AI and the Future of Digital Transformation

Announcer 00:02

Please welcome the panel on AI and the future of digital transformation, moderated by Nicole Valentine, FinTech senior director, Milken Institute.

Nicole Valentine 00:18

Okay. Thank you. Thank you. Good afternoon. Good afternoon. So we are in a period where tech is ahead of us. It's pushing us outside of our comfort zones and challenging us to change in so many ways. In this moment, we need thought leaders, policy makers, ethical leaders, visionaries and founders who can steer the ship to the next industrial revolution in a way that creates more benefits than harm. This panel is symbolic of having different chairs around the same table. We have different voices and perspectives represented around the table of artificial intelligence. For the next 60 minutes, we're going to put AI in the center of the conversation and layer in economic opportunities, workforce challenges, industry applications, national security, policy and more. I want to start by having each of our speakers share how they consume, manage and approach AI in their work and missions and through this, I'd love for them to also give us a little bit of their background and how they came to AI, so Jo Jagadish, head of digital payments and contact centers at TD Bank US, thanks for being a supporter. Dig in, dig into this AI table.

Jo Jagadish 01:42

For sure. Thank you, Nicole. And good afternoon everyone. It's a pleasure to be here with all of you. So—you know, to—I was thinking about sort of this question, and I thought I have a unique privilege in my role to run kind of three areas in the bank: digital banking, the contact centers, as well as the payments ecosystem, all which are really ripe for transformation through AI. But as I was reflecting on kind of my background, what got me here and into AI, you know, I didn't want to share like, I've been in banking for most of my career, but originally, like, by qualification, I'm an engineer and I'm a hardware engineer, meaning I actually went to school to study chip design. And, you know, shortly after that, started working out of graduate school, actually started working in a bank, but working in analytics and data. And this was, you know, many years ago. I won't age myself, but one of the things that was interesting is, at that time, kind of this background everybody, you know, the job market was really much in, like front office, so I had this great background, and now I kind of sometimes reflect, well, what if I, what if I pursued a career in AI, you know, in kind of, what I actually went to school to study, how different would life be? But coming back to, sort of the, you know, kind of the applications of AI in banking, per se, it's a space that we're very heavily engaged in across TD Bank. We've got numerous use cases that are live today that we're actively working on, fundamentally centered around this concept of human in the loop. And I think we're hearing a lot about that. I know it's not a new term or a new phrase for anybody, especially those who've been kind of engaged in the AI ecosystem. And I think what we're seeing is an evolution of human in the loop, evolving to kind of humans as supervisors. And why I think that's so important is because we know that, you know, AI creates a lot of efficiency on repeatable tasks, but human judgment still is central to kind of the roles and the applications that we see AI perform. And so in the contact center, you know, we're seeing in the in the initial phases of launching an AI solution, we saw 80 percent adoption in like, the first few weeks, which is, which is a testament to the fact that colleagues, employees, people, are ready to actually adopt it, because it makes them more efficient. And so, you know, we're testing and learning a lot of use cases, largely focused kind of internal to TD Bank. And over the course of the next couple of months, and, you know, years, we're going to be talking more about what we're doing, kind of customer facing, but the human in the loop concept for us has been really central to how we think about AI deployment across the organization. So I know this was an introductory question, and we're going to talk more about what that what that looks like.

Nicole Valentine 04:34

Well, that's great. We're going to get into human-centered AI, and we want to know more about what's going on with human in the loop. Thank you. Karen Kornbluh, senior advisor, emerging technology, Milken Institute. You also served as ambassador to the Organisation for Economic Co-operation and Development. Tell us about your AI journey.

Karen Kornbluh 04:50

Well, thanks. Thanks so much for organizing this. Nicole, you're such a great moderator. I love being on panels with you. So I've worked on data and technology my whole career. So dating back to—I was just talking about this coming right out of college, I was an economic forecaster at Alan Greenspan's economic forecasting firm and then I was my last job in politics was as in the Biden White House, as director of the AI office and acting chief technology officer. But I've always been on the deployment side, on the how can this be—how is this being used? How should it be used in industrial settings and changing business models and what should the policy be? And so what I think about with AI, I think back to, I think of it as a continuation, not a break with the digital revolution. And I think about what we saw in the digital revolution back in the late 80s, early 90s, computers were everywhere, but except in the productivity statistics, famously, and then suddenly, the computers were all connected via the Internet. In the late 90s, productivity took off, and then I was just looking through the data today. When do we really see job change? And what would we think of as job change? Well, in—what about journalism? Because that was certainly so impacted by social media. That happened in 2007, 2008, that's when we started to hear, see, a real hit in journalism. And what happened there was, you know, Facebook really disintermediated journalism. And, you know, forced—took—and the internet in general, took away the personal ads. And, I mean, the ads that were such a—the revenue source for journalism. So I think what we have to think about as we look at AI is not just the power of the tech, but how it's going to change businesses, how it's going to be deployed and then that's going to work its way through in a bunch of sort of unexpected ways. But if we want to get the benefits of it, we have to really think about how to and we'll talk about this more, how to focus on that, how to be intentional about it.

Nicole Valentine 07:06

Absolutely. Karen, I want to dig into the workforce changes and disruptions and displacement further in the conversation. Eric Mandl, senior managing director, technology investment banking at Guggenheim Securities. Thank you for being a supporter. Dig into AI, give us your journey.

Eric Mandl 07:22

Well, first of all, I just want to echo Karen's comments. Thank you so much for putting together this panel. It's a great group of folks. It's such an important topic, not only because in each of our lives it's so impactful, but there's a wonderful, exciting part of it, and then there's an unknown. And you know what we all grapple with, but maybe I'll double click, from just a pure finance advisory perspective, is, how do you measure this impact? Is it financial? Is it sociological? Is it evolutionary? Is it revolutionary? And of course, I think, you know, it's sort of a trick question, and the answer is yes. Yes to all of that, and then some. I'll share one thing that keeps popping into my mind, a very, very similar background. I started off studying computer science, and I knew very quickly I had to switch to finance, so I didn't stick with it. But in a way, there is something happening that many of us have been waiting for for a very long time. And I think Karen's point is so astute, it's rather hilarious how long it takes for technology sometimes to be subsumed into things that should be dependent upon it out of the gate. So there's this very famous line. I'm not sure it's attributed to anyone, but in times of great change, things are usually bigger than expected, but they take longer, and I think we are right at the beginning of that moment. The market is working very hard to figure out how big this change is, but they don't know about the timing, and what does the market do? And it doesn't know timing. It assumes it all happens right now. So listen, God willing. Let's say, in 10 years, we're all sitting here and having this conversation again, I think there is going to be a lot more goodness than not. But I think the thing that we have to keep in the back of our mind is what are going to be the applications that are demonstrable right out of the gate, that also can have some sort of balance with social equity? That's a very, very difficult question. I think we all believe finance may be an easier way to do that, but that usually takes the longest.

Nicole Valentine 09:41

Thank you, Eric, thank you. Igor Tulchinsky, founder, chairman, CEO of WorldQuant. Thank you for being a supporter of Milken. I'd love to get your AI journey and—you have a mix of AI and quantum. So happy for you to dig into that.

Igor Tulchinsky 09:56

Hi and thank you for putting this conference together and giving us opportunity to have all these discourses. So we've been using AI for really long time, and we're really a family of companies. One is in asset management, some is in angel investing. Some is in venture studios, there's, there's even a free, online university. So we do all kinds of things. And as someone who has been using AI for 20 plus years, I can say that what's happening now is a big—it's a step change. It's a step function. So to say what we'll be doing in 10 years, when we're sitting here, again, is a leap in imagination. AI is changing things profoundly. Many things that we do are 100 times faster, and we're just scratching the surface, and we don't even have enough people to put all the processes that are faster in place. You asked me about quantum. We have made a number of investments into different quantum companies in a venture arm, but we, we're not using quantum technology right now. Quantum technology is growing nicely and slowly, and the most likely use case for it will be solving some problems extremely fast, like 100 million times faster than conventional computers. But it's not something that's gonna make GPUs disappear one day. Rather, it'll create different opportunities to do some of the things like optimization and like cracking RSA codes and things like that, really easy.

Nicole Valentine 12:28

Thank you, Igor. We're going to dig into national security and cyber security in the con—later in the conversation. Thank you for that. Kip Wainscott, executive director of global AI policy, JPMorgan Chase & Co. Thank you for being a supporter. Your AI journey.

Kip Wainscott 12:45

Very happy to be here, by the way. Thank you so much. Very humbling to be a part of this group. It's an excellent panel. Listen my career journey. I bring a policy lens to this work, and my journey really has been one of occupying various seats around the multi stakeholder table for AI policy. It started in government. I was working on emerging technology policies at the Department of Justice, and then in the Obama White House. I then moved over into a more academic setting. I was at the Stanford Cyber Policy Center working on a program, basically interrogating, sort of the global regulation of emerging technologies. And then I moved over into the tech industry and started writing and developing policies for technology products. I was the head of product and content policy at Snapchat for several years before landing in my current position, which is a really interesting role, I am a part of a team at JPMorgan Chase that is essentially established in the past 18 months or so as a firm, wide center of excellence for global AI and data policy issues, and we are evaluating the full wingspan of policy questions that are really emerging, sort of in response to artificial intelligence. And I will just say that like, what's really fascinating and rewarding about doing this work from this platform is that JPMorgan Chase is really able to sort of occupy three unique vantage points, right? We're one of the world's largest deployers of these technologies, and we will talk more about what that deployment looks like. In our context. We are one of the world's largest purchasers of these technologies. JPMorgan has an annual spend for technology of around $20 billion and that puts us in a really central role within sort of the as kind of a procurement node, but also within the innovation ecosystem of technologists right now and innovators who are building these tools and hoping to sell them one day. And then third, we're just, we're a really large financial institution, and so we have this institutional interest in unlocking the economic growth and the full potential of these technologies, and ensuring that the outcomes here are beneficial and that they're unlocking value. And it's really, it really is very affirming to sort of look across these different vantage points and see that there's so much commonality. You know, no matter how you're looking at these questions in sort of the policy objectives that we really need to be elevating, to really create trust, to establish confidence, and to really, you know, ensure that the US is positioned to to succeed in this very transformational moment. And so it's, it's really interesting work, looking forward to digging into the discussion.

Nicole Valentine 15:40

Thank you, Kip, and you your comments about your 20 billion spend across and you have over 300,000 employees at JPMorgan. That gets us to our AI and economy part of the discussion I'd love to start with you, Eric, the market is shifting between concerns over heavy AI investment growth and optimism regarding AI driven growth. How should we read these fluctuating sentiments?

Eric Mandl 16:03

Yeah, this is a great question, and central I'm sure everybody in the room is thinking about this day in, day out. I've always found that sometimes the most calming thing in a moment of stress is data. It just, it's very equalizing, and perhaps taking a page from Igor's book. When you understand the speed with which things are moving, that's one thing, but how they're moving with data kind of solves everything else. So a couple of statistics, which I think hopefully many of you know, but, but if you don't, it'll be a little shocking, but I find them shocking even though they're in my head. So the first is to stick with the 10 year point. There are generally accepted consensus views that AI spend from an economy impact perspective is going to be somewhere between 4 and 5 trillion dollars in 10 years. Now, if we realize that the hyperscalers alone, or The Magnificent Seven, are spending around 700 billion right now, we don't have to do show of hands. That 10 trillion is probably—that 5 trillion is probably understated. Could be 10. It could be 15. Some people say it could be the size of our current GDP, which is around 29 trillion. So once again, where are those dollars going? They're going into infrastructure, they're going into hybrid cloud deployments, and they're going into the acquisition of data. Here's another statistic. Hopefully it's calming. Maybe it won't be 90 percent of all data that exists on earth was created in the last 24 months. Let that just sink in for a minute. The amount of total data on Earth doubles every four years. With AI, once again, to Igor's point, probably going to be more like two years. So we have an exponential thing going on. Now, I was sort of joking with the comforting point, but this should be comforting. When you think about all that data. The vast majority, vast is private. The way AI models work is they consume public data. Now, if they have relationships with governments, large companies, trading organizations, they can get access to that private data, and those models can learn, and then they can discern outputs from that. But they have to keep learning. The minute they stop, the minute they get, the minute they lose access to the data, they are no longer money good. So it's a lot of things to digest. But I think the theme that always keeps me grounded is, if you're a company and you have all that private data, if you're a government and you have all that private data, or even an individual, and you have all that private data, you're going to be very careful about how you allow people to access it. And I think the thing that gets missed in a lot of this, and I'm a deal maker, so I'm like, this is what I deal with all day long. At Guggenheim, we keep reminding our clients, the boards we talk to—software companies and AI companies, data infrastructure companies and AI companies, governments and AI companies are going to have to coexist, because the models are only as good as the access to the private data. And I think that thematic point is somewhat calming, great.

Nicole Valentine 19:29

I want to bring Kip and Joe into this conversation around how AI leaders should be. You know, managing AI and deploying AI. What should be the AI strategy for large organization in this marketplace?

Jo Jagadish 19:44

So I think, from an AI strategy perspective, I think we're really focused on where does AI really complement the work that we're already doing, kind of across the organization, in the three areas that that I run are. There's AI applications in all three areas in digital banking. Just to make this real for everyone in digital banking, we're really rethinking what it means for customers to engage with us through mobile, right? What are the experiences that are now AI powered through mobile that customers are going to be ready for? We know that over a third of the US population is already using some type of AI tool in their personal lives. So it's telling us that consumers are ready, right? But how do you make the visual experience, the interactive experience? How do we design for AI in mobile in an organization where our biggest currency is trust with customers, which is why I go back to the human in the loop, and all the controls that we have around it are so critical to us. But that's a that's a space where we think very deeply about, in terms of, how do you design for AI in in a channel that is increasingly important to our customers. In our contact center organization, you know, a lot of our customers are calling us because, you know, they're in a moment of need or panic or they have questions. And we found that deploying AI is actually making our bankers that are picking up the phones every day—it's making our bankers more effective in solving the needs of our customers in a much more quick and efficient fashion. So our first knowledge management tool that we deployed in the contact center, as I mentioned, we got 80 percent adoption in a couple of months, couple of weeks, actually, it's already reducing average handle time for our colleagues. We've actually deployed this knowledge management tool in some of our branches in Canada, and we're seeing fantastic results. And what this is allowing us as an organization is actually to spend more human time with our colleague—with our customers. So more face to face, more conversations that are actually driving quality and quick resolution. So I think my point in all of this, Nicole being that, I think, you know, AI just like the internet revolution of you know, the early 1980s 1990s and what that meant for banking was that it was making all of our jobs better and more effective, allowing us to build new products and service our customers in a much more, I'd say, organic way, and bringing convenience and ease into that interaction. And I think AI is no different, right? It is really enabling us to just be more effective in how we engage with our customers, the products we build. In payments, for example, it's really helping us look at fraud, and we're able to manage kind of the fraud, the transaction repairs that we have to do in kind of our payments ecosystem. So there are a lot of use cases, but at the end of the day, you know, our goal in deployment of these solutions is to drive, obviously, efficiency internally for our colleagues, but be able to then drive more, I'd say, engaged dialog with our customers. So some, you know, some back office functions that are repetitive will see more engagement and more deployment of AI solutions, but that also just frees up capacity in our front office to be more effective and engage with our clients.

Nicole Valentine 23:05

Kip, you want to jump in?

Kip Wainscott 23:06

Yeah, that's a brilliant answer. And I'd love to just layer on a little bit from the JPMorgan perspective. But you know, as leaders across enterprises are thinking about their AI strategies. I mean, one, you know, one of our kind of guiding tenets here is that, you know, we're focused on delivering value here. We're not grade— when we grade our AI strategies. We're not looking at the velocity of, you know, deployments. We're not looking at the scale of investment. We're looking at, how are we adding value? Where can this add value? And there are three surface areas where I think that's been really apparent for us right out of the gates. I mean, one is looking at our customers and delivering value for them on the fraud detection space alone. I mean, we have unlocked, just in the past three years, more than a billion dollars in fraud loss preventions. We expect that over the coming four years, that that will yield $3.7 to $3.8 billion in additional fraud loss savings. In addition, you know we're seeing, we've seen a 20 percent decline since we rolled out our latest AI models and fraud detection in false positive reportings from customers, despite a double, a 2x increase in the detection of fraud hits, so real value for consumers there. Looking across our business operations, our LLM suite has been rolled out to a quarter million employees around the world, 160,000 employees are using it, at least on a weekly basis. Among them, they, on average, report, you know, four hours increase in productivity week to week. And that is, that is a real value unlock for our workforce. And then looking, you know, third sort of at our systems. At a systems level, we're seeing some really encouraging opportunities. Our technology team recently developed something that we've branded as the AI Threat Modeling Copilot, and it's really enabled us to, you know, much earlier in the software development life cycle, with much greater precision, to identify risks and concerns from a cyber lens primarily. And you know, these are just these are really valuable contributions to our business and to our community. But one advantage that I think that we've had in being able to unlock this value is that banks have this long standing relationship with risk management, especially in the technology space. We didn't have to build new architecture for risk management. We have governance infrastructure. We have we are familiar with, and it's been sort of an evolutionary journey with managing technology risk deployments. And this is something that I do think we bring a lot of lessons for the wider economy as to how to do this responsibly, how to do this in a way that is very outcomes focused and delivers value. And what I think, you know, we'd love to see is some of the learnings from the financial sector more broadly, kind of applied to the deployer and enterprise communities and to inform sort of the dialogs right now around technology regulation and public policy.

Nicole Valentine 26:25

Thank you, Igor, I want to get you into the conversation you discussed that you have, you know, just interest across asset management, across venture, across education and upskilling. How are you approaching AI, across all of your ventures?

Igor Tulchinsky 26:44

Well, you have to look at AI, kind of from 10,000 feet up. And you have to ask yourself a question, where is AI actually most relevant? And I would say that that place is defense, because without good defense, you're not going to have anything else. You're not going to have any other opportunities. Contrast big countries and small countries, many small countries don't have as much data as we do, but they also don't have the quagmire of regulation that we do. And they can go and they can access all the data that's out there, and they can learn, and they can make their systems better. They can make their their weapons better, and that's something to keep in mind. Then there are other big countries which don't really have regulation, and we have to be really careful from those countries. Now, I think I I'm kind of answering a different question than that you asked, but I figured I better get that in first. So we had, we have an ecosystem, and we have many, many different places that discover and use AI separately and competitively. Within the hedge fund, there are many groups that do all kinds of things with it, from finding alphas to just making everything more efficient. Then we have the investment pipelines where we invest in these companies. And we, I think we invested in pretty much every quantum company at some point in time. And then we have the foundry, which uses current technologies to actually create a company. Every two or three months, new company comes off well in a factory-like process and vast majority of them are AI, and I think we just hired the quantum experts there as well, because you never know.

Nicole Valentine 29:31

Yeah, I want to thank you, Igor. I want to also just open this up to you, Karen. We talked, we're talking about the cost of building the next industrial revolution, like we all we're all clear here that we are on a next step of technology and for for the work that you've done across policy, I'd love to get a sense from you as to what are some of the issues and the costs that can be incurred in this transition or transformation. And then what are some things that policymakers, business leaders should be really thinking about?

Karen Kornbluh 30:05

Yeah, thanks, Nicole. I mean, I go to this issue first of—from the business perspective. I mean, if you're a board of directors in this new era, I think you really have to rethink what your moats are, what your assets are. You know, you're a data company. No matter who you are, you're a data company. And you have to think about what that data is, how you can access it. And then you have to think about, can you be replaced by a clever agent or a clever AI model? You know, if you're a law firm, you're, you may be, you know, the next owner of a taxi medallion that goes out of business when Uber comes along. Same thing if you're an architecture firm, if you're an accounting firm and that a little bit, gets into the regulatory space, because we're used to thinking of those professional services as having a certain kind of accountability to their users. You know, if you go to a lawyer or a therapist or an accountant, they've been trained, they've been licensed, they have fiduciary responsibilities to you. They're not—because they have an asymmetry of information about you. They're not supposed to share confidential information that you give with them. If customers are suddenly having conversations with their AI, there's been a democratization of expertise. They suddenly get a lot more access. It's a lot cheaper. There's a lot that's wonderful about that, but we also have to think about what are the costs in terms of accountability? And so I think some of the industries, the professional services industry, should be really thinking about that, not just, what are the responsibilities of a lawyer who uses AI? What's the future of the legal industry? How do we attack ourselves? How do we become our own incumbents? But then, but then think about how accountability is going to be out there. And some of the other issues I think about a lot are, you know, and before we get into the labor stuff, which I'm sure we'll all want to talk about, is how are we going to get the good stuff out of AI in addition to productivity? And one of the things that's always talked about is we're going to cure the next all these rare diseases. And that's that's super important to me. I have a family member who has rare disease. It's not going to happen again until we unlock the data and the regulatory system. Right now, if a pharmaceutical company runs a test on a drug and it's not successful, they don't make that data public because they may want to use it later. How are we going to incentivize drug companies to make that data available? How are we going to speed up the approval process so that we can really unlock some of those advantages that this—that were promised about this for curing diseases? So I think there's just a lot of fascinating issues. We could go on and on, but we have to be—we have to get into the nitty gritty of it all and sort of unpack how we've constructed things in the 20th century, to think, How can we what do we want to keep and how do we make it appropriate for this new AI age?

Nicole Valentine 33:18

And Joe mentioned human in the loop. And Karen, I want to stick with you. You know, human-centered AI, we discussed this is an important part of the process, keeping humans involved. Just want to get maybe everyone's take on, kind of, is it a no brainer? Yes, human in the loop. Yes. You know, how are we building out AI? How should we be designing it? Who should be at the table in these cases where we're building out these training models, we're getting bigger. Give us a sense of your human centered philosophy.

Karen Kornbluh 33:49

Yeah, I'm not going to answer the question, but I'll, I'll just say that there were two studies that came out the last couple of weeks. Or was that? How do you pronounce it? Ciprini is that Ciprini report that said it's 2028, there are no jobs, you know. You know, there's been a big crash the you know, the economy's a mess. And then there was another study that was less talked about, that came out of Princeton that talked about, yes, there's going to be a lot of adoption. But even though the models are getting better, their reliability isn't really changing, and that you need humans for the trust layer, basically. And so I think I don't, I don't know which of those two is right. And I do note, I mean, I like the idea of the Princeton study, that we're going to need humans as the trust layer. But I also note that in in, again, in this, in the digital revolution that we've had, some of the services haven't been better, but they've still been cheaper or faster or just more successful in competing. So I'm not sure which of those. I'm sure it's going to be a combination of those two.

Nicole Valentine 34:57

You don't want to jump in on human centered, human in the loop?

Jo Jagadish 35:04

The one thing I, you know, just I was reading an Economist report this morning, and it actually talked about, sort of how, since the launch of ChatGPT, November of 2022, we actually have 3 million more white collar roles in the United States, and I thought that was fascinating, but we have 7 percent more engineers than we did in November of '22. We have 21 percent more paralegals, and we have 10 percent more radiologists, all the roles that you know, you think would be at a threat from an AI perspective, and I think fundamentally, what this continues to remind us is just like the technology revolution of the 1980s and the 1990s and the Internet and the ATM. Gosh, people were really scared when ATM machines were deployed, because they thought that would be the end of like branch banking. And here we are, and branches are incredibly important, right? And you could say the same for for mobile. So I think in an age where you know, AI is going to present the opportunity for the mundane, repetitive work to be a lot more faster, a lot more efficient and automated. I think it does beg the question of, like, what kinds of new roles will evolve in the economy, just like today, we have design engineers and, you know, app development engineers, there's a whole new, like, category of roles and jobs that are being created to support this human in the loop, AI revolution that we're seeing. And so I think fundamentally, how we think about upskilling our organizations, our talent pool, our economy, I think that, to me, is like a fundamental question, and one that I know actively a lot of organizations are focused on. So I think human in the loop is obviously essential. As you think about build to deploy, and as an operator, I'll tell you it is so important as you think about change management, like deploying an AI solution, the change management that goes around training, you know, the communications plan, the training plan, that is so critical. So, you know, I don't think we're really there yet where you can actually deploy AI at scale without human in the loop. I think what's really going to be interesting is how we upskill the organizations and economy to actually adopt these new new roles that come out of this AI revolution.

Nicole Valentine 37:38

Thank you, Igor. I want to turn to you because you do a lot of work around workforce upskilling in with your WorldQuant University. Can you share your approach and in the work you've been doing, you also have—wrote a wrote a piece on the President's AI action plan, and how does that fit into your work?

Igor Tulchinsky 37:57

Yes, well, I would also like to add that since GPT was here, our head count has only gone up, not down, but we have become more efficient, which leads one to believe that the work we have been doing three, four years ago was a bit more low level than the work we are doing now and the work we will be doing in the future, and that the amount of this high level, very interesting yet unknown work is quite large, so we don't really have to worry about putting humans in the loop, because the loop will produce efficiency, and then the efficiency will produce different goals for the human. Creating a new loop, and that loop will grow and so on. So again, I think I answered a little bit my own question. You asked me how what we're doing fits within the President's plan. I think we—we fit in whatever we can. We've thrown very large amount of resources in automating everything we can. You know, we can't build data centers or—or do things like that, but on the other parts, we were doing our share and just moving forward as fast as we can, our goal is to increase productivity 100 times this year.

Nicole Valentine 40:03

I mean workforce transformation. Eric, do you want to jump in on kind of what we're seeing in the markets right now? There's lots of big headlines on changes and displacement disruption. Give us your take.

Eric Mandl 40:14

Sure it's really nice to be on such a smart panel. These are really good comments. I'm going to marry three things I heard from Joe, Karen and Igor, and then end with something that Kip said. I think it's all going to tie together. So whenever anybody hears the term the law of unforeseen consequences, it usually feels negative. Doesn't always have to be negative. And Joe, I thought you made an amazing observation about app development, especially because of the firm in which you work, big IT budget. I remember vividly, unfortunately, I'm old enough to remember this, that when the first true wave of internet technology was happening, sort of late 90s, into 2003, 2004 that it was all over. No more software, no more people. It was all over. And I mean this, this was, this was not said half jokingly. This was said all over the place. I think people like to borrow analogs that go back to the steam engine or railroads. We don't have to go back that far. The predictive elements from that moment in time to today shows you how right and wrong they were. Yes, those industries are massive, but we have more people in the workforce in the United States than we ever had in history. So that's not an unemployment or employment point, it's just how many people are working, and a huge percentage of those people work in tech and infrastructure and IT et cetera. What I would also like to borrow is Karen's point about the economic aspects of how this works, and you'll be much better at explaining this than I ever would. But technological shifts usually expand economic output. It's highly irregular when you have a massive technological shift and all of a sudden you have a downgrade in GDP. Now I understand when people hear that, they say, well, GDP could go up and unemployment could go up. I think we have to borrow Igor's point, which is, I can tell you at Guggenheim, I'm sure it's true for all of us, we are—we're looking to hire more people than we ever have. Now, will the nature of those people be a little more technical? Will they have more of an understanding of how to use these technologies in order to answer highly complex questions? Absolutely, but there is an opportunity, and I'll end with JPMorgan, which I believe has the highest IT budget of any multinational firm, and it's a huge company. When you think about the way in which problems are solved, sure, there can be technologies that are invented to do so, but at least what I've seen in my career, and it's approaching 30 years, is it's nearly impossible to deploy new technology without services, and professional services is still the largest component of the way in which people—[noise] I don't know if that's my mic or—

Nicole Valentine 43:15

We'll proceed—

Eric Mandl 43:16

Hello, we got—it's all right. No problem. Yeah, we need AI. Does anybody have an AI agent quickly? Well done in the front. But I think that people can't fully appreciate how change creates more jobs. And I really think we're just on the precipice of that. And I know I'm repeating myself, but we have to be very careful to be driven by, and this is coming from someone who's in the markets. But we have to be careful when the markets are deciding the impact that something has, when the outcome is unknown, because the discount rate becomes extreme, and you assume it's all going to happen at the same time. And I just don't believe that.

Nicole Valentine 43:58

Well, we're talking about workforce and we're talking about jobs, I want to move to agentic commerce, where you have AI agents that are basically going to be employees, right? They're going to be taking action. They're going to handle your entire journey. They're going to search across platforms. They're going to make comparisons, they're going to complete transactions. I have one question for everyone, do you trust AI with your credit card? Gonna give you a credit card. Let it make transactions for you today.

Jo Jagadish 44:25

No, I don't, and I, but I do think agentic commerce is a space that's fast evolving. It is, it is one that—think there's a lot more work from a policy, a regulatory perspective, that I think we need to bring together in agentic commerce. There's no natural standard setting body. Like you have in open banking and some of the other innovations that we've seen over the last couple of years. And I think a lot of organizations right, whether they're the technology companies, the merchants, the payment service providers and the banks, I think we're all trying to figure out what this ecosystem is going to mean. From my perspective as a banking organization, where you know the implications of agentic commerce are going to be real is, you know, I'm a customer. I go in, I want to buy a pair of red pants, and the prices hit $50 and the agent buys two pairs of red pants from two different stores, both of which are less than $50 it fulfills the task, right? But the first call that I'm going to make when I figured out that it bought one, not two, is probably going to be to my bank before I call the merchant, before I call I don't even know how to call Google before I call Stripe. Or, you know, it's going to be the bank, because, you know, as your card issuer, right, like, that's the place you go when you want to file a dispute and that process and that workload and—this and—the servicing and the data like that, is where—that what keeps me up a little bit at night when I think about agentic commerce. I do firmly believe that as an industry, as a cross section of a variety of, I'd say, participants in this complex ecosystem, including the card networks, including, you know, technology providers and all the others that I mentioned, I do think kind of coming up with a certain set of standards and an operating mechanism is going to be very, very important.

Nicole Valentine 46:42

So Eric and Kip, can I get you in the agentic commerce conversation? Can you, can you describe some of the—unlock the possibility for it? I mean, there's definitely been some, some numbers around it.

Kip Wainscott 46:52

Sure that—so, you know, for me, from a policy perspective, right, there are certainly some within the bank, there are some really promising opportunities and some unlocks, particularly in the payment space. But wearing my policy hat, which is my comfort zone here, is that this is really representative of the acceleration of the innovation cycles that we're seeing and the really the ways in which the policy conversations are so far behind. And when it comes to agentic, for example, at this time last year, this would have been a buzz word at best. And at this point, you know, we're talking about the need for entirely unique standard setting organizations and just new architectures to support this innovation. And when you when you sort of prompted the question, you use the word "trust", do you trust agentic AI with your credit card information? And we, we continue to have a trust problem and challenge in the United States, in particular, year over year. Over the past three years, we are seeing declining trust sentiments toward artificial intelligence and toward the institutions that use them, and that sort of consumer sentiment is going to inhibit adoption at the enterprise level. It's going to put companies in a position of thinking twice before pushing, you know, AI, onto their customers. But it is also going to sort of speak to, you know, if you're, if you're thinking about success metrics for the economy, AI can only unlock value. It only delivers value if it is deployed, and deployment depends on trust. And so we really need at this point, before we can even get to sort of a layer of policy considerations for agentic AI, we're still, if you think about kind of the pyramid structure here, the base layer of the pyramid is still in a really early, kind of infant stage of policy development. And we really—this also speaks to the need for the policy outcomes here to be technology neutral, adaptable to future waves of innovation, principles based, but really that can give a lot more certainty and clarity to enterprises. You know, at JPMorgan Chase, I mentioned, we had the advantage of, you know, a kind of regulatory inspired trust architecture already within it really has, I think, enabled innovation in some sense, for us, because we have that intimate relationship with our risk surface areas. And so I think that this speaks to the need to kind of bring some of those learnings to the wider policy conversation, and to bring other deployer voices into these policy conversations to—to really elevate, you know, the importance of what it's going to take to unlock these, these opportunities and to deliver the type of value that, you know, that the economy is really expecting from these technologies.

Nicole Valentine 49:55

Thank you, Kip. I want to put one more layer on the table, because I promised everyone they were going to talk a little bit about national security and cyber security. So I don't want to, I don't want to leave that off. You know, there's increasing recognition that AI is going to play a critical role in national security. We have a head start being in the US, but as other nations around the world scale up their capabilities, how does AI level the playing field in defense and cyber security? I want to turn to Karen, to Igor. I mean, we talked a little bit about war games. I mean, give us a sense of in these final minutes, how AI plays a role in some of these spaces, and what do we need to continue to keep our eye on the ball? Maybe Karen.

Karen Kornbluh 50:34

Yeah, great. I mean, I assume everybody saw the big fight between Anthropic and the Department of Defense/War over the last two weeks, and this was over two things that are pretty concerning. One is mass surveillance of American citizens, and the other was whether there should be a human in the loop. And you know, I think we're—these are not things that that should be handled in a contract dispute. These are the kinds of things that you know, Congress has got to put on its big boy pants and—and, you know, deal with. And I think there's this, there's on the one hand, in the public, you know, and in the intelligentsia, this sense that, like policy is going to, you know, Congress is going to deal with this. It's getting ripe. On my way over, I was listening to a podcast Bill Kristol was talking about, oh, we should have a big commission that's going to come up with the kinds of policies that—we're going to have. But there's a heated dispute where open AI Mark Andreessen, a bunch of folks in Silicon Valley really want zero regulation. Don't even want ethics rules. And so I think if we're going to get to a real and yet, the public, I should just say, if you look at polling, the public wants some guardrails. I'm sure they don't want anything that's going to kill the industry, kill innovation, kill growth, but I think they're ready for a switch, a pendulum swing towards some guardrails. And, you know, and just, just less influence of the industry, some of these poll numbers show in DC. So I think we're headed for interesting times politicians. I think, you know, if the '26 midterms are about grocery prices, I think the '28 campaign for presidency, I think AI is going to be part of it. There's going to be a question about, How are we remaking our economy to be appropriate for AI? And I think it's going to be, I think it's going to be really interesting, but I think we're going to have to do a lot of spade work before then to make sure that it's really that there are really serious things being considered, not just populist, feel-good policies. And I think we can start with things like, how is it used in national security and in surveillance in the public I mean, we've already seen ISIS is collecting facial recognition data and so on, the kinds of things that are outlawed in Europe. We have to have, like, a real, detailed expert led conversation on these things.

Nicole Valentine 53:22

Igor, you want to jump into the defense side, the defense, national security perspective you have?

Igor Tulchinsky 53:28

I think if we're gonna make AI, then we have to make the best AI that we can. And the best AI will be made with minimal guardrails. I mean, just look at Europe with all those guardrails and where its AI has gone. And then look at the smaller countries that don't really have many guardrails and how well it's doing. I'm not saying guardrails don't have a place, but they probably don't belong in the code. They belong in a legislative place, something watching and setting rules for what things can or cannot do. But if you, if you start putting guardrails inside the code, you're just going to get bad AI and become uncompetitive.

Nicole Valentine 54:31

Thank you. So for my last question, I just want everyone to quickly just fire off. So we had this table, common table, different chairs. What do you think that everyone out here should be reading, thinking about, consuming to get their AI acumen up? What should we be doing to make sure we are up in our game in AI, and we're not moving through fear and uncertainty, we're moving with empowerment. Give us something that we should be consuming. It can be a book, a podcast, a point of view. Love to hear your thoughts. Maybe I'll start with you, Kip.

Kip Wainscott 55:08

Sure, I would say, I would encourage everybody to—this is a little bit meta, but I would say, watching the geopolitical environment right now, it's really important. It's not theater, it's not an abstraction. I think that it's, you know, there are some trends around sovereignty in particular that are going to have real implications for the future of this technology, how it's built, how it operates, and what its potential is. And so if we're seeing kind of an increased sort of isolationism around the world, and, you know, following these trends and understanding their intersection with the direction of travel for this technology and its opportunity. I think it's, I think it's really important.

Nicole Valentine 55:50

Thank you. Kip. Igor, what should we be consuming besides going to WorldQuant University? What should we doing?

Igor Tulchinsky 55:55

I think somebody who wants to learn AI should get their hands dirty—get into AI. Try, try to figure something out that you haven't figured out before. You know, check your bills for the last 10 years, find mistakes in them. Just use what's out there, and keep your finger on the pulse, because it changes all the time.

Nicole Valentine 56:25

That's great. Igor, thank you. Eric.

Eric Mandl 56:28

I love that. If you all haven't, I would strongly encourage you to go on to your favorite AI platform and ask very, very direct questions and have it learn. If you're not paying for it, you have to in order to have this happen. But have it learn what your concerns are. And every time you interact with it and you ask a question, whether it's I'm trying to solve this specific thing for a client, or my family member is dealing with this, or—I wouldn't use it too much for medical help, which a lot of people still do. There'll be a time for that—I think it's a little too early. But it will learn what your concerns are, and you should push the AI on that. That's one thing. And then secondly, I do think, from a policy perspective, I agree with Karen. I think you have to develop a point of view for yourself as to what the right answer is. This is one of those amazing moments in history where so much is happening all at the same time. And I think we can unequivocally say that no one knows what the right answer is yet. So I develop a strong thesis just consuming what's happening in congressional races and presidential races and also internationally. To Igor's point.

Karen Kornbluh 57:49

Yeah, I totally agree with the idea that we need to use, just use AI as much as you possibly can. But also, I'd recommend a podcast. There's a great podcast that I was just listening to yesterday that I really recommend, called China Talk. And they're really expert in the competition with China, in the export control debate, the national security debate, but then they also bring on people who are incredibly sophisticated from a technology point of view. So it's really if you want to have that kind of exactly what you're saying, the nitty gritty understanding that you're going to need to have opinions about the geopolitics, the civil liberties, the workforce, things, I think they're extremely helpful.

Nicole Valentine 58:30

And finally, Jo.

Jo Jagadish 58:32

It's hard to go last on this topic, so I'd say what I was going to say has been repeated three times that I was going to say, actually, go build something. Because nothing teaches you better than, you know, actually put getting your hands dirty and building something. My 12-year old, or actually 11-and-a-half-year-old, is actually building an app to solve a Rubik's Cube, because he's, like, big into speed cubing and all of that. So I think, like, it's an 11-year old can do it, like, I'm sure everybody in this room can do it. So go learn it and get your hands dirty. I think the only other thing I'd say is I really like the NotebookLM app, which I think many of you in the room probably use, and or if you don't, you should. It's a it's a pretty cool way to learn and, you know, research, and I found that just in my own kind of personal professional life to be helpful

Nicole Valentine 59:23

Thank you everyone for this conversation. Please join me in thanking our speakers on AI and the digital transformation. (applause)

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