

NORTHERN TRUST: A CUSTODIAN WITH LEADING-EDGE LEANINGS

A longstanding – and profitable – emphasis on asset safety and security doesn’t crowd out blockchain, machine learning and other investments in innovation

By Jeffrey Kutler, 6 September 2019

With \$11.3 trillion of assets under custody/administration, Northern Trust is by reputation and culture a conservative, tightly risk-managed institution underpinned by a “fortress balance sheet,” Pete Cherecwich, president of Northern Trust Asset Servicing, points out. But there is also a leading-edge dimension to it, a willingness to push some envelopes.

Cherecwich, who philosophizes about various aspects of culture and competitiveness in his Face Value blog, wrote in the first entry, in March 2018, “Technology is not changing the way we do business. Technology is the way we do business.” It follows, then, that experimentation and innovation fit fairly naturally within both thought and business processes in Cherecwich’s 10,000-employee, global organization, and by extension throughout Northern Trust, which also, as of June 30, had \$1.2 trillion in assets under management and \$127 billion in banking assets.

On August 12, for example, the Chicago-based company said that it has developed a machine-learning-driven pricing engine for the securities lending market. “Northern Trust continues to invest in emerging technologies to bring enhanced value to our clients,” Cherecwich said in the announcement. “The use of machine learning in our global securities lending business enables greater pricing efficiency that helps clients improve revenue across portfolios.”

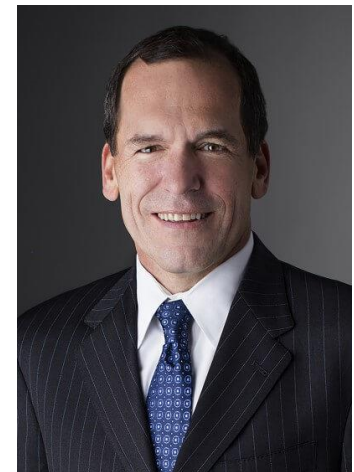
Northern Trust has been a leader in blockchain technology, unveiling a platform in production for private equity fund administration in 2017. It has been awarded patents for its work on distributed ledger technology. In April 2019, the bank announced the capability “to deploy legal clauses as smart contracts directly from a digital legal agreement onto its private equity blockchain,” a breakthrough with “potential for broad use in generating digital documents and applying conditions beyond legal agreements.”

In June this year, Northern Trust reached a decision to transfer its private equity platform to Broadridge Financial Solutions. Cherecwich, a former State Street Corp. executive who joined Northern Trust in 2007 as head of institutional product and strategy, went into the reasoning behind that move, as part of a broader discussion on technology, talent development and management challenges, in this recent interview with GARP Risk Intelligence.

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Pete Cherecwich

“The world is becoming digitized. And our industry is no different,” says Northern Trust’s Pete Cherecwich.



Why did you start the blog, and what did you hope to accomplish?

I was looking at it as a way to communicate, and it really started with technology – communicate the fact that our organization is innovative, thinks strategically about technology, and has to, because that is the way the world is going. From there, it went to thinking that people are interested in understanding about lessons learned, management styles, and other topics from someone in my position. I've been pleasantly surprised by the readership and the positive interactions it has led to. I will meet with a client who will say they read it and will start a conversation about it.

In June you took on the topic of artificial intelligence and algorithmic bias – a pretty advanced subject.

To my mind, the subjects of AI and diversity and inclusion have come together. Looking at everything we're trying to do to increase diversity across the organization, it's become very clear to me that unconscious bias is something that exists in this world. Obviously, straight outright bias exists, but let's just talk about unconscious bias. With AI and machine learning, you realize that people are writing code and can bring any unconscious biases into how they create these algorithms. So making sure you actually understand yourself, that you have unconscious bias, that you address it, get other people involved – that will help you achieve the right result.

How do you bring this down to day-to-day relevance?

I had a conversation with some of my team recently, saying we have a lot of accounting graduates. Is that bias, to have a group of people that think like accountants? Should we have more liberal arts, economics, math majors, other types of people that are trained differently than accountants?

For example, in our securities lending business, we wrote a machine learning algorithm that takes in multiple data points in order to come up with an optimal price at which to lend a security. But a human has to code that algorithm to start with, and that can dictate or have an influence on the end result. It's important to be cognizant of the human factor.

How did we get to this point where, as you put it, technology is the business?

Every industry has gone through this. If you think about the transportation industry, it didn't used to be technology-driven. They had horse and buggy, sometimes boats. Next, technology moves and moves and moves, and now we're talking about autonomous cars.

Things go in a bit of a circle, though. In the custody industry, we used to hold client assets in vaults. At Northern Trust, we still give clients a tour of the vault where we held the certificates of ownership. Obviously, assets now are being digitized. Say you are a sovereign wealth fund investing in infrastructure, a bridge, where tolls are collected. We believe that these infrastructure investments will end up going through something like an IPO and will have tokens that represent a certain percentage of ownership, and then those tokens will trade just like stock, totally digital.

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What's interesting is, we're looking at how you actually custody these digital assets. There are now some small trust organizations that provide custody, mainly for cryptocurrencies, and one of the ways they do it is what they call cold storage. You take the key that unencrypts the cryptocurrency and take it off the network. You store it on what I'll call a disk, and put it in the vault.

Basically, we've come full circle, storing things in vaults. Technologies are moving quickly such that cold storage will end, and crypto assets will be on the network, protected and secure. The world is becoming digitized. And our industry is no different.

Is digitization or tokenization of assets current or future state, and where are we on that journey?

It is future state in terms of tokenization. The world is on step zero to one on that. Some assets – U.S. equities – are digital today and don't trade certificates anymore.

The Australian Securities Exchange, ASX, is replacing its post-trade system, CHESS, with a blockchain-based platform for settlement. If they attach a digital currency to that, you wouldn't need to be a bank in order to buy and sell Australian securities. You could connect through the node. For now, you have to be invited to participate. If they open it up to the public that would be interesting, because that could disintermediate a lot of organizations.

How does the tension play out between disruptive technologies and existing and entrenched infrastructure players like Northern Trust and Depository Trust & Clearing Corp.?

The technology revolution is enabling small firms to pop up and offer services and solutions around the edges of what we do. It's our job to move faster and create solutions before the new competitors do. But the barriers to entry right now are getting lower and lower, and the data flows more freely such that they can do that.

It used to be that all the custody data in our mainframe systems gave us an advantage. But now we have APIs [application programming interfaces] and more sophisticated ways for data to flow. We still have the advantages of client relationships and a strong balance sheet. Clients would much rather buy products and services from someone that's been around 130 years and has a culture of client service versus, you know, five guys in a garage. But that competition does push us to become more innovative, move faster and develop things to make sure we're staying ahead of the game.

Has it been a challenge to become more agile and nimble in this environment?

Absolutely. We've addressed the challenge by trying to change the way that technology gets developed. The key is that we want business outcomes to be driving the technology. Having a technology group deciding what we're going to do in business never works.

But, if you co-locate a technology person and a business person, they jointly understand what the business outcome is going to be. You give

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them the capital. They go ahead and develop something really cool. But that partnership is something new. We used to sit down and have the business develop the requirements; they threw it over the wall to the design group, who threw it over the wall to the developer, and by the time it came back, maybe you got what you wanted. Now it's more iterative, and you innovate faster.

How does Northern Trust succeed at accommodating innovation in its culture?

Northern Trust is perceived as an organization that doesn't take huge risks. What we've done over the past 15 years is show that a culture that says "your capital is safe with us" can move quickly and change. We're not spending a couple billion dollars buying a company and taking a flyer.

We're spending smaller amounts of money, saying, for example, let's automate with blockchain in the private equity space. And we drive towards that one outcome. We did it and then, frankly, we realized that it's actually better for our shareholders and ultimately the industry if we do a deal with Broadridge, and Broadridge finishes the platform and becomes the distributor of that platform.

So it is also learning when to say, "somebody else can finish this and take it to the next level." Rather than have the whole pie for ourselves, we can take a slice of the pie and let somebody else develop it. That willingness to take a piece of it versus the whole thing is huge too. Otherwise, if you try to do everything yourself, it's much, much harder.

What are the culture and diversity implications of technology becoming more and more critical to the business? How is the workforce changing, and how are you coping with the need for hiring the necessary talent?

It is changing. We need to continue to make it more diverse, no question. If you compare us to other financial services firms, we look pretty good, but we have a long way to go to be truly where we want to be.

If you look at IT talent, to me the first and foremost thing you have to do is forget whether you're hiring male, female. You've got to figure out how to get anybody that's talented to want to come work for you. People want to work on cool projects with new technology. They want to be able to be close to the business. They want to drive towards an outcome that they can understand and that they can see adds value to the end client. And, of course, they don't want to wear a suit and tie. They want to be in an environment that enables them to be successful.

Ideas like leveraging smaller teams and co-locating IT alongside the business – that's all under way. Our most successful projects are where we've done that, and our IT folks are happiest. I had one IT person who moved from one area which was still developing projects the legacy way, more siloed, to another area that did things more collaboratively. This is a 30-year veteran. When I asked him how it was going, he said he didn't want to go back. When people experience that, they love it and they work hard.

We're moving to a new building in Chicago, on a number of floors. And we're moving to what we call free address. We don't go so far as hoteling,

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where you have a laptop and you come in and sit anywhere. We've assigned people to "neighborhoods," and in so doing, we put IT and business folks close to each other. When we do a project, we can simply say, "OK, for the next 20 weeks, you're in this neighborhood," business and IT folks together. When the project is over, we can move people very easily, always being able to shift seating around and make sure that the collaboration that is needed in these new ways of developing technology exists.

How far afield are you managing these changes?

I have about 10,000 people in my group and they are all over the globe. We have large operating centers in Chicago, London and Bangalore. We also have significant presence in Dublin, Limerick, Luxembourg, Pune, Manila, Australia, and Singapore. Technology is centered in Chicago, London, Dublin, and our India offices. In this global model, collaboration is critical. You might have subject matter experts in Dublin working with a technology team in London. With hi-tech facilities and collaboration tools, it's as if they are sitting in the same room, sharing the same whiteboard.

Is it stating the obvious to say that these investments are made possible by an underlying business that is strong and profitable?

No question, because as I say, revenue cures all things. Revenue enables you to reinvest and continue to improve. As long as you're smart about it, then you can reap the rewards.

I got into a discussion recently with a consulting organization that wanted us to go faster on robotics. We're using robotics, but I am personally being very prudent on where and how we implement. In manufacturing a car, robotics are used to put pieces together. Robotics in financial services are mainly used on processes that are not already straight-through. For example, to identify if something is not working as it should work, to check or reconcile something, to automatically run reports, or simply to grab data and automatically input it.

The problem comes when you're operating with legacy platforms and you employ robotics to gain efficiencies in only certain components. When it comes time to replace the underlying platform, suddenly it is hard to make the business case, because you're already using robotics. You are not going to get significantly more productive. You just have to be careful about how quickly you want to take all the productivity savings, realize that there will still be big capital bills at some point. Systems today are being designed in such a way that you can more easily replace certain parts. Some of the older platforms require major overhauls to take out older components and put new components in.

How complicated is managing the transition risks from legacy to newer platforms?

It's one of the harder things. How do you balance all of the capital that you have to invest in your IT strategy, between adding features and functions to your existing stack, developing new capabilities and new products to drive revenue? How do you stay competitive and move to the strategic architecture that you want to move to? You can't just kick off a project and seven years later say, OK, now I'm going to convert. The technology will have changed. So, how do you balance all those things together and keep

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moving? That's very hard. That's either make or break; people either do that well or they don't.

The younger generation coming into the workforce likes the idea of having an impact on the world. How does Northern Trust's asset servicing business address them?

When I started out, and told my mother that I was a custodian, she wondered why someone who went to college was working as a janitor. I had to explain that my job was to protect her pension plan. That has become easier to understand since Bernie Madoff claimed to have all these assets that didn't exist.

Our job with the pension plans and mutual funds that we custody is to make sure those assets not only exist, but also that they're protected, to make sure that the cash is protected, to make sure that everything that people need to do to invest is facilitated so that they actually get better returns.

While it may not be glamorous, asset servicing is a very, very important part of the financial system that everyone relies upon. And when you put it that way, people get it. Then they want to understand the part that they play in that system. If your responsibility is to post income, you realize that if it isn't posted, then the investor may not know the money is there, so it won't be invested. And that has an impact on performance. So it matters. Just trying to convey the significance of every process is important.

The next thing we try to do is help them realize that a job isn't just an operations role, where you take care of processes A through Z every day. We strongly encourage people to figure out how to make those processes better, or how to eliminate processes that don't add value.

You're responsible for the business outcome. And that is very uplifting for people. They have the ability to think about better ways to do things, raise ideas, get those ideas into production, talk to their managers – that's fulfilling. It is meaningfully different in terms of employee engagement when people feel they're responsible for business outcome versus following a set of steps.

Is human ingenuity on some level not replaceable by machine learning?

Correct. You always need people. There's no question that jobs will change. A job today that is necessary because a process is manual can be automated. That's why I tell people to think past their present jobs as they evolve their careers. They're going to have many more opportunities if they adapt and embrace change, because the world is changing.

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