Episode #20: “Cloud computing has democratized data….COVID has accelerated demand for it.”

This episode is jaw-dropping. Spanning massive changes in data to the thriller-style story Rhode Island’s successful Pandemic Unemployment Assistance (PUA) program launch in under 10 days, Dr. Justine shares a wealth of insights, lessons, and possibilities from her experience working with states to reimagine their data systems and applications. Justine* is the founding director at Research Improving People’s Lives or RIPL, a new kind of Data Science and Research Lab based in Rhode Island that works with public and social sector leaders from across the country to use data to improve policy and make people’s lives better. She’s one of a whole new class of data scientists that link academic, tech, data, and public policy. Longitudinal data systems (like the Workforce Data Quality Initiative) are at the center of these efforts. *Justine is a also polymath. She served on the Academic Research Council for the US Consumer Financial Protection Bureau (CFPB) and on the Council of Economic Advisors to the Governor of Rhode Island. She holds a PhD in Economics from the University of California, Berkeley and remains Professor of Economics and International and Public Affairs at Brown University and Faculty Research Associate with the National Bureau of Economic Research. References: Rhode Island Policy Lab (RIPL) National Science Foundation proposal, DOORS Initiative GovTech Article on PUA, featuring Rhode Island’s PUA/CARES Act response For more information: Sign up for the #MakingBetterWork Newsletter: https://mailchi.mp/903537e424bb/mbwnews US Department of Labor’s WDQI Effort: https://www.dol.gov/agencies/eta/performance/wdq Research GPS: https://wdqi.workforcegps.org Social: @kristinwolff @Social_Policy SPR on Facebook #MakingBetterWork Credits: Produced with support from the US Department of Labor’s WDQI Technical Support Project and (fantastic) Doug Foresta.

Transcription

[Narrator] 0:02
Welcome to Making Better Work, the podcast where we explore how connecting people and data can help us navigate the future of work. And now here's your host, Kristin Wolff.

[Kristin Wolff] 0:13
Hi, welcome to Making Better Work, we're back with another episode in our new now series. As you may remember, in January, we launched a new series of the podcast with a plan to talk with a new cohort of state data stewards, and then the world changed a public health crisis and economic crisis, a mass scale demand for equity and justice, a future very different from the one we’d imagined in early January. But even now, and maybe especially now, Making Better Work is focused on how we employ data for good. Specifically, how we use data to realize a human centered future of work that lives up to people’s talents and ambitions. At the center, amazing public data stewards in 18 states and their civic tech data science and research partners, all working together on the US Department of Labor’s Workforce Data Quality Initiative. Together they’re building the systems and tools, employers’ workers and students will count on more than ever going forward. This podcast is for them for you and for others like you using data to build back better in the wake of COVID-19. Thank you for showing up and for making better work every day. I'm Kristin Wolff, your host at Social Policy Research Associates SPR is a
research and technical assistance consultancy in the workforce and education space based in Oakland, California. Today we’re talking with Dr. Justine Hastings, a founding director at research improving people's lives, or ripple, a new kind of data science and research lab based in Rhode Island, that works with public and social sector leaders from across the country, and using data to approve policy and make people's lives better. Justine and her colleagues are right up our alley. Prior to ripple, Justine served on the Academic Research Council for the US Consumer Financial Protection Bureau, and on the council of economic advisers to the governor of Rhode Island. She holds a PhD in Economics from the University of California Berkeley and remains Professor of Economics and International Public Affairs at Brown University, and faculty research associate with the National Bureau of Economic Research, she's also super passionate about data and its power to help us solve all myriad of complex problems. I can actually put Justine to the Rhode Island WDQI Workforce Data Team, which has been working with ripple for some time. The two recently partner to develop and deploy tools that enabled key aspects of the Cares Act, and the COVID-19 response in record time. We're really excited to hear from her today and we know that you are. Justine, welcome to Making Better Work. I wondered if you could just start out by sharing a bit more about ripple, what do you do there?

[Justine Hastings] 2:33

Sure. Thank you, Kristin for inviting me to join you on this podcast. I'm really happy to be here today. Research improving people's lives at ripple is a nonprofit tech for social impact organization led by science and policy experts in what we do is we help state and local government leaders, unlock the power of data and science to improve policy. And we do this by developing and deploying technology and data resources that deliver permanent government capacity for continual fact-based policy improvement in the context of helping government use those data, and science to solve an immediate policy challenge. As you're well aware policymakers at the state and local levels, they're tackling some of the toughest problems facing society from reducing poverty improving education, delivering effective health care would be kind of the standard. Now there's responding to COVID and a public health emergency in making sure that education access is equitable in this pandemic with remote learning, you know, making sure that we get people back to work and minimize long term impacts of the economic crisis that's followed COVID. As a nation, we're spending billions on education programs, and on many anti-poverty programs that lift people out of poverty and policy leaders increasingly need evidence to base their policy decisions on, but not just evidence that was one piece of evidence somewhere at some time but evidence that it's actually working for them and for their people on a continual basis. Way to be able to actually measure improvement continually and continually innovate, much like the private sector does. So, what we do is we start by working with state and local governments to identify their biggest policy challenges. So that may be, for example, we want to reduce recidivism rates, or we want to figure out how to get people back to work quickly after COVID. And we put together a science team usually faculty experts, coupled with policy experts to deliver insights and solutions using government's own data. So, we develop the scientific approach to answer that big policy challenge. And then instead of just kind of doing that science by ourselves or kind of at the university instead what we do is we help government build the data resources and the technology they need to not just deliver that one science solution, but to support insights and improved policy going forward, so that they're able to develop the solution, implement the solution measure success, build on that success, develop more solutions going forward. So, in a nutshell we hope government develop integrated data resources and technology they
need to solve a key policy problem and to innovate and drive measurable policy improvement going forward. We develop science to solve problems and build lasting capacity for government. We kickstart a paradigm shift inside government towards evidence-based policy by delivering an end-to-end sustainable solution, which empowers government to support a community and culture of continuous data driven improvement.

[Kristin Wolff] 5:56

Wow, shortlist that. [laughing] So yeah, I actually, I want to talk to you a bit about sort of this changing ecosystem of all of these players, you know you've seen it, sort of from so many vantage points. This kind of public data civic tech data science kind of universe, and I wondered if you could talk about some of the major changes you've seen in recent years, you know, we didn't. I mean, even when I first started sort of working with the public sector. Ecosystems public data civic data, data science, these were not terms that you often heard. Um, can you talk a little bit about what's changed in recent years, whether it's partnerships or ways of working or the nature of projects just how all this works.

[Justine Hastings] 6:42

I think one of the major changes that's, that's really affected this space in many spaces is is cloud computing, to be honest, I think that cloud computing has really democratized science and data. So what I mean by that is, it used to be the case that if you wanted to, for example, design and integrate your administrative data so; sorry let me say that again. So used to be, for example, that if you wanted to build an integrated data system so that you could see holistically how your policies impact families you could measure with data and science the impact of policy, look for room for improvement and innovate, and again measure success, you were looking at needing to build a very large competing system if we went back way in time this might have been quite expensive. It may have only been possibly housed at the university, you may have wanted to partner with researchers or students who could help you develop science and develop those data resources but then you'd have to kind of come to your office which put up a big barrier and work on your data systems. Cloud computing now allows individual agencies or individuals even, ripples small startups, anybody to have the access to computing power that I think a decade ago or more may have only really been exclusively for those with deep pockets or those with a lot of technical know-how, for example at the university, and cloud computing, also allows collaboration. So now instead of somebody coming to your office and saying, you know, where is that latest Python package so that I can do this, ML algorithm or implement this artificial intelligence tool, instead of doing that a researcher now says hey I have this Python package, I'd like to use. Can we install it in my account within your environment, and in fact you have the compute power there to run the ML algorithm. It's not something that you would have to reinvest and buy a whole new system in order to be able to do a particular project that needs more compute power, because you have elastic access to more computing. So, I think if I were to summarize, cloud computing has really democratized access to science and data resources in computing power, and it has facilitated and enabled partnerships that were very difficult to form and efficient ways before. The other thing that it's done that is very powerful is it actually allows science to be taken into production. So, what do I mean by taking into production. What I mean by that is when government has a cloud compute system secure
FedRAMP approved, auditing, logging, monitoring, account control, user control access. They can partner with a scientist to be able to develop a new ML, machine learning algorithm or a predictive model on their system using their data securely with confidence that they know where those data are at all time, they won't lose track of that. But more than that, once that machine learning algorithm or predictive model is actually running and producing results. It now actually can continually run and produce results, so that if you wanted to base a policy on that predictive model the results or output from that model that model now can be continually producing those results and you can feed that directly into your policy. So for example, if you wanted to know, where should we send support groups such as United Way 211. You could have a predictive model that predicts need for that type of social support and help in local neighborhoods, pushes that through the results of that model. Where's the top 20% likely places that need help, through a back-end API. United Way 211 can pick that up in an account, and then use that to make their decisions about where to send their vans each week and this can then continually happen, so there's not just one research result that happens at one point in time, but that research is now a living thing that’s guiding decisions going forward and cloud computing enables that type of compute power, security and collaboration across entities.

[Kristin Wolff] 11:33
Wow, I love this idea of research is now a living thing. Can you give us a couple more examples or just, you know, a way, maybe tell us a story about how data users have experienced this difference this shift?

[Justine Hastings] 11:49
Sure, Kristin, have a great example from a project that we're doing with the state of Rhode Island, and also several other states across the country. It's called the data for opportunity and occupation reskilling solution doors. It's an NSF, National Science Foundation funded project. And this project, it takes data, builds an integrated secure research a data lake platform for labor training for Departments of Labor in states and it combines the data that they have, along with data from other agencies that are important for understanding, workforce development and workforce, outcomes, and workforce training programs. So, these data combined for example training enrollment. They combined withdrawal data, they combine disability insurance data, unemployment insurance data, they give kind of a holistic picture of labor force and training participation, and outcomes. And what we've been able to do with this new system is partner with Department of Labor to use those data to calculate return on investment to training programs. So, when I say return on investment. What I mean is, for each training program, how much does it move the needle on average for enrollees, as far as increasing their earnings out and employment outcomes. How much does it add value to their labor, their returns in the labor market? And currently, as you know, most individuals across the country who are displaced and in need of re-skilling and employment and re-skilling for improved employment, they have to make that decision without the benefit of having a measure of success, still a measure of how successful that program has been at improving employment and earnings outcomes for past enrollees. So instead of for example calculating return on investment once at a point in time and then publishing that we now instead can build this integrated data system run causal machine learning models to calculate this return on investment and give a projection for each training program, the expected returns that an individual get
if they were to enroll in that program. And then we can push that through an API to a web and mobile interface that individuals can use to guide their decision on enrollment so that they have confidence that the program they're enrolling in is one that's likely to lead to improved economic outcomes for them. And this no longer is one piece of research that is done at one point in time, but it is a piece of code or software that continually runs that the Department of Labor now owns and we work with the research analyst and director of research at the Department of Labor to understand the program to use and interpret the results, and then to own those and extend those going forward.

[Kristin Wolff] 15:11

This is so exciting. I want to, I'm not quite sure of the question I'm trying to ask here but, but I'm going to take a shot at it. So, sometimes we talk about within the WDQI community we talk about the evolution of tools that operate on the kind of a people like me principle in much the same way as when you order a book from Amazon or you order something from Netflix, you'll see recommendations based on your, you know other people, either in your geography or similar demographics or whatnot. And so, when you think about how that works in the labor data space. We have often been hindered by not having the breadth of data to allow sort of a people like me type tool. And now, both with the advent of cloud computing as you say, but also the the partnerships that accrue as a result of that, they are developing, as you pointed out these sort of comprehensive looks at, at customers. And so, in turn, the tools, get the tools are more and more able to sort of adopt this kind of an approach to user interface or to the tools that that people use, and I wondered if. Where have you seen or, you know, have you seen an evolution of those kinds of tools and just I'm sort of interested in that space and most of the time when we talk about it, it's sort of evolving, or, you know, we just can't can't quite get to it and so I wondered, could you speak to tools that are evolving, like that, and how the connectivity, and the longevity of the data behind them has aided in their development?

[Justine Hastings] 16:55

Richness of the data that you're able to bring to bear for the question or for the user. That's how, how much data you know about individuals and about the outcomes that is going to do two really important things one is it helps you help individuals, see what successful outcomes other people like them have had. And it also helps you control more richly for people's backgrounds so that you really can get at this idea of how much does a training program, move the needle for an individual, and cloud computing, really enables the ability of not just agencies to partner with researchers but agencies to partner with each other around data, and what we've really seen is that agencies are able to have the confidence because they have transparency into their data through auditing and logging and shared ownership over cloud compute platform, they are able to have confidence to work together, the data are joined in our system essentially they're joined and then anonymized so there's an added level of confidence that people's individual identities aren't part of these joint data, but then you're, you're able to glean the benefits of those joint data to really understand how to best serve individuals and the community because you see the whole person. And I think that as we started to build those comprehensive data resources, powered by this new ability to post them securely in a collaborative environment. We're going to see more and more development of products and services that can be targeted for areas of
greatest need, so that we're reaching the people who need the services most instead of kind of throwing out a blanket and hoping to catch the folks that are in most need of various products and services. And we are also going to see more and more of individuals being able to some, to some extent use their own data. In order to help the state help, make recommendations for them.

[Kristin Wolff] 19:18

This is so exciting. That's that's maybe my favorite thing about this shift is that it shifts the focus of what we used to think of as research from understanding the what, to kind of interrogating the why, right, if you if you no longer have to put quite so much effort into simply identifying the what is working and for whom, then you can spend a lot more time on the why and then you start to get to the equity questions that have been much more difficult for our system to manage so I'm really excited and hopeful about that. So I want to shift directions a little bit and and talk about COVID in particular, and it has felt, especially in the data space, there's, it's both kind of chaos and also opportunity you know we've never seen so much attention on data because at the very highest levels of government and also the private sector industry associations, etc. There's a real appetite for telling me what's going on right so everybody is, is sort of attentive to it. And then the other, the other thing that's happened is just the entire world is suddenly looking at data this all the time. And so, I'm talking about data models and so suddenly, just the public fluency with things like data models and the understanding that they change based on the inputs to them over time, and they're not fixed, you know, so these concepts are now in the atmosphere just sort of in the environment in a way that they absolutely were not a few months ago and so it's it's kind of changed the way we talk about it and those are super opportunities, and at the same time, it's really put a lot of pressure on public data stakeholders to manage external questions constantly flooding them, and then also to be to bring the right data to the right questions and ensure that that people who are using it understand what they're looking at so it's just really complicated in good ways and and challenging ways, the idea of working with data, especially labor market data and so I wondered, could you talk a little bit about what you've seen in terms of helping states develop responses to COVID whether that's specific tools, or whether it's establishing new partnerships are setting up data partnerships or whatever it is, what are the kinds of things they're demanding, and what are the interesting sort of innovations and sort of just, I don't know green shoots that you're seeing come out of this.

[Justine Hastings] 21:48

So, I would say one of the interesting innovations in in kind of green shoots, is just the desire for states or basically an accelerated sense of urgency to be able to use their data and to have it handy, and in a format that's usable so again it's one thing to have your back-end data or whatever your raw UI data or your raw, raw training data, something that you can pull and then analyze. But what ends up happening is that every single time you're analyzing it the same way and you're losing a lot of time and it's not kind of, at your fingertips in the format that you want it to be in because, typically, these data are structured in a way that is for recording interactions with a system, and not for delivering insights. So one of the things that we do in the system that we help states stand up, is we have software that runs and it takes their back-end data, and essentially transforms it into very usable format so that they can get insights at
their fingertips. With Tableau or Power BI, or whatever your favorite, you know, digitalization software is our shiny whatever it is that you use, essentially you can very quickly naked graphs and graphics, any type that you’d want and the data are constantly, you know, pushed or refreshed or updated. So, what used to take months of work every time you wanted to create a graph now is minutes and can be a living entity or a living piece of insight. So, we think it’s really put front and center the need to have that type of capability and I think that’s a great it’s a great time for seizing the opportunity to invest in that capacity to be able to have those resources at your fingertips, and partner with scientists, local researchers, and nonprofits who can also help you design and develop dashboards, and the correct way to display or the optimal way to display information. The other place that technology has really been in demand and it has, we’ve seen some really big successes just in using the cloud compute platforms and everything that goes with that. We’ve been working with Amazon Web Services; they have a lot of managed services that were a managed service is basically a plugin or a program or an add on that Amazon manages and the user pays a small fee or it might even be potentially be free for using that service so what I’m going to give you a couple examples. So, you for example, you know, we set up this system for Rhode Island for measuring returns to labor training programs right before COVID hit, and we had just demonstrated the power to drive continual insights in seconds. With this new system and had shared with our government partners return on investment measures for training programs, and a couple of days after that, I think the Cares Act passed or maybe a week or so after that the Cares Act passed and the director of labor and training Scott Jensen reached out to me, to basically explained that they were really worried their entire system was going to go down under a surge of claims, and he asked if there was some way that this cloud system that we had built could can somehow help I mean it was really like this general question in a moment of, I need to ask every question because I have no, no path forward at the moment. And, and I said, you know, thinking about how these systems work I think yes, we can this can help. And there’s a manage. So basically, what we were able to do within 10 days is pivot, their secure compute system that we had set up in the cloud, to have an environment where we launched a website that could securely collect pandemic unemployment insurance assistant claims. So PUIA claims, pull those back into the secure system, we could then write scripts that clean them analyze them, etc., and then send a clean files to the legacy system to pay to individuals, so we were able to collect, process, and pay PUIA claims within 10 days of the Cares Act passing making Rhode Island, one of the first to be able to do this, and they were able to handle what was, you know, for everyone and also for Rhode Island at an unprecedented surge in claims because in the AWS system there’s a service called lambda, which essentially allows your processing your web application to spin up micro servers, essentially, to handle any amount of surge that happens and then spin them back down so instead of now being constrained by the capacity of your physical server, you can take advantage of a service that Amazon itself developed to handle Black Friday peak demand for its website. So now that you know we have, we hopefully will never see a crisis that drives UI claims to Black Friday levels at amazon.com. But that’s the amount that you could, you know, that’s exactly what that service is set up for. So that's now something that Department of Labor and training can harness to, if there is a shock term demands they won't go down, they'll be able to take advantage of that compute power instantaneously in order to meet demand for their website and for applications. So that's one example. A second example is. I also used both for Department of Labor, but also for a project that we’re supporting Department of Education with. You may, for example, want to reach out to individuals in an automated way. So, in the Department of Labor context. When people fill out their PUIA application, there may be a mistake in it. And that mistake, traditionally somebody in actual individual would need to identify that mistake,
reached out to the individual the claims filer gets a correction entered into the legacy system, and then
the claim can be processed. Instead, what we're able to do is write a quick piece of code that identifies
those mistakes. Flags them, Amazon pinpoint which is an automated email and text message service,
especially then can grab that file, send customized email based on what that mistake was to the
individual, who then themselves can get can fill out a survey link that pinpoint sends them to provide
the corrected information that comes back into the system code reads the corrected information and
replaces it in the file. And amazingly, we have clean claims to feed the legacy system for payment and
people were able to essentially correct their own claims. And that process literally happens within a day
because people are happy to correct their own claims when they get that email, and it's all automated.
Now the people who would have had to be on the phone, calling somebody and trying to get ahold of
them. Instead, they can really focus their time and attention on the very special cases that really need a
person's help or second place where this type of technology has been really helpful in handling the
COVID crisis is for this program that we designed and are running with the Department of Education. In
this program, the Department of Education, wants to help support children who are in crisis high school
children over the summer, complete their distance learning remedial coursework, and in order to
encourage them to do that they'd like to give them some cash, both because the students no longer
have summer jobs that they desperately need that they'd like to tie that cash is an incentive to help
them be motivated to do well and engage with and succeed in remedial coursework at a time when it's
really hard to do that because now you're remote learning. So, the temptation to not follow through
with your coursework is even higher. So we designed, essentially, a chatbot and a text message
application that uses pinpoint and Amazon Lex which is the natural language processing the program
that powers Alexa, and that those two programs together are able to power a chat bot that reaches out
to students, tells them what their assignment is for this week for their coursework, and lets them know
that they're going to receive payment and a reward if they succeed on that assignment and then can
deliver that payment to them on an electronic gift card, and that whole system now is managed within
the secure cloud compute for Rhode Island Department of Education, so that the data are secure. It's
FERPA, it's FedRAMP approved, and they have ownership over it and complete transparency into what's
happening, and they learn how to use these powerful new tools lacks and pinpoint so that going
forward, they now have the capacity and capability to design their own text message campaigns or their
own message campaigns, and anything that they build in that chat bot for its to power its, its artificial
intelligence its ability to learn how to answer questions. You know, is now permanent knowledge within
the Rhode Island Department of Education that they can use for programs going forward, as opposed to
partnering with an outside entity who may be, you know, accomplish this in their own system, and then
you know it's very difficult for that knowledge to then be used further by Department of Education for
programs going forward in the future. So again, we are working with new technology, behavioral
science, the behavioral science of nudges and small incentives, we're working in to bring that technology
and science to bear to solve an immediate problem for Department of Education, which is how do we
help these children in crisis. State stick with their education and get through these courses that are so
important for their future that we're doing it in a way that's building lasting tools and capability for the
department.

[Kristin Wolff] 33:34
That's an amazing example in fact both of those were so I just yeah, I hardly know what to say it's very exciting. I wondered, you know you must be in a position working sort of this closely with, with both the data and people who manage data and then also sort of partners and exposing them to tools and whatnot, you must sort of see a myriad of opportunities for these kinds of technologies and for, and for automation really more generally to be used in other ways and I wondered if you might speak to some of those sort of based on the experience that you've had quickly standing up responses in a variety of environments to COVID. What are some of the opportunities that you see, sort of longer term?

[Justine Hastings] 34:22

Sure, I think both of these examples that we just talked about with respect to COVID actually, are things that kind of Chuck a box, going, going forward, and I'm sure there are many more but, you know, I think for Departments of Labor across the country and, you know, Rhode Island, I don't think was is any exception. It has been long on the to do list to modernize outreach and the ability to take calls and have a call center that works functionally and to have, you know, electronic means of outreach to take some of the burden off of call center staff to free them up to focus on, on cases that that really need them only. And it's certainly on the radar screen I think for many departments of education to come up with innovative ways to keep students connected and to motivate them that are low cost, so you know even before COVID, we started with the Department of Education, and a... The College Board and Chan Zuckerberg Initiative, a program called the road to call it, which is exactly the same sort of text and nudge and small, short term and long-term incentive program to help low-income students who are college ready stick on the path to apply to college and be successful in enrolling. And that was something that we happen to launch but I knew that that type of how do we increase access, how do we get low-income students enrolling in higher education or on a good career path, how do we how do we level that playing field. And how do we do it in an affordable way because college is expensive and scholarships are expensive, and a lot of these technologies can actually deliver that type of impact in an affordable way by partnering technology with behavioral science. I also think that before COVID it was very much on the radar screen. Think we had a, it was, it was looming out there in the distance and this is much of what your whole podcast in your program is about this need to have much more effective and efficient re-skilling opportunities for Americans. Their re-skilling opportunities that are easy to find, they're actually giving them the skills they need, and they're delivering value added to implement in earnings, and that was already out there COVID, you know, accelerated all of these things the need to be able to use technology they need to be able to have impact on a budget, as budgets are going down, and, and, you know, we're currently with high unemployment rate and all of the recession and lower revenues for states and higher expenditure state for states that comes with that. So, I think that having that acceleration, gives you the opportunity to just get it done, and sets you up for success that's good can set government up for success, build those partnerships that will deliver lasting ability to innovate and improve and measure improvements going forward.

[Kristin Wolff] 37:50

Wow, this is just so exciting. I just, just feel like I almost need to kind of sit with it and absorb it. It's it's great talking to you, and I wanted to give you a chance, I was able to kind of listen in on the recent NSF
event that you were a part of and I want to just give you a chance to talk about your, your work there and I know you mentioned it before the doors project but do you want to take a minute to share what that's about?

[Justine Hastings] 38:16

Sure, essentially that project is really a great project we have a host of state partners that we are hoping to get funding to support this project, not just in Rhode Island, also in Virginia, Colorado, Washington State, and a couple more states that have expressed interest. That project is essentially creating exactly this integrated cloud-based data resource solution for them. The toolkit, the software and the know how to compute return on investment, scientifically valid return on investment for labor training programs and provide those to individuals in an easy-to-use web and mobile interface so that we can make informed decisions, those informed decisions in turn, incentivize training program providers to improve to add even more value. And when they add more value. We are going to improve economic opportunity and outcomes, even more per dollar spent on training so in other words, by providing this type of information, we support informed decisions, those informed decisions, incentivize the market to improve more and we create essentially a virtuous cycle of improvement that leads to effective and efficient markets for re-skilling. I'll also mentioned that as part of that project we have a partner partners on that project include Amazon Web Services, the states that I mentioned before, ideas 42 which is a nudge, behavioral scientists med unit, non for profit that partners often with government. Bright hive which helps government build data trust, basically agreements helps with a lot of the agreements that government needs to make in order to share data. So, we have this amazing group of partners, and also make home capital which is a Pay for Success, private equity or capital fund. Make home capital invests with government in successful social programs that lift people out of poverty. They provide the funding to help expand those programs and measure their improvement. So, as we identify with data and science, successful programs we empower individuals to choose those programs. We also provide the opportunity for government and those programs if they'd like to have access to capital to expand and invest in those programs to help accelerate this virtuous cycle of improving the market for retraining and re-skilling in the United States.

[Kristin Wolff] 41:21

Justine, I can't thank you enough for joining me today. It's this is just amazingly rich and I feel like we just barely got started. So, we'll certainly have to have you back. Before we close, I just like to, to invite any last thoughts, or share a website or a way for people to learn more about you and ripple.

[Julia Lane] 41:40

Thank you so much for hosting us on this program. Last thought, sorry it's been a wonderful conversation. It's great that you were doing this important work to help people learn, connect around data, and science and technology, improving labor market opportunities. It's wonderful that you're doing this so thank you. And if people would like to get in touch with ripple. You know we are based in
Providence, Rhode Island, but we do work with states across the country, and you can go to our website, www.ripl.org, and you can click connect@ripple.org to connect with us, please send us a message during email, and we'd be happy to follow up on any questions that you have.

[Kristin Wolff] 42:31

Wow, I just feel better about the state of the world knowing that Justine and our colleagues are applying their many talents to make it safer, better and more equitable. So, thanks to them and to our producer Doug Foresta, and to you listeners for joining in. We think this work is so important, and we're happy that you do too. Please check the show notes for the links to resources we talked about today, along with a link to the newsletter that accompanies this series, also called Making Better Work and give us a rating, it helps us know how to improve the show and helps other people like you find it so they can listen to. This is Kristin Wolff on Making Better Work, take care of each other out there and have a good week.

[Narrator] 43:09

Thank you for listening to Making Better Work. If you've enjoyed the episode, please subscribe to the podcast on Apple podcasts, or wherever you consume your audio. Don't forget to download our app available for free on Google Play in the Mac App Store. To learn more about what we're up to visit spra.com or follow us on Twitter. Thanks again, and we'll be back soon with a new episode.