Good Things Happen Podcast_Season 3
Episode 8: How AI is Reshaping Finance
Guests: Nimrod Barak and Alexandra Mousavizadeh
Final Transcript

Jorian (00:13):

Okay. Okay, I will start with a few words, which I will read from something I've written. And then we'll get straight into the questions.

Welcome to Good Things Happen, the podcast series that celebrates the human side of banking and finance, and today, technology. When searching artificial intelligence online, there are more than one and a half billion results currently and over a hundred podcasts. Clearly, AI is currently the hottest of topics.

So today, rather than talking about the extraordinary potential of AI, we're going to get practical. Today's guests have significant experience with this transformative technology and will reflect on how AI is being adopted across the world. Our guests come from very different parts of the artificial intelligence ecosystem.

Alexandra Mousavizadeh, founder and CEO of Evident, a research specialist in AI usage that spent the last five years measuring the adoption of artificial intelligence technology on a country-by-country basis. Joining Alexandra is Nimrod Barak, Global Head of Citi's Innovation Labs and Emerging Technologies, who's been enabling Citi to understand, adopt, and apply these technologies to serve its global banking network for more than a decade.

Welcome, Alexandra and Nimrod. Thank you so much for joining us today. As ever, I'd like to hear your stories first. How does one become an expert in measuring the adoption of AI, Alexandra?

Alexandra (01:35):

Well, thank you so much for having us both. We're going to tackle it from different angles. I mean, Nimrod is the one who's actually implementing AI and I'm just the voyeur.

But it is a great pleasure to be here today, so thank you so much. As you mentioned in your intro, we started back in 2018 measuring the strength of national AI ecosystems, and we were the first index to take a crack at how you would do that and what components go into it.

What is an AI ecosystem? What does it mean to develop AI and deploy it? What are the supporting policies around that? And as that was important for governments then, and still is very much topic of top of mind, especially given the White House announcement and the UK AI Summit it is ever more pressing to really understand the ecosystems and how they develop, and what kind of guardrails to put in place to develop and deploy AI safely.

But with that concept of how to track and measure AI development and deployment, we released in January this year the first index to benchmark actually how banks are doing it, and publicly ranked banks on the AI maturity, if you like. And that had actually never been measured before. So, it was a bit of a white space.

There was a lot of investment that has gone into AI in the banking sector, and also many other sectors like pharma, and manufacturing, and retail. But banks were really interesting to take a closer look at because of the five, six, seven years of AI investment that came off the back of investment into digital transformation, and moving from a phase of exploratory and more sort of experimental take on AI, and

So, we hit a time, when we released in January, to where we sort of felt we went from one phase, exploratory phase, to sort of a more focus on what's the efficacy of this AI investment. So that's really why we set it up. We had the experience of measuring the ecosystems and starting with the banks felt like a really good place to start.

Jorian (04:05):

Nimrod, tell us a little bit about the Innovation Lab. It sounds really funky and exciting. Why do banks have innovation labs? And then maybe tell us what you've been doing within AI broadly.

Nimrod (04:20):

Sure, absolutely. And again, thanks Jorian for inviting us. It's really a pleasure, and I think both myself and Alexandra are very happy to discuss about those topics and share a little bit of our experience.

So, in general, just a little bit about myself before I talk about broadly the Innovation Labs. So, my background is mostly technology. I worked in the technology space for more than 20 years. I've been at Citi for the last six years. And before that, I worked only in tech companies. My background is mostly tech. I worked at small and large companies in the tech space, mostly around enterprise software. So, I think great passion is, how do we use emerging technologies to really transform how do we work as an enterprise? I think that's one of my great passions.

And what led me to joining Citi, I've been working on AI for more than 10 years, mostly on natural language processing topics, which is at the heart of what is going on at the moment with generative AI. The reason I joined Citi, there was a few reasons.

One is people, but the second one was really the huge amounts of data that an organization such as Citi, being a global bank that is present in more than a hundred countries, is absolutely phenomenal. And I think when we talk about AI, we need to understand that data is the foundation for all of it. Without data, there couldn’t be any kind of artificial intelligence. The whole value of generative AI, for example, is really with the data that was available for all the companies that were training, for example, ChatGPT, if it's OpenAI. They train it on the big parts of the internet.

So, without data, and when we talk about data and we can talk about that later, high quality data, we can actually do fantastic things with AI. And that was kind of the most exciting thing for me when joining Citi. It was really being at the right time, which was six years ago.

I think AI has been with us since the '50s maybe, but still I think it was a good time in terms of development that we saw back at the time, with some recent technologies in especially natural language processing. Was a fantastic opportunity to jump on this kind of revolution and really kind of see how do we take it forward with such an important institute like Citi.

So, for me, joining into the Innovation Labs and then later on leading Citi's Innovation Labs, was a very exciting thing because we are at the forefront of everything the company's doing when it comes to emerging technologies, not just AI but also blockchain, digital assets, and quantum computing and many other things.

But really being there in this ability to both engage with the external world, meaning the ecosystem in the sense of universities, academic institutions, startup companies. We work closely with many, many, many kinds of startups in the AI space. And it's exciting to be in that position.

So, it's a mix of those things, plus the ability to explore new technologies and just play with cool stuff like AI and gen AI. And we've been doing it, by the way, way before ChatGPT was announced back in November last year. We've been working on large language models, which is the foundation for some of those technologies, a long, long, long time ago when it was just in research mode, because we anticipated this is going to be quite big.

So, the ability to combine research and being at the front of things, working with companies from the outside in the ecosystem, combine it with the ability to experiment inside, and really look at the more applicative aspects of it. So how can we actually use it to solve problems? Because at the end of the day, we're not a research company. Right? Citi is a commercial company, a commercial bank, that is purposed to bring value to its clients.

So, our mission is to see how do we take those advanced technologies, those emerging technologies, and really apply them to the most complex problems of the bank. Not too esoteric kind of situations where we can use AI, but really on how can we progress it and bring much greater value to clients. Whether it's in the client experience on how do we serve clients, whether it's in how do we run our

operations and become more efficient with what we're doing, and increase our productivity of operations, how do we improve our risk and controls, and prevent things like fraud and money laundering, and any other kind of financial crime.

So, it's really across the bank, across functions, and across the use cases, that we're trying to bring those emerging technologies into the real world, really using them in a safe way, of course, while partnering with regulators, to ensure that we can actually do it in a safe way and scale those technologies.

So, it's a really exciting, I would say, position to be in such a large institution. But also, exciting times. So, the timing is also brilliant at the moment with AI, of course, is really becoming mainstream. Not that it wasn't. But now I think the main difference between where AI today is, and if you compare it to a year ago, is that each one of us, including my parents even, including kids, understand where AI can help them. Where I think, a year ago, it wasn't the case. I think that's the main difference from my perspective.

Jorian (09:55)

Totally. Everybody knows it's coming, and everybody has an idea that it's going to be even more transformative than the internet. I'd like to go back five years with you, Alexandra. How do you measure something that hasn't even come to people's attention, that's got so many dimensions, so many unknowns? What are the key metrics?

Alexandra (10:16)

Yeah. I mean, going back, well, it's a good question because it was, what are all of the proxies for AI development and AI application? And as Nimrod said, Nimrod, you've been in this area for, what, six, seven years at Citi, and you were starting to experiment. But those are with the AI capabilities at that time. And as you say, it's been around since the '50s.

So, when we took a close look at this back in 2017, we are looking at the research papers that were being written on AI and AI-related topics. And we were looking at the patents that were being filed. But we were also taking a very close look, from a national level, what was the commitment by the governments in terms of the R&D spend into areas that are straight into the heart of AI, but also tangential areas.

So, we collected that. We looked at infrastructure and super compute. We looked at the actual level of talent in the countries, as in what level, you know. Are the universities focusing on AI and how many PhDs are there coming out of these universities with that kind of focus?

So, we took a close look at the talent, and the R&D side, and the infrastructure side. And also, the strategies, because a lot is led by the strength of your strategy, and we see that in the banking world as well. And that was one of the things that we could take over is, if you have an organization that decides that AI is core and that you want to be an AI-led business, that then, and that is made clear and the resources are set aside, for example, like in Citi, then that gets executed throughout the bank. Decisions get made that hiring the AI talent is a priority, that having an innovation and an AI lab that Nimrod runs is a priority, and that trickles down and strengthens the whole ecosystem of the bank.

So, a lot of parallels between what we did back in 2017 and '18, when we released the first index on the national level, to what we're seeing and how we're measuring and how we're going about measuring AI at a corporate level.

But a lot of proxies that you've got to look at some areas that are related to AI, that are not necessarily directly on AI but are supporting. Nimrod mentioned, the data quality is one of the things that obviously has to be in place. You've got to have the rails laid down so you can run your AI on it. And if the data is very fragmented, it just makes it a lot harder.

So those were the observations that we made, and that was a way that we built that, the concept of how you measure that ecosystem. And we brought it over to the corporate side.

Jorian (12:56)

Nimrod, you mentioned generative AI allow... Maybe you could enable us to kind of understand a broader spectrum of AI beyond gen AI, is what everybody's talking about now. Is that the equivalent of, I don't know, social media within the internet? Is it going to be the driving force, or is there so much more to come?

Nimrod (13:20):

I think it's a great question. And generative AI is not everything AI. Right? So, AI definitely includes many other types of techniques, and fields, and technologies. I think generative AI is what currently is definitely the trend, and the hype around AI is definitely associated with generative AI.

Generative AI is a set of technologies that basically are capable of generating any kind of content from large amounts of data, and usually associated with a natural language interface to them, which means that you can ask a machine to generate things in natural language. And I think that's the whole point of why it became so popular. Because everybody could say something to it and it would actually generate quite an amazing result on such a broad range of topics, which is also very phenomenal. Because what we've known before generative AI, all the types of AI were mostly very narrow, what we call narrow AI, which were very focused around a specific task or use case.

So, you could train it, for example, to recommend movies in Netflix. So, you want to watch something that is similar to things you watched in the past. Netflix has a great recommendation system based on AI that would allow you to see things that are more fitting to your taste. But this is a very narrow use case.

And what I think we found as the first thing with generative AI is that we could ask everything basically, because it was trained on huge amounts of data from the internet. You could ask it for recipes for a cake, and you could ask it for recommendations for a trip you're doing to Italy. You could ask it to write a code for you. You can definitely run so many different types of tasks in so many different fields. And that is, I think, the most, one of the fundamental benefits of the generative AI hype, I would say.

But as mentioned, it's a type of AI. There are other things. For example, autonomous cars that are not related to generative AI. This is a big trend. Things that relate to healthcare, for example, finding a cure to certain diseases or mapping the DNA. Some of those researchers obviously use AI. And there are many, many other fields where we use AI but not generative AI, because it doesn't generate content, and for the benefit of everybody, of society.

One additional thing on generative AI that is very important, it's not just texts, right? So I think we tend to consider generative AI as something that generates texts back and it's like a chatbot. But generative AI has many, many forms of media that it can generate, from videos to... If you think about the film industry, that will be completely potentially transformed because you could generate scenes completely from scratch just by typing what you want to see, or even talking to a machine that knows how to generate those things.

You think about the art industry. Already, gen AI can create phenomenal pictures. Technologies like Dall-E and others are doing amazing work at understanding what we want to create using prompts. Prompts are the actual text that we're providing to those interfaces and generating phenomenal results. And it can go on and on with other industries, like the music industry and others, 3D creation. So, it is so diverse, in terms of what it can create, that we have to also consider it as way broader than just text, I would say.

Jorian (17:02)

Alexandra, you started measuring countries and then you've been measuring banks. Why banks? Why were they such an interesting topic to focus on? And maybe tell us, we're going to have a lot of Citi listeners here, how is Citi doing on your index?

Alexandra (17:21)

Yes. The banks was a natural place to start. Banks have been investing in AI, the big banks in the US and Europe and Asia, for a long time and have gone through this experimental phase and put more and more resources against it.

So, there is a point in time now where it is... Most banks are looking up to see sort of how are we doing on this, on our capabilities and our outcomes today, after this period of investment and the experimentation and implementation, to a lot of success in many areas of the banks that have been using this for a while. But there are also lots of use cases. There's vast data sets. There are many reasons also that AI talent wants to go to a bank because it's an interesting place to be, and therefore, there's also that attraction from the talent side. So, the bank was a natural place to start.

Also, societally, are very important for everyone that bank's function and are adopting new technology, and doing it safely, as Nimrod said. But that they are doing it, and it's important that innovation is implemented in the banks.

I think, stepping back a bit, I think what we see from the index perspective is there's a big gap between, there's a sort of an emerging gap, between the banks that are really doubling down on AI and really trying to become an AI-first organization, and those that have been a bit more hesitant and taken a bit more of a wait and see approach. But now, with the developments on the front end on AI is happening at such a pace, that as an organization, if you don't pick that up and try and implement that, but if you can and do it successfully, you're constantly going to be the bank that grows your market share. And that just leaves the ones that are hesitating more and more in the dust.

So, what I think that we're seeing is that we're going to see this emerging gap, and potentially the ones that haven't embarked on an AI strategy yet might go out of business. We probably will see, in the next five to six years, a consolidation at the tail end of the low end of the index. So that's what we're predicting.

And Citi does incredibly well. Citi is in the Top 10, is very strong in innovation and talent, has done a lot of work, especially this year, on doubling down on hiring for AI and for gen AI, which is a big marker of high levels of AI maturity. That's an organization that really is set up from an operating model, but also identifying use cases and can onboard that talent that is needed to capture, and grasp, and implement the generative AI, but also more traditional AI.

So, Citi is doing very well. It's great to see that all of that focus the last decade, and now with the doubling down this year, that it's really coming through.

Jorian (20:22)

Phew. I suddenly thought that could have got a bit awkward when I asked that question. That's a relief. Nimrod, you said that, you gave us some reasons why you were attracted to Citi in the first place. How does it feel inside the bank in terms of people's attention to AI, their excitement about AI? Obviously, there's a lot of publicity about the worries of AI. But within the organization, do you feel that your team is supported? Are people opening doors for you to find out more?

Nimrod (20:53)

Absolutely. Just to kind of add to the previous point. I think the reason, as mentioned, that I thought joining a bank and doing AI is so interesting is I think, because if you think about why banks are so special in that field is two reasons.

I think one is the huge amounts of data, as mentioned, especially with the global banks. And the second is that the focus on transformation, which goes across the industry. I think those two elements really makes it very, very important, as Alexandra mentioned, to double down on it and really focus on the use cases.

And regarding our internal adoption, as Alexandra mentioned, I think it only grows. And in the last year, we've done a lot of work around, again, investing in adoption, investing in getting new talent, really hiring best talent from the market to continue and innovate in that space.

I think there's a great understanding across the board, if we talk about the sponsorship, or as you mentioned, like, do people understand the need and so on and so forth. I think it's, in the last year, especially again with the introduction of generative AI, it's where all senior leaders across the bank, I would say from all functions, really understand how important is this. Right?

Whereas before, I would say, it's not that we didn't have sponsorship and we didn't have the right kind of support for this. But I think, these days, everybody across the board really understands this is critical, this is strategic, this is important for their business, this is important for us to innovate for our clients. This is truly one of those moments where everybody understands the importance, even if not all the use cases are clear and the technology is not fully mature from an enterprise perspective, which is where we are at the moment.

So, if you want to use generative AI in a bank, it's not that straightforward as one may think because of the risks associated with it, which I'm happy to elaborate on. But the most important point is that everybody understands that it's just a matter of time until some of those challenges will be resolved. And even if the hype will go down a little bit, still there are some concrete use cases where this could be truly, truly, truly valuable in the banking space.

And it really goes across everything I mentioned, from fraud and financial risks, financial crime to risk and controls, to operational efficiency and all the way to how do we serve clients and client experience. Everybody understands that there's great value behind it.

Jorian (23:39)

We are recording this a week after the AI, the first AI International Summit, also a week after the Beatles released a single 60 years on from being formed. So last week felt like a really big week for AI, particularly in the UK.

Alexandra, you mentioned the AI Summit. What were your reflections on that? Was that something that you welcomed? Was it just step one? Was anything achieved?

Alexandra (24:10)

I was fortunate to be out at Bletchley Park for kickoff panel with some of the godfathers of AI, Max Tegmark, Stuart Russell, and so on, to discuss the day before, before it kicked off officially. And that was very interesting to hear their perspective. The focus of the summit was to look at Frontier AI, i.e. sort of what are we looking at when it comes to putting guardrails around existential risk that could be out in the future. Some would say near future, some would say far. You know, 10, 20, even 30 years.

But the purpose of the summit was to try and come up with a framework, through which we would create safe AI going forward, i.e. create some guardrails around the foundational models that they're either developed safely, or at least that they can get monitored.

And so, what came out of that was a set of principles that essentially is asking for voluntary submissions of those who developed foundational models. And it is a good first step, but it's not a regulation. It's not a counter to the AI Act, which is actual regulation put on the table. But given what the White House came out with on Monday, which was a similar initiative, with an institute to put signatories under some pressure to open up for the large foundational models, so there is some kind of an oversight of what's going on also. So, these two initiatives are very similar and they're happening in parallel from the US and the UK. And they're definitely, it's nothing concrete, but it's a step in the right direction, I would say. And it's kicking off a process if nothing else. It's kicking off a process of discussing how to manage this.

And the next summit will be in South Korea, and the following one will be in France. And eventually, probably a global body will emerge, that will have some kind of accountability and some kind of teeth to which to monitor this.

But it's difficult because there are more than just a handful of companies that are developing that foundational model. It's probably going to be in the hands of open-source platforms more and more in the future. So, it is an evolving technology that is going to be hard to put regulation around. But I think the conversation was good and it was important to have.

Jorian (26:31)

Nimrod, as someone who's been working in this field for 10 years, what's your reaction to the suddenly explosion of interest? Are you delighted by that or are you scratching your head, saying, "Where have you been? You're late to the party"?

Nimrod (26:47)

A bit of both, I guess. Right? So, from our perspective, when this hype started, we were definitely kind of saying, "Where were you?" We were definitely kind of saying, "This is revolutionary." But at the same time, I think it's super exciting. Right? Because being in this space for such a long time, and talking about the potential, it's so great to finally see some of the things happening.

And by the way, we haven't scratched the surface with its potential. So, I'm not trying to suggest that all of a sudden, we have ChatGPT, and generative AI and everything. And we got it, right? So, it's just a taste of what such technologies can help us with, and it's fantastic to see it. So, I feel lucky to be part of this era, and being at the front of at least a large institution while this is happening. So, it's super exciting. And really seeing the pace of evolution and revolution of some of those technologies is phenomenal.

So, every other week, we basically get a new thing with regards to a new, larger large language model that is being released, or a new startup company that is disrupting some specific area or domain in this. It's super exciting. And even if you think about the regulation, just seeing how does it evolve is super exciting. Right?

I mean, we're all seeing how all the big countries are starting to pay attention to it and really take it very seriously.-So, it’s great to see how quickly it will become. And I am not afraid of it, and I don't think it would endanger innovation. I see the opposite. It will help us to innovate faster because we will have the guardrails, we will have the right set of controls to do it in a safe way.

And I think I'm definitely welcoming any country that is innovating in terms of their regulation and kind of putting it to the front. I think it's fantastic. And also, because the risks are here today. It's not something, and everybody's talking about an existential risk, whether there is or there isn't. Without getting into the whole kind of philosophical debate around that, the risks are already here.

So, if certain kind of parties are getting access to some of those technologies, they can definitely do bad things even today. Maybe not existential, but just influencing country elections, or doing massive cyber-attacks. All those things are potentially, you know, gen AI could be used for some of them. It won't completely transform them completely, but it would just make them maybe faster, maybe better, maybe a little bit easier for some parties to use them. So, I think that's why regulation needs to be there, regardless of where we think it will be in 10, 20, 30 years. So, we're definitely kind of welcoming it.

So, from my personal experience, it's amazing times. I think we're all kind of lucky, for me, Alexandra, to work in this space at this time. Because definitely we're seeing how those historical moments are happening, and it's just fantastic to be there. And being a technologist, it's remarkable. It's a great piece of technology. It's definitely changing how we've done things. You can apply it to so many kinds of different things, and it's great for any kind of technologist to be part of this, right?

Jorian (30:18)

So, Alexandra, I often say I hope that there might be some young people listening to this who are excited by getting into these areas. Tell us your story. How does one get to a point where you set up a company where you are measuring AI? Was this something you wanted to do when you were a little girl at school? I doubt it.

Alexandra (30:41)

That's a great question. Actually, I'm a failed physicist. I'm not failed because all my brothers were studying physics, and one actually went on to work at Zern, and they were all technologists. And I was

the black sheep in the family because I did economics and mathematics, and specialized in game theory, which they thought was really sloppy.

And so, I've worked my whole career as an economist and have built indices. I was at Morgan Stanley. I've been at Moody's. I run a rating agency. But the common denominator is organizing, structuring your analysis that is absolutely 100% data-driven, to work out the strengths and weaknesses on the thing that you're focusing on.

Now, AI is extremely exciting to me. Because having spent 20, 30 years looking at what the potential and capacity for growth at a national level and at a company level is, has been what we have all been searching for. What is that that is going to unlock the growth and productivity and so on? And AI is certainly part of that future and part of that story.

The nations that get this right, the organizations that really understand how to harness it, are going to see so many benefits. Right? To Nimrod's point, this is really exciting times. We can become more efficient. We can do more things. We can transform the way we bank, the way we live, the way we organize ourselves, from finance, to health to art. And AI is going to be at the core of that.

And so, actually as an economist, this is where I should land. This is what I should be measuring, and this is what I should be doing. So, I think everything that I've done up until now points to this company that I set up last year.

Jorian (32:27)

I love that Nimrod, a final word from you. You talked about historical moments. So, we are going to be getting many, many more historical moments? Is this going to accelerate exponentially in terms of the applications that we hear about and read about?

Nimrod (32:46)

Yeah, absolutely. I think we're going to see much more transformation and revolutionary moments happening in the next few years with such technologies. Not just generative AI, but AI in general. I think we're going to see much more developments. And there's a few things that lead to that.

First of all, the attention of way more institutions and companies. If it was the amount of companies that could work on such things was very limited, you only had a handful of companies that could really drive the revolutions we're seeing today. I think we will see more of that. And the accessibility of some of these technologies is becoming much higher. Meaning, startup companies can take open-source software and really build new stuff using generative AI. And using AI in general, I think, is becoming much more influential.

So, if you think about it, yes, we will see some exponential growth in that sense, because the ability, the access, to some of those technologies is becoming much, much, much easier. Also, in terms of the infrastructure that is required, there's a lot of hardware requirements. This is becoming a little bit more available and more efficient.

So, I think we're going to see a much more innovation in that space in the next few years, with more and more players coming into the ecosystem and really driving the innovation forward.

Jorian (34:11)

I'm going to conclude by thanking you both. Thanking you, not only for making this super clear and accessible for me, but also, I love both of your optimism and your enthusiasm. So, you've inspired me, and I hope you've inspired our listeners. Thank you so much for joining us today.