

**Goldman Sachs Talks**  
**Angela Hwang, CCO, Pfizer**  
**Jerry Lee, Moderator**  
**Recorded: May 30, 2023**

**Angela Hwang:** I don't think any one of us, you know, even thought that this whole idea of making a vaccine and being able to do it in this amount of time was, like, literally possible. It was not possible.

**Jerry Lee:** Good afternoon, everyone. My name is Jerry Lee. I'm a member of the healthcare team here at Goldman Sachs, within the Global Banking and Markets division. I'm thrilled to introduce Angela Hwang, who's Pfizer's chief commercial officer and global biopharmaceuticals president. Angela leads more than 26,000 colleagues across 185 countries, helping to produce over 600 medicines and vaccines for over 1.3 billion people in 2022, generating over \$100 billion of revenues.

And so Angela, thank you for joining us today.

**Angela Hwang:** Thank you, Jerry.

**Jerry Lee:** So maybe where I'd like to start, Angela, is

really at the very beginning, your childhood. Your childhood in South Africa as an Asian girl growing up in South Africa. Tell us a little bit about that experience and what it meant for your development as a leader today.

**Angela Hwang:** First of all, everyone, thank you for having me here. And thank you, Jerry. My background and my childhood is I think quite unexpected. You look at me, you wouldn't think, "Oh, yeah, she's from South Africa." But I was. My mother is a first-generation South African, and that's where I grew up. That's where I did all my formative schooling. And it wasn't until I decided to do my MBA, that's when I came to the US. I was really way in my mid 20s, you know, at that point.

But it was a beautiful life. It was a tough life and a difficult one and one that I think I realized it was much tougher than I thought when you look back because you don't know what you don't know when you're growing up, right? You just know what you have in front of you. And what I had in front of me was a world that was very divided.

In South Africa, in the time of apartheid, you either are white or you're not white. There's, like, nothing in

between. So if you're white, you get to go to public school. You can go live wherever you want to live. You have all the privileges of what we consider to be like normal people and normal citizens. But if you're not white, which is anything other than white -- Chinese, Indian, any kind -- you know, any other kind of nationalities -- then you had none of that.

So for me, growing up, I couldn't go to public school. That was not available to me. I couldn't live in certain neighborhoods. There were certain forms of transportation that I couldn't take either. And so everything around my life and in the way that my parents brought me up was around workarounds, you know? So I still could go to school, but I had to go to a private Catholic school because they accepted non-whites. I could still live in certain neighborhoods, but then they were the certain neighborhoods and they were not everyone's neighborhood.

But it didn't bother me when I was growing up. But I think I realized, you know, after a while that there was a very big divide in my life. And that's very strange that there are some people who have and some people who don't. Even consider when I went to university, I couldn't just go to university like we all go to university here. I had to apply

for special permission to attend a school that had a dorm that was in a white neighborhood because I couldn't live there otherwise.

So, you know, I think maybe the takeaway for me for all of this is that, while I was growing up, I never felt I was missing anything because I felt like I achieved everything and I got everything I wanted to do through all of these workarounds. And so it made me I think very resilient. I don't take no for an answer because most times my entire life was about a no, right? But I managed to get everything else in spite of that, so you learn to not take no for an answer.

**Jerry Lee:** I would say one of the probably most important stories of our generation was obviously the race to build, to develop, to actually create a vaccine for COVID. I would say many of the people in this room very likely have the Pfizer vaccine running through their veins. When I actually think about the challenge of Project Lightspeed, right? To kind of -- to quote Albert Bourla, your CEO's, book *Moonshot*, how did you bring together a team to actually truly make what was seen as impossible possible? And not just over any period of time, over an

unprecedented period of time?

**Angela Hwang:** You know, it was just an extraordinary time in our lives. And I think, you know, in March of 2020 when we were watching, you know, the pandemic evolve, I don't think any one of us, you know, even thought that this whole idea of making a vaccine and being able to do it in this amount of time was, like, literally possible. It was not possible. And so I think all of us had our own doubts. I remember my own. I remember, like, I was sitting on Zoom, and it was the meeting where we decided, okay, we're going to get this done. And --

**Jerry Lee:** We're just going to get this done. Just going to get this done.

**Angela Hwang:** We're going to get this done. I always give myself 24 hours for anything. And I had my own 24 hours of, like, "Exactly how is this going to happen?" and, you know, really processing it. But actually I think, you know, what happened and what ensued from that day was just everyone realizing that, you know, humanity was at stake. Our own lives were at stake and our families, you know? And but more than anything else, it was just the

legacy of our company and what we were made to do. I don't know if you all know this, but in 1943, Pfizer -- actually, in the mid sort of Second World War, the US government had come to Pfizer discussing the production of penicillin. And actually we then engaged and the plant that we built in Brooklyn was one of our first plants because it was made specifically to make penicillin. And on D-Day, Pfizer supplied I think 95% of the penicillin that was used on D-Day.

And so I'm saying this because this culture of our company, like, came to life in terms of, like, what are we here to do? Why were we here in the first place? What put us on the map? And, you know, what has brought us to this day? Which is incredible amounts of knowledge on infectious disease and also, you know, vaccine making. And how it was our responsibility to bring it together.

So it was a very scary but poignant moment I think for those of us who were there that day. You know, for me, forever profound. But then you wake up in the next day and you're, like, okay, then, what do we do, you know? And so very quickly I think what -- I would say overarching what helped us very much so was our culture. I think

Pfizer has always had a culture that's very patient-centric, right? We always think about why do we wake up every day? Why do we work here? It's to deliver breakthrough medicines to patients. That was one thing.

The second that that we had done I think over the course of the last ten years -- and this would be the, you know, the work of, you know, I'm grateful for the work of my current CEO Albert Bourla but also our previous CEO, Ian Read, who really believed in people. And that if we develop great people and we develop our culture and we pay attention to that and that our people would be what sets us apart.

And so I think through the years we had learned how to trust one another but also how to challenge one another in a way that was constructive. So much so that when we were all locked up and we actually couldn't see each other face to face, we were able to function in this way and bring our best game, you know, to the forefront in the development of this vaccine. But there were many things that had to come together.

Another was just sort of, like, the clarity of our roles. And so it was Mikael Dolsten's role to create the vaccine, right?

What's the construct? And then it was the job of Rod MacKenzie, our then head of clinical development, to figure out the clinical trials and where in the world are we going to recruit people from? And by the way, while we're recruiting, how are we going to make sure that we meet our diversity goals? Because we wanted to make sure that we had at least 30% of our patient population come from the minority groups so that people would believe in our vaccine, right? Like, in the end, when you develop it, you want to make sure that people see themselves like they had participation in it and they believe that this is a vaccine that's relevant to them.

And while they were doing that, Mike McDermott, head of manufacturing, is busy figuring out how to make the vaccine. I mean, literally how. We had, like, lab bench size kinds of models that, you know, had ever only put out, like, tiny bits of vaccine to be used in trials but never at scale, so I would say that was ingenious.

**Jerry Lee:** It's not just a button you press?

**Angela Hwang:** No, unfortunately. Many buttons that we had to make, I mean, literally make from scratch. And



then there was me and my group, and our job was to make sure that we created the contracts and agreements with every country in the world so that the minute we had the vaccine you could distribute it, deliver it, and administer it to all the countries. So all these things were going on at the same time, literally, every single day. And we met every single day, several times a day. I met with my commercial team. Everyone did their thing, and we would come together every single day. And literally we would work like that for the nine months.

But I think the special part of all of this, if I was to say anything, of sort of, like, what made our leadership special, it was -- at least for me -- I can say that it was my own vulnerability. I mean, I literally did not know most of what was being asked of me. Had no answers. And it was about just bringing people together to figure it out.

And I think often as leaders, right? We feel -- and especially in all these surveys that we have, right? Like, you have all these surveys that, you know, rate your leader, and there's --

**Jerry Lee:** We're familiar with that.

**Angela Hwang:** -- I mean, I think of one common question that says, you know, at least in ours, it says, you know, "Does this leader second guess? And do they, like, undo decisions that were made?" And, yes, in this case, I undid every single decision that was made because literally what we thought we were going into by the afternoon wasn't that anymore, and by the next day it had changed. And so I think it was a big time for leaders, you know, it was an important time for leaders just to put themselves out there and be willing to be vulnerable, just to say we are going to solve the problem, whatever the problem of the day it is, and we are going to bring our best game, you know, to solving this problem. And we're going to engage people in doing so.

And so being respectful of people, their ideas, because you don't know what the right idea is, right? It's just all coming at you. So you have to listen well. You have to respect everything that comes across and be able to piece things together. And then as the leader, you have to be the one that brings it all together to say, okay, well, based on that today, we're making this decision. But maybe knowing that tomorrow you may have to undo it because something

else happened.

And so I think it was a big, you know, it really forced all of us as leaders to show a very different side of our leadership. It really forced us to be empathetic because don't forget people were working around the clock, literally. Like, around the clock. And so reminding, you know, reminding our teams to take a break. Reminding them to just shut off for, you know, the day, the 10 minutes, whatever it was. I think that just everything that you think about as being important as a leader sort of came together all at once. And it was, you know, it required all of us to I think to bring the best of ourselves, you know?

But I think that vulnerability part and that willingness to accept that maybe yesterday you made the wrong decision but today we're going to change it and we're going to get on track. And every day, pivoting and re-pivoting were all the things that got us to the end. Because in the end, we were able to admit to ourselves that's not the right path; this is the right path. And we made the series of right decisions that got us to the end.

And so, you know, none of us wish for this to happen

again, but I think probably the biggest learning from all of this is how do you bottle up all that stuff that we did?

**Jerry Lee:** Sure.

**Angela Hwang:** And now, how do you do it again in non-crisis times, right? Without that pressure of knowing that there's these stakes, you know, these high-stake things that are going on, how do you translate that and make this an everyday sort of behavior? I think that's much harder to do actually.

**Jerry Lee:** First of all, thank you for that vulnerability. Thank you for being willing to go back on prior decisions. Thank you for everything that obviously your team and other pharma teams did across all of COVID vaccines to actually enable what society has now kind of come back to the fore. So thank you for that.

**Angela Hwang:** I want to talk about the goal-setting part as well because that was actually a really fascinating part of our ability to innovate. I mean, think about it. We had never made this vaccine before. This is the world's first mRNA vaccine. We made lots of vaccines, but not of the

mRNA kind. And then we've also never produced one of these things at scale.

You know, usually on a good year -- and I would say that Pfizer was actually a large vaccine manufacturer prior to COVID. On a good year, we made 200 million vaccines. That's a good year. COVID, over a billion vaccines a year that we produced. So think about that scale-up from 200 of the regular kind to, like, a billion of the non-regular kind.

And so I think in this instance, you know, what was not negotiable for us was the goal, which is you need to make this thing. Then it became about, well, how do you make it? And what is the white space that you have to innovate, right? So what is not white space is patient safety, your submission to the FDA. Like, we have a lot of regulations, right, that say you have to submit your file this way with this kind of data. Those are not negotiable. So you know that's not time you can shave off.

But then everything else becomes fair game, and you can shave off any of that. So I think those lessons learned from innovation and how we think about innovation is exactly in

that form now, which is what is the goal? Is it a new modality? Is it a new patient approach? Is it a new, you know, whatever it is? And then what is it that we know we can't move? And then whatever that is that you cannot move, everything else becomes fair game. And then spending the time, like I was saying. Like, I think time to really be out there and to make the mistakes. I think making mistakes is a big part of innovation. You're not going to get it right. There's just no way you're going to.

This is part of my point about every day we would make a decision, and then we'd find out by the end of the day, oops, that was not the right one. We have to undo it and remake another one. That's the journey of innovation is that, if you have a clear goal and you know what it is that you have to do, then you have to put yourself in that place to go and experiment and figure it out. And sometimes you're going to be right; sometimes you're not. And it's okay that you're wrong; just re-pivot and re-pivot and re-pivot.

But that's where the goal becomes really important, right? Because you don't have a moving target. We never, ever changed our deadlines. If we said we needed to do it by

Friday, we did it by Friday. But how we got to Friday then looked different every single week and every single time. So that was a big learning for me, Jerry, in terms of, you know, the innovation.

Of course, now you don't have that pressure of that same sort of really constrained time. And I see ourselves kind of stepping back into some of the old habits of, you know, maybe not experimenting as much and not putting ourselves out there to, I want to say, fail fast, right? Failing fast is what helps you actually.

Or another thing that we learned: Parallel pathing. In a world, I don't know if you know much about pharmaceutical development, but you typically put a compound into clinical trials and then you see how it goes. And then it's yes/no and then you take the next step and the next step. Well, another part of innovation that we learned from COVID is that we didn't have time for that. I mean, that's what takes you 10 years.

So we had to parallel path everything. So what are all the things that need to happen at the same time? And how do they interact with one another? And where are the

interdependencies? I think that's another aspect of innovation that maybe sometimes we don't activate as much, which is what can you do, you know, concurrently so that you can determine, you know, at that next point, at that juncture where you have to make a decision that maybe you'll have more variables and more things to decide from?

**Jerry Lee:** Maybe the last question I'll close with is on the diversity side. You're obviously a very prominent leader, a very prominent Asian leader in pharma, a very prominent Asian female leader in the Fortune 50. You've highlighted the stories in your upbringing, in your corporate work in terms of allyship, in terms of mentorship that got you to where you are today. But as an Asian leader and really as any leaders in your teams, in your day-to-day lives, in your communities, when you think about what got you here today but also the responsibility that you have to the next generation of leadership, especially diverse leadership, how do you think about that responsibility? And how do you actually identify, build, and really kind of, like, source that next generation of Asian and diverse leadership?



**Angela Hwang:** Yeah. So I do feel that responsibility. And, you know, I told you the story of my upbringing and why it is that it is so important to me. But, you know, every -- it's still a difficult thing to do, right? Despite the role that you have in your company, despite how much I do do, despite the fact that I'm such -- I mean, I just love, you know, engaging with colleagues from everywhere around the world and making, you know, making sure that I'm focused on moving the needle. It's just really a difficult thing to do.

So I think the lesson, number one, for me is you kind of have to stick with it, you know? And you have to invest and you have to invest in a very enduring sort of way because it takes years to be able to build the kind of representation and the community and the bench that you hope to have. And so I always feel -- and I always say this at work -- it doesn't matter where you start, just do one thing. Just one thing. Everybody, do that one thing because that one thing turns into another thing which turns into another thing.

So really activating your colleague, you know, your colleague organization to making everyone responsible.

Like, it's just not Angela. It's, like, I need all of you, right? And so I'm always call to action to everybody. My call to action to everyone is to just do that one thing and to take action.

**Jerry Lee:** Thank you so much for sharing your stories with us today. Thank you for this courageous conversation.

*This transcript should not be copied, distributed, published or reproduced, in whole or in part, or disclosed by any recipient to any other person. The information contained in this transcript does not constitute a recommendation from any Goldman Sachs entity to the recipient. Neither Goldman Sachs nor any of its affiliates makes any representation or warranty, express or implied, as to the accuracy or completeness of the statements or any information contained in this transcript and any liability therefore (including in respect of direct, indirect or consequential loss or damage) is expressly disclaimed. The views expressed in this transcript are not necessarily those of Goldman Sachs, and Goldman Sachs is not providing any financial, economic, legal, accounting or tax advice or recommendations in this transcript. In addition, the receipt of this transcript by any recipient is not to be taken as constituting the giving of investment advice by Goldman Sachs to that recipient, nor to constitute such person a client of any Goldman Sachs entity. This transcript is provided in conjunction with the associated video/audio content for convenience. The content of this transcript may differ from the associated video/audio, please consult the original content as the definitive source. Goldman Sachs is not responsible for any errors in the transcript.*

**Angela Hwang:** Thank you, Jerry. Thanks, everyone.