



# India Stack: Driving Transformation In Financial Inclusion Through Digital Public Goods

*Dr. Vivek Raghavan*

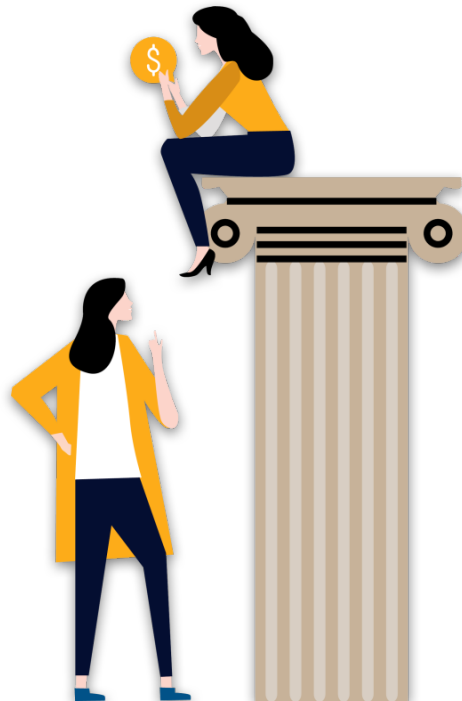
ThoughtWorks® | LIVE

# The three challenges of financial inclusion

1

## Access

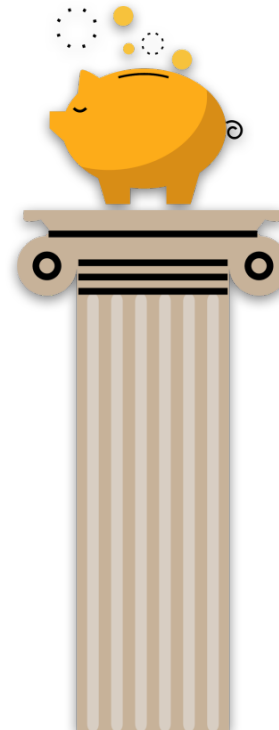
Bring population in the financial system



2

## Retention

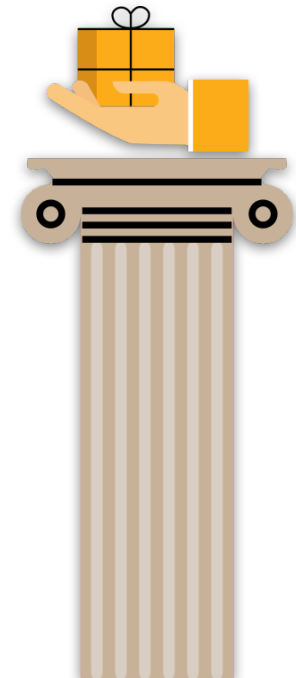
Keep them in the system



3

## Data Empowerment

Data sharing without compromising privacy



# Part 1: Solving The Access Challenge

# 1

## Access

Bring population  
in the financial system



In India, back in  
2008...

**17%**

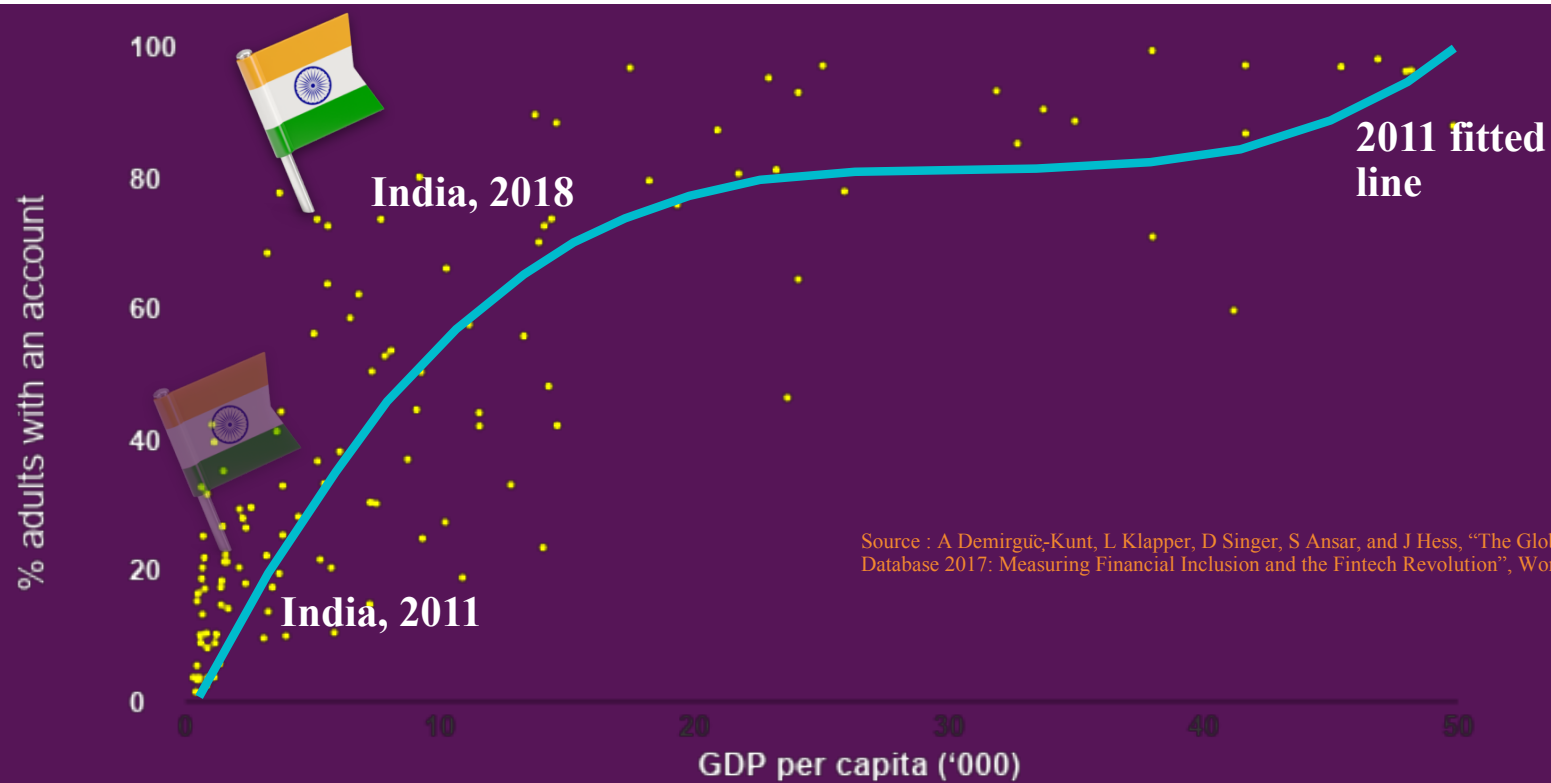
**had bank accounts**

Financial **exclusion**  
was rampant

Source : A Demirgüç-Kunt, L Klapper, D Singer, S Ansar, and J Hess, "The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution", World Bank, 2017



By 2018 India had massively jumped ahead in financial inclusion



This acceleration was due to 3 things

**Political Will**



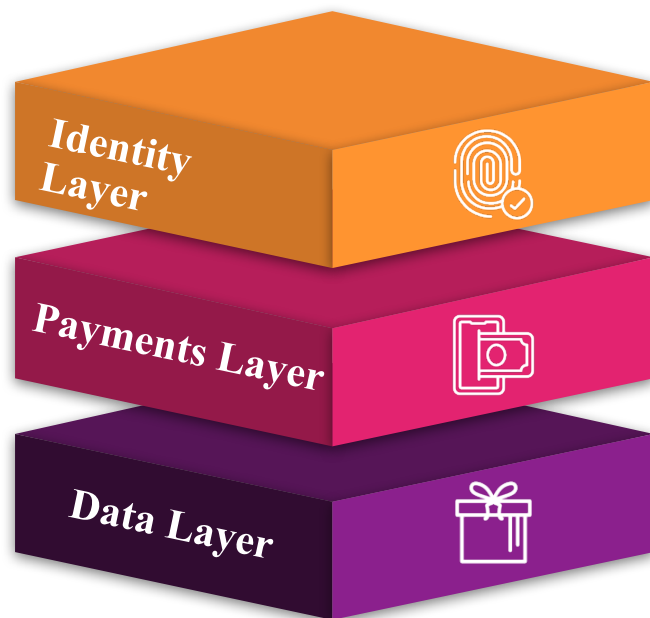
**Proactive Central Bank**



**India Stack**



# India Stack is a set of technologies ...



## Identity Layer

Giving every resident a unique id and enabling them to prove "I am who I claim to be"

- Aadhaar
- eKYC
- eSign

## Payments Layer

Allowing anyone to pay anyone else! interoperable, fast and cheap - not just smartphones

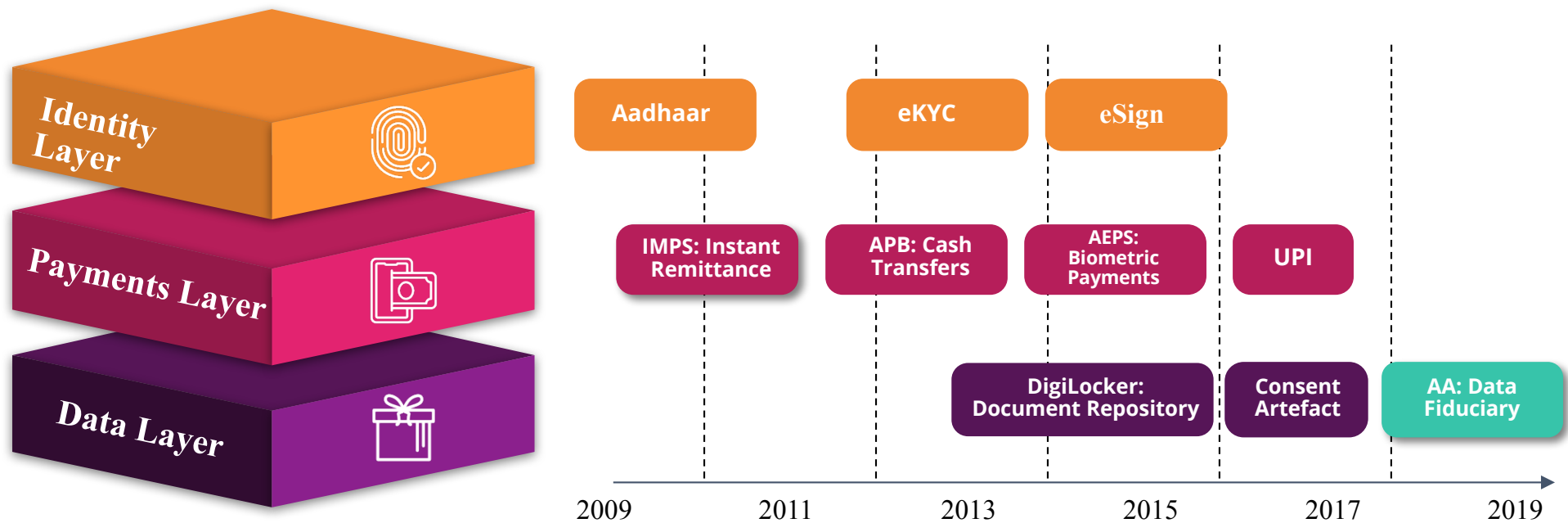
- Unified Payments Interface
- Aadhaar Payments Bridge
- Aadhaar Enabled Payment Service

## Data Empowerment

To enable secure sharing of data

- Consent Artefact
- DigiLocker
- Account Aggregator

... built over time

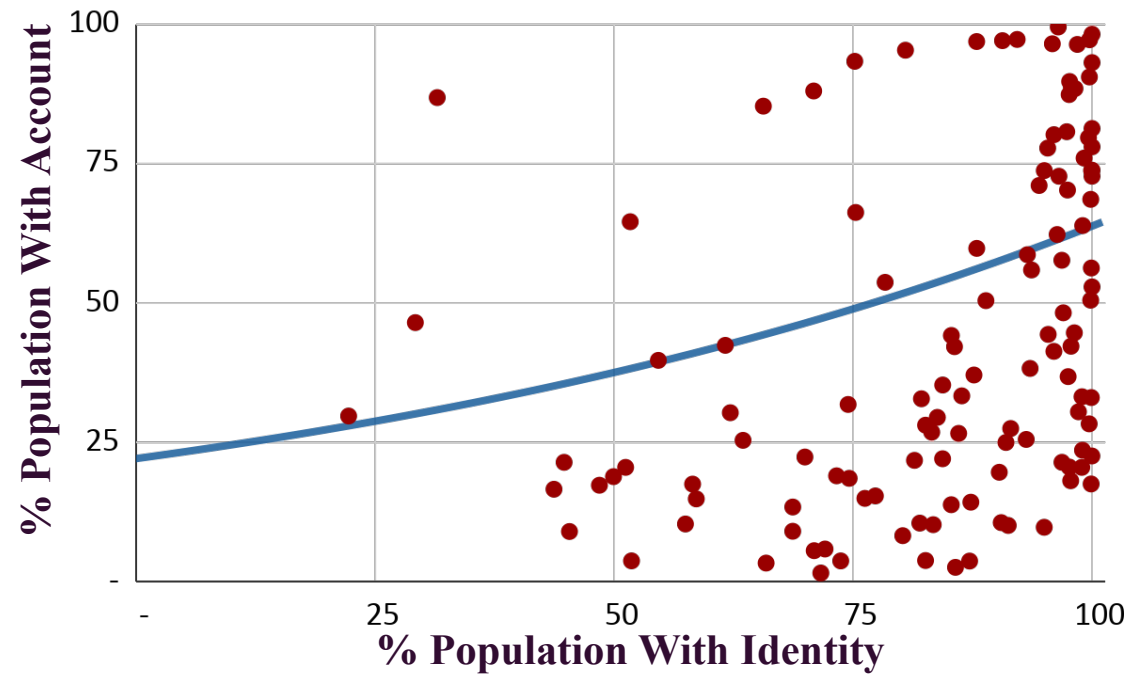




## India started by addressing identity

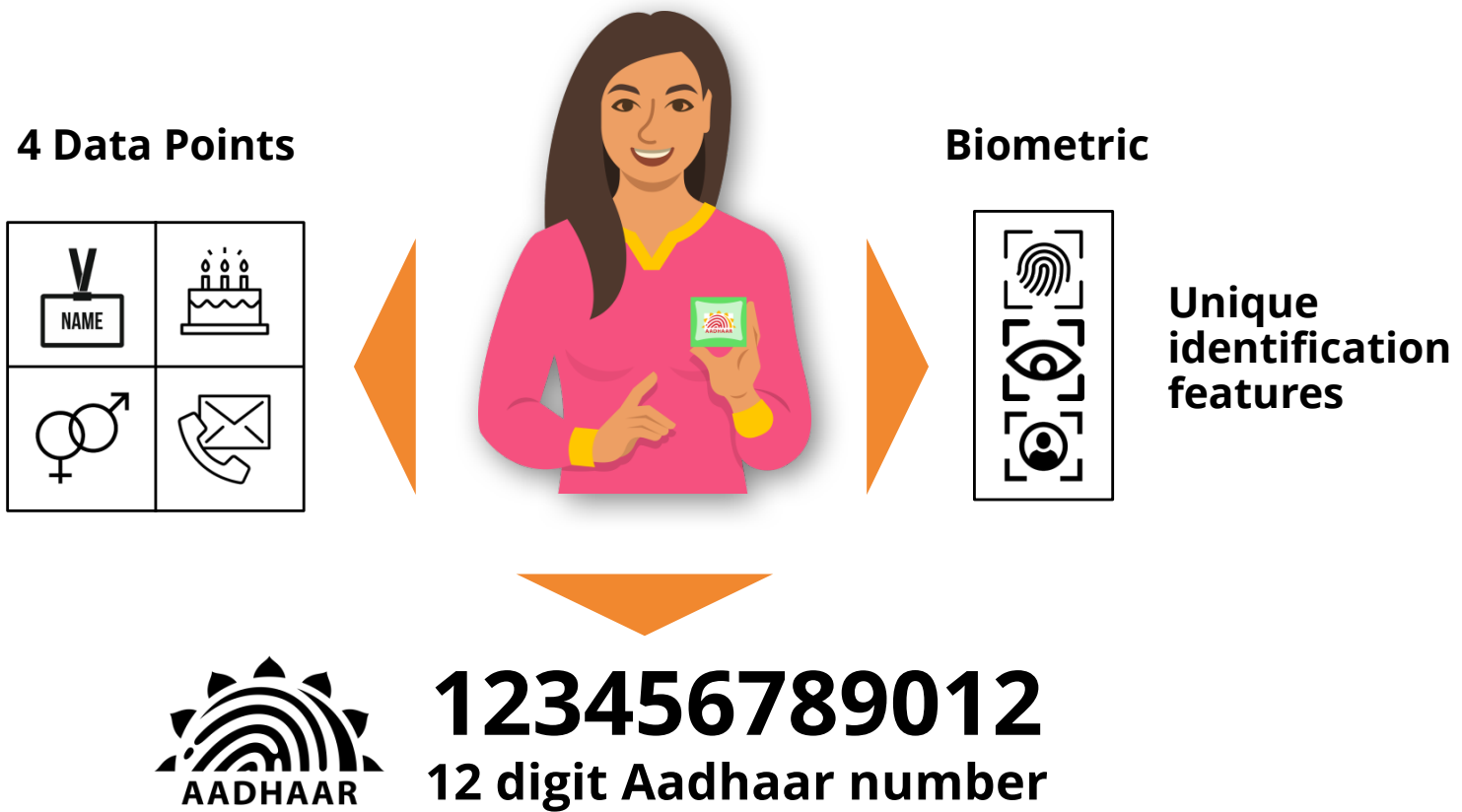


### Verifiable identity key for inclusion

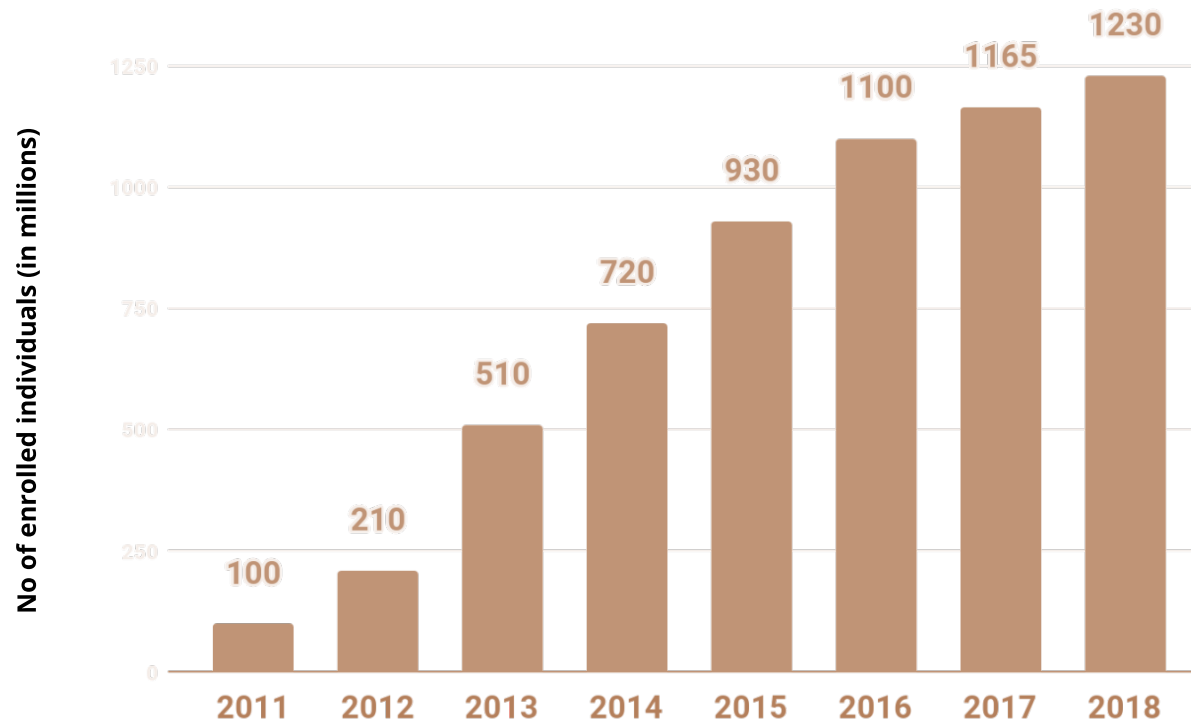


Source : 40 million Indians had passport, which was the only unique identity at the time.  
Aadhaar: Inclusive by Design, GSMA, March 2017

## A unique identity - Aadhaar



## Aadhaar Adoption - 1 Billion in 5½ years



Data Source - Aadhaar Dashboard ([https://uidai.gov.in/aadhaar\\_dashboard](https://uidai.gov.in/aadhaar_dashboard))

## Identity Aadhaar - Impact



**1.2 Bn**

Aadhaar IDs issued



**33 Bn**

Aadhaar based  
authentications



**7.5 Bn**

e-KYC transactions



**\$32.4 Bn**

Direct Benefit Transfer to  
beneficiaries



**647 M**

Aadhaar enabled  
accounts

Data Source - Aadhaar Dashboard  
([https://uidai.gov.in/aadhaar\\_dashboard](https://uidai.gov.in/aadhaar_dashboard))  
NPCI Statistics (<https://www.npci.org.in/statistics>)

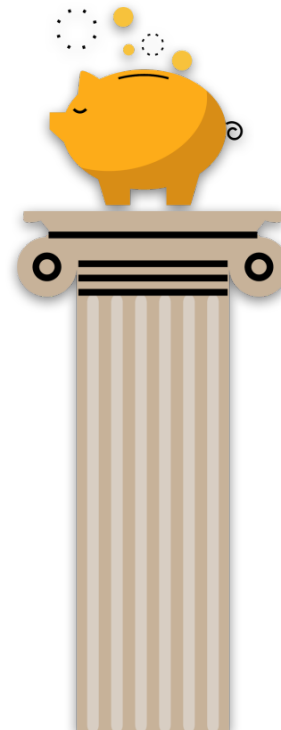
## Part 2:

# Addressing the payments challenge

# 2

## Retention

Keep them  
in the system



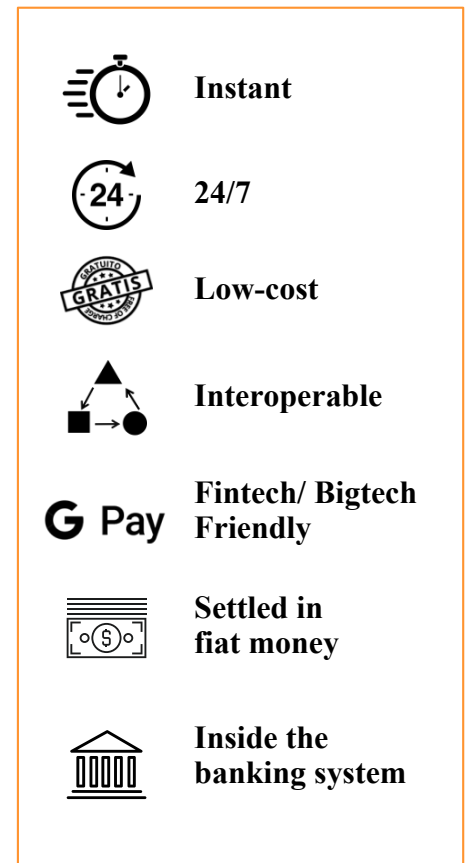
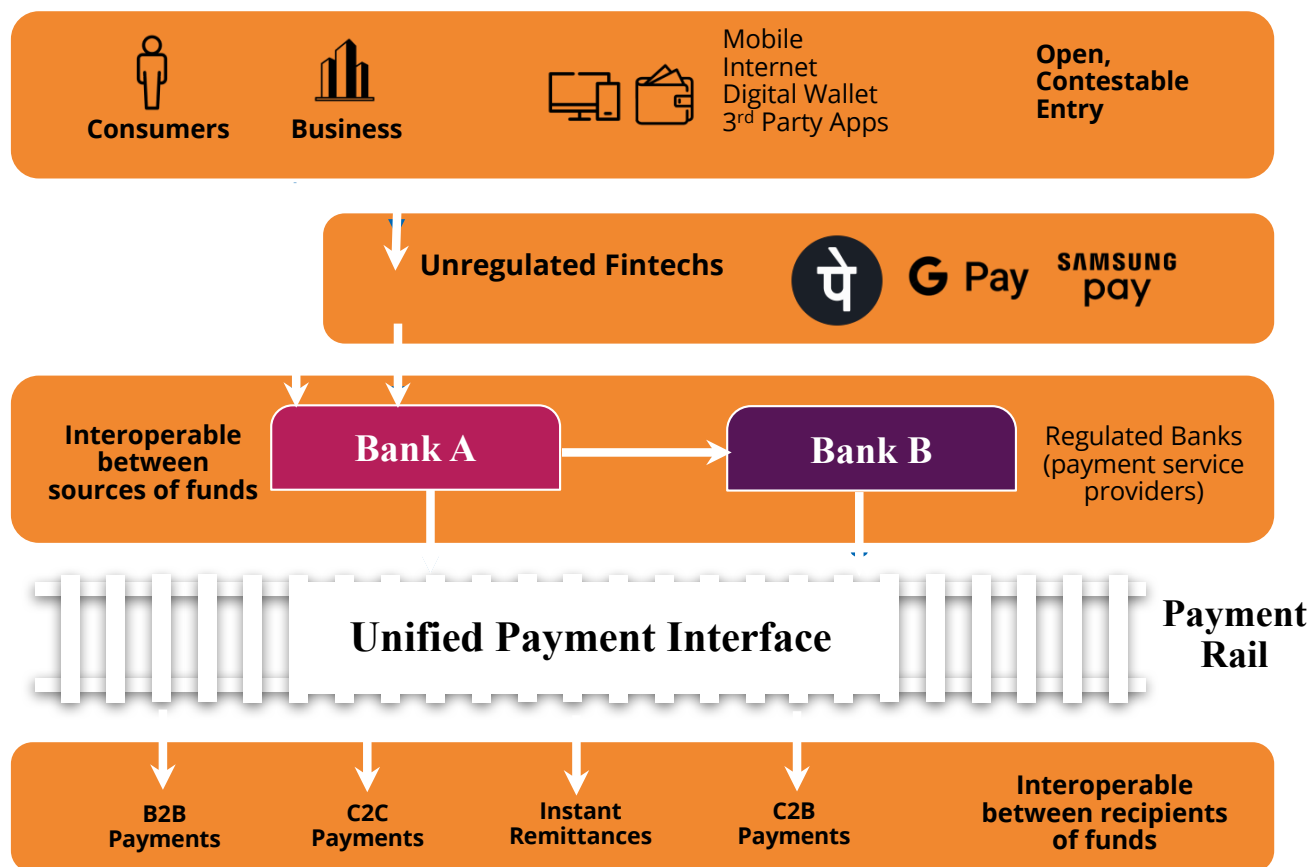
# People are seeking digital ways to transact

**Users are looking for a  
MAGICAL payment experience.**

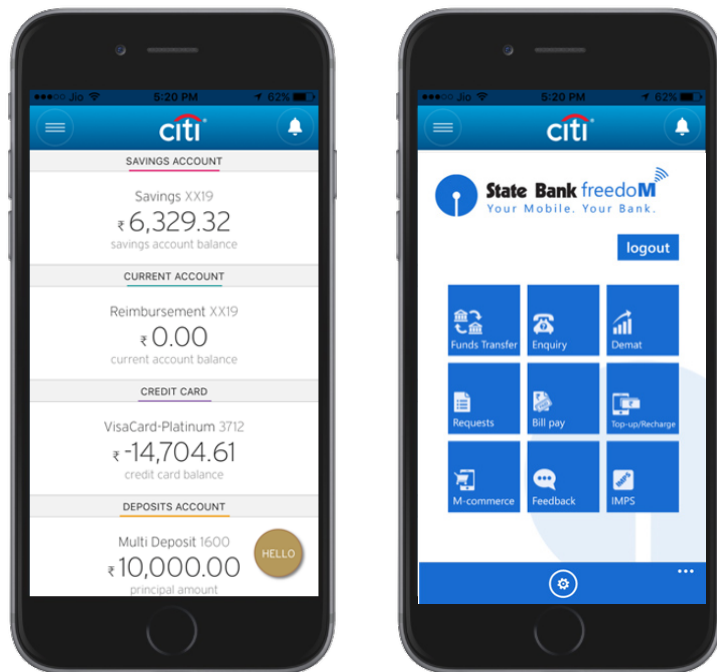


**Mobile-First,  
Anytime,  
Global,  
Instant,  
Convenient,  
Assured Safe,  
Low-cost**

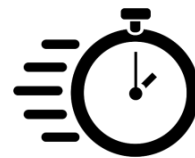
# How UPI Works



## Fully interoperable payment systems



Customers can conduct transactions on their **State Bank of India account** from **inside their Citibank mobile banking app**.



**Instant**



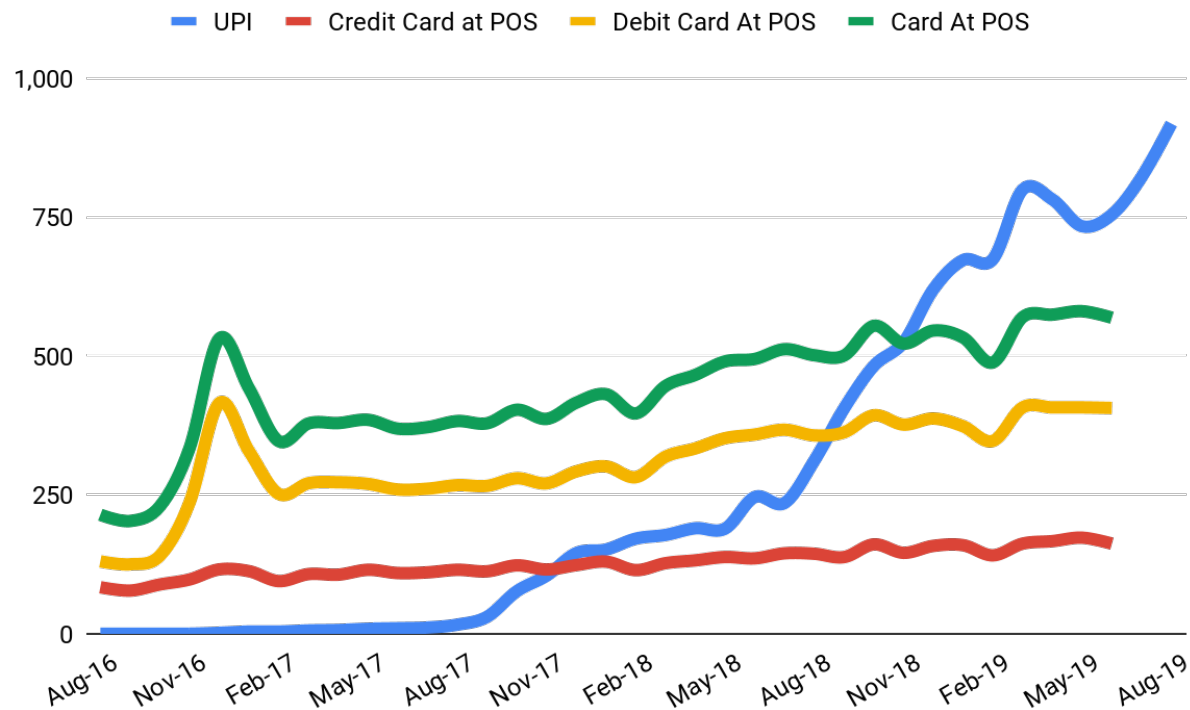
**24/7**



**Low-cost**



# UPI transactions have overtaken credit and debit card payments



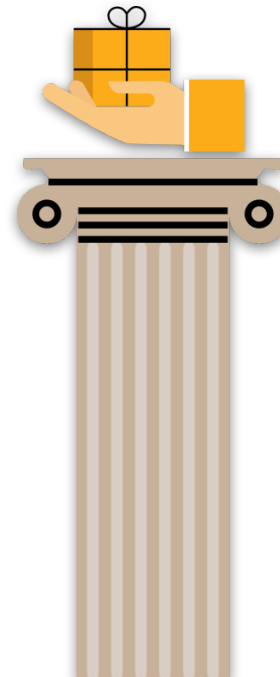
Source : Retail Payment Statistics on NPCI Platforms <https://www.npci.org.in/statistics>

Part 3:  
Addressing  
Data sharing & privacy  
challenges

3

**Data  
Empowerment**

Data sharing without  
compromising privacy



# User Data is being appropriated



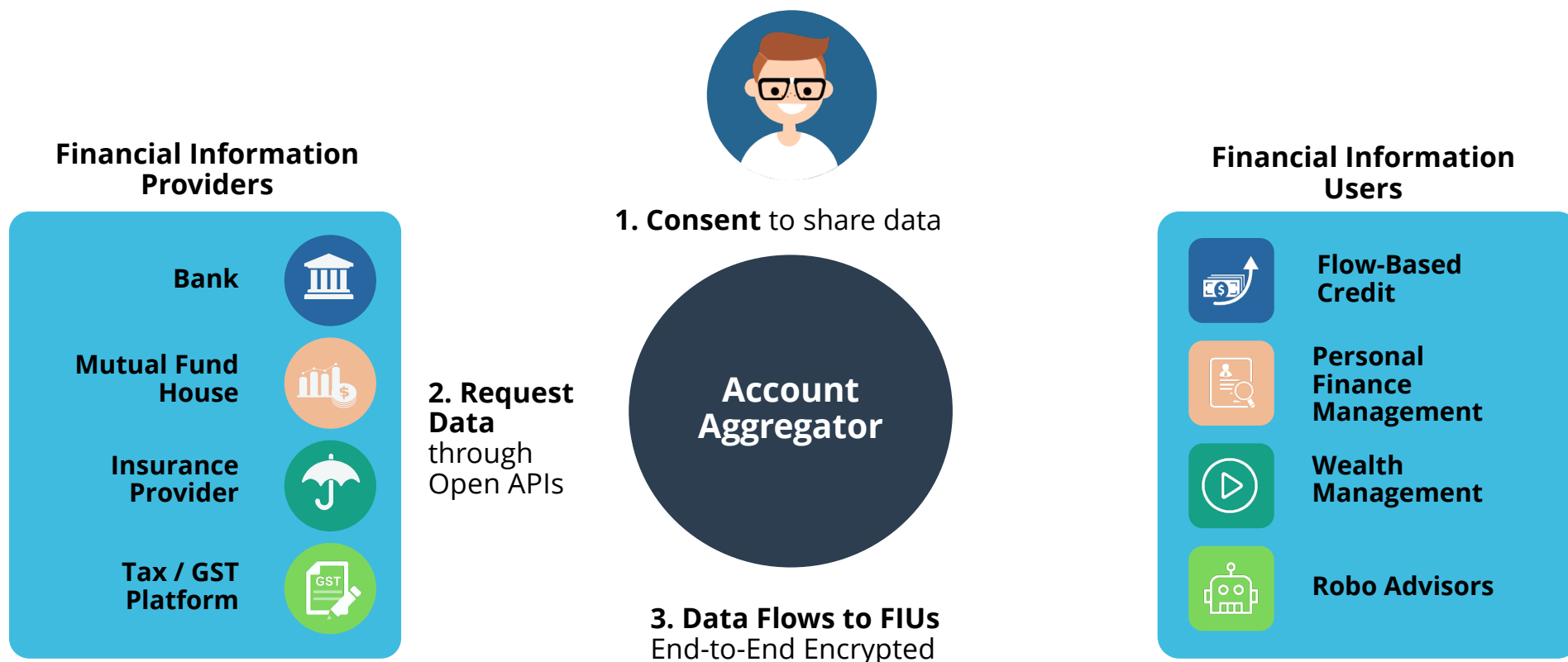
Internet Platforms gather and retain user data in proprietary silos.

The problem is not simply that companies are benefiting from this data.

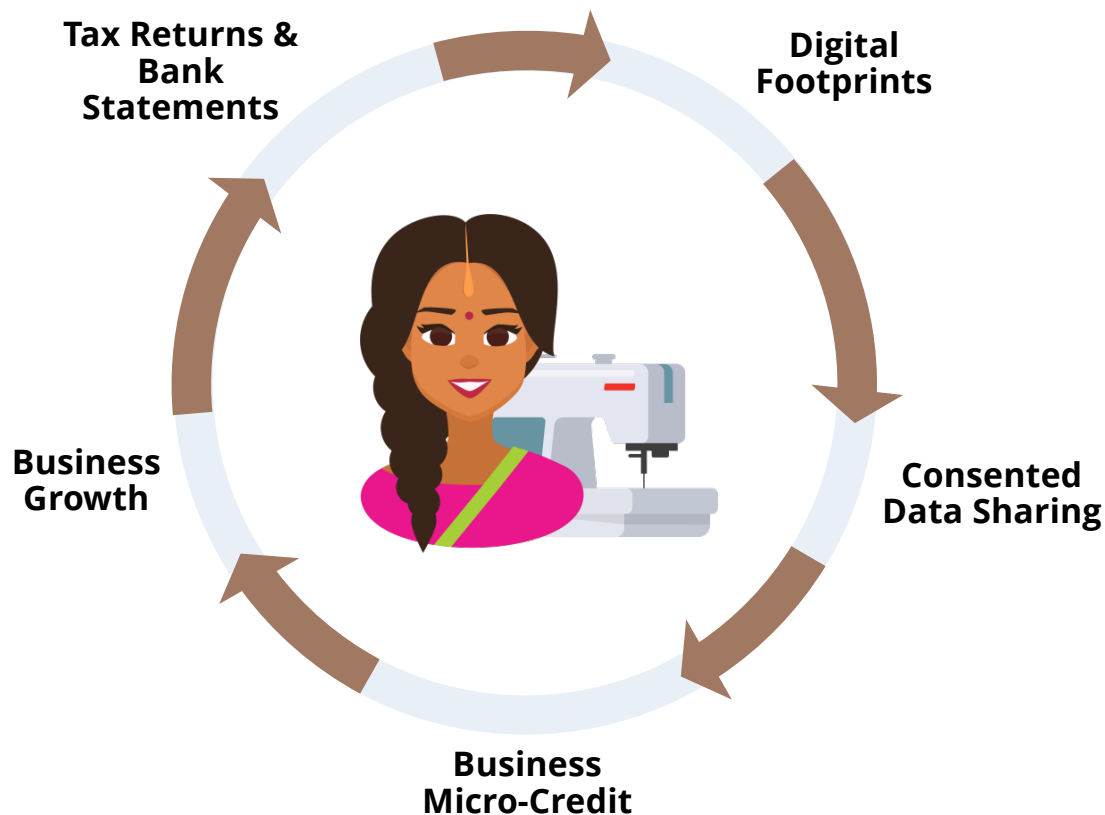
The problem is that the people aren't  
Account Aggregators rebalance that  
equation

# The Account Aggregator

will facilitate consented sharing of financial information in real-time



## Small Business Owners can get credit using data



With the Account Aggregator,

Rajni can demand

- Her **Tax returns**
- Her **Bank & Account Data**
- Her Home **Loan repayment record**

be shared with Lenders

Thus, **securing a loan** with her richer digital footprint.

## Digital Systems offer new tools to manage defaults

With the Account Aggregator, Rajni's lender can view her data

- Directly from Source
- Tamper-proof
- At a low-cost
- In real-time

Using data, Lenders can better monitor cash flows and anticipate default before it happens!

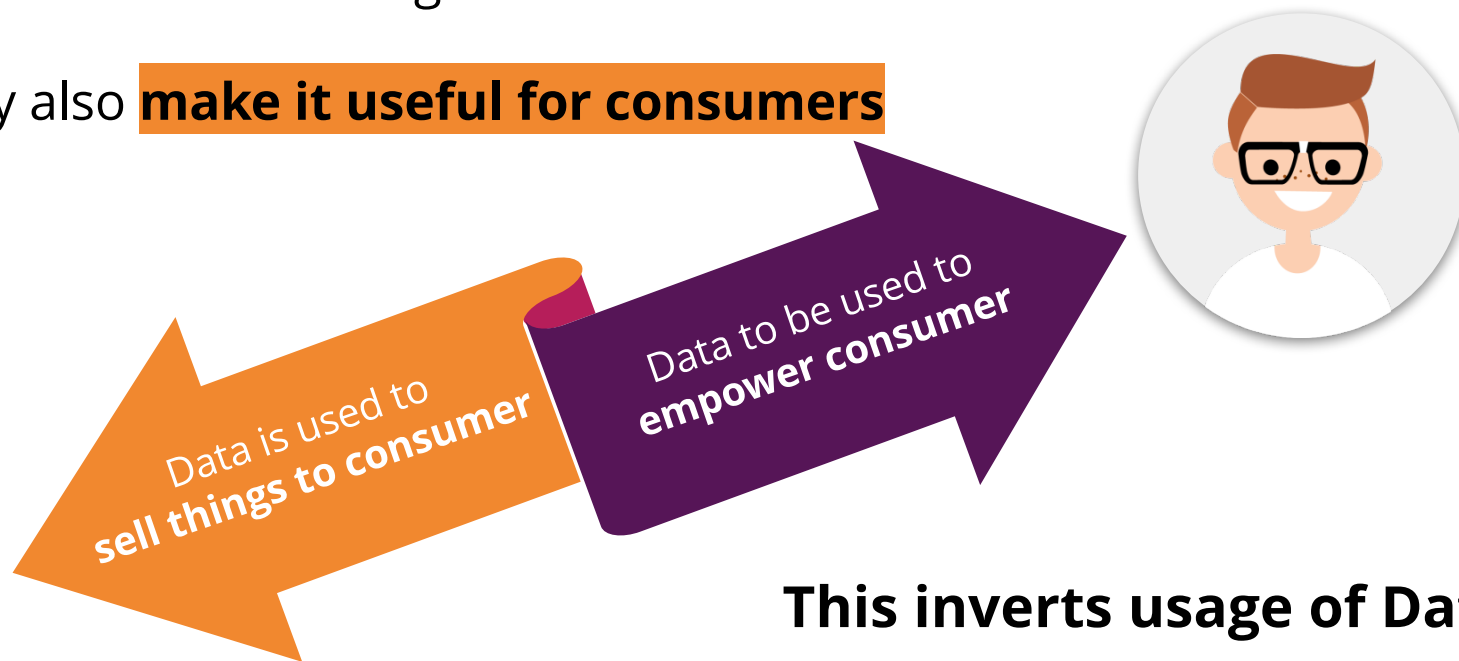


**Digital Systems enable early-warning systems  
& more precise regulatory intervention**

# India is leapfrogging to a Data Democracy

Account Aggregators **keep consumer financial data safe** & make its usage auditable

But they also **make it useful for consumers**



**This inverts usage of Data!**

# The three challenges of financial inclusion

1

## Access

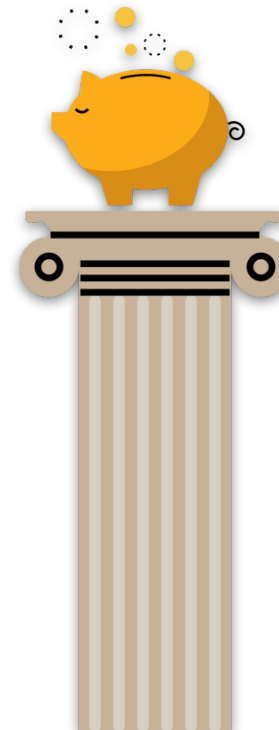
Bring population in the financial system



2

## Retention

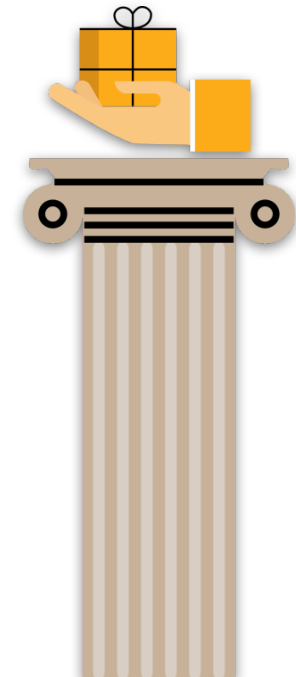
Keep them in the system



3

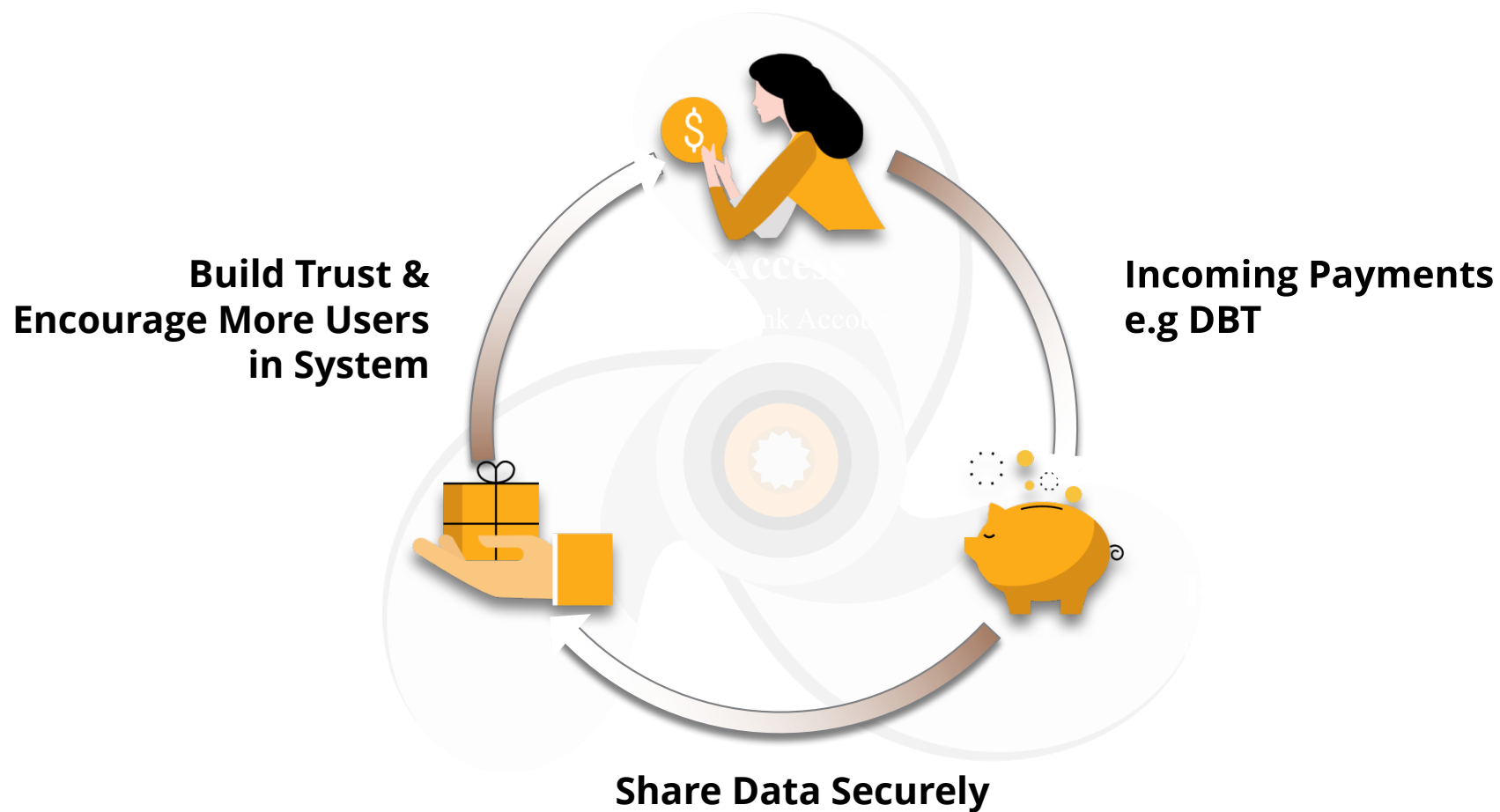
## Data Empowerment

Data sharing without compromising privacy



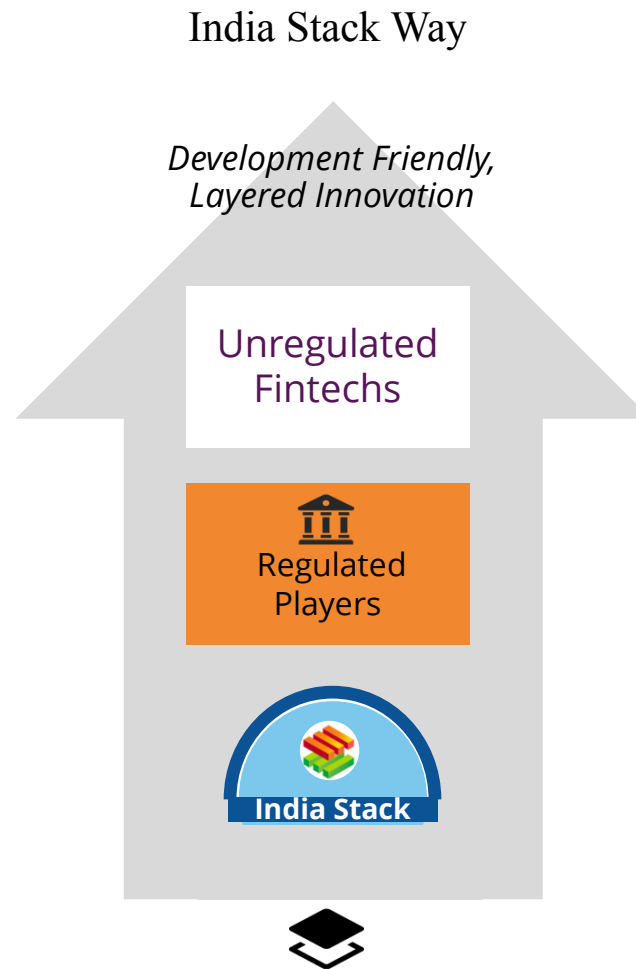


## Creating a flywheel for financial inclusion



Building a culture of  
Innovation...

through regulated and  
unregulated private  
players



on top of  
public infrastructure  
of India Stack

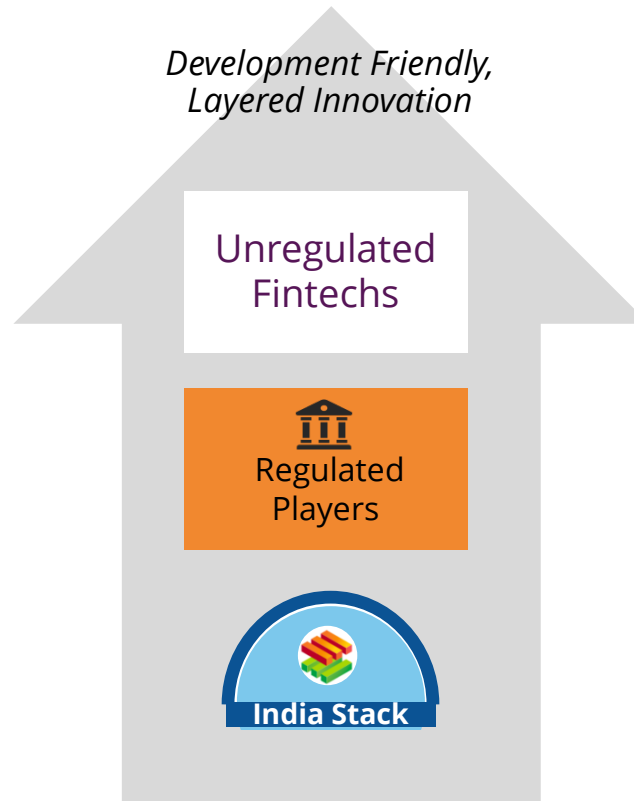
## Analog Way

*Closed System,  
Slow Innovation*



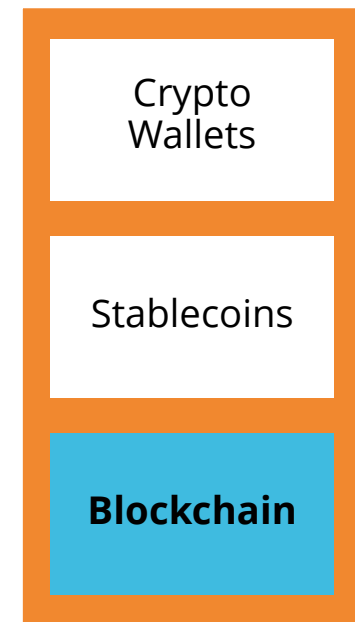
## India Stack Way

*Development Friendly,  
Layered Innovation*



## Big Tech Way

*Walled Garden,  
Layered Innovation*





# THANK YOU

*Dr. Vivek Raghavan*

ThoughtWorks® | LIVE