

Payments



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What is a Digital Payment?

To put it in simple words, a digital payment occurs when goods or services are purchased through the use of various electronic mediums. There is no use of cash or cheques in this type of payment method.

What is a Cashless Economy?

In a cashless economy, all transactions are carried out using different types of payment methods and this does not involve the physical use of money for the purchase of various goods and services.

Types of Cards & Usage

PREPAID CARDS

Pre-loaded from your bank account

Safe to use, limited amount of transaction

Can be recharged like mobile recharge

DEBIT CARDS

Linked to your bank account

Used to pay at shops, ATMs, wallets, microATMs, online shopping

Banking cards

Cards are among the most widely used payment methods and come with various features and benefits such as security of payments, convenience, etc. The main advantage of debit/credit or prepaid banking cards is that they can be used to make other types of digital payments. For example, customers can store card information in digital payment apps or mobile wallets to make a cashless payment. Some of the most reputed and well-known card payment systems are Visa, Rupay and MasterCard, among others. Banking cards can be used for online purchases, in digital payment apps, PoS machines, online transactions, etc.

Point of Sale (POS) & Card steps

BANKS ISSUE VARIOUS
CARDS FOR THEIR
ACCOUNT HOLDERS

Prepaid
Cards

Debit
cards

Credit
Cards

USE YOUR CARD TO SHOP
ANYWHERE

At any
PoS

At
ATM

Online
shopping

PREPAID CARD CAN BE
ISSUED BY ANY BANK
FROM ACCOUNT OR CASH
(FOLLOWING BENEFITS)

Pre-loaded
card

Equivalent to
cash

Can be recharged several
times

Can be used at any PoS,
ATM

Payment Trends

The next major transformation will reduce the number of purchase steps to just one.



You'll select your goods and leave, making the payment either entirely in the background without the need to check out, or with substantially less time than required by existing checkout processes.

Now, the number of pilots in the market indicates that an inflection point for this technology is here. Startups and established players in this space are quickly learning and iterating.

Instant and faster payments everywhere

Merchants have options to enable faster payments.



**US MARKET
READINESS FOR
PUSH TO CARD**

PUSH TO CARD, which allows consumers to receive funds immediately through their eligible Visa and Mastercard debit and prepaid cards. Push to Card reaches over 99% of the U.S.¹ market and supports P2P and B2C payments, as well as small business B2B payments.



**US MARKET
READINESS FOR RTP**

REAL TIME PAYMENTS (RTP), an instantaneous, 24/7 bank-to-bank payment rail offered by J.P. Morgan through its membership with The Clearing House. The RTP network expanded in 2020 to cover close to 60% of deposit accounts in the U.S. and now clears millions of payments a month.²



THE FASTER PAYMENTS TREND is not exclusive to consumers—suppliers are also looking for faster payments as part of a better user experience, especially for gig-economy and small businesses, and as part of a resiliency and working capital strategy for large suppliers.

Merchants want their money faster, too. J.P. Morgan already offers next-day funding for U.S. transactions, which compares to two days or longer for most other providers. Meanwhile, Chase for Business customers have access to the fastest free funding in the industry. Through QuickAccept, these merchants can get funds to their account on the same day as a sale.³ The best part: Same day funding is available at no additional cost.

Source: <https://www.jpmorgan.com/content/dam/jpm/merchant-services/insights/e-commerce/key-trends-to-drive-your-payments-strategy.pdf>

Payments simplified

As a result, merchants are turning to a single provider with a variety of connectivity options to solve for this complexity—whether that’s using a plug-and-play bank platform like J.P. Morgan Access or a white label, embedded solution like J.P. Morgan Concourse, or connecting directly to the bank via customized APIs. The provider offers one integrated package of payments, treasury services and commercial cards, and the client gets one set of APIs, one set of analytics, and one integration into the underlying technology.

Payments in context

What if you could reduce the time between payment and a consumer's initial thought: I need this? What if you could move the payment process right up to the moment of need? This is the essence of a contextual payment. It's about giving the consumer the opportunity to commit to a purchase wherever they are and whatever they're doing. Contextual experiences are available through numerous channels—**through smart devices, in vehicles, on social media, through streaming content, wearables, smart speakers, virtual reality environments and other channels.**

Integrated payments

Independent software vendors (ISVs) have made it easier than ever for merchants to set up and run their business efficiently. These ISVs provide the specialized software that businesses run on, and often include integrated or embedded payments. The advantage for the merchant is the ability to get payments acceptance up and running rapidly and securely with their business management software. **Integrated payments have also opened up an opportunity for ISVs to add a new revenue stream. Research shows that integrated experiences can help companies increase revenue per customer by 2–5 times.⁷**

Customer-friendly, seamless payments

In any transaction, the payment is the moment of truth. It's when a customer transforms intent into action. And standing between the consumer and the payment lie numerous frictions. In high-friction checkouts, consumers convert at lower rates and some may decide to just shop elsewhere for good. While many businesses have adopted robust, forward-thinking approaches to reducing frictions, many others are just now considering how to reduce them. A few verticals are especially ripe for transformation—in health care, for instance, **87% of transactions are still paper-based, and consumers often have little insight into what they are being billed or even when the next bill will arrive.**⁹

Payment systems

Aadhaar Enabled Payment System

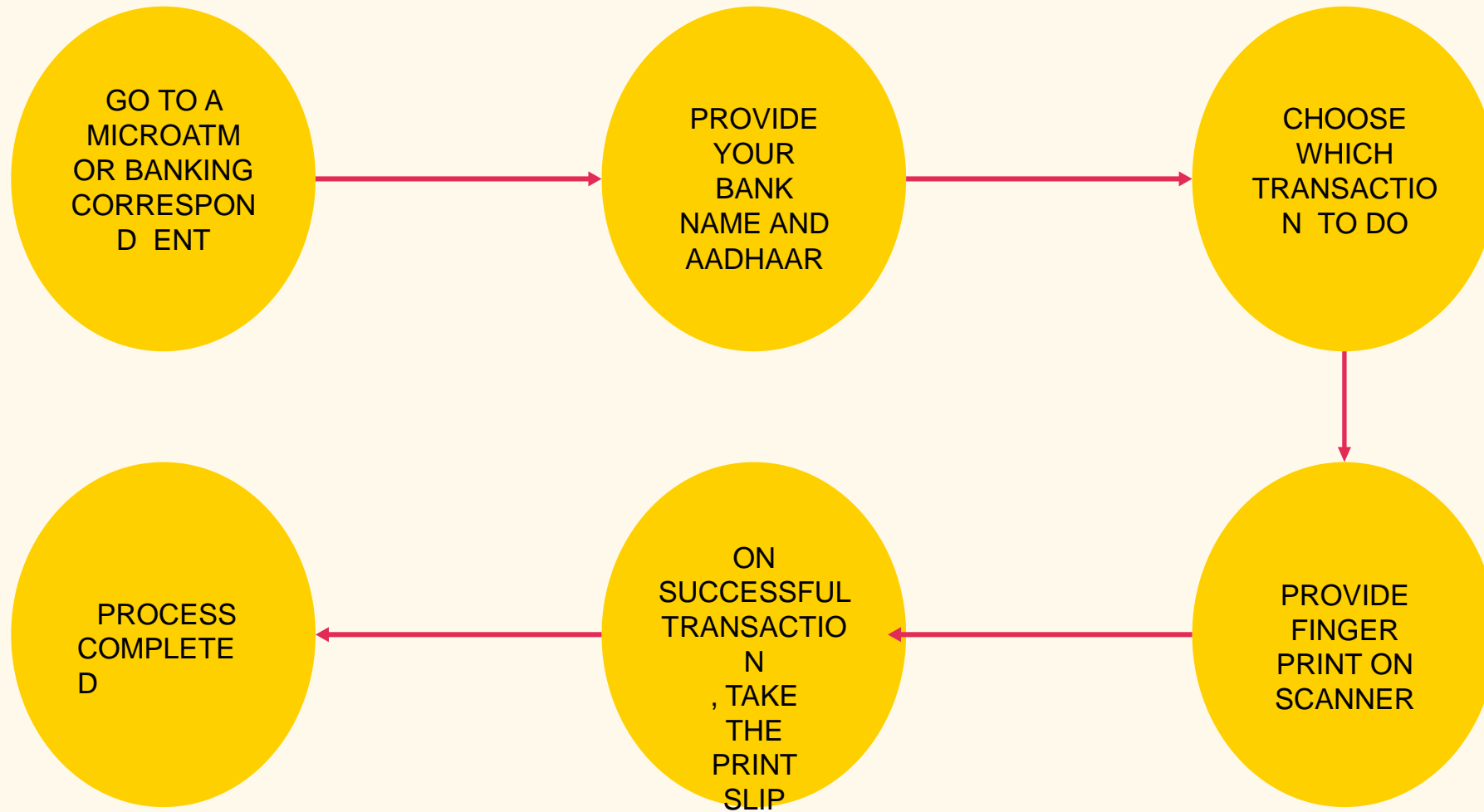
AEPS allows bank-to-bank transaction at PoS (MicroATM) with the help of BC

Only Aadhaar needed

Aadhaar enabled Services

- Balance Enquiry
- Cash Withdrawal
- Cash Deposit
- Aadhaar to Aadhaar Funds Transfer

Key Steps for AEPS Transaction



Requirements for registration on UPI

REQUIREMENTS

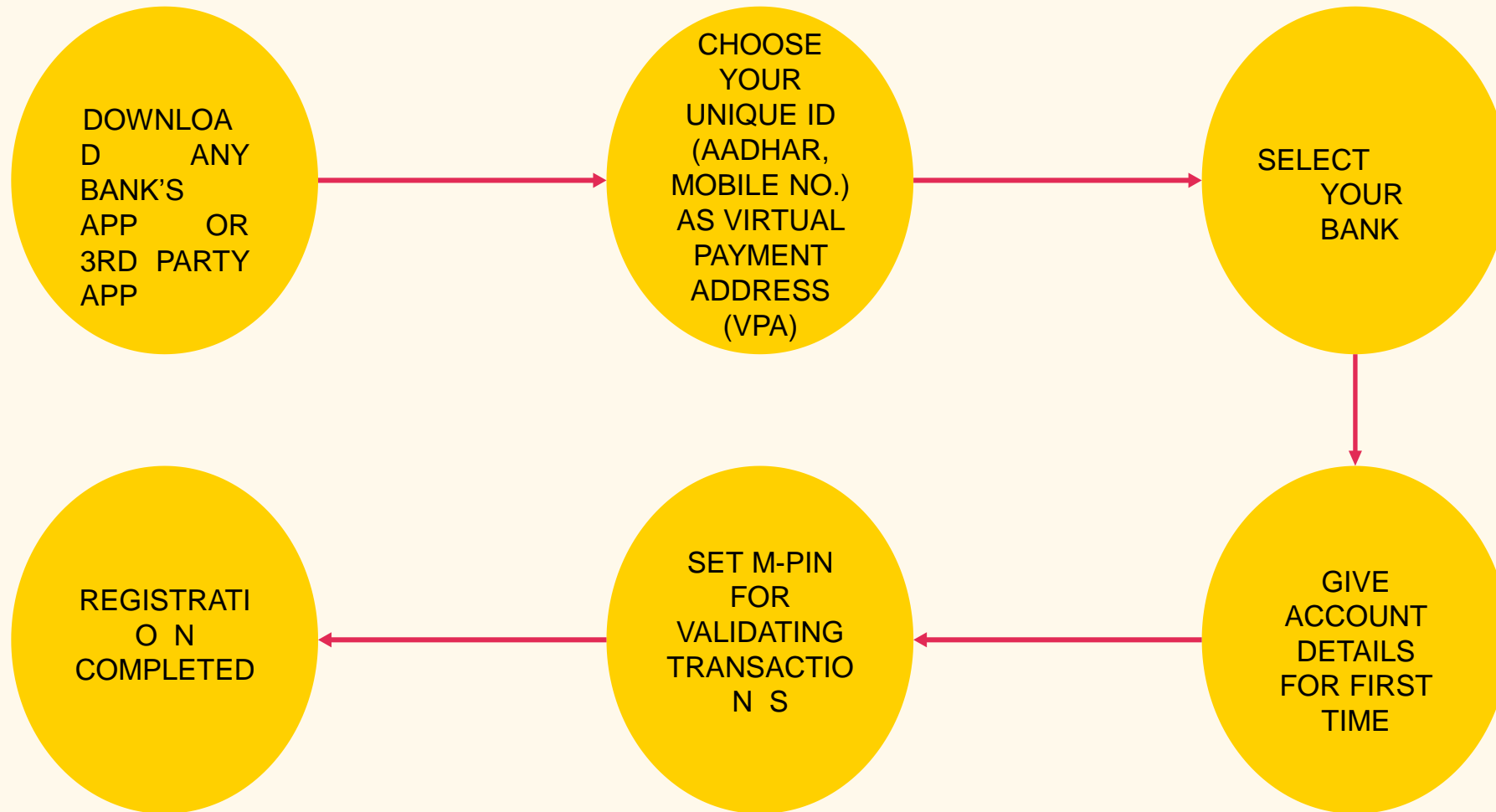
Smartphone with internet facility

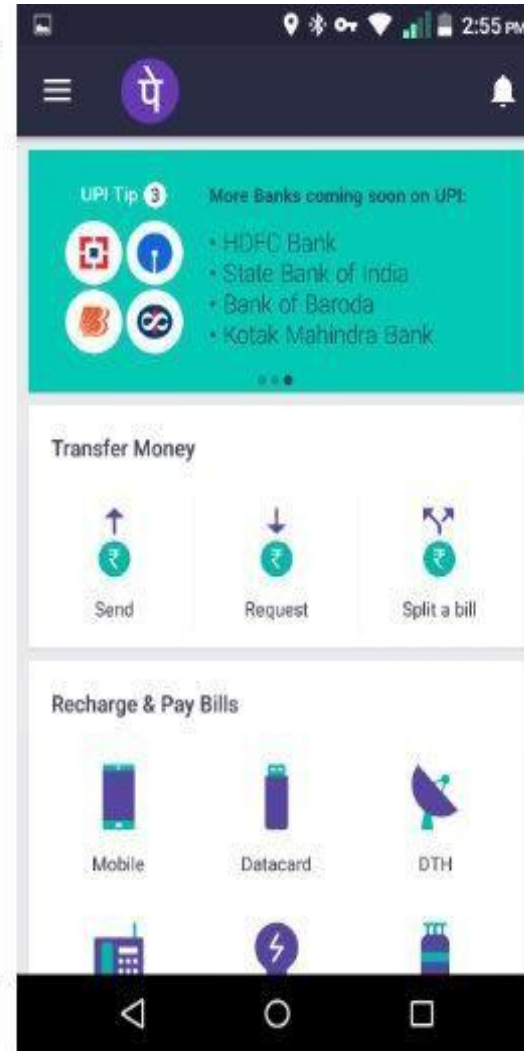
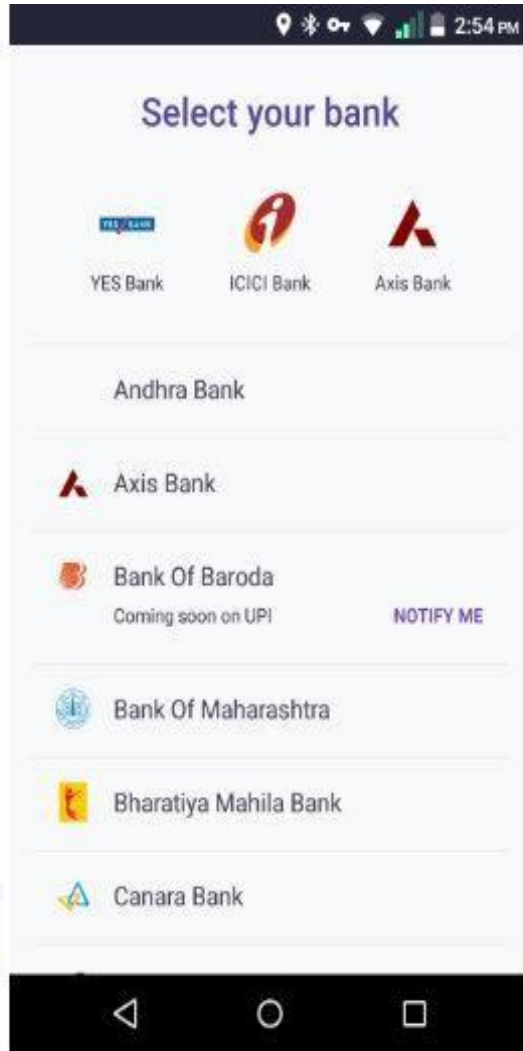
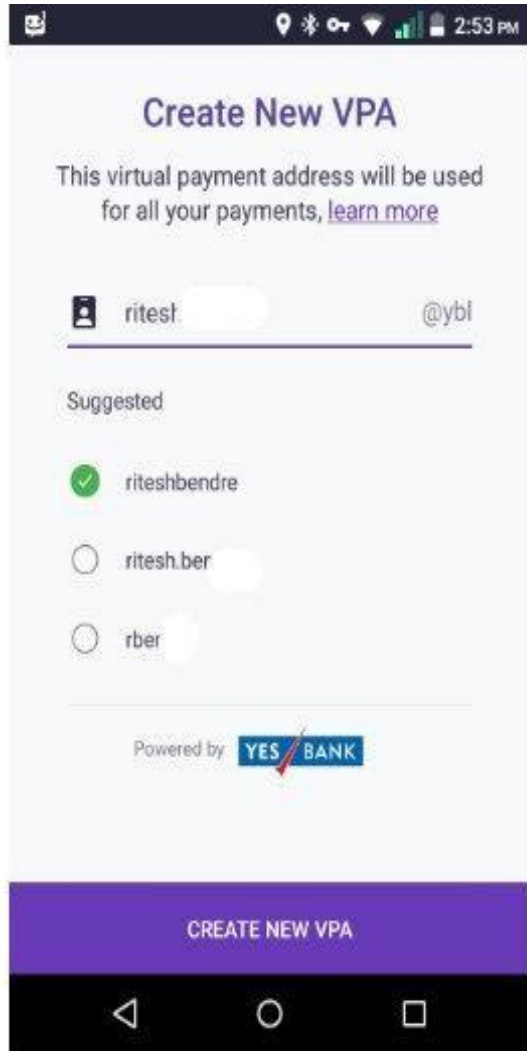
Bank Account details
(only for registration)

AVAILABLE APPS (28 BANK APPS)

SBI app, PNB UPI, UPI Collect (ICICI), Axis Pay, Canara Bank UPI, UCO UPI, Union Bank UPI, OBC UPI and 20 other banks

UPI Registration Process





What are e-wallets?

Electronic pre-paid payment system, mobile-first

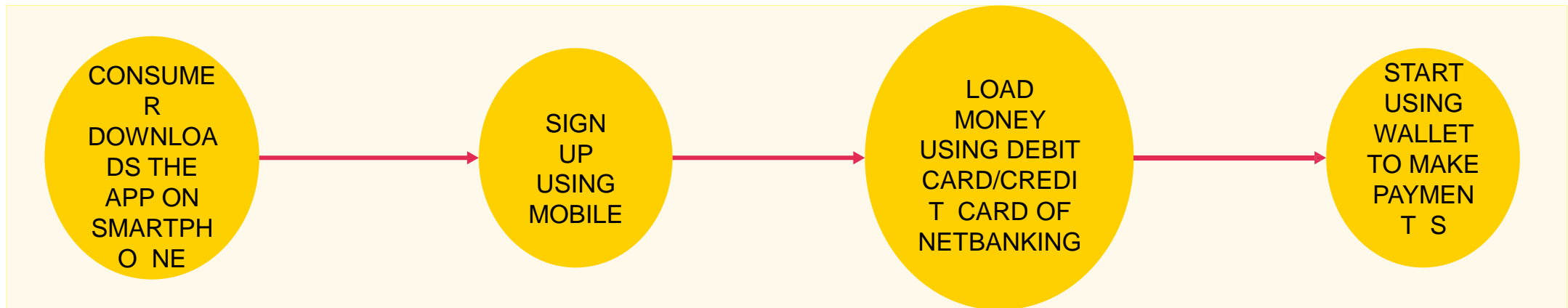
Used in purchasing items on-line with a computer or a smartphone at a store.

An individual's account is required to be linked to the digital wallet to load money in it.

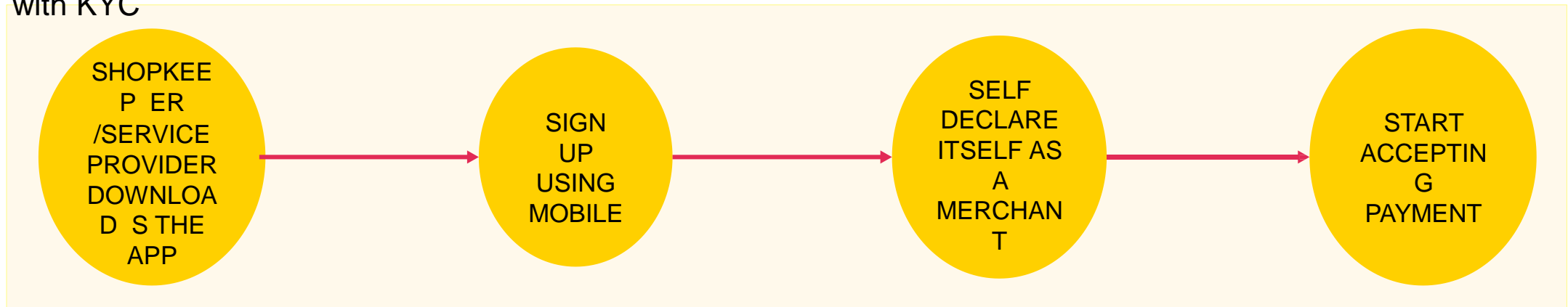
Most banks have their e-wallets and some private companies

Using Wallets

Consumer Wallet Limits: Rs.20,000/month for all. Rs.1 lakh/month with KYC



Merchant Wallet Limits: Rs.50,000/month with Self Declaration. Rs.1 lakh/month with KYC



Types of PoS



PHYSICAL POS

Physical Card Swiping –
PTSN with landline / GPRS
enabled



MPOS

Phone connected with
external POS device
through jack / Bluetooth



V-POS

Virtual E-payment
Gateway

Physical PoS

SWIPE A
DEBIT/CREDIT
CARD ON THE
POS MACHINE



ENTER
AMOUNT TO
BE PAID AND
PIN



GENERATE
RECEIPT



Mobile PoS



Note: mSwipe is used as an example of MPOS here

V-PoS

No PoS machine required

QR code used for payment to bank account of merchant

Complete privacy of merchant bank account



Bitcoin-FinTech-Blockchain Growth



MIT
Technology
Review

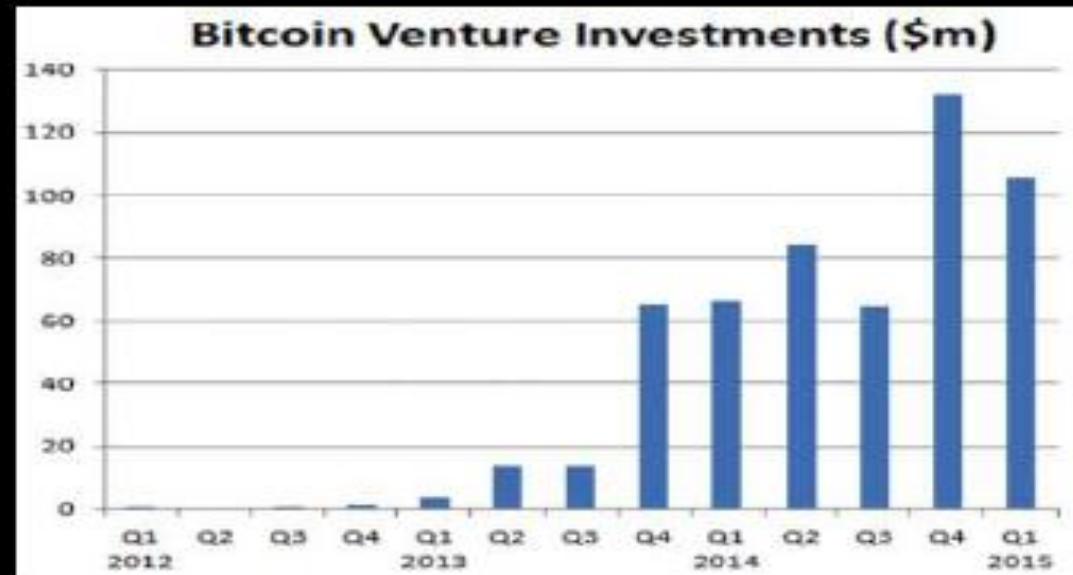
Why Bitcoin Could Be Much
More Than a Currency May 8, 2015



Goldman and IDG Put \$50 Million to Work
in a Bitcoin Company



APRIL 30, 2015



Silicon Valley Bank:
Global investment in
FinTech is set to
double from \$10
billion in 2014 to
\$19.7 billion in 2015,
and reach \$46.1
billion by 2020

Applications

Evolution of Payment Modernization

Electronic Payments



Mobile Payments



Crypto-Payments



Consumer Payments

How does Bitcoin work?

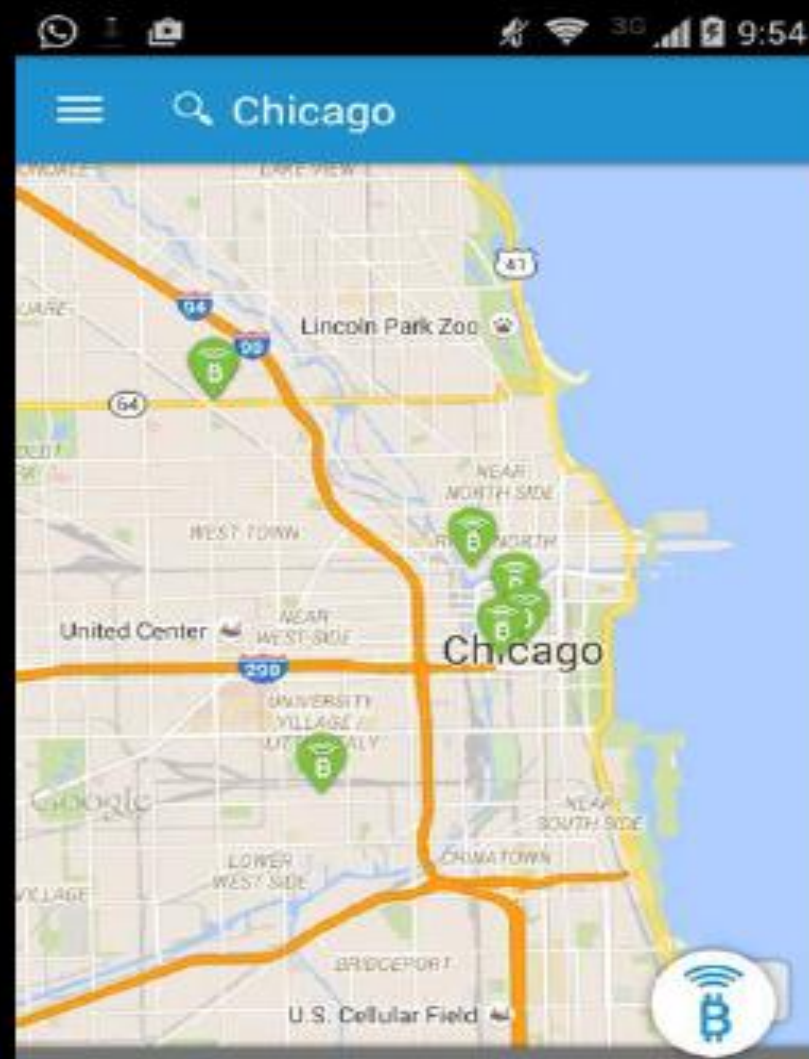


1. Download software wallet app
 - Blockchain.info, Mycelium, etc.
2. Transfer Bitcoin via QR Code / public key address
3. See your transaction confirm, post to the blockchain



Consumer Payments

Where can I use Bitcoin?



Enterprise Payments Reduces Cost and Risk for Merchants

- Vendor payments market
 - Reduce 1-3% merchant transaction fee
 - Remove hack-able 'honey pot' databases



Online Merchants Accepting Bitcoin



Bitcoin Payments Vendors



QuickBooks Software Integration



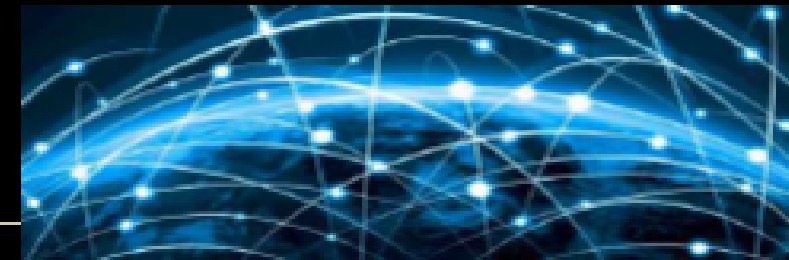
Institutional Payments

Current Payment System

1. The central bank: national bank clearing and payments
 - Banking clearing and settlement services, depository accounts
 - Payment services: collect checks, electronically funds transfer, received and distribute currency
2. The U.S. government's checking account
 - Electronic check and payment processing
 - Treasury operations: issue, transfer, exchange, and redemption of U.S. government securities



Institutional Payments Blockchain Payment System



1. The central bank: national bank clearing and payments
 - Clearing, settlement, compliance, QA
 2. The U.S. government's checking account
 - Register instruments as smart assets
 - Spot (cryptocurrency) and future (smart contract) transactions
- Blockchain payments system, features:
 - Immediate recording improves liquidity and risk (T=0, not T+3)
 - Secure, transparent, accessible, auditable ledger

References

1. *"The Payment Systems Space"* MIT Cryptocurrency Online Course
2. <https://www.bankbazaar.com/ifsc/digital-payment.html#WhatisaDigitalPayment>
3. <https://www.jpmorgan.com/content/dam/jpm/merchant-services/insights/e-commerce/key-trends-to-drive-your-payments-strategy.pdf>