



The Innovators. The Misfits. The Billionaires

28th June 2017

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Introduction to FinTech

Payment Banks and Payments ecosystem

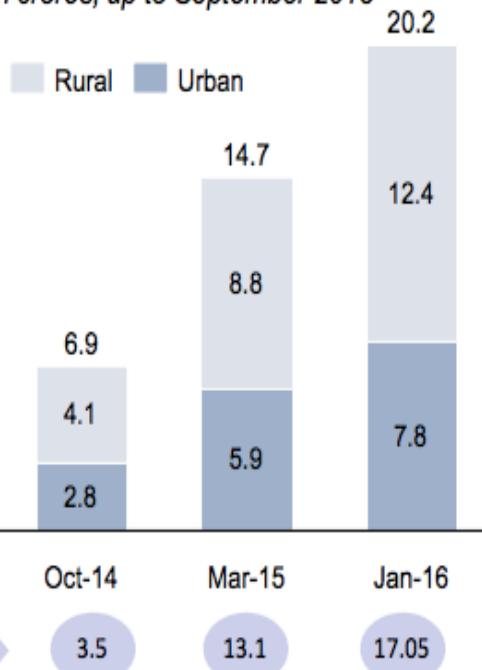
Blockchain

Robo-advisors

This is a transformative moment in India's journey to financial inclusion and less-cash

Jan Dhan Yojana

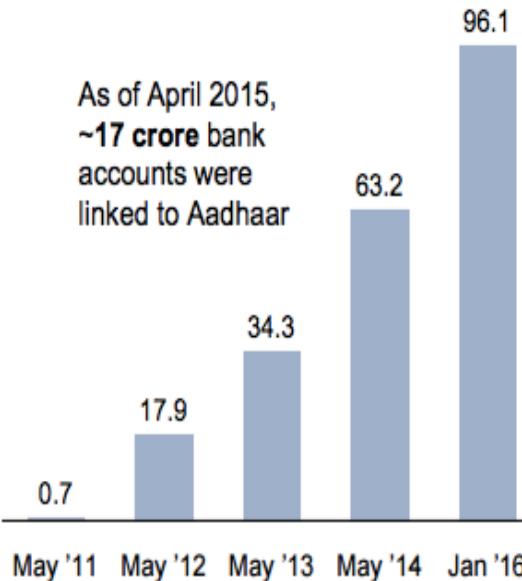
Cumulative accounts opened and RuPay cards issued under PMJDY
In crores, up to September 2015



Aadhaar

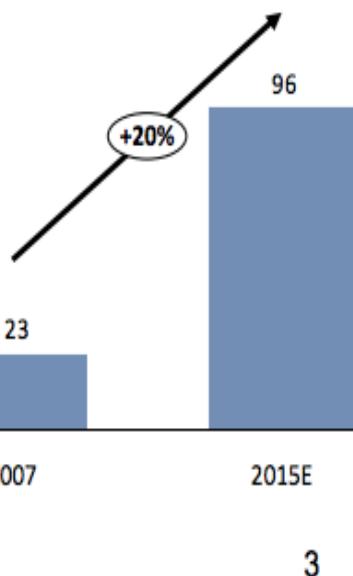
Number of Aadhaar issued
In crores, up to 2015

As of April 2015,
~17 crore bank
accounts were
linked to Aadhaar



Mobile

Mobile phone subscription in India
In crore accounts, 2007-2015



Source: PMJDY website, UIDAI Data Portal, TRAI, Expert interviews

India is set for a Fintech revolution

Internet will reach more than half of all Indians by 2020

JAM strategy is driving financial inclusion

J

Pradhan Mantri Jan Dhan Yojana

Launched in August 2014, 200 Mn bank accounts have been opened till Feb 2016

A

Aadhaar

Currently covers 70% of the population; extended for pension, provident fund and Jan Dhan Yojana

M

Mobile

With more mobile connections than bank accounts, it provides a bridge to the underbanked

2012

2014

2016F

2018F

2020F

Active internet users (Mn)

Internet penetration in India



Mobile phone penetration in India (Mn)



- Smartphone subscription
- Total mobile subscription

156

305

447

620

806

13%

24%

34%

46%

59%

865

944

982

1,022

1,063

80

140

269

413

552

Penetration Levels of Financial Services

Penetration levels of new age payment mediums	India	China	USA
Number of people with bank accounts (per '00)	58	70	92
Number of bank branches (per 1 lakh)	11	8	36
Number of ATMs (per 1 Lakh)	11.4	30.7	137.6
PoS Terminals (per million)	684	5,245	17,020
Total Cards (per '000)	283.6	2,604	3,699
Credit by FIs to GDP ratio	75%	155%	229%

Source: Bank branches, Credit to GDP ratio: World Bank

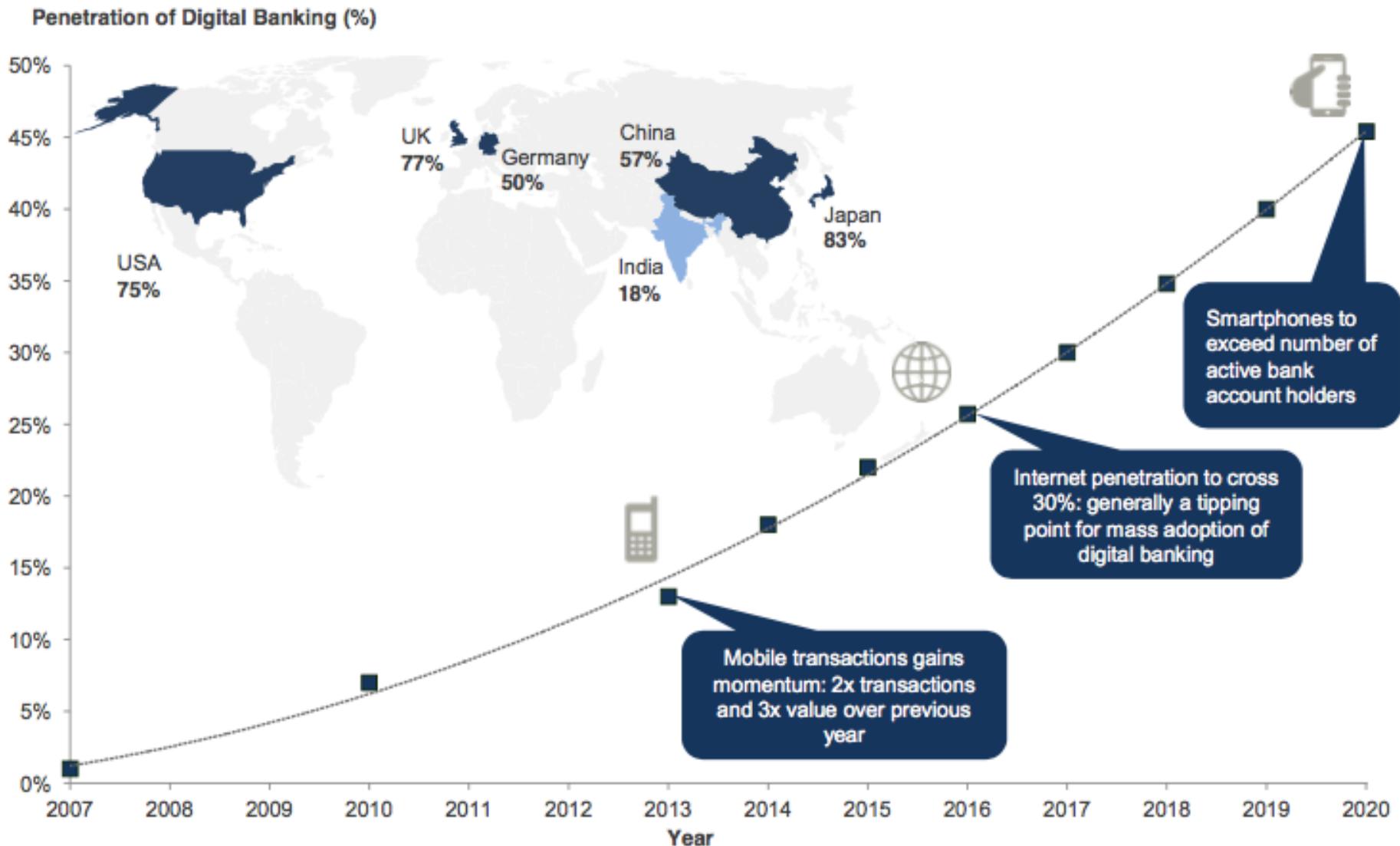
ATM: Secondary Research

PoS, Cards: CPSS – Red Book 2012, Deloitte Analysis

Credit to GDP ratio; World Bank

Digital Banking is rising dramatically

Penetration levels to cross 40% by 2020



What Fintech is Not

-  1 Core banking solutions, either as custom IT services or products, sold to banks
-  2 Credit rating services targeted at financial institutions
-  3 Internet banking and net banking solutions from banks
-  4 Transferring money through NEFT/RTGS requiring knowledge of the payee's bank account details
-  5 POS card processing solutions from banks with high fixed cost and high transaction requirements
-  6 Consumer loans provided in retail stores for purchase of white goods
-  7 Share trading, whether initiated by phone, internet or in person

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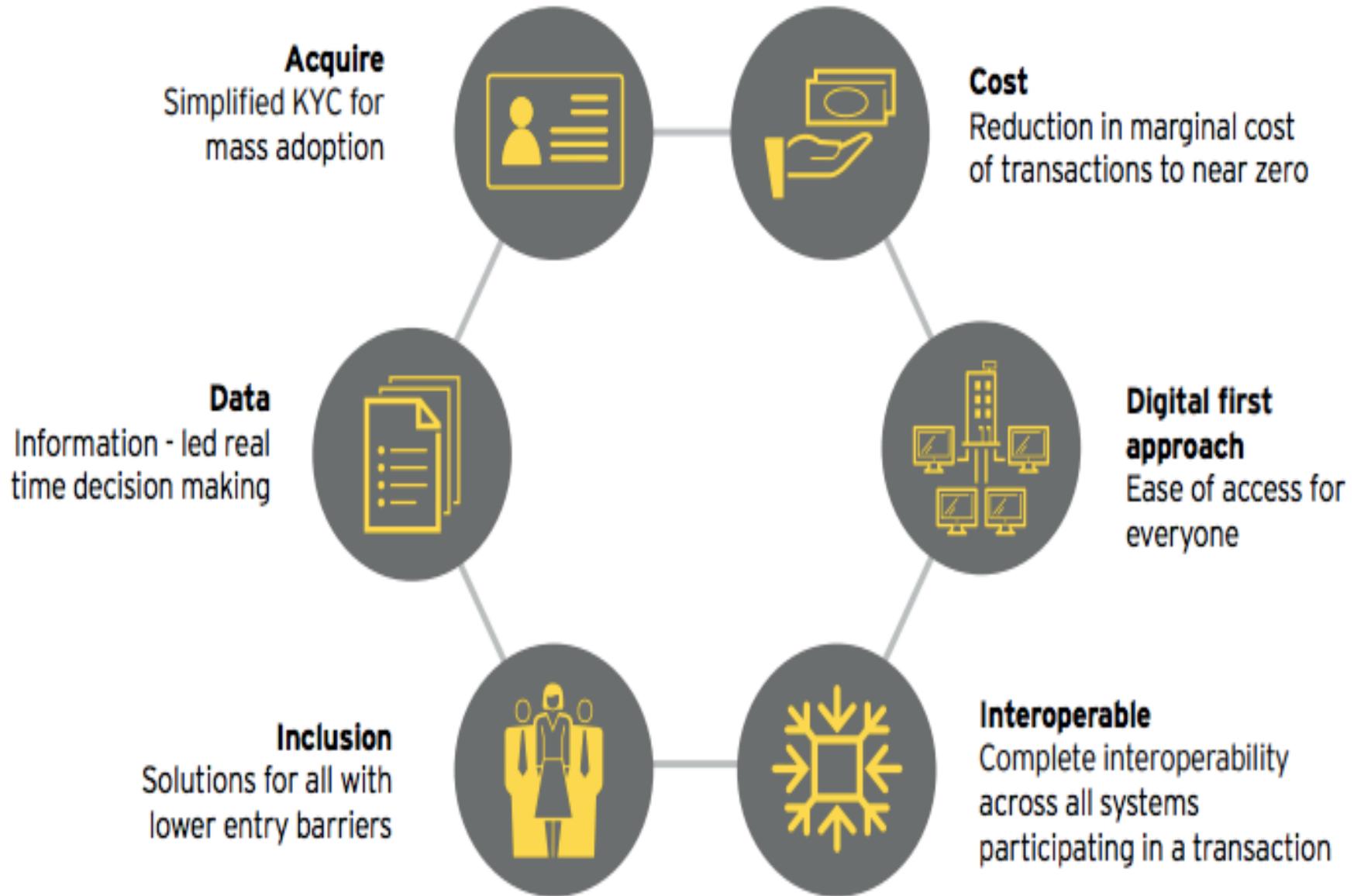
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How can Payment Banks Bridge the Gap



The guidelines aim at creating a banking entity which is adequately capitalized, financially inclusive and has a competitive business model



The key **objective of setting up a Payments Bank** is to further the cause of financial inclusion by widening the spread of payment services and deposit products to small businesses, low-income households, migrant labour workforce, and other unorganized entities by enabling high volume-low value transactions in deposits and payments/ remittance services in a secured technology-driven environment



The **entities eligible to set up a Payments Bank** include existing non-bank pre-paid instrument issuers, and other entities such as individuals/ professionals; non-banking finance companies, corporate BCs, mobile telephone companies, supermarket chains, companies, real sector cooperatives; that are owned and controlled by residents; and public sector entities. A promoter/ promoter group can have a JV with an existing scheduled commercial bank to set up a Payments Bank



A Payments Bank can **accept demand deposits, issue ATM/ debit cards/ PPIs, offer remittance services** (incl. cross-border remittances) and internet banking services, act as a **BC for another bank** and undertake **non-risk sharing simple financial services activities** not requiring any fund commitment, such as distribution of MFs, insurance products, pension products, etc. and **undertake bill payments**. A Payments Bank **can not undertake** lending activities, issue credit cards, accept NRI deposits or become a "virtual" bank or branchless bank



The **minimum paid-up equity capital has been fixed at Rs 100 crores** with a **minimum CAR of 15%** on the RWAs. Once the net worth reaches Rs. 500 Crore, listing will be mandatory within 3 years of reaching the net worth. For others, listing is voluntary. The **promoter's minimum initial contribution** to the paid-up equity capital shall be **at least 40% for the first 5 years**. The Payments Bank should maintain a **leverage ratio of not less than 3%**

The guidelines aim at creating a banking entity which is adequately capitalized, financially inclusive and has a competitive business model



Foreign shareholding has been **allowed up to 74%** (automatic up to 49% and approval route beyond 49% to 74%). **Individual FII/ FPI is restricted to below 10%**. Aggregate limit for FII/FPI and QFI cannot exceed 24%, which can be raised to 49% through a Board resolution followed by special resolution by General meeting. **Individual NRI holding restricted to 5% and aggregate limit of 10%**, which can be allowed up 24% through a special resolution in General meeting



At least 25% of a Payments Bank's physical access points (own or others' network; not branches) have to be in **rural centers**; the RBI will **prefer** those applicants who propose to set up Payments Bank with access points primarily in the under-banked States/ districts in the **North East, East and Central Regions** of the country



As the Payments Bank will not have loans and advances in its portfolio, the **prudential as well as priority sector lending** norms and regulations as applicable to loans and advances will **not apply to a Payments Bank**

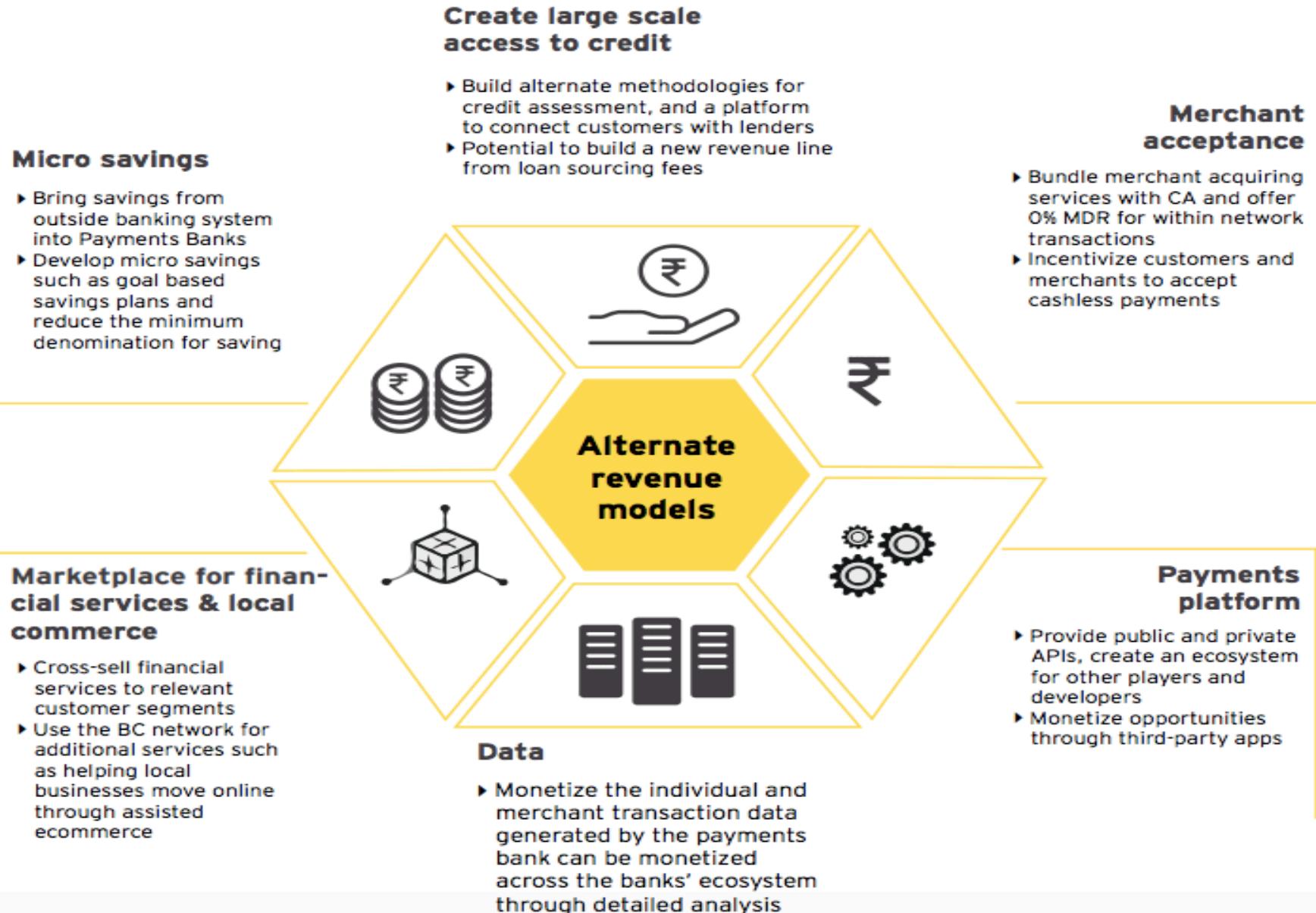


The Payments Bank would be required to **invest minimum 75% of its demand deposit balances in SLR eligible G-securities/ T-bills** with maturity up to one year and hold **maximum 25% in current and time/ fixed deposits** with other scheduled commercial banks apart from the maintaining CRR requirements



The operations of the bank should be **technology driven from the beginning**, conforming to generally accepted standards and norms; while new approaches (such as for data storage, security and real time data update) are encouraged, a detailed technology plan for the same should be furnished to the RBI

Alternative Business Models for Payments Banks



Wallets



- The digital equivalent of a physical wallet, with preloaded money that can be spent at participating online and offline merchants
- In India, prepaid wallets can be:
 - Closed wallets, for transacting with a single associated merchant
 - Semi Closed wallets, usable at multiple merchant establishments
 - Open Wallets which can be used for payments and cash withdrawals

Global

- Smartphone boom and low penetration of cards is driving wallet adoption in Asia
- In mature markets, advancements such as NFC provide convenience that will translate to higher transaction volumes
- Wallet integration with payment and PoS systems is increasing efficiency, and customer reach
- Joint venture between mobile payment system and mobile carriers that use NFC



- Mobile wallet integrated with Apple Watch, raised \$24 Mn up to Series A
- Combines mobile payments and a wallet to pay at enabled stores, \$16.7 Mn funding received
- Platform to enable any app to become a wallet, raised \$12 Mn in Series B in 2013

India

India Opportunity

- The low penetration of banking in India coupled with high mobile phone usage provides an opportunity for wallets
 - Can provide additional solutions such as remittances
 - Provides backbone for a larger Fintech and e-commerce play
- Banks, telecom service providers and start-ups are providing wallet solutions
- User acquisition is costly, which will lead to consolidation in the segment, or providers focusing on niches

Funding Events in India

- Paytm
 - Raised \$675 Mn from Alibaba along with Alipay in Sept. 2015
 - Valued at roughly \$4 Bn
- MobiKwik
 - Raised \$50 Mn in Series C led by Tree Line Asia in May 2016
 - Total funding of \$80 Mn
- BillDesk raised \$150 Mn from General Atlantic in March 2016

Start-ups



Bank Wallets



Lime



Telecom Wallets

Payments

- Being disrupted by solutions such as P2P payments, mobile wallets, mobile check deposits, mobile PoS devices and proximity solutions like NFC
- Digital currency is changing payments and settlements with greater speed and lower fees
- Pre-paid cards act like debit cards without checking accounts

Global

- Innovation in payments coming from telecoms, card companies, technology companies and banks
 - Retail companies in the US have combined to develop a merchant owned mobile payment system
 - Banks are innovating with lower cost solutions like mobile check deposits
- Banks collaborating to use blockchain technology, transforming financial transaction processing



- Started as mobile based payments solutions provider, expanded into other areas raised \$590 Mn; IPO in 2015



- Online payment system, raised \$280 Mn from Amex, Visa, and others
- Payments platform facilitates rent transactions & donations, raised \$113 Mn in 2015



India

India Opportunity

- High transaction fees , high minimum transaction slabs and cost of traditional payment devices are driving adoption of new payment technologies
- Mobile wallet and telecom companies entering the payment bank space
- Mobile recharges, ecommerce, restaurants, tax services and utility payments are sectors that drive growth

Funding Events in India

- FreeCharge
 - Raised \$80 Mn in Series C led by Valiant Capital Management
 - Total funding of \$116.5 Mn
- Innoviti
 - Raised \$5 Mn from Catamaran Ventures and others in July 2015
 - Total funding of \$6.6 Mn
- Momoe
 - Raised \$1.2 Mn in seed funding
- Citrus
 - Raised \$25mn in Series-C from Ascent and Sequoia in Oct-15



Government encouragement of Fintech Sector

Facilitating Growth

- Start-up India initiative launched by the Government of India in 2016 will provide funding support through a \$1.5 Bn fund of funds
- SBI opened a INR 200 Crore fund for Fintech start-ups in a bid to collaborate and modernize its banking operations
- Startups will get support from the government for their patents filing, trademark and other design work
- Improved mobile connectivity through better infrastructure is expected to boost mobile usage and thus expand the user pool for technology startups as a whole including Fintech

Financial Incentives

- New startups will have a provision for 100% deduction of taxes on profit for three out of first five years
- Long term capital gains (LTCG) tax for unlisted companies is now applicable for 24 months instead of 36 months
- Removal of LTCG tax on sale of residential properties when proceeds are invested in specified startup fund
- 80% rebates on the patent costs will incentivise innovation amongst start-ups
- Tax exemption for investment above fair market value has been proposed to encourage seed investment
- Merchants with more than half of their transactions done digitally could get tax rebate or 1-2% VAT reduction

Nascent Regulatory Acceptance

- The RBI has taken a cautious stance on developing the Fintech space keeping in mind legal and consumer protection issues
- Payments, lending and security have received the most attention for regulatory enablement
- Unified Payment Interface has been introduced to provide a single architecture to integrate all electronic payments, and should change the landscape and scale of digital payments in India
- 11 licenses for payment banks have been granted in 2015, and they should amplify the progress towards digital transaction
- RBI consultation paper on P2P lending proposes to formalize the space by defining P2P platforms as NBFC, while requiring improved assessment of both the lender and borrower
- Startup India Action Plan allows self certification to register as a startup, which cuts red-tape and compliance regulatory charges
- Providing legal guidance in fast-tracking the patent process will help startups build IP-focused innovations
- MCA has rolled out a portal along with an app to reduce procedural load on ventures which are usually stretched for resources

Like other countries, Indian Fintech companies are emerging across segments



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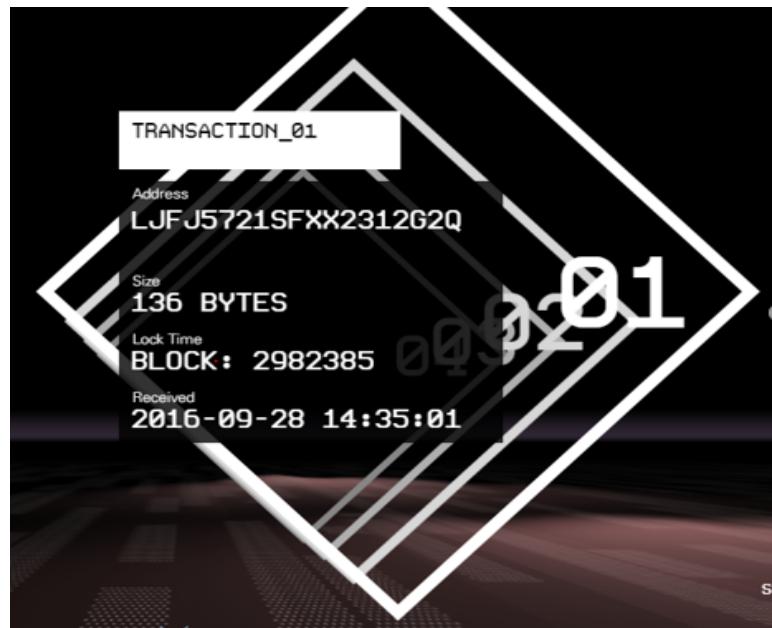
Robo-advisors

We don't want to be like Dilbert's manager!



What is Blockchain?

- **Digital Record**- Record transactions like a traditional ledger
- Can be movement of Money, goods, secure data or an assignment of a government ID
- **Public**- All transaction data stored on shared public systems
- **Secure**: Almost impossible to decrypt



Public and Secure?

- **Public ledger** - Removes the need for transaction validation by intermediaries thus removing costs and delays to update individual ledgers
- **Secure**- Cryptography, Hash mapping and Timestamp
- The '**Block**' and The '**Chain**'

Applications of Blockchain Technology

Digital Currency

- **Lower fee:** Digital currency exchanges help merchant process transactions by converting them into fiat currency at lower fees than credit cards/PayPal
- Complete **control and security** as transaction can't be reversed and do not carry personal info
- **Transparency** - Protocols being open source undergo wide scrutiny, thus enabling trust in the underlying platform and guaranteeing that they cannot be manipulated by any single person, organization, or government.

Trade Finance

- **Smart Contract** - The application enables exporters, importers and their respective banks to share information on a private distributed ledger. The trade deal can then be executed automatically through a series of digital smart contracts once certain conditions are satisfied
- BCT ensures a secure, **real-time transaction matching**, and immediate irrevocable settlement;

Cross-Border Payments

- Without any central approving authority, **international transfers** are cheaper and faster with distributed ledgers
- **BCT eliminates the need for multiple trade records** in forex trading for buyer, seller, broker, clearer and third parties from each transaction;
- **Capital Markets** – BCT removes the need for transaction validation by intermediaries thus removing costs and delays to update individual ledgers

KYC and collaboration

- **KYC** - A blockchain-based registry would remove the duplication of effort in carrying out KYC checks. The ledger would also enable encrypted updates to client details to be distributed to all banks in near real-time.
- **Tracking of consortium accounts** – Banks can use collaboration based approach on to better track how money is being moved across a consortium of banks

Transaction Settlement

- In financial markets trades happen within a second
- What about actual exchange of assets and settlement?
Average 7-8 days
- Goldman employs close to 600-700 people just for doing trade matching and settlements
- Multiple parties involved- Clearing houses and businesses
- Inefficient process, additional costs, additional delay and huge regulatory risks (inaccurate reporting)
- Blockchain will solve all of this!



Digital ID

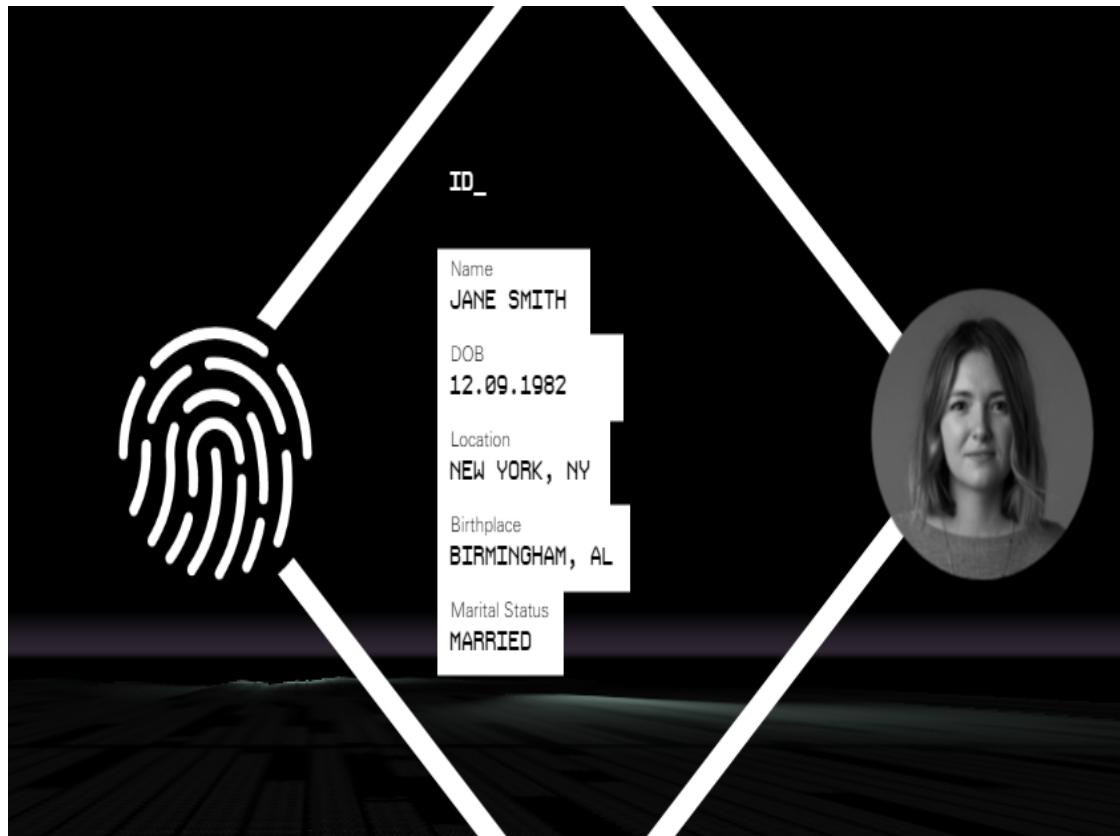
Who Goes There?

Blockchain can track more than commercial transactions; it can also hold and protect sensitive information. For example, ID papers have traditionally been issued and monitored by governments. But digitally-issued identification via blockchain could be a more secure mechanism.



Why?

- ID at Your Fingertips
- An **international ID blockchain**, accessible anywhere in the world, allows people to prove their identity and even receive money without a bank account.
- Fingerprinting



Startup Ecosystem in India in Blockchain and various use cases

Startup	Management Team	Use Case
Coinsecure	Mohit Kalra , Benson Samuel	Bitcoin exchange and Bitcoin wallet
EzyRemit	Vishal Anand	Cross-border remittance and Digital Identity
KrypC	Ravi Jagannathan , Karthik Balasubramanian	Fintech solutions and services - adoption
Primechain	Shinam Arora	KYC and digital identity
Psi Phi Global	Gaurav Kumar , Harsh Pokharna and Aditya Prasad	Smart Contracts - healthcare, technology and supply chain
RecordsKeeper	Toshendra Sharma	KYC and digital identity
Signzy	Ankit Ratan , Arpit Ratan and Ankur Pandey	KYC and digital identity
Trestor	Kunal Dixit	Digital currency for the underbanked
GetXS	Hitesh Malviya	KYC and digital identity
Auxesis	Akash Gaurav and Gaurav Kumar	Bitcoin wallet, Bitcoin exchange, Trade Finance
MindDeft Technologies	Kunal Soni	Smart Contracts
Sofocle	Nidhi Chamria	Trade Finance, Supply Chain and Supply Chain Financing
ZebPay	Sandeep Goenka and Mahin Gupta	Bitcoin wallet

Mapping the use case ecosystem of Blockchain technology

<p>Trade Finance</p> <p>SOFOCLE TECHNOLOGIES</p> 	<p>BCT Payments and Exchange</p>    
<p>Transfers and Cross Border</p> <p>EzyRemit Revolutionizing remittance</p> 	<p>KYC and Smart contracts</p>     

Banks & financial services players exploring blockchain opportunities



Banks and financial services players exploring blockchain – Diana Biggs

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Asset Management



- Automated and semi-automated investment service firms that use algorithms to optimize investment returns
- Cost of these services are quite low compared to an investment manager
- A personalized portfolio can normally be set up in minutes by providing information about investment goals, risk appetite
- An algorithm adjusts the portfolio on an ongoing basis

Global

- Large, renowned brokerage firms are starting to offer robo-advisory services to keep up with start-ups
- Ecommerce companies have launched money market funds, distributed on their platform/wallets
- Small clients are being tapped by lowering the minimum holding size
- Start-ups are attractive, targeting niche segments such as Silicon Valley customers



- Automated investment service with AUM of \$2Bn in 3 years, funding received \$129 Mn



- Offers personalized financial advice, raised \$105 Mn, AUM \$2.5 Bn



- Analyses personal investments, raised \$15 Mn

India

India Opportunity

- Penetration of investment instruments is still very low in India
- Solutions are integrating accurate, actual tracking of performance of offline assets such as gold, jewellery, and real estate
- Retention is high, but capturing users requires investment in marketing

Funding Events in India

- FundsIndia
 - Raised \$11 Mn in Series C led by Faering Capital in June 2015
- Scripbox
 - Raised \$2.5 Mn in Series A led by Accel Partners and other angel investors in August 2015
- MyUniverse
 - IFC invested \$10 Mn in Aditya Birla Money in September 2014

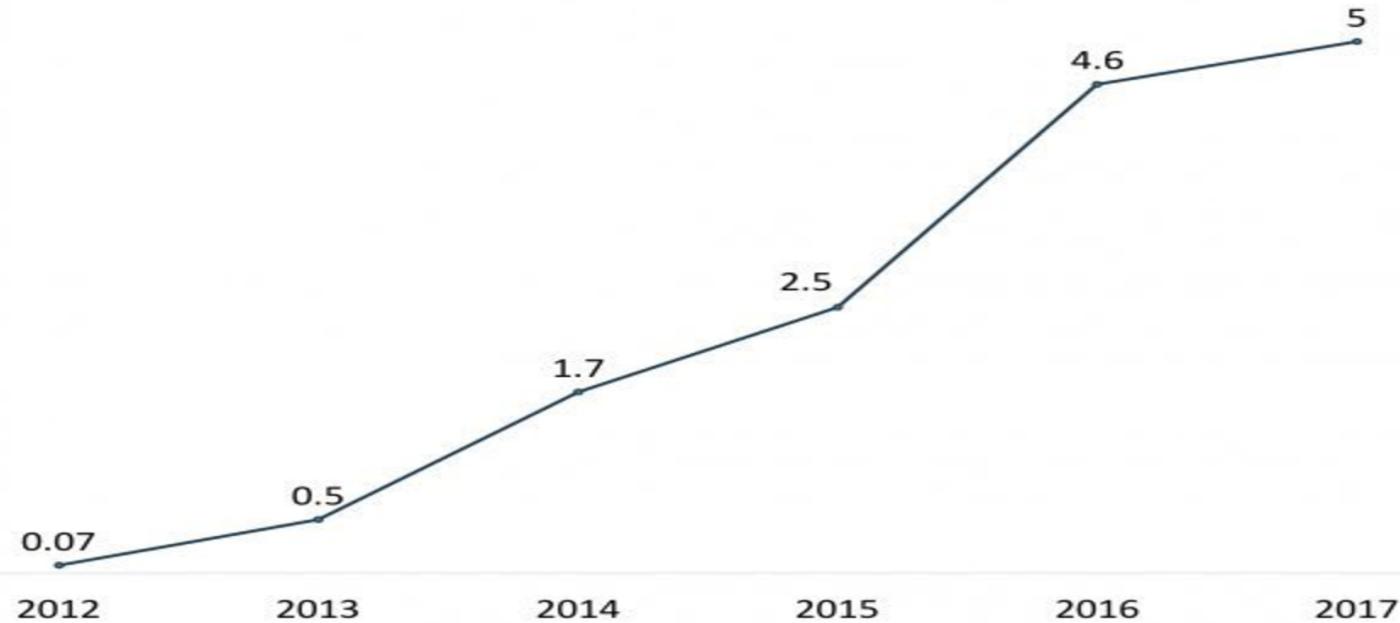


ArthaYantra

Growth of Robo-Advisors

Volume Of Wealthfront's AUM

Billions (\$), US, 2017



The Indian landscape

- Asset Management FinTech firms

<u>RoboAdviso</u> AUM : 800 crores	<u>Funds India</u> AUM : 1500 crores (KPMG report)
<u>Tavaga</u>	<u>Scripbox</u>
<u>Upwardly</u>	<u>ArthaYantra</u> <u>Nitin Vyakarnam</u> (ISB Co 2006)
<u>Goalwise</u>	<u>Aditya Birla Universe</u>
<u>Minance</u>	<u>5nance</u>

Future prospects of asset-management!

- Investible income in India is growing at a rapid pace.
- The Mutual Funds AUMs are all time high indicating shift from traditional savings to investment.

Total AUM : [Rs. 20 Trillion](#)

- 39% CAGR : Growth rate of the sector
- Enormous opportunities with changing technology landscape and cellular penetration.