

Jason Lopez:

The jazz guitarist Pat Metheny once said that his music reflects the details of existence... where life is actually lived but which we hardly notice. And while this is a tech story about how information technology is making supply chains more efficient and enabling the places we shop to understand what and how to stock products, the people we interviewed see this IT realm with a similar feeling about the details. You'll hear it later in the story.

Jerome Pedreno:

Do you know why Jeff Bezos called Amazon, "Amazon?" Because there is a region in Brazil where if you want to stay alive, you need to use the Amazon.

Jason Lopez:

Jerome Pedreno is in charge of business development for the Hardis Group, a major player in the warehouse management systems market in Europe.

Jerome Pedreno:

Amazon is not only a way to get some goods, but all the kinds of services you need to survive. It's not a way of transporting things. It's the market itself.

Jason Lopez:

Pedreno points out the online market is open 24 hours a day, going deep into the world's inventory, connecting the best offers and finding the best pricing.

Jerome Pedreno:

Supply chain is just some things that was traditional slow. And now it is absolutely changing your business model. If you want to create what they call omni channel, which means my client can buy anything on my website, from the mobile to store, wherever he wants and can be delivered very fast, wherever he wants, then you need to have a real time global supply chain drop shipping from your suppliers in your stores, in your warehouses, everywhere.

Jason Lopez:

The next frontier he says is the transformation from operating the supply chain in specific places at specific hours, to having a global network which operates in real time. In order to achieve it product stocks need to be available everywhere to fulfill the promise of an omni-channel market.

Jerome Pedreno:

Since it's arriving in the store with our system, we are tracking everything. So we know where everything is. We have planograms of those stores, so we can really know as much as possible.

Damien Pasquinelli:

We need to be focused on business problems.

Jason Lopez:

If the discussion of omni channel markets, always on supply chains, and such sounds like back-of-the-napkin, Jerome's colleague, Damien Pasquinelli, who builds applications for Hardis, connects it to the supply chain in action... and explains what Hardis does.

Damien Pasquinelli:

Problem is more to be able to say, okay, my product is in a good place in my store or not. It's very simple. It's binary.

Jason Lopez:

Pasquinelli says the technology uses deep learning in analyzing a video on the floor to detect when there's contact between a customer and a product, to understand the actual movement of products picked up off shelves.

Damien Pasquinelli:

We say, okay, there is a contact, there was a movement. So the product is not in the initial place, and so we will decrease the inventory of that, and we will notify that we have one product less. And just to analyze the contact between people and products, we need to use edge computing in the store to be able to process every data, every image locally, because if we push every image to the cloud it will be very expensive.

Jason Lopez:

This is one reason, he says, they base their technology on a distributed architecture and why Hardis works with Nutanix.

Damien Pasquinelli: We continue on the edge computing, where I want to deploy the visual recognition model in the store. So we would process 99% of data local, and we will push to the cloud just information to say, okay, we have one product less in the store.

Jerome Pedreno:

To make sure in real time that you don't have shortage, we have been working with robots. We are also working with electronic labels and we are now exploring a lot of video solutions to make sure that in real time we avoid shortage.

Jason Lopez:

Pedreno says the system can use a variety of inputs... cameras, video, 5g, beacons, smartphones. And it accounts for places with bad or no wifi. The purpose is to have as much data as possible in real time to increase efficiency.

Jerome Pedreno:

What we do is provide tools to execute this supply chain, wherever it is, in factories, in warehouses, in stores. Okay? And on top of that, we are about to release big platform that will create software that will help you to manage the network itself. So we have created tools to manage any type of nodes of your supply chain networks. And now we are about to release

offers in the next two years to manage the link between these nodes and the global network in real time.

Jason Lopez:

This is the kind of granular snapshot of details that are simply not humanly possible to comprehend. If you think about the billions of products on shelves in warehouses and stores, improving the efficiency of the market just slightly, scales in a big way, leading to better services and lower costs. So, in discussions with technologists about the advances of these apps and systems, sometimes it's good to do a check in and to discover that technologists are not tone deaf to the big picture. Pedreno says that we always need to stop and think about ramifications. We rely on algorithms to know where to get the best deals, where to eat, what road to take, what movies are available. But he says it's important that technologies don't take away our freedom.

Jerome Pedreno:

Of course, we will be able to track everything. Let us think about a lot of things, potentially very interesting and a source of a productivity. Potentially very dangerous and a source of controlling people. What they do, what they buy, where to stock it, where to store it. And so on what I believe is that personal assistant or that kind of stuff, or listening to us then understand more and more what we desire. And in the near future, if you read people like Yuval Harari, you see that a lot of people are trained to experience personalized movies, songs, tailored made. So probably if it's true, we will have people that we live in, let's say Amazon or Google universe, whereas they will have a lot of services. Their assistant will know them so much that they will provide them with the right holidays, with the right financial advice. If they need to go somewhere it is computer powered. So I know exactly when I will arrive, there is no more traffic jam. And I live in this universe and this is the service I pay every month for all these. Just one thing. Now, if I want to get out from there, how do I do it? Once everything is there, all my pictures or my life or my desire, everything I am. If this environment decide to influence me, decide that I need to think this and not that, decide that I need to love this and not that. That can be politically motivated, financially, motivated something you don't desire directly. You have given so much power to such an environment that are you still free? And that is the true question. If you want to become more productive, if you want to become more efficient, yes. You can use Google map instead of searching for the right street. But you are losing your ability to find the right street by yourself. There is a price to pay, and that is why when people say, "Oh, Google is using my data," Hey ho. Hoo, hoo. It's not free. It's very costly to have all the servers and so on. There's always a price to pay. So we become more efficient, but if we become more efficient, the risk is to be less free. And we must be conscious about this trade and then people would choose democracy.

Jason Lopez:

Jerome Pedreno heads up business development for the Hardis Group. Damien Pasquinelli is a technologist who designs warehouse management systems for the company. This is the Tech Barometer podcast, I'm Jason Lopez. Tech Barometer is produced by The Forecast. Find us at theforecastbynutanix.com