buy their own servers/hardware to run their own cloud. I don't think that's the reality right now, but it's an interesting argument
- Azure Sphere has been very successful

# Microsoft CEO Satya Nadella on his toughest challenges and biggest competitors

Member exclusive by [Kevin J. Delaney](#) for [The new Microsoft](#)

In a rare move, Microsoft in January invited a small group of senior journalists to spend a day at its Redmond, Washington, headquarters to meet with top executives and try some technology the company had yet to release.

CEO Satya Nadella addressed the group twice, once during the morning in a living room with couches and a second time at the end of the day in a product demonstration area. He spoke off the cuff, for close to two hours in total, and fielded questions from the journalists on a broad range of topics.

Nadella discussed what defines Microsoft, what has been hardest for him over his past five years as CEO, who he sees as the tech company's biggest competitors, and how he thinks a phase of intense globalization is over. It was an important, inside glimpse into what's on Nadella's mind, and how he sees the future of Microsoft, the tech industry, and the global economy.

Below are extended highlights from the two conversations on these and other topics, edited for length and clarity.

## Microsoft's identity

We're in the business of empowering people and organizations all over the planet to achieve more. I mean to me, it's the reason Microsoft exists.

Our business model fundamentally is about creating more surplus outside us.

We started as an end-user company, then quickly transformed into an IT company, and that made our end users unhappy because basically you are sort of serving a different master. So there are some unintended consequences of even your core identity, but nevertheless, even from a software sensibility, we think about institutions as much as people because we ultimately think that people want to build institutions. And there's complexity there—it's easy to sort of gloss over it and say it's all about one versus the other. But the multiple constituency thing is essentially an important balance to strike, not easy to achieve.

Our business model fundamentally is about creating more surplus outside us. We will only be long-term successful if people are making more money around us. It's the core idea of the company I joined 27 years ago.



Kevin J. Delaney/Quartz  
Morning meeting.

## **Microsoft's consumer business**

People say, hey, you used to be a consumer company, now you're an enterprise company. The reality is what is considered 'consumer' today is very broad, and what is considered 'consumer tech' is very broad. Uber is a consumer tech company. Amazon, the retail side, is a consumer tech company. And so we've got to be careful that just because we are a tech company doesn't mean we get to participate in every consumer category. What is it that we can uniquely do? I feel like at Microsoft, we made a bunch of mistakes by saying let's just enter every category just because we are a software company. Sometimes it's sensible to do so because they're big, but at the same time, if you don't have to have some unique thing to contribute, you usually fail.

That said there are two, two and a half, three things that we're doing which are purely consumer. One, Xbox, that's purely consumer. Although by the way, in all of the businesses where we are, there is a nexus between the consumer side and the enterprise side. For example, now Azure is becoming a fairly big destination for a lot of game-development houses just because we are taking all of the high-level services that are part of Xbox and making them available as path services on Azure. So that's kind of one other side of how we're connecting the dots. The other [consumer product], Microsoft 365, it's sort of got one side of consumers. And the other side is enterprises.

Just because we are a tech company doesn't mean we get to participate in every consumer category.

Surface is doing well because ultimately people do have an emotional connection with the device they use. It needs a brand. It needs, that last fit and finish, the design ethos. And so therefore we're committed to our Surface business in the categories that we can compete in, whether it's the large screens, the laptop form factor, the two-in-one. We will be in the hunt, even, for what's the next big turn in the device form factor, which is mass market. Even if it starts niche, we'll go after those. So I would say Surface as a brand, what we're doing with Office 365, or what we will soon be talking about as Microsoft 365 consumer subscriptions—those would be completely consumer businesses.

And don't forget we actually have a big ad business. The ad business that we have is in the context of both news and Bing. One of the things that we want to do is to say, okay, what's a way to change the game even in there?

And so we have this collection of businesses. We have significant strength, in our commercial side. But we have a sizable footprint on our consumer side where we will double down on those. But being very mindful of entering categories where we can do something unique.

*Question: Are you still committed to retail? Microsoft retail?*

Yeah. In fact, we're very committed to retail not just even in terms of the sales throughput, there for our services or whatever devices, but also it's become a very great place for us to reach even a lot of small businesses, a lot of education customers. That's one of the places where we get a lot of new people being introduced to Microsoft. So it's an important channel; it's not the only exclusive channel, but for sure.

## **What unifies Microsoft's different products and services**

It's one thing, in fact. It's fascinating, it's interesting, right? At my last earnings, I think I even talked about this—it's that intelligent cloud, intelligent edge. Nothing you saw doesn't reinforce that core platform. All of what we described as Microsoft 365 is a workload on it. All of what is gaming and where gaming is going with game streaming is a workload on it. Dynamics 365 is a workload on it. HoloLens [Microsoft's AR headset], for example, is an edge device for Azure. Architecturally, that's what it is. It's a whole bunch of services that are cloud and edge runtimes, and it is the best rendition of an Azure edge. The unifying investment for us is rebuilding this distributed computing infrastructure, which has got a cloud and an edge. It's really built for the next generation, the logic tier or next generation already around data and AI. And then the experience will be these new user experiences that are multi-sense, multi-device.

## **Microsoft's ambition to be 'Netflix for games'**

I'm really investing quite a bit in gaming, and the simple idea is, we have as much of a shot to build a subscription service as anybody else. So we describe it as, shorthand, Netflix for games. We have a structural position in that we have both a console business as well as a PC business, which happens to be in fact bigger than the console business when it comes to gaming. And the idea is to aggregate those sockets with a subscription service. We won't be the only one. There



will be competition, [and] just like with other content there may be a few subscriptions that'll be successful. So we want to go after it. The good news is we have a huge back catalog, we have our own games. We bring not only the users, we bring a social network in Xbox Live. We bring content, and we're going to go after it. And of course, streaming is another element to it because then getting, plugging an Xbox controller even to an Android phone and playing a triple-A game, that's feasible. Now the question is, when is the cost curve on it going to be viable?

## **What has surprised or flummoxed him since becoming CEO**

There's a lot of things that have flummoxed me. I think the broad contours of what it is that we wanted to get done, in terms of finding that sense of identity, having a worldview of where is technology going and then picking things that we can uniquely do and going after them, we've been fairly consistent. But in the details, a lot has changed, and a lot we have had to deal with.

One of the things that I am grounded on—and any company that has had a lot of success will ultimately go through—is that there's no such thing as a perpetual-motion machine. Everything has a beginning and an end. And then you have large franchises that have run out of steam. To reinvent yourself is hard work. I like to remind my team, we're, you know, for all of our quote-unquote 'transformation,' we're very early on. If you think about the number of products that are all about new value prop, new business models, we are one-third of our way through and we have a long way to go. So I think it's just that difficulty, that's why I'm always on the lookout. Most of what you read about is sort of the celebration of the new hyper-growth and amazing success. Obviously they've created something from nothing or what have you, but I'm always looking for inspiration in pockets where people are in where all the currents look like this.  
*[Nadella slants his arm downward.]*

And so the changes that we've had to make, I would predominantly point to with Windows, how to re-conceptualize it was much tougher. Because think about it, it's sort of a big, big business for us with very, very high margins, and to be able to face up to the realities around it. But at the same time knowing that there's a place under the sun for Windows, it's just not the same as it was before. That has perhaps been the hardest experience for us.



Kevin J. Delaney/Quartz  
Expanding on things during the afternoon.

## **Is Windows an obstacle to consumer love of Microsoft's new hardware?**

We have had this feature in Windows called Instant On forever. It was like maybe in Windows 2000, or God knows when, but bottom line is we were sort of like a classic software company. We felt like, yeah, we got it done; it's built and it's done. Except it never worked. And we had to build our own hardware. In fact, Surface not only brought all the design aesthetic, and recognizing that people have a real emotional connection with their machines and devices that especially they use and they carry and what have you—that was by itself a big revelation. And so we really understood it for the first time, even though we had done things like Xbox and others.

But, more importantly, we really started building Windows, understanding that there are a lot of pieces where hardware docks with software in a deep way. Interestingly enough, we were learning the same lessons obviously on the cloud side at scale too. So that's the journey we're on. But I feel actually in that place we were much better about making Windows and Windows 10 as more of a continuous updatable service.

It was never built for that. The original conception of Windows was not that. And so we've had to reengineer.

I don't think of Windows in isolation. You would have thought in Microsoft, you would have gotten to figure this out a thousand years ago—which is we don't think of Windows and Office

as just separate entities anymore. For example, I'll give you a security use case: When Windows Defender sees a piece of malware, that signal propagates to Microsoft 365, so then we can take any piece of malware that's maybe hiding in your inboxes as social engineering attacks, and purge it. So that signal propagation, that ability to use the socket and the service and work them together for a user, those are the kinds of things that we're doing.

## **How it feels when your stock is rising, or declining**

I've always felt that you pick up the worst of bad habits when everybody's celebrating you.

There's no question if your stock is high or your stock is going up, there's no question that you have a better hand because everybody around you gives you more permission. There's no question. But that's not something that I take for granted. If anything, I measure myself, I measure the people around me and our products and teams, whether we can actually weather storms. I've always felt that you pick up the worst of bad habits when everybody's celebrating you. Revenue and profit just keep showing up and you are just not being prepared for what is eventually not going to happen. I grew up through both of those cycles.

And so having gone through that, I'm sort of much more very, very focused on saying, look, none of those franchises we have built is going to last forever. The question is, how are we going to keep at it? Start by being relevant to customers. If you are relevant to customers, you may have a chance of being able to build some profit over time. And then measure ourselves. In fact, we have some metrics which we use to track what is new. And really falling in love with small, new things is how we're measuring ourselves. When the stock goes down, do we lose permission? The question is, what we as a company do at that time is what'll matter the most. Because fair weather is one thing. Which is when you're in the arena, you've got to be in the arena and you can't be like looking and saying, okay, I wish I had perfect conditions.

*Question: Can you explain those new metrics?*

Take robotic process automation, my new favorite thing. I'm in love with what we are doing. There used to be a guy I worked for at Microsoft who had said, you know, Microsoft, we had this habit of planting trees and then coming the next morning uprooting them and say, why is it not growing? And so we stopped doing that. You get to plant trees. But [we're] celebrating, like where are we, what is the leading indicator of some long-term success? Is there real usage? Are you building something for some new user who's going to love this?

## **Microsoft's real competitors**

Consumer tech has become much broader than what it was when we competed against Apple in the 80s or the 90s or even the 2000s. There's a lot more players, lot more segments, lot more categories. We picked a few categories that we want to compete in, and obviously we'll pick a few more whenever given the opportunity that fits with our mission. Overall the tech industry has got a lot of well-capitalized players, whether it's the US or China or even elsewhere—and so it's vibrant competition, is how I look at it, and they are backed by different business models.

Each one has a different reason to build what is aggregators or platforms, and I kind of look at it and say, you know, it's fine.

For me, one of the biggest shifts is this: my main competitors in the previous client-server era were, sans Apple, Oracle, IBM, VMware maybe, Sun or Sony and what have you, right? And so now it's like really the primary competitors for me at a broad platform [level] and what we do are Amazon, Google, and Alibaba. Interestingly enough, Amazon, Alibaba, Google are all aggregators predominantly and have a platform business. And they're a platform business mostly with small aggregation plays and so it's an interesting dynamic. So that's how I see it. And that's why you hear from me that worldview that says, 'Man, I'd better make sure that a lot of the world succeeds' because that's the only way for Microsoft to succeed.

*Question: Do you see Alibaba as a global competitor, or China-specific?*

Today, predominantly China. Capability-wise, why not? I mean anyone who is doing well in a large country like China can get outside.

## **Economic nationalism**

This economic nationalism, it's not like some transitory phase by which the US and China do a deal next week and then everything's back to normal. It's done. The globalization phase is over as at least we know it. And all over the world it's going to be much more complicated. Tech, the industry at large, has been very lucky that we've had unfettered access to markets all over the world without necessarily contributing to the local economies. As a guy who grew up in a country that was colonized by a multinational, I'm always cognizant of that, right?

Which is this thing about showing up and saying that I'll collect rent and there is no local contribution, no local prosperity you can point to. I learned this the first week I was at Microsoft and even today I see that whenever I visit a community in the United States or abroad, I look, how many partners are there? How many people do they employ? What is their revenue growth? And unless and until we can point to it, I just don't see how you have a long-term stable business all over the world. So that's a little bit of our orientation at least as a company.

For a multinational company, we have to accept that unless and until you're really adding economic surplus in every country you operate in, truly, that is measured by employment, measured by taxes you pay, measured by essentially all of the prosperity around your activity that gets created locally—if that is not true, I just don't see how, the world just kinda says, let's just go back to this thing. Globalization was fantastic except that it hollowed out the middle in many parts, not just in the United States, all over the world. And in, given that, I think everybody's going to be sort of looking to say, okay, how do I get back?

It means structuring, simply, a business model that allows you to create for every dollar you make, multiple orders of dollars beyond that in our channel, broadly speaking. What are the local startups? What are the local ISVs [independent software vendors]? What are the the local SIs [systems integrators]? What's the total employment of digital skills inside of the companies? Because in a world, the great opportunity is if tech sector is not just about the tech companies

producing some gadgets or even cloud services. British Petroleum is a tech company because they want to do a lot of stuff going forward, which is digitally driven, they're going to employ a lot of AI in building it. We are looking at the competition for the AI talent. It's no longer just about getting in the tech community or even with the financial services. It's with everybody. The Github acquisition to me was fundamentally driven by that, but I sort of said, okay, what's the next big community of users in every business? It's going to be developers.

And in fact the LinkedIn data was what showed us that the number of developers outside of the tech sector is growing faster than in the tech sector, so this is developers and these are software engineers being hired by anybody who is in the non-tech sector. They'll have the biggest growth market. So you then extrapolate that. It seems like it's impossible to get into a computer science class, a computer science major in 2019. It's just because everybody wants to be a major. So that's a supply problem which will get solved.

*Question: Can you provide a concrete example of how your behavior has changed going into some market to adapt to these new economic realities?*

If anything, it's not the change in behavior. It's sort of like really reinforcing the behavior we always had. What I mean by that is take the service providers we've had or the cloud-solution specialists we have had. By making sure you are investing in building that footprint out. So that platform sensibility we added with Microsoft 365 or with Azure, we had in the client-server era. It's becoming more important for us to invest in it. That's kind of it. And it shows up in practical terms, like even the investments we make in our training, of people, whether it's in the company or whether it's in the channel, are pretty significant.

*Nadella returned to the topic later in the day.*

Maybe I sort of overstated it when I said globalization has ended, I think that what is needed is a new equilibrium for globalization. That's probably a better way to phrase even, because we do need it. It's hard to just put the genie back in the bottle and say, hey, you know, think about all those value chains that were created are just going to go away. The reality is those value chains have to be reconfigured in ways that lead to a new equilibrium where every country feels like they have a stake in the new world order, so to speak. *That's* the key challenge. And we need to go through that gut-wrenching process of creating that. And I don't have the answer to that. I wish I knew. It's not one trade deal away. I don't think it's even China and the United States. I think it's everybody.

What do I think about China? I think that China is going to be a very important part of the world economy, that China is going to be bigger than what it is today, 10 years from now, 20 years from now. I think every one of us has to just accept and grow up to understand that hey look, that world is going to be different than the world that is there today. And so I'm not much into all this 'Thucydides trap' and rising power. I believe that it's 2019 and everybody's sort of read history. Yeah, maybe sometimes it repeats itself, but I think we need more global enlightenment this time. It's not like enlightenment happens in the West and then the rest of the folks can get colonized. I think that now it's more about, let the entire world figure out an enlightened way to say, "What is a way for us to prosper?"

Here is an interesting thing: I think for 50 years the world was growing at what, three and a half points, that was sort of the GDP growth. Half of it came from labor, half of it from productivity. I was looking at some data, I think it just came from McKinsey, and the G20 just demographically is going to be challenged, so the labor productivity is not going to be there. So you need real technology innovation, and even with technology innovation, if you just do a plug number, like what happened in the last 50 years, you just plug it in, I think you get to something like two points. So we are in trouble, I think, just from a pure economic growth. We also are in bigger trouble because if economic growth is not leading to equitable growth, then we have sort of unstable societies and this is in China or in the United States, in your opinion, in any part of the world. So I kind of feel like it's not about any one country. We better figure out this inequity thing and economic growth thing together. That's sort of what I hope we get to talking about.

*Question: Some people make a credible case that from the Chinese perspective, they're very much oriented toward what's best for China, particularly when it comes to technology. And the US companies like yours tend to look at themselves not as American companies per se, but as multinationals, and that creates the argument that there's an advantage on one side. How do you look at that?*

Let's face it, we are a multinational company with a global mission that is based in the United States, driven, headquartered in the United States. So we're an American company that happens to have global mission. So we are not confused about that. And the responsibilities that come with it. We're a great beneficiary of, in some sense, the trust the world has in America and American institutions. So I'm completely grounded in it. I think it is in our self interest to think about how do we create more trust in our systems, in our institutions, in our companies and our way of doing business. So the world counts on us, we prosper, and so does the rest of the world. If we construct all of this to be zero sum, I think that it's not just going to work. And if China or any one country thinks that they can do with protectionist regimes, I think it's not in their interest to. And that's kind of what I would say is for sure, I'm all for president Trump to make sure that he's getting the best trade deals for us as a nation with every trading partner. No challenge, no issues with it. But as a multinational CEO, what I want is to be able to make sure that we can participate in every country and create surplus in every country, but at the same time realize that this is our country of origin.

# A list of all the lists in Satya Nadella's "Hit Refresh"

Member exclusive by [Dave Gershgorin](#) for [The new Microsoft](#)

Microsoft CEO Satya Nadella loves lists.

The executive's 2017 memoir, *Hit Refresh*, is essentially a 287-page list of lists, with a list every 22 pages of the book.

Quartz counted 13 of them—outlining Nadella's thinking on everything from management principles to tech regulation—and they're often more than a page long. We've distilled and collated these nuggets of wisdom into a more digestible format, but we've also learned something about Nadella's overriding approach to communication.

In *Hit Refresh*, Nadella stresses clarity of vision and communication with those you work with. (That's the first point in one of his lists, naturally.) The list is Nadella's way of making his priorities clear and his points separate. And it's not just in his book. His [email](#) to all Microsoft staff announcing the reorganization of the company includes two lists. Another [email](#) about the 2017 violence in Charlottesville is basically just a short list.

The list seems to be Nadella's way of getting his most important information across in a concise way. Here are those he included in his book.

## What he covers in his book

Nadella's first list is a blueprint for all his other lists.

**First**, as prologue, I'll share my own transformation moving from India to my new home in America with stops in the heartland, in Silicon Valley, and at a Microsoft then in its ascendancy. **Part two** focuses on hitting refresh at Microsoft as the unlikely CEO who succeeded Bill Gates and Steve Ballmer. Microsoft's transformation under my leadership is not complete, but I am proud of our progress. In the **third** and final act, I'll take up the argument that a Fourth Industrial Revolution lies ahead, one in which machine intelligence will rival that of humans. We'll explore some heady questions. What will the role of humans become? Will inequality resolve or worsen? How can governments help? What is the role of multinational corporations and their leaders? How will we hit refresh as a society?

## Cricket leadership principles

This is the first list of business or leadership principles in *Hit Refresh*, and the most typical of a historic Microsoft executive in its focus on competition and winning.

There are three stories from my all-too-brief cricketing past that speak very directly to business and leadership principles I use even today as a CEO.

The **first** principle is to compete vigorously and with passion in the face of uncertainty and intimidation.

On reflection, a **second** principle is simply the importance of putting your team first, ahead of your personal statistics and recognition.

There are of course many lessons and principles one can take from cricket, but for me a **third** is the central importance of leadership.

## Four essential skills for a cloud business

Nadella's lists are rarely longer than four bullets.

Very quickly I realized we would need four essential skills to build an online, cloud-based business that would be accessed primarily from mobile phones rather than desktop computers.

**First**, I thought I knew a lot about distributed computing systems, but suddenly I realized I had to completely relearn these systems because of the cloud.

**Second**, we had to become great at consumer product design. We knew we needed great technology, but we also understood we needed a great experience, one you want to engage with time and again.

**Third**, we had to be great at understanding and building two-sided markets—the economics of a new online business. On one side are the consumers who go online for search results, and on the other side are the advertisers who want their businesses to be found.

**Finally**, we needed to be great at applied machine learning (ML). ML is a very rich form of data analytics that is foundational to artificial intelligence.

## Questions he asked becoming CEO

Here's a rare double-list: First Satya asks the questions, then he gives some of the answers, both in list form.

There were two questions I was still trying to answer. The first, why are we here? Answering this question would be central to defining the company for years to come. The second question was, what do we do next?

- Communicate clearly and regularly our sense of mission, worldview, and business and innovation ambitions.
- Drive cultural change from top to bottom, and get the right team in the right place.



- Build new and surprising partnerships in which we can grow the pie and delight customers.
- Be ready to catch the next wave of innovation and platform shifts. Reframe our opportunity for a mobile- and cloud-first world, and drive our execution with urgency.
- Stand for timeless values, and restore productivity and economic growth for everyone.

This list does not suggest a formula for success since even today Microsoft is still very much in the midst of change. We will not know the lasting impact of our approach for some time.

## Business priorities

A run-of-the mill list.

That's the essence of our mission, but our employees and our business partners, ranging from Accenture to Best Buy, Hewlett Packard to Dell, wanted to hear more. They wanted to know our business priorities. To deliver on this promise of empowerment, I said that we must galvanize all of our resources around three interconnected ambitions.

**First**, we must reinvent productivity and business processes. We needed to evolve beyond simply building individual productivity tools and start designing an intelligent fabric for computing based on four principles—collaboration, mobility, intelligence, and trust.

**Second**, we will build the intelligent cloud platform, an ambition closely linked with the first ambition. Every organization today needs new cloud-based infrastructure and applications that can convert vast amounts of data into predictive and analytical power through the use of advanced analytics, machine learning, and AI.

**Third**, we needed to move people from needing Windows to choosing Windows to loving Windows by creating more personal computing.

## Culture change and growth mindset

Typically Nadella's lists on management in this book are reflective of personal goals and leadership, rather than what he wanted to do at Microsoft. This list is an exception.

The culture change I wanted was actually rooted in the Microsoft I originally joined. It was centered on exercising a growth mindset every day in three distinct ways.

**First**, we needed to obsess about our customers. At the core of our business must be the curiosity and desire to meet a customer's unarticulated and unmet needs with great technology.

**Second**, we are at our best when we actively seek diversity and inclusion.

**Finally**, we are one company, one Microsoft—not a confederation of fiefdoms.

## **Initiatives for companies**

Very simple and to the point. Who needs an MBA when they can read this list?

Companies are focused on ensuring that they stay relevant and competitive by embracing this transformation. And we want Microsoft to be their partner. To do so, there are four initiatives every company must make a priority.

The **first** is engaging their customer base by leveraging data to improve the customer experience.

**Second**, they must empower their own employees by enabling greater and more mobile productivity and collaboration in the new digital world of work.

**Third**, they must optimize operations, automating and simplifying business processes across sales, operations, and finance. Fourth, they must transform their products, services, and business models.

## **Avoiding the innovator's dilemma**

Barely a list, but we'll still count it.

To avoid being trapped by the innovator's dilemma—and to move from always focusing on the urgency of today to considering the important things for tomorrow—we decided to look at our investment strategy across three growth horizons: **first**, grow today's core businesses and technologies; **second**, incubate new ideas and products for the future; and **third**, invest in long-term breakthroughs.

## **More leadership principles**

This one sans Cricket metaphors.

Every organization will say it differently, but for me there are three expectations—three leadership principles—for anyone leading others at Microsoft.

The **first** is to bring clarity to those you work with.

**Second**, leaders generate energy, not only on their own teams but across the company.

**Third**, and finally, they find a way to deliver success, to make things happen.

## **Microsoft and AI**

A rare Nadella bulleted list. He seems to prefer these lists to breeze over talking points that don't need much explanation.

That's the same trajectory we need for AI. To get there we have to be inclusive, democratic. And so our vision is to build tools that have true artificial intelligence infused across agents, applications, services, and infrastructure:

- We're harnessing artificial intelligence to fundamentally change how people interact with agents like Cortana, which will become more and more common in our lives.
- Applications like Office 365 and Dynamics 365 will have AI baked-in so that they can help us focus on things that matter the most and get more out of every moment.
- We'll make the underlying intelligence capabilities of our own services—the pattern recognition, perception, and cognitive capabilities—available to every application developer in the world.
- And, lastly, we're building the world's most powerful AI supercomputer and making that infrastructure available to anyone.

## Suggestions for lawmakers in a digital era

And now that the list gets more complex, Nadella's reverts back to paragraph-style lists.

As we search, I'd like to offer my suggestions for six ways lawmakers can shape a framework for building increased societal trust in this era of digital transformation.

**First**, we need a more efficient system for appropriate, carefully controlled access to data by law enforcement.

**Second**, we need stronger privacy protections so that the security of user data is not eroded in the name of efficiency.

**Third**, we need to develop a modern framework for the collection of digital evidence that respects international borders while recognizing the global nature of today's information technology.

**Fourth**, we in the technology industry need to design for transparency.

**Fifth**, we must modernize our laws to reflect the ways in which uses of technology have evolved over time.

**Sixth**, we must promote trust through security.

## Microsoft's core AI principles

You guessed it: three points.

At our developer conferences, I explain Microsoft's approach to AI as based on three core principles.

**First**, we want to build intelligence that augments human abilities and experiences.

**Second**, we also have to build trust directly into our technology.

And **third**, all of the technology we build must be inclusive and respectful to everyone, serving humans across barriers of culture, race, nationality, economic status, age, gender, physical and mental ability, and more.

## Phases of industrial revolutions

There is no topic too big for a list.

While there is no clear road map for what lies ahead, in previous industrial revolutions we've seen society transition, not always smoothly, through a series of phases.

**First**, we invent and design the technologies of transformation, which is where we are today.

**Second**, we retrofit for the future. We'll be entering this phase shortly. For example, drone pilots will need training; conversion of traditional cars into autonomous vehicles will require redesign and rebuilding.

**Third**, we navigate distortion, dissonance, and dislocation.

# Steve Ballmer played a powerful part in Microsoft's comeback

Member exclusive by [Dave Gershgorn](#) for [The new Microsoft](#)

Former Microsoft CEO Steve Ballmer did not leave the company on a high note.

Ballmer held the role from 2000 to 2013, while Microsoft tried again and again to convert its software dominance into a viable hardware business, similar to the way Apple had leveraged the iPod and iTunes to own the MP3 player category. It objectively did not go well. The [Zune](#), an iPod competitor that the author personally loved but was plagued by horrific software and an extremely useless online music store never lived up to the iPod's legacy. The [Kin](#), a very round iPhone competitor, lasted on the market for less than two months. The Windows phones all flopped, in a multibillion-dollar loss for the company. Windows Vista—Microsoft's attempt at refreshing its operating system in the era of the internet—was widely panned, and Ballmer fought tooth and nail to extend the business model of selling Windows licenses, rather than embracing the cloud strategy that would be installed by his successor.

When Ballmer told the Microsoft board he was stepping down in 2013, according to one report directors quickly [agreed](#) (pdf) that “fresh eyes and ears might accelerate what we're trying to do here.” The company's market capitalization hadn't moved much since Ballmer had become CEO more than a decade earlier. Meanwhile, competitors Amazon and Google had started growing into the behemoths they are today.

The media has not been kind to Ballmer. There are listicles with titles like, “[Steve Ballmer's Biggest Mistakes As CEO Of Microsoft](#).” Vanity Fair described his tenure in a headline as “[Microsoft's Lost Decade](#).” The New Yorker had a particularly blunt story on the day Ballmer stepped down as CEO, titled “Why Steve Ballmer Failed.” Here's a taste:

Ballmer is roughly the tech industry's equivalent of Mikhail Gorbachev, without the coup and the tanks and Red Square. When he took control, in 2000, Microsoft was one of the most powerful and feared companies in the world. It had a market capitalization of around five hundred billion dollars, the highest of any company on earth. Developers referred to it as an “evil empire.” As he leaves, it's a sprawling shadow.

These assessments are supported by plenty of well-worn examples of Ballmer's retrospective missteps. But they overlook Ballmer's undeniable positive contribution to Microsoft's current success—that even as Ballmer fought (too hard, in retrospect) to keep Windows as the crown jewel of Microsoft, he was also responsible for laying the groundwork that makes Microsoft the new company it is today.

Current Microsoft CEO Satya Nadella is rightly given credit for focusing Microsoft on moving its legion of products to the cloud and working with partners to use more and more cloud

capabilities. Yet it was Ballmer who originally created Azure, named Windows Azure when it launched in 2010.

“For the cloud, we’re all in,” Ballmer said at a 2010 keynote, according to [Network World](#). “Literally, I will tell you we are betting our company on it.”

Nadella was actually installed by Ballmer to lead the creation of that business, in the role of president of Server and Tools.

“A lot of the seeds that Ballmer started, like Azure, were the right kind of strategy moves,” says Brent Bracelin, equity research analyst at KeyBanc Capital Markets. “I think where Satya has really differentiated is empowering the employee base to go execute on some of that early kind of strategy, kind of seed planting that Ballmer did.”

Even before launching Azure, in 2001 Ballmer acquired Great Plains, a company that made a business management software called Dynamics. Nearly 20 years later, Microsoft still uses the Dynamics name, though the product has evolved into a cloud service for accounting, enterprise resource management, and customer relationship management. Dynamics 365 is now one of Microsoft’s top cloud earners. While the company does not break out Dynamics revenue in its earnings, the product was categorized by [executives](#) as a billion-dollar business in 2013 and has seen consistent revenue growth year over year since then.

Yes, it could have theoretically been an even better business. While today Dynamics is a flagship business product for Microsoft, Salesforce was founded in 1999 and enjoys \$120 billion in market capitalization. It’s unlikely that Marc Benioff could have convinced top brass at Microsoft to deviate from their lucrative licensing business to cloud services so early, and Salesforce’s \$1.1 billion tower in SF stands as a testament to the money Microsoft missed out on not dominating the business tools market.

But as Bracelin says, Satya’s strength has been refocusing the company around the myriad long-term bets that Ballmer had set up.

“That cloud-first mantra is really something that you can give ownership to Satya, even though some of these strategies and products were under started under the Ballmer era,” he said.

It’s easy to make fun of Ballmer—for his business decisions, his mannerisms, his [sweat](#)—but the predominant narrative is too simplistic. Ballmer missed the boat on search, mobile, and media, but he set the stage for Microsoft as it stands today: something that could evolve into something larger and more fundamental than all three.

# A complete guide to Microsoft's comeback

Member exclusive by [Dave Gershgorn](#) for [The new Microsoft](#)

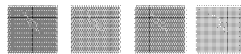
In 1993, Satya Nadella—then a technical marketing manager—sat in front of a camera for a broadcast about how developers could use Microsoft server products.

The broadcast itself is a relic of its time; developers could call into a live hotline to inquire about Microsoft products (this was before customer support chatbots), Nadella chunked out code on a mechanical keyboard in front of an old CRT screen, and what we call servers today were still lovingly referred to as mainframes. The topic Nadella was talking about, wedged in the middle of the 3-hour-long affair, was seemingly mundane: How make custom inventory software using Excel and a local server.

Missing from the broadcast was any sign that Nadella would, 21 years later, become Microsoft's CEO, or that the objective of this decades-old video—making it easy for companies to embed Microsoft into their most crucial processes—would become the bedrock of Microsoft's success today.

Nadella is now five years into his tenure as the CEO of Microsoft, and his pitch is strikingly similar to what it was in 1993: Microsoft products make businesses more efficient. The difference is that instead of convincing people to use Microsoft software on their own computers like he once did, Nadella's new mission is to get businesses to use Microsoft's massive empire of data centers. This "cloud" is essentially a Microsoft-owned version of the server software that he started his career at Microsoft marketing.

You've been hearing Microsoft is "back," and this is often attributed to the new culture ushered in by Nadella—one in which Microsoft loves open-source Windows competitor Linux (gasp), customers are business partners, and AI is the future. But that's only part of the story. Nadella has also revitalized the company for the new era of tech, when "cloud" services matter more than software licenses. He has helped Microsoft fundamentally shift its business model, without sacrificing growth, to make the 43-year-old company bigger and more relevant than ever before.



A HISTORICAL INTERLUDE

## Microsoft's licensing problem

Before 2014, the year Nadella took the reins as CEO, Microsoft was mostly focused on the software that got loaded onto devices. It made that software and then sold licenses for consumers and enterprises to use it, which is how Microsoft's operating system Windows got onto nearly every PC and how Microsoft Office became the standard for document, spreadsheet, and

presentation creation. In 2013, Microsoft made nearly 80% of its revenue through licensing, according to financial filings.

Former Microsoft CEO Steve Ballmer tried to pivot the PC software company into mobile phones and tablets by acquiring Nokia in 2014. But by that point competitors had already established rich ecosystems of third-party apps, and in comparison, you could do very little on a Windows phone. It wasn't just the Windows phone that failed, either: When it came to consumer technology in general, it seemed like Microsoft was coming apart at the seams. Remember the clunky Zune MP3 player? Or the much-maligned, bloated Windows Vista operating system?

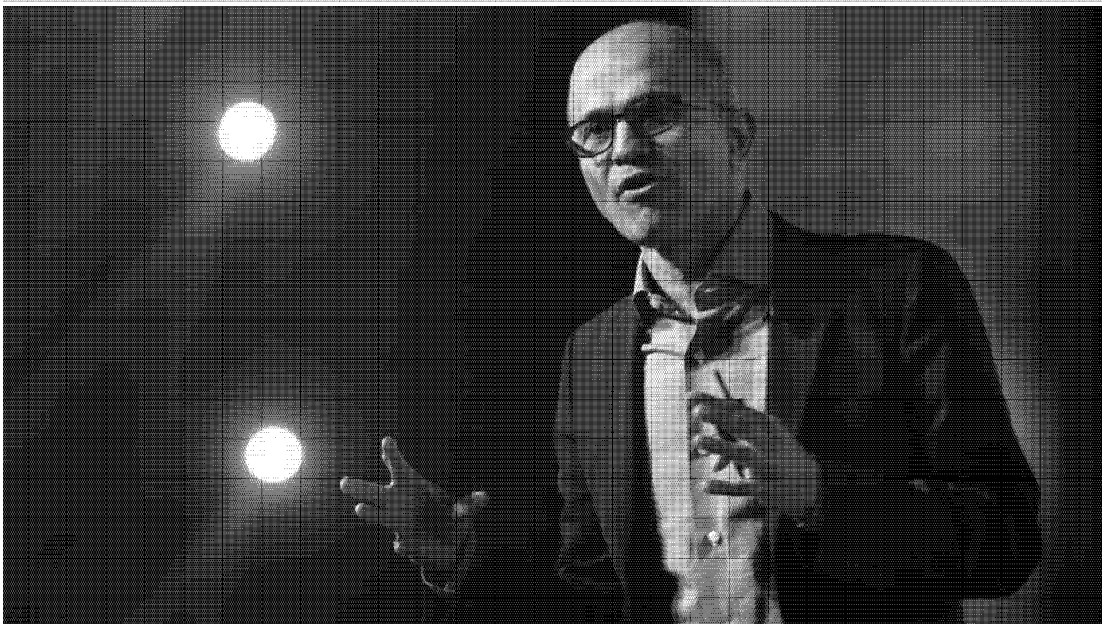


REUTERS/Robert Sorbo  
The Zune media player, may it rest in peace

As Microsoft was falling behind in mobile, its licensing business was also becoming dated amidst a rush of new Silicon Valley enterprise companies. Microsoft was still selling a Microsoft Office 2010 license for hundreds of dollars, and then not hearing from its customer until the software became functionally obsolete years later. But a new kind of business was gaining steam called SaaS, or software as a service, in which, instead of selling software one time for a set price, companies got their customers to pay on an ongoing basis. In many of these cases, software was run not on a company's own servers, but in the provider's cloud. Programs would keep working as long as users kept paying. The upfront revenue was less, but the SaaS provider's goals were aligned with its clients, which meant more revenue over the long term.

With his background as the head of the company's since-renamed server and tools division—where he oversaw the initial construction of Microsoft's "cloud"—Satya was put in a position to transition Microsoft to this recurring revenue business.





AP Photo/Rafiq Maqbool

## **How Satya Nadella changed Microsoft**

Microsoft today is not a drastically different company than it was 10 years ago, in terms of the people working there. Microsoft executives are lifers at the company—the average c-suite executive at Microsoft has worked there for 21 years, according to financial filings.

Nadella has a similar story. He started at the company in 1992 as a marketing manager, and quickly moved his way up the ladder, earning a series of VP roles until being promoted to president of the company's server and tools division in 2009.

Insiders say that Nadella's actions in the server and tools role and as chief executive were very different. The department wasn't exactly known as a leader: One part of Microsoft's cloud business called Azure, which competes directly with Amazon Web Services (AWS), would follow the release of a new AWS feature with a similar one of its own. A standing question when Nadella took over was whether Microsoft would keep chasing the tails of its competitors, or differentiate itself in some way. The result was stark; after being chosen as CEO to succeed Ballmer, Nadella took a holistic look at the way the company operated and realized that the biggest barrier to getting ahead of competitors was the company culture.

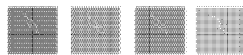
The 130,000 people who worked for him just couldn't function as a cohesive unit; bureaucracy, suspicion, and short-sighted quarterly goals reigned supreme.

Part of achieving this culture change was through a messaging campaign, like talking about Microsoft's approach to competition in a drastically different way. Here's an example from just this month, when he said at Davos:

"We have new competition, whether it's an Amazon or a Google or an Alibaba. But the interesting thing is I don't primary come at this from a zero-sum competition perspective. I think that Microsoft has a unique identity. Even the companies that I name, in our case it's about building technology so that others can build more technology and trust technology, and I think that's a pretty unique attribute of what we do, and I want to reinforce that every day."

Structural changes have been made, too. For years, the research and development team had to convince a product team to put forward one of their ideas for it to be considered for a product launch. But the product teams were focused on how fast something could grow and earn revenue, says James Staten, who has covered Microsoft for Forrester on and off for more than 10 years, and briefly worked for Microsoft. Nadella changed the system so R&D could directly pitch new products, and changed the product teams' performance indicators to focus more on long-term growth, drastically rebalancing the power dynamics in the company.

Nadella has also restructured the company around the cloud, grouping the main engineering divisions into Experiences & Devices and Cloud & AI. A former product marketing manager suggests that Satya's high level decisions, like trimming products that weren't working and focusing on the cloud, changed the environment of the company. "[Microsoft] was so big and going in such a wrong direction," the former employee told Quartz. "I don't think anyone thought there was even a chance it could be saved."



COMPUTE POWER

## Enter Microsoft's cloud

But it was Nadella's focus on the cloud that proved to be crucial in saving Microsoft.

Microsoft's cloud is a host of data centers with functionally unlimited computer power. It is how the company powers its existing subscription services, and it gives it a blank canvas upon which to build and scale new cloud tools to service an entire industry on day one.

Most companies use Microsoft's cloud in two ways. The first is by building their own software to run on Azure, Microsoft's name for pretty much any product offering that is used by a developer.

With Azure, companies can essentially "rent" those things they used to have to hire engineers and build data centers to do. A simple swipe of a credit card give them everything from data

storage to cybersecurity to the ability to run AI applications and host websites. Renting computing power in this way allows a small company to have an entire server infrastructure.

The second way that companies use Microsoft's cloud is by buying a subscription to a Microsoft product, like Office 365 (a suite that includes programs like Microsoft Word, PowerPoint, Excel, and OneNote) and using the cloud to store files generated by those programs. Dynamics 365, Microsoft's ever-expanding suite of business tools for processes like customer relationship management and accounting, takes advantage of the cloud by running proprietary analytics algorithms on enormous databases that companies amass for manufacturers or ecommerce sites.

When Microsoft (read: Ballmer) was focused on licensing software, it fought tooth and nail to keep the Windows operating system as the dominant platform. Microsoft Office or Dynamics only ran on Windows, which meant that every Windows operating system sold was an opportunity to sell more licenses.

But the move to the cloud offered the opportunity for Microsoft to think differently about who its customers could be. Nadella's open culture also contributed, leveraging partnerships to sell software subscriptions rather than making customers bow to Microsoft's computing empire. And since data and compute could now be done on Microsoft servers, rather than on a local machine, it began to matter less what operating system your customer was running. A license to use a piece of software on a computer made less sense, because suddenly the software was available on every kind of computer—as long as that computer could connect to the internet.

Microsoft's new cloud focus has been responsible for growth across the company's products. It has changed Microsoft from a company that earns revenue from a one-time purchase into one based on subscription- or usage-based recurring revenue—and not just for office products. Microsoft is a much more diverse company than it was 10 years ago. The recurring revenue model—made possible by the cloud—applies across much of its operations, whether it's video games or powering an ecommerce site's infrastructure. The company still sells licensed business tools and operating systems, but it sells so few of them that in earning reports they're now line items under bigger umbrellas. Cloud generates nearly a third of the company's revenue.

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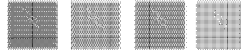
#### THE STRUCTURES OF INFRASTRUCTURE

*A 2012 video tour of Microsoft's data centers.*

Between renting computing infrastructure and supporting its own growing suite of cloud tools, Microsoft needed to invest in the data centers that actually do all the work. The investment started in earnest in 2010, when the company first released "Windows Azure," later renamed simply Azure.

At the time, Microsoft's data centers were almost exclusively in the US, covering about three geographic areas still serviced today, though in a more robust manner, says Michael Spencer, general manager of investor relations. That's expanded to 54 regions across the world in 2019. The need for new infrastructure is so great that instead of building data centers from the

ground up, Microsoft has now started leasing space from other companies' data centers to save construction time and stand up these server farms more quickly, Spencer said.



THE LONG VIEW

## Microsoft's cloud strategy

Microsoft's transition to the cloud wasn't perfect. The biggest mistake was arguably that it didn't come soon enough. The cloud-based enterprise software company Salesforce, founded in 1999, became a fierce competitor to Microsoft's business tools by focusing on cloud-based software from day one. Every dollar that Salesforce earns is a reminder that Microsoft could have been better in the Ballmer era.

In terms of Azure, Microsoft has also been characterized as playing second-fiddle to Amazon Web Services. Amazon started AWS in 2006, years before Microsoft. Though Microsoft has been reticent about revealing exactly how much Azure earns, avoiding comparisons to Amazon's rival service, Amazon clearly has more customers. All of Microsoft's commercial cloud revenue, though—a figure that includes not just Azure but also Office and Dynamics—outstrip's Amazon's, which begs the question of which is more important, a large stable of customers like Amazon, or a smaller cloud plus your own cloud businesses to grow, like Microsoft's Office, Dynamics, and various analytics platforms?

Despite its mistakes in timing, Microsoft's approach to the cloud has been strategic. Here are three ways in which it's earned an edge:

### 1. Hitching a ride on its customers' growth

For the companies that rely on Microsoft's cloud to power their ecommerce sites, like Walmart-owned Jet, airline Iberia Express, and jewelry company Pandora, Microsoft charges customers based on consumption, meaning that customers pay for how much computing power their processes use in Microsoft's data center, as well as how many developers are using the services. As Microsoft's clients grow and use more computing power, Microsoft automatically makes more money.

This is a huge shift from Microsoft's past pricing structure, in which a sales rep would need to have contact with a company in order to assess its needs, draw up a licensing contract and then repeat the process a few years later. Now, instead, a company can buy as much cloud infrastructure as it needs without talking to anyone at Microsoft.

Microsoft has also found another way to grow with its customers. As these customers build software for their own businesses, Microsoft approaches a small percentage to partner with and

build versions of the customers' software that can be sold on its Azure Marketplace. It's like any other software that a company can buy, except it's often tailored to the needs of a specific industry, and naturally, it runs on Azure. For example, Microsoft and Kroger turned the grocer's cloud retail software into a product that Kroger is now co-selling with Microsoft to other retailers. In this approach, the customer, who has now become a business partner too, can diversify its revenue, while Microsoft benefits from increased consumption of Azure, since every new customer of that co-sold IP is using Azure as well.

This strategy is paying off big time: Microsoft says co-selling has generated \$8 billion since July 2017 when the program started.

## **2. Taking advantage of “flexible” data centers**

At its heart, a data center is a host of connected computers. These computers are immensely fast and have petabytes (thousands of terabytes) of storage.

When customers pay to run on Microsoft's cloud, they are putting their files in Microsoft's data centers, and their programs run using that same compute power. But there is more compute power in that data center than just Microsoft's Azure customers might need to run their cloud programs. So Microsoft can power its own cloud on the same computers, meaning calls from Skype (which Microsoft owns) and enterprise Office cloud files and transactions on customers' ecommerce sites are all being processed simultaneously.

Microsoft's future is predicated on building data centers to use itself and sell to others. The company is situating all of its products around cloud- and subscription-based models, with Azure at its center.

## **3. Being first to the “hybrid cloud”**

A reasonable person would assume that using a cloud service and having on-premise servers could be mutually exclusive. But Microsoft was first to build a “hybrid cloud,” which involves software that a company can put on its own servers that allow them to basically mimic the Microsoft cloud. If that company needs more computing power or space for a task—like an ecommerce company during a peak shopping season—Microsoft's cloud automatically picks up the slack.

For example, a national government will typically have some data that can't leave its servers for regulatory reasons. The hybrid cloud would allow the government to have one cohesive “cloud” that acts as a unified database, but the data that needs to stay on its own servers does, while the rest goes to Microsoft's data centers.

This is a huge advantage for Microsoft given its existing relationships with legacy businesses restricted by regulation or other limiting factors, according to Staten, the Forrester analyst. He says that while 95% of the companies Forrester surveyed were interested in moving to the cloud, almost none of them wanted to move their entire company onto the cloud. Since Microsoft was a

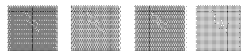
first mover to this arena, Staten says that even a year is a huge head start in front of AWS, a fierce competitor in the cloud that later released its own hybrid cloud solution.

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#### DEJARGONIZER

Here's a quick run-down of how Microsoft talks about its cloud business, because it does so often and in a lot of different ways.

- **Intelligent cloud:** This is how Microsoft reports its cloud services revenue to investors. It includes Azure, the database software SQL Server, licensing of its operating system, Windows Server, subscriptions and licenses for the developer tools it calls Visual Studio, and enterprise support and consulting services.
  - **Commercial cloud:** This is a bundle of cloud services pitched at businesses, including Azure, but also Office 365 Commercial and Dynamics 365, as well as other cloud products that Microsoft doesn't go into specifically. This category is a good way to track Microsoft's migration of its business tools to the cloud.
  - **Azure:** This is the most specific of the ways that Microsoft references the cloud, but it is still not one discrete product. Azure can be as simple as using compute on Microsoft's cloud, but it can also be the use of AI tools sold by Microsoft as an API. The latter means developers can call on Microsoft's AI software in their applications without having to build the AI themselves, for instance in an application that uses AI to turn audio of speech into text.
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AI FOR ONE, AI FOR ALL

## Microsoft's AI strategy

Along with Microsoft's cloud, Microsoft's continued investment in AI has proved a boon across product categories.

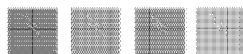
AI accounts for a large part of Microsoft's R&D spend, according to financial filings. One of Microsoft's three engineering groups has AI research in the name—and it is regularly cited in company filings as an investment priority, especially in recruiting talent.

AI flows into Microsoft's top line in a few ways. Most directly, it can be sold as an API, which means a developer could use a short line of code to run one of Microsoft's AI algorithms, rather than having to build it themselves. These are usually basic AI applications, like image recognition or speech-to-text. More value can be added by each developer to these applications in situations like image recognition, where developer can use their own datasets to augment Microsoft's, making it more tailored to the intended use case. That's not possible to do without

the cloud's virtually unlimited computing power, because these AI processes take more power than would be possible on a user's smartphone, laptop, or even desktop computer.

AI advances also seed new features in Windows, Office, Dynamics, and in the data centers themselves. Cortana, Microsoft's virtual personal assistant, turns speech to text and gauges the intent of questions using AI, and can privately scan emails to remind you of promises made in the text. Microsoft Office's Word has grammar correction powered by AI, and Dynamics uses machine learning to generate insights for each individual customer.

An example of this cross-pollination is while Microsoft sells facial recognition as an API on Azure, similar algorithms power a Windows feature that uses a laptop's front-facing camera to recognize who's opening it, and automatically unlock that user's profile.



MORE THAN A SUM OF PARTS

## The Microsoft Ecosystem

The cloud is just one line-item in Microsoft's revenue sheet, but it's helped establish an ecosystem of interlocking parts that together give Microsoft a suite of products difficult for any competitor to replicate exactly.

The best-known Microsoft products, including Windows, Xbox, and the Surface line of computers are all growing alongside the cloud business that powers them. They actually make up the largest revenue segment for the company, thanks to the inclusion of Windows, which remains a dominant, but slow-growth business.

While Windows only grew 5% over Microsoft's 2018 fiscal year to \$19.4 billion, it still accounted for nearly \$1 billion in new revenue. Gaming revenue grew into a \$10 billion business, buoyed by its online marketplace and services sales.

Microsoft is also a regular competitor for government contracts, especially for the US Department of Defense (DoD). The company earned \$427 million in 2018 from government contracts, according to government spending [databases](#). That number might seem small relative to Microsoft's other businesses, but it has been growing year by year, and is expected to increase following Microsoft's signing of a new five-year, \$1.76 billion contract with the DoD this January. One example of Microsoft's defense activity is a \$30 million [check](#) for the development of software for the US Marine Corps, to help commanders measure combat readiness using a sophisticated template. In other words, task management for killing.

Acquisitions have played a vital part in Nadella's growth strategy, too. But his acquisitions have stayed within the bounds of Microsoft's strengths in entertainment, business, and cloud computing, rather than making up for weaknesses or taking it into businesses it wants to enter.

The company's biggest acquisitions still operate as independent companies. Mojang, a gaming company, played to Microsoft's gaming chops with Xbox, but also education and mixed reality platforms. Microsoft crucially owns Minecraft, a game where players can collaboratively build worlds of massive scale, which is enormously popular with kids and teens. Having said that, Fortnite has vastly overtaken Minecraft in popularity over the past year.

Many of Microsoft's products are more robust thanks to the cloud. Xbox comes with Xbox Live, a cloud-powered service that allows Xbox players to play and communicate with others online. Its move toward becoming platform-agnostic allowed a greater presence in mobile: Microsoft Office can now run on an iPad, one of Nadella's first announcements as CEO. Other Microsoft hardware products integrate directly into Microsoft's cloud products and subscriptions. If you have a Surface computer, for instance, Office and OneNote are native apps to the Windows operating system, so of course you'll subscribe for \$70 per year.

Microsoft has expanded the scope of its business tools in recent years, adding Microsoft Teams—an in-office chat tool—and LinkedIn to the more established Office, Dynamics, and Skype for Business. That means that Microsoft can sell everything a company might need for intra-office operations, and then lock that company into paying for it every year by virtue of the company infrastructure being built on top of integrated Microsoft products.

This strategy of owning the entire field of business tools and uniting it under one subscription means Microsoft is squeezing more revenue per user, a boon for capturing more revenue from existing customers, as well as making more money from new subscribers. That's helped contribute to double-digit growth year after year in Office and Dynamics, according to company filings.

All of these products and services work in concert to either draw customers further into the company's ecosystem (an art that competitor Apple has mastered), or spin up more cloud revenue over time. In a world where hardware is cheap, it's not just who can sell the most phones anymore that wins, but who has the most computing power, and can do the most with it. And nowadays, that's looking a lot like Microsoft.



# Photos: When Microsoft ruled the world

Member exclusive by [Johnny Simon](#) for [The new Microsoft](#)

The 1990s were an explosive period for the personal computer. A chief reason: Microsoft. While it wasn't a computer maker like IBM or Apple, its Windows operating system was the introduction to computers for millions of people.

Photos from that decade show the growing reach and dominance of Microsoft. The company debuted Windows across Asia to frenzy and fanfare, while founder and CEO Bill Gates was the nerdy global ambassador of the PC revolution. It also served as a time capsule of the era: Gates played golf with US president Bill Clinton and schmoozed with late night host Jay Leno, while throngs crowded into electronics stores to purchase physical discs of the newest version of Windows.

Change came quickly as one century ended and a new one began. The milestone anti-trust case against Microsoft in the late nineties and early 21st century and the growing dominance of Apple in the early aughts made the following two decades look a lot different for Microsoft than before.



Reuters/Jeff Vinnick

Bill Gates looks on as The Tonight Show's Jay Leno co-hosts the official launch of Windows '95 at the Microsoft campus in Redmond, Washington in 1995.



AP Photo/Barry Sweet  
Microsoft's CEO Bill Gates talks computers with six winners of "The Imagine Magic" contest at the Microsoft Redmond, Wash. headquarters in 1995.



AP Photo/Susan Walsh

Bill Gates shakes hands with students from the Young Achievers Science and Math class of Boston's Dorchester neighborhood in 1996.



AP Photo/Greg Baker

Two women carry boxes of Microsoft Windows 95 through Beijing's Forbidden City in 1996. The Chinese version of the operating system was officially launched there in a ceremony in the Forbidden City, the former palace of China's emperors.



Reuters/Mark Baker

Consumers rush to the shelves to buy the world's first official consumer copy of Microsoft's Windows 98 at a computer store in the western suburbs of Sydney, Australia in 1998.



Reuters/Eriko Sugita

Confetti and balloons pop out from a festive ornamental ball cracked open by Windows 2000 seekers, cheered on by campaign girls, celebrating the Japanese launch of Microsoft's Windows 2000 at a computer shop in Tokyo in 2000.



Reuters/Natalie Behring

Chinese computer users rush to buy Microsoft's Chinese language version of Windows 98 at the midnight release of the product in Beijing in 1998.



AP Photo/Lois Raimondo

A Microsoft employee explains a Vietnamese language version of Windows 95 during its launch in Hanoi, Vietnam in 1996.





AP Photo/Lois Raimondo

Crowds of curious computer enthusiasts gather around a demonstration table in Hanoi where Microsoft employees demonstrate the Vietnamese version of Windows 95.



Reuters/Andrew Wong

A children's choir perform during a Microsoft launch event for Windows 98 in Beijing in 1998.



Reuters/Jeff Christensen

Bill Gates signs a copy of Windows 98 for a fan at a CompUSA store in San Francisco in 1998.



Reuters/Mark Baker

Retailer Gerry Harvey sells the world's first official consumer copy of Microsoft's Windows 98 to Daniel Chan, autographed by Bill Gates, at his Auburn store in the western suburbs of Sydney.



Reuters/Jim Bourg

Bill Gates replaces the pin after holding it for president Bill Clinton as the two men play a round of golf together at Farm Neck Golf Club on the first day of Clinton's vacation on Martha's Vineyard, in 1994.



Reuters/Sue Ogrocki

Bill Gates watches as Microsoft's Chris Capossela explains the features of a new trackball-less mouse during the keynote presentation at the COMDEX show in Chicago in 1999.





AP Photo/Hermann J. Knippertz

A German customs officer displays two counterfeited items: Levi's jeans and Microsoft Windows.

# Microsoft is embracing a future where we communicate without words

Member exclusive by [Dave Gershgorn](#) for [The new Microsoft](#)

Most of your interactions with Microsoft software probably aren't fun.

The company is best known for its business tools, like Microsoft Word and Excel, which are heavily geared toward creating documents and tinkering with numbers. But Microsoft has noticed that the way people communicate is changing. Conversations are more informal, shorter, and don't always include words.

Brian MacDonald, who leads Microsoft's office instant messaging service, Teams, says that instant messaging has allowed a new form of communication at work that borrows heavily from the culture of visual communication between friends and family.

"A key thing that I saw that kind of blew me away, and we changed a lot of our relative future investment on, was watching two Japanese people using Line [a popular instant messaging and phone app like WhatsApp] and communicating back and forth," he says. "They're having a conversation, but it was only in stickers. This wasn't just like, 'Oh, I'm sending you a laugh out loud cat sticker and you send me back a funny cow in a pasture. It was a conversation in stickers, and that just kind of blew my mind.'"

That experience led MacDonald to start thinking about not only how people of different generations communicate differently, but also how the very idea of a message need no longer be limited to the traditional keyboard. The transmission of information could be more amorphous and nuanced, since now you could send sentiment or subtext.

Eventually Microsoft decided to integrate Giphy, a website for searching and embedding GIFs, into its Teams product.

What's most stark about this position is not that GIFs are being used in the workplace, but that Microsoft management is starting to situate enterprise products around cultural shifts in communication. Not only that, but MacDonald talks about GIFs as a place where Teams continues to invest its money, and spends more on GIFs than any other Microsoft product.

MacDonald says that he's even realized how using nonverbal communication has influenced his own management style.

"Someone had typed up a new feature in one of the channels and it was just a horrible idea, something I truly hated," he said. "And you know, the classic Microsoft manager in me would want to have to type back, 'That's the stupidest idea I've ever heard of in my life.'"

But instead of typing that out—or talking to the offending idea-haver in private—MacDonald chose to respond with a GIF.

“I did a search in Giphy for ‘No’s,’ and found a very prissy-looking Paris Hilton. And I put that in—no text—and sent that off. That person came by my desk later and says, ‘Gosh, I guess that really wasn’t the most thought through idea I’ve ever had in my life.’”



Giphy  
A Paris Hilton “no” GIF

MacDonald said the resulting conversation was constructive, and the GIF was an effective way of diffusing a situation that might have led to contention in a previous paradigm within Microsoft.

“I really believe that the right investments in this kind of thing, it changes the interpersonal dynamics in the team, and they get closer,” he said.