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Harvest Hub: How City Harvest Develops Technology Solutions To Run More Efficient Business Processes and Feed More New Yorkers

AN INTERVIEW WITH

Jessica Grace Torres, Director of Business Intelligence, City Harvest

Harvest Hub is a technology solution that the New York City nonprofit, City Harvest, has developed to track all of its operations and business processes. City Harvest is New York City's largest food rescue organization, helping to feed the nearly 1.2 million New Yorkers who are struggling to put meals on their tables. Amy Ahearn of Acumen spoke with Jessica Grace Torres, Director of Business Intelligence at City Harvest, to understand how she thinks about building nonprofit tech solutions that can power food rescue and drive more efficient processes to get food to people who need it.

This interview was produced as part of The ReFED Nonprofit Food Recovery Accelerator.

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AMY AHEARN: Could you describe your role at City Harvest?

JESSICA GRACE TORRES: I'm the Director of Business Intelligence at City Harvest. For a few years, my role focused on the operational side. I figured out how to track and measure all of our activities. This was everything from figuring out how many pounds we could rescue and deliver to understanding the lifecycle of a pound of food. If we were considering a question like whether we should work with bakeries or supermarkets, I would model that out and understand what the implications would be. I would figure out how we track lots of information and use it.

We created avenues for the frontline leaders and managers overseeing specific accounts to understand how to access information in a very quick and easy way. We designed

IMAGE CREDIT: CITY HARVEST

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a lot of dashboards and things that people could interact with. It was very on-demand so that people could quickly retrieve data. We became thought partners digging through the technology solutions and figuring out how we could make all of our systems talk better to each other.

Then we were invited to help on a more global level at City Harvest. Now we are working with other teams outside of ops. We did a lot of work with our programs team last year. This year we're learning so much from the external relations team about how they interact with their own database. We're going to be figuring out ways in the future to connect all of that information together.

AMY: Fascinating. Let's shift gears a bit and speak about Harvest Hub in particular. What is it? How did City Harvest help to develop it?

JESSICA: I'll take you back to inception. We were revisiting our business processes and thinking through how we could help New Yorkers even more. We wanted to institute systems that were going to be scalable and see how how everything could be tracked together.

IMAGE CREDIT: CITY HARVEST

We started reexamining how we were tracking all of our food. We had a very paper-intensive recording process to track the lifecycle of a pound of food. We could track it from the place that the food was rescued to our vehicles to our warehouse to the end user.

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We went through a couple iterations to see how we could build a technology-based solution to track everything and we ended up with Harvest Hub.

We get quite a bit of food that comes to our food rescue facility in Long Island City. From there, we load our trucks and our amazing drivers not only deliver that food, but also do pickups and deliveries on the road. It's a very different model than anyone else has so we knew that we couldn't just go out and get a software solution off the shelf. But we also didn't want to get stuck in the arena of coding something from scratch. Development takes a very long time and it can be very expensive.

Instead we wanted to look at scalable and long term solutions that were not going to break the bank because we're extremely fiscally responsible. We wanted to make sure whatever we're developing has a good shelf life. So we ended up working with our developer in-house and thinking through the right company to start working with on this. We contracted with a company that had a great user interface that you can quickly customize. So our app was branded to look like a City Harvest product and we were able to do all the backend integrations. We are basically just using a presentation layer on top of their code base so it's very easy to update, but we're able to push and pull our own data through it so that it enables conversations between our databases.

We have two models: one for our drivers, which is that first model that I described, and then we have an agency portal site. It's a web responsive app, so they can access it on their phones or a desktop. We have a couple different modes in which we coordinate with agencies and we wanted a way to be able to track information and have conversations with them without relying on phone calls.

AMY: You've made very intentional choices around technology. Many nonprofits struggle with how much they should build themselves versus where they should partner with existing or third party solutions and start to customize those. Can you talk a little bit about how you weigh those decisions?

JESSICA: Where you can get into trouble is if you custom code. A lot of the legacy systems we turned off a couple years ago were custom coded for us. Then when that developer was no longer here, we had a product that someone basically had to relearn. So we ended up moving towards Microsoft products which are out of the box, but you can customize them for your business. So it's not as though you're spending time coding things like a

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dropdown menu; instead what you should be coding is what goes in the dropdown menu.

You've got to have a dedicated team that's going to be thinking through any solution you pick. It's very easy to just buy more and more software, but if you don't have a good system admin and a good data governance and data quality regimen, you can end up migrating bad data or using your data in a skewed way. You have to be very intentional and think through anything you bring on—not only because it could have implications today, but also six years from now. Who will handle the upgrades when some new browser comes out? Will the new browser be supported? Will this company help you to ensure that you can see it on the browser? What are the ongoing costs for all these items? You have to think through all of these types of questions fully.

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And just because you did something for a long time doesn't mean you need to continue it. Maybe you're thinking of investing in a database or software application because you've always done that. But you don't necessarily need it if it doesn't address your current business processes.

AMY: It's also striking to me that you've really thought intentionally about business problems and how they connect to your systems. You're thinking about who is going to be interacting with these systems.

IMAGE CREDIT: CITY HARVEST

JESSICA: Our drivers were incredibly helpful at developing their side of the app. We gave them version 1.0 and basically asked them to go try to break it, find bugs and tell us what could be better. We built a framework for iterative design so that we could walk through user testing and figure out what else could be even better for them. They came back with incredible feedback and were really part of the process.

Data collection should always be a byproduct of your activities and should be used to help you recalibrate how you're using resources. But we also didn't want data collection to make their jobs harder. We wanted it to be an enhancement. It had to make their day easier.

Now they are still suggesting new features. We have a whole list of future use cases

for the app. We first built the baseline of what we absolutely had to be able to do to replicate our systems that were done using paper and now we're looking at future use cases of how to make their jobs even better.

AMY: After hearing all of this, I'm really curious to hear more about your background. Do you have technical experience? Who makes up your team? How do you recommend a nonprofit start to assemble the right kinds of people to build these solutions and systems?

JESSICA: We have a very talented group. We have a technical project manager, business process analyst and individuals that have master's degrees in quantitative methods and modeling. They're more of our senior analyst level. We also have a great developer. I have a Master's in Public Administration. I'm also twice certified in business intelligence. We're very lucky, have a great group of people.

The software selections are getting much easier. There's a lot of out of the box items that you can customize. It's really about knowing what you want even before you get started in the software selection. You can automate all kinds of processes using technology, but if it's a bad process to begin with, then you're just going to speed up a bad process, not improve a process. That's not going to help your business or what you're trying to achieve. You shouldn't replicate stuff without reevaluating how effective it is. The technology should take into account both the end user and the process.

AMY: How have you weighed the cost implications of building out some of these processes and systems? It seems like you've done it in a really lean and smart way. But there are obviously costs to maintaining technology and systems. On the other hand, there are probably costs savings. How do you make the case to others or to your board to invest in these kinds of technology solutions?

JESSICA: We have been able to buy back valuable time for manager. One of the things about nonprofits is that we all have 17 jobs so if we can eliminate some silly administrative jobs that people have to do in order to actually manage people or assets, I want to make sure I get that running well. When we put data into the database, synthesize it, and examine it, we can make better recommendations for how people could be rescuing even more food in a better way. So it really starts to become part of stripping down the cost of what's going in and showing people the thought process in the selection.

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You shouldn't buy something just because it's flashy and new. You should be implementing systems that will save people time. I think about our drivers on the road and the fact that they don't have to sit at the end of their shift, reconciling paperwork or trying to find a receipt that blew out the window. Instead, they get both their quality of life and work improved.

It's all about making sure you pick stuff that's going to work well with each other. We had great routing software, but it was a bit advanced for what we needed so we're going to one that's very practical and will work with all of our other databases and it's going to work a lot better. It also happens to come at a much better price point. A lot of this comes down to weighing the options and then coming up with a good persuasive essay about the most logical avenue to go down.

AMY: What lessons would you have for other nonprofits for how they should apply technology to their work?

JESSICA: One of the lessons that we learned very quickly when retiring our legacy database was that you needed to think

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through the roadmap of how you were going to release new features. What were you actually going to do? How could you advance what you're currently doing? You shouldn't collect information for the sake of collecting information.

You should also absolutely build in an onboarding methodology. You're going to face some resistance when rolling out new technology. Onboarding is a process you should take a lot of care with. You really need to do some user acceptance testing even before you get started with software selection. Take the time to really learn what everyone is doing and how they're interacting. Bake in iterative design. It's really not in vogue to do waterfall design development; instead, you need to take a very iterative, agile design approach where you're constantly checking in with the end user and your product developer. Ensure that whatever you embark on, you're giving it the right amount of time to incubate.

AMY: Can you say more about how you do that? Is it an assessment? Are you interviewing people? Are you looking at what they're creating already?

JESSICA: It could take a couple forms. It can be a business process workflow or an assessment or a map of how some actions lead to others. Write down all 17 steps of a process. You can then see very concretely where the wasted time is happening.

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Take the time to do the real assessment because it really highlights where there are unnecessary steps or things that you were doing just because you have always been doing them. Those maps can then help you streamline your processes.

AMY: A lot of people talk about innovation in an abstract way, but you're getting so concrete about what people are actually doing and how this data is flowing through systems and all of these steps. Once you do that, the opportunities for improvement jump out at you.

JESSICA: When it comes to nonprofit work, I would say what makes us the most innovative is having constraints. We have to work with the supplies that are in the box. Working within that framework—whether it is a budgetary constraint, or a constraint on people's time, or an appetite for moving into something else—forces you to innovate.

If you are a nonprofit looking to do massive change, I would say technology change and technology implementations usually fail during the implementation phase because they don't adequately account for the humans they have to interact with and the other databases or applications. If you overcomplicate or design for something that you don't necessarily need, it won't work. Make sure you are gut checking the "why" behind everything. Look for enhancements in your current design. That's a good place to start.