

DECODING
Impact
WITH RATHISH BALAKRISHNAN

DECODING IMPACT

**DECODING INDIA'S DPI LEARNINGS FOR
THE GLOBAL SOUTH WITH
PROFESSOR S RAJAGOPALAN**

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Contributors

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About Sattva Knowledge Institute

Sattva Knowledge Institute (SKI), established in 2022, is our official knowledge platform at **Sattva**. The **SKI** platform aims to guide investment decisions for impact, shedding light on urgent problems and high potential solutions, so that stakeholders can build greater awareness and a bias towards concerted action. Our focus is on offering solutions over symptoms, carefully curating strong evidence-based research, and engaging decision-makers actively with our insights. Overall, SKI aims to shift intent and action toward greater impact by influencing leaders with knowledge. All of our content proactively leverages the

***Introduction:** You are listening to Decoding Impact, a podcast by Sattva Knowledge Institute hosted by Rathish Balakrishnan.*

Welcome to Season Two of Decoding Impact. Every fortnight we will engage leading thinkers and practitioners to understand what it takes to solve systemic problems at scale. For all the curious changemakers committed to understanding the trade-offs and incentives to make this world a better place, this one's for you.

Rathish Balakrishnan (RB): [00:00:51] The first unique identification number or Aadhaar number was issued in India on 29th September 2010 to a resident in Nandurbar, Maharashtra. Today, Aadhaar cards in India are ubiquitous. Almost all of us have it and most of us use it. However, as of December 2022, globally, around 1 in 3, people are without an ID and have reported difficulty in using financial services, receiving financial support from the government, applying for a job and voting in elections. India has learned valuable lessons in developing digital public infrastructure, with new initiatives such as ONDC, OCEN, Account Aggregators and so on. Therefore, there is a role India can play in enabling low and middle-income countries to drive services and social value with their own digital public infrastructure. How can more countries benefit from what we are doing today? How can they replicate it in a manner that builds the agency of the country to deliver better welfare for their own people? What are the challenges in replicating what India has done in its digitalisation revolution? Is it possible that what has been built for 1.4 billion people can actually support a country with 130,000 people? To discuss this and decode how India's learnings can be reflected in the larger global South, I have with me today someone who has thought deeply about developing and disseminating technologies that are economically attractive, environmentally sustainable, and socially acceptable.

RB: [00:02:22] It is my pleasure to introduce today's expert, Professor S Rajagopalan, who is currently the President of MOSIP and OpenG2P, both housed within IIIT Bangalore. Professor Rajagopalan is an entrepreneur, teacher, advisor and advocate and his subject matter expertise and interests include innovation dissemination, economics of innovations, geographical information systems and the economics of information technologies. Wonderful to have you here with us today, Professor Rajagopalan.

Professor S Rajagopalan (SR):[00:02:51] Thank you, sir.

RB :[00:02:53] Sir, I wanted to first start by understanding MOSIP in a bit more detail for the listeners and its role in the global landscape. If you can maybe start with that, I can then follow up with some of my other questions.

SR :[00:03:08] MOSIP is Modular Open Source Identity Platform. So that is generally there is a tendency to compare it with Aadhaar because Aadhaar is the world's largest identity programme and has been around in this country for now more than a decade. So there is always a tendency to compare what is Aadhaar, what is MOSIP. MOSIP is whatever Aadhaar's features are there, almost all of them are available on the MOSIP platform. But what differentiates is that MOSIP is modular. So the country can configure it for their own needs. It is not monolithic. For example, if a country doesn't want a particular biometric. It

need not use that biometric. When I say biometric, I mean fingerprint or iris or face or voice or whatever. The country doesn't have to use that. For example, in Morocco, by local law, and national law, only the police are empowered to collect, maintain and use fingerprints. Other departments or other agencies cannot. So most in Morocco is configured in such a way that fingerprint is not collected. And when one has to use fingerprint mostly interacts with the police database and uses that. So most of that way is modular. Second, it's open source, the code, the documents, the scripts, everything is available on GitHub. So anybody anywhere in the world can implement an identity program without having to refer to MOSIP at all. They can download, implement, they can improve upon the code, they can suggest alternate mechanisms and they can contribute back to the code. So it's in the true open-source spirit.

SR: [00:05:00] It's available for everybody. And the third is that we realise that we do not want to give a complete solution because we do not want to give. If there are 100 countries that do not have an identity program, we don't want to make 100 solutions. We wanted to create a platform which will do two things. One is it will enable countries to configure their own identity program, which suits their culture, their contexts, their legal framework, and their policy. Second, it also gives an opportunity for the local ecosystem to start developing, to support, to maintain, to create on top of the identity platform some more use cases, more enterprises could come in. So we made this an identity platform. So it has to integrate with, say, device manufacturers, a fingerprint scanner or a camera or iris scanner. It has to also integrate with some other software packages. For example, they have to integrate so that it gives an opportunity for the local ecosystem to take MOSIP, integrate with whatever they need to, integrate in a local way and then implement it more as a platform. Then can go to every country. It's almost 90% of the whole solution, but 10% is the customisation localisation like Sri Lanka would want it in Sinhala, Tamil and English. Morocco is Arabic and French. The Philippines is English, so they can customise it the way they want. They can make their own workflow on that side.

RB: [00:06:35] Wanted to ask three follow-up questions from here. One is wanted to start with the problem because it is very specifically only identity. Why is this so important? Is one question. The second question is about the substitutes. Let's say in a world where MOSIP did not exist, what were people doing before and how are they addressing these challenges? And the last part of it is what is the type of countries that are benefiting from MOSIP and what defines the characteristics of such countries. But maybe we start with the first question. Why is identity so important? And is this a problem that a lot of countries are grappling with?

SR: [00:07:14] Identity is important when a particular country has a large number of government-to-person programs. To give you an example that if the government wants to provide, let's say, food at a subsidised rate to people below the poverty line. It has to identify first, who are these people below the poverty line. So there are two essential issues get involved. One is uniquely identifying that person who is eligible. Second is not missing out on anybody who is eligible. These two are important. In the old time before, let's say, an identity is there. We have had this public distribution system right from the 1950s. In fact, even earlier to independence. There used to be ration shops in India during World War Two.

So public distribution system is not a new story. So what used to happen is that there used to be registers of people below the poverty line made up by the local government official or the local panchayat president. So it depends upon them to include somebody, exclude somebody. Second, if somebody has to access this benefit, they always needed an intermediary. First to get onto the list. Second, every month when they went to the ration shop to get the food grains on a subsidised basis, they needed somebody to recommend them. The shopkeeper can say, No, it's not available or come tomorrow. It's not for you. And those kinds of things. So one is accessing a right is an important element. The second is to minimise wastage as well as target the government program to people's identity.

SR: [00:09:04] Uniquely, identifying a person becomes important. So in countries where these are not there, like you take Europe, for example. Identity is not a big issue there at all because there are not many government-to-people welfare programs which are targeted. You have welfare programs like, let's say, Sweden's Health care system or England's NHS, they their welfare program, but then they are not targeted. They are available for everybody. So you don't have to really prove your identity in a very unique way. Any document can do your driver's license or your passport or any document could do because you are not targeting, but where you want to target some portion of the population for a benefit. Farmers were to be given so many dollars per acre and pregnant women were to be given iron tablets. Then when you want to target this and if you want to get efficiency. reduction of wastage and more important than that is giving this right to the people to ascertain and access their rights without an intermediary. You need an identity. You need an identity which can be asserted by the individual. And that identity has to be unique. You can ask a question Why can't I give an identity like the school identity card? No, the photograph. But can it not be duplicated? So you need uniqueness, so unique identity, then it becomes. So that's why identity becomes very important.

RB: [00:10:36] And this is an important point. So before I come to the second question, I wanted to spend some time on this. When Aadhaar started in India, there was this question of what is the problem we are solving. I remember in the early days it was seen as a surveillance, national security as an identity question. But what you shared right now is a very targeted welfare delivery. You know, use case for identity as you talk to different countries. Does that also emerge saying, you know, is this a surveillance need? Is it a national security need versus a welfare need and so on and so forth?

SR: [00:11:11] Most countries are looking at identity for welfare and social protection. They have other mechanisms for securing national security and surveillance. You don't need an identity program for national security and surveillance. With the number of CCTV cameras on the road and the way you can use them and with the AI and all coming in, you don't need an identity database to actually do any kind of surveillance. I don't believe so. But most countries whom we work with currently, are all using identity for the targeted welfare delivery, and social protection. That is the goal, not surveillance.

RB: [00:11:55] And links me to the second question, which is before, let's say, most existed, what were they doing? And your earlier answer sort of answered it partly in the sense that welfare delivery is not new, but maybe they just had a system which had a high level of

leakage and they had paper systems or there was probably rent-seeking behaviour in the last mile. But are there other technological alternatives to MOSIP that countries have tried? And are there drawbacks to those types of technologies?

SR: [00:12:25] There were closed proprietary systems in the past. There were vendors. We are not the first to offer an identity system. There were vendors, there have been countries which were used, those vendors based systems, for example, Uganda's identity system started in 2011, almost coterminous with Aadhaar. Kenya had an identity system around the same time. A lot of countries in the world have tried with such identity systems delivered to them in a box by a number of vendors from across the world and countries got into two problems. One problem is the vendor lock-in. That means that for any upgradation of the system or any expansion of the system, they needed that vendor to implement it, which it required, which resulted in more cost for them, and more outgo. The second thing is the increasing concern about data sovereignty. Started worrying about these countries. Where does this vendor keep the data he collects? Where is the data stored? Do we have access to the data? Can we actually get the data for some other purpose? If so, under what conditions? For example, if there is identity data and let's say the Health Department wants the identity data for national health identity management and health record management, will this vendor part with that data or not part with that even after the consumer consents? So these were the questions. So the question of one is vendor lock-in and increasing cost. And second this whole question of data sovereignty forces countries to look forward to solutions where they can drive, they can design, architect and drive their agenda. They don't have to depend upon a vendor. They may need a vendor to maintain, but they would say, here is a system which we have designed. You may have to maintain it. So that's an advantage.

RB: [00:14:28] That leads to a set of questions. But maybe I'll ask my third question. Coming back to that question. The third question was, which are the type of countries that are approaching us or engaging with MOSIP today? One, as you rightly said, these are countries that have a highly targeted welfare sort of approach. From the examples you've given, these seem to be from the global South, largely Africa, Asia, South Asia and so on. But any defining traits also, sir, if you could give us some examples of countries that are using most of today that will also make it very tangible for us.

SR: [00:15:02] See, currently MOSIP is working with about 11 countries and 5 or 6 more countries have shown interest in various stages of understanding it. The countries in which we are working, most of them are in Africa. All regions of Africa. We have Western African countries starting from Morocco, Togo, Sierra Leone, Burkina Faso and Guinea. On the eastern side, we have Ethiopia and Madagascar. We have many countries in Africa which work with us. And some more countries are talking to us. Asia, we have the Philippines, which is the largest program to date. They have already issued 75 million identity numbers using MOSIP. Morocco has done about 10 million. Ethiopia is closely inching towards 1 million. So this is one. Uh, Philippines one and the second is Sri Lanka. In all these countries without fail. All of them want identity as the foundation on which they are going to build them. Delivery of benefits, social welfare, architecture, and what they call social protection. That's what they are going to do. The identity is the foundation. Morocco has got four use

cases to start with free health care for a certain set of people. Health insurance for another set of people. Old age pension and scholarships to students. So this is an identity. They will build these use cases. Ethiopia similarly has some use cases in mind. Sri Lanka has some. The Philippines, they have a Department of Social Welfare and Development that runs almost 70 social welfare programs. They want to slowly make all their social welfare program leverage their identity platform. So the first demonstration is going to happen where they are going. They are basically talking about subsidising poorer people for the purchase of medicines so that they are going to test it out. So all of them without fail. Currently, we are talking to people in the Caribbean islands and in Latin America. All of them are looking for an identity for the purpose of social protection.

RB: [00:17:27] And give us a sense of the timeline. So when did MOSIP actually conceptualise, when it went live? Because of 11 countries in how many years?

SR: [00:17:36] We started in 2018, April. Our code was available for trial by 2019, August. And by 2019, November, the Philippines started the pilot program to test out more. They came and talked to us and they built a sandbox in Manila where MOSIP was installed and they started with they had a target of trying it out with 10,000 identities. By 2020, February they had done 11,000. So Morocco was the first country to sign an MOU with us to roll out nationally. Then they have to get their act passed in the parliament. They have to get their rules published. They have to have a privacy commission examining and approving this. All that process took about two, two and a half years. So they also started roughly the same time. And so these two were the first countries. Then, based on this, there is this conference every year in Africa called ID for Africa Summit. And this brings 50 countries of Africa to one location. 2019 It was in Johannesburg and 20 2021 it was online because of Covid. 22 was Marrakesh. And this year it's going to be in Nairobi. 50 countries meet there. So there they interchange notes. They talk to each other, and they listen. There are exhibitions and there are all kinds of things happening, workshops, and panel discussions. So then they come to know of it more. So based on that kinds of conferences and workshops and other countries slowly started coming into the Western African countries Ethiopia, Madagascar, Dakar.

RB: [00:19:38] So what you said earlier was interesting, sir, because, you know, you assume this is a technology problem, saying there's open source software, you put it on a server you run, but there is a legal and a policy aspect to this which is important. There is a privacy and data security question to this. There is also the technology capability of the host country to be able to manage this and so on. This individual awareness, there is political salience today. Is there a playbook that has emerged saying, okay, here is the typical five-six-step process a country typically goes through when it has to set an identity for social welfare.

SR: [00:20:13] No, each country is a different context altogether, but we have some common do's and don'ts. So, for example, what we tell countries now is that even if you have decided on first doing a pilot. If we do a pilot within 90 days or three months, we will know what all the pieces you require to keep this program successful and going in the country. Is it your resources problem, manpower resources, or other resources? Or is the policy framework you need to tweak? What is it that you need to know? You will know all of them in this pilot phase because the pilot phase is nothing but a miniaturised version of what will actually

happen. So we first tell people to say and which is, see, we don't charge anything to anybody. That is another advantage of this program. Neither the governments get paid as a fee nor the commercial ecosystem, which we interact with us and becomes empanelled partners. They also don't pay us anything for, you know, for the knowledge transfer, testing their system, certifying them. They don't pay us. So it becomes easier for governments to then say, okay, let me do a pilot and see what happens. And during that 90 days to 120 days, the government realises what all they might need, how many people, what kind of data centre, what's the kind of other infrastructure they require? Do they need to tweak the act or do they need to tweak the policy? All that gets thrashed out in that. So one is a pilot. Importance of the pilot, we emphasise. The second thing that we emphasise is most inherently has built-in fairly very strict protocols on privacy and data protection. It's completely user-controlled sharing of the data. There is a user portal. And the user poured through the user portal, the user can control with whom, what field of data can be shared, for how long and for what purpose.

SR: [00:22:23] And the log is maintained for some time and then destroyed as it gets everywhere. So there is a fairly high amount of security and protection. We tell them how it has been designed, and what they should do to keep this data protected and secure. But in the event that finally, the implementation of those guidelines depends upon the country. The country might say that I may not want to implement so much of a security management system, etcetera, but slowly the awareness is coming into the country saying that cyber security and data protection is very important. Some of the Western African nations, because of their longer relationship with France and Europe, also started looking at the data protection security issues that Europe is debating, the GDPR kind of regulation. They say, can we take some leaf out of it and use it for our country? So those conversations happen. So that becomes very important for us, for the country to decide how they want to build their system, how they want to architect, what will be there, what will not be. And third, we are also telling them that capacity is important, and local capacity is important. You might outsource maintenance, you might outsource even implementation, saying that you integrate and implement system integrator, but there must be somebody in the government, a small team, five, or six people who need to be completely knowledgeable about the entire thing. So we always insist that there is a local team available who are trained by us before we train even the system. So these are some things we talked about with them.

RB: [00:24:01] It sort of seems like a very good offer to say no to. I mean, you're getting free software that's proven across a billion people. You know, it is open source. They have entire control. They can customise it as per their needs. What is the resistance? Do you find maybe stakeholders within the country resisting some parts of it? Also, how was the optics? And I don't know if it's the right question of a country like India coming in and saying, hey, we can help you do this.

SR: [00:24:28] The resistance is not there. I don't think there is resistance. They were seen, initially, when MOSIP was not proven in the year 2018-19, there were campaigns by these vendors who were earlier selling identity software to discredit MOSIP to say that, it won't work. How can you trust a university in India? It won't work. How will they support you? After five years, university professors will just change their field. They might get fascinated by

something else, or they might retire and go away. So this is not a company which can guarantee you, they don't pick up any liability. So all these kinds of campaigns used to happen. And there were even attempts by some of them to set up an organisation to say that we will create open standards, not open source code, but create open standards. And you see any software which meets these open standards is good enough. Why do you want open source? But after 2020, after the Philippines implemented it, in Morocco, these things have fallen wayside. There is no longer that kind of questions. Most of the time countries, they don't resist, but they hesitate sometimes because of their own estimation of what it means for their country in terms of money, how much money they have to put into the World Bank-funded African Development Bank or Inter-American Bank funds. Who will fund this exercise? So that is one question. The second question, a lot of them have this hesitancy based on do they have the capacity. Can their own people maintain it? So they don't want to become dependent on one more vendor to maintain it later on. So what capacity? But it gets sorted out over a period of time. There is no such hesitancy. Similarly, people don't view this, at least at the country level, as something like India trying to win some brownie points and show its muscle as a software world superpower, etcetera, because they know they are not talking to the Government of India, they are talking to a university. It's an interaction between a government and a university and Indian software quality and its prowess is proven. So they feel that coming from an Indian ecosystem like Bangalore, our software is likely to be of that of world-class, but it is not viewed as the Government of India pushing something and as a part of its agenda on world superpower. No, it's not. The people have very clear expectations. They know they are dealing with a university.

RB: [00:27:16] That's interesting and refreshing to know because as you watch the G20 narrative, the idea of digital public goods being India's greatest export today from a thought point of view, was very prominent. So and when you start something which starts with it is also easy to assume this is a government entity, you know as well. So to have that independent standing as an academic institution that is able to drive it with countries, I think is refreshing that the countries are able to see it as well. And going back to the earlier question, are there some prerequisites except for the policy pilot that you had suggested, except also on the data privacy? Or do you sort of give them a set of prerequisites as well, saying please keep these aspects in mind?

SR: [00:28:03] I think we adopt an attitude which is actually custom design. We have a team, a dissemination team. Whenever a country shows some interest, they have a long conversation with them and then they design something for that country because one country is different from another country. We basically we use this model of generally like any kind of physician, you know, consultant physician. You go to a doctor, each patient is different from the other, patient. So in that kind of way. So like, for example, only recently we had some interesting dialogue with the SVD islands, which are very small islands in the Caribbean, which is total population, is 132,000. Which is not even an assembly constituency in India, but they want to have an identity system, digital identity system and social protection program, etcetera. So and similarly, on the other hand, Ethiopia is 110 million, so we have all in between. So this team actually talks country to country. We do not have a kind of common minimum approach. We have this. So we talk to the country,

understand them, then maybe somebody might visit them to see what is there locally and then we will tell them, show them how others have done the pilot. We have the videos, we have the discussion, we have the papers. Then we go through that. So it's country by country.

RB: [00:29:33] Two related questions. One is, and I was in a different conversation once where the discussion was about building for 1.4 billion people is a liability in itself because we've built it for all safeguards, all environments, etcetera. And I know you touched upon the modular aspect of it, that you don't have to take the whole elephant. You can take a part of the system that is most relevant for you, and run it. But how transferable has it been to take it from 1.4 billion people, you know, infrastructure to 132,000 people? Infrastructure was one. Second is over a period of time, do you sort of see an ecosystem of, let's say, service providers or others emerging who are able to sort of enable governments across various countries? And where it doesn't have to be, let's say the institution alone driving both of these will be good to hear you.

SR: [00:30:27] Say, first of all. Actually, software when you start unbundling it. And finally, resolve it into some reusable common element. Those elements are the same. To give you an example, let's take UPI. UPI is the same whether I do one transaction a day or 1 billion transactions. It's the same piece of code, the same piece of architecture and design. What differs is the size of the data centre. The way the data centre is architected, protected, et cetera. And the communication channels? How many channels do I need? What should be the bandwidth? This is what will determine the scale at which you are using, but the software fundamentally is the same. So Gmail is the same. Whether it is one individual or an organisation is using, or 1 billion people use it same. It's only the other things which matter. So that way, for most of us the essential core is the same, whether it is only a 100,000 country or a 100 million country. The architecture will depend on how many servers I need. How do I need to protect these servers, How many? What should be the bandwidth, whether I need 4G or 5G? How I do that will depend upon the country to country, which is what we help the country in designing. So it's so it doesn't really matter whether this has worked at 1.4 billion scales because you unbundle it and bring it down to the brass tacks. It's all the same.

SR: [00:32:08] Uh, any ticket booking is the same. There is a journey you want to make. There is an origin, there is a destination. A ticket has to be bought. Whether the ticket is done for a bus with 100 passengers or a train with million passengers. Uh, that's, that's also behind the ONDC backhand protocol and all that. Unbundle it to the lowest minimum. Second, you asked about the ecosystem. We were very conscious right from the beginning that the ecosystem must be there. See, identity programs have been for decades. Universities can't keep maintaining it for decades. So currently we have 60 plus private firms who are MOSIP certified to make those devices, which will work with MOSIP, fingerprint scanners, Iris and 25 plus more system integrators who can actually configure each country's needs. And then and actually countries engage system integrators. The Philippines has engaged one, Morocco has engaged another. Ethiopia is one country which hasn't yet engaged a system integrator. They are doing it by themselves. Togo has hired one, so system integrators are already available, about 25 of them. They can maintain one

and help the country's device manufacturers. So ecosystem building is an important aspect that we are conscious of right from 2018 and that's it. And we have a standardised procedure. How do they get on board? How do we train them, how do we test them out? And there is a third-party independent verification and testing of the whole procedure.

RB: [00:33:58] I wanted to also ask you about the value unlocking that happens when with certain countries where you are surprised at how they were able to, you know, benefit from this. What sort of schemes or value were they able to unlock for their citizens, et cetera? Some of those stories, I think, will also be very helpful to hear from you.

SR: [00:34:17] Too early now because the identity program itself is just maturing in some of these countries. Some countries are still on the drawing board. Countries where it's maturing like the Philippines or like, for example, the Philippines, did this. Now when the people came to register for ID, the same event and the same form, the same data they used to open bank accounts for women. And I was told about 4 million women who opened bank accounts because it was in roughly the same location. Of course, it was not based on identity. It was at the time of registering for identity. They could register for the bank account also, and they could certify that the data could be used by them for some minimum amount of data. Now the Philippines is actually designing some of its social welfare programs based on it. One of the things they are trying to do is to integrate their civil registry system so that any child who is born is given an assigned identity number at birth itself. Though the biometric may be collected after it reaches the age of five, the number is assigned so it can use. They are also integrating some social welfare programs I mentioned about the medicine subsidy. Morocco has 3 or 4 programs and they are building those registers now. They have started doing that 10 million or they also want to make a family register saying these families are eligible for these benefits. So Morocco is doing that. So another 2 or 3 years, I think this will be extensively used. Ethiopia wants a payment system, a government-to-people payment system. It will get done in two-three years.

RB: [00:36:00] Two questions from my side. More in terms of what is the next value unlocking that can happen. One, I know that the government of India is already setting up a structure to share some of our digital public goods outside of MOSIP. Also, you know, like our CoWin application is now being used, etcetera. Do you see the mandate of MOSIP becoming larger than identity at some point to look at some of our payment infrastructure, some of the health infrastructure that we are building and so on and so forth, where it sort of becomes a suite of tools that are then available for people? That's one question. The second question is even more, let's say, speculative, which is as countries start to get these common identity systems, even though it is all very different, is there a way to imagine a network of identities that can cover across countries, especially where, let's say, if the Middle East picks up what we are doing right now, I can imagine given migration and other aspects that are probably use cases that cut across national boundaries as well. So both of these I'd love to hear your thoughts.

SR: [00:37:04] The first one talks in terms of whether MOSIP will do something more than identity. I don't think so. Identity itself, we are we have another two-year roadmap and many more things will have to be done. A lot more things. You know, there is a single sign-in for a

number of things. Identity on the phone. Maybe identity when the network is not available. How do you prove your identity? Authentication when the network is not available. So decentralised identity. Federated Identity. There are so many things, so MOSIP itself will not become something more. But the institute has started another program because OpenG2P is another platform which we are building for government-to-people benefit, transfer registry building, authentication using identity, and maybe payment transfers. So that's a separate project run by us. And the third thing we are doing is we are saying that there are many DPGs in the world. India is not the only one, though it is the most successful source of DPGs and the most impressive track record. There are many DPGs if I take payment, there is Mojaloop in the open source. That is my thoughts. Brazil used something called Pix. And India has UPI, but UPI is not open source. It's a closed source. So there are many DPGs out there in the world which are doing many parts, so countries may be able to use them.

SR: [00:38:36] So what is important is the capacity of the country to be built to actually think, imagine, architect and design, that maybe some components of India may become useful, some components elsewhere may become useful, some they themselves might develop. So to do this basically to increase the capacity in the country, to imagine first thing through and design their own architecture. The Institute has set up a centre for digital public infrastructure. The DPI centre is not going to develop any piece of code. It is not going to develop any software. We are going to empower countries by saying that this is how you can unbundle your need. What is your need? And this is how you can make your own roadmap. And this is how we will train your people and empower your people so that they can forever design their own DPI. So that's the focus of the centre. And once they design, maybe some piece like in ONDC might fit in, maybe Divoc, which is what CoWin's fundamental platform might fit in, maybe a Digilocker might fit in. It may fit in, but it may be from some other places also. You have Mojaloop, you have WEforce, you have so many others in every field. There are others. Countries will then start saying which one is better, what are my criteria? And then they will choose and will want.

RB: [00:39:59] To come back to the question of the Identity network.

SR: [00:40:02] Yeah, I will just give you that example. One is that this transborder migration of people is a fact and a lot of countries want to encourage that for economic opportunities, especially countries which are neighbours and small. Like you have this Western Africa program and or you have the Caribbean. The Caribbean have many islands. They want governments that want to adopt a regional approach, saying people from one European Union, you know, people with the passport of one country can go and work in some other country. So how do you ensure identity authentication gets done, across borders? So we have a procedure which is possible with MOSIP that identity issued by any country can be authenticated at any other location and can be authenticated and used by a migrant in any other location. If the other location approves such authentication, it will still be left to that country whether they want to approve. But the mechanism already exists. So we call it a federated identity. Also where we would want at some point in time. We also want to make ID issuance itself, not monolithic, but decentralised completely. We would like to issue an ID as soon as somebody registers in a very decentralised manner. So there is a decentralised

issuance. Authentication across borders should not be a problem which is already there in MOSIP, the feature of authentication anywhere is always.

RB: [00:41:45] So you talked about this identity conference that happens in Africa where 50 countries come. For us to be able to say something like MOSIP doesn't have to be MOSIP, but something massive as a digital identity is available in every country. What are some of the 2 or 3 foundational elements that you think should fall in place that will accelerate adoption across countries of initiatives like these.

SR: [00:42:10] The first is an understanding of the country's desire to provide social benefits. The identity is hinged on countries' desire to provide social benefits if that is not high on the political agenda. Is delivery of social benefits high on the political agenda? If it is not high on the political agenda, there is no need for identity in the first place. So that is one. So if people have accepted the UN Sustainable Development Goals as their own goals, then that makes it easier for the countries to design. The second important stuff is that once you have decided that delivery of benefit is on the political agenda. Your own capacity to actually implement, maintain and sustain it. Even if there is help from a system integrator or a commercial partner available is very important. So you have to evaluate whether we have the capacity within the government to actually run this program. As someone said, you can outsource doing, you cannot outsource thinking. So that's what is important, whether you have that capacity, if not, how to get that capacity built. So that is the second most important thing. The third most important thing is the monetary resources required to keep, you know, that it's all investments which will pay back by itself over decades. If you really decayed, if you really look at Aadhar, it would say that it has paid back many times its investment by just a reduction in the leakages in the system. So it took about a decade to appreciate those benefits. So do you have the wherewithal to sustain a program for a decade? So these are some essential things that need.

RB: [00:43:59] And I know that World Bank has an identity focus. You said Africa has an identity focus. Is there a global enabling system that is also building some of these local capacities, enabling access to finance, which enable which supports investments across countries as well? Are there other global tailwinds?

SR: [00:44:21] There are. There are foundations which are doing this. That is, for example, DPG Alliance is the DPG, which has a program. Then you have private foundations like the Tony Blair Institute, which works in Africa. You have the Norwegian Agency for Development, you have some of the private founders of the Gates Foundation. They all have programs which are centred around digital transformation. Identity is one piece of that. So there but not as a single global organisation like the UN. World Bank has a program. Similarly the other Asian Development Bank. African Development Bank. All of them have.

RB: [00:45:07] So I want to step back from the discussion, which has been very specifically focussed on identity to the point you made on the Centre for Digital Public Infrastructure. My personal view. And you know, we had Pramod Verma on the podcast, you know, a few weeks ago as well, is that the number of people who are able to think digital public infrastructure in India, as in India and think globally are not too many. I mean, don't think it's a technology coding problem. I feel like, how do you really think this way in a way that you

can get down to first principles, and build it as a modular structure? Et cetera. So one wanted to validate whether you feel that it's true. And as you think about the Centre for Digital Public Infrastructure in it, do you feel that as a way to promote this way of thinking among engineers, entrepreneurs, solution change makers and so on?

SR: [00:45:59] It's kind of partly true what you said, that there are not many people who can think in this fashion. If you see if you really look at software business, let's say, over the past six, seven decades. Its focus has always been on solutions. Banks were there. So I need a core banking platform. Airlines were there. So I need an airline ticketing system. So the approach and thinking have always been that I need to build solutions for an industry. So the software became solutions for industry, I built a solution for BFSI. I built a solution for health, I built a solution for the government, I built a solution for the army, but it is always solution. To move away from that and then say all your solutions are built on some basic building blocks, something like a Lego block. And if I have my Lego block, I can make any shape out of it. More than Lego block, I could even say a tangram and that is very difficult to get for most developers because you are brought up on this diet of solutions where you have to be weaned away from that and then say, we are not interested in solutions in the first, we are interested in identifying what is that reusable, sharable, basic building. So when you really look at that thing down, what is reusable, shareable, you would find that all contracting or essentially between two parties were some terms and conditions. Booking an Uber is a contract.

SR: [00:47:38] Buying something on Amazon is a contract. Booking a plane ticket is a contract. Hospital payment is a contract. But if I say that I can extract all contracting out of all this and then say this is the contract requirement and this is how the contract protocol will work, then I can use the same protocol for any one of the things that are the beauty of in ONDC. Why ONDC is built on one such protocol so that you know that it could be contracting for anybody to anybody. So that thinking is difficult to get. But is it partly true? Now increasingly people are looking at things as components and basic building blocks and how can I do this, etc. Because what has happened is that after the mobile phones came, this is my personal view. Mobile phone footprints have to be very small because they had very limited capacity in the beginning. So if the footprint has to be very small and you needed to develop an app, you would want the app to be broken down in such a way that you can reuse the same thing for various uses. Can I reuse the mobile phone camera app for scanning a QR code as well as taking a picture, as well as sending, let's say, some sample of my face for authentication? I'm using a mobile phone camera because of the mobile phone and my requirement that I need to have my apps to be a really small local footprint to leverage as much as possible, which is already available.

SR: [00:49:07] Can I use SMS to send messages? Can I use something else? So this whole thinking about saying building blocks came quite popular and mobile phone is now almost 25-year-old technology, so it is now mainstream to say so I will you know you would not have heard this word stack said 15 years ago. Nobody talked about Stack. But now everybody talks about Stack because this whole concept has come in. That's why I said partly. The number of people is still not many, especially if you take Global South. Not many people appreciate that they are still in the solution mindset. Even India is still in the solution

mindset. If you sit with the electricity boards, if you sit with our transport companies' government, they still talk in terms of solutions. I want a tertiary solution. I want a KSRTC solution or a BMTC solution. But over a period of time this talk has come saying that yes, we could break down into blocks and reuse the blocks, share the blocks so it is not necessary that everybody has to build the same blocks. I can make a solution out of some common blocks. It's the number of people is increasing and that is the role of the centre. Centre has to increase that number of people across the world.

RB: [00:50:26] And I think the point you make about the solution I can totally relate to. It's easier to say I'm solving this problem. You get money easily out of it, you get the stakeholder aligned, etcetera. In building blocks, there's a certain imagination of constructing all the blocks together, which I think is not easy. So you've had a chance to work in the quasi-government role. You've been in the non-profit space as well. One of the questions that we always ask is what should philanthropy's role is in guiding something forward. And we also believe that philanthropy, there are things that it should not do. It shouldn't do everything. Partly money is limited. Sometimes we sort of create subversive incentives. In the light of our discussions, two related areas. One area is how do we promote, let's say, identity across Global South as one focus area and the other is how do we promote DPI-DPG thinking in the world, knowing what you know of the problem and of the ecosystem? What are some of the things that you think philanthropy should focus on?

SR: [00:51:29] My personal view is philanthropy should always demonstrate, should never implement, demonstrated in the sense that there is a way of doing things. So develop that way and then showcase it. So if you are talking in terms of identity, philanthropy what it can do is say how identity can be used. You could showcase, you could imagine with a country saying multiple ways of doing it. You could get the local ecosystem or the local Start-Up culture to work on imagining how their identity system, which is already in place, can be leveraged and used and showcased. Once it is showcased and demonstrated, it is for the country and the businesses in the country to take it forward, to scale it up to the population scale or whatever. Philanthropy can take risks much before businesses can take them. Philanthropy can take risks in developing that way. Developing that initial technology demonstration, as we would call it, and the technology demonstration would stand the good side. To give an example, long back, Japan used to follow this model where they would know that individual industries cannot take risks because it's quite risky stuff. Let's say the development of entertainment, electronics, and even tape recorders. So what they would do is, the government would invest an identical amount of money in 5 or 6 private industries saying you people develop this technology.

SR: [00:53:08] Each one of you can use others also if you want to. Among your group, you don't have to pay royalty except if it goes outside your group and you will all warn the combined intellectual property. So media actually supported it after World War Two. So many developments of technology by taking the risk of failure of innovation away from the industry. Philanthropy can be the risk of failure of innovation in the public space, in the digital public good and DPI space can be taken up by philanthropy, and that's what they are doing. When Mozilla is funded by Gate Foundation or Omidyar Network or Norwegian Agency for Development, Tata Trusts and Pratiksha Trust here have taken away that risk of

failure. They are supporting that. So the Institute would not have taken the risk to develop it. No, private industry will take a risk to develop it in the open source. They will say, What is it there for me? But philanthropy can take that risk. So that's what I would want the philanthropy to do, not actually go and disseminate, innovate, implement, scale up. And that's not the role of philanthropy, is to take the risk, take the risk of the free innovation. That's where philanthropy comes.

RB: [00:54:36] It is the highest-risk capital. It's probably the only capital that has zero return expectations, I think. How do we use that most effectively? So thank you so much. I think we've had a fairly engaging conversation. It was very useful to understand something that we in India have taken for granted now because we have you all have it, which is Aadhaar, and apply that in a context which is very different in another country and see what it unlocks for you and also the conversation broadly around the DPI space as well. It was very, very helpful. I hope you enjoyed the conversation.

SR: [00:55:06] Certainly, I enjoyed it immensely. Thank you very much. Thank you, sir.

***Outro:** Thank you for joining us here on Decoding Impact. We hope you enjoyed this episode and the conversation with our expert. To learn more about Sattva Knowledge Institute and our evidence-based insights, follow us on LinkedIn, Twitter and Instagram and explore our content on our website, all linked in the description.*